Mt 1001

Deltone System

UNIDELTA

Since 1973



DELTONE System

Raccordi in polipropilene (PP-B)

Raccordi a compressione • Valvole • Prese a staffa

Polypropylene (PP-B) fittings

Compression fittings • Valves • Clamp saddle

Made in Italy


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Raccordi a compressione - **3**

Compression fittings - **77**

Raccords à compression - **151**

Accesorios de compresión - **225**

Klemmverbindungen - **299**

Компрессионные фитинги - **373**

Conexões de compressão - **447**

APPENDIX A
Chemical resistance - 521
Condizioni generali di vendita - 533
General terms and conditions of sale - 535

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Raccordi a compressione

Italiano

Definizioni e simboli		**5**
1.	**I raccordi Unidelta a serraggio meccanico**	**5**
2.	**Raccordi a compressione e prese a staffa**	**7**
2.1	Campi d'applicazione	7
2.2	Normative di riferimento	7
2.3	Certificazioni di qualità	7
2.4	Temperatura di esercizio	8
2.5	Resistenza a trazione	8
2.6	Tenuta idraulica	9
2.7	Materiali	10
2.8	Istruzioni di montaggio	13
3.	**Schede tecniche**	**20**
3.1	Raccordi a compressione	20
3.2	Giunto di transizione universale	39
3.3	Raccordi a compressione di transizione	40
3.4	Raccordo a bocchettone	43
3.5	Collare di derivazione in carico	44
3.6	Prese a staffa	45
4.	**Valvole a sfera**	**53**
4.1	Struttura e materiali	53
4.2	Vantaggi delle valvole a sfera	54
4.3	Marcatura	55
4.4	Accesso alla sfera	56
4.5	Schede tecniche	57
5.	**Valvole di ritegno**	**62**
5.1	Struttura e materiali	63
5.2	Vantaggi delle valvole di ritegno	63
5.3	Marcatura	64
5.4	Schede tecniche	65

6.	**Valvole a globo**	**66**
6.1	Struttura e materiali	66
6.2	I vantaggi delle valvole a globo	67
6.3	Marcatura	67
6.4	Schede tecniche	68
7.	**Istruzioni di montaggio delle valvole**	**69**
8.	**Componenti**	**71**
8.1	Componenti per raccordi a compressione	71
8.2	Componenti per valvole	72
8.3	Componenti speciali	73
9.	**Attrezzature**	**74**
10.	**Resistenza chimica**	**75**

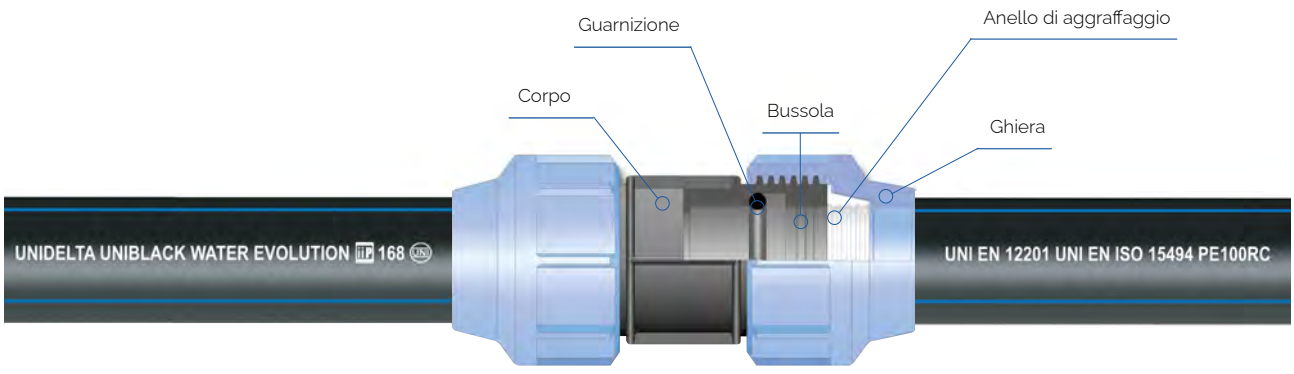
Definizioni e simboli

PP-B	Polipropilene copolimero	DN	Diametro nominale [mm]
POM	Resina acetalica	NF, V	Numero fori
NBR	Gomma nitrilica	d, d_1	Diametri di accoppiamento [mm]
PEBD	Polietilene bassa densità	g	Filettatura nominale [in.]
PEAD	Polietilene alta densità		Idoneo per acqua fredda
PTFE	Politetrafluoroetilene		Componenti speciali
PN	Pressione nominale [bar]		Raccordi a compressione
Pmax	Pressione massima [bar]		Catalogo tecnico
PFA	Pressione di esercizio ammissibile (EN805): pressione idrostatica massima che un componente è in grado di sostenere durante l'esercizio in servizio continuo [bar]		

1. I raccordi Unidelta a serraggio meccanico

I raccordi a compressione in polipropilene Unidelta: sono giunzioni rimovibili e di facile installazione in cui il sistema di giunzione è basato sull'aggraffaggio del tubo di polietilene mediante anelli dentati che avvolgono e stringono la tubazione. La gamma di raccordi in polipropilene Unidelta comprende i diametri dal 16 mm al 110 mm con pressione nominale di utilizzo fino a 16 bar.

Manicotto a serraggio meccanico in polipropilene



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DELTONE System

Polypropylene (PP-B) high-stability

Compression fittings • Valves • Clamp saddles

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2. Raccordi a compressione e prese a staffa

2.1 Campi d'applicazione

I raccordi a compressione e le prese a staffa Unidelta sono prodotti specifici per la **giunzione di tubi in polietilene** con diametro esterno compreso tra 16 mm e 110 mm (200 mm per le prese a staffa). Sono compatibili con tutti i tubi in PEBD, PEAD, PE40, PE80, PE100, PE100RC realizzati secondo le normative **EN 12201, ISO 4427, DIN 8074, UNI 7990.** Sono normalmente utilizzati per il **trasporto di acqua potabile e fluidi in pressione fino a 16 bar** per impieghi generici. Grazie alle caratteristiche dei materiali con cui sono realizzati, i raccordi sono resistenti all'attacco di numerose **sostanze chimiche** (vedi "APPENDIX A Chemical resistance" a pagina 521) e resistenti ai **raggi UV.**
Tramite il giunto di transizione universale Unidelta è possibile collegare impianti di tubo in PE metrico con tubi preesistenti di qualsiasi materiale con diametro esterno compreso tra 15 mm e 35 mm.

2.2 Normative di riferimento

I raccordi e le staffe Unidelta sono conformi alle normative per il convogliamento di acqua potabile secondo le prescrizioni vigenti in Italia (Decreto Ministeriale n.174 del 06/04/2004) e in numerosi altri Paesi.

Raccordi e staffe
Conformi alle normative ISO 17885, DIN 8076, ISO 13460.

Filettature
Conformi alle normative ISO7/1, DIN 2999, BS 21, EN 10226-1.

Flange
Fori e interassi conformi alla UNI 2223, UNI 2278, DIN 8063, UNI EN 1092-1.

2.3 Certificazioni di qualità

Unidelta opera nel pieno rispetto delle normative dei Sistemi di Qualità **UNI EN ISO 9001:2015** secondo i quali é certificata dal 1995. Nel 2016 ha ottenuto anche le certificazioni **ISO 14001** (Sistemi di Gestione Ambientale) e **BS OHSAS 18001** (Sistemi di Gestione della Sicurezza e della Salute sul Luogo di Lavoro) aggiornata nel 2020 con la **ISO 45001:2018** (Sistemi di Gestione per la Salute e la Sicurezza sul Lavoro).
I raccordi Unidelta sono stati testati ed approvati da innumerevoli istituti di certificazione.



NB. La gamma dei prodotti certificati IIP è visionabile sul sito www.unidelta.com e/o www.iip.it
NB. The range of products approved by Kiwa can be seen on the web site www.kiwa.com/nl
NB. Watermark L.N. 26588: Please see the certifi cate for the list of the products which are covered by the approval. register.saiglobal.com

2.4 Temperatura di esercizio

I raccordi e le prese a staffa **non sono adatti ad essere utilizzati con acqua calda** poiché limitati dai campi di impiego dei tubi in polietilene. Le temperature d'esercizio massime sono quelle relative all'utilizzo dei tubi in polietilene e pertanto è necessario fare riferimento alle normative vigenti nel proprio Paese. **I raccordi e le prese a staffa resistono a temperature inferiori agli 0°C.**
Nella tabella è riportata la massima pressione di esercizio ammissibile in servizio continuo (PFA) al variare della temperatura nel caso in cui il fluido trasportato sia acqua in conformità alla EN 805, EN 12201 e ISO 13761.
Per valori compresi tra quelli indicati è possibile eseguire un'interpolazione lineare.

T operativa [°C]	≤20°	25°	30°	35°	40°	45°
PFA [bar]	16	14,9	13,9	12,8	11,8	10,8
PFA [bar]	10	9,3	8,7	8	7,4	6,7

2.5 Resistenza a trazione

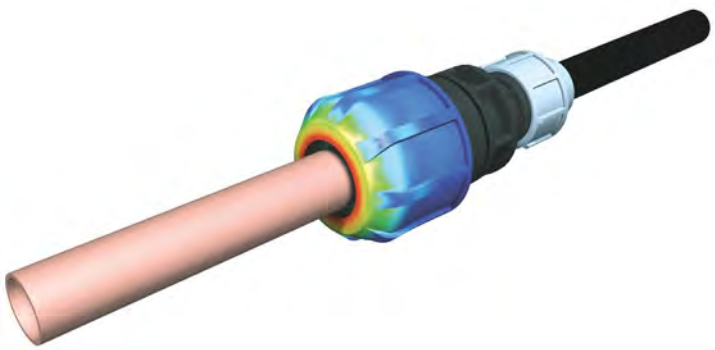
Unidelta sottopone i suoi raccordi a prove di trazione con i carichi indicati nella tabella "Carichi prove di trazione" (durata del test 1 ora e a 20°C), ottemperando alle indicazioni delle normative più restrittive.

Carichi prove di trazione

PE100 - PN 16		
Ø [mm]	**F [N]**	**F [kgf]**
16	883	85
20	1225	125
25	1774	181
32	2950	301
40	4557	465
50	7076	722
63	11250	1148
75	15719	1604
90	22736	2320
110	33898	3459



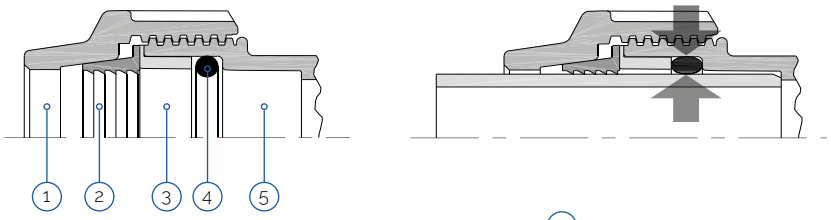
Analisi FEM - Distribuzione sforzi nella ghiera del raccordo universale sottoposto a carichi di trazione e pressione combinati



2.6 Tenuta idraulica

La tenuta idraulica in un raccordo meccanico è legata al tipo di guarnizione utilizzato e alla pressione che il raccordo, una volta installato, riesce ad esercitare sulle superfici di contatto tra la guarnizione stessa, il tubo e il corpo del raccordo.

Tenuta idraulica del raccordo Unidelta con Ø da 16 a 40 mm



1 Ghiera
2 Anello di aggraffaggio
3 Bussola
4 O-ring
5 Corpo

4 O-ring Unidelta

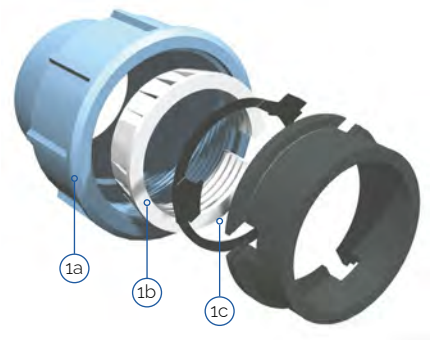


Unidelta nello studio e sviluppo dei suoi raccordi ha condotto innumerevoli test nelle condizioni più gravose alle quali i raccordi possono essere sottoposti durante il loro periodo di esercizio sia per quanto riguarda lo stato del tubo da raccordare (ovalizzazione, sottodimensionamento), sia per quanto riguarda il carico applicato.
Infatti un raccordo utilizzato in un impianto può essere sollecitato da continui cicli di pressione variabile, sovrapressioni dovute a disturbi quali colpi d'ariete, pressioni esterne superiori alla pressione interna dell'impianto, carichi di trazione, flessione e quant'altro. Generalmente si prevede che la vita di un impianto sia di molti anni e quindi i raccordi devono garantire prestazioni costanti anche a lungo termine.
Dai test effettuati è emerso che il tipo di guarnizione che garantisce le migliori prestazioni in tutti i casi possibili è quello a geometria toroidale O-ring (non a caso l'O-ring è la guarnizione normalmente utilizzata nelle applicazioni meccaniche più severe).

Per garantire un'elevata sicurezza nel tempo è importante che la compressione della guarnizione non sia legata alla forza di serraggio della ghiera, altrimenti si potrebbero generare rischi di perdite dovute ad un serraggio non perfettamente a fondo del raccordo o al rilascio della ghiera sottoposta a cicli di pressione variabile. I raccordi Unidelta adottano una guarnizione di tipo O-ring posizionata in modo certo in una sede cilindrica e non necessitano di anelli di compressione.

Per i raccordi di diametro 50, 63, 75, 90 e 110 mm è stato sviluppato il sistema DeltOne nel quale la ghiera, l'anello di aggraffaggio e la bussola sono uniti a formare un unico componente. La guarnizione utilizzata è sempre di tipo O-ring come nel modello classico. In questo modo il montaggio del raccordo risulta estremamente facile e veloce senza pregiudicare le caratteristiche di sicurezza della giunzione.

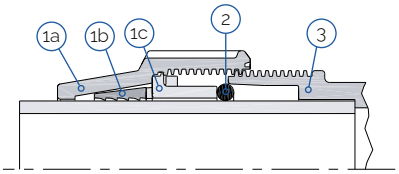
Sistema DeltOne per raccordi Ø 50, 63, 75, 90, 110 mm



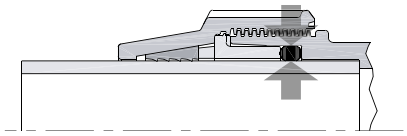
La ghiera 1a, l'anello di aggraffaggio 1b e la bussola 1c sono uniti in un unico elemento per facilitare il montaggio del raccordo sul tubo.



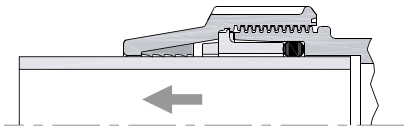
Tenuta idraulica del raccordo tipo DeltOne Ø 50, 63, 75, 90, 110 mm



La ghiera (1a), l'anello di aggraffaggio (1b) e la bussola (1c) sono uniti in un unico elemento.



Avvitando la ghiera (1a) al corpo (3), la guarnizione (2) viene spinta nella sua sede in modo certo (la bussola non deve comprimere la guarnizione per preservare la funzionalità dell'O-ring).

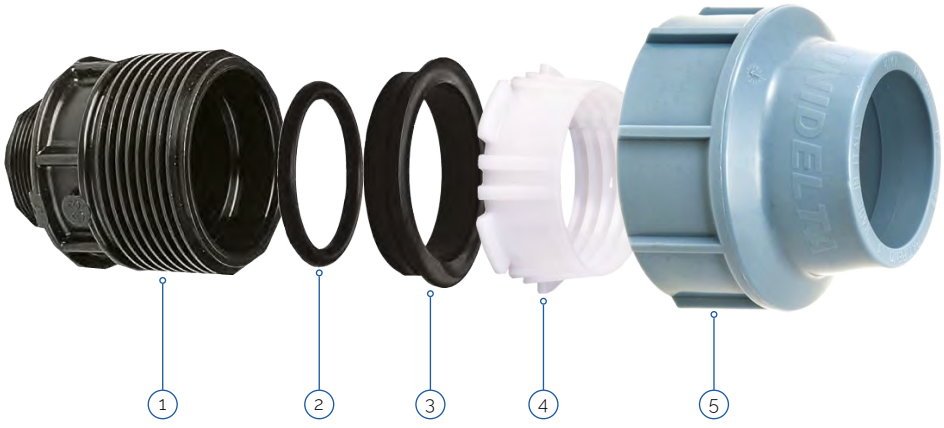


In caso di forza di trazione l'anello di aggraffaggio si incunea nella conicità della ghiera assicurando la resistenza allo sfilamento.

2.7 Materiali

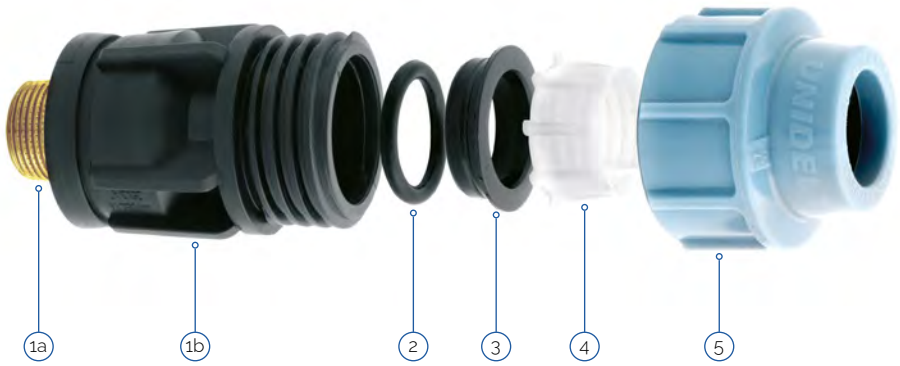
Raccordi a compressione

(1) **Corpo:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
(2) **Guarnizione:** O-ring.
(3) **Bussola:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
(4) **Anello di aggraffaggio:** resina acetalica (POM).
(5) **Ghiera:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.



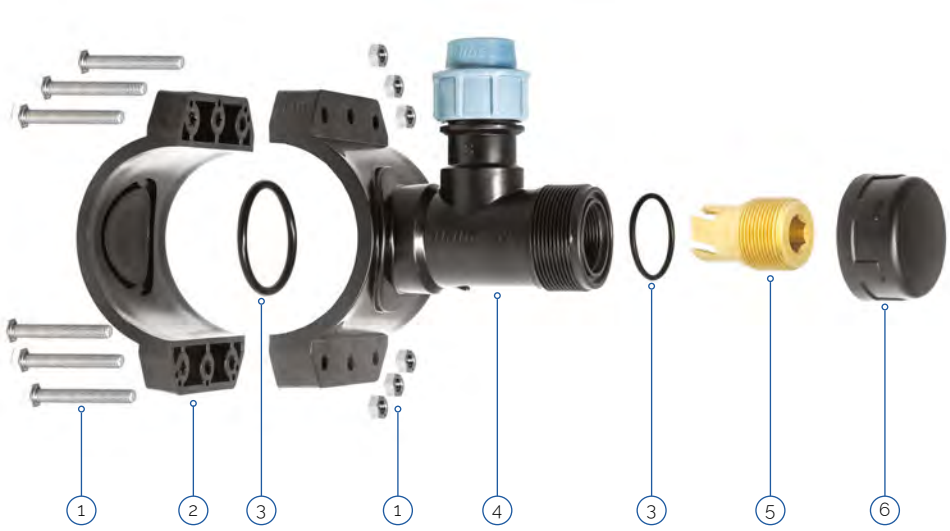
Raccordi a compressione di transizione

1a **Filettatura:** inserto metallico filettato in ottone stampato nel corpo.
1b **Corpo:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
2 **Guarnizione:** O-ring.
3 **Bussola:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
4 **Anello di aggraffaggio**: resina acetalica (POM).
5 **Ghiera:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.



Collare di derivazione in carico

1 **Bulloni:** acciaio inox A4.
2 **Fondo staffa:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
3 **Guarnizioni:** O-ring.
4 **Derivazione staffa in carico:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
5 **Perforatore:** ottone.
6 **Tappo:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.



Prese a staffa PN 10

1. **Bulloni:** acciaio galvanizzato.
2. **Fondo staffa:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
3. **Guarnizione:** O-ring.
4. **Derivazione staffa:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
5. **Anello rinforzo:** acciaio inox.



Prese a staffa PN 16

1. **Bulloni:** acciaio galvanizzato.
2. **Fondo staffa:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
3. **Guarnizione:** O-ring.
4. **Derivazione staffa:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
5. **Anello rinforzo:** acciaio inox.



2.8 Istruzioni di montaggio

Video Tutorial
Unidelta SPA Official

Raccordi a compressione Ø 16 mm ÷ 40 mm



Tagliare il tubo ortogonalmente all'asse utilizzando idonei utensili tagliatubo, seghe circolari o a nastro. In quest'ultimo caso, per ottenere una sezione retta è consigliabile l'utilizzo di scatole guida.



Eliminare sbavature dovute al taglio e smussare l'estremità del tubo per facilitarne il montaggio e per non provocare danni alla guarnizione del raccordo.
La superficie esterna del tubo non deve presentare imperfezioni o intagli per tutta la lunghezza di inserimento nel corpo del raccordo.



Svitare la ghiera azzurra ed inserirla sul tubo seguita dall'anello di aggraffaggio.
Assicurarsi che quest'ultimo abbia la conicità nella giusta direzione, ovvero con la parte più larga rivolta verso il raccordo.



Spingere il tubo nel raccordo agendo in direzione assiale superando la guarnizione fino alla battuta interna del corpo del raccordo.
È utile lubrificare la parte terminale del tubo e la guarnizione con un lubrificante al silicone che non alteri le proprietà di potabilità dell'acqua.
Non usare oli o grassi a base minerale.



Avvitare prima la ghiera manualmente e poi utilizzando l'apposita chiave di serraggio.
La ghiera deve essere chiusa con forza benché non sia necessario che essa vada in contatto con la battuta terminale del corpo del raccordo.

Raccordi a compressione Deltone Ø 50 mm ÷ 110 mm



Tagliare il tubo ortogonalmente all'asse utilizzando speciali tagliatubo, seghe circolari o a nastro. In quest'ultimo caso, per ottenere una sezione retta è consigliabile l'utilizzo di scatole guida.



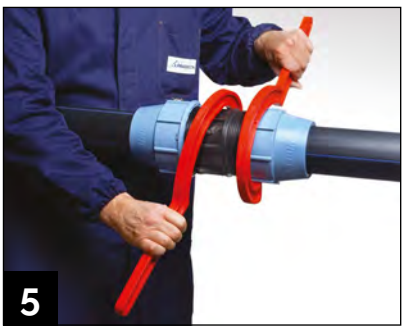
Svitare la ghiera azzurra senza rimuovere gli anelli assemblati nel suo interno (componente integrato).



Infilare il componente integrato sul tubo seguito dalla guarnizione.
È utile lubrificare la parte terminale del tubo e la guarnizione con un lubrificante al silicone che non alteri le proprietà di potabilità dell'acqua.
Non usare oli o grassi a base minerale.



Spingere il tubo nel corpo del raccordo fino alla battuta interna.



Avvitare prima la ghiera manualmente e poi utilizzando una chiave di serraggio.
La ghiera deve essere chiusa con forza benché non sia necessario che essa vada in contatto con la battuta terminale del corpo del raccordo.

Giunto di transizione universale CODE 1033



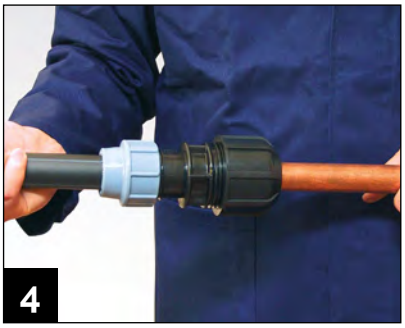
Tagliare il tubo ortogonalmente all'asse e eliminare eventuali sbavature dovute al taglio.
La superficie esterna del tubo non deve presentare imperfezioni o intagli per tutta la lunghezza di inserimento nel corpo del raccordo.



In condizione di ghiera particolarmente svitata spingere il raccordo lato universale sul tubo agendo in direzione assiale fino alla battuta interna del corpo del raccordo.



Avvitare la ghiera utilizzando la chiave di serraggio. La ghiera deve essere chiusa con forza benché non sia necessario che essa vada in contatto con la battuta terminale del corpo del raccordo.



Assemblare il tubo in PE serie metrica (diametro in mm) seguendo le istruzioni del raccordo standard ("Raccordi a compressione Ø 16 mm ÷ 40 mm" a pagina 13).

Collare di derivazione in carico CODE 1025



Individuare il punto di installazione ed assicurarsi che la superficie esterna del tubo non presenti terriccio, imperfezioni o intagli nella zona di contatto con la guarnizione.
Posizionare la guarnizione nell'apposita sede nella parte superiore del collare.



Posizionare la parte inferiore del collare nel punto prescelto.
Accoppiare la parte superiore del collare con quella inferiore inserendo le viti dal basso (la parte inferiore del collare ha l'incasso per la testa delle viti).



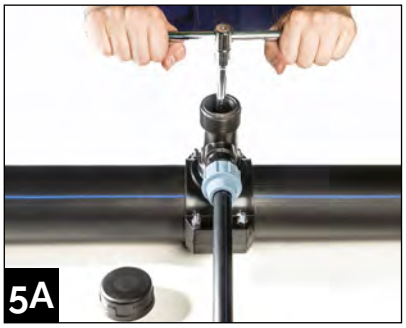
Avvitare e serrare i dadi operando diagonalmente (a croce).

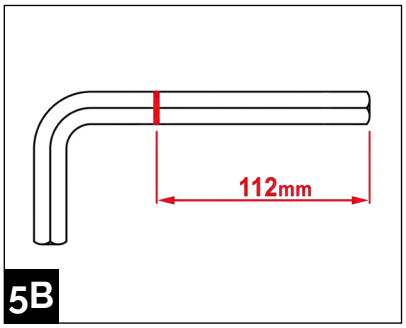


Inserire il tubo di derivazione come da istruzioni sui raccordi a compressione ("Raccordi a compressione Ø 16 mm ÷ 40 mm" a pagina 13)..

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Svitare il tappo superiore di tenuta ed inserire la chiave nell'apposita sede esagonale del perforatore fino in battuta.
Avvitare il perforatore, avvalendosi dell'ausilio di una leva di lunghezza sufficiente, fino a che la lama non abbia tagliato completamente la parete del tubo (ricordiamo di segnare sulla chiave la quota di 112 mm mostrata nel disegno 5B).
La perforazione viene evidenziata da una leggera fuoriuscita di acqua e/o da una diminuzione della resistenza all'avvitamento. **In ogni caso, non superare mai la quota di 112 mm indicata sulla chiave.**



Svitare il perforatore e riportarlo fino e non oltre il limite superiore del filetto interno della torretta (la sezione di tubo tagliata resta bloccata in modo sicuro nel perforatore).



Chiudere a fondo il tappo di tenuta e concludere il serraggio utilizzando una chiave.

Prese a staffa



Individuare il punto di installazione ed assicurarsi che la superficie esterna del tubo non presenti terriccio, imperfezioni o intagli nella zona di contatto con la guarnizione.
Posizionare la guarnizione nell'apposita sede della staffa.



Posizionare la parte inferiore della staffa nel punto prescelto.
Accoppiare la parte superiore della staffa con quella inferiore.



Inserire le viti dal basso (la parte cieca della staffa ha l'incasso per la testa delle viti).
Avvitare e serrare i dadi operando diagonalmente (a croce).



Forare il tubo facendo attenzione a non danneggiare i filetti della staffa e la guarnizione ed utilizzando un distanziatore per evitare di forare il tubo dall'altro lato.
É preferibile l'utilizzo di punte a tazza poiché limitano il rischio di danneggiamento dei filetti e della guarnizione e riducono il deposito di materiale all'interno della condotta.

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Metodo alternativo:



Con un pennarello indelebile bianco disegnare dei punti di riferimento sul tubo che consentano il riposizionamento della staffa.
Smontare nuovamente la staffa dalla tubazione.



Forare il tubo e rimuovere il materiale depositatosi all'interno della condotta.

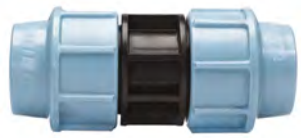


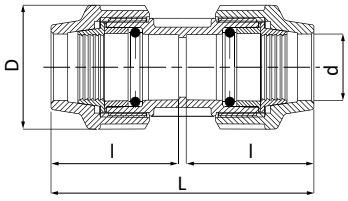
Rimontare la presa a staffa in corrispondenza dei segni di riferimento precedentemente tracciati aiutandosi con una spina (per esempio la punta utilizzata per la foratura) per mantenere la derivazione in asse con il foro.

3.1 Raccordi a compressione

1001

Manicotto

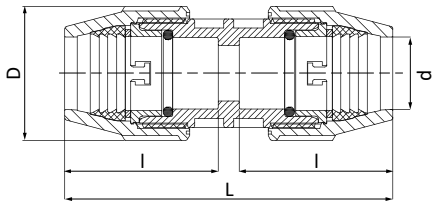




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	PN [bar]
16x16	1001016000001	103x42x42	42	103	49	16
20x20	1001020000001	108x46x46	46	108	52	16
25x25	1001025000001	122x55x55	55	122	59	16
27x27	1001027000001	126x55x55	55	126	61	16
32x32	1001032000001	139x63x63	63	139	68	16
40x40	1001040000001	168x80x80	80	168	82	16

>>>





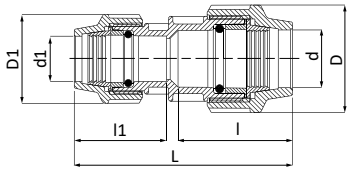
>>>

50x50	1001051000001	232x96x96	96	232	110	16
63x63	1001064000001	248x115x115	115	248	121	16
75x75	1001076000001	278x129x129	129	278	136	16
90x90	1001091000001	315x155x155	155	315	154	16
110x110	1001111000001	422x183x183	183	422	205	16

1002

Manicotto di riduzione

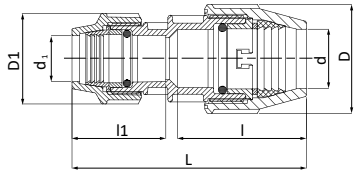




DIM dxd_1 [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	l1 [mm]	PN [bar]
20x16	1002020016001	110x46x46	46	42	110	56	50	16
25x20	1002025020001	128x55x55	55	46	128	67	56	16
32x20	1002032020001	139x63x63	63	46	139	70	60	16
32x25	1002032025001	143x63x63	63	55	143	70	66	16
40x25	1002040025001	158x80x80	80	55	158	85	66	16
40x32	1002040032001	163x80x80	80	63	163	88	71	16

>>>





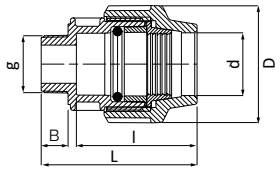
>>>

50x25	1002051025001	180x96x96	96	55	180	113	65	16
50x32	1002051032001	186x96x96	96	63	186	113	69	16
50x40	1002051040001	212x96x96	96	80	212	115	86	16
63x25	1002064025001	192x115x115	115	55	192	119	64	16
63x32	1002064032001	194x115x115	115	63	194	119	71	16
63x40	1002064040001	204x115x115	115	80	204	121	81	16
63x50	1002064051001	260x115x115	115	96	260	130	118	16
75x50	1002076051001	262x129x129	129	96	262	134	114	16
75x63	1002076064001	285x129x129	129	115	285	146	130	16
90x63	1002091064001	298x155x155	155	115	298	157	134	16
90x75	1002091076001	318x155x155	155	129	318	162	146	16
110x75	1002111076001	351x183x183	183	129	351	210	130	16
110x90	1002111091001	370x183x183	183	155	370	201	158	16

1003

Raccordo maschio

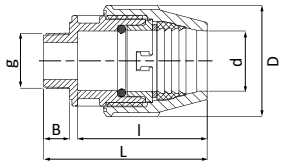




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x3/8”	1003016001001	69x42x42	42	69	50	13	16
16x1/2”	1003016002001	69x42x42	42	69	50	16	16
16x3/4”	1003016003001	69x42x42	42	69	50	17	16
20x1/2”	1003020002001	81x46x46	46	81	61	16	16
20x3/4”	1003020003001	82x46x46	46	82	61	17	16
20x1”	1003020004001	85x46x46	46	85	61	20	16
25x1/2”	1003025002001	89x55x55	55	89	69	16	16
25x3/4”	1003025003001	90x55x55	55	90	69	17	16
25x1”	1003025004001	93x55x55	55	93	69	20	16
32x1/2”	1003032002001	98x63x63	63	98	76	16	16
32x3/4”	1003032003001	98x63x63	63	98	76	17	16
32x1”	1003032004001	101x63x63	63	101	76	20	16
32x1”1/4	1003032005001	104x63x63	63	104	76	23	16
32x1”1/2	1003032006001	104x63x63	63	104	76	23	16
40x1”	1003040004001	108x80x80	80	108	82	21	16
40x1”1/4	1003040005001	117x80x80	80	117	82	29	16
40x1”1/2	1003040006001	117x80x80	80	117	82	28	16
40x2”	1003040007001	120x80x80	80	120	82	34	16

>>>





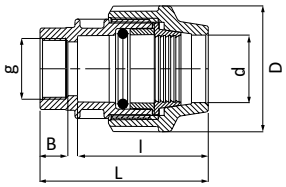
>>>

50x1”	1003051004001	143x96x96	96	143	111	26	16
50x1”1/4	1003051005001	146x96x96	96	146	111	28	16
50x1”1/2	1003051006001	146x96x96	96	146	111	28	16
50x2”	1003051007001	151x96x96	96	151	112	32	16
63x1”1/4	1003064005001	157x115x115	115	157	120	28	16
63x1”1/2	1003064006001	157x115x115	115	157	120	28	16
63x2”	1003064007001	161x115x115	115	161	120	32	16
63x2”1/2	1003064008001	158x115x115	115	158	120	29	16
75x2”	1003076007001	171x129x129	129	171	135	27	16
75x2”1/2	1003076008001	178x129x129	129	178	135	34	16
75x3”	1003076009001	178x129x129	129	178	135	34	16
90x2”	1003091007001	200x155x155	155	200	158	34	16
90x2”1/2	1003091008001	200x155x155	155	200	158	34	16
90x3”	1003091009001	200x155x155	155	200	158	34	16
90x4”	1003091010001	200x155x155	155	200	158	36	16
110x2”	1003111007001	247x183x183	183	247	198	34	16
110x3”	1003111009001	250x183x183	183	250	198	37	16
110x4”	1003111010001	250x183x183	183	250	200	37	16

1004

Raccordo femmina

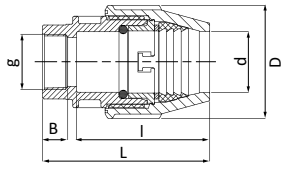




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x1/2”	1004016002001	69x42x42	42	69	50	17	16
16x3/4”	1004016003001	73x42x42	42	73	50	19	16
20x1/2”	1004020002001	77x46x46	46	77	58	18	16
20x3/4”	1004020003001	79x46x46	46	79	58	20	16
20x1”	1004020004001	81x47x47	47	81	58	22	16
25x1/2”	1004025002001	84x55x55	55	84	65	18	16
25x3/4”	1004025003001	86x55x55	55	86	65	20	16
25x1”	1004025004001	88x55x55	55	88	65	22	16
32x1/2”	1004032002001	92x63x63	63	92	71	18	16
32x3/4”	1004032003001	94x63x63	63	94	71	20	16
32x1”	1004032004001	96x63x63	63	96	71	22	16
***32x1”1/4**	1004032005001	97x63x63	63	97	71	23	16
40x1”	1004040004001	110x80x80	80	110	81	20	16
***40x1”1/4**	1004040005001	112x80x80	80	112	81	22	16
***40x1”1/2**	1004040006001	113x80x80	80	113	81	23	16

>>>





>>>

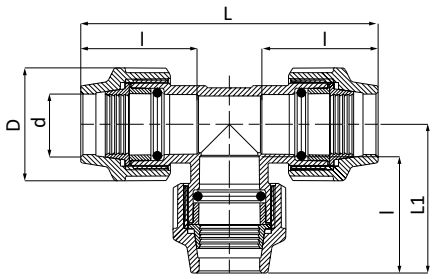
***50x1”**	1004051004001	140x96x96	96	140	117	20	16
***50x1”1/4**	1004051005001	144x96x96	96	144	112	22	16
***50x1”1/2**	1004051006001	144x96x96	96	144	112	23	16
***50x2”**	1004051007001	149x96x96	96	149	111	27	16
***63x1”1/4**	1004064005001	159x115x115	115	159	121	23	16
***63x1”1/2**	1004064006001	160x115x115	115	160	121	28	16
***63x2”**	1004064007001	165x115x115	115	165	121	22	16
***63x2”1/2**	1004064008001	168x115x115	115	168	121	23	16
***75x2”**	1004076007001	182x129x129	129	182	137	28	16
***75x2”1/2**	1004076008001	187x129x129	129	187	137	33	16
***75x3”**	1004076009001	187x129x129	129	187	137	33	16
***90x2”**	1004091007001	190x155x155	155	190	152	26	16
***90x2”1/2**	1004091008001	195x155x155	155	195	152	33	16
***90x3”**	1004091009001	195x155x155	155	195	152	33	16
***90x4”**	1004091010001	204x155x155	155	204	152	42	16
***110x3”**	1004111009001	263x183x183	183	263	204	40	16
***110x4”**	1004111010001	263x183x183	183	263	204	43	16

* La bocca filettata è rinforzata da un anello di acciaio inox

1005

Ti a 90°

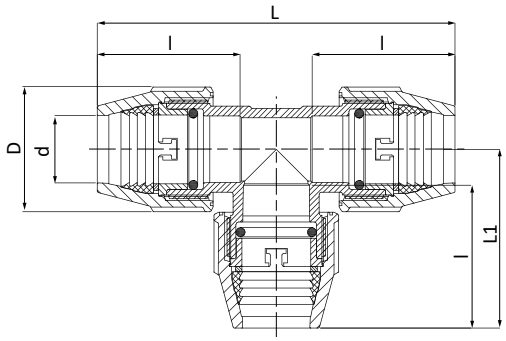




DIM dxdxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	L1 [mm]	PN [bar]
16x16x16	1005016000001	124x81x42	42	124	52	60	16
20x20x20	1005020000001	139x92x46	46	139	59	69	16
25x25x25	1005025000001	162x107x55	55	162	66	79	16
32x32x32	1005032000001	183x122x63	63	183	74	90	16
40x40x40	1005040000001	218x148x80	80	218	88	108	16

>>>





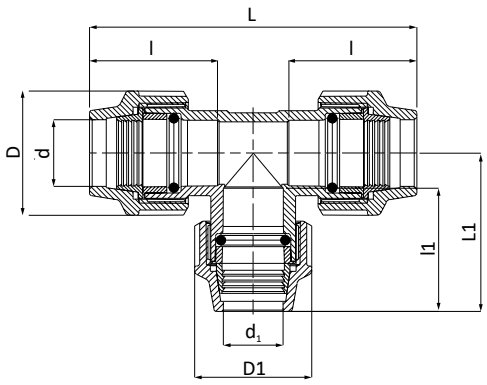
>>>

50x50x50	1005051000001	282x187x96	96	282	115	139	16
63x63x63	1005064000001	314x214x115	115	314	124	156	16
75x75x75	1005076000001	364x245x129	129	364	142	180	16
90x90x90	1005091000001	407x277x155	155	407	154	199	16
110x110x110	1005111000001	539x356x183	183	539	209	264	16

1013

Ti a 90° ridotto

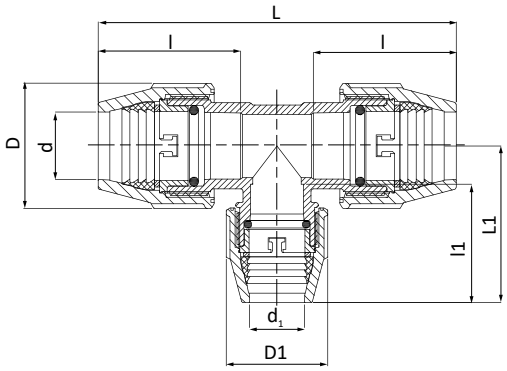




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x16x20	1013020016001	140x88x46	46	42	140	55	65	45	16
25x20x25	1013025020001	160x101x55	55	46	160	63	73	56	16
32x20x32	1013032020001	183x106x63	63	46	183	68	74	56	16
32x25x32	1013032025001	183x116x63	63	55	183	68	84	64	16
40x25x40	1013040025001	222x132x80	80	55	222	83	92	68	16
40x32x40	1013040032001	222x141x80	80	63	222	83	101	79	16

>>>





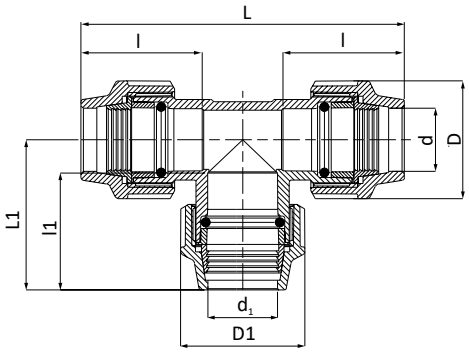
>>>

50x25x50	1013051025001	287x149x96	96	55	287	104	101	63	16
50x32x50	1013051032001	287x156x96	96	63	287	104	108	68	16
50x40x50	1013051040001	287x174x96	96	80	287	104	126	94	16
63x25x63	1013064025001	336x174x115	115	55	336	133	116	62	16
63x32x63	1013064032001	336x171x115	115	63	336	133	113	67	16
63x40x63	1013064040001	336x194x115	115	80	336	133	136	94	16
63x50x63	1013064051001	336x215x115	115	96	336	133	157	111	16
75x50x75	1013076051001	365x245x129	129	96	365	136	180	120	16
75x63x75	1013076064001	365x235x129	129	115	365	136	170	123	16
90x63x90	1013091064001	415x270x155	155	115	415	154	192	133	16
90x75x90	1013091076001	407x273x155	155	129	407	154	195	136	16
110x75x110	1013111076001	535x312x183	183	129	535	203	220	149	16
110x90x110	1013111091001	535x323x183	183	155	535	203	231	156	16

1029

Ti a 90° con derivazione maggiorata

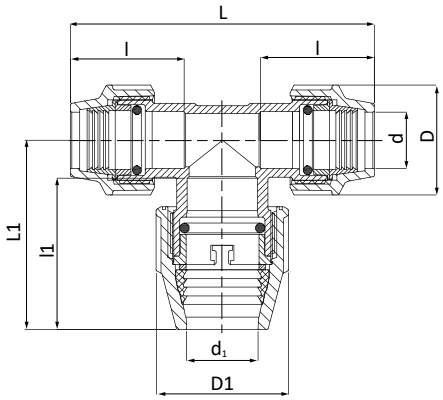




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x25x20	1029020025001	139x102x55	46	55	139	56	79	65	16
25x32x25	1029025032001	160x114x63	55	63	160	63	86	69	16
32x40x32	1029032040001	183x131x80	63	80	183	68	99	81	16

>>>





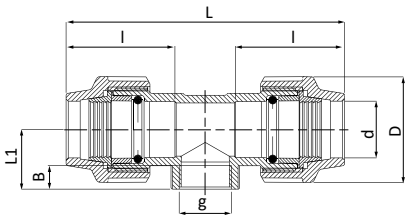
>>>

40x50x40	1029040051001	218x175x96	80	96	218	81	135	97	16

1007

Ti a 90° con derivazione femmina

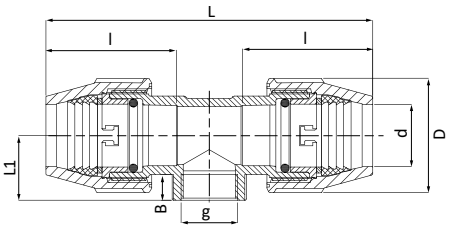




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1007016002001	123x52x42	42	123	49	17	31	16
16x3/4”x16	1007016003001	123x52x42	42	123	49	17	31	16
20x1/2”x20	1007020002001	139x70x46	46	139	55	19	47	16
20x3/4”x20	1007020003001	139x70x46	46	139	55	19	47	16
25x1/2”x25	1007025002001	160x78x55	55	160	63	16	50	16
25x3/4”x25	1007025003001	160x78x55	55	160	63	16	50	16
25x1”x25	1007025004001	160x83x55	55	160	63	21	55	16
32x1/2”x32	1007032002001	183x85x63	63	183	68	17	53	16
32x3/4”x32	1007032003001	183x85x63	63	183	68	17	53	16
32x1”x32	1007032004001	183x89x63	63	183	68	21	57	16
***32x1”1/4x32**	1007032005001	183x92x63	63	183	68	24	60	16
40x1”x40	1007040004001	205x85x80	80	205	81	21	45	16
***40x1”1/4x40**	1007040005001	217x89x80	80	217	81	25	49	16
***40x1”1/2x40**	1007040006001	210x87x80	80	210	81	23	47	16

>>>





>>>

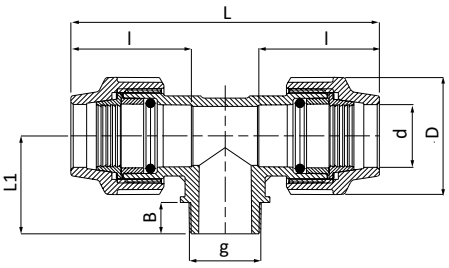
50x1/2”x50	1007051002001	282x109x96	96	282	105	31	61	16
***50x1”1/4x50**	1007051005001	282x105x96	96	282	105	24	57	16
***50x1”1/2x50**	1007051006001	282x104x96	96	282	105	24	56	16
***50x2”x50**	1007051007001	282x104x96	96	282	105	27	56	16
***63x1”1/4x63**	1007064005001	313x120x115	115	313	123	27	62	16
***63x1”1/2x63**	1007064006001	313x120x115	115	313	123	27	62	16
***63x2”x63**	1007064007001	313x123x115	115	313	123	30	65	16
***63x2”1/2x63**	1007064008001	313x123x115	115	313	123	30	65	16
***75x2”x75**	1007076007001	362x149x129	129	362	138	35	84	16
***75x2”1/2x75**	1007076008001	362x149x129	129	362	138	35	84	16
***75x3”x75**	1007076009001	362x150x129	129	362	138	36	85	16
***90x2”1/2x90**	1007091008001	406x169x155	155	406	154	43	91	16
***90x3”x90**	1007091009001	406x173x155	155	406	154	47	95	16
***90x4”x90**	1007091010001	406x173x155	155	406	154	47	95	16
***110x3”x110**	1007111009001	534x196x183	183	534	205	41	104	16
***110x4”x110**	1007111010001	534x196x183	183	534	205	45	104	16

* La bocca filettata è rinforzata da un anello di acciaio inox

1010

Ti a 90° con derivazione maschio

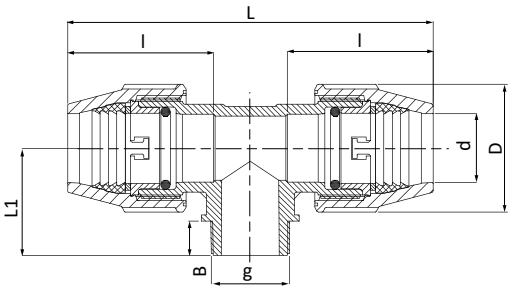




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1010016002001	125x57x42	42	125	50	18	36	16
16x3/4”x16	1010016003001	125x57x42	42	125	50	18	36	16
20x1/2”x20	1010020002001	139x58x46	46	139	56	16	35	16
20x3/4”x20	1010020003001	139x59x46	46	139	56	17	36	16
25x1/2”x25	1010025002001	160x63x55	55	160	63	16	35	16
25x3/4”x25	1010025003001	160x64x55	55	160	63	17	36	16
25x1”x25	1010025004001	160x66x55	55	160	63	19	38	16
32x1/2”x32	1010032002001	183x67x63	63	183	68	16	35	16
32x3/4”x32	1010032003001	183x68x63	63	183	68	17	36	16
32x1”x32	1010032004001	183x71x63	63	183	68	20	39	16
32x1”1/4x32	1010032005001	183x73x63	63	183	68	22	41	16
40x1”x40	1010040004001	218x84x80	80	218	81	20	44	16
40x1”1/4x40	1010040005001	218x84x80	80	218	81	22	44	16
40x1”1/2x40	1010040006001	218x84x80	80	218	81	22	44	16

>>>





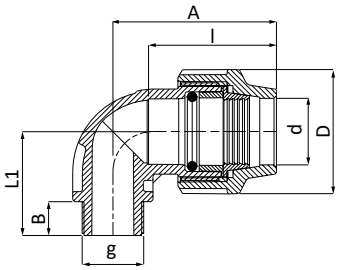
>>>

50x1”1/4x50	1010051005001	287x126x96	96	287	103	24	78	16
50x1”1/2x50	1010051006001	287x130x96	96	287	103	23	82	16
50x2”x50	1010051007001	287x136x96	96	287	103	29	88	16
63x1”1/2x63	1010064006001	335x148x115	115	335	130	25	90	16
63x2”x63	1010064007001	335x150x115	115	335	130	27	92	16
63x2”1/2x63	1010064008001	335x151x115	115	335	130	28	93	16
75x2”1/2x75	1010076008001	365x165x129	129	365	137	32	100	16
75x3”x75	1010076009001	365x168x129	129	365	137	35	103	16
90x3”x90	1010091009001	408x181x155	155	408	155	35	103	16
90x4”x90	1010091010001	408x189x155	155	408	155	41	111	16
110x4”x110	1010111010001	538x220x183	183	538	211	42	128	16

1008

Gomito a 90° con derivazione maschio

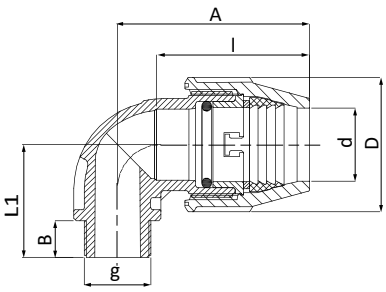




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1008016002001	69x69x42	42	39	18	58	48	16
16x3/4”	1008016003001	71x69x42	42	39	19	58	48	16
20x1/2”	1008020002001	77x62x46	46	45	18	62	39	16
20x3/4”	1008020003001	77x63x46	46	45	19	62	40	16
25x1/2”	1008025002001	92x71x55	55	53	18	74	43	16
25x3/4”	1008025003001	92x72x55	55	53	19	74	44	16
25x1”	1008025004001	92x75x55	55	53	22	74	47	16
32x1/2”	1008032002001	107x82x63	63	57	18	85	50	16
32x3/4”	1008032003001	107x83x63	63	57	19	85	51	16
32x1”	1008032004001	107x85x63	63	57	22	85	53	16
32x1”1/4	1008032005001	107x88x63	63	57	25	85	56	16
40x1”	1008040004001	132x101x80	80	70	22	105	61	16
40x1”1/4	1008040005001	132x104x80	80	70	25	105	64	16
40x1”1/2	1008040006001	132x104x80	80	70	25	105	64	16

>>>





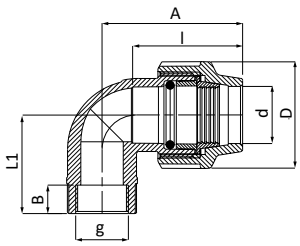
>>>

50x1”1/4	1008051005001	178x135x96	96	106	26	144	87	16
50x1”1/2	1008051006001	178x129x96	96	106	28	144	81	16
50x2”	1008051007001	182x129x96	96	111	28	149	81	16
63x1”1/2	1008064006001	214x143x115	115	130	23	173	85	16
63x2”	1008064007001	214x158x115	115	130	28	173	100	16
63x2”1/2	1008064008001	214x162x115	115	130	32	173	104	16
75x2”	1008076007001	240x165x129	129	142	28	193	100	16
75x2”1/2	1008076008001	240x169x129	129	142	32	193	104	16
75x3”	1008076009001	240x172x129	129	142	35	193	107	16
90x3”	1008091009001	276x192x155	155	158	35	217	114	16
90x4”	1008091010001	276x198x155	155	158	41	217	120	16
110x4”	1008111010001	362x236x183	183	222	42	294	144	16

1009

Gomito a 90° con derivazione femmina

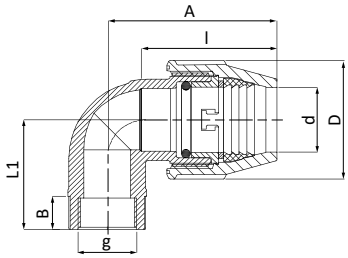




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	I [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1009016002001	74x69x42	42	39	18	58	48	16
16x3/4”	1009016003001	76x69x42	42	39	18	58	48	16
20x1/2”	1009020002001	79x62x46	46	45	18	63	39	16
20x3/4”	1009020003001	84x63x46	46	45	18	66	40	16
25x1/2”	1009025002001	95x73x55	55	53	18	77	45	16
25x3/4”	1009025003001	96x73x55	55	53	18	77	45	16
25x1”	1009025004001	100x76x55	55	53	20	77	48	16
32x1/2”	1009032002001	108x80x63	63	57	17	86	48	16
32x3/4”	1009032003001	108x81x63	63	57	18	86	49	16
32x1”	1009032004001	109x83x63	63	57	21	86	51	16
***32x1”1/4**	1009032005001	115x92x63	63	57	26	86	60	16
40x3/4”	1009040003001	132x95x80	80	70	18	105	55	16
40x1”	1009040004001	132x99x80	80	70	21	105	59	16
***40x1”1/4**	1009040005001	134x104x80	80	70	25	105	64	16
***40x1”1/2**	1009040006001	135x106x80	80	70	25	105	66	16

>>>





>>>

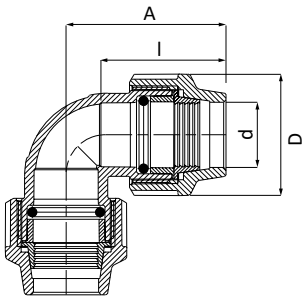
***50x1”1/4**	1009051005001	179x133x96	96	107	24	145	85	16
***50x1”1/2**	1009051006001	179x138x96	96	107	25	145	90	16
***50x2”**	1009051007001	184x138x96	96	107	25	145	90	16
***63x1”1/2**	1009064006001	214x159x115	115	130	26	173	101	16
***63x2”**	1009064007001	214x166x115	115	130	35	173	108	16
***63x2”1/2**	1009064008001	218x166x115	115	130	35	173	108	16
***75x2”**	1009076007001	240x188x129	129	142	36	193	123	16
***75x2”1/2**	1009076008001	240x190x129	129	142	37	193	125	16
***75x3”**	1009076009001	247x194x129	129	142	38	193	129	16
***90x3”**	1009091009001	274x218x155	155	157	40	216	140	16
***90x4”**	1009091010001	281x220x155	155	157	40	216	142	16
***110x3”**	1009111009001	362x226x183	183	222	40	294	134	16
***110x4”**	1009111010001	362x230x183	183	222	40	294	138	16

* La bocca filettata è rinforzata da un anello di acciaio inox

1006

Gomito a 90°

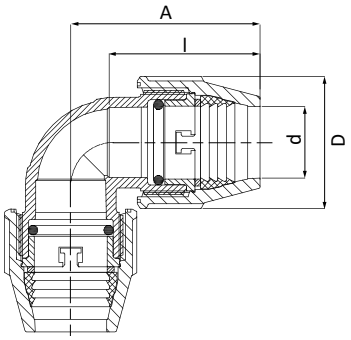




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	PN [bar]
16x16	1006016000001	85x85x42	42	64	49	16
20x20	1006020000001	92x92x46	46	69	50	16
25x25	1006025000001	113x113x55	55	86	62	16
32x32	1006032000001	127x127x63	63	96	70	16
40x40	1006040000001	157x157x80	80	117	79	16

>>>





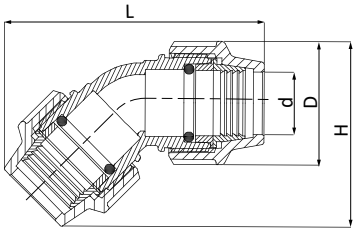
>>>

50x50	1006051000001	187x187x96	96	139	103	16
63x63	1006064000001	224x224x115	115	166	122	16
75x75	1006076000001	254x254x129	129	190	135	16
90x90	1006091000001	298x298x155	155	220	155	16
110x110	1006111000001	367x367x183	183	275	200	16

1018

Gomito a 45°

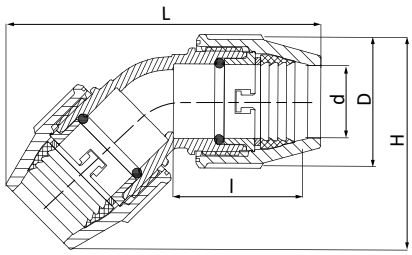




DIM dxd [mm]	CODE	D [mm]	L [mm]	H [mm]	PN [bar]
20x20	1018020000001	46	117	78	16
25x25	1018025000001	55	141	94	16
32x32	1018032000001	63	160	107	16
40x40	1018040000001	80	190	130	16

>>>





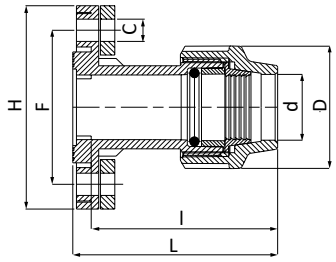
>>>

50x50	1018051000001	96	232	158	16
63x63	1018064000001	115	246	176	16

1011

Raccordo con flangia

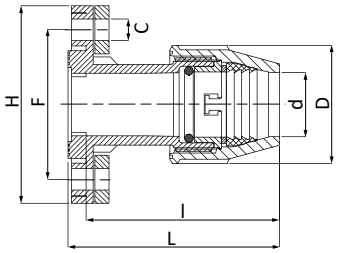




DIM dxDN [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	H [mm]	F [mm]	C [mm]	NF	PN [bar]
40x1”1/2 (DN40)	1011040006001	141x152x152	80	141	128	152	110	18	4	16

>>>





>>>

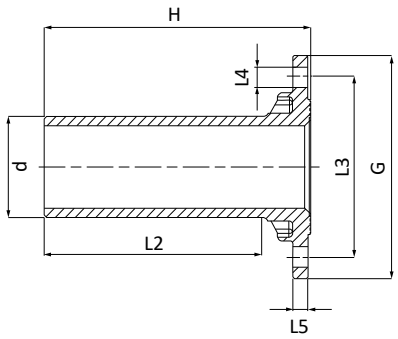
50x1”1/2 (DN40)	1011051006001	172x151x151	96	172	159	151	110	18	4	16
50x2” (DN50)	1011051007001	147x165x165	96	147	138	165	125	18	4	16
63x2” (DN50)	1011064007001	193x165x165	115	193	178	165	125	18	4	16
63x2”1/2 (DN65)	1011064008001	193x184x184	115	193	178	184	145	18	4	16
75x2”1/2 (DN65)	1011076008001	201x184x184	129	201	186	184	145	18	4	16
75x3” (DN80)	1011076009001	203x198x198	129	203	186	198	160	18	8	16
90x3” (DN80)	1011091009001	220x198x198	155	220	202	198	160	18	8	16
90x4” (DN100)	1011091010001	223x220x220	155	223	202	220	180	18	8	16
110x4” (DN100)	1011111010001	253x220x220	183	253	233	220	180	18	8	16

Flangia di rinforzo in acciaio zincato

1053-A223

Inserto flangiato





DIM d (DN) [mm]	CODE	DIM MAX LxHxP [mm]	G [mm]	H [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	NF	PN [bar]
63 (DN50)	1053063000001	170x201x170	170	201	169	125	18	12	4	16
63 (DN65)	1053063001001	183x201x183	183	201	164	145	18	12	4	16
75 (DN65)	1053075000001	183x217x183	183	217	184	145	18	12	4	16
75 (DN80)	1053075001001	200x217x200	200	217	177	160	18	12	8	16
90 (DN80)	1053090000001	200x240x200	200	240	199	160	18	14	8	16
110 (DN80)	1053110001001	200x305x200	200	305	272	160	18	14	8	16
110 (DN100)	1053110000001	224x305x224	224	305	265	180	18	14	8	16

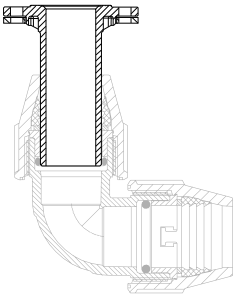
Flangia abbinabile da ordinare separatamente

Flangia in acciaio zincato

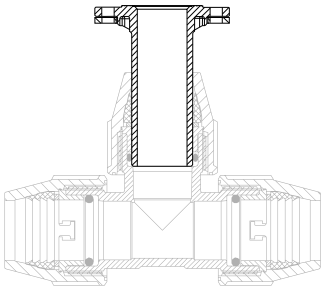
DIM [mm]	CODE	NF
63 (DN50)	A223000003	4
63 (DN65)	A223000004	4
75 (DN65)	A223000005	4
75 (DN80) - 90 (DN80) - 110 (DN80)	A223000007	8
110 (DN100)	A223000009	8

ESEMPIO D'INSTALLAZIONE

Idoneo all'inserimento nell'uscita a compressione dei raccordi Unidelta



CODE 1006

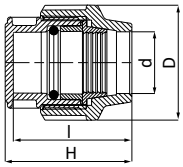


CODE 1005

1012

Tappo fine linea

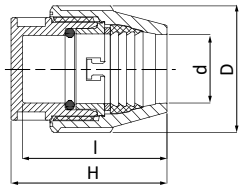




DIM d [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	PN [bar]
16	1012016000001	42x55x42	42	55	50	16
20	1012020000001	46x70x46	46	70	65	16
25	1012025000001	55x77x55	55	77	72	16
32	1012032000001	63x85x63	63	85	79	16
40	1012040000001	80x89x80	80	89	83	16

>>>





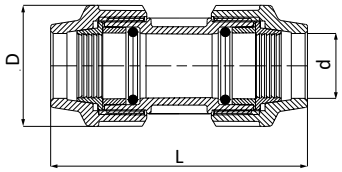
>>>

50	1012051000001	96x125x96	96	125	100	16
63	1012064000001	115x135x115	115	135	123	16
75	1012076000001	129x158x129	129	158	137	16
90	1012091000001	155x179x155	155	179	158	16
110	1012111000001	183x226x183	183	226	202	16

1014

Manicotto di riparazione

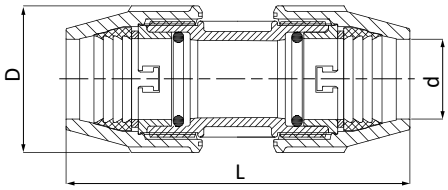




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	PN [bar]
25x25	1014025000001	122x55x55	55	122	16
32x32	1014032000001	139x63x63	63	139	16
40x40	1014040000001	168x80x80	80	168	16

>>>





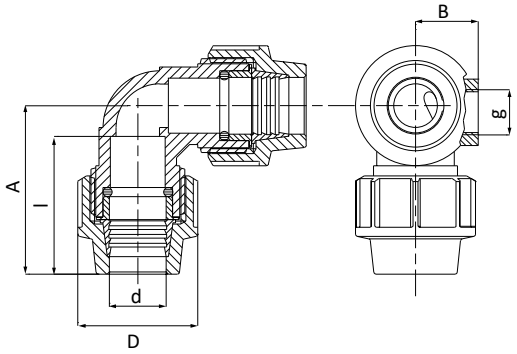
>>>

50x50	1014051000001	230x96x96	96	230	16
63x63	1014064000001	248x115x115	115	248	16
75x75	1014076000001	278x129x129	129	278	16
90x90	1014091000001	315x155x155	155	315	16
110x110	1014111000001	422x183x183	183	422	16

1023

Gomito a 90° con derivazione laterale femmina



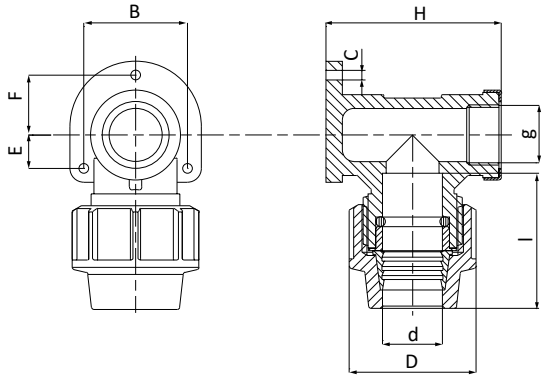


DIM dxdxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	B [mm]	PN [bar]
25x25x1/2”	1023025002001	113x113x58	55	86	62	30	16
32x32x1/2”	1023032002001	127x127x67	63	96	70	35	16
32x32x3/4”	1023032003001	127x127x68	63	96	70	36	16

1034

Raccordo murale a gomito

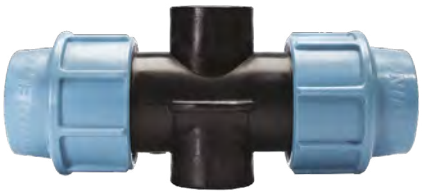


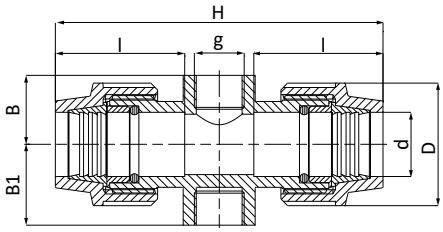


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	C [mm]	B [mm]	E [mm]	F [mm]	PN [bar]
20x1/2”	1034020002001	89x62x49	46	62	49	4	38	12	22	16
25x1/2”	1034025002001	116x74x57	55	74	66	4	44	15	25	16
25x3/4”	1034025003001	110x75x60	55	75	59	4	44	15	27	16
32x1”	1034032004001	124x86x67	63	86	72	5	56	20	28	16

1021

Ti femmina con attacco per picchetto





DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	B [mm]	B1 [mm]	PN [bar]
32x3/4"x32	1021320303001	77x168x63	63	168	66	36	41	16

1050

Prolunga maschio/femmina



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"F	1050003002001	28
3/4"Mx3/4"F	1050003003001	28

1052

Prolunga maschio/maschio



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"M	1052003002001	29,5

1051

Picchetto



DIM g [in.]	CODE	L [cm]
3/4" M	1051000003001	29

ESEMPIO D'INSTALLAZIONE





3.2 Giunto di transizione universale

Il giunto universale Unidelta cod. 1033 permette di unire in modo rapido e solido i tubi in polietilene di diametro 20, 25 e 32 mm con tubi di qualsiasi materiale (ad esempio acciaio, rame, piombo, PVC, ecc.) di diametro esterno compreso tra 15 e 35 mm. Inoltre è idoneo al passaggio da tubazioni in serie metrica (diametri in millimetri) a tubi in serie Imperiale (diametri in pollici).

Acciaio galvanizzato
rame, piombo, U-PVC, PP,
PE imperiale e altri

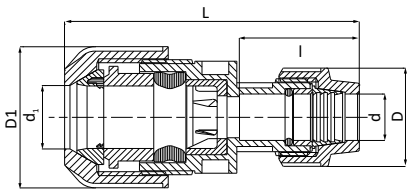


PE serie metrica

1033

Giunto di transizione universale





DIM $d_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	I [mm]	PN [bar]
15/22x20	1033020003001	145x62x62	46	62	145	60	10
15/22x25	1033025003001	145x62x62	55	62	145	64	10
20/27x20	1033020004001	150x69x69	46	69	150	64	10
20/27x25	1033025004001	150x69x69	55	69	150	64	10
27/35x25	1033025006001	158x79x79	55	79	158	64	10
20/27x32	1033032004001	158x69x69	63	69	158	72	10
27/35x32	1033032006001	165x79x79	63	79	165	72	10

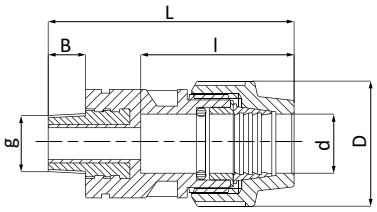
3.3 Raccordi a compressione di transizione

Il raccordo a compressione di transizione Unidelta presenta uno speciale inserto metallico filettato in ottone sovrastampato dal corpo in polipropilene.

1035

Raccordo maschio con filetto in ottone

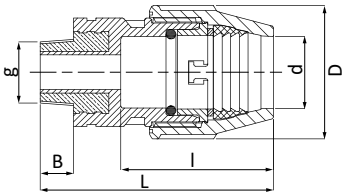




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	PN [bar]
20x1/2”	1035020002001	103x46x46	46	103	58	15	16
25x3/4”	1035025003001	112x55x55	55	112	64	17	16
32x1”	1035032004001	116x63x63	63	116	69	19	16
40x1”1/4	1035040005001	140x80x80	80	140	81	23	16
40x1”1/2	1035040006001	150x80x80	80	150	87	32	16

>>>





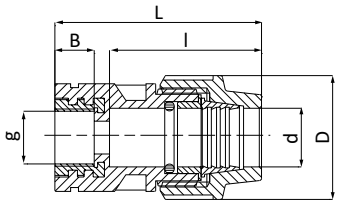
>>>

50x1”1/2	1035051006001	172x96x96	96	172	112	23	16
63x2”	1035064007001	186x115x115	115	186	122	24	16

1036

Raccordo femmina con filetto in ottone

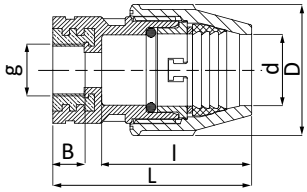




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1036020002001	88x46x46	46	88	58	14	16
25x3/4”	1036025003001	95x55x55	55	95	64	15	16
32x1”	1036032004001	106x63x63	63	106	69	18	16
40x3/4"	1036040003001	110x80x80	80	110	85	18	16
40x1”1/4	1036040005001	118x80x80	80	118	82	20	16
40x1”1/2	1036040006001	111x80x80	80	111	86	27	16

>>>





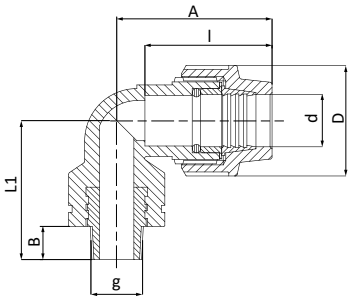
>>>

50x1”1/2	1036051006001	151x96x96	96	151	113	23	16
63x2”	1036064007001	164x115x115	115	164	121	24	16

1039

Gomito 90° maschio con filetto in ottone

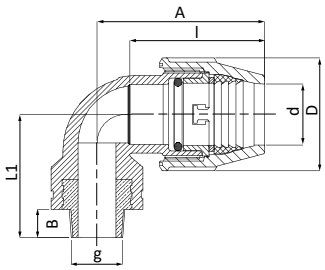




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	B [mm]	PN [bar]
20x1/2”	1039020002001	94x87x48	46	70	49	64	15	16
20x3/4”	1039020003001	99x89x55	46	71	51	66	16	16
25x3/4”	1039025003001	110x94x55	55	83	57	66	16	16
32x1”	1039032004001	126x118x66	63	93	62	86	29	16
40x1”1/4	1039040005001	149x127x80	80	112	72	87	23	16
40x1”1/2	1039040006001	144x127x80	80	112	78	87	32	16

>>>





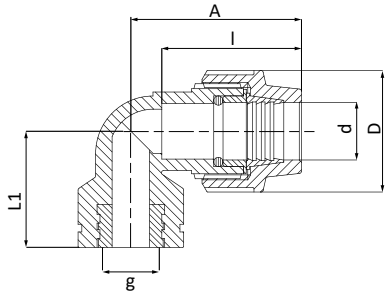
>>>

50x1”1/2	1039051006001	180x135x96	96	139	93	87	23	16
63x2”	1039064007001	196x163x115	115	149	99	105	27	16

1030

Gomito 90° femmina con filetto in ottone





DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	PN [bar]
40x3/4”	1030040003001	80x139x127	79	112	78	53	16

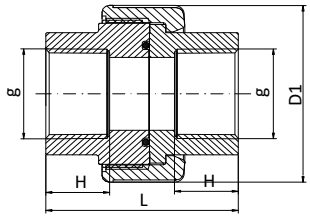
3.4 Raccordo a bocchettone

1054

Raccordo a bocchettone filettato femmina/femmina







DIM gxg [in.xin.]	CODE	L [mm]	H [mm]	D1 [mm]	Pmax [bar]
1/2"x1/2"	1054002002001	53	18	50	16
3/4"x3/4"	1054003003001	56	20	60	16
1"x1"	1054004004001	60	22	68	16
***1"1/4x1"1/4**	1054005005001	78,5	24	80	16
***1"1/2x1"1/2**	1054006006001	88,5	24	95	16
***2"x2"**	1054007007001	95	28	116	16
***2"1/2x2"1/2**	1054008008001	146	33	160,5	10
***3"x3"**	1054009009001	175,5	40	197	10

* La bocca filettata è rinforzata da un anello di acciaio inox

3.5 Collare di derivazione in carico

Caratteristiche tecniche:
- Idoneo per tubi PE e PVC
- Materiale: PP-B
- Perforatore: ottone
- Guarnizioni: O-ring
- Bulloneria: acciaio INOX A4

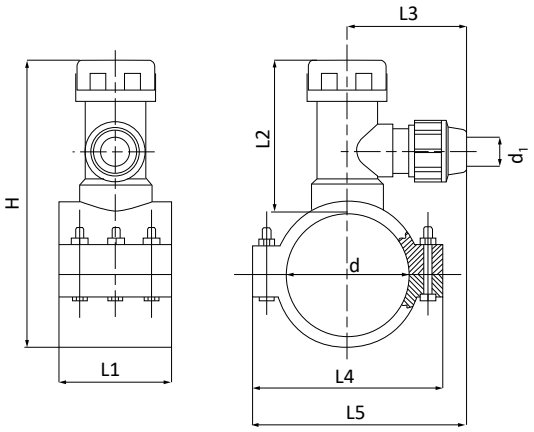
Normative:
- Idoneo per tubi in PE secondo UNI EN 12201 - ISO 4427 - DIN 8074
- Idoneo per tubi di PVC secondo UNI EN 1452 - DIN 8062
- Test: ISO 13460

Prescrizioni sanitarie:
I collari di derivazione in carico Unidelta sono conformi alle norme relative al trasporto di acqua potabile seguendo le prescrizioni in vigore in Italia e in molti altri numerosi paesi. Decreto Ministeriale n°174 del 06/04/2004.

1025

Collare di derivazione in carico





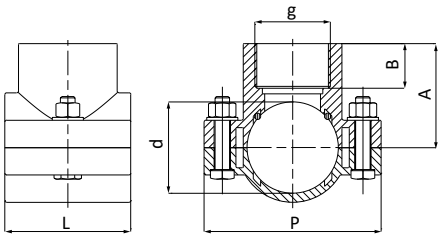
DIM dxd$_1$ [mm]	CODE	NF	V	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	Pmax [bar]
63x25	1025063025001	6	M8x40	201	80	132	115	115	173	16
63x32	1025063032001	6	M8x40	201	80	132	125	115	183	16
75x25	1025075025001	6	M8x50	211	90	129	115	129	180	16
75x32	1025075032001	6	M8x50	211	90	129	125	129	190	16
90x25	1025090025001	6	M8x50	226	90	129	115	144	187	16
90x32	1025090032001	6	M8x50	226	90	129	125	144	197	16
110x20	1025110020001	6	M8x60	249	100	130	110	168	194	16
110x25	1025110025001	6	M8x60	249	100	130	115	168	199	16
110x32	1025110032001	6	M8x60	249	100	130	125	168	209	16
160x20	1025160020001	6	M8x100	304	174	130	110	215	218	16
160x25	1025160025001	6	M8x100	304	174	130	115	215	223	16
160x32	1025160032001	6	M8x100	304	174	130	125	215	233	16

3.6 Prese a staffa

1019

Presa a staffa





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1019025002001	38	20	76	49	2	10
25x3/4”	1019025003001	38	21	76	49	2	10
32x1/2”	1019032002001	41	17	81	56	2	10
32x3/4”	1019032003001	41	21	81	56	2	10
32x1”	1019032004001	44	23	81	56	2	10
40x1/2”	1019040002001	41	17	81	60	2	10
40x3/4”	1019040003001	46	18	81	60	2	10
40x1”	1019040004001	46	23	81	60	2	10
50x1/2”	1019050002001	50	17	98	69	4	10
50x3/4”	1019050003001	50	18	98	69	4	10
50x1”	1019050004001	52	20	98	69	4	10
50x1”1/4	1019050005001	57	25	98	69	4	10
63x1/2”	1019063002001	55	16	105	79	4	10
63x3/4”	1019063003001	55	18	105	79	4	10
63x1”	1019063004001	59	20	105	79	4	10
63x1”1/4	1019063005001	63	25	105	79	4	10
63x1”1/2	1019063006001	63	28	105	79	4	10
75x1/2”	1019075002001	62	17	120	90	4	10
75x3/4”	1019075003001	62	18	120	90	4	10
75x1”	1019075004001	65	21	120	90	4	10
75x1”1/4	1019075005001	68	24	120	90	4	10
75x1”1/2	1019075006001	68	23	120	90	4	10
75x2”	1019075007001	72	27	120	90	4	10
90x1/2”	1019090002001	70	17	135	90	4	10
90x3/4”	1019090003001	70	19	135	90	4	10
90x1”	1019090004001	72	21	135	90	4	10
90x1”1/4	1019090005001	76	24	135	90	4	10
90x1”1/2	1019090006001	76	24	135	90	4	10
90x2”	1019090007001	80	27	135	90	4	10

>>>

* PN 6 bar

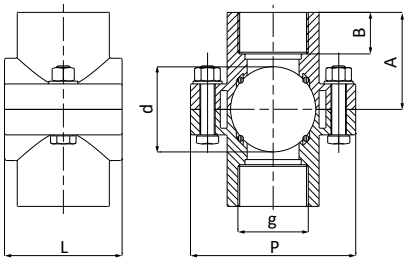
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1019110002001	80	17	168	99	4	10
110x3/4”	1019110003001	80	19	168	99	4	10
110x1”	1019110004001	84	20	168	99	4	10
110x1”1/4	1019110005001	86	23	168	99	4	10
110x1”1/2	1019110006001	86	23	168	99	4	10
110x2”	1019110007001	90	27	168	99	4	10
125x1/2”	1019125002001	108	25	190	106	6	10
125x3/4”	1019125003001	108	26	190	106	6	10
125x1”	1019125004001	109	26	190	106	6	10
125x1”1/4	1019125005001	109	25	190	106	6	10
125x1”1/2	1019125006001	113	28	190	106	6	10
125x2”	1019125007001	113	30	190	106	6	10
***160x3/4”**	1019160003001	108	19	215	175	6	6
***160x1”**	1019160004001	110	21	215	175	6	6
***160x1”1/4**	1019160005001	113	24	215	175	6	6
***160x1”1/2**	1019160006001	115	26	215	175	6	6
***160x2”**	1019160007001	117	30	215	175	6	6
***160x2”1/2**	1019160008001	125	32	215	175	6	6
***160x3”**	1019160009001	134	35	215	175	6	6
***160x4”**	1019160010001	135	40	215	175	6	6
***200x3/4”**	1019200003001	128	23	262	175	6	6
***200x1”**	1019200004001	130	23	262	175	6	6
***200x1”1/4**	1019200005001	133	23	262	175	6	6
***200x1”1/2**	1019200006001	133	23	262	175	6	6
***200x2”**	1019200007001	135	30	262	175	6	6
***200x2”1/2**	1019200008001	150	32	262	175	6	6
***200x3”**	1019200009001	152	35	262	175	6	6
***200x4”**	1019200010001	155	42	262	175	6	6

1020

Presa a staffa doppia





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1020025002001	38	20	76	49	2	10
25x3/4”	1020025003001	38	21	76	49	2	10
32x1/2”	1020032002001	41	17	81	56	2	10
32x3/4”	1020032003001	41	21	81	56	2	10
32x1”	1020032004001	44	23	81	56	2	10
40x1/2”	1020040002001	41	17	81	60	2	10
40x3/4”	1020040003001	46	18	81	60	2	10
40x1”	1020040004001	46	23	81	60	2	10
50x1/2”	1020050002001	50	17	98	69	4	10
50x3/4”	1020050003001	50	18	98	69	4	10
50x1”	1020050004001	52	20	98	69	4	10
50x1”1/4	1020050005001	57	25	98	69	4	10
63x1/2”	1020063002001	55	16	105	79	4	10
63x3/4”	1020063003001	55	18	105	79	4	10
63x1”	1020063004001	59	20	105	79	4	10
63x1”1/4	1020063005001	63	25	105	79	4	10
63x1”1/2	1020063006001	63	28	105	79	4	10
75x1/2”	1020075002001	62	17	120	90	4	10
75x3/4”	1020075003001	62	18	120	90	4	10
75x1”	1020075004001	65	21	120	90	4	10
75x1”1/4	1020075005001	68	24	120	90	4	10
75x1”1/2	1020075006001	68	23	120	90	4	10
75x2”	1020075007001	72	27	120	90	4	10

>>>

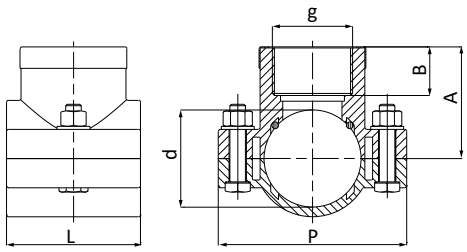
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1020090002001	70	17	135	90	4	10
90x3/4”	1020090003001	70	19	135	90	4	10
90x1”	1020090004001	72	21	135	90	4	10
90x1”1/4	1020090005001	76	24	135	90	4	10
90x1”1/2	1020090006001	76	24	135	90	4	10
90x2”	1020090007001	80	27	135	90	4	10
110x1/2”	1020110002001	80	17	168	99	4	10
110x3/4”	1020110003001	80	19	168	99	4	10
110x1”	1020110004001	84	20	168	99	4	10
110x1”1/4	1020110005001	86	23	168	99	4	10
110x1”1/2	1020110006001	86	23	168	99	4	10
110x2”	1020110007001	90	27	168	99	4	10
125x1/2”	1020125002001	108	25	190	106	6	10
125x3/4”	1020125003001	108	26	190	106	6	10
125x1”	1020125004001	109	26	190	106	6	10
125x1”1/4	1020125005001	109	25	190	106	6	10
125x1”1/2	1020125006001	113	28	190	106	6	10
125x2”	1020125007001	113	30	190	106	6	10

1026

Presa a staffa con anello di rinforzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1026025002001	38	20	76	49	2	10
25x3/4”	1026025003001	38	21	76	49	2	10
32x1/2”	1026032002001	41	17	81	56	2	10
32x3/4”	1026032003001	41	21	81	56	2	10
32x1”	1026032004001	44	23	81	56	2	10
40x1/2”	1026040002001	41	17	81	60	2	10
40x3/4”	1026040003001	46	18	81	60	2	10
40x1”	1026040004001	46	23	81	60	2	10
50x1/2”	1026050002001	50	17	98	69	4	10
50x3/4”	1026050003001	50	18	98	69	4	10
50x1”	1026050004001	52	20	98	69	4	10
50x1”1/4	1026050005001	57	25	98	69	4	10
63x1/2”	1026063002001	55	16	105	79	4	10
63x3/4”	1026063003001	55	18	105	79	4	10
63x1”	1026063004001	59	20	105	79	4	10
63x1”1/4	1026063005001	63	25	105	79	4	10
63x1”1/2	1026063006001	63	28	105	79	4	10
75x1/2”	1026075002001	62	17	120	90	4	10
75x3/4”	1026075003001	62	18	120	90	4	10
75x1”	1026075004001	65	21	120	90	4	10
75x1”1/4	1026075005001	68	24	120	90	4	10
75x1”1/2	1026075006001	68	23	120	90	4	10
75x2”	1026075007001	72	27	120	90	4	10
90x1/2”	1026090002001	70	17	135	90	4	10
90x3/4”	1026090003001	70	19	135	90	4	10
90x1”	1026090004001	72	21	135	90	4	10
90x1”1/4	1026090005001	76	24	135	90	4	10
90x1”1/2	1026090006001	76	24	135	90	4	10
90x2”	1026090007001	80	27	135	90	4	10

>>>

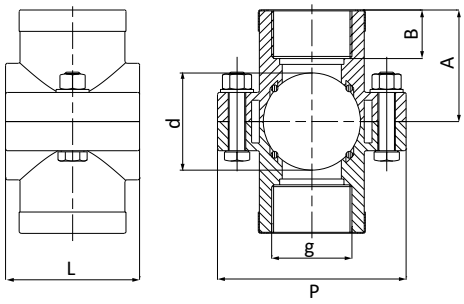
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1026110002001	80	17	168	99	4	10
110x3/4”	1026110003001	80	19	168	99	4	10
110x1”	1026110004001	84	20	168	99	4	10
110x1”1/4	1026110005001	86	23	168	99	4	10
110x1”1/2	1026110006001	86	23	168	99	4	10
110x2”	1026110007001	90	27	168	99	4	10
125x1/2”	1026125002001	108	25	190	106	6	10
125x3/4”	1026125003001	108	26	190	106	6	10
125x1”	1026125004001	109	26	190	106	6	10
125x1”1/4	1026125005001	109	25	190	106	6	10
125x1”1/2	1026125006001	113	28	190	106	6	10
125x2”	1026125007001	113	30	190	106	6	10
125x3”	1026125009001	113	35	190	106	6	10
160x3/4"	1026160003001	108	19	215	175	6	10
160x1”	1026160004001	110	21	215	175	6	10
160x1”1/4	1026160005001	113	24	215	175	6	10
160x1”1/2	1026160006001	115	26	215	175	6	10
160x2”	1026160007001	117	30	215	175	6	10
160x2”1/2	1026160008001	125	32	215	175	6	10
160x3”	1026160009001	134	35	215	175	6	10
160x4”	1026160010001	135	40	215	175	6	10
200x3/4”	1026200003001	128	23	262	175	6	10
200x1”	1026200004001	130	23	262	175	6	10
200x1”1/4	1026200005001	133	23	262	175	6	10
200x1”1/2	1026200006001	133	23	262	175	6	10
200x2”	1026200007001	135	30	262	175	6	10
200x2”1/2	1026200008001	150	32	262	175	6	10
200x3”	1026200009001	152	35	262	175	6	10
200x4”	1026200010001	155	42	262	175	6	10

1027

Presa a staffa doppia con anello di rinforzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1027025002001	38	20	76	49	2	10
25x3/4”	1027025003001	38	21	76	49	2	10
32x1/2”	1027032002001	41	17	81	56	2	10
32x3/4”	1027032003001	41	21	81	56	2	10
32x1”	1027032004001	44	23	81	56	2	10
40x1/2”	1027040002001	41	17	81	60	2	10
40x3/4”	1027040003001	46	18	81	60	2	10
40x1”	1027040004001	46	23	81	60	2	10
50x1/2”	1027050002001	50	17	98	69	4	10
50x3/4”	1027050003001	50	18	98	69	4	10
50x1”	1027050004001	52	20	98	69	4	10
50x1”1/4	1027050005001	57	25	98	69	4	10
63x1/2”	1027063002001	55	16	105	79	4	10
63x3/4”	1027063003001	55	18	105	79	4	10
63x1”	1027063004001	59	20	105	79	4	10
63x1”1/4	1027063005001	63	25	105	79	4	10
63x1”1/2	1027063006001	63	28	105	79	4	10
75x1/2”	1027075002001	62	17	120	90	4	10
75x3/4”	1027075003001	62	18	120	90	4	10
75x1”	1027075004001	65	21	120	90	4	10
75x1”1/4	1027075005001	68	24	120	90	4	10
75x1”1/2	1027075006001	68	23	120	90	4	10
75x2”	1027075007001	72	27	120	90	4	10

>>>

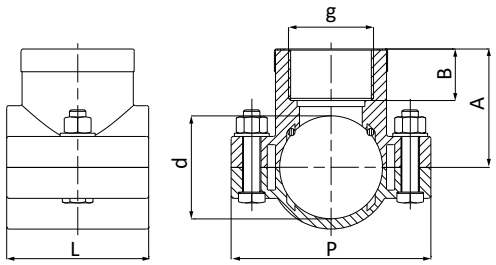
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1027090002001	70	17	135	90	4	10
90x3/4”	1027090003001	70	19	135	90	4	10
90x1”	1027090004001	72	21	135	90	4	10
90x1”1/4	1027090005001	76	24	135	90	4	10
90x1”1/2	1027090006001	76	24	135	90	4	10
90x2”	1027090007001	80	27	135	90	4	10
110x1/2”	1027110002001	80	17	168	99	4	10
110x3/4”	1027110003001	80	19	168	99	4	10
110x1”	1027110004001	84	20	168	99	4	10
110x1”1/4	1027110005001	86	23	168	99	4	10
110x1”1/2	1027110006001	86	23	168	99	4	10
110x2”	1027110007001	90	27	168	99	4	10
125x1/2”	1027125002001	108	25	190	106	6	10
125x3/4”	1027125003001	108	26	190	106	6	10
125x1”	1027125004001	109	26	190	106	6	10
125x1”1/4	1027125005001	109	25	190	106	6	10
125x1”1/2	1027125006001	113	28	190	106	6	10
125x2”	1027125007001	113	30	190	106	6	10

1031 - LA BLU

Presa a staffa con anello di rinforzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
20x1/2”	1031020002001	40	25	76	54	2	16
25x1/2”	1031026002001	38	20	76	49	2	16
25x3/4”	1031026003001	38	21	76	49	2	16
32x1/2”	1031033002001	41	17	81	56	2	16
32x3/4”	1031033003001	41	21	81	56	2	16
32x1"	1031033004001	44	23	81	56	2	16
40x1/2”	1031041002001	41	17	81	60	2	16
40x3/4”	1031041003001	46	18	81	60	2	16
40x1”	1031041004001	46	23	81	60	2	16
50x1/2”	1031051002001	50	17	98	69	6	16
50x3/4”	1031051003001	50	18	98	69	6	16
50x1”	1031051004001	52	20	98	69	6	16
50x1”1/4	1031051005001	57	25	98	69	6	16
63x1/2”	1031064002001	55	16	105	79	6	16
63x3/4”	1031064003001	55	18	105	79	6	16
63x1”	1031064004001	59	20	105	79	6	16
63x1”1/4	1031064005001	63	25	105	79	6	16
63x1”1/2	1031064006001	63	28	105	79	6	16
75x1/2”	1031076002001	62	17	120	90	6	16
75x3/4”	1031076003001	62	18	120	90	6	16
75x1”	1031076004001	65	21	120	90	6	16
75x1”1/4	1031076005001	68	24	120	90	6	16
75x1”1/2	1031076006001	68	23	120	90	6	16
75x2”	1031076007001	72	27	120	90	6	16

>>>

>>>

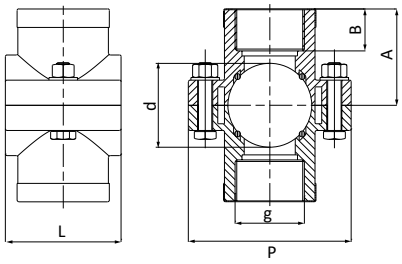
DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1031091002001	70	17	135	90	6	16
90x3/4”	1031091003001	70	19	135	90	6	16
90x1”	1031091004001	72	21	135	90	6	16
90x1”1/4	1031091005001	76	24	135	90	6	16
90x1”1/2	1031091006001	76	24	135	90	6	16
90x2”	1031091007001	80	27	135	90	6	16
110x1/2”	1031111002001	80	17	168	99	6	16
110x3/4”	1031111003001	80	19	168	99	6	16
110x1”	1031111004001	84	20	168	99	6	16
110x1”1/4	1031111005001	86	23	168	99	6	16
110x1”1/2	1031111006001	86	23	168	99	6	16
110x2”	1031111007001	90	27	168	99	6	16
125X1/2”	1031126002001	108	25	190	106	6	16
125X3/4”	1031126003001	108	26	190	106	6	16
125X1”	1031126004001	109	26	190	106	6	16
125X1”1/4	1031126005001	109	25	190	106	6	16
125X1”1/2	1031126006001	113	28	190	106	6	16
125x2"	1031126007001	113	30	190	106	6	16
160x3/4"	1031161003001	108	19	215	175	6	16
160x1"	1031161004001	110	21	215	175	6	16
160x1”1/4	1031161005001	113	24	215	175	6	16
160x1”1/2	1031161006001	115	26	215	175	6	16
160x2"	1031161007001	117	30	215	175	6	16
200x3/4"	1031201003001	128	23	262	175	6	16
200x1"	1031201004001	130	23	262	175	6	16
200x1”1/4	1031201005001	133	23	262	175	6	16
200x1”1/2	1031201006001	133	23	262	175	6	16
200x2"	1031201007001	135	30	262	175	6	16

Compatibile anche ai tubi in PVC aventi le dimensioni definite nella norma EN 1452-2

1032 - LA BLU

Presa a staffa doppia con anello di rinforzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1032026002001	38	20	76	49	2	16
25x3/4”	1032026003001	38	21	76	49	2	16
32x1/2”	1032033002001	41	17	81	56	2	16
32x3/4”	1032033003001	41	21	81	56	2	16
32x1”	1032033004001	44	23	81	56	2	16
40x1/2”	1032041002001	41	17	81	60	2	16
40x3/4”	1032041003001	46	18	81	60	2	16
40x1”	1032041004001	46	23	81	60	2	16
50x1/2”	1032051002001	50	17	98	69	6	16
50x3/4”	1032051003001	50	18	98	69	6	16
50x1”	1032051004001	52	20	98	69	6	16
50x1”1/4	1032051005001	57	25	98	69	6	16
63x1/2”	1032064002001	55	16	105	79	6	16
63x3/4”	1032064003001	55	18	105	79	6	16
63x1”	1032064004001	59	20	105	79	6	16
63x1”1/4	1032064005001	63	25	105	79	6	16
63x1”1/2	1032064006001	63	28	105	79	6	16

>>>

>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
75x1/2”	1032076002001	62	17	120	90	6	16
75x3/4”	1032076003001	62	18	120	90	6	16
75x1”	1032076004001	65	21	120	90	6	16
75x1”1/4	1032076005001	68	24	120	90	6	16
75x1”1/2	1032076006001	68	23	120	90	6	16
75x2”	1032076007001	72	27	120	90	6	16
90x1/2”	1032091002001	70	17	135	90	6	16
90x3/4”	1032091003001	70	19	135	90	6	16
90x1”	1032091004001	72	21	135	90	6	16
90x1”1/4	1032091005001	76	24	135	90	6	16
90x1”1/2	1032091006001	76	24	135	90	6	16
90x2”	1032091007001	80	27	135	90	6	16
110x1/2”	1032111002001	80	17	168	99	6	16
110x3/4”	1032111003001	80	19	168	99	6	16
110x1”	1032111004001	84	20	168	99	6	16
110x1”1/4	1032111005001	86	23	168	99	6	16
110x1”1/2	1032111006001	86	23	168	99	6	16
110x2”	1032111007001	90	27	168	99	6	16

Compatibile anche ai tubi in PVC aventi le dimensioni definite nella norma EN 1452-2


UNIDELTA
Since 1973

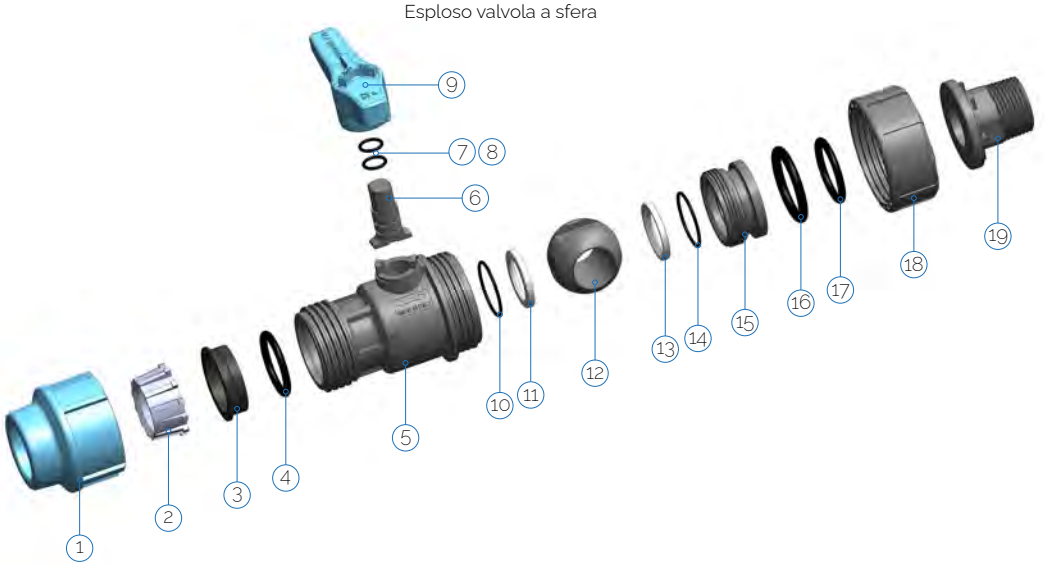

UNIDELTA

4. Valvole a sfera

Le valvole a sfera in polipropilene Unidelta sono specificatamente realizzate per essere accoppiate a tubi di polietilene e/o giunzioni filettate. Sono compatibili con i tubi in PEBD, PEAD, PE40, PE80, PE100, PE100RC realizzati secondo le normative **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Sono normalmente utilizzate per il trasporto di acqua con una pressione massima di 16 bar a 20°C fino al diametro 63/2" e di 10 bar a 20°C per diametri dal 75/2"1/2 (per temperature maggiori fare riferimento ai limiti imposti dalle normative del tubo PE). Le valvole Unidelta sono disponibili anche nella versione con uscita/e filettata/e realizzata/e secondo le normative **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**

4.1 Struttura e materiali

Esploso valvola a sfera



1. **Ghiera:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
2. **Anello di aggraffaggio:** resina acetalica POM.
3. **Bussola:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
4. **O-Ring di tenuta radiale sul tubo:** gomma nitrilica (NBR).
5. **Corpo:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
6. **Asta comando:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
7. 8. **O-rings asta comando:** gomma nitrilica (NBR).
9. **Maniglia:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
10. 14. **O-Rings di tenuta della guarnizione della sfera:** gomma nitrilica (NBR).
11. 13. **Guarnizioni di tenuta della sfera:** Politetrafluoroetilene (PTFE).
12. **Sfera:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
15. **Supporto della guarnizione della sfera:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
16. **O-Ring di tenuta radiale:** gomma nitrilica (NBR).
17. **O-Ring di tenuta assiale:** gomma nitrilica (NBR).
18. **Ghiera porta inserto:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
19. **Inserto con uscita filettata:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.

4.2 Vantaggi delle valvole a sfera

Materiali utilizzati
La valvola a sfera Unidelta è composta da componenti realizzati esclusivamente in materiale plastico. Non c'è quindi il rischio che insorgano ossidazioni e corrosioni durante l'utilizzo.

Alta resistenza alla pressione
Le valvole Unidelta possono lavorare con una pressione massima di 16 bar a 20°C.

Design
Le valvole a sfera Unidelta presentano un design compatto che rende possibile la loro installazione anche in spazi ridotti. Inoltre, la maniglia risulta rimovibile dal corpo della valvola.

Facilità di montaggio
Le valvole a sfera Unidelta risultano estremamente facili da assemblare anche grazie all'innovativo sistema DeltOne per il diametro Ø50, Ø63, Ø75, Ø90.

Protezione dai raggi UV
I materiali dei componenti esposti delle valvole Unidelta sono stabilizzati ai raggi UV. Possono essere quindi installate anche esternamente.

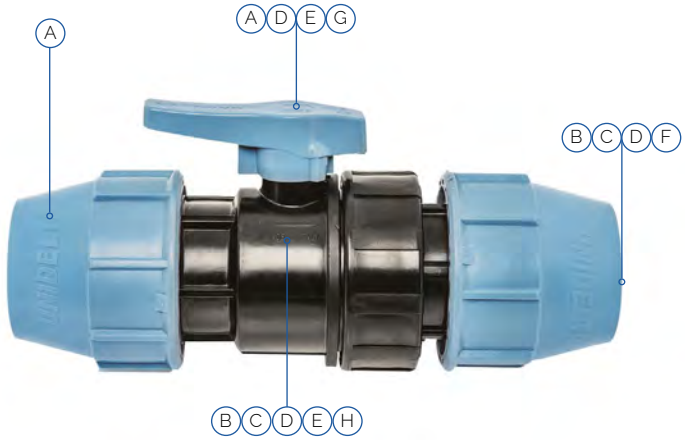
Flusso bidirezionale
Le valvole a sfera Unidelta non necessitano di un determinato verso del flusso dell'acqua ma possono essere installate con orientamento casuale indipendentemente dalla direzione del flusso stesso.

Ispezionabilità della sfera
La sfera della valvola è ispezionabile. Questa caratteristica consente di ripulire agevolmente la sfera da eventuali depositi formatisi durante l'utilizzo (si vedano le istruzioni al paragrafo "Accesso alla sfera" a pagina 56).

4.3 Marcatura

Le informazioni rilevanti sono marcate direttamente sulla valvola:

Ⓐ Nome del produttore "**UNIDELTA**";
Ⓑ Luogo di produzione "**MADE IN ITALY**";
Ⓒ Materiale "**PP**";
Ⓓ Diametro del tubo di polietilene da accoppiare (ad es. "**Ø40**");
Ⓔ Diametro nominale corrispondente ad un eventuale filetto ed indicativamente alla sezione di passaggio (ad es. "**1"1/4**" e "**DN 32**");
Ⓕ Massima pressione di esercizio (ad es. "**PN 16**");
Ⓖ Direzione di apertura e chiusura della valvola sulla maniglia ("**OPEN**" e "**CLOSE**");
Ⓗ **Doppia freccia** indicante la bidirezionalità del flusso.



4.4 Accesso alla sfera

Nelle valvole Unidelta la sfera è ispezionabile: questa caratteristica costituisce un grande vantaggio dato che consente di rimuovere dalla sfera eventuali depositi formatisi durante l'utilizzo.

Per accedere alla sfera seguire i seguenti 3 passaggi:





Svitare la ghiera porta inserto (componente 18 dell'"Esploso valvola a sfera" a pagina 53). In questo modo la dentatura interna del supporto della guarnizione della sfera (componente 15) risulterà visibile. Rimuovere poi la maniglia (componente 9) dall'asta comandi. Da notare che la dentatura della maniglia per le valvole Ø20-25-32 si trova sulla parte superiore (Figura 1A) mentre per le valvole Ø40-50-63-75-90 si trova sulla parte inferiore (Figura 1B).





Inserire la dentatura della maniglia all'interno della dentatura del supporto della guarnizione della sfera. Per svitare girare la maniglia così inserita in senso orario (Figura 2A e Figura 2B).





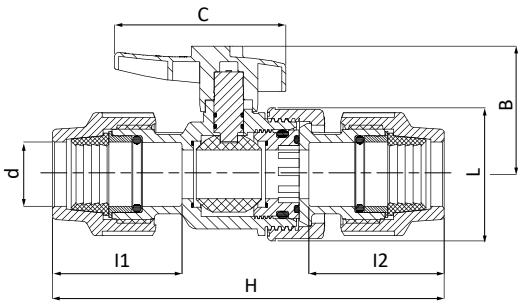
Rimuovere il supporto della guarnizione della sfera in modo da permettere l'accesso alla sfera stessa (Figura 3A e Figura 3B).

4.5 Schede tecniche

1070

Valvola a sfera a compressione

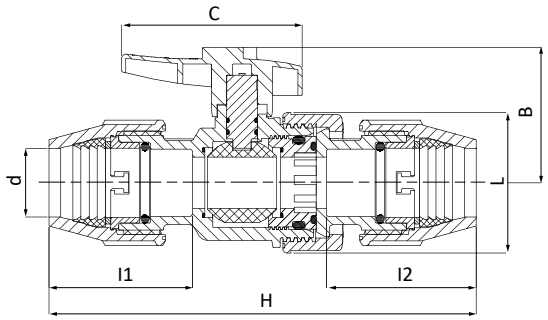




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





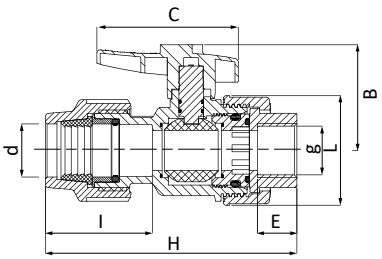
>>>

50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Valvola a sfera a compressione filettata femmina

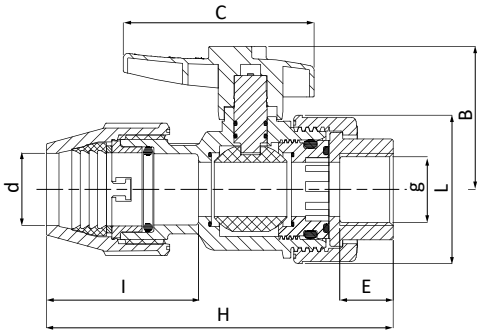




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82	24	80	77	100	16

>>>





>>>

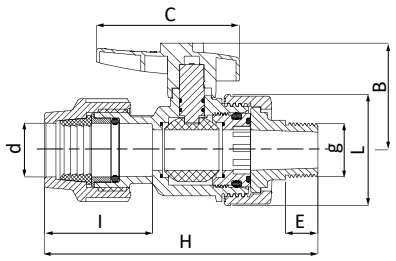
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* La bocca filettata è rinforzata da un anello di acciaio inox

1072

Valvola a sfera a compressione filettata maschio

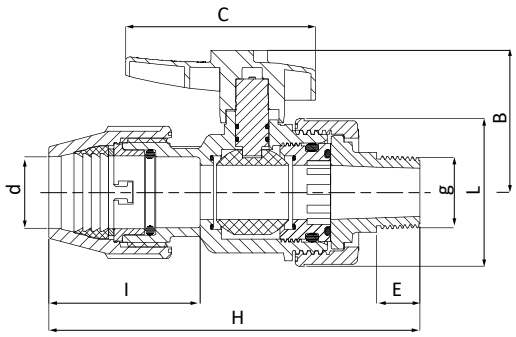




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80	77	100	16

>>>





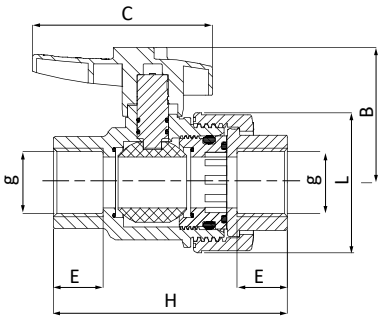
>>>

50x1"1/2	1072051006001	96x245x136	245	110	23	96	88	116	16
63x2"	1072064007001	116x275x158	275	120	27	116	100	127	16

1073

Valvola a sfera filettata femmina/femmina





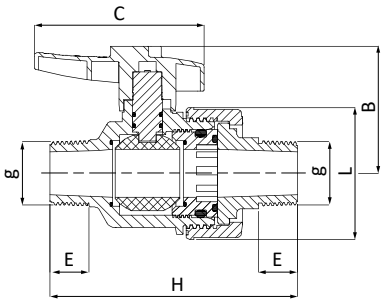
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	1073006006001	95x142x136	142	24	96	88	116	16
***2"x2"**	1073007007001	116x164x158	164	27	116	100	127	16
***2"1/2x2"1/2**	1073008008001	155x240x203	240	35	155	125	155	10
***3"x3"**	1073009009001	197x310x261	310	50	197	162	281	10

* La bocca filettata è rinforzata da un anello di acciaio inox

1074

Valvola a sfera filettata maschio/maschio



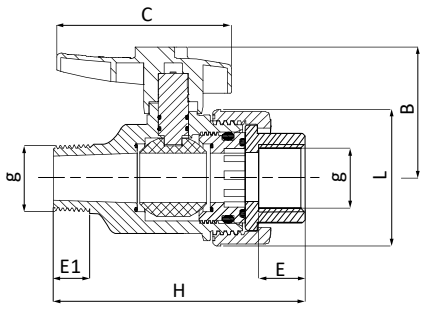


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2	1074006006001	95x187x136	187	23	95	88	116	16
2"x2"	1074007007001	116x216x158	216	27	116	100	127	16

1081

Valvola a sfera filettata maschio/femmina





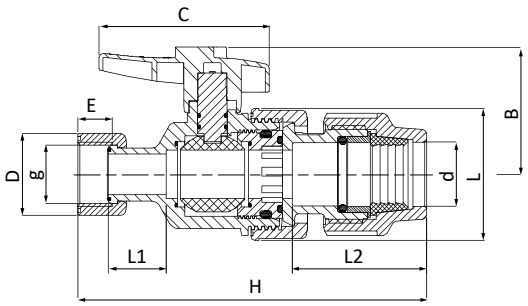
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	23	80	77	100	16
***1"1/2x1"1/2**	1081006006001	95x160x136	160	24	23	95	88	116	16
***2"x2"**	1081007007001	116x189x158	189	27	27	116	100	127	16

* La bocca filettata è rinforzata da un anello di acciaio inox

1080

Valvola a sfera a compressione con dado girevole



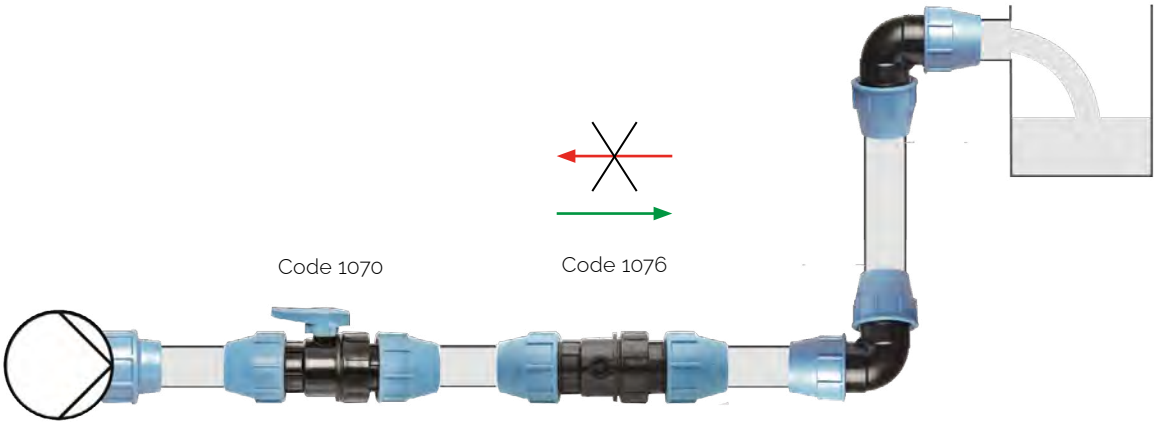


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

5. Valvole di ritegno

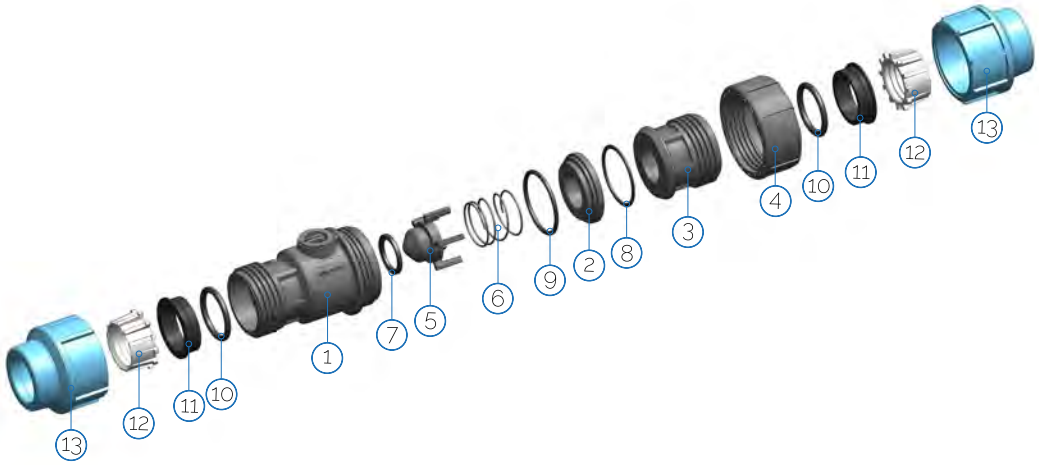
Le valvole di ritegno in polipropilene Unidelta sono specificatamente realizzate per essere accoppiate a tubi di polietilene e/o giunzioni filettate. Sono compatibili con i tubi in PEBD, PEAD, PE40, PE80, PE100, PE100RC realizzati secondo le normative **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Sono normalmente utilizzate per il trasporto di acqua con una pressione massima di 16 bar a 20°C (per temperature maggiori fare riferimento ai limiti imposti dalle normative del tubo PE). Le valvole di ritegno Unidelta sono disponibili anche nella versione con uscita filettata femmina realizzata secondo le normative **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
Queste valvole, mediante un otturatore, consentono il passaggio del flusso in un solo senso opponendosi automaticamente a qualsiasi ritorno in direzione opposta. Nell'immagine successiva viene mostrato schematicamente un esempio di una possibile applicazione della valvola di ritegno installata nel circuito di mandata di una pompa.

Esempio schematico di un'applicazione



5.1 Struttura e materiali

Esploso valvola di ritegno



1. **Corpo:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
2. **Supporto OR:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
3. **Inserto:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
4. **Ghiera porta inserto:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
5. **Otturatore:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
6. **Molla:** acciaio inox AISI 302.
7. **Guarnizione otturatore:** gomma nitrilica (NBR).
8. **O-Ring frontale:** gomma nitrilica (NBR).
9. **O-Ring radiale:** gomma nitrilica (NBR).
10. **O-Ring di tenuta radiale sul tubo:** gomma nitrilica (NBR).
11. **Bussola:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
12. **Anello di aggraffaggio:** resina acetalica POM.
13. **Ghiera compressione:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.

5.2 Vantaggi delle valvole di ritegno

Materiali utilizzati
La valvola di ritegno Unidelta è composta da componenti realizzati esclusivamente in materiale plastico, ad eccezione della molla in acciaio inox. Non c'è quindi il rischio che insorgano ossidazioni e corrosioni durante l'utilizzo.

Alta resistenza alla pressione
Le valvole Unidelta possono lavorare con una pressione massima di 16 bar a 20°C.

Design
Le valvole Unidelta presentano un design compatto che rende possibile la loro installazione anche in spazi ridotti.

Facilità di montaggio
Le valvole di ritegno Unidelta risultano estremamente facili da assemblare anche grazie all'innovativo sistema DeltOne per il diametro Ø50 e Ø63.

Protezione dai raggi UV
I materiali dei componenti esposti delle valvole Unidelta sono stabilizzati ai raggi UV. Possono essere quindi installate anche esternamente.

Ispezionabilità della valvola

La valvola di ritegno è smontabile semplicemente svitando la "ghiera porta inserto" (componente (4) dell'Esploso valvola di ritegno" a pagina 63). Questa caratteristica consente di ripulire agevolmente l'otturatore da eventuali depositi formatosi durante l'utilizzo.

Affidabilità di funzionamento

L'apertura dell'otturatore avviene già con bassa pressione nella direzione di mandata, mentre la perfetta tenuta è assicurata anche con bassa contropressione nel verso opposto.
Si veda la tabella seguente:

Ø	Pressione minima di apertura della valvola [bar]	Pressione minima di tenuta della valvola [bar]
20	0,030	0,09
25	0,030	0,09
32	0,030	0,09
40	0,035	0,09
50	0,040	0,09
63	0,050	0,09

5.3 Marcatura

Le informazioni rilevanti sono marcate direttamente sulla valvola:

(A) Nome del produttore "**UNIDELTA**";
(B) Luogo di produzione "**MADE IN ITALY**";
(C) Materiale "**PP**";
(D) Diametro del tubo di polietilene da accoppiare (ad es. "**Ø40**");
(E) Diametro nominale corrispondente ad un eventuale filetto ed indicativamente alla sezione di passaggio (ad es. "**1"1/4" e "DN 32**");
(F) Massima pressione di esercizio ("**PN 16**");
(G) **Freccia** indicante la direzione del flusso.

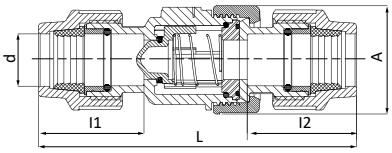


5.4 Schede tecniche

1076

Valvola di ritegno a compressione

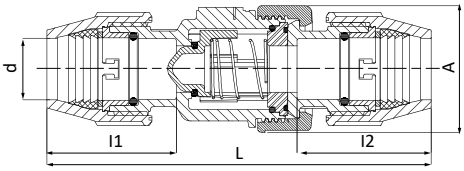




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	I1 [mm]	I2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





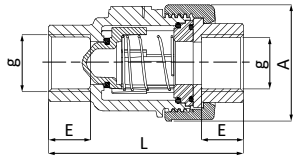
>>>

50x50	1076051000001	303x99x99	303	110	110	95	16
63x63	1076064000001	342x117x117	342	130	126	116	16

1077

Valvola di ritegno filettata femmina/femmina





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	L [mm]	E [mm]	A [mm]	Pmax [bar]
1/2”x1/2”	1077002002001	89x50x50	89	17	50	16
3/4”x3/4”	1077003003001	99x60x60	99	18	60	16
1”x1”	1077004004001	110x68x68	110	21	68	16
***1”1/4x1”1/4**	1077005005001	128x83x83	128	24	80	16
***1”1/2x1”1/2**	1077006006001	142x99x99	142	24	95	16
***2”x2”**	1077007007001	167x117x117	167	27	116	16

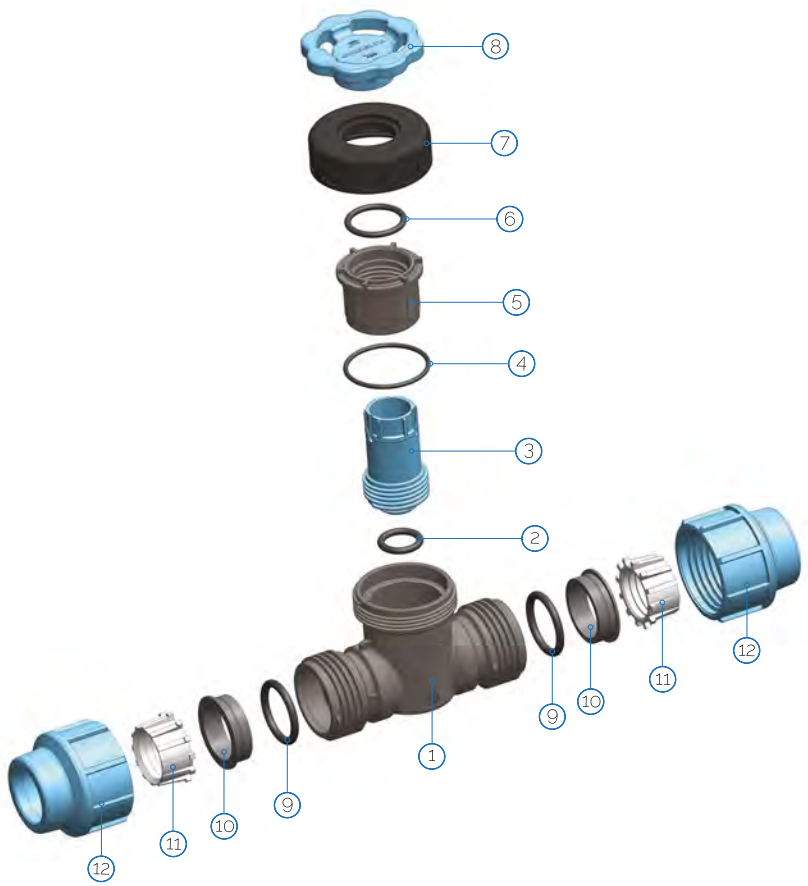
* La bocca filettata è rinforzata da un anello di acciaio inox

6. Valvole a globo

Le valvole a globo in polipropilene Unidelta sono specificatamente realizzate per essere accoppiate a tubi di polietilene e/o giunzioni filettate. Sono compatibili con i tubi in PEBD, PEAD, PE40, PE80, PE100, PE100RC realizzati secondo le normative **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Sono normalmente utilizzate per il trasporto di acqua con una pressione massima di 16 bar a 20°C (per temperature maggiori fare riferimento ai limiti imposti dalle normative del tubo PE). Le valvole Unidelta sono disponibili anche nella versione con uscita/e filettata/e realizzata/e secondo le normative **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
La valvola viene aperta e chiusa agendo sulla manopola che consente una regolazione graduale del flusso.

6.1 Struttura e materiali

Esploso valvola a globo



1. **Corpo:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
2. **O-ring tampone:** gomma nitrilica (NBR).
3. **Tampone di chiusura:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
4. **O-ring corpo:** gomma nitrilica (NBR).
5. **Inserto:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
6. **O-ring inserto:** gomma nitrilica (NBR).
7. **Ghiera superiore:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
8. **Manopola:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
9. **O-ring di tenuta radiale sul tubo:** gomma nitrilica (NBR).
10. **Bussola:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
11. **Anello di aggraffaggio:** resina acetalica POM.
12. **Ghiera:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.

6.2 I vantaggi delle valvole a globo

Materiali utilizzati
La valvola a globo Unidelta è composta da componenti realizzati esclusivamente in materiale plastico. Non c'è quindi il rischio che insorgano ossidazioni e corrosioni durante l'utilizzo.

Alta resistenza alla pressione
Le valvole Unidelta possono lavorare con una pressione massima di 16 bar a 20°C.

Design
Le valvole Unidelta presentano un design compatto che rende possibile la loro installazione anche in spazi ridotti.

Facilità di montaggio
Le valvole Unidelta risultano estremamente facili da assemblare.

Protezione dai raggi UV
I materiali dei componenti esposti delle valvole Unidelta sono stabilizzati ai raggi UV. Possono essere quindi installate anche esternamente.

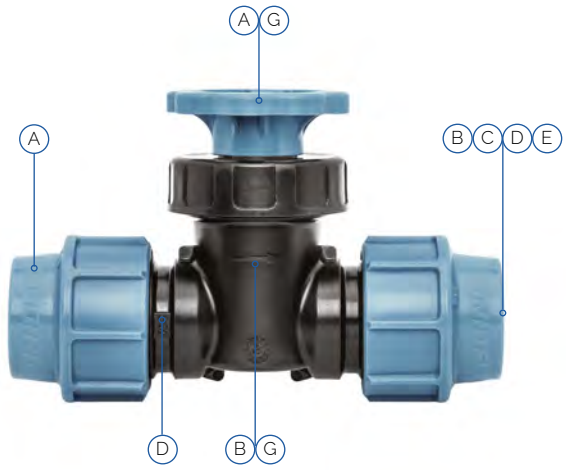
Ispezionabilità della valvola
La valvola a globo è smontabile semplicemente svitando la ghiera superiore (componente (7) dell'"Esploso valvola a globo" a pagina 66). Questa caratteristica consente di ripulire agevolmente l'otturatore da eventuali depositi formatosi durante l'utilizzo.

Regolazione del flusso
Agendo sulla manopola si può regolare il flusso in modo graduale.

6.3 Marcatura

Le informazioni rilevanti sono marcate direttamente sulla valvola:

(A) Nome del produttore "**UNIDELTA**";
(B) Luogo di produzione "**MADE IN ITALY**";
(C) Materiale "**PP**";
(D) Diametro del tubo di polietilene da accoppiare (ad es. "**Ø32**") oppure del filetto di giunzione (ad es. "**1"**");
(E) Massima pressione di esercizio ("**PN 16**");
(F) **Freccia** indicante la direzione del flusso;
(G) Direzione di apertura e chiusura della valvola sulla manopola ("**OPEN**" e "**CLOSE**").

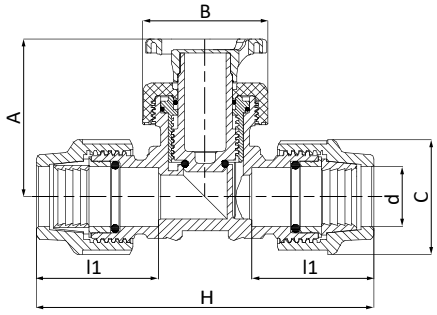


6.4 Schede tecniche

1078

Valvola a globo a compressione



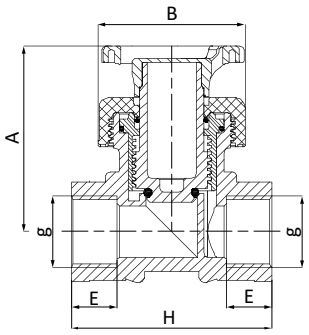


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

1079

Valvola a globo filettata femmina/femmina





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	A [mm]	B [mm]	Pmax [bar]
3/4"x3/4"	1079003003001	132x79x60	79	18	112	59	16
1"x1"	1079004004001	143x95x70	95	21	120	70	16

7. Istruzioni di montaggio delle valvole

Valvole a sfera, di ritegno e a globo Ø 20 mm ÷ 40 mm



Tagliare il tubo ortogonalmente all'asse utilizzando speciali tagliatubo o seghe circolari o a nastro. In quest'ultimo caso per ottenere una sezione retta è consigliabile l'utilizzo di scatole guida.



Eliminare sbavature dovute al taglio e smussare l'estremità del tubo per facilitarne il montaggio e per non provocare danni alla guarnizione.
La superficie esterna del tubo non deve presentare imperfezioni o intagli per tutta la lunghezza di inserimento nel corpo della valvola.



Svitare la ghiera azzurra ed inserirla sul tubo seguita dall'anello di aggraffaggio.
Assicurarsi che quest'ultimo abbia la conicità nella giusta direzione, ovvero con la parte più larga rivolta verso il corpo della valvola.



Spingere il tubo nella valvola agendo in direzione assiale superando la guarnizione fino alla battuta interna del corpo della valvola.



Avvitare prima la ghiera manualmente e poi utilizzando l'apposita chiave di serraggio.
La ghiera deve essere chiusa con forza benché non sia necessario che essa vada in contatto con la battuta terminale del corpo della valvola.

Valvole a sfera, di ritegno e a globo Ø 50 mm ÷ 90 mm



Tagliare il tubo ortogonalmente all'asse utilizzando speciali tagliatubo o seghe circolari o a nastro. In quest'ultimo caso per ottenere una sezione retta è consigliabile l'utilizzo di scatole guida.



Svitare la ghiera azzurra senza rimuovere gli anelli bloccati nel suo interno (componente integrato).



Infilare il componente integrato sul tubo seguito dalla guarnizione. É utile lubrificare la parte terminale del tubo e la guarnizione con un lubrificante al silicone adatto al trasporto di acqua potabile.



Spingere il tubo nella valvola agendo in direzione assiale fino alla battuta interna del corpo della valvola.



Avvitare prima la ghiera manualmente e poi utilizzando una chiave di serraggio.
La ghiera deve essere chiusa con forza benché non sia necessario che essa vada in contatto con la battuta terminale del corpo della valvola.

8. Componenti

8.1 Componenti per raccordi a compressione

A217

Bussola



DIM	CODE
16	A217016000
20	A217020000
25	A217025000
32	A217032000
40	A217040000

>>>

>>>

DIM	CODE
50	A217050001
63	A217063001
75	A217075001
90	A217090001
110	A217110001

A218

Ghiera



DIM	CODE
16	A218016000
20	A218020000
25	A218025000
32	A218032000
40	A218040000

>>>

>>>

DIM	CODE
50	A218050002
63	A218063002
75	A218075002
90	A218090002
110	A218110002

A219

Anello di aggraffaggio



DIM	CODE
16	A219016000
20	A219020000
25	A219025000
32	A219032000
40	A219040000

>>>

>>>

DIM	CODE
50	A219050001
63	A219063001
75	A219075001
90	A219090001
110	A219110001

A220

Guarnizione O-ring



DIM	CODE
16	A220016000
20	A220020000
25	A220025000
32	A220032000
40	A220040000

>>>

>>>

DIM	CODE
50	A220050001
63	A220063001
75	A220075001
90	A220090001
110	A220110001

8.2 Componenti per valvole

A24601

Ghiera porta inserto per valvola a sfera



DIM	CODE
20	A246010200
25	A246010250
32	A246010320
40	A246010400

>>>

>>>

DIM	CODE
50	A246010500
63	A246010630
75	A246010750
90	A246010900

A24602

Maniglia per valvola a sfera



DIM	CODE
20	A246020200
25	A246020250
32	A246020320
40	A246020400

>>>

>>>

DIM	CODE
50	A246020500
63	A246020630
75	A246020750
90	A246020900

A24603

Maniglia per valvola globo



DIM	CODE
20-25 - 3/4"	A246032025
32 - 1"	A246030032

A24604

Anello nero superiore per valvola globo



DIM	CODE
20-25 - 3/4"	A246042025
32 - 1"	A246040032

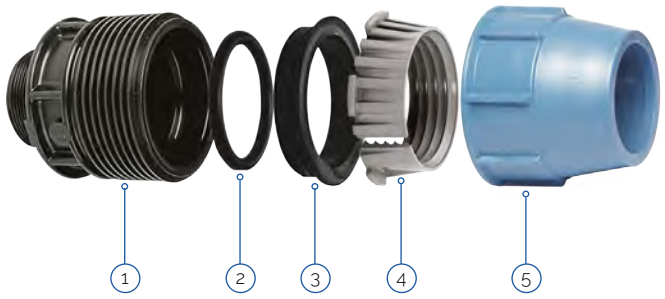
8.3 Componenti speciali

DeltOne Mining è un raccordo innovativo sviluppato appositamente da Unidelta per la **giunzione di tubi in polietilene per applicazioni minerarie,** dove la resistenza chimica a particolari composti è essenziale come, ad esempio, nel processo di lisciviazione, spesso impiegato per l'estrazione di rame, vengono utilizzate soluzioni più o meno concentrate di acido solforico. Quest'ultimo infatti risulta essere molto aggressivo per le guarnizioni in NBR e per gli anelli di aggraffaggio in resina acetalica, usati nei tradizionali raccordi a compressione.
Unidelta ha quindi sviluppato per questo tipo di applicazioni dei componenti costituiti da materiali con una maggiore resistenza chimica rispetto a quelli normalmente usati.
DeltOne Mining mantiene lo stesso design innovativo, l'assemblaggio semplice e la tenuta del classico raccordo DeltOne, ma con **guarnizioni OR in fluoroelastomero (Viton) e l'anello di aggraffaggio in C-PVC**. Inoltre, il corpo, la bussola e la ghiera sono sempre realizzati in polipropilene.

Materiali

Tutti i materiali elencati sono contraddistinti da una significativa resistenza chimica, che permette a DeltOne Mining di lavorare a contatto con composti chimici estremamente aggressivi, acidi in particolare, che agiscono sia dall'interno (poiché presenti nel fluido trasportato) sia dall'ambiente esterno.
DeltOne Mining è perciò ideale non solo nel settore minerario, ma anche in tutte quelle applicazioni con requisiti di alta resistenza chimica. Per le specifiche resistenze chimiche si contatti direttamente Unidelta.

1. **Corpo:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
2. **Guarnizione:** O-ring in VITON.
3. **Bussola:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.
4. **Anello di aggraffaggio**: CPVC.
5. **Ghiera:** polipropilene (PP-B) ad alto grado di stabilità con protezione anti UV.



A219 - CPVC

Anello di aggraffaggio in CPVC



DIM	CODE
32	A219032002
63	A219063002
75	A219075002
90	A219090002
110	A219110002

A220 - VITON

Guarnizione O-ring in VITON



DIM	CODE
63	A220063003
75	A220075003
90	A220090003
110	A220110003

9. Attrezzature

1101

Smussatore



DIM	CODE
16 ÷ 160	1101016160001

1037

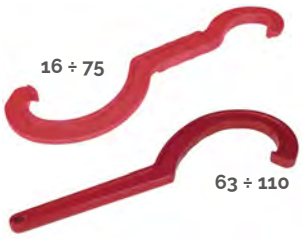
Chiave per raccordi in polipropilene (PP)



DIM	CODE
16 ÷ 63	1037016001001

1038

Chiave per raccordi in resina acetalica



DIM	CODE
16 ÷ 75	1038016002001
63 ÷ 110	1038063002001

5033

Cesoia



DIM	CODE
10 ÷ 32	5033010032001
16 ÷ 63	5033016063001

10. Resistenza chimica

"APPENDIX A Chemical resistance" a pagina 521

Nella tabella seguente è riportata la resistenza chimica dei materiali utilizzati per i componenti dei raccordi a contatto con il fluido. È relativa alla temperatura di 20°C per raccordi non soggetti a sollecitazioni meccaniche.

La resistenza chimica è indicata mediante la simbologia seguente. Dove non è indicata non sono state effettuate prove.

S = Resistenza soddisfacente: possono essere impiegati senza restrizioni.
L = Resistenza limitata: la sostanza può intaccare il materiale. Si devono ridurre la pressione e la temperatura d'esercizio. La durata in servizio del raccordo può ridursi.
NS = Resistenza non soddisfacente: la sostanza aggredisce il materiale. Il raccordo non può essere impiegato.

La concentrazione è espressa come percentuale in massa della sostanza in soluzione acquosa; in alcuni casi è indicata mediante la simbologia seguente:

Dil.sol. = Soluzione acquosa diluita in concentrazione non superiore al 10%.
Sol. = Soluzione acquosa in concentrazione superiore al 10% ma non satura.
Sat.sol. = Soluzione acquosa satura.
tg = Sostanza pura.
tg-l = Sostanza pura allo stato liquido.
tg-g = Sostanza pura allo stato gassoso.
tg-s = Sostanza pura allo stato solido.
Work.sol. = Soluzione in concentrazione usualmente impiegata in industria.
Susp. = Sospensione di solido in soluzione satura.


UNIDELTA
Since 1973

Compression fittings

English

Definitions and symbols		**79**
1.	**Unidelta fittings with mechanical clamping**	**79**
2.	**Compression fitting and clamp saddles**	**81**
2.1	Fields of application	81
2.2	Standards	81
2.3	Quality certifications	81
2.4	Operating temperatures	82
2.5	Tensile strength	82
2.6	Hydraulic seal	83
2.7	Materials	84
2.8	Assembly instructions	87
3.	**Technical sheets**	**94**
3.1	Compression fittings	94
3.2	Universal transition coupling	113
3.3	Compression transition fittings	114
3.4	Union fitting	117
3.5	Underclamp tapping saddle	118
3.6	Clamp saddles	119
4.	**PP ball valves**	**127**
4.1	Structure and materials	127
4.2	Advantages of the ball valves	128
4.3	Marking	129
4.4	Accessing the ball	130
4.5	Technical sheets	131
5.	**Non-return valves**	**136**
5.1	Structure and materials	137
5.2	Advantages of the non-return valves	137
5.3	Marking	138
5.4	Technical sheets	139

6.	**Stop cock valves**	**140**
6.1	Structure and materials	140
6.2	Advantages of stop cock valves	141
6.3	Marking	141
6.4	Technical sheets	142
7.	**Assembly instructions of valves**	**143**
8.	**Components**	**145**
8.1	Components for compression fittings	145
8.2	Components for valves	146
8.3	Special components	147
9.	**Tools**	**148**
10.	**Chemical resistance**	**149**

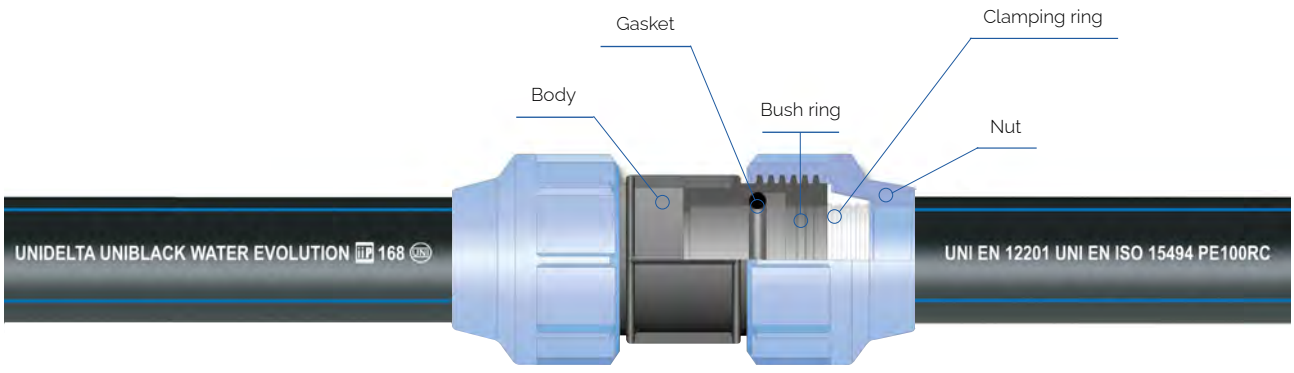
Definitions and symbols

PP-B	Polypropylene copolymer	DN	Nominal diameter [mm]
POM	Acetalic resin	NF, V	Number of holes
NBR	Nitrile rubber	d, d_1	Coupling diameters [mm]
PEBD	Low density polyethylene	g	Nominal thread size [in.]
PEAD	High density polyethylene		Suitable for cold water
PTFE	Polytetrafluoroethylene		Special components
PN	Nominal pressure [bar]		Compression fi ttings
Pmax	Maximum pressure [bar]		Technical catalogue
PFA	Allowable operating pressure (EN805): maximum hydrostatic pressure that a component can withstand during continuous operation [bar]		

1. Unidelta fittings with mechanical clamping

These fittings can be made of metal or plastic, like the Unidelta polypropylene compression fittings. These junctions are removable and easy to install. The junction system is based on grasping the polyethylene pipes via toothed rings that wrap and clamp the pipe. Unidelta range of fittings include diameters between 16 mm and 110 mm with nominal pressure of use equal to 16 bar.

Polypropylene coupling with mechanical clamping



UNIDELTA

Since 1973



DELTONE System

Polypropylene (PP-B) high-stability

Compression fittings • Valves • Clamp saddles

unidelta.com

2. Compression fitting and clamp saddles

2.1 Fields of application

Unidelta compression fittings and clamp saddles are designed specifically for **connecting polyethylene pipes** with an outside diameter from 16 to 110 mm (200 mm for clamp saddles). They are fully compatible with all LDPE, HDPE, PE40, PE80, PE100, PE100RC pipes complying with **EN 12201, ISO 4427, DIN 8074, UNI 7990**.
They are normally used to **convey drinking water and fluids at pressures up to 16 bar** for generic applications.
The quality of the materials used makes these fittings resistant to numerous **chemical substances** (see "APPENDIX A Chemical resistance" page 521) and to **UV-rays.**
The Unidelta universal fitting can be used to connect systems using PE metric piping with existing pipes made of any material, with external diameters of 15-35 mm.

2.2 Standards

Unidelta fittings and clamp saddles comply with the regulations on the conveyance of drinking water, in accordance with the regulations applicable in Italy and numerous other countries. Ministerial Decree no.174 of 06/04/2004.

Fittings and saddles
Complying with ISO 17885, DIN 8076, ISO 13460.

Threads
Complying with ISO7/1, DIN 2999, BS 21, EN 10226-1.

Flanges
Holes and centre to centre distance in compliance with to UNI 2223, UNI 2278, DIN 8063, UNI EN 1092-1.

2.3 Quality certifications

Unidelta operates applying **UNI EN ISO 9001:2015** Quality System regulations and has been certified since 1995.
In 2016 it also obtained the following certifications: **ISO 14001** (Environmental Management Systems) and **BS OHSAS 18001** (Systems to Manage Occupational Health and Safety) updated in 2020 with **ISO 45001:2018** (Systems to Manage Occupational Health and Safety).
Unidelta fittings have been tested and approved by all the leading certification agencies.

NB. La gamma dei prodotti certificati IIP è visionabile sul sito www.unidelta.com e/o www.iip.it
NB. The range of products approved by Kiwa can be seen on the web site www.kiwa.com/nl
NB. Watermark L.N. 26588: Please see the certifi cate for the list of the products which are covered by the approval. register.saiglobal.com

2.4 Operating temperatures

Fittings and clamp saddles are not suitable for use with hot water for the limits dictated by the use of polyethylene pipes. Maximum operating temperatures refer to the use of polyethylene pipes; it is therefore necessary to refer to the regulations applicable in the country of use. **The fittings and clamp saddles can withstand temperatures below 0°C.** The table below shows the maximum operating pressure during continuous operation (PFA) with changes in temperature if the liquid conveyed is water, in compliance with EN 805, EN 12201 and ISO 13761.
For values falling within the set range, a linear interpolation can be obtained.

Operating T [°C]	≤20°	25°	30°	35°	40°	45°
PFA [bar]	16	14,9	13,9	12,8	11,8	10,8
PFA [bar]	10	9,3	8,7	8	7,4	6,7

2.5 Tensile strength

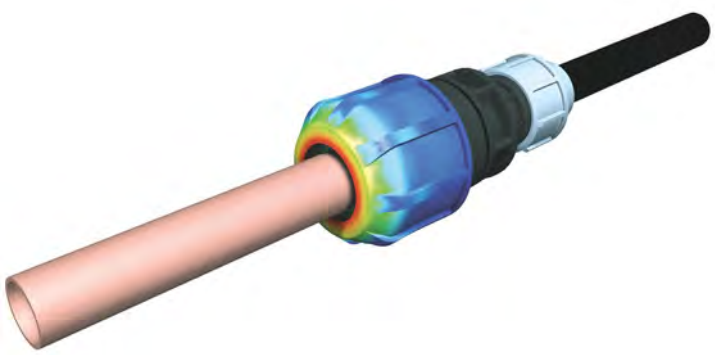
All Unidelta fittings undergo tensile strength tests with the loads shown in the table "Loads for tensile strength tests" (test duration 1 hour and at 20°C) in compliance with the strictest standards and regulations.

Loads for tensile strength tests

	PE100 - PN 16	
Ø [mm]	**F [N]**	**F [kgf]**
16	883	85
20	1225	125
25	1774	181
32	2950	301
40	4557	465
50	7076	722
63	11250	1148
75	15719	1604
90	22736	2320
110	33898	3459



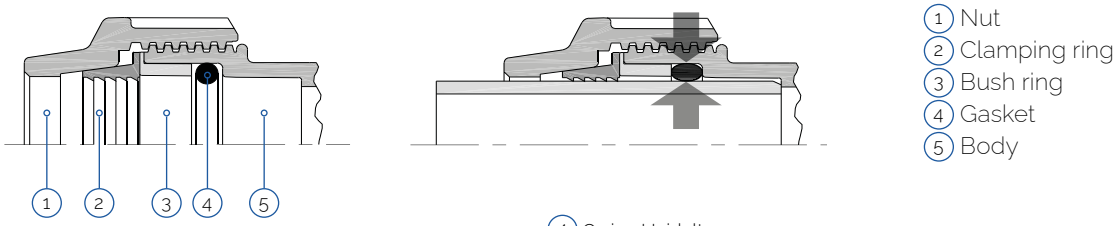
FEM Analysis - Distribution of the stresses in the universal fitting ring nut are subjected to combined tensile stresses and pressure



2.6 Hydraulic seal

Hydraulic sealing in a mechanical fitting depends on the type of gasket used and the pressure the fitting is able to withstand when installed on the contact surfaces between the gasket itself, the pipe and fitting body.

Hydraulic sealing of the Unidelta fitting range 16 to 40 mm



1 Nut
2 Clamping ring
3 Bush ring
4 Gasket
5 Body

4 O-ring Unidelta

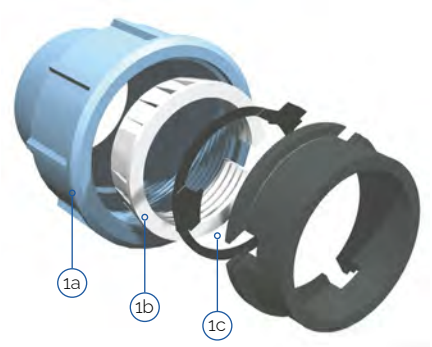


In the study and development of its fittings, Unidelta has tested countless solutions under the most arduous conditions at which the fittings can be subjected during operation to check the status of the pipe to be joined (circumference, undersizing) and the load applied. In fact, a fitting installed in a system can be subjected to stress due to continuous variable pressure cycles, overpressure due to disturbances such as water hammer, external pressures in excess to the system's internal pressure, tensile stresses, flexibility and other loads. A system is generally expected to last several years and the fittings must guarantee consistent performance over their life.
Tests carried out have shown that the type of gasket that guarantees the best performance in all possible cases is the O-ring seal with toroidal geometry (an O-ring seal is normally used in the most severe mechanical applications).

In order to guarantee a high level of safety over time, it is important that the gasket compression is not linked to the tightening force of the nut, otherwise the risk of leakage could arise due to the fitting not being fully tightened or to the nut being released when subjected to cycles of variable pressure. Unidelta fittings are equipped with an O-ring seal firmly placed in a cylindrical seat and do not require any compression rings.

For fittings diameter 50, 63, 75, 90 and 110 mm, the DeltOne system has been developed to provide a ring nut, a clamping ring and the bush ring joined together to form an integrated component. The gasket used is always the O-ring type, like the classic model. This makes the assembly of the fitting extremely quick and easy, without affecting the safety features of the gasket.

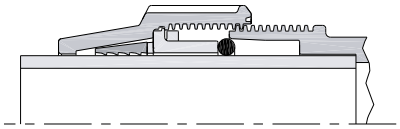
DeltOne system for Ø 50, 63, 75, 90, 110 mm fittings



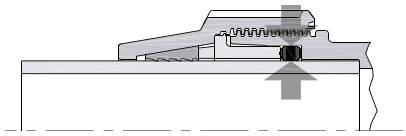
The ring nut (1a), the clamping ring (1b) and the bush ring (1c) are joined in an integrated component to facilitate assembly of the fitting onto the pipe.



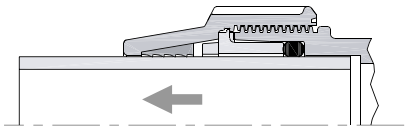
Hydraulic sealing of the fitting type DeltOne Ø 50, 63, 75, 90, 110 mm



The ring nut (1a), the clamping ring (1b) and the bush ring (1a) are combined as a single element.



When screwing on the ring nut (1a) onto the body (1a), the gasket (1a) is pushed firmly into its seat (the bush ring doesn't have to compress the gasket to ensure the operation of the O-ring seal).

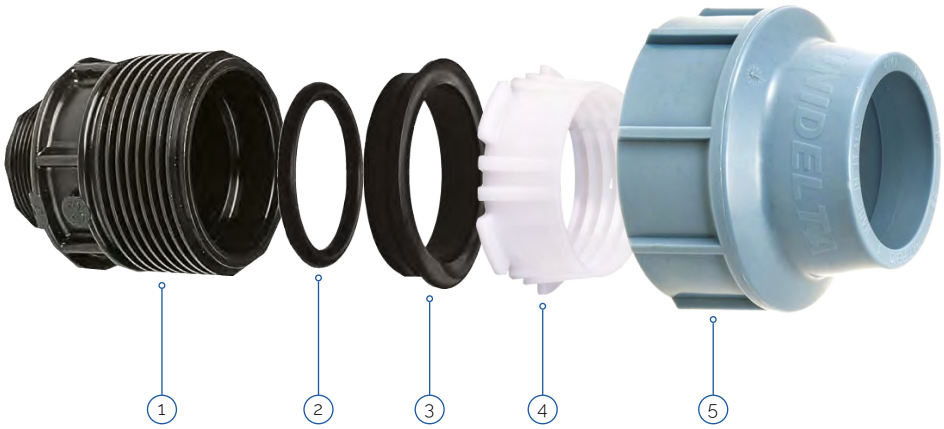


In case of tensile force, the clamping ring forces into the ring nut taper ensuring resistance to unthreading.

2.7 Materials

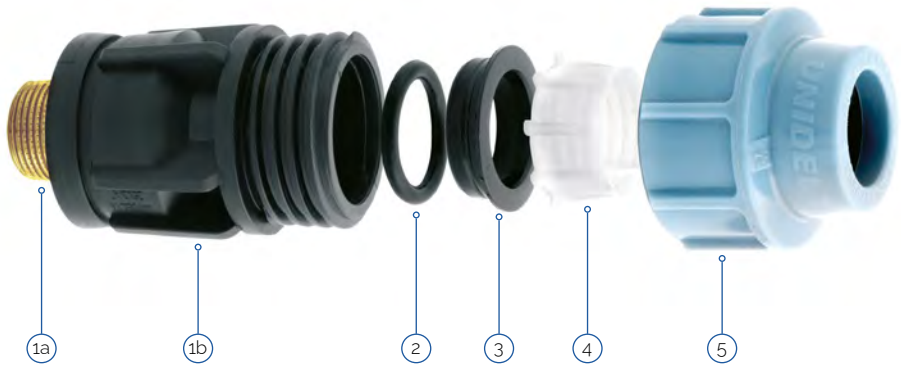
Compression fittings

(1) **Body:** highly stable polypropylene (PP-B) with UV protection.
(2) **Gasket:** O-ring.
(3) **Bush ring:** highly stable polypropylene (PP-B) with UV protection.
(4) **Clamping ring:** acetalic resin (POM).
(5) **Nut:** highly stable polypropylene (PP-B) with UV protection.



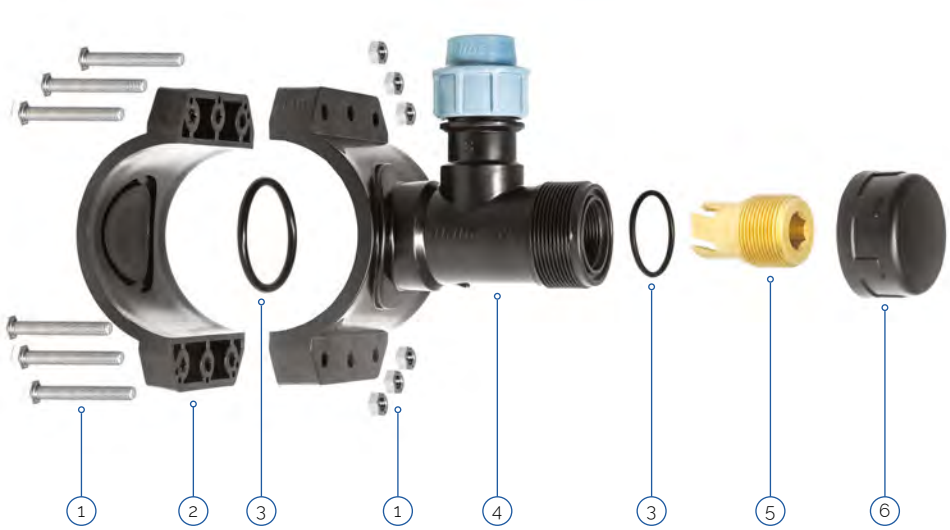
Compression transition fittings

(1a) **Thred:** threaded metal insert in brass stamped in the body.
(1b) **Body:** highly stable polypropylene (PP-B) with UV protection.
(2) **Gasket:** O-ring.
(3) **Bush ring:** highly stable polypropylene (PP-B) with UV protection.
(4) **Clamping ring:** acetalic resin (POM).
(5) **Nut:** highly stable polypropylene (PP-B) with UV protection.



Underclamp tapping saddle

(1) **Bolts:** stainless steel A4.
(2) **Clamp saddles base:** highly stable polypropylene (PP-B) with UV protection.
(3) **Gaskets:** O-ring.
(4) **Load bracket take off:** highly stable polypropylene (PP-B) with UV protection.
(5) **Perforator:** brass.
(6) **Plug:** highly stable polypropylene (PP-B) with UV protection.



Clamp saddles PN 10

1. **Bolts:** galvanized steel.
2. **Clamp saddles base:** highly stable polypropylene (PP-B) with UV protection.
3. **Gasket:** O-ring.
4. **Clamp saddles branch:** highly stable polypropylene (PP-B) with UV protection.
5. **Reinforcing ring:** stainless steel.



Clamp saddles PN 16

1. **Bolts:** galvanized steel.
2. **Clamp saddles base:** highly stable polypropylene (PP-B) with UV protection.
3. **Gaskets:** O-ring.
4. **Clamp saddles branch:** highly stable polypropylene (PP-B) with UV protection.
5. **Reinforcing ring:** stainless steel.



2.8 Assembly instructions

Video Tutorial
Unidelta SPA Official

Compression fittings Ø 16 mm ÷ 40 mm



Cut the pipe orthogonally to the axis using special pipe cutting tools or circular or band saw. For the band saw it is advisable to use a guide box to ensure a square cut.



Eliminate any burrs and bevel the end of the pipe to facilitate an easy assembly and to prevent damage to the fitting's gasket.
The outer surface of the pipe must be free from imperfections or indentations where the body of the fitting makes contact with the pipe.



Unscrew the blue nut and put it onto the pipe followed by the white clamping ring. Make sure the clamping ring is in the correct position, with the largest opening facing the fitting.



Push the pipe axially into the fitting, past the gasket, until it touches the internal stop inside the fitting's body. The end of the pipe and the gasket should be lubricated with a silicone lubricant that doesn't alter the water potability properties. Do not use mineral-based oils or greases.



Tighten the nut by hand and then use the torque wrench provided. The nut must be tight, but it doesn't need to reach the end of the fitting body.

Deltone compression fittings Ø 50 mm ÷ 110 mm



Cut the pipe orthogonally to the axis using a special pipe cutter or a circular or band saw. When using a band saw, it is advisable to use a guide box to ensure a square cut.



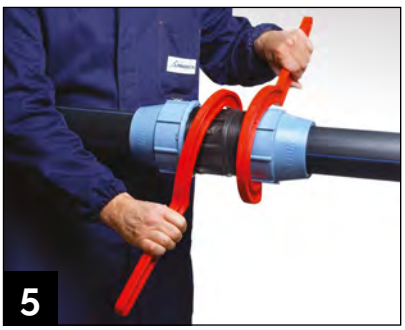
Unscrew the blue nut without removing the rings locked inside (integrated component).



Place the integrated component on the pipe followed by the gasket.
It is useful to lubricate the end of the pipe and the gasket with a silicon-based lubricant that doesn't affect the drinking properties of the water. Do not use mineral-based oils or greases.



Push the pipe axially into the fitting until it touches the internal stop inside the fitting's body.



Tighten the nut by hand and then use the torque wrench provided.
The nut must be tight, but it doesn't need to reach the end of the fitting's body.

Universal transition fitting CODE 1033



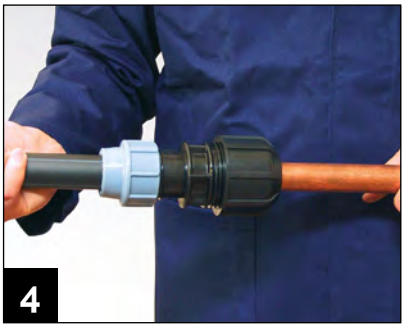
Cut the pipe orthogonally to the axis and eliminate any burrs.
The outer surface of the pipe must be free from any imperfections or indentations, especially the section that makes contact with the body of the fitting.



If the nut is particularly unscrewed, push the universal side of the fitting onto the pipe in an axial direction until it reaches the internal stop inside the fitting body.



Tighten the nut using the torque wrench. The nut must be tight, but it doesn't need to reach the end of the fitting's body.



Assemble the PE pipe, metric series (diameter in mm), following the instructions for the standard fitting ("Compression fittings Ø 16 mm ÷ 40 mm" page 87).

Underclamp tapping saddle CODE 1025



Identify the installation area and make sure there isn't soil, imperfections or groves in the area touching the gasket. Position the gasket in its designated indentation in the upper part of the collar.



Position the lower part of the collar in the chosen area. Couple the upper part of the collar with the lower one by inserting the screws from below (the lower part of the collar has a recessed area for the screws' head).



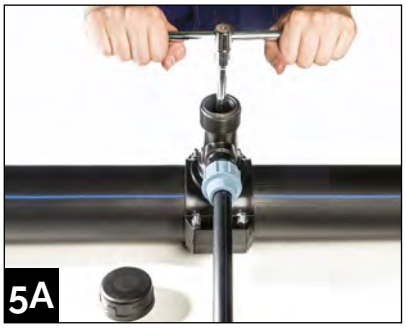
Screw and tighten the nuts diagonally (cross-wise).

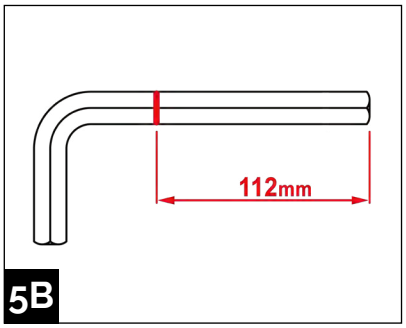


Insert the branch pipe by following the compression fittings assembly instructions ("Compression fittings Ø 16 mm ÷ 40 mm" page 87).

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Unscrew the upper sealing cap and insert the key all the way into the designated hexagonal slot of the perforator. Screw the perforator, making use of a sufficiently long lever, until the blade has completely cut the side of the pipe (remember to mark the key at 112 mm as shown in the drawing). The cut is highlighted by a slight water leakage and/or by a decreased screwing resistance. In any case, never exceed the 112 mm measurement marked on the key.



Unscrew the perforator and position it without exceeding the upper limit of the internal thread of the column (the cut section of the pipe remains securely attached to the perforator).



Fully close the sealing cap and complete the tightening process with a spanner.

Clamp saddles



Identify the point of installation and make sure the external surface of the pipe is free from soil, imperfections or indentations in the area of contact with the gasket. Position the gasket in the saddle seat.



Place the lower part of the saddle in the chosen point.
Couple the upper part of the saddle with the lower one.



Insert the screws from below (the bottom part of the saddle has a recess to receive the head of the screws).
Tighten the nuts diagonally (cross-wise).



Drill a hole in the pipe wall being careful not to damage the saddle screw thread and the O-ring. Use a spacer to avoid drilling the other side of the pipe. It would be better to use a milling drill not to damage the saddle screw thread and the O-ring and in order to reduce the scraps into the pipe.

>>>

>>>

Alternative procedure:



Use a white permanent felt-tip marker to draw reference points on the pipe to allow repositioning of the saddle. Remove the saddle from the pipe.



Drill the hole in the pipe wall and remove the scraps.

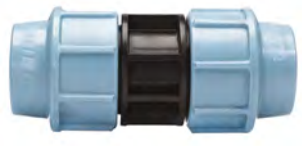


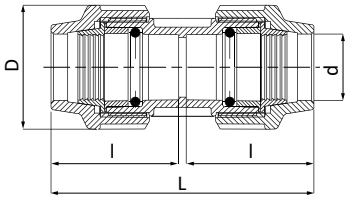
Assemble the saddle according to the marked lines; to keep the hole in axis with the branch direction it can help to use a pin, such as the drill used to make the hole.

3.1 Compression fittings

1001

Coupling

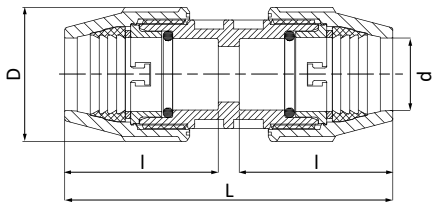




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	PN [bar]
16x16	1001016000001	103x42x42	42	103	49	16
20x20	1001020000001	108x46x46	46	108	52	16
25x25	1001025000001	122x55x55	55	122	59	16
27x27	1001027000001	126x55x55	55	126	61	16
32x32	1001032000001	139x63x63	63	139	68	16
40x40	1001040000001	168x80x80	80	168	82	16

>>>





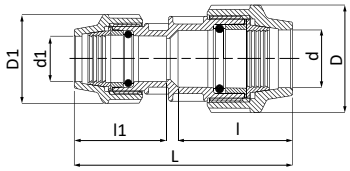
>>>

50x50	1001051000001	232x96x96	96	232	110	16
63x63	1001064000001	248x115x115	115	248	121	16
75x75	1001076000001	278x129x129	129	278	136	16
90x90	1001091000001	315x155x155	155	315	154	16
110x110	1001111000001	422x183x183	183	422	205	16

1002

Reducing coupling

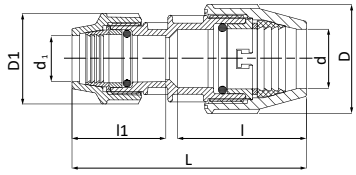




DIM dxd$_1$ [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	l1 [mm]	PN [bar]
20x16	1002020016001	110x46x46	46	42	110	56	50	16
25x20	1002025020001	128x55x55	55	46	128	67	56	16
32x20	1002032020001	139x63x63	63	46	139	70	60	16
32x25	1002032025001	143x63x63	63	55	143	70	66	16
40x25	1002040025001	158x80x80	80	55	158	85	66	16
40x32	1002040032001	163x80x80	80	63	163	88	71	16

>>>





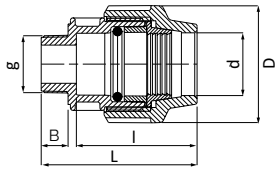
>>>

50x25	1002051025001	180x96x96	96	55	180	113	65	16
50x32	1002051032001	186x96x96	96	63	186	113	69	16
50x40	1002051040001	212x96x96	96	80	212	115	86	16
63x25	1002064025001	192x115x115	115	55	192	119	64	16
63x32	1002064032001	194x115x115	115	63	194	119	71	16
63x40	1002064040001	204x115x115	115	80	204	121	81	16
63x50	1002064051001	260x115x115	115	96	260	130	118	16
75x50	1002076051001	262x129x129	129	96	262	134	114	16
75x63	1002076064001	285x129x129	129	115	285	146	130	16
90x63	1002091064001	298x155x155	155	115	298	157	134	16
90x75	1002091076001	318x155x155	155	129	318	162	146	16
110x75	1002111076001	351x183x183	183	129	351	210	130	16
110x90	1002111091001	370x183x183	183	155	370	201	158	16

1003

Male adaptor

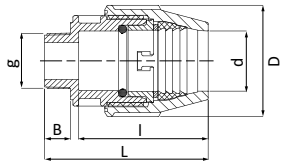




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	PN [bar]
16x3/8”	1003016001001	69x42x42	42	69	50	13	16
16x1/2”	1003016002001	69x42x42	42	69	50	16	16
16x3/4”	1003016003001	69x42x42	42	69	50	17	16
20x1/2”	1003020002001	81x46x46	46	81	61	16	16
20x3/4”	1003020003001	82x46x46	46	82	61	17	16
20x1”	1003020004001	85x46x46	46	85	61	20	16
25x1/2”	1003025002001	89x55x55	55	89	69	16	16
25x3/4”	1003025003001	90x55x55	55	90	69	17	16
25x1”	1003025004001	93x55x55	55	93	69	20	16
32x1/2”	1003032002001	98x63x63	63	98	76	16	16
32x3/4”	1003032003001	98x63x63	63	98	76	17	16
32x1”	1003032004001	101x63x63	63	101	76	20	16
32x1”1/4	1003032005001	104x63x63	63	104	76	23	16
32x1”1/2	1003032006001	104x63x63	63	104	76	23	16
40x1”	1003040004001	108x80x80	80	108	82	21	16
40x1”1/4	1003040005001	117x80x80	80	117	82	29	16
40x1”1/2	1003040006001	117x80x80	80	117	82	28	16
40x2”	1003040007001	120x80x80	80	120	82	34	16

>>>





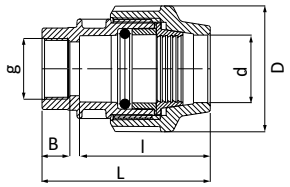
>>>

50x1”	1003051004001	143x96x96	96	143	111	26	16
50x1”1/4	1003051005001	146x96x96	96	146	111	28	16
50x1”1/2	1003051006001	146x96x96	96	146	111	28	16
50x2”	1003051007001	151x96x96	96	151	112	32	16
63x1”1/4	1003064005001	157x115x115	115	157	120	28	16
63x1”1/2	1003064006001	157x115x115	115	157	120	28	16
63x2”	1003064007001	161x115x115	115	161	120	32	16
63x2”1/2	1003064008001	158x115x115	115	158	120	29	16
75x2”	1003076007001	171x129x129	129	171	135	27	16
75x2”1/2	1003076008001	178x129x129	129	178	135	34	16
75x3”	1003076009001	178x129x129	129	178	135	34	16
90x2”	1003091007001	200x155x155	155	200	158	34	16
90x2”1/2	1003091008001	200x155x155	155	200	158	34	16
90x3”	1003091009001	200x155x155	155	200	158	34	16
90x4”	1003091010001	200x155x155	155	200	158	36	16
110x2”	1003111007001	247x183x183	183	247	198	34	16
110x3”	1003111009001	250x183x183	183	250	198	37	16
110x4”	1003111010001	250x183x183	183	250	200	37	16

1004

Female adaptor

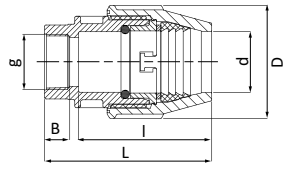




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x1/2”	1004016002001	69x42x42	42	69	50	17	16
16x3/4”	1004016003001	73x42x42	42	73	50	19	16
20x1/2”	1004020002001	77x46x46	46	77	58	18	16
20x3/4”	1004020003001	79x46x46	46	79	58	20	16
20x1”	1004020004001	81x47x47	47	81	58	22	16
25x1/2”	1004025002001	84x55x55	55	84	65	18	16
25x3/4”	1004025003001	86x55x55	55	86	65	20	16
25x1”	1004025004001	88x55x55	55	88	65	22	16
32x1/2”	1004032002001	92x63x63	63	92	71	18	16
32x3/4”	1004032003001	94x63x63	63	94	71	20	16
32x1”	1004032004001	96x63x63	63	96	71	22	16
***32x1”1/4**	1004032005001	97x63x63	63	97	71	23	16
40x1”	1004040004001	110x80x80	80	110	81	20	16
***40x1”1/4**	1004040005001	112x80x80	80	112	81	22	16
***40x1”1/2**	1004040006001	113x80x80	80	113	81	23	16

>>>





>>>

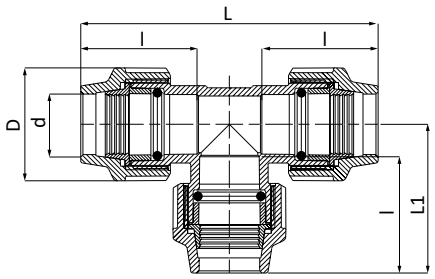
***50x1”**	1004051004001	140x96x96	96	140	117	20	16
***50x1”1/4**	1004051005001	144x96x96	96	144	112	22	16
***50x1”1/2**	1004051006001	144x96x96	96	144	112	23	16
***50x2”**	1004051007001	149x96x96	96	149	111	27	16
***63x1”1/4**	1004064005001	159x115x115	115	159	121	23	16
***63x1”1/2**	1004064006001	160x115x115	115	160	121	28	16
***63x2”**	1004064007001	165x115x115	115	165	121	22	16
***63x2”1/2**	1004064008001	168x115x115	115	168	121	23	16
***75x2”**	1004076007001	182x129x129	129	182	137	28	16
***75x2”1/2**	1004076008001	187x129x129	129	187	137	33	16
***75x3”**	1004076009001	187x129x129	129	187	137	33	16
***90x2”**	1004091007001	190x155x155	155	190	152	26	16
***90x2”1/2**	1004091008001	195x155x155	155	195	152	33	16
***90x3”**	1004091009001	195x155x155	155	195	152	33	16
***90x4”**	1004091010001	204x155x155	155	204	152	42	16
***110x3”**	1004111009001	263x183x183	183	263	204	40	16
***110x4”**	1004111010001	263x183x183	183	263	204	43	16

* The threaded end is reinforced with a stainless steel ring

1005

90° tee

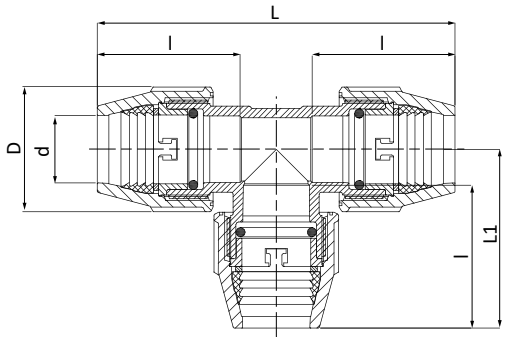




DIM dxdxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	L1 [mm]	PN [bar]
16x16x16	1005016000001	124x81x42	42	124	52	60	16
20x20x20	1005020000001	139x92x46	46	139	59	69	16
25x25x25	1005025000001	162x107x55	55	162	66	79	16
32x32x32	1005032000001	183x122x63	63	183	74	90	16
40x40x40	1005040000001	218x148x80	80	218	88	108	16

>>>





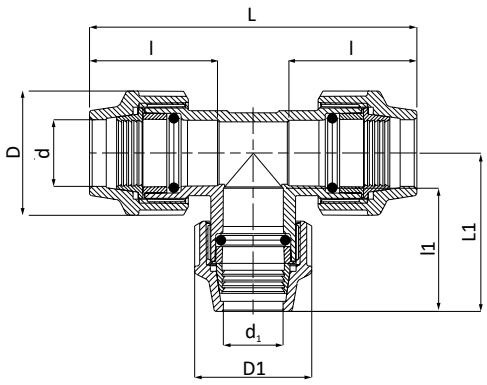
>>>

50x50x50	1005051000001	282x187x96	96	282	115	139	16
63x63x63	1005064000001	314x214x115	115	314	124	156	16
75x75x75	1005076000001	364x245x129	129	364	142	180	16
90x90x90	1005091000001	407x277x155	155	407	154	199	16
110x110x110	1005111000001	539x356x183	183	539	209	264	16

1013

90° reducing tee

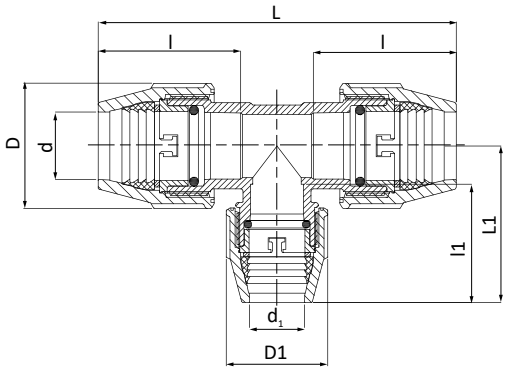




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x16x20	1013020016001	140x88x46	46	42	140	55	65	45	16
25x20x25	1013025020001	160x101x55	55	46	160	63	73	56	16
32x20x32	1013032020001	183x106x63	63	46	183	68	74	56	16
32x25x32	1013032025001	183x116x63	63	55	183	68	84	64	16
40x25x40	1013040025001	222x132x80	80	55	222	83	92	68	16
40x32x40	1013040032001	222x141x80	80	63	222	83	101	79	16

>>>





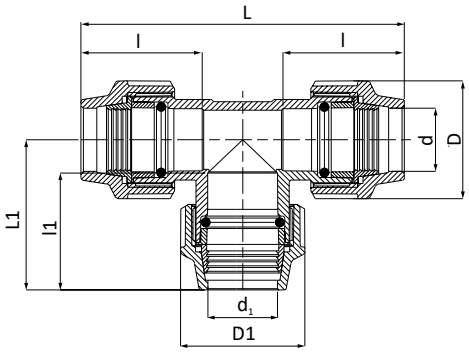
>>>

50x25x50	1013051025001	287x149x96	96	55	287	104	101	63	16
50x32x50	1013051032001	287x156x96	96	63	287	104	108	68	16
50x40x50	1013051040001	287x174x96	96	80	287	104	126	94	16
63x25x63	1013064025001	336x174x115	115	55	336	133	116	62	16
63x32x63	1013064032001	336x171x115	115	63	336	133	113	67	16
63x40x63	1013064040001	336x194x115	115	80	336	133	136	94	16
63x50x63	1013064051001	336x215x115	115	96	336	133	157	111	16
75x50x75	1013076051001	365x245x129	129	96	365	136	180	120	16
75x63x75	1013076064001	365x235x129	129	115	365	136	170	123	16
90x63x90	1013091064001	415x270x155	155	115	415	154	192	133	16
90x75x90	1013091076001	407x273x155	155	129	407	154	195	136	16
110x75x110	1013111076001	535x312x183	183	129	535	203	220	149	16
110x90x110	1013111091001	535x323x183	183	155	535	203	231	156	16

1029

90° tee with increased take off

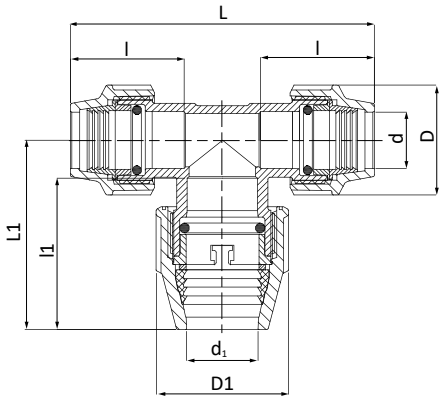




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x25x20	1029020025001	139x102x55	46	55	139	56	79	65	16
25x32x25	1029025032001	160x114x63	55	63	160	63	86	69	16
32x40x32	1029032040001	183x131x80	63	80	183	68	99	81	16

>>>





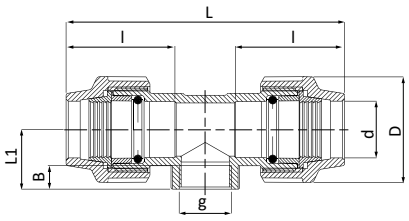
>>>

40x50x40	1029040051001	218x175x96	80	96	218	81	135	97	16

1007

90° tee with threaded female take off

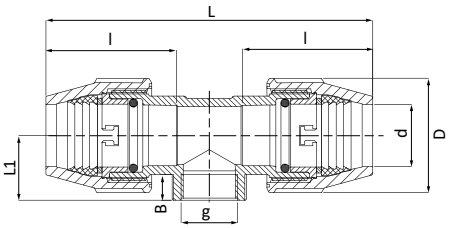




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1007016002001	123x52x42	42	123	49	17	31	16
16x3/4”x16	1007016003001	123x52x42	42	123	49	17	31	16
20x1/2”x20	1007020002001	139x70x46	46	139	55	19	47	16
20x3/4”x20	1007020003001	139x70x46	46	139	55	19	47	16
25x1/2”x25	1007025002001	160x78x55	55	160	63	16	50	16
25x3/4”x25	1007025003001	160x78x55	55	160	63	16	50	16
25x1”x25	1007025004001	160x83x55	55	160	63	21	55	16
32x1/2”x32	1007032002001	183x85x63	63	183	68	17	53	16
32x3/4”x32	1007032003001	183x85x63	63	183	68	17	53	16
32x1”x32	1007032004001	183x89x63	63	183	68	21	57	16
***32x1”1/4x32**	1007032005001	183x92x63	63	183	68	24	60	16
40x1”x40	1007040004001	205x85x80	80	205	81	21	45	16
***40x1”1/4x40**	1007040005001	217x89x80	80	217	81	25	49	16
***40x1”1/2x40**	1007040006001	210x87x80	80	210	81	23	47	16

>>>





>>>

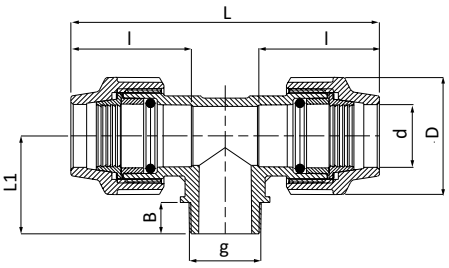
50x1/2”x50	1007051002001	282x109x96	96	282	105	31	61	16
***50x1”1/4x50**	1007051005001	282x105x96	96	282	105	24	57	16
***50x1”1/2x50**	1007051006001	282x104x96	96	282	105	24	56	16
***50x2”x50**	1007051007001	282x104x96	96	282	105	27	56	16
***63x1”1/4x63**	1007064005001	313x120x115	115	313	123	27	62	16
***63x1”1/2x63**	1007064006001	313x120x115	115	313	123	27	62	16
***63x2”x63**	1007064007001	313x123x115	115	313	123	30	65	16
***63x2”1/2x63**	1007064008001	313x123x115	115	313	123	30	65	16
***75x2”x75**	1007076007001	362x149x129	129	362	138	35	84	16
***75x2”1/2x75**	1007076008001	362x149x129	129	362	138	35	84	16
***75x3”x75**	1007076009001	362x150x129	129	362	138	36	85	16
***90x2”1/2x90**	1007091008001	406x169x155	155	406	154	43	91	16
***90x3”x90**	1007091009001	406x173x155	155	406	154	47	95	16
***90x4”x90**	1007091010001	406x173x155	155	406	154	47	95	16
***110x3”x110**	1007111009001	534x196x183	183	534	205	41	104	16
***110x4”x110**	1007111010001	534x196x183	183	534	205	45	104	16

* The threaded end is reinforced with a stainless steel ring

1010

90° tee with threaded male take off

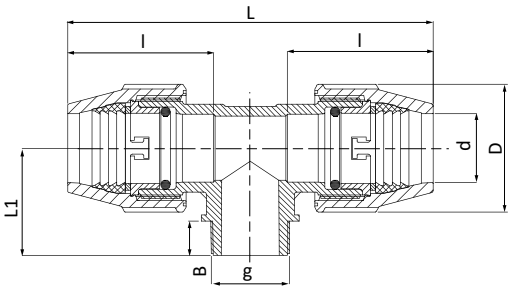




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1010016002001	125x57x42	42	125	50	18	36	16
16x3/4”x16	1010016003001	125x57x42	42	125	50	18	36	16
20x1/2”x20	1010020002001	139x58x46	46	139	56	16	35	16
20x3/4”x20	1010020003001	139x59x46	46	139	56	17	36	16
25x1/2”x25	1010025002001	160x63x55	55	160	63	16	35	16
25x3/4”x25	1010025003001	160x64x55	55	160	63	17	36	16
25x1”x25	1010025004001	160x66x55	55	160	63	19	38	16
32x1/2”x32	1010032002001	183x67x63	63	183	68	16	35	16
32x3/4”x32	1010032003001	183x68x63	63	183	68	17	36	16
32x1”x32	1010032004001	183x71x63	63	183	68	20	39	16
32x1”1/4x32	1010032005001	183x73x63	63	183	68	22	41	16
40x1”x40	1010040004001	218x84x80	80	218	81	20	44	16
40x1”1/4x40	1010040005001	218x84x80	80	218	81	22	44	16
40x1”1/2x40	1010040006001	218x84x80	80	218	81	22	44	16

>>>





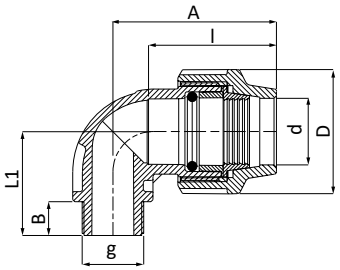
>>>

50x1”1/4x50	1010051005001	287x126x96	96	287	103	24	78	16
50x1”1/2x50	1010051006001	287x130x96	96	287	103	23	82	16
50x2”x50	1010051007001	287x136x96	96	287	103	29	88	16
63x1”1/2x63	1010064006001	335x148x115	115	335	130	25	90	16
63x2”x63	1010064007001	335x150x115	115	335	130	27	92	16
63x2”1/2x63	1010064008001	335x151x115	115	335	130	28	93	16
75x2”1/2x75	1010076008001	365x165x129	129	365	137	32	100	16
75x3”x75	1010076009001	365x168x129	129	365	137	35	103	16
90x3”x90	1010091009001	408x181x155	155	408	155	35	103	16
90x4”x90	1010091010001	408x189x155	155	408	155	41	111	16
110x4”x110	1010111010001	538x220x183	183	538	211	42	128	16

1008

90° elbow with threaded male take off

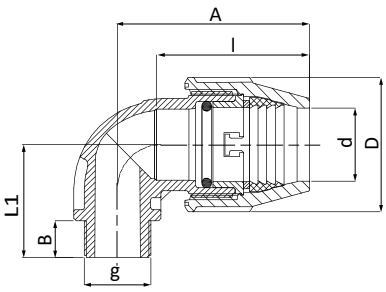




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1008016002001	69x69x42	42	39	18	58	48	16
16x3/4”	1008016003001	71x69x42	42	39	19	58	48	16
20x1/2”	1008020002001	77x62x46	46	45	18	62	39	16
20x3/4”	1008020003001	77x63x46	46	45	19	62	40	16
25x1/2”	1008025002001	92x71x55	55	53	18	74	43	16
25x3/4”	1008025003001	92x72x55	55	53	19	74	44	16
25x1”	1008025004001	92x75x55	55	53	22	74	47	16
32x1/2”	1008032002001	107x82x63	63	57	18	85	50	16
32x3/4”	1008032003001	107x83x63	63	57	19	85	51	16
32x1”	1008032004001	107x85x63	63	57	22	85	53	16
32x1”1/4	1008032005001	107x88x63	63	57	25	85	56	16
40x1”	1008040004001	132x101x80	80	70	22	105	61	16
40x1”1/4	1008040005001	132x104x80	80	70	25	105	64	16
40x1”1/2	1008040006001	132x104x80	80	70	25	105	64	16

>>>





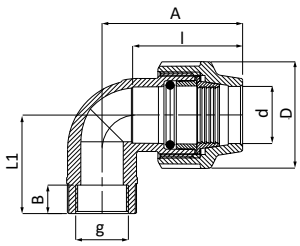
>>>

50x1”1/4	1008051005001	178x135x96	96	106	26	144	87	16
50x1”1/2	1008051006001	178x129x96	96	106	28	144	81	16
50x2”	1008051007001	182x129x96	96	111	28	149	81	16
63x1”1/2	1008064006001	214x143x115	115	130	23	173	85	16
63x2”	1008064007001	214x158x115	115	130	28	173	100	16
63x2”1/2	1008064008001	214x162x115	115	130	32	173	104	16
75x2”	1008076007001	240x165x129	129	142	28	193	100	16
75x2”1/2	1008076008001	240x169x129	129	142	32	193	104	16
75x3”	1008076009001	240x172x129	129	142	35	193	107	16
90x3”	1008091009001	276x192x155	155	158	35	217	114	16
90x4”	1008091010001	276x198x155	155	158	41	217	120	16
110x4”	1008111010001	362x236x183	183	222	42	294	144	16

1009

90° elbow with threaded female take off

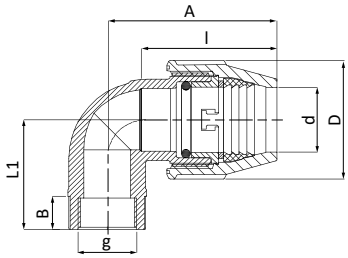




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	I [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1009016002001	74x69x42	42	39	18	58	48	16
16x3/4”	1009016003001	76x69x42	42	39	18	58	48	16
20x1/2”	1009020002001	79x62x46	46	45	18	63	39	16
20x3/4”	1009020003001	84x63x46	46	45	18	66	40	16
25x1/2”	1009025002001	95x73x55	55	53	18	77	45	16
25x3/4”	1009025003001	96x73x55	55	53	18	77	45	16
25x1”	1009025004001	100x76x55	55	53	20	77	48	16
32x1/2”	1009032002001	108x80x63	63	57	17	86	48	16
32x3/4”	1009032003001	108x81x63	63	57	18	86	49	16
32x1”	1009032004001	109x83x63	63	57	21	86	51	16
***32x1”1/4**	1009032005001	115x92x63	63	57	26	86	60	16
40x3/4”	1009040003001	132x95x80	80	70	18	105	55	16
40x1”	1009040004001	132x99x80	80	70	21	105	59	16
***40x1”1/4**	1009040005001	134x104x80	80	70	25	105	64	16
***40x1”1/2**	1009040006001	135x106x80	80	70	25	105	66	16

>>>





>>>

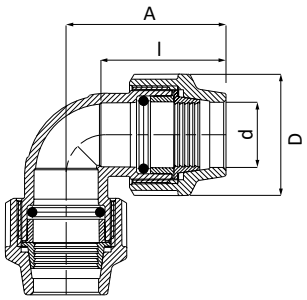
***50x1”1/4**	1009051005001	179x133x96	96	107	24	145	85	16
***50x1”1/2**	1009051006001	179x138x96	96	107	25	145	90	16
***50x2”**	1009051007001	184x138x96	96	107	25	145	90	16
***63x1”1/2**	1009064006001	214x159x115	115	130	26	173	101	16
***63x2”**	1009064007001	214x166x115	115	130	35	173	108	16
***63x2”1/2**	1009064008001	218x166x115	115	130	35	173	108	16
***75x2”**	1009076007001	240x188x129	129	142	36	193	123	16
***75x2”1/2**	1009076008001	240x190x129	129	142	37	193	125	16
***75x3”**	1009076009001	247x194x129	129	142	38	193	129	16
***90x3”**	1009091009001	274x218x155	155	157	40	216	140	16
***90x4”**	1009091010001	281x220x155	155	157	40	216	142	16
***110x3”**	1009111009001	362x226x183	183	222	40	294	134	16
***110x4”**	1009111010001	362x230x183	183	222	40	294	138	16

* The threaded end is reinforced with a stainless steel ring

1006

90° elbow

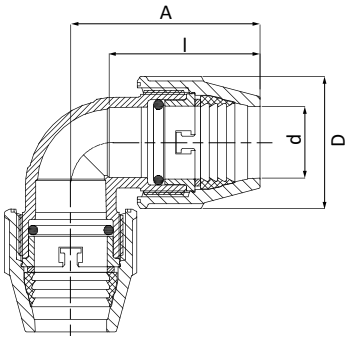




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	PN [bar]
16x16	1006016000001	85x85x42	42	64	49	16
20x20	1006020000001	92x92x46	46	69	50	16
25x25	1006025000001	113x113x55	55	86	62	16
32x32	1006032000001	127x127x63	63	96	70	16
40x40	1006040000001	157x157x80	80	117	79	16

>>>





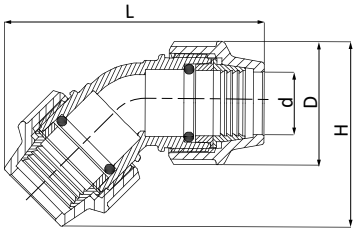
>>>

50x50	1006051000001	187x187x96	96	139	103	16
63x63	1006064000001	224x224x115	115	166	122	16
75x75	1006076000001	254x254x129	129	190	135	16
90x90	1006091000001	298x298x155	155	220	155	16
110x110	1006111000001	367x367x183	183	275	200	16

1018

45° elbow

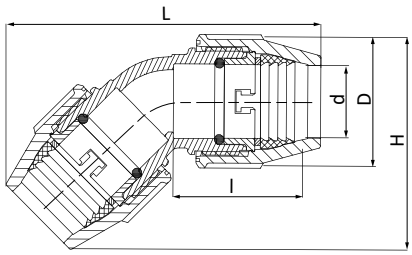




DIM dxd [mm]	CODE	D [mm]	L [mm]	H [mm]	PN [bar]
20x20	1018020000001	46	117	78	16
25x25	1018025000001	55	141	94	16
32x32	1018032000001	63	160	107	16
40x40	1018040000001	80	190	130	16

>>>





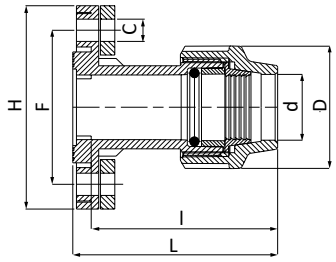
>>>

50x50	1018051000001	96	232	158	16
63x63	1018064000001	115	246	176	16

1011

Flanged adaptor

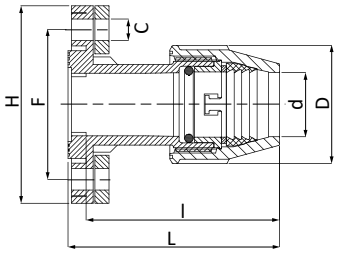




DIM dxDN [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	H [mm]	F [mm]	C [mm]	NF	PN [bar]
40x1”1/2 (DN40)	1011040006001	141x152x152	80	141	128	152	110	18	4	16

>>>





>>>

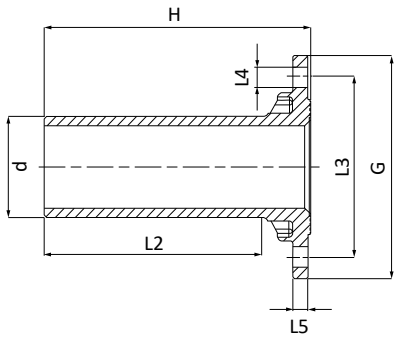
50x1”1/2 (DN40)	1011051006001	172x151x151	96	172	159	151	110	18	4	16
50x2” (DN50)	1011051007001	147x165x165	96	147	138	165	125	18	4	16
63x2” (DN50)	1011064007001	193x165x165	115	193	178	165	125	18	4	16
63x2”1/2 (DN65)	1011064008001	193x184x184	115	193	178	184	145	18	4	16
75x2”1/2 (DN65)	1011076008001	201x184x184	129	201	186	184	145	18	4	16
75x3” (DN80)	1011076009001	203x198x198	129	203	186	198	160	18	8	16
90x3” (DN80)	1011091009001	220x198x198	155	220	202	198	160	18	8	16
90x4” (DN100)	1011091010001	223x220x220	155	223	202	220	180	18	8	16
110x4” (DN100)	1011111010001	253x220x220	183	253	233	220	180	18	8	16

Galvanized steel flange,

1053-A223

Flanged insert





DIM d (DN) [mm]	CODE	DIM MAX LxHxP [mm]	G [mm]	H [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	NF	PN [bar]
63 (DN50)	1053063000001	170x201x170	170	201	169	125	18	12	4	16
63 (DN65)	1053063001001	183x201x183	183	201	164	145	18	12	4	16
75 (DN65)	1053075000001	183x217x183	183	217	184	145	18	12	4	16
75 (DN80)	1053075001001	200x217x200	200	217	177	160	18	12	8	16
90 (DN80)	1053090000001	200x240x200	200	240	199	160	18	14	8	16
110 (DN80)	1053110001001	200x305x200	200	305	272	160	18	14	8	16
110 (DN100)	1053110000001	224x305x224	224	305	265	180	18	14	8	16

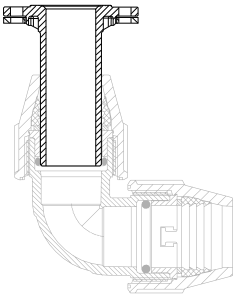
Matching flange to be ordered separately

Galvanized steel flange

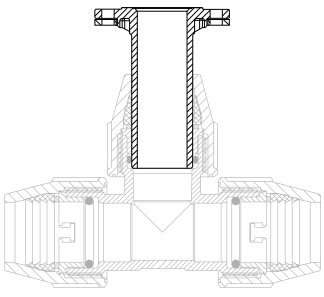
DIM [mm]	CODE	NF
63 (DN50)	A223000003	4
63 (DN65)	A223000004	4
75 (DN65)	A223000005	4
75 (DN80) - 90 (DN80) - 110 (DN80)	A223000007	8
110 (DN100)	A223000009	8

EXAMPLE OF USE

Suitable for insertion into the compression exit of Unidelta fittings



CODE 1006

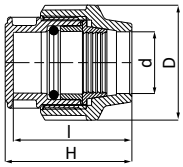


CODE 1005

1012

End cap

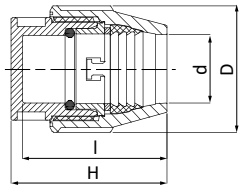




DIM d [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	PN [bar]
16	1012016000001	42x55x42	42	55	50	16
20	1012020000001	46x70x46	46	70	65	16
25	1012025000001	55x77x55	55	77	72	16
32	1012032000001	63x85x63	63	85	79	16
40	1012040000001	80x89x80	80	89	83	16

>>>





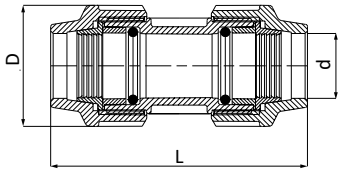
>>>

50	1012051000001	96x125x96	96	125	100	16
63	1012064000001	115x135x115	115	135	123	16
75	1012076000001	129x158x129	129	158	137	16
90	1012091000001	155x179x155	155	179	158	16
110	1012111000001	183x226x183	183	226	202	16

1014

Repair slip coupling

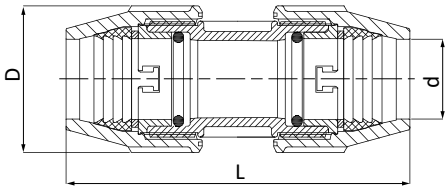




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	PN [bar]
25x25	1014025000001	122x55x55	55	122	16
32x32	1014032000001	139x63x63	63	139	16
40x40	1014040000001	168x80x80	80	168	16

>>>





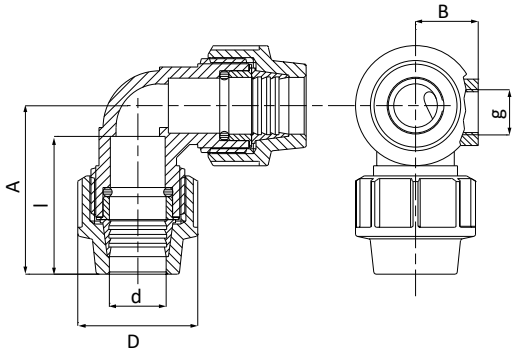
>>>

50x50	1014051000001	230x96x96	96	230	16
63x63	1014064000001	248x115x115	115	248	16
75x75	1014076000001	278x129x129	129	278	16
90x90	1014091000001	315x155x155	155	315	16
110x110	1014111000001	422x183x183	183	422	16

1023

90° elbow with lateral threaded female take off



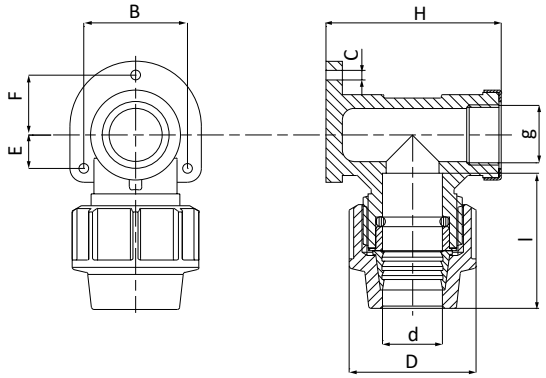


DIM dxdxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	B [mm]	PN [bar]
25x25x1/2”	1023025002001	113x113x58	55	86	62	30	16
32x32x1/2”	1023032002001	127x127x67	63	96	70	35	16
32x32x3/4”	1023032003001	127x127x68	63	96	70	36	16

1034

Wall plate elbow fitting

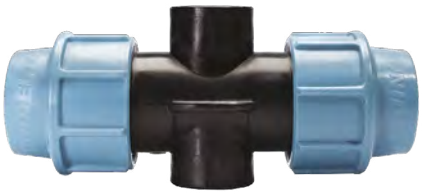


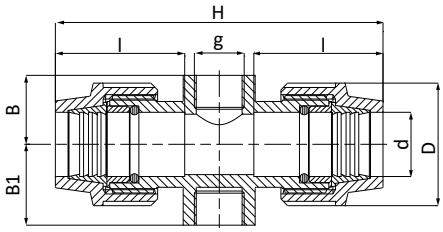


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	C [mm]	B [mm]	E [mm]	F [mm]	PN [bar]
20x1/2”	1034020002001	89x62x49	46	62	49	4	38	12	22	16
25x1/2”	1034025002001	116x74x57	55	74	66	4	44	15	25	16
25x3/4”	1034025003001	110x75x60	55	75	59	4	44	15	27	16
32x1”	1034032004001	124x86x67	63	86	72	5	56	20	28	16

1021

Female tee with peg fitting





DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	B [mm]	B1 [mm]	PN [bar]
32x3/4"x32	1021320303001	77x168x63	63	168	66	36	41	16

1050

Male/female extension



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"F	1050003002001	28
3/4"Mx3/4"F	1050003003001	28

1052

Male/male extension



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"M	1052003002001	29,5

1051

Peg



DIM g [in.]	CODE	L [cm]
3/4" M	1051000003001	29

EXAMPLE OF USE





3.2 Universal transition coupling

The Unidelta universal coupling code 1033 allows polyethylene pipes with diameters of 20 and 32 mm to be joined quickly and solidly with pipes of any material (e.g. steel, copper, lead, PVC, etc.) with an outside diameter of between 15 and 35 mm. It is also suitable for changing from metric series pipes (diameters in millimetres) to imperial series pipes (diameters in inches).

Galvanized steel, copper, lead pipe, U-PVC, PP, imperial PE and other

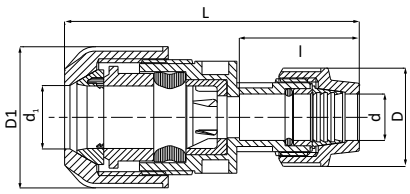


PE metric series

1033

Universal transition coupling





DIM $d_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	I [mm]	PN [bar]
15/22x20	1033020003001	145x62x62	46	62	145	60	10
15/22x25	1033025003001	145x62x62	55	62	145	64	10
20/27x20	1033020004001	150x69x69	46	69	150	64	10
20/27x25	1033025004001	150x69x69	55	69	150	64	10
27/35x25	1033025006001	158x79x79	55	79	158	64	10
20/27x32	1033032004001	158x69x69	63	69	158	72	10
27/35x32	1033032006001	165x79x79	63	79	165	72	10

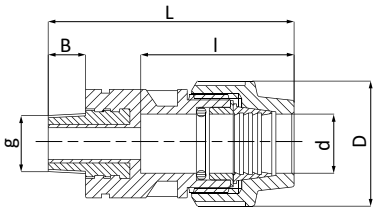
3.3 Compression transition fittings

The Unidelta transition compression fitting has a special threaded brass metal insert overmoulded by the polypropylene body.

1035

Male adaptor with brass threaded insert

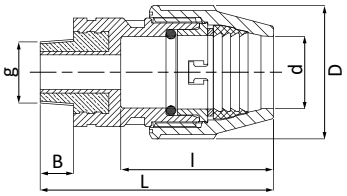




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2"	1035020002001	103x46x46	46	103	58	15	16
25x3/4"	1035025003001	112x55x55	55	112	64	17	16
32x1"	1035032004001	116x63x63	63	116	69	19	16
40x1"1/4	1035040005001	140x80x80	80	140	81	23	16
40x1"1/2	1035040006001	150x80x80	80	150	87	32	16

>>>





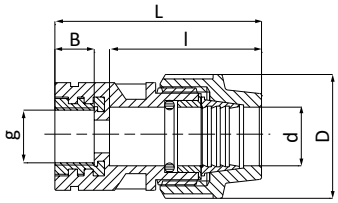
>>>

50x1"1/2	1035051006001	172x96x96	96	172	112	23	16
63x2"	1035064007001	186x115x115	115	186	122	24	16

1036

Female adaptor with brass threaded insert

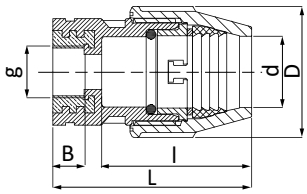




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1036020002001	88x46x46	46	88	58	14	16
25x3/4”	1036025003001	95x55x55	55	95	64	15	16
32x1”	1036032004001	106x63x63	63	106	69	18	16
40x3/4"	1036040003001	110x80x80	80	110	85	18	16
40x1”1/4	1036040005001	118x80x80	80	118	82	20	16
40x1”1/2	1036040006001	111x80x80	80	111	86	27	16

>>>





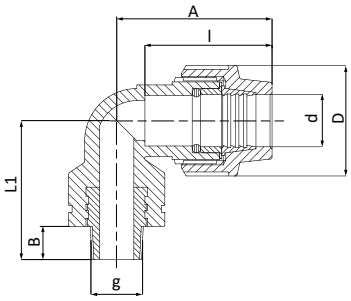
>>>

50x1”1/2	1036051006001	151x96x96	96	151	113	23	16
63x2”	1036064007001	164x115x115	115	164	121	24	16

1039

90° elbow male with brass threaded insert

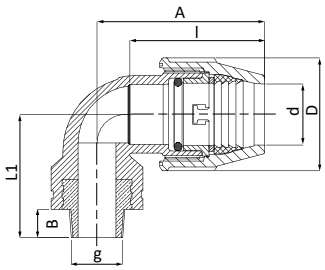




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	B [mm]	PN [bar]
20x1/2”	1039020002001	94x87x48	46	70	49	64	15	16
20x3/4”	1039020003001	99x89x55	46	71	51	66	16	16
25x3/4”	1039025003001	110x94x55	55	83	57	66	16	16
32x1”	1039032004001	126x118x66	63	93	62	86	29	16
40x1”1/4	1039040005001	149x127x80	80	112	72	87	23	16
40x1”1/2	1039040006001	144x127x80	80	112	78	87	32	16

>>>





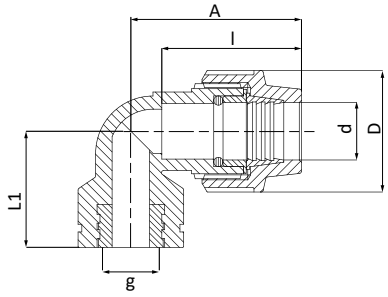
>>>

50x1”1/2	1039051006001	180x135x96	96	139	93	87	23	16
63x2”	1039064007001	196x163x115	115	149	99	105	27	16

1030

90° elbow female with brass threaded insert





DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	PN [bar]
40x3/4”	1030040003001	80x139x127	79	112	78	53	16

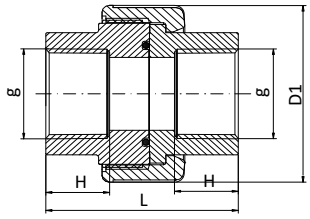
3.4 Union fitting

1054

Female/female threaded union fitting







DIM gxg [in.xin.]	CODE	L [mm]	H [mm]	D1 [mm]	Pmax [bar]
1/2"x1/2"	1054002002001	53	18	50	16
3/4"x3/4"	1054003003001	56	20	60	16
1"x1"	1054004004001	60	22	68	16
***1"1/4x1"1/4**	1054005005001	78,5	24	80	16
***1"1/2x1"1/2**	1054006006001	88,5	24	95	16
***2"x2"**	1054007007001	95	28	116	16
***2"1/2x2"1/2**	1054008008001	146	33	160,5	10
***3"x3"**	1054009009001	175,5	40	197	10

* The threaded end is reinforced with a stainless steel ring

3.5 Underclamp tapping saddle

Technical features:
- Suitable for PE and PVC pipes
- Material: PP-B
- Cutter: brass
- Seal: NBR O-ring
- Bolts: stainless steel A4

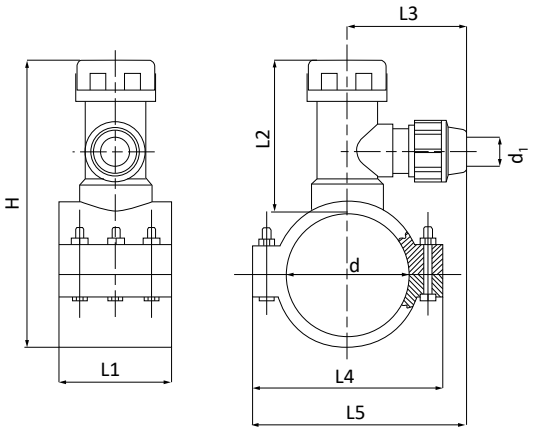
Standards:
- Suitable for PE pipes according to: UNI EN 12201 - ISO 4427 - DIN 8074
- Suitable for PVC pipes according to: UNI EN 1452 - DIN 8062
- Tested: ISO 13460

Health standards:
Unidelta underclamp tapping saddles comply with the regulations on the conveyance of drinking water, in accordance with the regulations applicable in Italy and numerous other countries. Ministerial Decree no. 174 of 06/04/2004.

1025

Underclamp tapping saddle





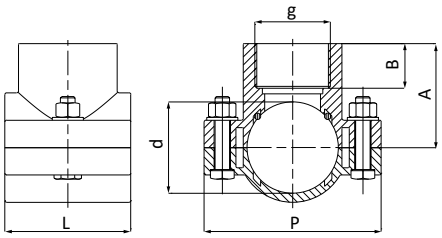
DIM dxd$_1$ [mm]	CODE	NF	V	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	Pmax [bar]
63x25	1025063025001	6	M8x40	201	80	132	115	115	173	16
63x32	1025063032001	6	M8x40	201	80	132	125	115	183	16
75x25	1025075025001	6	M8x50	211	90	129	115	129	180	16
75x32	1025075032001	6	M8x50	211	90	129	125	129	190	16
90x25	1025090025001	6	M8x50	226	90	129	115	144	187	16
90x32	1025090032001	6	M8x50	226	90	129	125	144	197	16
110x20	1025110020001	6	M8x60	249	100	130	110	168	194	16
110x25	1025110025001	6	M8x60	249	100	130	115	168	199	16
110x32	1025110032001	6	M8x60	249	100	130	125	168	209	16
160x20	1025160020001	6	M8x100	304	174	130	110	215	218	16
160x25	1025160025001	6	M8x100	304	174	130	115	215	223	16
160x32	1025160032001	6	M8x100	304	174	130	125	215	233	16

3.6 Clamp saddles

1019

Clamp saddle





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1019025002001	38	20	76	49	2	10
25x3/4”	1019025003001	38	21	76	49	2	10
32x1/2”	1019032002001	41	17	81	56	2	10
32x3/4”	1019032003001	41	21	81	56	2	10
32x1”	1019032004001	44	23	81	56	2	10
40x1/2”	1019040002001	41	17	81	60	2	10
40x3/4”	1019040003001	46	18	81	60	2	10
40x1”	1019040004001	46	23	81	60	2	10
50x1/2”	1019050002001	50	17	98	69	4	10
50x3/4”	1019050003001	50	18	98	69	4	10
50x1”	1019050004001	52	20	98	69	4	10
50x1”1/4	1019050005001	57	25	98	69	4	10
63x1/2”	1019063002001	55	16	105	79	4	10
63x3/4”	1019063003001	55	18	105	79	4	10
63x1”	1019063004001	59	20	105	79	4	10
63x1”1/4	1019063005001	63	25	105	79	4	10
63x1”1/2	1019063006001	63	28	105	79	4	10
75x1/2”	1019075002001	62	17	120	90	4	10
75x3/4”	1019075003001	62	18	120	90	4	10
75x1”	1019075004001	65	21	120	90	4	10
75x1”1/4	1019075005001	68	24	120	90	4	10
75x1”1/2	1019075006001	68	23	120	90	4	10
75x2”	1019075007001	72	27	120	90	4	10
90x1/2”	1019090002001	70	17	135	90	4	10
90x3/4”	1019090003001	70	19	135	90	4	10
90x1”	1019090004001	72	21	135	90	4	10
90x1”1/4	1019090005001	76	24	135	90	4	10
90x1”1/2	1019090006001	76	24	135	90	4	10
90x2”	1019090007001	80	27	135	90	4	10

>>>

*PN 6 bar

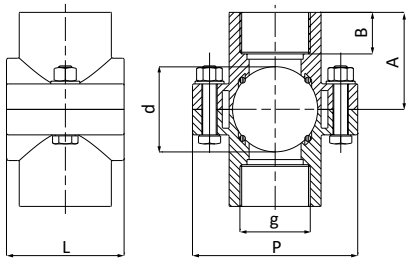
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1019110002001	80	17	168	99	4	10
110x3/4”	1019110003001	80	19	168	99	4	10
110x1”	1019110004001	84	20	168	99	4	10
110x1”1/4	1019110005001	86	23	168	99	4	10
110x1”1/2	1019110006001	86	23	168	99	4	10
110x2”	1019110007001	90	27	168	99	4	10
125x1/2”	1019125002001	108	25	190	106	6	10
125x3/4”	1019125003001	108	26	190	106	6	10
125x1”	1019125004001	109	26	190	106	6	10
125x1”1/4	1019125005001	109	25	190	106	6	10
125x1”1/2	1019125006001	113	28	190	106	6	10
125x2”	1019125007001	113	30	190	106	6	10
***160x3/4”**	1019160003001	108	19	215	175	6	6
***160x1”**	1019160004001	110	21	215	175	6	6
***160x1”1/4**	1019160005001	113	24	215	175	6	6
***160x1”1/2**	1019160006001	115	26	215	175	6	6
***160x2”**	1019160007001	117	30	215	175	6	6
***160x2”1/2**	1019160008001	125	32	215	175	6	6
***160x3”**	1019160009001	134	35	215	175	6	6
***160x4”**	1019160010001	135	40	215	175	6	6
***200x3/4”**	1019200003001	128	23	262	175	6	6
***200x1”**	1019200004001	130	23	262	175	6	6
***200x1”1/4**	1019200005001	133	23	262	175	6	6
***200x1”1/2**	1019200006001	133	23	262	175	6	6
***200x2”**	1019200007001	135	30	262	175	6	6
***200x2”1/2**	1019200008001	150	32	262	175	6	6
***200x3”**	1019200009001	152	35	262	175	6	6
***200x4”**	1019200010001	155	42	262	175	6	6

1020

Double clamp saddle





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1020025002001	38	20	76	49	2	10
25x3/4”	1020025003001	38	21	76	49	2	10
32x1/2”	1020032002001	41	17	81	56	2	10
32x3/4”	1020032003001	41	21	81	56	2	10
32x1”	1020032004001	44	23	81	56	2	10
40x1/2”	1020040002001	41	17	81	60	2	10
40x3/4”	1020040003001	46	18	81	60	2	10
40x1”	1020040004001	46	23	81	60	2	10
50x1/2”	1020050002001	50	17	98	69	4	10
50x3/4”	1020050003001	50	18	98	69	4	10
50x1”	1020050004001	52	20	98	69	4	10
50x1”1/4	1020050005001	57	25	98	69	4	10
63x1/2”	1020063002001	55	16	105	79	4	10
63x3/4”	1020063003001	55	18	105	79	4	10
63x1”	1020063004001	59	20	105	79	4	10
63x1”1/4	1020063005001	63	25	105	79	4	10
63x1”1/2	1020063006001	63	28	105	79	4	10
75x1/2”	1020075002001	62	17	120	90	4	10
75x3/4”	1020075003001	62	18	120	90	4	10
75x1”	1020075004001	65	21	120	90	4	10
75x1”1/4	1020075005001	68	24	120	90	4	10
75x1”1/2	1020075006001	68	23	120	90	4	10
75x2”	1020075007001	72	27	120	90	4	10

>>>

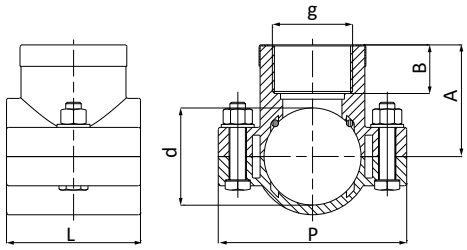
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1020090002001	70	17	135	90	4	10
90x3/4”	1020090003001	70	19	135	90	4	10
90x1”	1020090004001	72	21	135	90	4	10
90x1”1/4	1020090005001	76	24	135	90	4	10
90x1”1/2	1020090006001	76	24	135	90	4	10
90x2”	1020090007001	80	27	135	90	4	10
110x1/2”	1020110002001	80	17	168	99	4	10
110x3/4”	1020110003001	80	19	168	99	4	10
110x1”	1020110004001	84	20	168	99	4	10
110x1”1/4	1020110005001	86	23	168	99	4	10
110x1”1/2	1020110006001	86	23	168	99	4	10
110x2”	1020110007001	90	27	168	99	4	10
125x1/2”	1020125002001	108	25	190	106	6	10
125x3/4”	1020125003001	108	26	190	106	6	10
125x1”	1020125004001	109	26	190	106	6	10
125x1”1/4	1020125005001	109	25	190	106	6	10
125x1”1/2	1020125006001	113	28	190	106	6	10
125x2”	1020125007001	113	30	190	106	6	10

1026

Clamp saddle with reinforcing ring





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1026025002001	38	20	76	49	2	10
25x3/4”	1026025003001	38	21	76	49	2	10
32x1/2”	1026032002001	41	17	81	56	2	10
32x3/4”	1026032003001	41	21	81	56	2	10
32x1”	1026032004001	44	23	81	56	2	10
40x1/2”	1026040002001	41	17	81	60	2	10
40x3/4”	1026040003001	46	18	81	60	2	10
40x1”	1026040004001	46	23	81	60	2	10
50x1/2”	1026050002001	50	17	98	69	4	10
50x3/4”	1026050003001	50	18	98	69	4	10
50x1”	1026050004001	52	20	98	69	4	10
50x1”1/4	1026050005001	57	25	98	69	4	10
63x1/2”	1026063002001	55	16	105	79	4	10
63x3/4”	1026063003001	55	18	105	79	4	10
63x1”	1026063004001	59	20	105	79	4	10
63x1”1/4	1026063005001	63	25	105	79	4	10
63x1”1/2	1026063006001	63	28	105	79	4	10
75x1/2”	1026075002001	62	17	120	90	4	10
75x3/4”	1026075003001	62	18	120	90	4	10
75x1”	1026075004001	65	21	120	90	4	10
75x1”1/4	1026075005001	68	24	120	90	4	10
75x1”1/2	1026075006001	68	23	120	90	4	10
75x2”	1026075007001	72	27	120	90	4	10
90x1/2”	1026090002001	70	17	135	90	4	10
90x3/4”	1026090003001	70	19	135	90	4	10
90x1”	1026090004001	72	21	135	90	4	10
90x1”1/4	1026090005001	76	24	135	90	4	10
90x1”1/2	1026090006001	76	24	135	90	4	10
90x2”	1026090007001	80	27	135	90	4	10

>>>

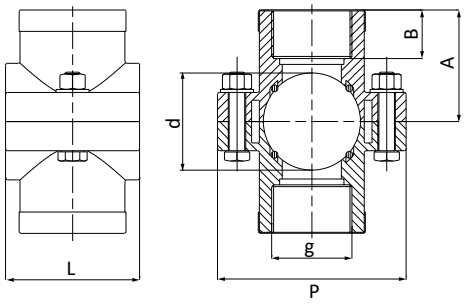
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1026110002001	80	17	168	99	4	10
110x3/4”	1026110003001	80	19	168	99	4	10
110x1”	1026110004001	84	20	168	99	4	10
110x1”1/4	1026110005001	86	23	168	99	4	10
110x1”1/2	1026110006001	86	23	168	99	4	10
110x2”	1026110007001	90	27	168	99	4	10
125x1/2”	1026125002001	108	25	190	106	6	10
125x3/4”	1026125003001	108	26	190	106	6	10
125x1”	1026125004001	109	26	190	106	6	10
125x1”1/4	1026125005001	109	25	190	106	6	10
125x1”1/2	1026125006001	113	28	190	106	6	10
125x2”	1026125007001	113	30	190	106	6	10
125x3”	1026125009001	113	35	190	106	6	10
160x3/4"	1026160003001	108	19	215	175	6	10
160x1”	1026160004001	110	21	215	175	6	10
160x1”1/4	1026160005001	113	24	215	175	6	10
160x1”1/2	1026160006001	115	26	215	175	6	10
160x2”	1026160007001	117	30	215	175	6	10
160x2”1/2	1026160008001	125	32	215	175	6	10
160x3”	1026160009001	134	35	215	175	6	10
160x4”	1026160010001	135	40	215	175	6	10
200x3/4”	1026200003001	128	23	262	175	6	10
200x1”	1026200004001	130	23	262	175	6	10
200x1”1/4	1026200005001	133	23	262	175	6	10
200x1”1/2	1026200006001	133	23	262	175	6	10
200x2”	1026200007001	135	30	262	175	6	10
200x2”1/2	1026200008001	150	32	262	175	6	10
200x3”	1026200009001	152	35	262	175	6	10
200x4”	1026200010001	155	42	262	175	6	10

1027

Double clamp saddle with reinforcing ring





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1027025002001	38	20	76	49	2	10
25x3/4”	1027025003001	38	21	76	49	2	10
32x1/2”	1027032002001	41	17	81	56	2	10
32x3/4”	1027032003001	41	21	81	56	2	10
32x1”	1027032004001	44	23	81	56	2	10
40x1/2”	1027040002001	41	17	81	60	2	10
40x3/4”	1027040003001	46	18	81	60	2	10
40x1”	1027040004001	46	23	81	60	2	10
50x1/2”	1027050002001	50	17	98	69	4	10
50x3/4”	1027050003001	50	18	98	69	4	10
50x1”	1027050004001	52	20	98	69	4	10
50x1”1/4	1027050005001	57	25	98	69	4	10
63x1/2”	1027063002001	55	16	105	79	4	10
63x3/4”	1027063003001	55	18	105	79	4	10
63x1”	1027063004001	59	20	105	79	4	10
63x1”1/4	1027063005001	63	25	105	79	4	10
63x1”1/2	1027063006001	63	28	105	79	4	10
75x1/2”	1027075002001	62	17	120	90	4	10
75x3/4”	1027075003001	62	18	120	90	4	10
75x1”	1027075004001	65	21	120	90	4	10
75x1”1/4	1027075005001	68	24	120	90	4	10
75x1”1/2	1027075006001	68	23	120	90	4	10
75x2”	1027075007001	72	27	120	90	4	10

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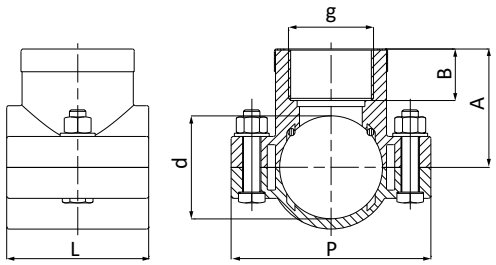
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DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1027090002001	70	17	135	90	4	10
90x3/4”	1027090003001	70	19	135	90	4	10
90x1”	1027090004001	72	21	135	90	4	10
90x1”1/4	1027090005001	76	24	135	90	4	10
90x1”1/2	1027090006001	76	24	135	90	4	10
90x2”	1027090007001	80	27	135	90	4	10
110x1/2”	1027110002001	80	17	168	99	4	10
110x3/4”	1027110003001	80	19	168	99	4	10
110x1”	1027110004001	84	20	168	99	4	10
110x1”1/4	1027110005001	86	23	168	99	4	10
110x1”1/2	1027110006001	86	23	168	99	4	10
110x2”	1027110007001	90	27	168	99	4	10
125x1/2”	1027125002001	108	25	190	106	6	10
125x3/4”	1027125003001	108	26	190	106	6	10
125x1”	1027125004001	109	26	190	106	6	10
125x1”1/4	1027125005001	109	25	190	106	6	10
125x1”1/2	1027125006001	113	28	190	106	6	10
125x2”	1027125007001	113	30	190	106	6	10

1031 - LA BLU

Clamp saddle with reinforcing ring





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
20x1/2”	1031020002001	40	25	76	54	2	16
25x1/2”	1031026002001	38	20	76	49	2	16
25x3/4”	1031026003001	38	21	76	49	2	16
32x1/2”	1031033002001	41	17	81	56	2	16
32x3/4”	1031033003001	41	21	81	56	2	16
32x1"	1031033004001	44	23	81	56	2	16
40x1/2”	1031041002001	41	17	81	60	2	16
40x3/4”	1031041003001	46	18	81	60	2	16
40x1”	1031041004001	46	23	81	60	2	16
50x1/2”	1031051002001	50	17	98	69	6	16
50x3/4”	1031051003001	50	18	98	69	6	16
50x1”	1031051004001	52	20	98	69	6	16
50x1”1/4	1031051005001	57	25	98	69	6	16
63x1/2”	1031064002001	55	16	105	79	6	16
63x3/4”	1031064003001	55	18	105	79	6	16
63x1”	1031064004001	59	20	105	79	6	16
63x1”1/4	1031064005001	63	25	105	79	6	16
63x1”1/2	1031064006001	63	28	105	79	6	16
75x1/2”	1031076002001	62	17	120	90	6	16
75x3/4”	1031076003001	62	18	120	90	6	16
75x1”	1031076004001	65	21	120	90	6	16
75x1”1/4	1031076005001	68	24	120	90	6	16
75x1”1/2	1031076006001	68	23	120	90	6	16
75x2”	1031076007001	72	27	120	90	6	16

>>>

>>>

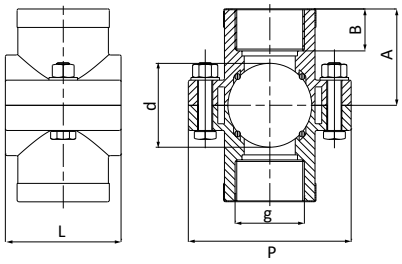
DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1031091002001	70	17	135	90	6	16
90x3/4”	1031091003001	70	19	135	90	6	16
90x1”	1031091004001	72	21	135	90	6	16
90x1”1/4	1031091005001	76	24	135	90	6	16
90x1”1/2	1031091006001	76	24	135	90	6	16
90x2”	1031091007001	80	27	135	90	6	16
110x1/2”	1031111002001	80	17	168	99	6	16
110x3/4”	1031111003001	80	19	168	99	6	16
110x1”	1031111004001	84	20	168	99	6	16
110x1”1/4	1031111005001	86	23	168	99	6	16
110x1”1/2	1031111006001	86	23	168	99	6	16
110x2”	1031111007001	90	27	168	99	6	16
125X1/2”	1031126002001	108	25	190	106	6	16
125X3/4”	1031126003001	108	26	190	106	6	16
125X1”	1031126004001	109	26	190	106	6	16
125X1”1/4	1031126005001	109	25	190	106	6	16
125X1”1/2	1031126006001	113	28	190	106	6	16
125x2"	1031126007001	113	30	190	106	6	16
160x3/4"	1031161003001	108	19	215	175	6	16
160x1"	1031161004001	110	21	215	175	6	16
160x1”1/4	1031161005001	113	24	215	175	6	16
160x1”1/2	1031161006001	115	26	215	175	6	16
160x2"	1031161007001	117	30	215	175	6	16
200x3/4"	1031201003001	128	23	262	175	6	16
200x1"	1031201004001	130	23	262	175	6	16
200x1”1/4	1031201005001	133	23	262	175	6	16
200x1”1/2	1031201006001	133	23	262	175	6	16
200x2"	1031201007001	135	30	262	175	6	16

Also suitable for PVC pipes with the dimensions defined according to EN 1452-2

1032 - LA BLU

Double clamp saddle with reinforcing ring





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1032026002001	38	20	76	49	2	16
25x3/4”	1032026003001	38	21	76	49	2	16
32x1/2”	1032033002001	41	17	81	56	2	16
32x3/4”	1032033003001	41	21	81	56	2	16
32x1”	1032033004001	44	23	81	56	2	16
40x1/2”	1032041002001	41	17	81	60	2	16
40x3/4”	1032041003001	46	18	81	60	2	16
40x1”	1032041004001	46	23	81	60	2	16
50x1/2”	1032051002001	50	17	98	69	6	16
50x3/4”	1032051003001	50	18	98	69	6	16
50x1”	1032051004001	52	20	98	69	6	16
50x1”1/4	1032051005001	57	25	98	69	6	16
63x1/2”	1032064002001	55	16	105	79	6	16
63x3/4”	1032064003001	55	18	105	79	6	16
63x1”	1032064004001	59	20	105	79	6	16
63x1”1/4	1032064005001	63	25	105	79	6	16
63x1”1/2	1032064006001	63	28	105	79	6	16

>>>

>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
75x1/2”	1032076002001	62	17	120	90	6	16
75x3/4”	1032076003001	62	18	120	90	6	16
75x1”	1032076004001	65	21	120	90	6	16
75x1”1/4	1032076005001	68	24	120	90	6	16
75x1”1/2	1032076006001	68	23	120	90	6	16
75x2”	1032076007001	72	27	120	90	6	16
90x1/2”	1032091002001	70	17	135	90	6	16
90x3/4”	1032091003001	70	19	135	90	6	16
90x1”	1032091004001	72	21	135	90	6	16
90x1”1/4	1032091005001	76	24	135	90	6	16
90x1”1/2	1032091006001	76	24	135	90	6	16
90x2”	1032091007001	80	27	135	90	6	16
110x1/2”	1032111002001	80	17	168	99	6	16
110x3/4”	1032111003001	80	19	168	99	6	16
110x1”	1032111004001	84	20	168	99	6	16
110x1”1/4	1032111005001	86	23	168	99	6	16
110x1”1/2	1032111006001	86	23	168	99	6	16
110x2”	1032111007001	90	27	168	99	6	16

Also suitable for PVC pipes with the dimensions defined according to EN 1452-2


UNIDELTA
Since 1973

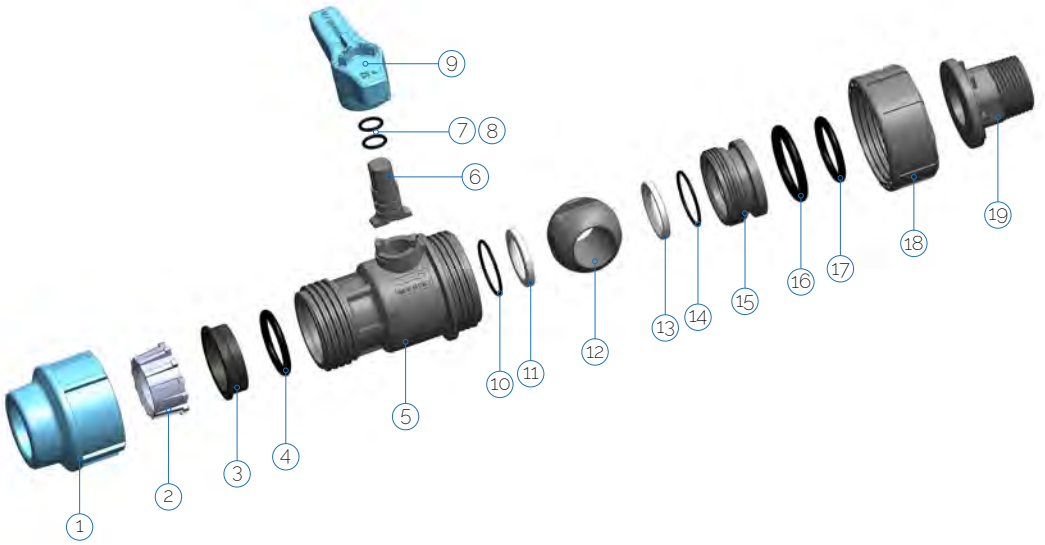

UNIDELTA

4. PP ball valves

The Unidelta polypropylene ball valves are specifically designed to be joined to polyethylene pipes and/or threaded connections. They are compatible with LDPE, HDPE, PE40, PE80, PE100, PE100RC pipes made according to **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
They are normally used for the conveying of water with a maximum pressure of 16 bar at 20°C until diameter 63/2" and 10 bar at 20°C for diameters from 75/2"1/2 (for higher temperatures refer to the limits prescribed by PE pipe specifications). The Unidelta valves are also available with threaded ends made according to **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**

4.1 Structure and materials

Exploded-view of ball valve



1. **Nut:** highly stable polypropylene (PP-B) with UV protection.
2. **Clamping ring:** POM acetal resin.
3. **Bush ring:** highly stable polypropylene (PP-B) with UV protection.
4. **Radial seal O-ring on pipe:** nitrile rubber (NBR).
5. **Body:** highly stable polypropylene (PP-B) with UV protection.
6. **Control rod:** highly stable polypropylene (PP-B) with UV protection.
7. 8. **Control rod O-ring:** nitrile rubber (NBR).
9. **Handle:** highly stable polypropylene (PP-B) with UV protection.
10. 14. **Seal O-rings of ball gasket:** nitrile rubber (NBR).
11. 13. **Ball sealing gaskets:** polytetrafluoroethylene (PTFE).
12. **Ball:** highly stable polypropylene (PP-B) with UV protection.
15. **Ball gasket support:** highly stable polypropylene (PP-B) with UV protection.
16. **Radial seal O-ring:** nitrile rubber (NBR).
17. **Axial seal O-ring:** nitrile rubber (NBR).
18. **Insert locking ring:** highly stable polypropylene (PP-B) with UV protection.
19. **Insert with threaded output:** highly stable polypropylene (PP-B) with UV protection.

4.2 Advantages of the ball valves

Materials used
The Unidelta ball valve is exclusively made of plastic components. There is therefore no risk of oxidation or corrosion during use.

High resistance to pressure
The Unidelta valves can work with a maximum pressure of 16 bar at 20°C.

Design
Unidelta ball valves have a compact design that makes it possible to install them even in small spaces. Another advantage is that the handle can be removed from the valve body.

Ease of assembly
The Unidelta ball valves are extremely easy to assemble, also thanks to the innovative DeltOne system for Ø50, Ø63, Ø75, Ø90 diameter.

Protection against UV rays
The materials of the exposed components of the Unidelta valves are UV stabilized so they can also be installed outdoors.

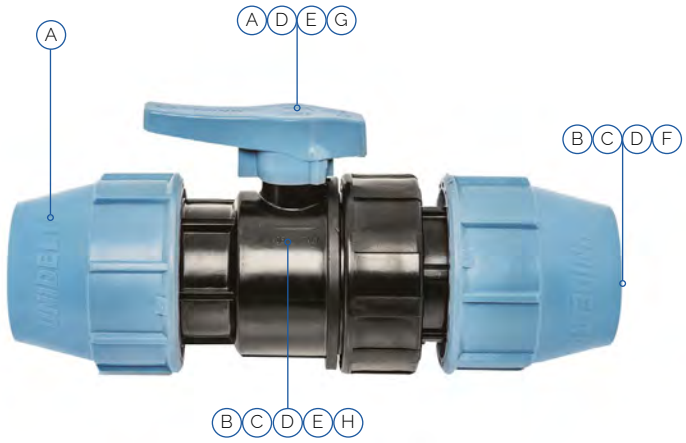
Two-way flow
The Unidelta ball valves do not require a specific direction of water flow so they can be installed regardless of the direction of the flow.

Inspecting the ball
The ball of the valve can be inspected. This feature allows the ball to be easily cleaned from any deposits formed during use (see instructions in paragraph "Accessing the ball" page 130).

4.3 Marking

Relevant information is marked directly on the valve:

(A) Manufacturer's name "**UNIDELTA**";
(B) Place of production "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diameter of polyethylene pipe to be joined (e.g. "**Ø40**");
(E) Nominal diameter corresponding to a possible thread and indicatively to the cross-section of the passage (e.g. "**1"1/4**" and "**DN 32**");
(F) Maximum working pressure (e.g. "**PN 16**");
(G) Opening and closing direction of the valve on the handle ("**OPEN**" and "**CLOSE**");
(H) **Left right arrow** specifying the bidirectionality of the flow.



4.4 Accessing the ball

The ball in the Unidelta valves can be inspected: this is a great advantage since it allows the removal of any deposits from the ball formed during use.

To access the ball follow these 3 steps:





Unscrew the insert locking ring (part no. (18) of "Exploded-view of ball valve" page 127). This will reveal the inner cogs of the ball gasket support (component (15)). Then remove the handle from the control rod (component (9)). Please note that the cogs of the handle for the Ø20-25-32 valves are located on the top part (figure 1A) while for the Ø40-50-63-75-90 valves they are located on the bottom part (figure 1B).





Insert the handle cog inside the cog of the ball gasket support. To loosen, turn the handle clockwise (figure 2A and 2B).





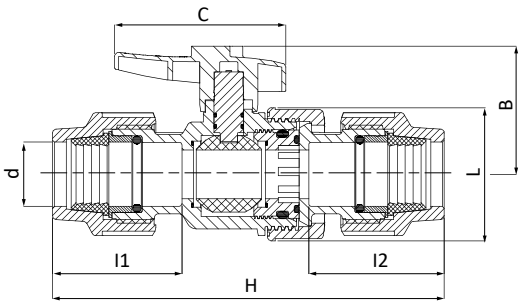
Remove the ball gasket support in order to access the ball itself (figure 3A and 3B).

4.5 Technical sheets

1070

Compression ball valve

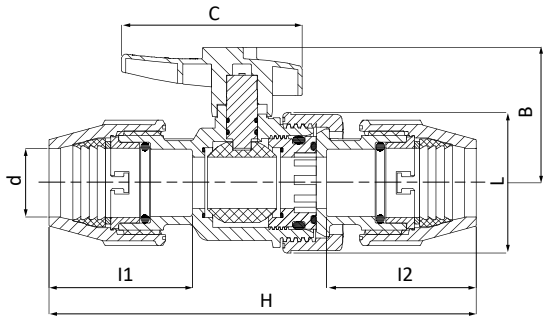




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





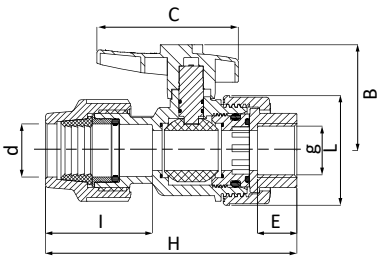
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50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Compression ball valve female threaded

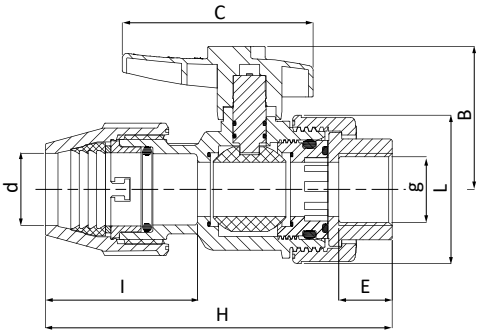




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82	24	80	77	100	16

>>>





>>>

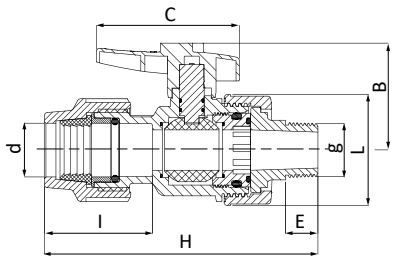
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* The threaded end is reinforced with a stainless steel ring

1072

Compression ball valve male threaded

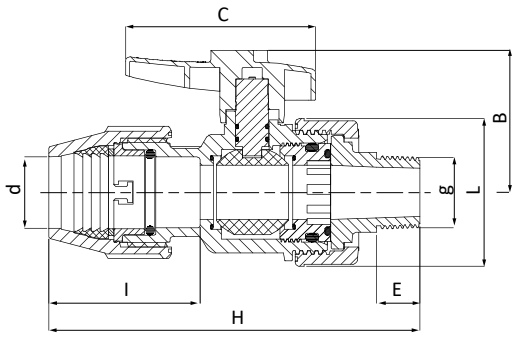




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80	77	100	16

>>>





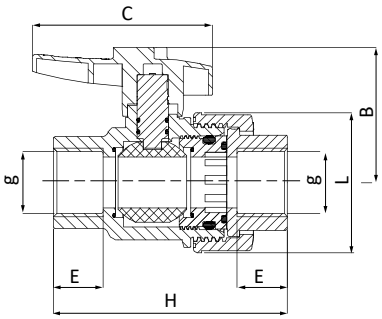
>>>

50x1"1/2	1072051006001	96x245x136	245	110	23	96	88	116	16
63x2"	1072064007001	116x275x158	275	120	27	116	100	127	16

1073

Ball valve threaded female/female





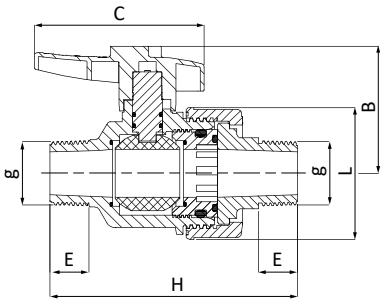
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	1073006006001	95x142x136	142	24	96	88	116	16
***2"x2"**	1073007007001	116x164x158	164	27	116	100	127	16
***2"1/2x2"1/2**	1073008008001	155x240x203	240	35	155	125	155	10
***3"x3"**	1073009009001	197x310x261	310	50	197	162	281	10

* The threaded end is reinforced with a stainless steel ring

1074

Ball valve threaded male/male



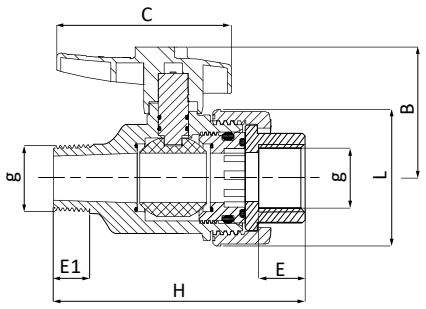


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2	1074006006001	95x187x136	187	23	95	88	116	16
2"x2"	1074007007001	116x216x158	216	27	116	100	127	16

1081

Ball valve threaded male/female





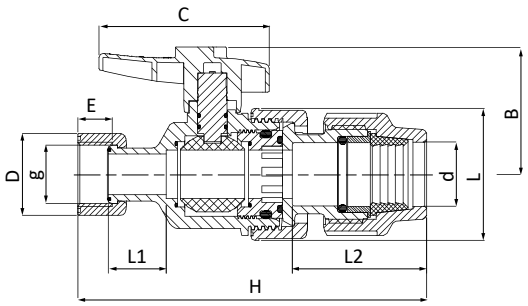
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	23	80	77	100	16
***1"1/2x1"1/2**	1081006006001	95x160x136	160	24	23	95	88	116	16
***2"x2"**	1081007007001	116x189x158	189	27	27	116	100	127	16

* The threaded end is reinforced with a stainless steel ring

1080

Compression ball valve with rotating nut



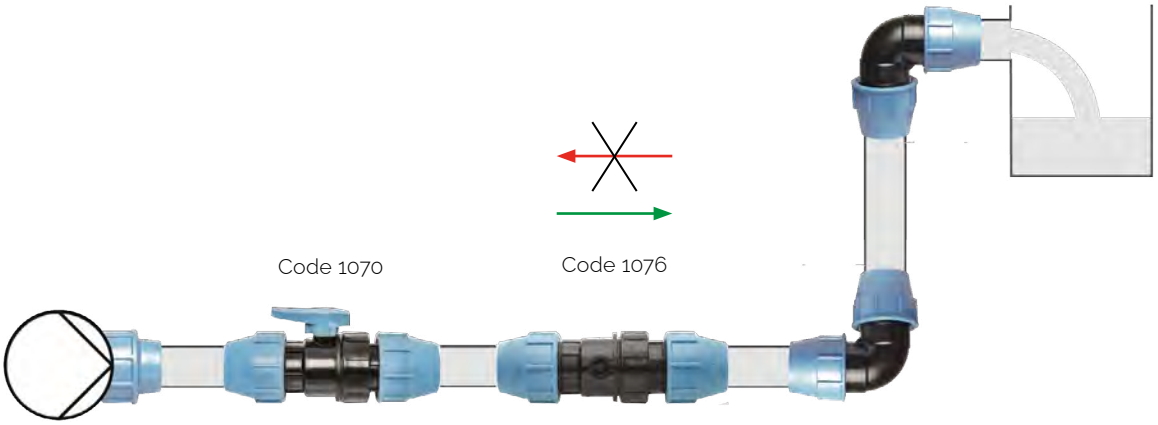


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

5. Non-return valves

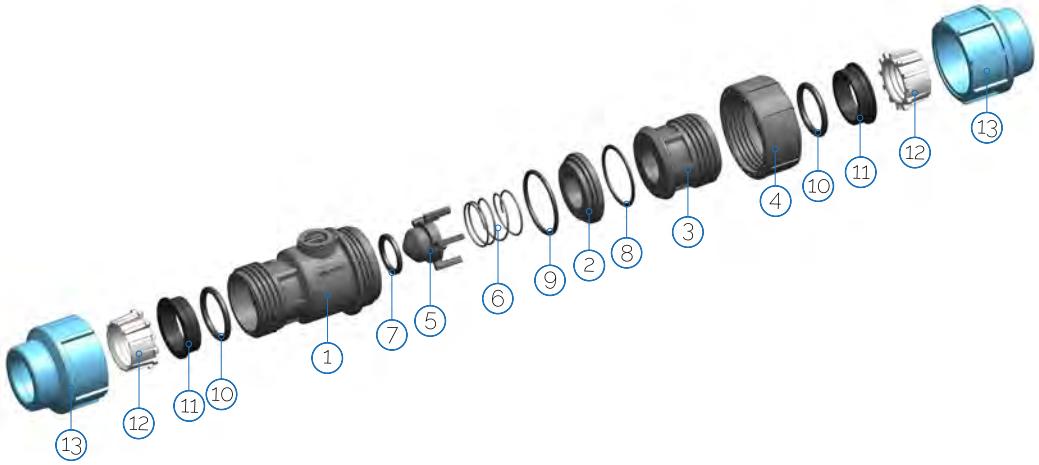
The Unidelta polypropylene non-return valves are specifically designed to be joined to polyethylene pipes and/or threaded connections. They are compatible with LDPE, HDPE, PE40, PE80, PE100, PE100RC pipes made according to **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
They are normally used for the conveying of water with a maximum pressure of 16 bar at 20°C (for higher temperatures refer to the limits prescribed by PE pipe specifications). The Unidelta valves are also available with threaded ends made according to **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
These are non-return valves that allows flow in only one direction, automatically preventing backflow.
A schematic example of the application of a non-return valve in the delivery circuit of a pump is given in the image below.

Schematic example of an application



5.1 Structure and materials

Exploded-view of non-return valve



1. **Body:** highly stable polypropylene (PP-B) with UV protection.
2. **OR support:** highly stable polypropylene (PP-B) with UV protection.
3. **Insert:** highly stable polypropylene (PP-B) with UV protection.
4. **Insert nut:** highly stable polypropylene (PP-B) with UV protection.
5. **Plug:** highly stable polypropylene (PP-B) with UV protection.
6. **Spring:** AISI 302 stainless steel.
7. **Plug gasket:** nitrile rubber (NBR).
8. **Front O-Ring:** nitrile rubber (NBR).
9. **Radial O-Ring:** nitrile rubber (NBR).
10. **O-Ring radial seal on pipe:** nitrile rubber (NBR).
11. **Bush ring:** highly stable polypropylene (PP-B) with UV protection.
12. **Clamping ring:** acetal resin (POM).
13. **Nut:** highly stable polypropylene (PP-B) with UV protection.

5.2 Advantages of the non-return valves

Materials used
The Unidelta non-return valve is exclusively made of plastic components, with the exception of the spring, which is made of stainless steel. There is therefore no risk of oxidation and corrosion during use.

High resistance to pressure
The Unidelta non-return valves can work with a maximum pressure of 16 bar at 20°C.

Design
Unidelta valves have a compact design that makes it possible to install them even in small spaces.

Ease of assembly
The Unidelta non-return valves are extremely easy to assemble, also thanks to the innovative DeltOne system for Ø50, Ø63.

Protection against UV rays
The materials of the exposed components of the Unidelta valves are UV stabilized so they can also be installed outdoors.

Inspection of the valve

The non-return valve can be opened by simply unscrewing the insert nut (component (4) of "Exploded-view of non-return valve" page 137). This feature makes it easy to remove any deposits formed on the plug during use.

Reliable operation

The plug opens at low pressure in the direction of flow, while perfect tightness is ensured even with low counter-pressure in the opposite direction.
Refer to the table below:

Ø	Minimum opening pressure of the valve [bar]	Minimum seal pressure of the valve [bar]
20	0,030	0,09
25	0,030	0,09
32	0,030	0,09
40	0,035	0,09
50	0,040	0,09
63	0,050	0,09

5.3 Marking

Relevant information is marked directly on the valve:

(A) Manufacturer's name "**UNIDELTA**";
(B) Place of production "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diameter of polyethylene pipe to be joined (ad es. "**Ø40**");
(E) Nominal diameter corresponding to a possible thread and indicatively to the cross-section of the passage (e.g. "**1"1/4**" and "**DN 32**");
(F) Maximum working pressure ("**PN 16**");
(G) **Arrow** indicating the flow direction.

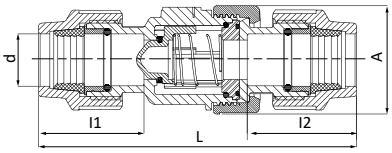


5.4 Technical sheets

1076

Compression non-return valve

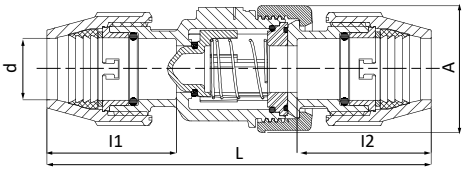




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	I1 [mm]	I2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





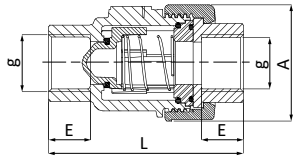
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50x50	1076051000001	303x99x99	303	110	110	95	16
63x63	1076064000001	342x117x117	342	130	126	116	16

1077

Female/female threaded non-return valve





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	L [mm]	E [mm]	A [mm]	Pmax [bar]
1/2”x1/2”	1077002002001	89x50x50	89	17	50	16
3/4”x3/4”	1077003003001	99x60x60	99	18	60	16
1”x1”	1077004004001	110x68x68	110	21	68	16
***1”1/4x1”1/4**	1077005005001	128x83x83	128	24	80	16
***1”1/2x1”1/2**	1077006006001	142x99x99	142	24	95	16
***2”x2”**	1077007007001	167x117x117	167	27	116	16

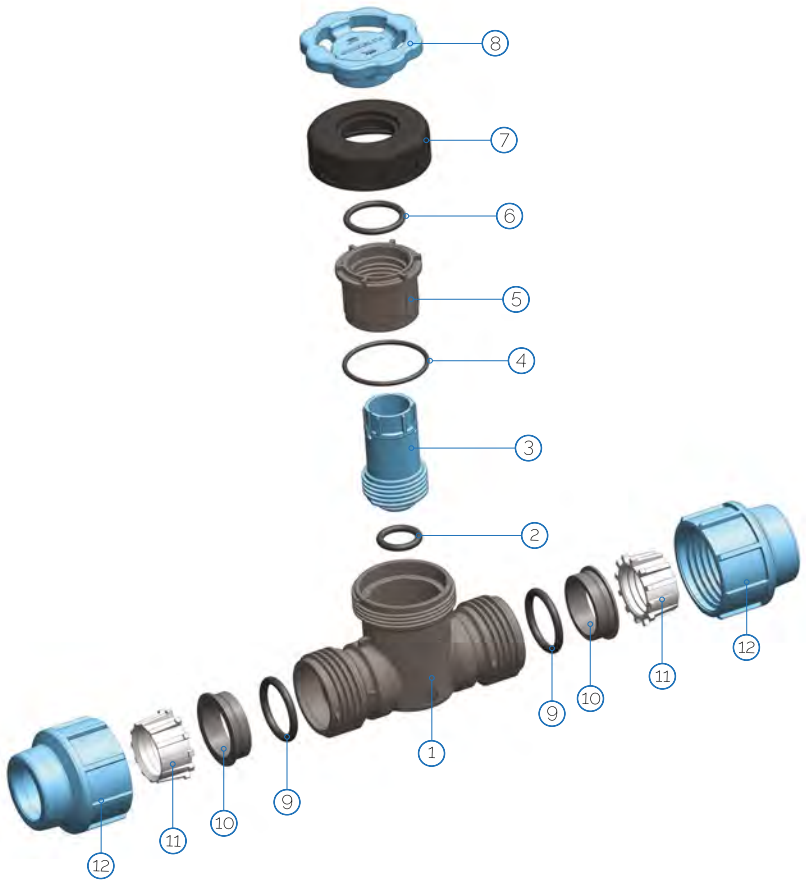
* The threaded end is reinforced with a stainless steel ring

6. Stop cock valves

The Unidelta polypropylene stop cock valves are specifically designed to be joined to polyethylene pipes and/or threaded connections. They are compatible with LDPE, HDPE, PE40, PE80, PE100, PE100RC pipes made according to **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
They are normally used for the conveying of water with a maximum pressure of 16 bar at 20°C (for higher temperatures refer to the limits prescribed by PE pipe specifications). The Unidelta stop cock valves are also available with threaded ends, made according to **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
The stop cock valve is opened and closed by the handle, which allows a gradual adjustment of the flow.

6.1 Structure and materials

Exploded-view of stop cock valve



1. **Body:** highly stable polypropylene (PP-B) with UV protection.
2. **O-ring buffer:** nitrile rubber (NBR).
3. **Closure buffer:** highly stable polypropylene (PP-B) with UV protection.
4. **O-ring body:** nitrile rubber (NBR).
5. **Insert:** high-stability polypropylene (PP-B) with UV protection.
6. **O-ring insert:** nitrile rubber (NBR).
7. **Upper ring nut:** highly stable polypropylene (PP-B) with UV protection.
8. **Handle:** highly stable polypropylene (PP-B) with UV protection.
9. **Radial O-ring on pipe:** nitrile rubber (NBR).
10. **Bush ring:** highly stable polypropylene (PP-B) with UV protection.
11. **Clamping ring:** acetal resin POM.
12. **Nut:** high-stability polypropylene (PP-B) with UV protection.

6.2 Advantages of stop cock valves

Materials used
The Unidelta stop cock valve is exclusively made of plastic components. There is therefore no risk of oxidation and corrosion during use.

High resistance to pressure
The Unidelta valves can work with a maximum pressure of 16 bar at 20°C.

Design
Unidelta valves have a compact design that makes it possible to install them even in small spaces.

Ease of assembly
The Unidelta valves are extremely easy to assemble.

Protection against UV rays
The materials of the exposed components of the Unidelta valves are UV stabilized so they can also be installed outdoors.

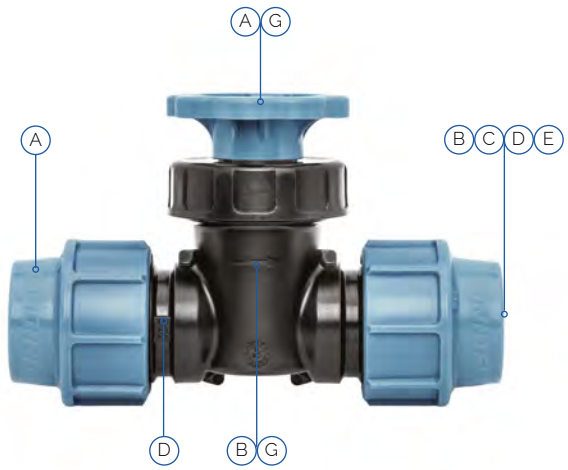
Inspection of the valve
The stop cock valves can be disassembled by simply unscrewing the upper ring nut (component (7) "Exploded-view of stop cock valve" page 140). This feature makes it easy to remove any deposits formed inside during use.

Flow adjustment
The flow can be adjusted gradually by turning the handle.

6.3 Marking

Relevant information is marked directly on the valve:

(A) Manufacturer's name "**UNIDELTA**";
(B) Place of production "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diameter of polyethylene pipe to be coupled (e.g. "**Ø32**") or of the joining thread (e.g. **1"**);
(E) Maximum working pressure ("**PN 16**");
(F) **Arrow** indicating the direction of flow;
(G) Opening and closing direction of the valve on the handle ("**OPEN**" and "**CLOSE**").

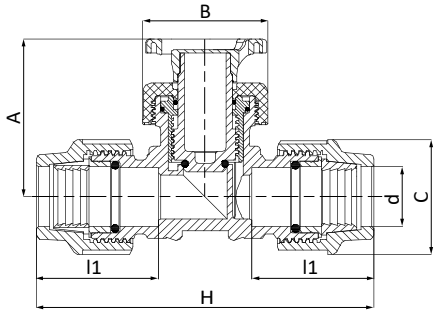


6.4 Technical sheets

1078

Compression stop cock valve



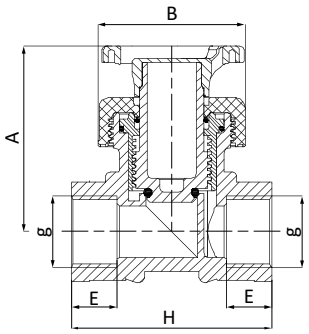


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

1079

Stop cock valve threaded female/female





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	A [mm]	B [mm]	Pmax [bar]
3/4"x3/4"	1079003003001	132x79x60	79	18	112	59	16
1"x1"	1079004004001	143x95x70	95	21	120	70	16

7. Assembly instructions of valves

Ball valves, non-return valves and stop cock valves Ø 20 mm ÷ 40 mm



Cut the pipe orthogonally to the axis using a special pipe cutter or a circular belt saw. When using a belt saw, it is advisable to use a guide box to ensure a square cut.



Eliminate any burrs and bevel the end of the pipe to facilitate easy assembly and to prevent damage to the gasket. The outer surface of the pipe must be free from imperfections or indentations where the body of the valve makes contact with the pipe.



Unscrew the blue nut and put it onto pipe followed by the white clamping ring. Make sure that the clamping ring is in the correct position, with the largest opening facing the body of the valve.



Push the pipe axially into the valve past the gasket, until it touches the internal stop inside the valve body.



Tighten the nut by hand and then use the torque wrench provided. The nut must be tightened, but it doesn't need to reach the end of the valve's body.

Ball valves, non-return valves and stop cock valves Ø 50 mm ÷ 90 mm



Cut the pipe orthogonally to the axis using a special pipe cutter or a circular belt saw. When using a belt saw, it is advisable to use a guide box to ensure a square cut.



Unscrew the blue ring nut without removing the rings locked inside (integrated component).



Place the integrated component on the pipe followed by the gasket.
It is useful to lubricate the end of the pipe and the gasket with a silicon-based lubricant suitable for drinking water convey.



Push the pipe axially into the valve until it reaches the internal stop inside the valve's body.



Tighten the nut by hand and then use a torque wrench.
The nut must be tightened, but it doesn't need to reach the end of the valve's body.

8. Components

8.1 Components for compression fittings

A217

Bush ring



DIM	CODE
16	A217016000
20	A217020000
25	A217025000
32	A217032000
40	A217040000

>>>

>>>

DIM	CODE
50	A217050001
63	A217063001
75	A217075001
90	A217090001
110	A217110001

A218

Nut



DIM	CODE
16	A218016000
20	A218020000
25	A218025000
32	A218032000
40	A218040000

>>>

>>>

DIM	CODE
50	A218050002
63	A218063002
75	A218075002
90	A218090002
110	A218110002

A219

Clamping ring



DIM	CODE
16	A219016000
20	A219020000
25	A219025000
32	A219032000
40	A219040000

>>>

>>>

DIM	CODE
50	A219050001
63	A219063001
75	A219075001
90	A219090001
110	A219110001

A220

O-ring gasket



DIM	CODE
16	A220016000
20	A220020000
25	A220025000
32	A220032000
40	A220040000

>>>

>>>

DIM	CODE
50	A220050001
63	A220063001
75	A220075001
90	A220090001
110	A220110001

8.2 Components for valves

A24601

Insert locking ring for ball valve



DIM	CODE
20	A246010200
25	A246010250
32	A246010320
40	A246010400

>>>

>>>

DIM	CODE
50	A246010500
63	A246010630
75	A246010750
90	A246010900

A24602

Handle for ball valve



DIM	CODE
20	A246020200
25	A246020250
32	A246020320
40	A246020400

>>>

>>>

DIM	CODE
50	A246020500
63	A246020630
75	A246020750
90	A246020900

A24603

Handle for stop cock valves



DIM	CODE
20-25 - 3/4"	A246032025
32 - 1"	A246030032

A24604

Upper black ring for stop cock valves



DIM	CODE
20-25 - 3/4"	A246042025
32 - 1"	A246040032

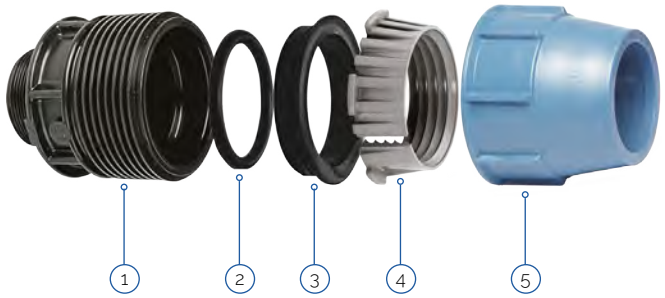
8.3 Special components

DeltOne Mining is an innovative fitting specifically developed by Unidelta to **connect polyethylene pipes in mining type applications,** where the chemical resistance to particular compounds is essential, for example, in a process such as leaching, often used for extracting copper, where more or less concentrated solutions of sulphuric acid are used.
In fact, the latter is very aggressive for the NBR gaskets and for the acetal resin grasping rings used in traditional compression fittings. Therefore, Unidelta has developed other components for this type of applications, which consist of materials that have greater chemical resistance than those normally used.
DeltOne Mining preserves the same innovative design, easy assembly and safe sealing of the classic DeltOne fitting, but it has a **fluoroelastomer (VITON) OR gasket** and the **clamping ring is in CPVC.** Moreover, the body, the bushing ring and the nut are always made of polypropylene.

Materials

All of the listed materials are characterised by significant chemical resistance, and enable DeltOne Mining to work in contact with extremely aggressive chemical compounds, particularly acids, that act both from the inside (from the conveyed liquid) and from the external environment. DeltOne Mining is, therefore, ideal not only in the mining sector but also in all those applications requiring a high chemical resistance. Contact Unidelta directly for specific chemical resistances.

1. **Body:** highly stable polypropylene (PP-B) with UV protection.
2. **Rubber gasket:** VITON O-ring.
3. **Bush ring:** highly stable polypropylene (PP-B) with UV protection.
4. **Clamping ring:** CPVC.
5. **Nut:** highly stable polypropylene (PP-B) with UV protection.



A219 - CPVC

CPVC clamping ring



DIM	CODE
32	A219032002
63	A219063002
75	A219075002
90	A219090002
110	A219110002

A220 - VITON

VITON O-ring gasket



DIM	CODE
63	A220063003
75	A220075003
90	A220090003
110	A220110003

9. Tools

1101

Chamfering tool



DIM	CODE
16 ÷ 160	1101016160001

1037

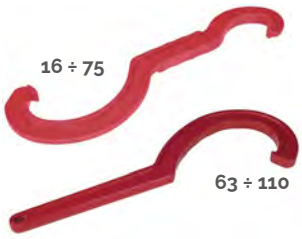
Polypropylene fittings wrench (PP)



DIM	CODE
16 ÷ 63	1037016001001

1038

Acetalic resin fittings wrench



DIM	CODE
16 ÷ 75	1038016002001
63 ÷ 110	1038063002001

5033

Shears



DIM	CODE
10 ÷ 32	5033010032001
16 ÷ 63	5033016063001

10. Chemical resistance

"APPENDIX A Chemical resistance" page 521

The following table shows the chemical resistance of the materials used for the components of the fittings in contact with the fluid. The chemical resistance refers to a temperature of 20°C and to fittings not subject to mechanical stress.

The chemical resistance is shown by the following symbols. Where not indicated, no tests were performed.

S = Satisfactory resistance: can be used without any limitation.
L = Limited resistance: the substance may etch the material. It is necessary to reduce the pressure and operating temperature. The operating life of the fitting may be reduced.
NS = Resistance not satisfactory: the substance etches the material. The material cannot be used.

The concentration is expressed as mass percentage of the substance in an aqueous solution. In some cases it is indicated by the following symbols:

Dil.sol. = Diluted solution in concentrations up to 10%.
Sol. = Solution in concentrations up to 10% but not saturated.
Sat.sol. = Saturated solution.
tg = Pure substance.
tg-l = Pure substance in liquid state.
tg-g = Pure substance in gaseous state.
tg-s = Pure substance in solid state.
Work.sol. = Solution in the concentration usually used in the industry.
Susp. = Solid suspension in saturated solution.


UNIDELTA
Since 1973

Raccords à compression

Français

Définitions et symboles		**153**
1.	**Raccords Unidelta avec serrage mécanique**	**153**
2.	**Raccords à compression et colliers de prise**	**155**
2.1	Champ d'application	155
2.2	Normes de référence	155
2.3	Certifications de qualité	155
2.4	Temperature de service	156
2.5	Resistance à la traction	156
2.6	Étanchéité hydraulique	157
2.7	Matériaux	158
2.8	Instructions de montage	161
3.	**Fiches techniques**	**168**
3.1	Raccords à compression	168
3.2	Raccord de transition universel	187
3.3	Raccords à compression de transition	188
3.4	Manchon union	191
3.5	Collier de prise de dérivation en charge	192
3.6	Colliers de prise en charge	193
4.	**Vannes à bille**	**201**
4.1	Structure et matériaux	201
4.2	Avantages des vannes à bille	202
4.3	Marquage	203
4.4	Accès à la bille	204
4.5	Fiches techniques	205
5.	**Vannes de retenue**	**210**
5.1	Structure et matériaux	211
5.2	Avantages des vannes de retenue	211
5.3	Marquage	212
5.4	Fiches techniques	213

6.	**Vannes à soupape droite**	**214**
6.1	Structure et matériaux	214
6.2	Avantages des vannes à soupape droite	215
6.3	Marquage	215
6.4	Fiches techniques	216
7.	**Instructions de montage des vannes**	**217**
8.	**Composants**	**219**
8.1	Composants pour raccords à compression	219
8.2	Composants pour vannes	220
8.3	Composants spéciaux	221
9.	**Accessoires**	**222**
10.	**Résistance chimique**	**223**

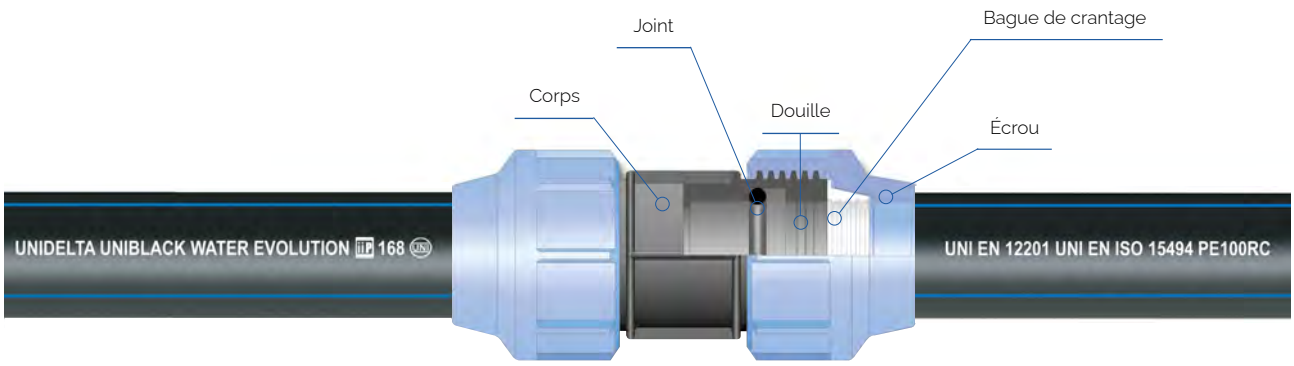
Définitions et symboles

PP-B	Polypropylène copolymère	DN	Diamètre nominal [mm]
POM	Résine acétal	NF, V	Nombre de trous
NBR	Caoutchouc nitrile	d, d_1	Diamètres d'accouplement [mm]
PEBD	Polyéthylène basse densité	g	Filetage nominal [in.]
PEAD	Polyéthylène haute densité		Indiqué pour l'eau froide
PTFE	Polytétrafluoroéthylène		Composants spéciaux
PN	Pression nominale [bar]		Raccords à compression
Pmax	Pression maximale [bar]		Catalogue technique
PFA	Pression de service admissible (EN805): pression hydrostatique maximale qu'un composent est en mesure de supporter pendent la marche en service continu [bar]		

1. Raccords Unidelta avec serrage mécanique

Ces types de raccords peuvent être réalisés en métal ou en plastique comme les raccords à compression en polypropylène Unidelta: ce sont des joints amovibles et faciles à installer. Le système d'assemblage est fondé sur l'agrafage du tube en polyéthylène par l'intermédiaire de bagues dentées qui entourent et serrent la tuyauterie. La gamme de raccords en polypropylène Unidelta comprend les diamètres de 16 mm à 110 mm avec pressions nominales de 16 bar.

Manchon à serrage mécanique en polypropylène



UNIDELTA

Since 1973



DELTONE System

Polypropylene (PP-B) high-stability

Compression fittings • Valves • Clamp saddles

unidelta.com

2. Raccords à compression et colliers de prise

2.1 Champ d'application

Les raccords à compression et les colliers de prise Unidelta sont des produits spécifiques pour la **jonction de tubes en polyéthylène** avec un diamètre externe compris entre 16 mm et 110 mm (200 mm pour les colliers de prise). Ils sont compatibles avec tous les tubes en LDPE, HDPE, PE40, PE80, PE100, PE100RC réalisés selon les normes **EN 12201, ISO 4427, DIN 8074, UNI 7990.** Ils sont normalement utilisés pour la **distribution d'eau potable et de fluides sous pression jusqu'à 16 bars** pour des emplois génériques. Grâce aux caractéristiques des matériaux avec lesquels ils sont réalisés, les raccords résistent à l'attaque de nombreuses **substances chimiques** (voir "APPENDIX A Chemical resistance" page 521) et résistent aux **rayons UV.**
Grâce au raccord de transition universel Unidelta il est possible de raccorder des installations de tube en PE métrique avec des tubes préexistants de n'importe quel matériau avec un diamètre externe compris entre 15 mm et 35 mm.

2.2 Normes de référence

Les raccords et les brides Unidelta sont conformes aux normes pour la distribution d'eau potable selon les prescriptions en vigueur en Italie (Décret Ministériel n.174 du 06/04/2004) et dans de nombreux autres Pays.

Raccords et brides
Conformes aux normes ISO 17885, DIN 8076, ISO 13460.

Filetages
Conformes aux normes ISO7/1, DIN 2999, BS 21, EN 10226-1.

Collets
Trous et espacement conformes aux normes UNI 2223, UNI 2278, DIN 8063, UNI EN 1092-1.

2.3 Certifications de qualité

Unidelta opère dans le plein respect des normes des Systèmes de Qualité **UNI EN ISO 9001:2015** selon lesquelles elle est certifiée depuis 1995. En 2016, elle a également obtenu les certifications **ISO 14001** (Systèmes de Management Environnemental) et **BS OHSAS 18001** (Systèmes de Management de la Santé et de la Sécurité au Travail) mise à jour en 2020 avec la norme **ISO 45001:2018** (Systèmes de Management de la Santé et de la Sécurité au Travail).
Les raccords Unidelta ont été testés et approuvés par plusieurs instituts de certification reconnus.

NB. La gamma dei prodotti certificati IIP è visionabile sul sito www.unidelta.com e/o www.iip.it
NB. The range of products approved by Kiwa can be seen on the web site www.kiwa.com/nl
NB. Watermark L.N. 26588: Please see the certifi cate for the list of the products which are covered by the approval. register.saiglobal.com

2.4 Temperature de service

Les raccords et les colliers de prise **ne sont pas adaptés pour être utilisés avec de l'eau chaude** car limités par les domaines d'emploi des tubes en polyéthylène. Les températures de service maximales sont celles relatives à l'utilisation des tubes en polyéthylène et par conséquent il est nécessaire de faire référence aux normes en vigueur dans son propre Pays. **Les raccords et les colliers de prise résistent à des températures inférieures à 0°C.**
Dans le tableau suivant on indique la pression de service maximale admissible en service continu (PFA) en fonction de la température au cas où le fluide transporté est de l'eau en conformité avec la EN 805, EN 12201 e ISO 13761.
Pour les valeurs comprises entre celles indiquées il est possible d'effectuer une interpolation linéaire.

T de fonctionnement [°C]	≤20°	25°	30°	35°	40°	45°
PFA [bar]	16	14,9	13,9	12,8	11,8	10,8
PFA [bar]	10	9,3	8,7	8	7,4	6,7

2.5 Resistance à la traction

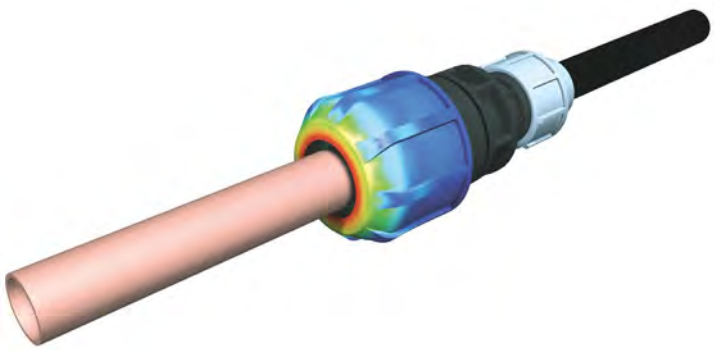
Unidelta soumet ses raccords à des essais de traction avec les charges indiquées dans le tableau "Charges d'essai de traction" (durée d'essai: 1 heure à 20°C), en se conformant aux indications des normes les plus restrictives.

Charges d'essai de traction

	PE100 - PN 16	
Ø [mm]	**F [N]**	**F [kgf]**
16	883	85
20	1225	125
25	1774	181
32	2950	301
40	4557	465
50	7076	722
63	11250	1148
75	15719	1604
90	22736	2320
110	33898	3459



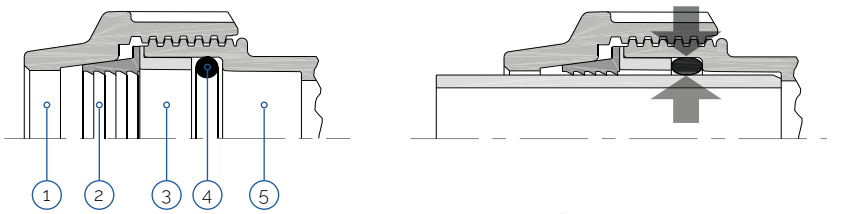
Analyse FEM - Répartition efforts dans l'écroudu raccord universel soumis à des charges de traction et de pression combinés



2.6 Étanchéité hydraulique

L'étanchéité hydraulique dans un raccord mécanique est liée au type de joint utilisé et à la pression que le raccord une fois installé réussit à exercer sur les surfaces de contact entre le joint même, le tube et le corps du raccord.

Joint hydraulique du raccord Unidelta Ø de 16 à 40 mm



1 Écrou
2 Bague de crantage
3 Douille
4 Joint
5 Corps

4 O-ring Unidelta

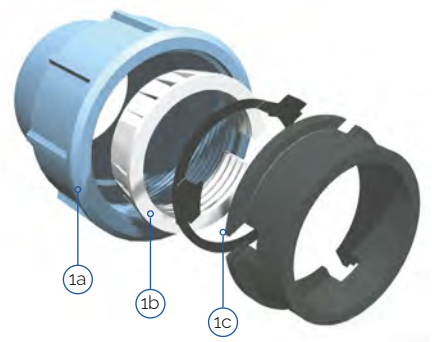


Au cours de l'étude et du développement de ses raccords, Unidelta a effectué d'innombrables essais dans les conditions les plus sévères auxquelles les raccords peuvent être soumis pendant leur période de fonctionnement, tant en ce qui concerne l'état du tube à raccorder (ovalisation, sous dimensionnement), qu'en ce qui concerne la charge appliquée. En effet, un raccord utilisé dans une installation peut être soumis à des cycles de pression variable continus, des surpressions dues à des dérangements tels que des coups de bélier, des pressions externes supérieures à la pression interne de l'installation, des charges de traction, flexion et tout autre.
En général on prévoit que la vie d'une installation est de plusieurs années et donc les raccords doivent garantir des performances constantes même à long terme.
Des tests effectués ont montré que le type de joint qui garantit les meilleures performances dans tous les cas possibles est celui à géométrie torique O-ring (ce n'est pas par hasard que l'O-ring est le joint normalement utilisé dans les applications mécaniques les plus sévères).

Afin de garantir un haut niveau de sécurité dans le temps il est important que la compression du joint ne soit pas liée à la force de serrage de l'écrou autrement cela pourrait engendrer des risques de fuites dues à un serrage non correct du raccord ou au relâchement de l'écrou soumis à des cycles de pression variables. Les raccords Unidelta adoptent un joint de type O-ring positionné dans un siège cylindrique et ne nécessitent pas de bagues de compression.

Pour les raccords de 50, 63, 75, 90 et 110 mm de diamètre on a développé le système DeltOne dans lequel l'embout, la bague de crantage et le douille sont unis pour former un élément unique. Le joint utilisé est toujours de type O-ring comme dans le modèle classique. De cette façon le montage du raccord est extrêmement facile et rapide sans compromettre les caractéristiques de sécurité du joint.

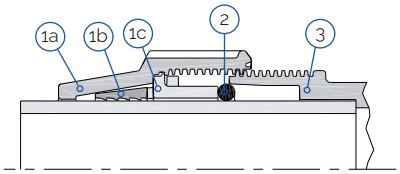
Système DeltOne pour raccords Ø 50, 63, 75, 90, 110 mm



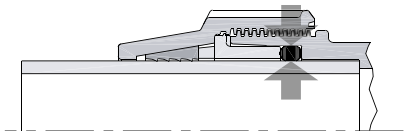
L'écrou (1a), la bague de crantage (1b) et le douille (1c) sont unis en un unique élément pour faciliter le montage du raccord sur le tube.



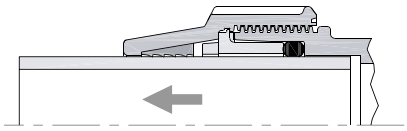
Joint hydraulique du raccord type DeltOne Ø 50, 63, 75, 90, 110 mm



L'écrou (1a), la bague de crantage (1b) et le douille (1c) sont unis dans un unique élément.



En vissant l'écrou (1a) sur le corps (3), le joint (2) est poussé dans son logement de façon sure (le douille ne doit pas comprimer le joint pour préserver la fonctionnalité de l'O-ring).

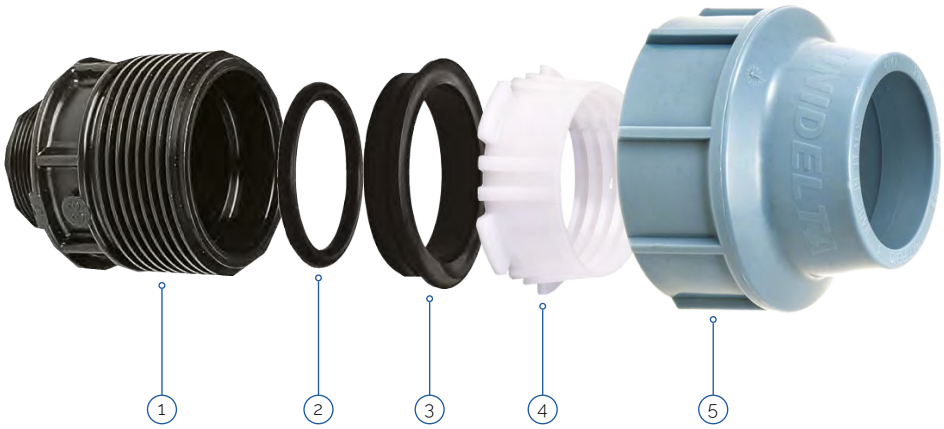


En cas de force de traction la bague de crantage pénètre profondément et se coince dans le cône de l'écrou, ce qui assure une résistance au dévissage.

2.7 Matériaux

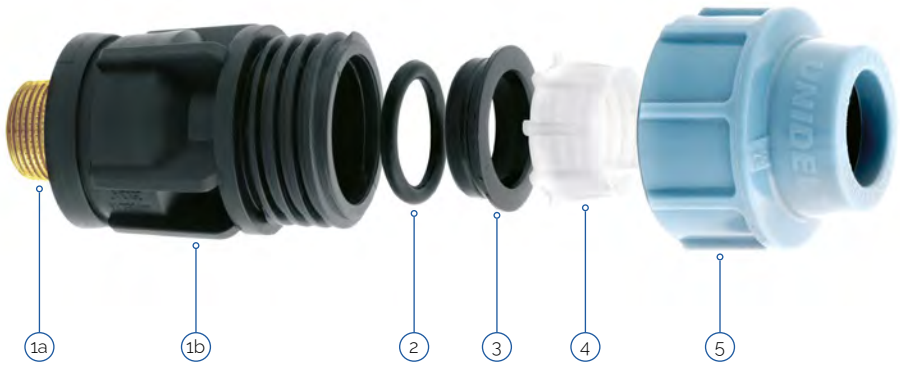
Raccords à compression

(1) **Corps:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
(2) **Joint:** O-ring.
(3) **Douille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
(4) **Bague de crantage:** résine acétylique (POM).
(5) **Écrou:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.



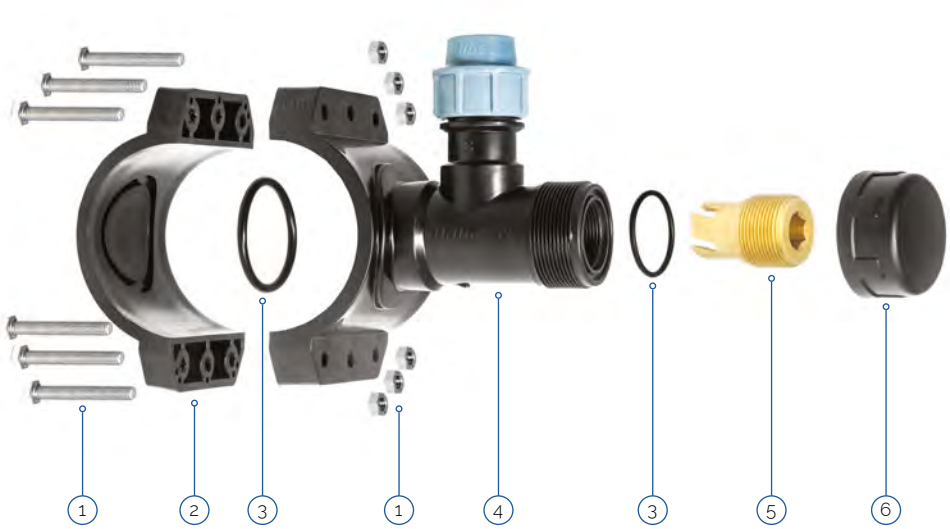
Raccords à compression de transition

1a **Filetage:** encart métallique spécial fileté en laiton moulé dans le corps.
1b **Corps:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
2 **Joint:** O-ring.
3 **Douille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
4 **Bague de crantage:** résine acétylique (POM).
5 **Écrou:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.



Collier de prise de dérivation en charge

1 **Boulons:** acier inoxydable A4.
2 **Fond collier:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
3 **Joints:** O-ring.
4 **Dérivation collier de prise en charge:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
5 **Perforateur:** laiton.
6 **Bouchon:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.



Colliers de prise PN 10

1. **Boulons:** acier galvanisé.
2. **Fond bride:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
3. **Joint:** O-ring.
4. **By-pass bride:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
5. **Bague renfort:** acier inox.



Colliers de prise PN 16

1. **Boulons:** acier galvanisé.
2. **Fond bride:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
3. **Joint:** O-ring.
4. **By-pass bride:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
5. **Bague renfort:** acier inox.



2.8 Instructions de montage

Video Tutorial
Unidelta SPA Official

Raccords à compression Ø 16 mm ÷ 40 mm



Coupez le tube orthogonalement à l'axe en utilisant des coupe-tubes spéciaux ou des scies circulaires ou à ruban. Dans ce dernier cas pour obtenir une section droite il est conseillé d'utiliser des boîtes de guidage.



Eliminer les bavures dues au découpage et émousser l'extrémité du tube pour en faciliter le montage et pour ne pas provoquer de dommages au joint du raccord. La surface externe du tube ne doit pas présenter d'imperfections ou d'entailles sur toute la longueur d'insertion dans le corps du raccord.



Dévisser l'écrou bleu et l'insérer sur le tube suivi de la bague de crantage. S'assurer que la bague de crantage ait le cône dans la bonne direction, à savoir avec la partie la plus large tournée vers le raccord.



Pousser le tube dans le raccord en agissant en direction axiale en dépassant le joint jusqu'à la battue interne du corps du raccord. Il est utile de lubrifier la partie terminale du tube et le joint avec un lubrifiant au silicone ou tout autre lubrifiant qui n'altère pas les propriétés de potabilité de l'eau.
Ne pas utiliser d'huiles ou de graisses à base minérale.



Visser d'abord l'écrou manuellement et ensuite en utilisant la clé de serrage spéciale. L'écrou doit être fermé avec force bien qu'il ne soit pas nécessaire qu'il aille en contact avec la battue terminale du corps du raccord.

Raccords à compression Deltone Ø 50 mm ÷ 110 mm



Découper le tube orthogonalement à l'axe en utilisant des coupe-tubes spéciaux ou des scies circulaires ou à ruban. Dans ce dernier cas pour obtenir une section droite il est conseillé d'utiliser des boîtes de guidage.



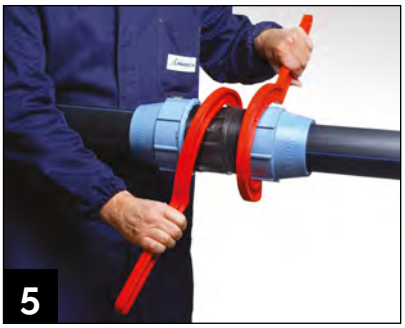
Dévisser l'écrou bleu sans enlever les bagues bloquées à l'intérieur (composant intégré).



Enfiler le composant intégré sur le tube suivi du joint. Il est utile de lubrifier la partie terminale du tube et le joint avec un lubrifiant au silicone ou tout autre lubrifiant qui n'altère pas les propriétés de potabilité de l'eau.
Ne pas utiliser d'huiles ou de graisses à base minérale.



Pousser le tube dans le corps du raccord jusqu'à la battue interne.



Visser d'abord l'écrou manuellement et ensuite en utilisant une clé de serrage. L'écrou doit être fermé avec force bien qu'il ne soit pas nécessaire qu'il aille en contact avec la battue terminale du corps du raccord.

Raccord de transition universel CODE 1033



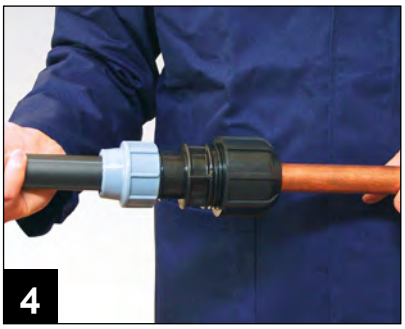
Découper le tube orthogonalement à l'axe et éliminer d'éventuelles bavures dues au découpage. La surface externe du tube ne doit pas présenter d'imperfections ou d'entailles sur toute la longueur d'insertion dans le corps du raccord.



Si la bague est particulièrement dévissée, pousser le raccord universel latéral sur le tube, en agissant axialement jusqu'à ce qu'il atteigne la butée interne du corps du raccord.



Visser l'écrou en utilisant la clé de serrage. L'écrou doit être fermé avec force bien qu'il ne soit pas nécessaire qu'il aille en contact avec la battue terminale du corps du raccord.



Assembler le tube en PE série métrique (diamètre en mm) en suivant les instructions du raccord standard ("Raccords à compression Ø 16 mm ÷ 40 mm" page 161).

Collier de prise de dérivation en charge CODE 1025



Identifier le point d'installation et s'assurer que la surface externe du tube ne présente pas de terreau, imperfections ou entailles dans la zone de contact avec le joint. Positionner le joint dans le logement spécifique dans la partie supérieure du collier.



Positionner la partie inférieure du collier au point choisi. Coupler la partie supérieure du collier avec celle inférieure en insérant les vis par le bas (la tête des vis s'encastre dans la partie inférieure du collier).



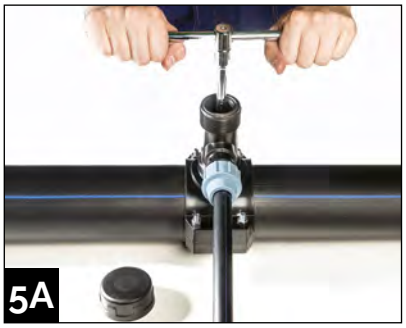
Visser et serrer les écrous en opérant en diagonale (en croix).

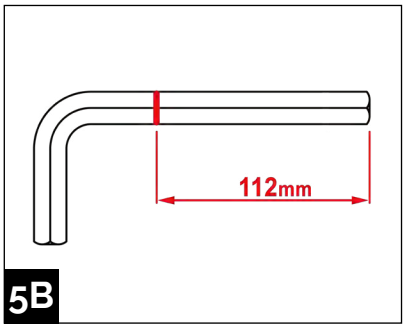


Insérer le tube de dérivation en suivant les instructions sur les raccords à compression. ("Raccords à compression Ø 16 mm ÷ 40 mm" page 161).

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Dévisser le bouchon supérieur d'étanchéité et insérer la clé dans le logement spécifique hexagonal du perforateur jusqu'à la butée. Visser le perforateur à l'aide d'un levier suffi samment long jusqu'à ce que la lame coupe complètement la paroi du tube (n'oublions pas de marquer sur la clé la cote de 122 mm illustrée sur le dessin).
La perforation est mise en évidence par une légère fuite d'eau et/ou par une diminution de la résistance au vissage. **Dans tous les cas, ne jamais dépasser la cote de 112 mm indiquée sur la clé.**



Dévisser le perforateur et le ramener jusqu'à la limite supérieure du filet interne de la tourelle sans la dé passer la section du tube reste bien bloquée dans le perforateur.



Fermer à fond le bouchon d'étanchéité et terminer le serrage à l'aide d'une clé.

Colliers de prise



Déterminer le point d'installation et s'assurer que la surface externe du tube ne présente pas de terre, d'imperfections ou d'entailles dans la zone de contact avec le joint. Placer le joint dans le logement spécial de la selle.



Placer la partie inférieure de la selle dans le point préalablement choisi. Coupler la partie supérieure de la selle avec celle inférieure.



Insérer les vis depuis le bas (la partie borgne de la selle à la fraisure pour la tête des vis).
Visser et serrer les écrous en opérant diagonalement (en croix).



Percer le tube en faisant attention à ne pas endommager les filets de la selle et le joint et en utilisant une entretoise pour éviter de percer le tube de l'autre côté. Il est préférable d'utiliser des pointes à godet parce qu'elles limitent le risque d'endommagement des filets et du joint et réduisent le dépôt de matériau à l'intérieur de la conduite.

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Méthode alternative:



Avec un feutre indélébile blanc dessiner des points de référence sur le tube qui permettent le repositionnement de la selle.
Démonter de nouveau la selle de la tuyauterie.



Percer le tube et enlever le matériau qui s'est déposé à l'intérieur de la conduite.



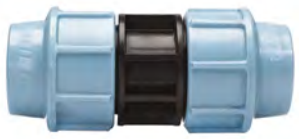
Remonter la selle de dérivation en correspondance des signes de référence précédemment tracés en s'aidant avec une cheville (par exemple la pointe utilisée pour le percement) pour maintenir le sortie en axe avec le trou.

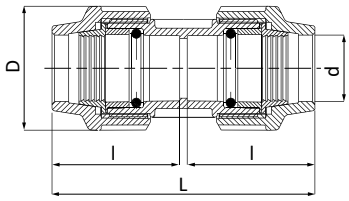
3. Fiches techniques

3.1 Raccords à compression

1001

Manchon

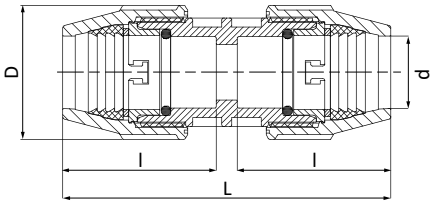




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	PN [bar]
16x16	1001016000001	103x42x42	42	103	49	16
20x20	1001020000001	108x46x46	46	108	52	16
25x25	1001025000001	122x55x55	55	122	59	16
27x27	1001027000001	126x55x55	55	126	61	16
32x32	1001032000001	139x63x63	63	139	68	16
40x40	1001040000001	168x80x80	80	168	82	16

>>>





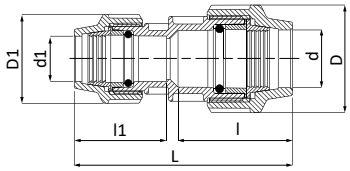
>>>

50x50	1001051000001	232x96x96	96	232	110	16
63x63	1001064000001	248x115x115	115	248	121	16
75x75	1001076000001	278x129x129	129	278	136	16
90x90	1001091000001	315x155x155	155	315	154	16
110x110	1001111000001	422x183x183	183	422	205	16

1002

Manchon réduit

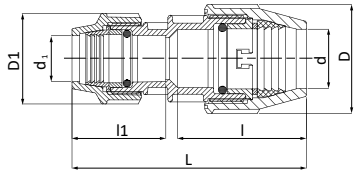




DIM dxd$_1$ [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	l1 [mm]	PN [bar]
20x16	1002020016001	110x46x46	46	42	110	56	50	16
25x20	1002025020001	128x55x55	55	46	128	67	56	16
32x20	1002032020001	139x63x63	63	46	139	70	60	16
32x25	1002032025001	143x63x63	63	55	143	70	66	16
40x25	1002040025001	158x80x80	80	55	158	85	66	16
40x32	1002040032001	163x80x80	80	63	163	88	71	16

>>>





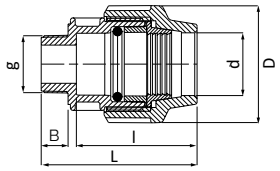
>>>

50x25	1002051025001	180x96x96	96	55	180	113	65	16
50x32	1002051032001	186x96x96	96	63	186	113	69	16
50x40	1002051040001	212x96x96	96	80	212	115	86	16
63x25	1002064025001	192x115x115	115	55	192	119	64	16
63x32	1002064032001	194x115x115	115	63	194	119	71	16
63x40	1002064040001	204x115x115	115	80	204	121	81	16
63x50	1002064051001	260x115x115	115	96	260	130	118	16
75x50	1002076051001	262x129x129	129	96	262	134	114	16
75x63	1002076064001	285x129x129	129	115	285	146	130	16
90x63	1002091064001	298x155x155	155	115	298	157	134	16
90x75	1002091076001	318x155x155	155	129	318	162	146	16
110x75	1002111076001	351x183x183	183	129	351	210	130	16
110x90	1002111091001	370x183x183	183	155	370	201	158	16

1003

Raccord mâle

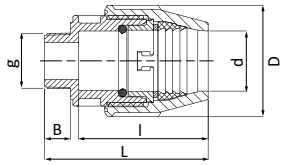




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	PN [bar]
16x3/8”	1003016001001	69x42x42	42	69	50	13	16
16x1/2”	1003016002001	69x42x42	42	69	50	16	16
16x3/4”	1003016003001	69x42x42	42	69	50	17	16
20x1/2”	1003020002001	81x46x46	46	81	61	16	16
20x3/4”	1003020003001	82x46x46	46	82	61	17	16
20x1”	1003020004001	85x46x46	46	85	61	20	16
25x1/2”	1003025002001	89x55x55	55	89	69	16	16
25x3/4”	1003025003001	90x55x55	55	90	69	17	16
25x1”	1003025004001	93x55x55	55	93	69	20	16
32x1/2”	1003032002001	98x63x63	63	98	76	16	16
32x3/4”	1003032003001	98x63x63	63	98	76	17	16
32x1”	1003032004001	101x63x63	63	101	76	20	16
32x1”1/4	1003032005001	104x63x63	63	104	76	23	16
32x1”1/2	1003032006001	104x63x63	63	104	76	23	16
40x1”	1003040004001	108x80x80	80	108	82	21	16
40x1”1/4	1003040005001	117x80x80	80	117	82	29	16
40x1”1/2	1003040006001	117x80x80	80	117	82	28	16
40x2”	1003040007001	120x80x80	80	120	82	34	16

>>>





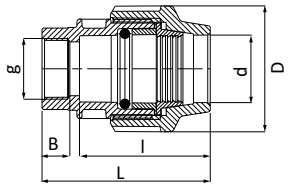
>>>

50x1”	1003051004001	143x96x96	96	143	111	26	16
50x1”1/4	1003051005001	146x96x96	96	146	111	28	16
50x1”1/2	1003051006001	146x96x96	96	146	111	28	16
50x2”	1003051007001	151x96x96	96	151	112	32	16
63x1”1/4	1003064005001	157x115x115	115	157	120	28	16
63x1”1/2	1003064006001	157x115x115	115	157	120	28	16
63x2”	1003064007001	161x115x115	115	161	120	32	16
63x2”1/2	1003064008001	158x115x115	115	158	120	29	16
75x2”	1003076007001	171x129x129	129	171	135	27	16
75x2”1/2	1003076008001	178x129x129	129	178	135	34	16
75x3”	1003076009001	178x129x129	129	178	135	34	16
90x2”	1003091007001	200x155x155	155	200	158	34	16
90x2”1/2	1003091008001	200x155x155	155	200	158	34	16
90x3”	1003091009001	200x155x155	155	200	158	34	16
90x4”	1003091010001	200x155x155	155	200	158	36	16
110x2”	1003111007001	247x183x183	183	247	198	34	16
110x3”	1003111009001	250x183x183	183	250	198	37	16
110x4”	1003111010001	250x183x183	183	250	200	37	16

1004

Raccord femelle

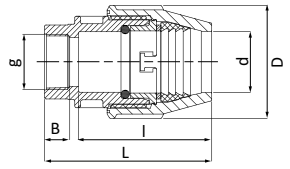




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x1/2”	1004016002001	69x42x42	42	69	50	17	16
16x3/4”	1004016003001	73x42x42	42	73	50	19	16
20x1/2”	1004020002001	77x46x46	46	77	58	18	16
20x3/4”	1004020003001	79x46x46	46	79	58	20	16
20x1”	1004020004001	81x47x47	47	81	58	22	16
25x1/2”	1004025002001	84x55x55	55	84	65	18	16
25x3/4”	1004025003001	86x55x55	55	86	65	20	16
25x1”	1004025004001	88x55x55	55	88	65	22	16
32x1/2”	1004032002001	92x63x63	63	92	71	18	16
32x3/4”	1004032003001	94x63x63	63	94	71	20	16
32x1”	1004032004001	96x63x63	63	96	71	22	16
***32x1”1/4**	1004032005001	97x63x63	63	97	71	23	16
40x1”	1004040004001	110x80x80	80	110	81	20	16
***40x1”1/4**	1004040005001	112x80x80	80	112	81	22	16
***40x1”1/2**	1004040006001	113x80x80	80	113	81	23	16

>>>





>>>

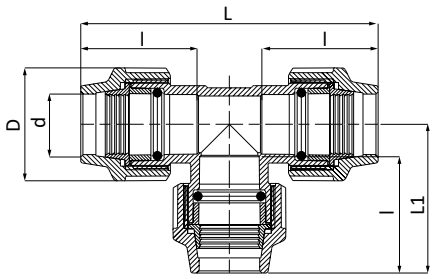
***50x1”**	1004051004001	140x96x96	96	140	117	20	16
***50x1”1/4**	1004051005001	144x96x96	96	144	112	22	16
***50x1”1/2**	1004051006001	144x96x96	96	144	112	23	16
***50x2”**	1004051007001	149x96x96	96	149	111	27	16
***63x1”1/4**	1004064005001	159x115x115	115	159	121	23	16
***63x1”1/2**	1004064006001	160x115x115	115	160	121	28	16
***63x2”**	1004064007001	165x115x115	115	165	121	22	16
***63x2”1/2**	1004064008001	168x115x115	115	168	121	23	16
***75x2”**	1004076007001	182x129x129	129	182	137	28	16
***75x2”1/2**	1004076008001	187x129x129	129	187	137	33	16
***75x3”**	1004076009001	187x129x129	129	187	137	33	16
***90x2”**	1004091007001	190x155x155	155	190	152	26	16
***90x2”1/2**	1004091008001	195x155x155	155	195	152	33	16
***90x3”**	1004091009001	195x155x155	155	195	152	33	16
***90x4”**	1004091010001	204x155x155	155	204	152	42	16
***110x3”**	1004111009001	263x183x183	183	263	204	40	16
***110x4”**	1004111010001	263x183x183	183	263	204	43	16

* La bouche filetée est renforcée par une bague en acier inox

1005

Té à 90°

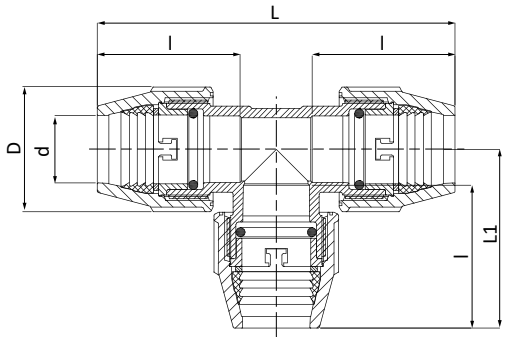




DIM dxdxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	L1 [mm]	PN [bar]
16x16x16	1005016000001	124x81x42	42	124	52	60	16
20x20x20	1005020000001	139x92x46	46	139	59	69	16
25x25x25	1005025000001	162x107x55	55	162	66	79	16
32x32x32	1005032000001	183x122x63	63	183	74	90	16
40x40x40	1005040000001	218x148x80	80	218	88	108	16

>>>





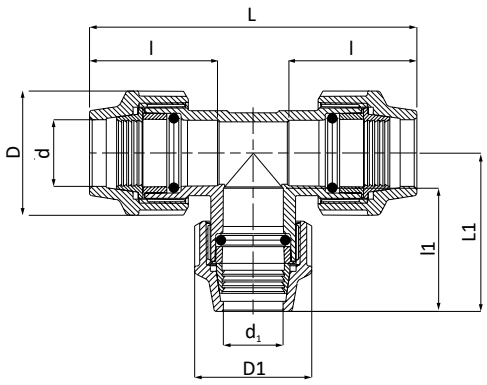
>>>

50x50x50	1005051000001	282x187x96	96	282	115	139	16
63x63x63	1005064000001	314x214x115	115	314	124	156	16
75x75x75	1005076000001	364x245x129	129	364	142	180	16
90x90x90	1005091000001	407x277x155	155	407	154	199	16
110x110x110	1005111000001	539x356x183	183	539	209	264	16

1013

Té à 90° réduit

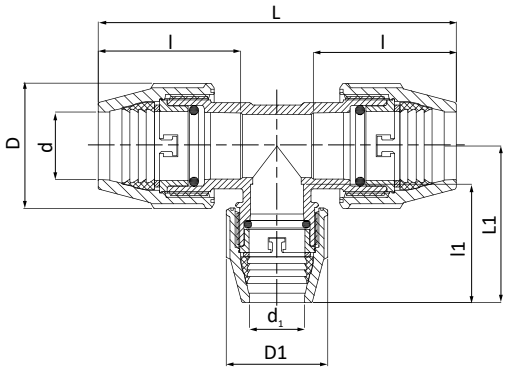




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x16x20	1013020016001	140x88x46	46	42	140	55	65	45	16
25x20x25	1013025020001	160x101x55	55	46	160	63	73	56	16
32x20x32	1013032020001	183x106x63	63	46	183	68	74	56	16
32x25x32	1013032025001	183x116x63	63	55	183	68	84	64	16
40x25x40	1013040025001	222x132x80	80	55	222	83	92	68	16
40x32x40	1013040032001	222x141x80	80	63	222	83	101	79	16

>>>





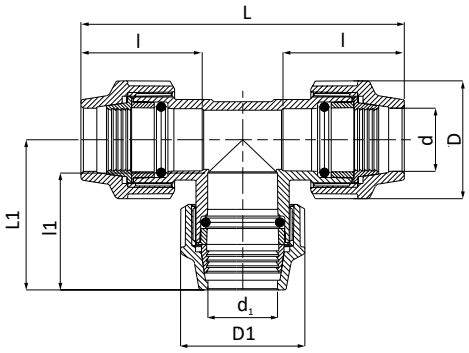
>>>

50x25x50	1013051025001	287x149x96	96	55	287	104	101	63	16
50x32x50	1013051032001	287x156x96	96	63	287	104	108	68	16
50x40x50	1013051040001	287x174x96	96	80	287	104	126	94	16
63x25x63	1013064025001	336x174x115	115	55	336	133	116	62	16
63x32x63	1013064032001	336x171x115	115	63	336	133	113	67	16
63x40x63	1013064040001	336x194x115	115	80	336	133	136	94	16
63x50x63	1013064051001	336x215x115	115	96	336	133	157	111	16
75x50x75	1013076051001	365x245x129	129	96	365	136	180	120	16
75x63x75	1013076064001	365x235x129	129	115	365	136	170	123	16
90x63x90	1013091064001	415x270x155	155	115	415	154	192	133	16
90x75x90	1013091076001	407x273x155	155	129	407	154	195	136	16
110x75x110	1013111076001	535x312x183	183	129	535	203	220	149	16
110x90x110	1013111091001	535x323x183	183	155	535	203	231	156	16

1029

Té à 90° avec dérivation augmentée

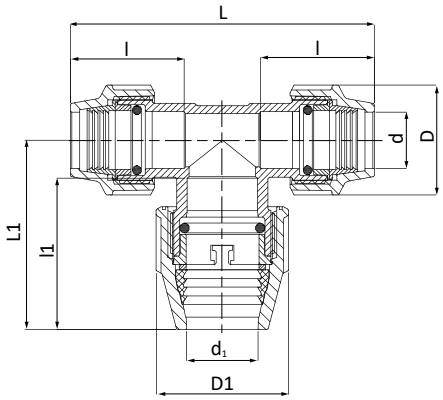




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x25x20	1029020025001	139x102x55	46	55	139	56	79	65	16
25x32x25	1029025032001	160x114x63	55	63	160	63	86	69	16
32x40x32	1029032040001	183x131x80	63	80	183	68	99	81	16

>>>





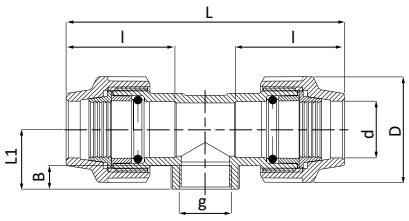
>>>

40x50x40	1029040051001	218x175x96	80	96	218	81	135	97	16

1007

Té à 90° avec dérivation femelle

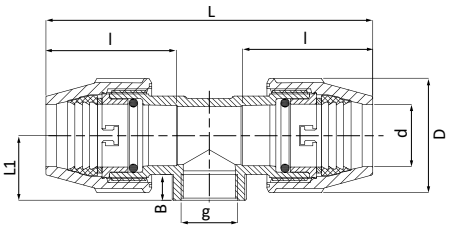




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1007016002001	123x52x42	42	123	49	17	31	16
16x3/4”x16	1007016003001	123x52x42	42	123	49	17	31	16
20x1/2”x20	1007020002001	139x70x46	46	139	55	19	47	16
20x3/4”x20	1007020003001	139x70x46	46	139	55	19	47	16
25x1/2”x25	1007025002001	160x78x55	55	160	63	16	50	16
25x3/4”x25	1007025003001	160x78x55	55	160	63	16	50	16
25x1”x25	1007025004001	160x83x55	55	160	63	21	55	16
32x1/2”x32	1007032002001	183x85x63	63	183	68	17	53	16
32x3/4”x32	1007032003001	183x85x63	63	183	68	17	53	16
32x1”x32	1007032004001	183x89x63	63	183	68	21	57	16
***32x1”1/4x32**	1007032005001	183x92x63	63	183	68	24	60	16
40x1”x40	1007040004001	205x85x80	80	205	81	21	45	16
***40x1”1/4x40**	1007040005001	217x89x80	80	217	81	25	49	16
***40x1”1/2x40**	1007040006001	210x87x80	80	210	81	23	47	16

>>>





>>>

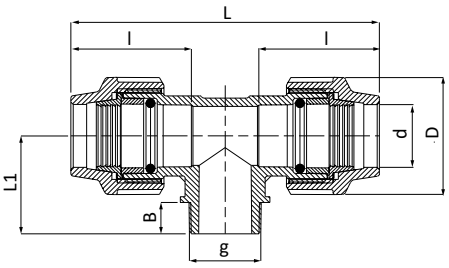
50x1/2”x50	1007051002001	282x109x96	96	282	105	31	61	16
***50x1”1/4x50**	1007051005001	282x105x96	96	282	105	24	57	16
***50x1”1/2x50**	1007051006001	282x104x96	96	282	105	24	56	16
***50x2”x50**	1007051007001	282x104x96	96	282	105	27	56	16
***63x1”1/4x63**	1007064005001	313x120x115	115	313	123	27	62	16
***63x1”1/2x63**	1007064006001	313x120x115	115	313	123	27	62	16
***63x2”x63**	1007064007001	313x123x115	115	313	123	30	65	16
***63x2”1/2x63**	1007064008001	313x123x115	115	313	123	30	65	16
***75x2”x75**	1007076007001	362x149x129	129	362	138	35	84	16
***75x2”1/2x75**	1007076008001	362x149x129	129	362	138	35	84	16
***75x3”x75**	1007076009001	362x150x129	129	362	138	36	85	16
***90x2”1/2x90**	1007091008001	406x169x155	155	406	154	43	91	16
***90x3”x90**	1007091009001	406x173x155	155	406	154	47	95	16
***90x4”x90**	1007091010001	406x173x155	155	406	154	47	95	16
***110x3”x110**	1007111009001	534x196x183	183	534	205	41	104	16
***110x4”x110**	1007111010001	534x196x183	183	534	205	45	104	16

* La bouche filetée est renforcée par une bague en acier inox

1010

Té à 90° avec dérivation mâle

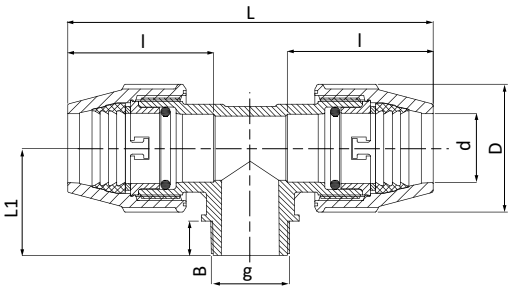




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1010016002001	125x57x42	42	125	50	18	36	16
16x3/4”x16	1010016003001	125x57x42	42	125	50	18	36	16
20x1/2”x20	1010020002001	139x58x46	46	139	56	16	35	16
20x3/4”x20	1010020003001	139x59x46	46	139	56	17	36	16
25x1/2”x25	1010025002001	160x63x55	55	160	63	16	35	16
25x3/4”x25	1010025003001	160x64x55	55	160	63	17	36	16
25x1”x25	1010025004001	160x66x55	55	160	63	19	38	16
32x1/2”x32	1010032002001	183x67x63	63	183	68	16	35	16
32x3/4”x32	1010032003001	183x68x63	63	183	68	17	36	16
32x1”x32	1010032004001	183x71x63	63	183	68	20	39	16
32x1”1/4x32	1010032005001	183x73x63	63	183	68	22	41	16
40x1”x40	1010040004001	218x84x80	80	218	81	20	44	16
40x1”1/4x40	1010040005001	218x84x80	80	218	81	22	44	16
40x1”1/2x40	1010040006001	218x84x80	80	218	81	22	44	16

>>>





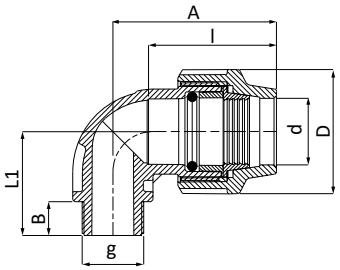
>>>

50x1”1/4x50	1010051005001	287x126x96	96	287	103	24	78	16
50x1”1/2x50	1010051006001	287x130x96	96	287	103	23	82	16
50x2”x50	1010051007001	287x136x96	96	287	103	29	88	16
63x1”1/2x63	1010064006001	335x148x115	115	335	130	25	90	16
63x2”x63	1010064007001	335x150x115	115	335	130	27	92	16
63x2”1/2x63	1010064008001	335x151x115	115	335	130	28	93	16
75x2”1/2x75	1010076008001	365x165x129	129	365	137	32	100	16
75x3”x75	1010076009001	365x168x129	129	365	137	35	103	16
90x3”x90	1010091009001	408x181x155	155	408	155	35	103	16
90x4”x90	1010091010001	408x189x155	155	408	155	41	111	16
110x4”x110	1010111010001	538x220x183	183	538	211	42	128	16

1008

Coude à 90° avec dérivation mâle

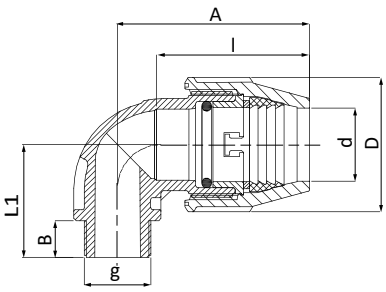




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1008016002001	69x69x42	42	39	18	58	48	16
16x3/4”	1008016003001	71x69x42	42	39	19	58	48	16
20x1/2”	1008020002001	77x62x46	46	45	18	62	39	16
20x3/4”	1008020003001	77x63x46	46	45	19	62	40	16
25x1/2”	1008025002001	92x71x55	55	53	18	74	43	16
25x3/4”	1008025003001	92x72x55	55	53	19	74	44	16
25x1”	1008025004001	92x75x55	55	53	22	74	47	16
32x1/2”	1008032002001	107x82x63	63	57	18	85	50	16
32x3/4”	1008032003001	107x83x63	63	57	19	85	51	16
32x1”	1008032004001	107x85x63	63	57	22	85	53	16
32x1”1/4	1008032005001	107x88x63	63	57	25	85	56	16
40x1”	1008040004001	132x101x80	80	70	22	105	61	16
40x1”1/4	1008040005001	132x104x80	80	70	25	105	64	16
40x1”1/2	1008040006001	132x104x80	80	70	25	105	64	16

>>>





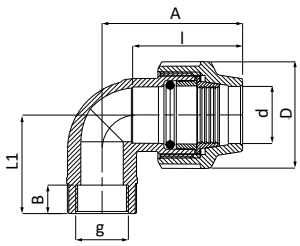
>>>

50x1”1/4	1008051005001	178x135x96	96	106	26	144	87	16
50x1”1/2	1008051006001	178x129x96	96	106	28	144	81	16
50x2”	1008051007001	182x129x96	96	111	28	149	81	16
63x1”1/2	1008064006001	214x143x115	115	130	23	173	85	16
63x2”	1008064007001	214x158x115	115	130	28	173	100	16
63x2”1/2	1008064008001	214x162x115	115	130	32	173	104	16
75x2”	1008076007001	240x165x129	129	142	28	193	100	16
75x2”1/2	1008076008001	240x169x129	129	142	32	193	104	16
75x3”	1008076009001	240x172x129	129	142	35	193	107	16
90x3”	1008091009001	276x192x155	155	158	35	217	114	16
90x4”	1008091010001	276x198x155	155	158	41	217	120	16
110x4”	1008111010001	362x236x183	183	222	42	294	144	16

1009

Coude à 90° avec dérivation femelle

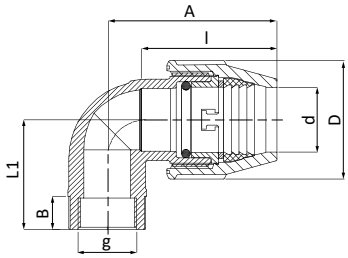




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	I [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1009016002001	74x69x42	42	39	18	58	48	16
16x3/4”	1009016003001	76x69x42	42	39	18	58	48	16
20x1/2”	1009020002001	79x62x46	46	45	18	63	39	16
20x3/4”	1009020003001	84x63x46	46	45	18	66	40	16
25x1/2”	1009025002001	95x73x55	55	53	18	77	45	16
25x3/4”	1009025003001	96x73x55	55	53	18	77	45	16
25x1”	1009025004001	100x76x55	55	53	20	77	48	16
32x1/2”	1009032002001	108x80x63	63	57	17	86	48	16
32x3/4”	1009032003001	108x81x63	63	57	18	86	49	16
32x1”	1009032004001	109x83x63	63	57	21	86	51	16
***32x1”1/4**	1009032005001	115x92x63	63	57	26	86	60	16
40x3/4”	1009040003001	132x95x80	80	70	18	105	55	16
40x1”	1009040004001	132x99x80	80	70	21	105	59	16
***40x1”1/4**	1009040005001	134x104x80	80	70	25	105	64	16
***40x1”1/2**	1009040006001	135x106x80	80	70	25	105	66	16

>>>





>>>

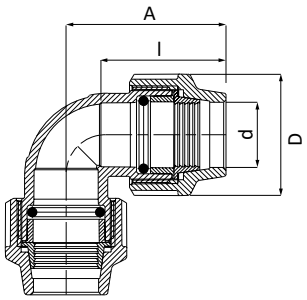
***50x1”1/4**	1009051005001	179x133x96	96	107	24	145	85	16
***50x1”1/2**	1009051006001	179x138x96	96	107	25	145	90	16
***50x2”**	1009051007001	184x138x96	96	107	25	145	90	16
***63x1”1/2**	1009064006001	214x159x115	115	130	26	173	101	16
***63x2”**	1009064007001	214x166x115	115	130	35	173	108	16
***63x2”1/2**	1009064008001	218x166x115	115	130	35	173	108	16
***75x2”**	1009076007001	240x188x129	129	142	36	193	123	16
***75x2”1/2**	1009076008001	240x190x129	129	142	37	193	125	16
***75x3”**	1009076009001	247x194x129	129	142	38	193	129	16
***90x3”**	1009091009001	274x218x155	155	157	40	216	140	16
***90x4”**	1009091010001	281x220x155	155	157	40	216	142	16
***110x3”**	1009111009001	362x226x183	183	222	40	294	134	16
***110x4”**	1009111010001	362x230x183	183	222	40	294	138	16

* La bouche filetée est renforcée par une bague en acier inox

1006

Coude à 90°

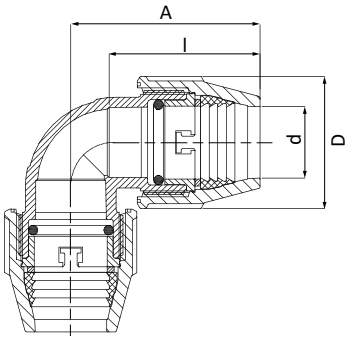




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	PN [bar]
16x16	1006016000001	85x85x42	42	64	49	16
20x20	1006020000001	92x92x46	46	69	50	16
25x25	1006025000001	113x113x55	55	86	62	16
32x32	1006032000001	127x127x63	63	96	70	16
40x40	1006040000001	157x157x80	80	117	79	16

>>>





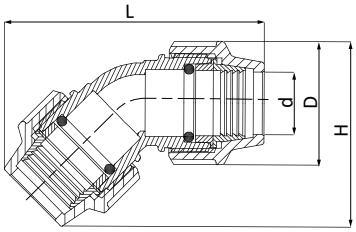
>>>

50x50	1006051000001	187x187x96	96	139	103	16
63x63	1006064000001	224x224x115	115	166	122	16
75x75	1006076000001	254x254x129	129	190	135	16
90x90	1006091000001	298x298x155	155	220	155	16
110x110	1006111000001	367x367x183	183	275	200	16

1018

Coude à 45°

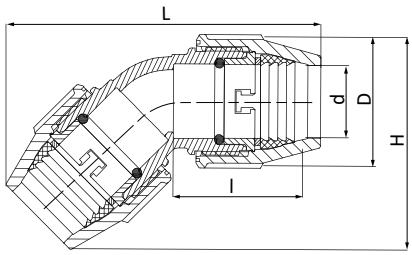




DIM dxd [mm]	CODE	D [mm]	L [mm]	H [mm]	PN [bar]
20x20	1018020000001	46	117	78	16
25x25	1018025000001	55	141	94	16
32x32	1018032000001	63	160	107	16
40x40	1018040000001	80	190	130	16

>>>





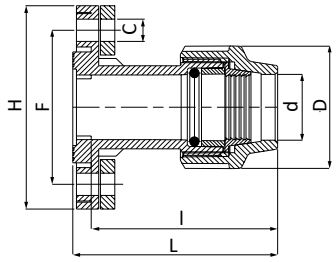
>>>

50x50	1018051000001	96	232	158	16
63x63	1018064000001	115	246	176	16

1011

Raccord à bride

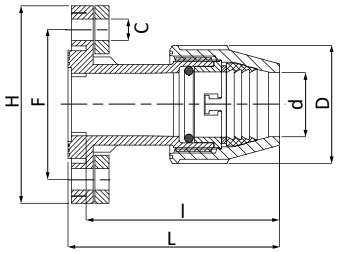




DIM dxDN [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	H [mm]	F [mm]	C [mm]	NF	PN [bar]
40x1”1/2 (DN40)	1011040006001	141x152x152	80	141	128	152	110	18	4	16

>>>





>>>

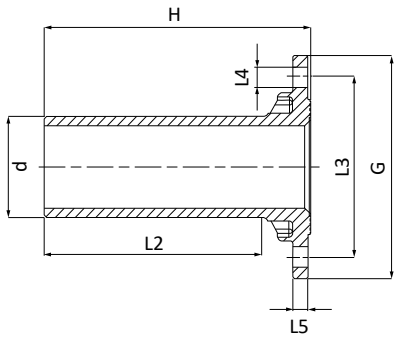
50x1”1/2 (DN40)	1011051006001	172x151x151	96	172	159	151	110	18	4	16
50x2” (DN50)	1011051007001	147x165x165	96	147	138	165	125	18	4	16
63x2” (DN50)	1011064007001	193x165x165	115	193	178	165	125	18	4	16
63x2”1/2 (DN65)	1011064008001	193x184x184	115	193	178	184	145	18	4	16
75x2”1/2 (DN65)	1011076008001	201x184x184	129	201	186	184	145	18	4	16
75x3” (DN80)	1011076009001	203x198x198	129	203	186	198	160	18	8	16
90x3” (DN80)	1011091009001	220x198x198	155	220	202	198	160	18	8	16
90x4” (DN100)	1011091010001	223x220x220	155	223	202	220	180	18	8	16
110x4” (DN100)	1011111010001	253x220x220	183	253	233	220	180	18	8	16

Bride en acier zingué

1053-A223

Bout bride





DIM d (DN) [mm]	CODE	DIM MAX LxHxP [mm]	G [mm]	H [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	NF	PN [bar]
63 (DN50)	1053063000001	170x201x170	170	201	169	125	18	12	4	16
63 (DN65)	1053063001001	183x201x183	183	201	164	145	18	12	4	16
75 (DN65)	1053075000001	183x217x183	183	217	184	145	18	12	4	16
75 (DN80)	1053075001001	200x217x200	200	217	177	160	18	12	8	16
90 (DN80)	1053090000001	200x240x200	200	240	199	160	18	14	8	16
110 (DN80)	1053110001001	200x305x200	200	305	272	160	18	14	8	16
110 (DN100)	1053110000001	224x305x224	224	305	265	180	18	14	8	16

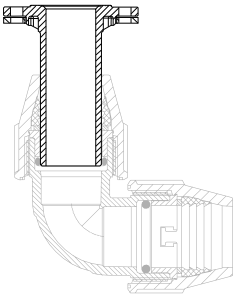
La bride correspondente est à commander séparément

Bride en acier zingué

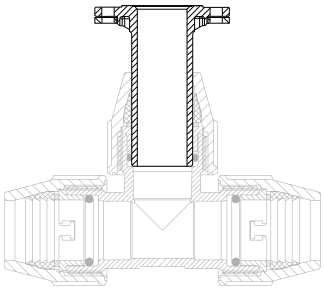
DIM [mm]	CODE	NF
63 (DN50)	A223000003	4
63 (DN65)	A223000004	4
75 (DN65)	A223000005	4
75 (DN80) - 90 (DN80) - 110 (DN80)	A223000007	8
110 (DN100)	A223000009	8

EXEMPLE D'INSTALLATION

Approprié pour l'insertion des raccords à compression Unidelta



CODE 1006

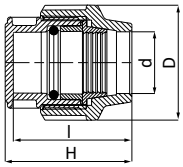


CODE 1005

1012

Bouchon

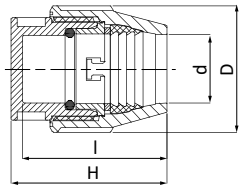




DIM d [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	PN [bar]
16	1012016000001	42x55x42	42	55	50	16
20	1012020000001	46x70x46	46	70	65	16
25	1012025000001	55x77x55	55	77	72	16
32	1012032000001	63x85x63	63	85	79	16
40	1012040000001	80x89x80	80	89	83	16

>>>





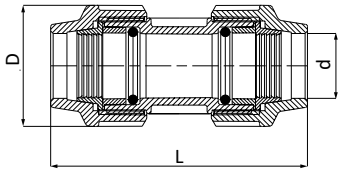
>>>

50	1012051000001	96x125x96	96	125	100	16
63	1012064000001	115x135x115	115	135	123	16
75	1012076000001	129x158x129	129	158	137	16
90	1012091000001	155x179x155	155	179	158	16
110	1012111000001	183x226x183	183	226	202	16

1014

Manchon de réparation

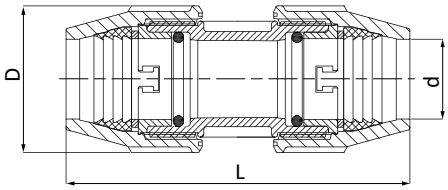




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	PN [bar]
25x25	1014025000001	122x55x55	55	122	16
32x32	1014032000001	139x63x63	63	139	16
40x40	1014040000001	168x80x80	80	168	16

>>>





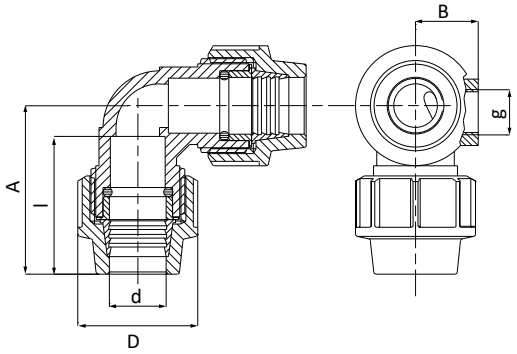
>>>

50x50	1014051000001	230x96x96	96	230	16
63x63	1014064000001	248x115x115	115	248	16
75x75	1014076000001	278x129x129	129	278	16
90x90	1014091000001	315x155x155	155	315	16
110x110	1014111000001	422x183x183	183	422	16

1023

Coude à 90° avec dérivation latérale femelle



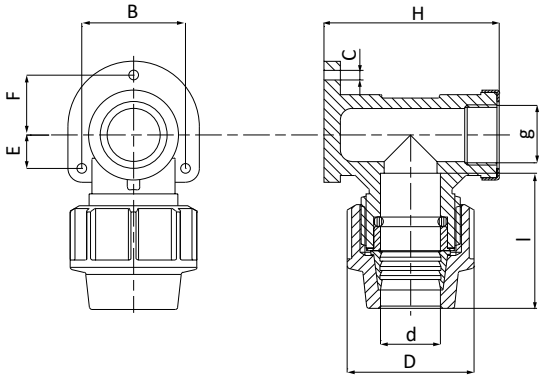


DIM dxdxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	B [mm]	PN [bar]
25x25x1/2”	1023025002001	113x113x58	55	86	62	30	16
32x32x1/2”	1023032002001	127x127x67	63	96	70	35	16
32x32x3/4”	1023032003001	127x127x68	63	96	70	36	16

1034

Applique murale

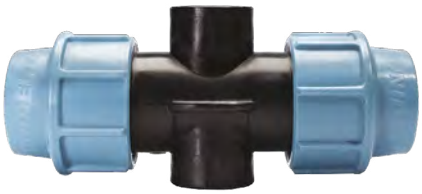


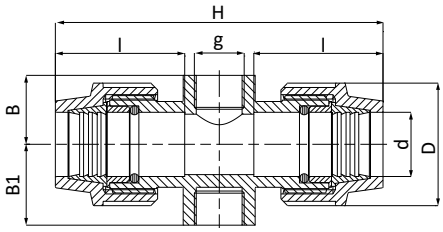


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	C [mm]	B [mm]	E [mm]	F [mm]	PN [bar]
20x1/2”	1034020002001	89x62x49	46	62	49	4	38	12	22	16
25x1/2”	1034025002001	116x74x57	55	74	66	4	44	15	25	16
25x3/4”	1034025003001	110x75x60	55	75	59	4	44	15	27	16
32x1”	1034032004001	124x86x67	63	86	72	5	56	20	28	16

1021

Té femelle avec fixation pour piquet





DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	B [mm]	B1 [mm]	PN [bar]
32x3/4"x32	1021320303001	77x168x63	63	168	66	36	41	16

1050

Canne mâle/femelle



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"F	1050003002001	28
3/4"Mx3/4"F	1050003003001	28

1052

Canne mâle/mâle



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"M	1052003002001	29,5

1051

Piquet



DIM g [in.]	CODE	L [cm]
3/4" M	1051000003001	29

EXEMPLE D'INSTALLATION





3.2 Raccord de transition universel

Le raccord de transition universel Unidelta code 1033 permet de raccorder de façon rapide et solide les tubes en polyéthylène de diamètre 20 et 32 mm à des tubes de n'importe quel matériau (par exemple acier, cuivre, plomb, PVC, etc.) dont le diamètre extérieur est compris entre 15 et 35 mm. De plus, il est adapté pour passer de tuyauteries en série métrique (diamètres en millimètres) à des tubes en série Impériale (diamètres en pouces).

Acier galvanisé, cuivre, plomb, U-PVC, PP, PE impériale et autres

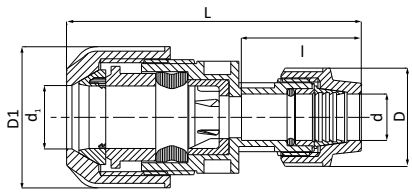


PE série métrique

1033

Raccord de transition universel





DIM $d_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	PN [bar]
15/22x20	1033020003001	145x62x62	46	62	145	60	10
15/22x25	1033025003001	145x62x62	55	62	145	64	10
20/27x20	1033020004001	150x69x69	46	69	150	64	10
20/27x25	1033025004001	150x69x69	55	69	150	64	10
27/35x25	1033025006001	158x79x79	55	79	158	64	10
20/27x32	1033032004001	158x69x69	63	69	158	72	10
27/35x32	1033032006001	165x79x79	63	79	165	72	10

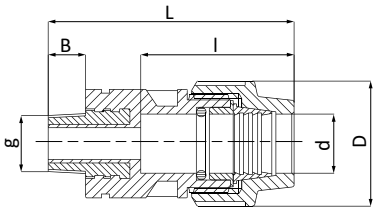
3.3 Raccords à compression de transition

Le raccord à compression de transition Unidelta est doté d'un insert métallique spécial fileté en laiton, surmoulé par le corps en polypropylène.

1035

Raccord fileté avec insert en laiton

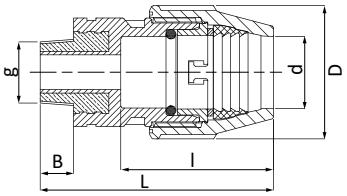




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	PN [bar]
20x1/2"	1035020002001	103x46x46	46	103	58	15	16
25x3/4"	1035025003001	112x55x55	55	112	64	17	16
32x1"	1035032004001	116x63x63	63	116	69	19	16
40x1"1/4	1035040005001	140x80x80	80	140	81	23	16
40x1"1/2	1035040006001	150x80x80	80	150	87	32	16

>>>





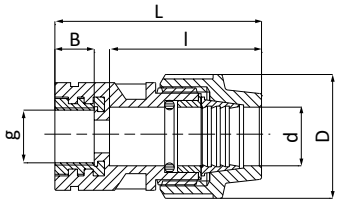
>>>

50x1"1/2	1035051006001	172x96x96	96	172	112	23	16
63x2"	1035064007001	186x115x115	115	186	122	24	16

1036

Raccord taraudé avec insert en laiton

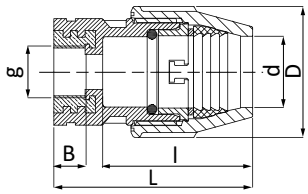




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1036020002001	88x46x46	46	88	58	14	16
25x3/4”	1036025003001	95x55x55	55	95	64	15	16
32x1”	1036032004001	106x63x63	63	106	69	18	16
40x3/4"	1036040003001	110x80x80	80	110	85	18	16
40x1”1/4	1036040005001	118x80x80	80	118	82	20	16
40x1”1/2	1036040006001	111x80x80	80	111	86	27	16

>>>





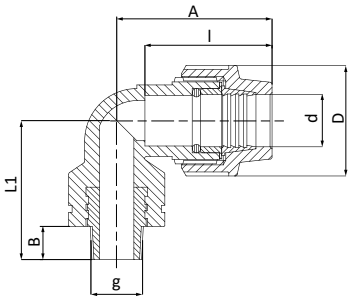
>>>

50x1”1/2	1036051006001	151x96x96	96	151	113	23	16
63x2”	1036064007001	164x115x115	115	164	121	24	16

1039

Coude à 90° fileté avec insert en laiton

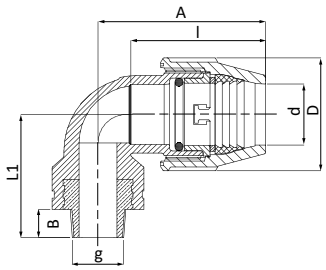




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	B [mm]	PN [bar]
20x1/2”	1039020002001	94x87x48	46	70	49	64	15	16
20x3/4”	1039020003001	99x89x55	46	71	51	66	16	16
25x3/4”	1039025003001	110x94x55	55	83	57	66	16	16
32x1”	1039032004001	126x118x66	63	93	62	86	29	16
40x1”1/4	1039040005001	149x127x80	80	112	72	87	23	16
40x1”1/2	1039040006001	144x127x80	80	112	78	87	32	16

>>>





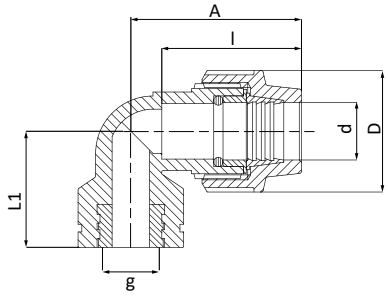
>>>

50x1”1/2	1039051006001	180x135x96	96	139	93	87	23	16
63x2”	1039064007001	196x163x115	115	149	99	105	27	16

1030

Coude à 90° taraudé avec insert laiton





DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	PN [bar]
40x3/4”	1030040003001	80x139x127	79	112	78	53	16

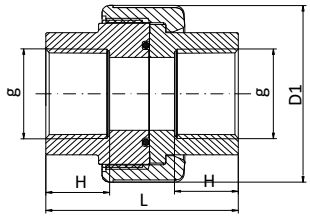
3.4 Manchon union

1054

Manchon union filetée femelle/femelle







DIM gxg [in.xin.]	CODE	L [mm]	H [mm]	D1 [mm]	Pmax [bar]
1/2"x1/2"	1054002002001	53	18	50	16
3/4"x3/4"	1054003003001	56	20	60	16
1"x1"	1054004004001	60	22	68	16
***1"1/4x1"1/4**	1054005005001	78,5	24	80	16
***1"1/2x1"1/2**	1054006006001	88,5	24	95	16
***2"x2"**	1054007007001	95	28	116	16
***2"1/2x2"1/2**	1054008008001	146	33	160,5	10
***3"x3"**	1054009009001	175,5	40	197	10

* La bouche filetée est renforcée par une bague en acier inox

3.5 Collier de prise de dérivation en charge

Caractéristiques techniques:
- Adapté aux tubes PE et PVC
- Matériau: PP-B
- Perforateur: laiton
- Joints: NBR toriques
- Boulons: acier INOX A4

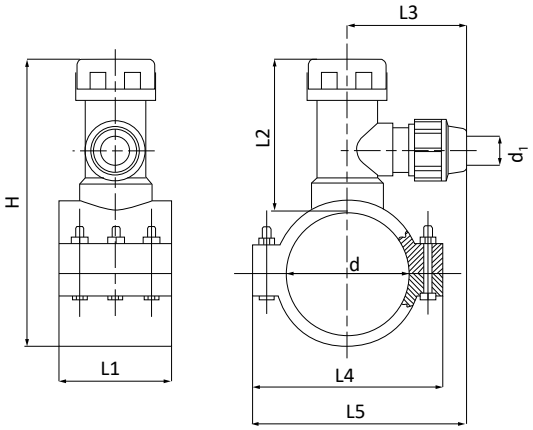
Normes:
- Pour tubes PE: UNI EN 12201 - ISO 4427 - DIN 8074
- Pour tubes PVC: UNI EN 1452 - DIN 8062
- Pour les essais: ISO 13460

Prescriptions sanitaires:
Les colliers de prise en charge avec dérivation Unidelta sont conformes aux normes relatives au transport de l'eau potable selon les prescriptions en vigueur en Italie et dans de nombreux autres pays.
Décret Ministériel n°174 du 06/04/2004.

1025

Collier de prise de dérivation en charge





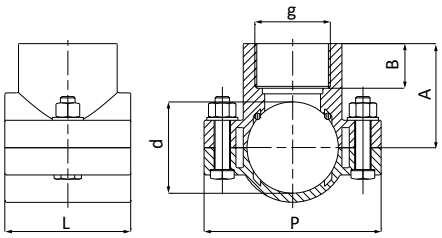
DIM dxd$_1$ [mm]	CODE	NF	V	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	Pmax [bar]
63x25	1025063025001	6	M8x40	201	80	132	115	115	173	16
63x32	1025063032001	6	M8x40	201	80	132	125	115	183	16
75x25	1025075025001	6	M8x50	211	90	129	115	129	180	16
75x32	1025075032001	6	M8x50	211	90	129	125	129	190	16
90x25	1025090025001	6	M8x50	226	90	129	115	144	187	16
90x32	1025090032001	6	M8x50	226	90	129	125	144	197	16
110x20	1025110020001	6	M8x60	249	100	130	110	168	194	16
110x25	1025110025001	6	M8x60	249	100	130	115	168	199	16
110x32	1025110032001	6	M8x60	249	100	130	125	168	209	16
160x20	1025160020001	6	M8x100	304	174	130	110	215	218	16
160x25	1025160025001	6	M8x100	304	174	130	115	215	223	16
160x32	1025160032001	6	M8x100	304	174	130	125	215	233	16

3.6 Colliers de prise en charge

1019

Collier de prise en charge





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1019025002001	38	20	76	49	2	10
25x3/4”	1019025003001	38	21	76	49	2	10
32x1/2”	1019032002001	41	17	81	56	2	10
32x3/4”	1019032003001	41	21	81	56	2	10
32x1”	1019032004001	44	23	81	56	2	10
40x1/2”	1019040002001	41	17	81	60	2	10
40x3/4”	1019040003001	46	18	81	60	2	10
40x1”	1019040004001	46	23	81	60	2	10
50x1/2”	1019050002001	50	17	98	69	4	10
50x3/4”	1019050003001	50	18	98	69	4	10
50x1”	1019050004001	52	20	98	69	4	10
50x1”1/4	1019050005001	57	25	98	69	4	10
63x1/2”	1019063002001	55	16	105	79	4	10
63x3/4”	1019063003001	55	18	105	79	4	10
63x1”	1019063004001	59	20	105	79	4	10
63x1”1/4	1019063005001	63	25	105	79	4	10
63x1”1/2	1019063006001	63	28	105	79	4	10
75x1/2”	1019075002001	62	17	120	90	4	10
75x3/4”	1019075003001	62	18	120	90	4	10
75x1”	1019075004001	65	21	120	90	4	10
75x1”1/4	1019075005001	68	24	120	90	4	10
75x1”1/2	1019075006001	68	23	120	90	4	10
75x2”	1019075007001	72	27	120	90	4	10
90x1/2”	1019090002001	70	17	135	90	4	10
90x3/4”	1019090003001	70	19	135	90	4	10
90x1”	1019090004001	72	21	135	90	4	10
90x1”1/4	1019090005001	76	24	135	90	4	10
90x1”1/2	1019090006001	76	24	135	90	4	10
90x2”	1019090007001	80	27	135	90	4	10

>>>

*PN 6 bar

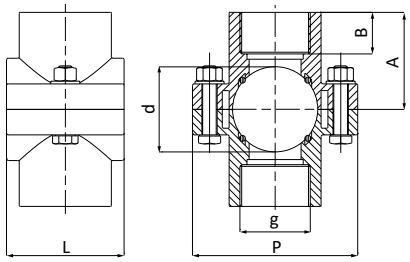
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1019110002001	80	17	168	99	4	10
110x3/4”	1019110003001	80	19	168	99	4	10
110x1”	1019110004001	84	20	168	99	4	10
110x1”1/4	1019110005001	86	23	168	99	4	10
110x1”1/2	1019110006001	86	23	168	99	4	10
110x2”	1019110007001	90	27	168	99	4	10
125x1/2”	1019125002001	108	25	190	106	6	10
125x3/4”	1019125003001	108	26	190	106	6	10
125x1”	1019125004001	109	26	190	106	6	10
125x1”1/4	1019125005001	109	25	190	106	6	10
125x1”1/2	1019125006001	113	28	190	106	6	10
125x2”	1019125007001	113	30	190	106	6	10
***160x3/4”**	1019160003001	108	19	215	175	6	6
***160x1”**	1019160004001	110	21	215	175	6	6
***160x1”1/4**	1019160005001	113	24	215	175	6	6
***160x1”1/2**	1019160006001	115	26	215	175	6	6
***160x2”**	1019160007001	117	30	215	175	6	6
***160x2”1/2**	1019160008001	125	32	215	175	6	6
***160x3”**	1019160009001	134	35	215	175	6	6
***160x4”**	1019160010001	135	40	215	175	6	6
***200x3/4”**	1019200003001	128	23	262	175	6	6
***200x1”**	1019200004001	130	23	262	175	6	6
***200x1”1/4**	1019200005001	133	23	262	175	6	6
***200x1”1/2**	1019200006001	133	23	262	175	6	6
***200x2”**	1019200007001	135	30	262	175	6	6
***200x2”1/2**	1019200008001	150	32	262	175	6	6
***200x3”**	1019200009001	152	35	262	175	6	6
***200x4”**	1019200010001	155	42	262	175	6	6

1020

Collier de prise en charge double





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1020025002001	38	20	76	49	2	10
25x3/4”	1020025003001	38	21	76	49	2	10
32x1/2”	1020032002001	41	17	81	56	2	10
32x3/4”	1020032003001	41	21	81	56	2	10
32x1”	1020032004001	44	23	81	56	2	10
40x1/2”	1020040002001	41	17	81	60	2	10
40x3/4”	1020040003001	46	18	81	60	2	10
40x1”	1020040004001	46	23	81	60	2	10
50x1/2”	1020050002001	50	17	98	69	4	10
50x3/4”	1020050003001	50	18	98	69	4	10
50x1”	1020050004001	52	20	98	69	4	10
50x1”1/4	1020050005001	57	25	98	69	4	10
63x1/2”	1020063002001	55	16	105	79	4	10
63x3/4”	1020063003001	55	18	105	79	4	10
63x1”	1020063004001	59	20	105	79	4	10
63x1”1/4	1020063005001	63	25	105	79	4	10
63x1”1/2	1020063006001	63	28	105	79	4	10
75x1/2”	1020075002001	62	17	120	90	4	10
75x3/4”	1020075003001	62	18	120	90	4	10
75x1”	1020075004001	65	21	120	90	4	10
75x1”1/4	1020075005001	68	24	120	90	4	10
75x1”1/2	1020075006001	68	23	120	90	4	10
75x2”	1020075007001	72	27	120	90	4	10

>>>

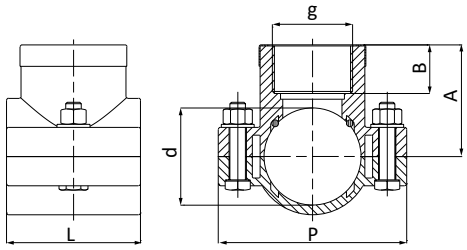
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1020090002001	70	17	135	90	4	10
90x3/4”	1020090003001	70	19	135	90	4	10
90x1”	1020090004001	72	21	135	90	4	10
90x1”1/4	1020090005001	76	24	135	90	4	10
90x1”1/2	1020090006001	76	24	135	90	4	10
90x2”	1020090007001	80	27	135	90	4	10
110x1/2”	1020110002001	80	17	168	99	4	10
110x3/4”	1020110003001	80	19	168	99	4	10
110x1”	1020110004001	84	20	168	99	4	10
110x1”1/4	1020110005001	86	23	168	99	4	10
110x1”1/2	1020110006001	86	23	168	99	4	10
110x2”	1020110007001	90	27	168	99	4	10
125x1/2”	1020125002001	108	25	190	106	6	10
125x3/4”	1020125003001	108	26	190	106	6	10
125x1”	1020125004001	109	26	190	106	6	10
125x1”1/4	1020125005001	109	25	190	106	6	10
125x1”1/2	1020125006001	113	28	190	106	6	10
125x2”	1020125007001	113	30	190	106	6	10

1026

Collier de prise en charge renforcé





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1026025002001	38	20	76	49	2	10
25x3/4”	1026025003001	38	21	76	49	2	10
32x1/2”	1026032002001	41	17	81	56	2	10
32x3/4”	1026032003001	41	21	81	56	2	10
32x1”	1026032004001	44	23	81	56	2	10
40x1/2”	1026040002001	41	17	81	60	2	10
40x3/4”	1026040003001	46	18	81	60	2	10
40x1”	1026040004001	46	23	81	60	2	10
50x1/2”	1026050002001	50	17	98	69	4	10
50x3/4”	1026050003001	50	18	98	69	4	10
50x1”	1026050004001	52	20	98	69	4	10
50x1”1/4	1026050005001	57	25	98	69	4	10
63x1/2”	1026063002001	55	16	105	79	4	10
63x3/4”	1026063003001	55	18	105	79	4	10
63x1”	1026063004001	59	20	105	79	4	10
63x1”1/4	1026063005001	63	25	105	79	4	10
63x1”1/2	1026063006001	63	28	105	79	4	10
75x1/2”	1026075002001	62	17	120	90	4	10
75x3/4”	1026075003001	62	18	120	90	4	10
75x1”	1026075004001	65	21	120	90	4	10
75x1”1/4	1026075005001	68	24	120	90	4	10
75x1”1/2	1026075006001	68	23	120	90	4	10
75x2”	1026075007001	72	27	120	90	4	10
90x1/2”	1026090002001	70	17	135	90	4	10
90x3/4”	1026090003001	70	19	135	90	4	10
90x1”	1026090004001	72	21	135	90	4	10
90x1”1/4	1026090005001	76	24	135	90	4	10
90x1”1/2	1026090006001	76	24	135	90	4	10
90x2”	1026090007001	80	27	135	90	4	10

>>>

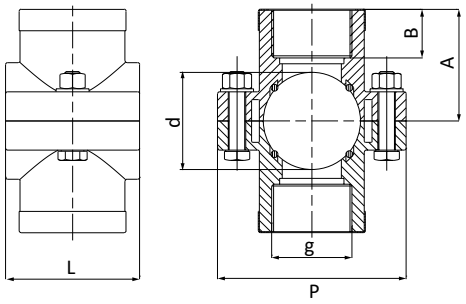
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1026110002001	80	17	168	99	4	10
110x3/4”	1026110003001	80	19	168	99	4	10
110x1”	1026110004001	84	20	168	99	4	10
110x1”1/4	1026110005001	86	23	168	99	4	10
110x1”1/2	1026110006001	86	23	168	99	4	10
110x2”	1026110007001	90	27	168	99	4	10
125x1/2”	1026125002001	108	25	190	106	6	10
125x3/4”	1026125003001	108	26	190	106	6	10
125x1”	1026125004001	109	26	190	106	6	10
125x1”1/4	1026125005001	109	25	190	106	6	10
125x1”1/2	1026125006001	113	28	190	106	6	10
125x2”	1026125007001	113	30	190	106	6	10
125x3”	1026125009001	113	35	190	106	6	10
160x3/4"	1026160003001	108	19	215	175	6	10
160x1”	1026160004001	110	21	215	175	6	10
160x1”1/4	1026160005001	113	24	215	175	6	10
160x1”1/2	1026160006001	115	26	215	175	6	10
160x2”	1026160007001	117	30	215	175	6	10
160x2”1/2	1026160008001	125	32	215	175	6	10
160x3”	1026160009001	134	35	215	175	6	10
160x4”	1026160010001	135	40	215	175	6	10
200x3/4”	1026200003001	128	23	262	175	6	10
200x1”	1026200004001	130	23	262	175	6	10
200x1”1/4	1026200005001	133	23	262	175	6	10
200x1”1/2	1026200006001	133	23	262	175	6	10
200x2”	1026200007001	135	30	262	175	6	10
200x2”1/2	1026200008001	150	32	262	175	6	10
200x3”	1026200009001	152	35	262	175	6	10
200x4”	1026200010001	155	42	262	175	6	10

1027

Collier de prise en charge double renforcé





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1027025002001	38	20	76	49	2	10
25x3/4”	1027025003001	38	21	76	49	2	10
32x1/2”	1027032002001	41	17	81	56	2	10
32x3/4”	1027032003001	41	21	81	56	2	10
32x1”	1027032004001	44	23	81	56	2	10
40x1/2”	1027040002001	41	17	81	60	2	10
40x3/4”	1027040003001	46	18	81	60	2	10
40x1”	1027040004001	46	23	81	60	2	10
50x1/2”	1027050002001	50	17	98	69	4	10
50x3/4”	1027050003001	50	18	98	69	4	10
50x1”	1027050004001	52	20	98	69	4	10
50x1”1/4	1027050005001	57	25	98	69	4	10
63x1/2”	1027063002001	55	16	105	79	4	10
63x3/4”	1027063003001	55	18	105	79	4	10
63x1”	1027063004001	59	20	105	79	4	10
63x1”1/4	1027063005001	63	25	105	79	4	10
63x1”1/2	1027063006001	63	28	105	79	4	10
75x1/2”	1027075002001	62	17	120	90	4	10
75x3/4”	1027075003001	62	18	120	90	4	10
75x1”	1027075004001	65	21	120	90	4	10
75x1”1/4	1027075005001	68	24	120	90	4	10
75x1”1/2	1027075006001	68	23	120	90	4	10
75x2”	1027075007001	72	27	120	90	4	10

>>>

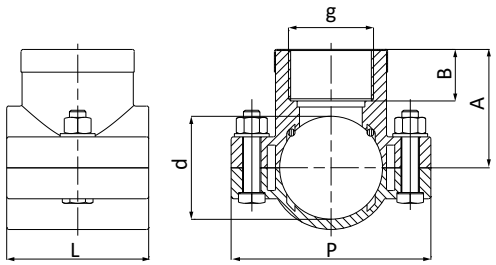
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1027090002001	70	17	135	90	4	10
90x3/4”	1027090003001	70	19	135	90	4	10
90x1”	1027090004001	72	21	135	90	4	10
90x1”1/4	1027090005001	76	24	135	90	4	10
90x1”1/2	1027090006001	76	24	135	90	4	10
90x2”	1027090007001	80	27	135	90	4	10
110x1/2”	1027110002001	80	17	168	99	4	10
110x3/4”	1027110003001	80	19	168	99	4	10
110x1”	1027110004001	84	20	168	99	4	10
110x1”1/4	1027110005001	86	23	168	99	4	10
110x1”1/2	1027110006001	86	23	168	99	4	10
110x2”	1027110007001	90	27	168	99	4	10
125x1/2”	1027125002001	108	25	190	106	6	10
125x3/4”	1027125003001	108	26	190	106	6	10
125x1”	1027125004001	109	26	190	106	6	10
125x1”1/4	1027125005001	109	25	190	106	6	10
125x1”1/2	1027125006001	113	28	190	106	6	10
125x2”	1027125007001	113	30	190	106	6	10

1031 - LA BLU

Collier de prise en charge renforcé





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
20x1/2”	1031020002001	40	25	76	54	2	16
25x1/2”	1031026002001	38	20	76	49	2	16
25x3/4”	1031026003001	38	21	76	49	2	16
32x1/2”	1031033002001	41	17	81	56	2	16
32x3/4”	1031033003001	41	21	81	56	2	16
32x1"	1031033004001	44	23	81	56	2	16
40x1/2”	1031041002001	41	17	81	60	2	16
40x3/4”	1031041003001	46	18	81	60	2	16
40x1”	1031041004001	46	23	81	60	2	16
50x1/2”	1031051002001	50	17	98	69	6	16
50x3/4”	1031051003001	50	18	98	69	6	16
50x1”	1031051004001	52	20	98	69	6	16
50x1”1/4	1031051005001	57	25	98	69	6	16
63x1/2”	1031064002001	55	16	105	79	6	16
63x3/4”	1031064003001	55	18	105	79	6	16
63x1”	1031064004001	59	20	105	79	6	16
63x1”1/4	1031064005001	63	25	105	79	6	16
63x1”1/2	1031064006001	63	28	105	79	6	16
75x1/2”	1031076002001	62	17	120	90	6	16
75x3/4”	1031076003001	62	18	120	90	6	16
75x1”	1031076004001	65	21	120	90	6	16
75x1”1/4	1031076005001	68	24	120	90	6	16
75x1”1/2	1031076006001	68	23	120	90	6	16
75x2”	1031076007001	72	27	120	90	6	16

>>>

>>>

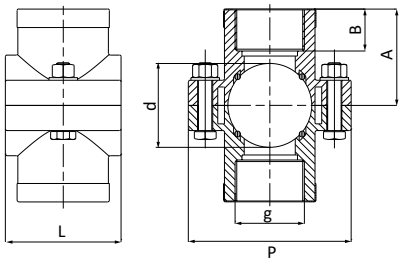
DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1031091002001	70	17	135	90	6	16
90x3/4”	1031091003001	70	19	135	90	6	16
90x1”	1031091004001	72	21	135	90	6	16
90x1”1/4	1031091005001	76	24	135	90	6	16
90x1”1/2	1031091006001	76	24	135	90	6	16
90x2”	1031091007001	80	27	135	90	6	16
110x1/2”	1031111002001	80	17	168	99	6	16
110x3/4”	1031111003001	80	19	168	99	6	16
110x1”	1031111004001	84	20	168	99	6	16
110x1”1/4	1031111005001	86	23	168	99	6	16
110x1”1/2	1031111006001	86	23	168	99	6	16
110x2”	1031111007001	90	27	168	99	6	16
125X1/2”	1031126002001	108	25	190	106	6	16
125X3/4”	1031126003001	108	26	190	106	6	16
125X1”	1031126004001	109	26	190	106	6	16
125X1”1/4	1031126005001	109	25	190	106	6	16
125X1”1/2	1031126006001	113	28	190	106	6	16
125x2"	1031126007001	113	30	190	106	6	16
160x3/4"	1031161003001	108	19	215	175	6	16
160x1"	1031161004001	110	21	215	175	6	16
160x1”1/4	1031161005001	113	24	215	175	6	16
160x1”1/2	1031161006001	115	26	215	175	6	16
160x2"	1031161007001	117	30	215	175	6	16
200x3/4"	1031201003001	128	23	262	175	6	16
200x1"	1031201004001	130	23	262	175	6	16
200x1”1/4	1031201005001	133	23	262	175	6	16
200x1”1/2	1031201006001	133	23	262	175	6	16
200x2"	1031201007001	135	30	262	175	6	16

Compatible aussi avec les tuyaux en Pvc dont les dimensions sont conformes à la norme EN 1452-2

1032 - LA BLU

Collier de prise en charge double renforcé





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1032026002001	38	20	76	49	2	16
25x3/4”	1032026003001	38	21	76	49	2	16
32x1/2”	1032033002001	41	17	81	56	2	16
32x3/4”	1032033003001	41	21	81	56	2	16
32x1”	1032033004001	44	23	81	56	2	16
40x1/2”	1032041002001	41	17	81	60	2	16
40x3/4”	1032041003001	46	18	81	60	2	16
40x1”	1032041004001	46	23	81	60	2	16
50x1/2”	1032051002001	50	17	98	69	6	16
50x3/4”	1032051003001	50	18	98	69	6	16
50x1”	1032051004001	52	20	98	69	6	16
50x1”1/4	1032051005001	57	25	98	69	6	16
63x1/2”	1032064002001	55	16	105	79	6	16
63x3/4”	1032064003001	55	18	105	79	6	16
63x1”	1032064004001	59	20	105	79	6	16
63x1”1/4	1032064005001	63	25	105	79	6	16
63x1”1/2	1032064006001	63	28	105	79	6	16

>>>

>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
75x1/2”	1032076002001	62	17	120	90	6	16
75x3/4”	1032076003001	62	18	120	90	6	16
75x1”	1032076004001	65	21	120	90	6	16
75x1”1/4	1032076005001	68	24	120	90	6	16
75x1”1/2	1032076006001	68	23	120	90	6	16
75x2”	1032076007001	72	27	120	90	6	16
90x1/2”	1032091002001	70	17	135	90	6	16
90x3/4”	1032091003001	70	19	135	90	6	16
90x1”	1032091004001	72	21	135	90	6	16
90x1”1/4	1032091005001	76	24	135	90	6	16
90x1”1/2	1032091006001	76	24	135	90	6	16
90x2”	1032091007001	80	27	135	90	6	16
110x1/2”	1032111002001	80	17	168	99	6	16
110x3/4”	1032111003001	80	19	168	99	6	16
110x1”	1032111004001	84	20	168	99	6	16
110x1”1/4	1032111005001	86	23	168	99	6	16
110x1”1/2	1032111006001	86	23	168	99	6	16
110x2”	1032111007001	90	27	168	99	6	16

Compatible aussi avec les tuyaux en Pvc dont les dimensions sont conformes à la norme EN 1452-2


UNIDELTA
Since 1973

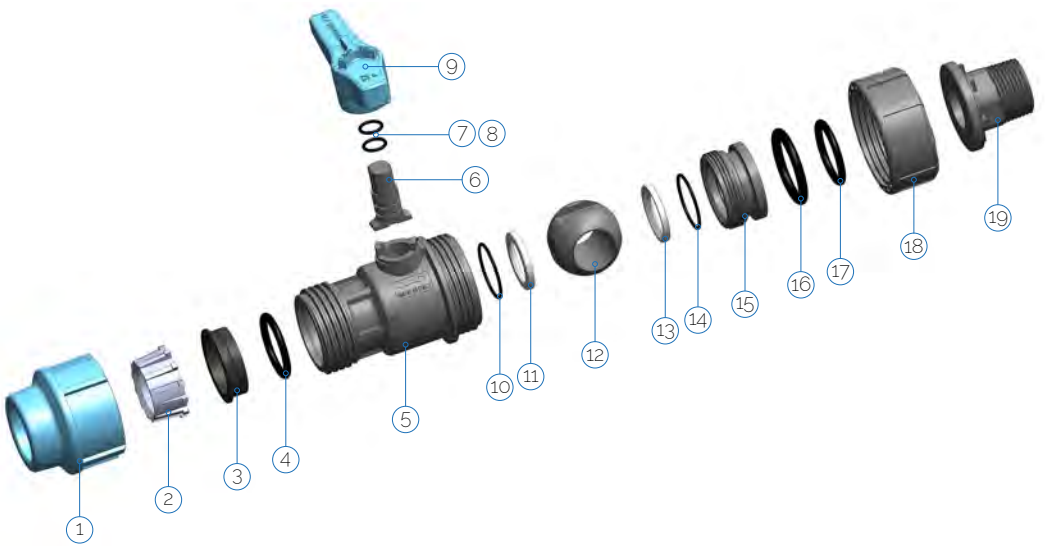

UNIDELTA

4. Vannes à bille

Les vannes à bille en polypropylène Unidelta sont spécialement réalisées pour être couplées à des tubes en polyéthylène et/ou des raccords filetés. Elles sont compatibles avec tous les tubes en LDPE, HDPE, PE40, PE80, PE100, PE100RC fabriqués selon les normes **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Elles sont généralement utilisées pour le transport de l'eau avec une pression maximale de 16 bars à 20°C jusqu'au diamètre 63/2" et 10 bar à 20°C pour les diamètres à partir de 75/2"1/2 (pour des températures supérieures, se référer aux limitations imposées par les normes des tubes PE). Les vannes sont également disponibles avec sortie/s filetée/s fabriquée/s selon les normes **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**

4.1 Structure et matériaux

Vue en éclaté vanne à bille



1. **Écrou:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
2. **Bague de crantage:** résine acétal POM.
3. **Douille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
4. **Joint torique d'étanchéité radial sur le tube:** caoutchouc nitrile (NBR).
5. **Corps:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
6. **Barre de contrôle:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
7. 8. **Joints toriques de la barre de contrôle:** caoutchouc nitrile (NBR).
9. **Poignée:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
10. 14. **Joints toriques d'étanchéité de la garniture de la bille:** caoutchouc nitrile (NBR).
11. 13. **Joints d'étanchéité de la bille:** Polytétrafluoroéthylène (PTFE).
12. **Bille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
15. **Support du joint de la bille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
16. **Joint torique d'étanchéité radiale:** caoutchouc nitrile (NBR).
17. **Joint torique d'étanchéité axiale:** caoutchouc nitrile (NBR).
18. **Écrou porte d'insert:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
19. **Insert avec sortie filetée:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.

4.2 Avantages des vannes à bille

Matériaux utilisés
La vanne Unidelta est composée de composants réalisés exclusivement en matière plastique. Il n'y a donc pas le risque d'oxydations et de corrosions pendant l'utilisation.

Haute résistance à la pression
Les vannes Unidelta peuvent travailler avec une pression maximale de 16 bars à 20°C.

Design
Les vannes Unidelta présentent un design compact qui permet l'installation même dans des espaces réduits. De plus, la poignée est amovible du corps de la vanne.

Facilité de montage
Les vannes Unidelta sont extrêmement faciles à assembler, grâce aussi au système innovant DeltOne pour le diamètre Ø50, Ø63, Ø75, Ø90.

Protection contre les rayons UV
Les matériaux des composants exposés des vannes Unidelta sont stabilisés aux rayons UV. Par conséquent, elles peuvent être installées même à l'extérieur.

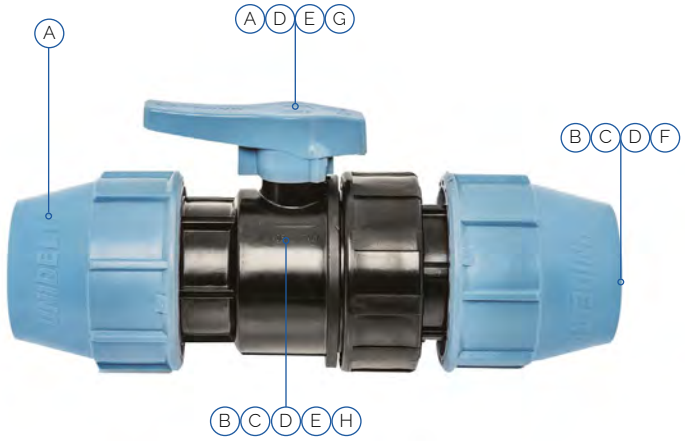
Flux bidirectionnel
Les vannes Unidelta peuvent être installées sans respecter le sens de passage de l'eau. Elles peuvent être installées dans le sens du flux ou inversement.

Possibilité d'inspection de la bille
La bille peut être inspecté. Cette caractéristique permet de nettoyer facilement la bille d'éventuels dépôts qui se sont formés pendant l'utilisation (voir les instructions au paragraphe "Accès à la bille" page 204).

4.3 Marquage

Les informations importantes sontmarquées directement sur la vanne:

(A) Nom du fabricant "**UNIDELTA**";
(B) Lieu de production "**MADE IN ITALY**";
(C) Matériel "**PP**";
(D) Diamètre du tube en polyéthylène à coupler (par ex. "**Ø40**");
(E) Diamètre nominal correspondant au filetage éventuel et, à titre indicatif, à la section de passage (par ex. "**1"1/4**" et "**DN 32**");
(F) Pression maximale de service (par ex. "**PN 16**");
(G) Direction d'ouverture et de fermeture de la vanne sur la poignée ("**OPEN**" et "**CLOSE**");
(H) **Double flèche** indiquant le flux bidirectionnel.



4.4 Accès à la bille

Dans les vannes Unidelta, la bille peut être inspectée: cette caractéristique est un grand avantage puisque cela permet d'éliminer d'éventuels dépôts qui se sont formés sur la bille pendant l'utilisation.

Pour accéder a la bille, suivre les 3 étapes suivantes:





Dévisser l'écrou porte d'insert (composant (18) de la "Vue en éclaté vanne à bille" page 201). Cela exposera la denture intérieure du porte-joint à bille (composant (15)). Ensuite, retirer la poignée de la tige de commande (composant (9)). Notez que la denture de la poignée pour les vannes Ø20-25-32 se trouve sur la partie supérieure (figure 1A) alors que pour les vannes Ø40-50-63-75-90, elle se trouve en bas (figure 1B).





Introduire la denture de la poignée à l'intérieur de la denture du support du joint de la bille. Pour dévisser, tourner la poignée dans le sens horaire (figure 2A et 2B).





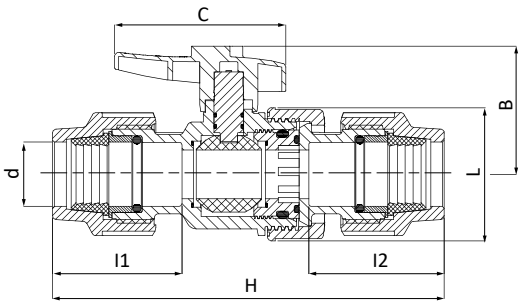
Retirer le support du joint de la bille de manière à permettre l'accès à la bille (figure 3A et 3B).

4.5 Fiches techniques

1070

Vanne à bille avec raccord à compression

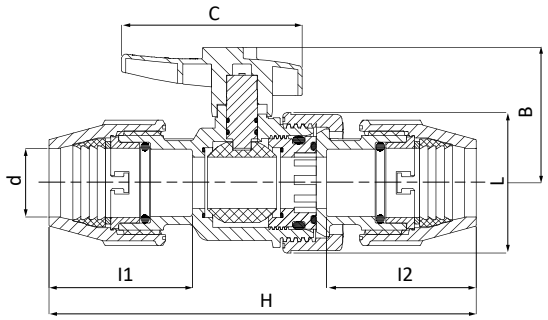




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





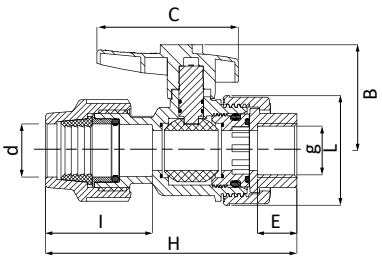
>>>

50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Vanne à bille de compression femelle

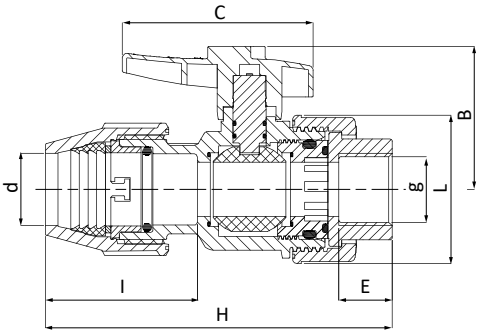




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82	24	80	77	100	16

>>>





>>>

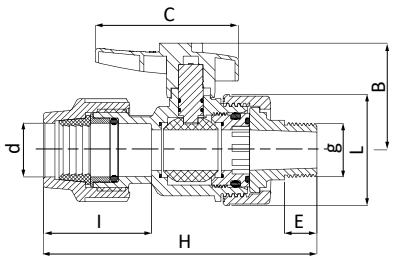
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* La bouche filetée est renforcée par une bague en acier inox

1072

Vanne à bille de compression mâle

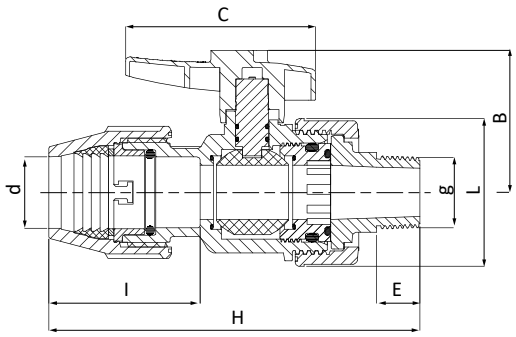




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80	77	100	16

>>>





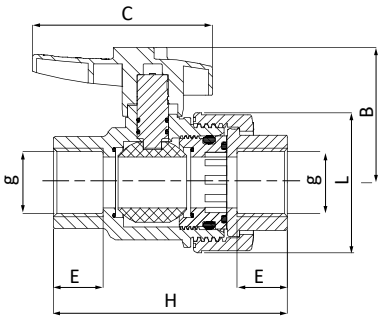
>>>

50x1"1/2	1072051006001	96x245x136	245	110	23	96	88	116	16
63x2"	1072064007001	116x275x158	275	120	27	116	100	127	16

1073

Vanne à bille filetée femelle/femelle





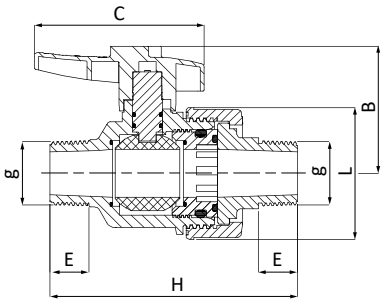
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	1073006006001	95x142x136	142	24	96	88	116	16
***2"x2"**	1073007007001	116x164x158	164	27	116	100	127	16
***2"1/2x2"1/2**	1073008008001	155x240x203	240	35	155	125	155	10
***3"x3"**	1073009009001	197x310x261	310	50	197	162	281	10

* La bouche filetée est renforcée par une bague en acier inox

1074

Vanne à bille filetée mâle/mâle



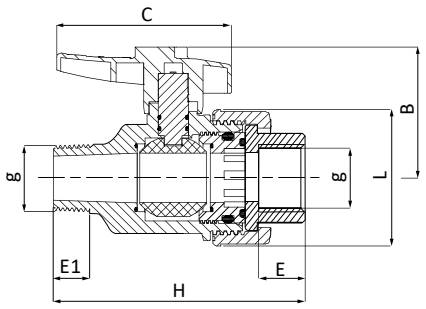


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2	1074006006001	95x187x136	187	23	95	88	116	16
2"x2"	1074007007001	116x216x158	216	27	116	100	127	16

1081

Vanne à bille filetée mâle/femelle





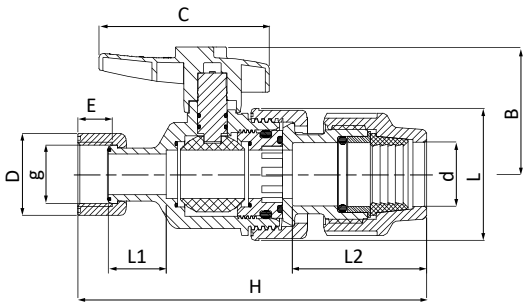
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	23	80	77	100	16
***1"1/2x1"1/2**	1081006006001	95x160x136	160	24	23	95	88	116	16
***2"x2"**	1081007007001	116x189x158	189	27	27	116	100	127	16

* La bouche filetée est renforcée par une bague en acier inox

1080

Vanne à bille avec écrou pivotant



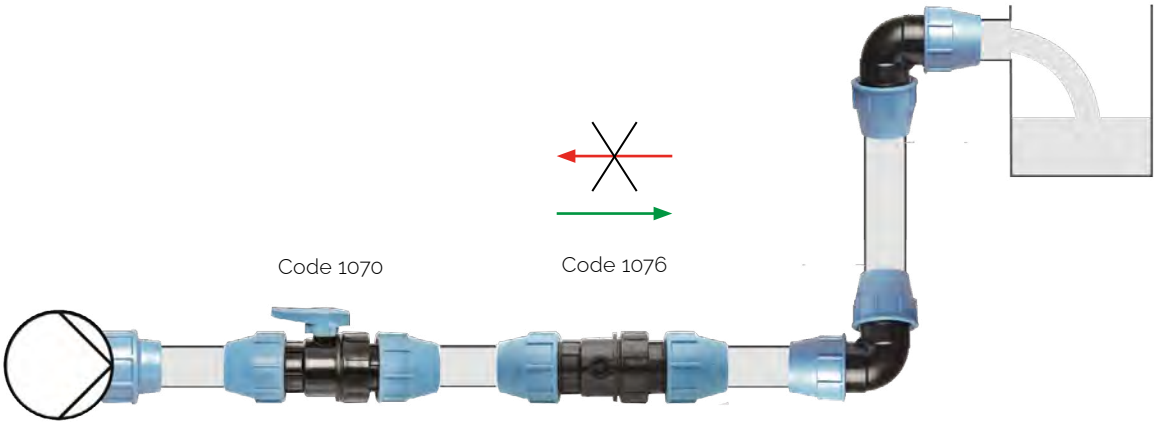


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

5. Vannes de retenue

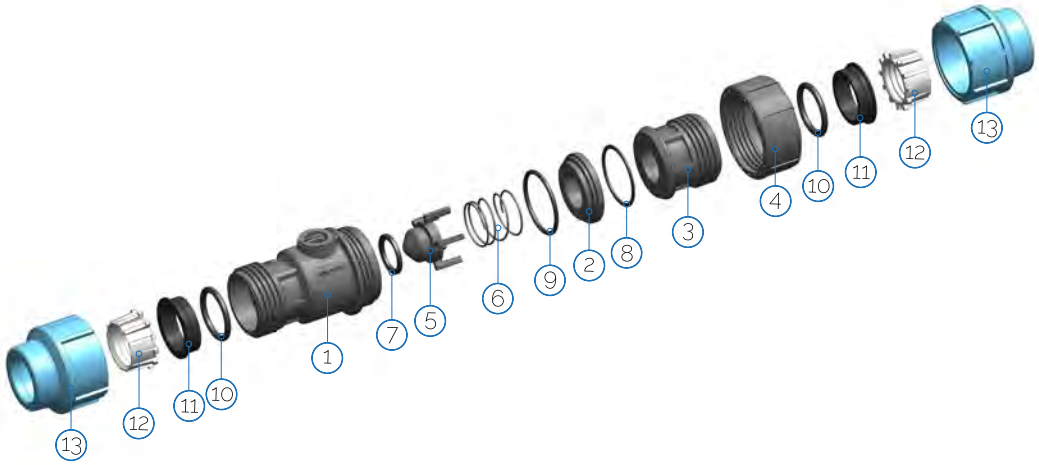
Les vannes de retenue en polypropylène Unidelta sont spécifi quement réalisés pour être couplés à des tubes en polyéthylène et/ou à des jonctions filetées. Ils sont compatibles avec les tubes en LDPE, HDPE, PE40, PE80, PE100, PE100RC réalisés selon les normes **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Elles sont normalement utilisées pour le transport d'eau avec une pression maximale de 16 bar à 20°C (pour des températures supérieures, se référer aux limitations imposées par les normes des tubes PE). Les vannes Unidelta sont également disponibles dans la version avec sortie filetée femelle réalisée selon les normes **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
Ces vannes, au moyen d'un obturateur, permettent le passage du flux dans un seul sens, s'opposant automatiquement à tout retour dans la direction opposée. L'image suivante montre un example schématique d'une application possible de la vanne de retenue installée dans le circuit de refoulement d'une pompe.

Exemple schématique d'une application



5.1 Structure et matériaux

Vue en éclaté vanne de retenue



1. **Corps:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
2. **Support joint torique:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
3. **Insert:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
4. **Écrou porte d'insert:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
5. **Obturateur:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
6. **Ressort:** acier inox AISI 302.
7. **Joint obturateur:** caoutchouc nitrile (NBR).
8. **Joint torique frontal:** caoutchouc nitrile (NBR).
9. **Joint torique radial:** caoutchouc nitrile (NBR).
10. **Joint torique d'étanchéité radial sur le tube:** caoutchouc nitrile (NBR).
11. **Douille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
12. **Bague de crantage:** résine acétal POM.
13. **Écrou compression:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.

5.2 Avantages des vannes de retenue

Matériaux utilisés
La vanne Unidelta est composée de composants réalisés exclusivement en matière plastique, à l'exception du ressort en acier inoxydable. Il n'y a donc pas le risque d'oxydation et de corrosion pendant l'utilisation.

Haute résistance à la pression
Les vannes Unidelta peuvent travailler avec une pression maximale de 16 bars à 20°C.

Design
Les vannes Unidelta présentent un design compact qui permet l'installation même dans des espaces réduits.

Facilité de montage
Les vannes Unidelta sont extrêmement faciles à assembler, grâce aussi au système innovant DeltOne pour le diamètre Ø50, Ø63.

Protection contre les rayons UV
Les matériaux des composants exposés des vannes Unidelta sont stabilisés aux rayons UV. Par conséquent, elles peuvent être installées même à l'extérieur.

Inspection de la vanne

La vanne de retenue est démontable simplement en dévissant l'écrou porte d'insert (composant (4) "Vue en éclaté vanne de retenue" page 211). Cette caractéristique permet de nettoyer facilement l'obturateur d'éventuels dépôts qui se sont formés pendant l'utilisation.

Fiabilité de fonctionnement

L'ouverture de l'obturateur se produit déjà avec une basse pression dans la direction du refoulement, alors que la parfaite étanchéité est assurée même avec une basse contre-pression dans le sens opposé.
Voir le tableau suivant:

Ø	Pression minimale d'ouverture de la vanne [bar]	Pression minimale d'étanchéité de la vanne [bar]
20	0,030	0,09
25	0,030	0,09
32	0,030	0,09
40	0,035	0,09
50	0,040	0,09
63	0,050	0,09

5.3 Marquage

Les informations importantes sont marquées directement sur la vanne:

(A) Nom du fabricant "**UNIDELTA**";
(B) Lieu de production "**MADE IN ITALY**";
(C) Matériel "**PP**";
(D) Diamètre du tube en polyéthylène à coupler (par ex. "**Ø40**");
(E) Diamètre nominal correspondant au filetage éventuel et, à titre indicatif, à la section de passage (par ex."**1"1/4**" et "**DN 32**");
(F) Pression maximale de service ("**PN 16**");
(G) **Flèche** indiquant la direction du flux.

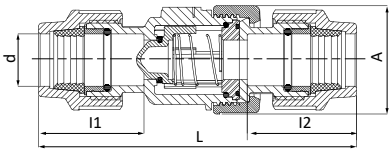


5.4 Fiches techniques

1076

Vanne de retenue à compression

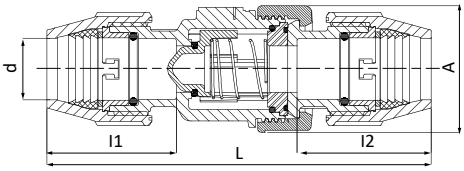




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





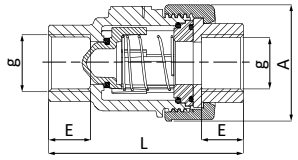
>>>

50x50	1076051000001	303x99x99	303	110	110	95	16
63x63	1076064000001	342x117x117	342	130	126	116	16

1077

Vanne de retenue filetée femelle/femelle





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	L [mm]	E [mm]	A [mm]	Pmax [bar]
1/2”x1/2”	1077002002001	89x50x50	89	17	50	16
3/4”x3/4”	1077003003001	99x60x60	99	18	60	16
1”x1”	1077004004001	110x68x68	110	21	68	16
***1”1/4x1”1/4**	1077005005001	128x83x83	128	24	80	16
***1”1/2x1”1/2**	1077006006001	142x99x99	142	24	95	16
***2”x2”**	1077007007001	167x117x117	167	27	116	16

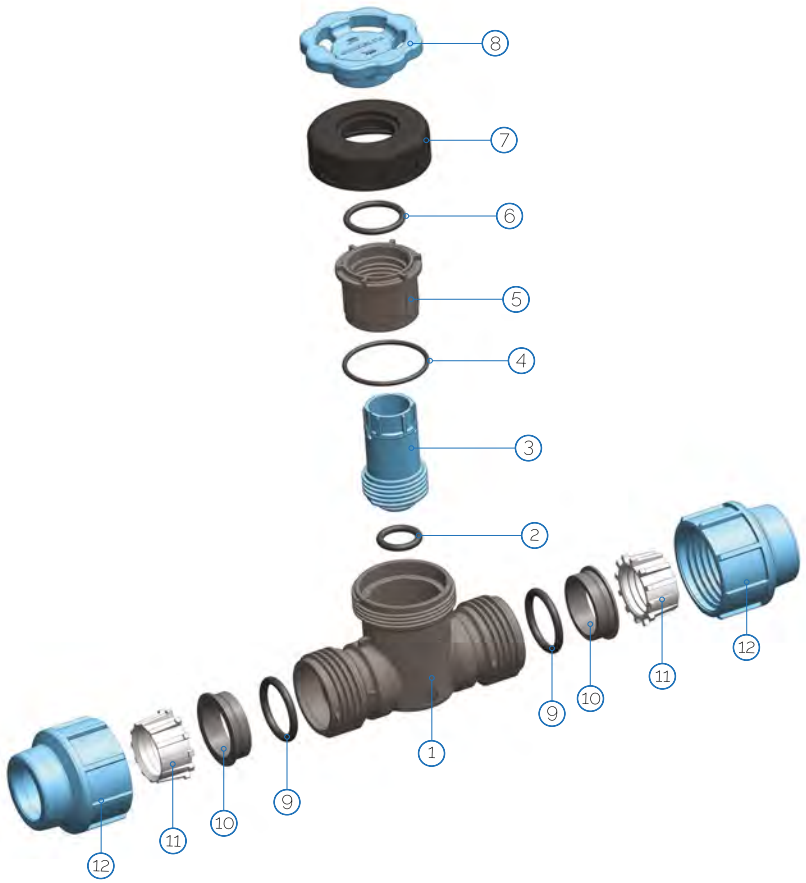
* La bouche filetée est renforcée par une bague en acier inox

6. Vannes à soupape droite

Les vannes à soupape droite en polypropylène Unidelta sont spécifiquement réalisées pour être couplés à des tubes en polyéthylène et/ou à des jonctions filetées. Ils sont compatibles avec les tubes en LDPE, HDPE, PE40, PE80, PE100, PE100RC réalisés selon les normes **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Elles sont normalement utilisées pour le transport d'eau avec une pression maximale de 16 bar à 20°C (pour des températures supérieures, se référer aux limites établis par les réglementations du tube PE). Les vannes Unidelta sont également disponibles dans la version avec sortie/s filetée/s réalisée/s selon les normes **ISO 7/1, EN 10226-1, DIN 2999, BS 21.** La vanne est ouverte et fermée à l'aide d'une poignée qui permet un ajustement progressif du débit.

6.1 Structure et matériaux

Vue en éclaté vanne à soupape droite



1. **Corps:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
2. **Tampon joint torique:** caoutchouc nitrile (NBR).
3. **Tampon de fermeture:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
4. **Joint torique corps:** caoutchouc nitrile (NBR).
5. **Insert:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
6. **Joint torique insert:** caoutchouc nitrile (NBR).
7. **Écrou supérieur:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
8. **Poignée:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
9. **Joint torique d'étanchéité radial sur le tube:** caoutchouc nitrile (NBR).
10. **Douille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.
11. **Bague de crantage:** résine acétal POM.
12. **Écrou:** polypropylène (PP-B) à haut degré de stabilité avec protection anti-UV.

6.2 Avantages des vannes à soupape droite

Matériaux utilisés
La vanne Unidelta est composée de composants réalisés exclusivement en matière plastique. Il n'y a donc pas le risque d'oxydations et de corrosions pendant l'utilisation.

Haute résistance à la pression
Les vannes Unidelta peuvent travailler avec une pression maximale de 16 bars à 20°C.

Design
Les vannes Unidelta présentent un design compact qui permet l'installation même dans des espaces réduits.

Facilité de montage
Les vannes Unidelta sont extrêmement faciles à assembler.

Protection contre les rayons UV
Les matériaux des composants exposés des vannes Unidelta sont stabilisés aux rayons UV. Par conséquent, elles peuvent être installées même à l'extérieur.

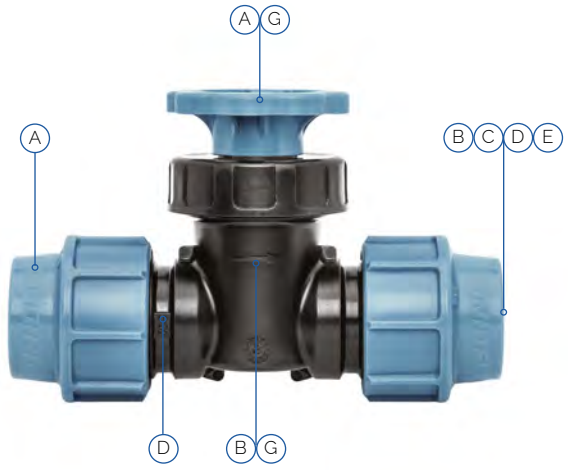
Ispezionabilità della valvola
La vanne à soupape droite est démontable simplement en dévissant l'écrou supérieur (composant (7) "Vue en éclaté vanne à soupape droite" page 214). Cette caractéristique permet de nettoyer facilement l'obturateur d'éventuels dépôts qui se sont formés pendant l'utilisation.

Ajustement du débit
Utilisez la poignée pour régler progressivement le débit.

6.3 Marquage

Les informations importantes sont marquées directement sur la vanne:

(A) Nom du fabricant "**UNIDELTA**";
(B) Lieu de production "**MADE IN ITALY**";
(C) Matériel "**PP**";
(D) Diamètre du tube en polyéthylène à coupler (par ex. "**Ø32**") ou du filetage de raccordement (par exemple **1"**);
(E) Pression maximale de service ("**PN 16**");
(F) **Flèche** indiquant la direction du flux;
(G) Direction d'ouverture et de fermeture de la vanne sur la poignée ("**OPEN**" et "**CLOSE**").

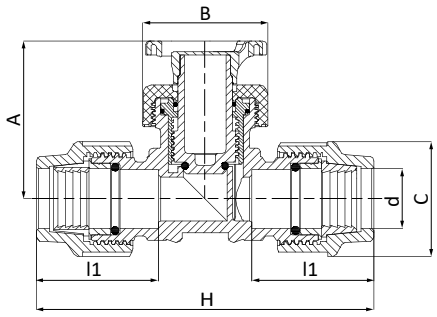


6.4 Fiches techniques

1078

Vanne à soupape à compression



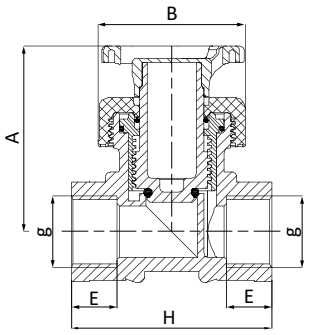


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

1079

Vanne à soupape femelle/femelle





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	A [mm]	B [mm]	Pmax [bar]
3/4"x3/4"	1079003003001	132x79x60	79	18	112	59	16
1"x1"	1079004004001	143x95x70	95	21	120	70	16

7. Instructions de montage des vannes

Vannes à bille, de retenue et à soupape droite Ø 20 mm ÷ 40 mm



Couper le tube orthogonalement à l'axe en utilisant des coupe-tubes spéciaux ou des scies circulaires ou à ruban. Dans ce dernier cas, afin d'obtenir une section droite, il est conseillé d'utiliser des boîtes de guidage.



Eliminer les bavures dues au découpage et émousser l'extrémité du tube pour en faciliter le montage et pour ne pas provoquer de dommages au joint de la vanne. La surface extérieure du tube ne doit pas présenter d'imperfections ou d'entailles sur toute la longueur d'insertion dans le corps de la vanne.



Dévisser l'écrou bleu et l'insérer sur le tube suivi de la bague de crantage. S'assurer que ce dernier ait le cône dans direction correcte, à savoir avec la partie la plus large tournée vers la vanne.



Pousser le tube dans le vanne en agissant en direction axiale en dépassant le joint jusqu'à la battue interne du corps de la vanne.



Visser d'abord l'écrou manuellement et ensuite en utilisant la clé de serrage spéciale. L'écrou doit être fermé avec force bien qu'il ne soit pas nécessaire qu'il aille en contact avec la battue terminale du corps de la vanne.

Vannes à bille, de retenue et à soupape droite Ø 50 mm ÷ 90 mm



Couper le tube orthogonalement à l'axe en utilisant des coupe-tubes spéciaux ou des scies circulaires ou à ruban. Dans ce dernier cas, afin d'obtenir une section droite, il est conseillé d'utiliser des boîtes de guidage.



Dévisser l'écrou bleu sans enlever les bagues bloquées à l'intérieur (composant intégré).



Faites glisser le composant intégré sur le tube puis le joint. Il est utile de lubrifier l'extrémité du tube et le joint avec un lubrifiant au silicone ou tout autre lubrifiant adapté au transport de l'eau potable.



Pousser le tube dans le corps de la vanne jusqu'à la battue interne.



Visser d'abord l'écrou manuellement et ensuite en utilisant une clé de serrage. L'écrou doit être fermé avec force bien qu'il ne soit pas nécessaire qu'il aille en contact avec la battue terminale du corps de la vanne.

8. Composants

8.1 Composants pour raccords à compression

A217

Douille



DIM	CODE
16	A217016000
20	A217020000
25	A217025000
32	A217032000
40	A217040000

>>>

>>>

DIM	CODE
50	A217050001
63	A217063001
75	A217075001
90	A217090001
110	A217110001

A218

Écrou



DIM	CODE
16	A218016000
20	A218020000
25	A218025000
32	A218032000
40	A218040000

>>>

>>>

DIM	CODE
50	A218050002
63	A218063002
75	A218075002
90	A218090002
110	A218110002

A219

Bague de crantage



DIM	CODE
16	A219016000
20	A219020000
25	A219025000
32	A219032000
40	A219040000

>>>

>>>

DIM	CODE
50	A219050001
63	A219063001
75	A219075001
90	A219090001
110	A219110001

A220

Joint torique



DIM	CODE
16	A220016000
20	A220020000
25	A220025000
32	A220032000
40	A220040000

>>>

>>>

DIM	CODE
50	A220050001
63	A220063001
75	A220075001
90	A220090001
110	A220110001

8.2 Composants pour vannes

A24601

Collet porte d'insert pour vanne à bille



DIM	CODE
20	A246010200
25	A246010250
32	A246010320
40	A246010400

>>>

>>>

DIM	CODE
50	A246010500
63	A246010630
75	A246010750
90	A246010900

A24602

Poignée pour vanne à bille



DIM	CODE
20	A246020200
25	A246020250
32	A246020320
40	A246020400

>>>

>>>

DIM	CODE
50	A246020500
63	A246020630
75	A246020750
90	A246020900

A24603

Poignée pour vanne à soupape droite



DIM	CODE
20-25 - 3/4"	A246032025
32 - 1"	A246030032

A24604

Douille supérieure noire pour vanne à soupape droite



DIM	CODE
20-25 - 3/4"	A246042025
32 - 1"	A246040032

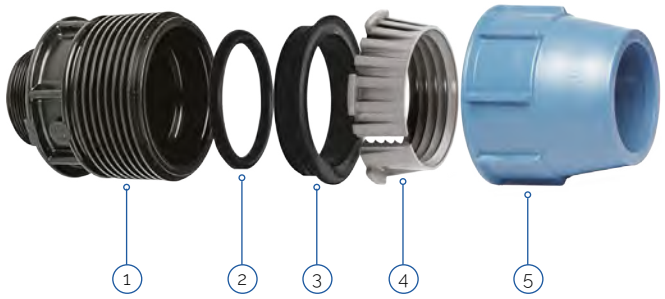
8.3 Composants spéciaux

DeltOne Mining est un raccord innovant spécialement développé par Unidelta pour **l'assemblage des tubes en polyéthylène destinés à des applications minières,** où la résistance chimique à des composés particuliers est essentielle car, par exemple, dans le processus de lixiviation, souvent utilisée pour l'extraction du cuivre, on utilise des solutions plus ou moins concentrées d'acide sulfurique. L'acide sulfurique est très agressif pour les joints en NBR et les bagues de crantage en résine acétal, utilisées pour les raccords de compression traditionnels. Unidelta a donc développé pour ce type d'application des composants en matériaux avec une résistance chimique supérieure à ceux habituellement utilisés.
DeltOne Mining conserve le même design innovant, la même simplicité d'assemblage et la même étanchéité que le raccord DeltOne classique, mais avec des **joints toriques en fluoroélastomère (VITON)** et une **bague de crantage en C-PVC.** En outre, le corps, la douille et l'écrou de blocage sont toujours en polypropylène.

Matériaux

Tous les matériaux cités ont une résistance chimique importante, ce qui permet à DeltOne Mining de travailler au contact de composés chimiques extrêmement agressifs, notamment les acides, qui agissent à la fois de l'intérieur (puisqu'ils sont présents dans le fluide transporté) et de l'environnement externe. DeltOne Mining est donc idéal non seulement dans le secteur minier, mais aussi dans toutes les applications nécessitant une résistance chimique élevée. Pour les résistances chimiques spécifiques, veuillez contacter directement Unidelta.

1. **Corps:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
2. **Joint torique:** VITON.
3. **Douille:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.
4. **Bague de crantage**: CPVC.
5. **Écrou:** polypropylène (PP-B) à haut degré de stabilité avec protection anti UV.



A219 - CPVC

Bague de crantage en CPVC



DIM	CODE
32	A219032002
63	A219063002
75	A219075002
90	A219090002
110	A219110002

A220 - VITON

Joint torique en VITON



DIM	CODE
63	A220063003
75	A220075003
90	A220090003
110	A220110003

9. Accessoires

1101

Chanfreineur



DIM	CODE
16 ÷ 160	1101016160001

1037

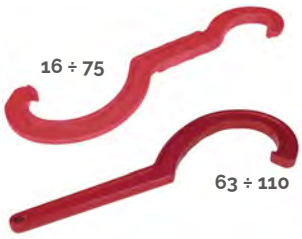
Clé pour raccords en polypropylène



DIM	CODE
16 ÷ 63	1037016001001

1038

Clé pour raccords en résine acétal



DIM	CODE
16 ÷ 75	1038016002001
63 ÷ 110	1038063002001

5033

Coupe tube à cisaille



DIM	CODE
10 ÷ 32	5033010032001
16 ÷ 63	5033016063001

10. Résistance chimique

"APPENDIX A Chemical resistance" page 521

Le tableau ci-dessous indique la résistance chimique des matériaux utilisés pour les composants des raccords en contact avec le fluide. Elle est relative à la température de 20°C pour les raccords non soumis à des contraintes mécaniques.

La résistance chimique est indiquée par la symbolique suivante. Quand elle n'est pas indiquée c'est que les essais n'ont pas été effectués.

S = Résistance satisfaisante: Peuvent être employés sans restrictions.
L = Résistance limitée: La substance peut attaquer le matériau. On doit réduire la pression et la température d'exercice. La durée en service du raccord peut se réduire.
NS = Résistance non satisfaisante: La substance agresse le matériau. Le raccord ne peut pas être employé.

La concentration est exprimée comme pourcentage en masse de la substance en solution aqueuse; dans certains cas elle est indiquée au moyen de la symbolique suivante:

Dil.sol. = Solution aqueuse diluée en concentration non supérieure à 10%.
Sol. = Solution aqueuse dans une concentration supérieure à 10% mais non saturée.
Sat.sol. = Solution aqueuse saturée.
tg = Substance pure.
tg-l = Substance pure à l'état liquide.
tg-g = Substance pure à l'état gazeux.
tg-s = Substance pure à l'état solide.
Work.sol. = Solution en concentration usuellement employé dans l'industrie.
Susp. = Suspension de solide en solution saturée.


UNIDELTA
Since 1973

Accesorios de compresión

Español

Definiciones y símbolos		**227**
1.	**Racores Unidelta de apriete mecánico**	**227**
2.	**Accesorios de compresión y collarines de toma**	**229**
2.1	Campos de aplicación	229
2.2	Normas de referencia	229
2.3	Certificaciones de calidad	229
2.4	Temperatura de trabajo	230
2.5	Resistencia a la tracción	230
2.6	Estanqueidad hidráulica	231
2.7	Materiales	232
2.8	Instrucciones de montaje	235
3.	**Fichas tecnicas**	**242**
3.1	Accesorios de compresión	242
3.2	Manguito de transición universal	261
3.3	Accesorios de compresión de transición	262
3.4	Enlace 3 piezas	265
3.5	Collar de derivación de toma en carga	266
3.6	Collarines de toma	267
4.	**Válvulas de bola**	**275**
4.1	Estructura y materiales	275
4.2	Ventajas de las válvulas de bola	276
4.3	Marcado	277
4.4	Acceso a la esfera	278
4.5	Fichas técnicas	279
5.	**Válvulas de retención**	**284**
5.1	Estructura y materiales	285
5.2	Ventajas de las válvulas de retención	285
5.3	Marcado	286
5.4	Fichas técnicas	287

6.	**Válvulas de asiento**	**288**
6.1	Estructura y materiales	288
6.2	Ventajas de las válvulas de asiento	289
6.3	Marcado	289
6.4	Fichas técnicas	290
7.	**Instrucciones de montaje de las válvulas**	**291**
8.	**Componentes**	**293**
8.1	Componentes para accesorios de compresión	293
8.2	Componentes para válvulas	294
8.3	Componentes especiales	295
9.	**Equipos**	**296**
10.	**Resistencia química**	**297**

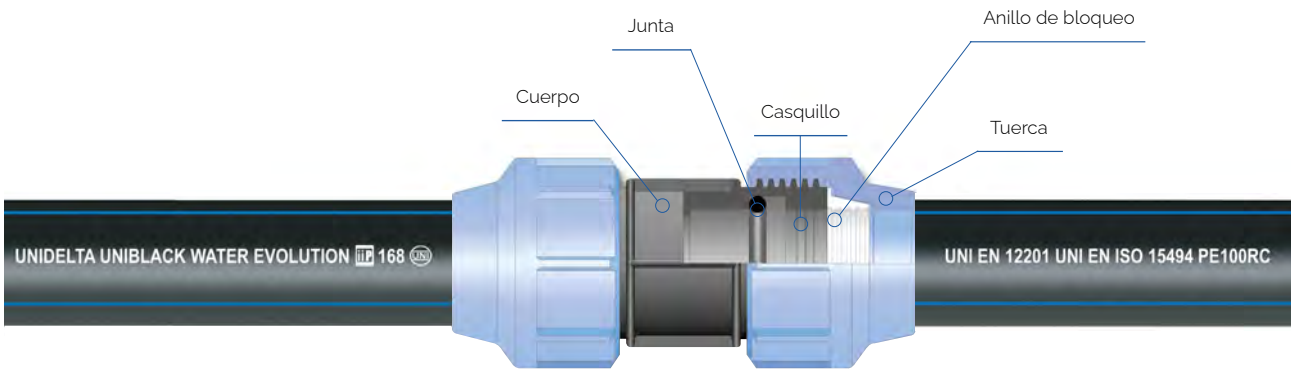
Definiciones y símbolos

PP-B	Polipropileno copolímero	DN	Diámetro nominal [mm]
POM	Resina acetálica	NF, V	Número de orificios
NBR	Goma de nitrilo	d, d_1	Diámetros de acoplamiento [mm]
PEBD	Polietileno baja densidad	g	Roscado nominal [in.]
PEAD	Polietileno alta densidad		Idóneo para agua fría
PTFE	Politetrafluoroetileno		Componentes especiales
PN	Presión nominal [bar]		Accesorios de compresión
Pmax	Presión máxima [bar]		Catálogo técnico
PFA	Presión de funcionamiento admisible (EN805): presión hidrostática máxima que un componente es capaz de soportar durante el ejercicio en servicio continuo [bar]		

1. Racores Unidelta de apriete mecánico

Estos tipos de racores pueden ser de metal o de plástico, como los racores de compresión de polipropileno Unidelta: son juntas extraíbles y fáciles de instalar. El sistema de conexión se basa en el engatillado del tubo de polietileno mediante anillos dentados que envuelven y aprietan la tubería. La gama de racores de polipropileno Unidelta comprende los diámetros de 16 a 110 mm con presiones nominales de 16 bares.

Manguito de apriete mecánico de polipropileno



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Since 1973



DELTONE System

Polypropylene (PP-B) high-stability

Compression fittings • Valves • Clamp saddles

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2. Accesorios de compresión y collarines de toma

2.1 Campos de aplicación

Los accesorios de compresión y los collarine de toma Unidelta son productos específicos para la **unión de tubos de polietileno** con diámetro exterior comprendido entre 16 mm y 110 mm (200 mm para los collarine de toma). Son compatibles con todos los tubos de LDPE, HDPE, PE40, PE80, PE100, PE100RC realizados según las normativas **EN 12201, ISO 4427, DIN 8074, UNI 7990.** Son utilizados normalmente para el transporte de agua potable y fluidos a presión hasta 16 bar para usos genéricos. Gracias a las características de los materiales con los que están realizados, los accesorios son resistentes a la agresión de numerosas **sustancias químicas** (ver "APPENDIX A Chemical resistance" página 521) y también a los **rayos UV.**
Por medio del accesorios universal Unidelta es posible conectar instalaciones de tubos de PE métrico con tubos pre-existentes de cualquier material con diámetro exterior comprendido entre 15 mm y 35 mm.

2.2 Normas de referencia

Los accesorios y los collarines de toma Unidelta están fabricados según las normativas para el transporte del agua potable vigentes en Italia y en muchos otros Países. Decreto Ministerial n.174 del 06/04/2004.

Accesorios y collarines
Conformes con las normativas ISO 17885, DIN 8076, ISO 13460.

Roscas
Conformes con las normativas ISO7/1, DIN 2999, BS 21, EN 10226-1.

Bridas
Agujeros y distancia entre los ejes conformes con las normativas UNI 2223, UNI 2278, DIN 8063, UNI EN 1092-1.

2.3 Certificaciones de calidad

Unidelta trabaja en plena conformidad con las normativas de los Sistemas de Calidad **UNI EN ISO 9001:2015**, de acuerdo con los cuales está certificada desde 1995. En 2016 también obtuvo las certificaciones **ISO 14001** (Sistemas de Gestión Ambiental) y **BS OHSAS 18001** (Sistemas de Gestión de la Seguridad y Salud en el Trabajo) actualizado en 2020 con la **ISO 45001:2018** (Sistemas de Gestión para la Salud y la Seguridad en el Trabajo).
Los accesorios Unidelta son ensayados y aprobados por innumerables institutos de certificación.

NB. La gamma dei prodotti certificati IIP è visionabile sul sito www.unidelta.com e/o www.iip.it
NB. The range of products approved by Kiwa can be seen on the web site www.kiwa.com/nl
NB. Watermark L.N. 26588: Please see the certifi cate for the list of the products which are covered by the approval. register.saiglobal.com

2.4 Temperatura de trabajo

Los accesorios y los collarines de toma no son adecuados para ser **utilizados con agua caliente** ya que están limitados por los campos de utilización de los tubos de polietileno. Las temperaturas de funcionamiento máximas son las correspondientes a la utilización de tubos de polietileno y por lo tanto es necesario referirse a las normativas vigentes en el propio País. **Los accesorios y los collarines de toma resisten a temperaturas inferiores a los 0°C.** En la tabla siguiente está indicada la máxima presión de funcionamiento admisible en servicio continuo (PFA) al variar la temperatura en caso de que el fluido transportado sea agua en conformidad con la EN 805, EN 12201 e ISO 13761. Para valores comprendidos entre los indicados es posible efectuar una interpolación lineal.

T de servicio [°C]	≤20°	25°	30°	35°	40°	45°
PFA [bar]	16	14,9	13,9	12,8	11,8	10,8
PFA [bar]	10	9,3	8,7	8	7,4	6,7

2.5 Resistencia a la tracción

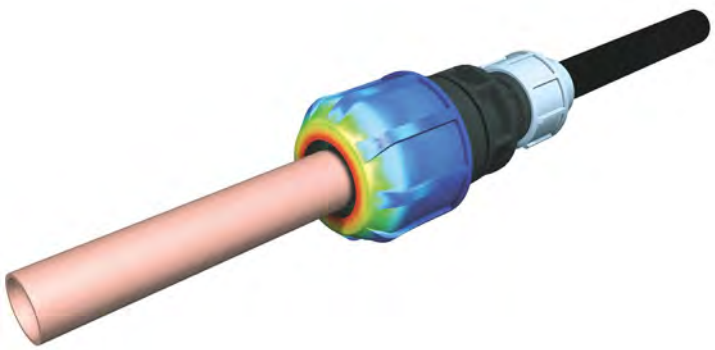
Unidelta somete sus accesorios a pruebas de tracción con las cargas indicadas en la tabla "Cargas de pruebas de tracción" (duración del ensayo de una hora y a 20°C) cumpliendo a las indicaciones de las normativas más restrictivas.

Cargas de pruebas de tracción

	PE100 - PN 16	
Ø [mm]	**F [N]**	**F [kgf]**
16	883	85
20	1225	125
25	1774	181
32	2950	301
40	4557	465
50	7076	722
63	11250	1148
75	15719	1604
90	22736	2320
110	33898	3459



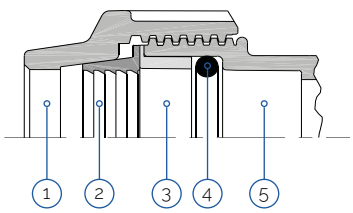
Análisis FEM - Distribución de esfuerzos en la tuerca del accesorio universal sometido a cargas de tracción y presión coombinadas

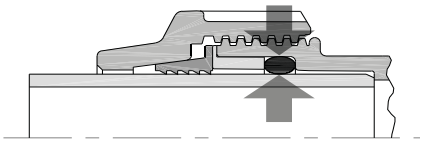


2.6 Estanqueidad hidráulica

La estanqueidad hidráulica en un accesorio mecánico está relacionada con el tipo de sello utilizado y a la presión que el accesorio una vez instalado consigue ejercer sobre las superficies de contacto entre la junta misma, el tubo y el cuerpo del accesorio.

Estanqueidad hidráulica del racor Unidelta Ø de 16 a 40 mm





1 Tuerca
2 Anillo de bloqueo
3 Casquillo
4 Junta tórica
5 Cuerpo

4 Junta tórica Unidelta

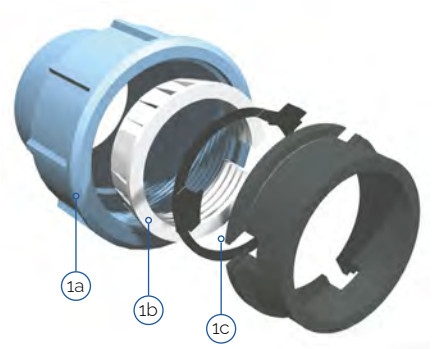


Unidelta ha podido probar en el estudio y el desarrollo de sus accesorios diferentes soluciones en las condiciones más difíciles a las cuales los accesorios puedan estar sometidos durante su periodo de funcionamiento tanto por lo que concierne al estado del tubo a empalmar (ovalización, subdimensionamiento), como por lo que concierne a la carga aplicada. De hecho un accesorios utilizado en una instalación puede ser sometido a esfuerzo por continuos ciclos de presión variable, sobrepresiones debidas a interferencias tales que golpes de ariete, presiones externas superiores a la presión interna de la instalación, cargas de tracción, flexión y otras. Generalmente se prevé que la vida de una instalación sea de muchos años y por eco los accesorios deben garantizar prestaciones constantes a largo plazo. Sobre la base de los ensayos efectuados se ha observado que el tipo de junta que garantiza las mejores prestaciones en todos los casos posibles es la de geometría toroidal O-ring (no es por casualidad que el O-ring es el sello normalmente utilizado en las aplicaciones mecánicas más severas).

Para garantizar una elevada seguridad en el tiempo es importante que la compresión de la junta dependa de a la fuerza de sujeción de la tuerca, si así fuera se podrían generar riesgos de pérdidas debidas a una sujeción incorrecta del accesorio o al aflojamiento de la tuerca sometida a ciclos de presión variable. Los accesorios Unidelta van equipados con una junta O-ring colocada en un alojamiento cilíndrico, por lo que no es necesario utilizar anillos de compresión.

Para los accesorios con diámetro de 50, 63, 75, 90 y 110 mm ha sido desarrollado el sistema DeltOne en el cual la tuerca, el anillo de bloqueo y el casquillo están unidos para formar un único componente.
La junta tórica utilizada es siempre de tipo O-ring como en el modelo clásico. De este modo el montaje del accesorio resulta extremadamente fácil y rápido sin perjudicar a las características de seguridad de la junta.

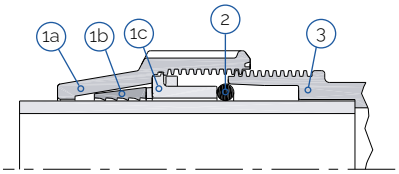
Sistema DeltOne para accesorios Ø 50, 63,75, 90, 110 mm



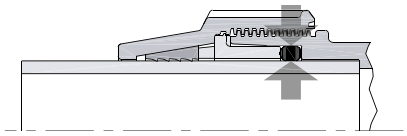
La tuerca (1a), el anillo de bloqueo (1b) y el casquillo (1c) están unidos en un único elemento para facilitar el montaje del accesorio sobre el tubo.



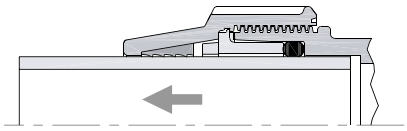
Estanqueidad hidráulica del accesorio tipo DeltOne Ø 50, 63, 75, 90, 110 mm



La tuerca (1a), el anillo de bloqueo (1b) y el casquillo (1c) están unidos en un único elemento.



Atornillando la tuerca (1a) al cuerpo (3), la junta tórica (2) es empujada en su alojamiento precisamente (el casquillo no debe comprimir la junta para preservar la funcionalidad del O-ring).

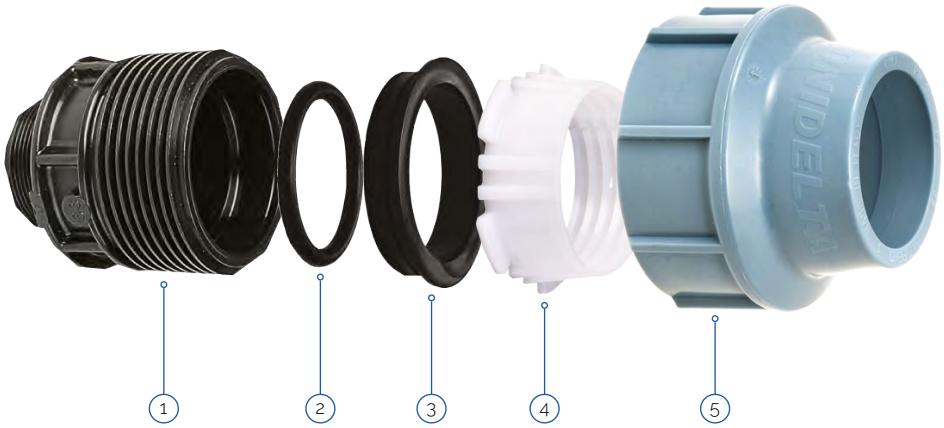


En caso de fuerza de tracción el anillo de bloqueo se introduce en la conicidad de la tuerca asegurando resistencia al desgrane.

2.7 Materiales

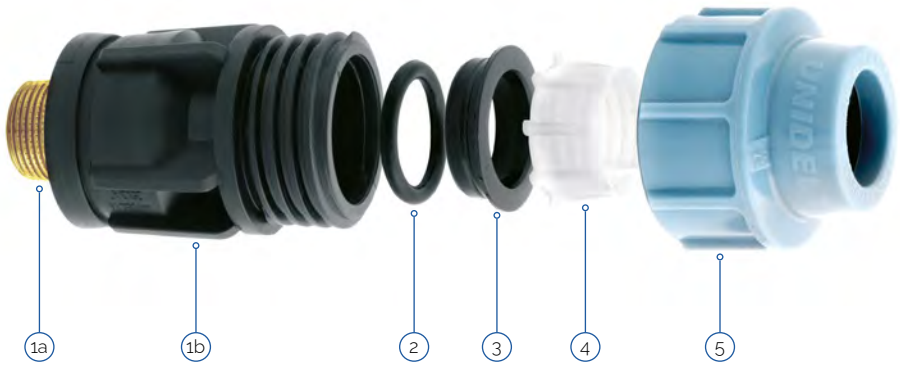
Accesorios de compresión

(1) **Cuerpo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
(2) **Junta tórica:** O-ring.
(3) **Casquillo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
(4) **Anillo de bloqueo:** resina acetálica (POM).
(5) **Tuerca:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.



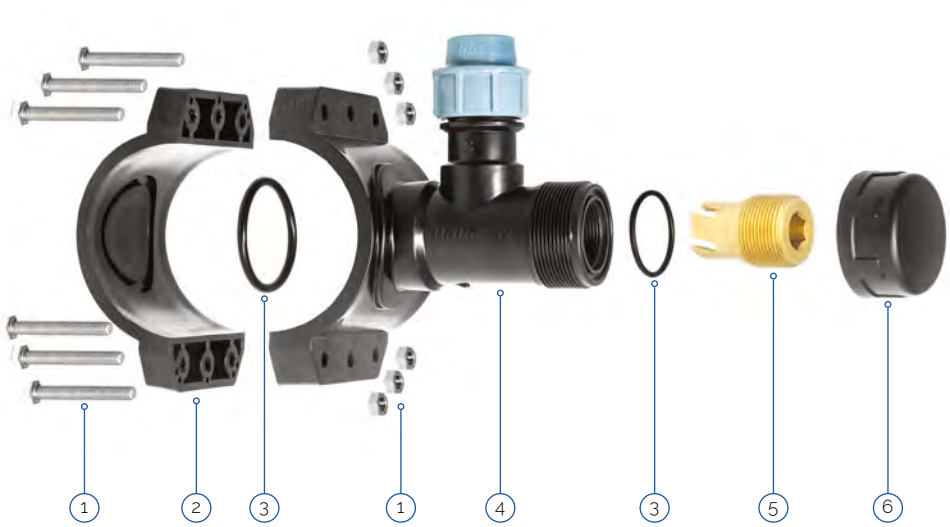
Accesorios de compresión de transición

(1a) **Rosca:** inserto metálico de latón impreso en el cuerpo.
(1b) **Cuerpo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
(2) **Junta tórica:** O-ring.
(3) **Casquillo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
(4) **Anillo de bloqueo:** resina acetálica (POM).
(5) **Tuerca:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.



Collare de derivación de toma en carga

(1) **Pernos:** acero inoxidable A4.
(2) **Fonda del collar:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
(3) **Junta tórica:** O-ring.
(4) **Derivación del collar:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
(5) **Perforador:** latón.
(6) **Tapón:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.



Collarines de toma PN 10

1 **Pernos:** acero galvanizado.
2 **Fondo del collarìn:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
3 **Junta tórica:** O-ring.
4 **Derivación del collarìn:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
5 **Anillo de refuerzo:** acero inox.



Collarines de toma PN 16

1 **Pernos:** acero galvanizado.
2 **Fondo del collarìn:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
3 **Junta tórica:** O-ring.
4 **Derivación del collarìn:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
5 **Anillo de refuerzo:** acero inox.



2.8 Instrucciones de montaje

Video Tutorial
Unidelta SPA Official

Accesorios de compresión Ø 16 mm ÷ 40 mm



Cortar el tubo en ángulo recto al eje utilizando corta-tubos especiales o sierras circulares o de cinta. En este último caso para obtener una sección recta se recomienda utilizar cajas guía.



Eliminar rebabas debidas al corte y biselar la extremidad del tubo para facilitar su montaje y para no provocar daños a la junta del accesorio. La superficie externa no debe presentar imperfecciones o cortes en toda la longitud de introducción en el cuerpo del accesorio.



Destornillar la tuerca azul e introducirla sobre el tubo seguido del anillo de bloqueo. Asegurarse de que esta última tenga la conicidad en la dirección justa, es decir con la parte más ancha vuelta hacia el accesorio.



Colocar el tubo en el interior del accesorio haciéndolo en dirección axial superando la junta tórica hasta llegar a tocar el fondo del mismo. Es útil lubricar la parte terminal del tubo y la junta con un lubricante de silicona que no altere las propiedades de potabilidad del agua.
No use aceites o grasas de base mineral.



Atornillar primero manualmente la tuerca y después utilizando la llave correspondiente de sujeción. La tuerca debe de ser apretada con fuerza pero sin necesidad de que esta entre en contacto con el cuerpo del accesorio hasta el fondo.

Accesorios de compresión Deltone Ø 50 mm ÷ 110 mm



Cortar el tubo en ángulo recto al eje utilizando corta-tubos especiales o sierras circulares o de cinta. En este último caso para obtener una sección recta se recomienda utilizar cajas guía.



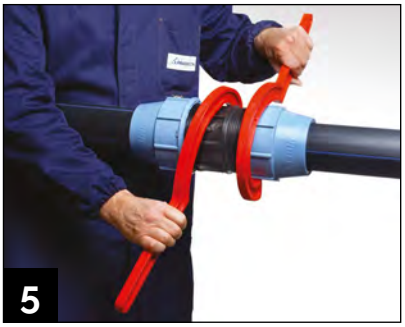
Destornillar la tuerca azul sin quitar los anillos bloqueados en su interior (componente integrado).



Introducir el componente integrado sobre el tubo seguido de la junta tórica. Es útil lubricar la parte terminal del tubo y la junta tórica con un lubricante con silicona que no altere las propiedades de potabilidad del agua. No use aceites o grasas de base mineral.



Introducir el tubo dentro del cuerpo del accesorio hasta que llegue al tope interno.



Atornillar primero manualmente la tuerca y después utilizando una llave de sujeción. La tuerca debe ser apretada con fuerza aunque no sea necesario que ésta entre en contacto con el tope terminal del cuerpo del accesorio.

Manguito transicion universal CODE 1033



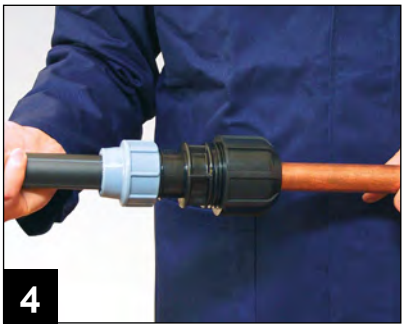
Localizar el tubo en ángulo recto con respecto al eje y eliminar eventuales rebabas debidas al corte. La superficie externa del tubo no debe presentar imperfecciones o cortes en toda su longitud de introducción en el cuerpo de empalme.



Si la tuerca se encuentra bastante desenroscada, empujar el accesorio desde el lado universal sobre el tubo operando en dirección axial hasta que llegue al tope interno del cuerpo del accesorio.



Atornillar la tuerca utilizando la llave de sujeción. La tuerca debe ser apretada con fuerza aunque no sea necesario que ésta llegue a estar en contacto con el tope terminal del cuerpo del accesorio.



Ensamblar el tubo de PE serie métrica (diámetro en mm) siguiendo las instrucciones del empalme estándar ("Accesorios de compresión Ø 16 mm ÷ 40 mm" página 235).

Collar de derivación de toma en carga CODE 1025



Localizar el punto de instalación y comprobar que la superficie externa de tubo no tenga tierra, imperfecciones o cortes en la zona de contacto con la junta. Colocar la junta en su alojamiento en la parte superior del collar.



Colocar la parte inferior del collar en el punto escogido. Empalmar la parte superior del collar con la inferior introduciendo los tornillos desde abajo (la parte inferior del collar tiene el punto de encaje para la cabeza de los tornillos).



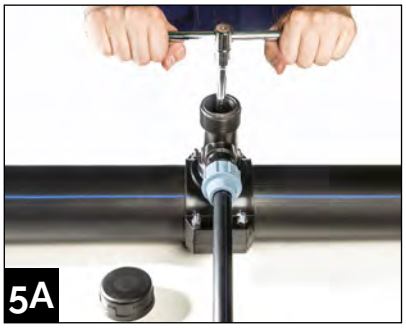
Euroscar y apretar las tuercas diagonalmente (en cruz).

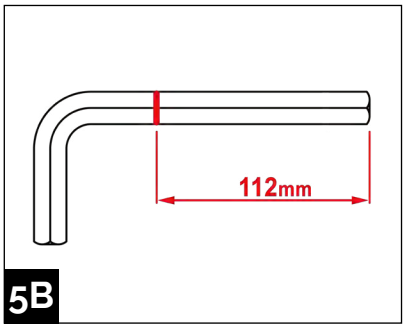


Introducir el tubo de derivación, como indican las instrucciones, en los accesorios de compresión ("Accesorios de compresión Ø 16 mm ÷ 40 mm" página 235).

>>>

>>>





Desenroscar el tapón superior de estanqueidad e introducir la llave en el alojamiento hexagonal correspondiente del perforador hasta el fondo. Enroscar el perforador usando una palanca de la longitud adecuada, hasta que la cuchilla corte la pared del tubo completamente (recordar que debe marcar la cota de 112 mm en la llave mostrada en el dibujo). La perforación se puede ver porque sale un poco de agua y/o porque se enrosca sin esfuerzo. **De todos modos, no superar nunca la cota de los 112 mm indicada en la llave.**



Desenroscar el perforador y llevarlo hasta la rosca superior sin llegar al final (la sección del tubo cortada se queda dentro del perforador).



Cerrar el tapón hasta el fondo y terminar de apretarlo usando una llave.

Collarines de toma



Localizar el punto de instalación y asegurarse de que la superficie externa del tubo no presente partes terrosas, imperfecciones o cortes en la zona de contacto con la junta. Colocar la junta en el alojamiento correspondiente del collarín.



Colocar la parte inferior del cuerpo del collarín en el punto elegido. Acoplar la parte superior del cuerpo del collarín con la inferior.



Introducir los tornillos desde abajo (la parte ciega del collarín tiene el punto de encaje para la cabeza de los tornillos). Atornillar y apretar las tuercas operando diagonalmente (en cruz).



Perforar el tubo prestando atención a no dañar las roscas del cuerpo y la junta y utilizando un distanciador para evitar perforar el tubo por el otro lado. Es preferible utilizar brocas de cuchara ya que limitan el riesgo de dañar las roscas y las juntas y reducen el depósito de material en el interior del conducto.

>>>

>>>

Método alternativo:



Con un rotulador indeleble blanco dibujar los puntos de referencia sobre el tubo que permitan colocar y desmontar de nuevo el cuerpo de la tubería.



Perforar el tubo y quitar el material que se ha depositado en el interior del conducto.



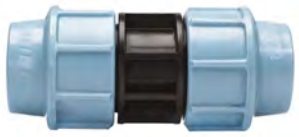
Montar de nuevo el collarín de derivación en correspondencia con las señales de referencia precedentemente trazadas ayudándose con una punta (por ejemplo la broca utilizada para perforar) para mantener la derivación en eje con el agujero.

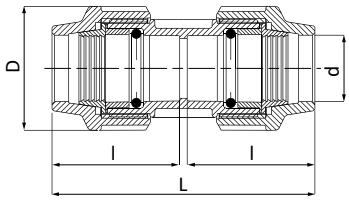
3. Fichas tecnicas

3.1 Accesorios de compresión

1001

Manguito

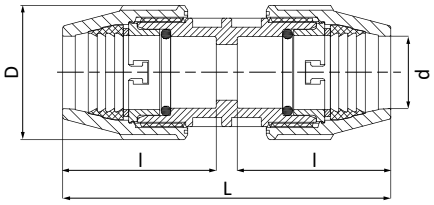




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	PN [bar]
16x16	1001016000001	103x42x42	42	103	49	16
20x20	1001020000001	108x46x46	46	108	52	16
25x25	1001025000001	122x55x55	55	122	59	16
27x27	1001027000001	126x55x55	55	126	61	16
32x32	1001032000001	139x63x63	63	139	68	16
40x40	1001040000001	168x80x80	80	168	82	16

>>>





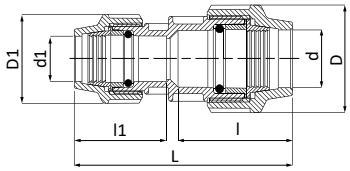
>>>

50x50	1001051000001	232x96x96	96	232	110	16
63x63	1001064000001	248x115x115	115	248	121	16
75x75	1001076000001	278x129x129	129	278	136	16
90x90	1001091000001	315x155x155	155	315	154	16
110x110	1001111000001	422x183x183	183	422	205	16

1002

Manguito reducido

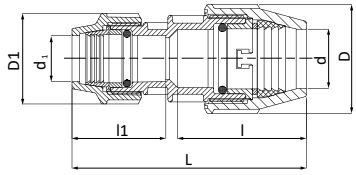




DIM dxd$_1$ [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	l1 [mm]	PN [bar]
20x16	1002020016001	110x46x46	46	42	110	56	50	16
25x20	1002025020001	128x55x55	55	46	128	67	56	16
32x20	1002032020001	139x63x63	63	46	139	70	60	16
32x25	1002032025001	143x63x63	63	55	143	70	66	16
40x25	1002040025001	158x80x80	80	55	158	85	66	16
40x32	1002040032001	163x80x80	80	63	163	88	71	16

>>>





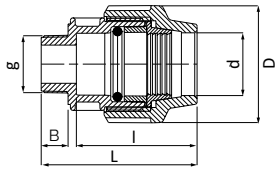
>>>

50x25	1002051025001	180x96x96	96	55	180	113	65	16
50x32	1002051032001	186x96x96	96	63	186	113	69	16
50x40	1002051040001	212x96x96	96	80	212	115	86	16
63x25	1002064025001	192x115x115	115	55	192	119	64	16
63x32	1002064032001	194x115x115	115	63	194	119	71	16
63x40	1002064040001	204x115x115	115	80	204	121	81	16
63x50	1002064051001	260x115x115	115	96	260	130	118	16
75x50	1002076051001	262x129x129	129	96	262	134	114	16
75x63	1002076064001	285x129x129	129	115	285	146	130	16
90x63	1002091064001	298x155x155	155	115	298	157	134	16
90x75	1002091076001	318x155x155	155	129	318	162	146	16
110x75	1002111076001	351x183x183	183	129	351	210	130	16
110x90	1002111091001	370x183x183	183	155	370	201	158	16

1003

Enlace rosca macho

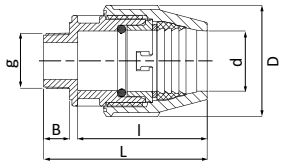




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x3/8”	1003016001001	69x42x42	42	69	50	13	16
16x1/2”	1003016002001	69x42x42	42	69	50	16	16
16x3/4”	1003016003001	69x42x42	42	69	50	17	16
20x1/2”	1003020002001	81x46x46	46	81	61	16	16
20x3/4”	1003020003001	82x46x46	46	82	61	17	16
20x1”	1003020004001	85x46x46	46	85	61	20	16
25x1/2”	1003025002001	89x55x55	55	89	69	16	16
25x3/4”	1003025003001	90x55x55	55	90	69	17	16
25x1”	1003025004001	93x55x55	55	93	69	20	16
32x1/2”	1003032002001	98x63x63	63	98	76	16	16
32x3/4”	1003032003001	98x63x63	63	98	76	17	16
32x1”	1003032004001	101x63x63	63	101	76	20	16
32x1”1/4	1003032005001	104x63x63	63	104	76	23	16
32x1”1/2	1003032006001	104x63x63	63	104	76	23	16
40x1”	1003040004001	108x80x80	80	108	82	21	16
40x1”1/4	1003040005001	117x80x80	80	117	82	29	16
40x1”1/2	1003040006001	117x80x80	80	117	82	28	16
40x2”	1003040007001	120x80x80	80	120	82	34	16

>>>





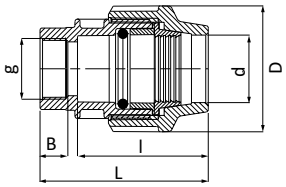
>>>

50x1”	1003051004001	143x96x96	96	143	111	26	16
50x1”1/4	1003051005001	146x96x96	96	146	111	28	16
50x1”1/2	1003051006001	146x96x96	96	146	111	28	16
50x2”	1003051007001	151x96x96	96	151	112	32	16
63x1”1/4	1003064005001	157x115x115	115	157	120	28	16
63x1”1/2	1003064006001	157x115x115	115	157	120	28	16
63x2”	1003064007001	161x115x115	115	161	120	32	16
63x2”1/2	1003064008001	158x115x115	115	158	120	29	16
75x2”	1003076007001	171x129x129	129	171	135	27	16
75x2”1/2	1003076008001	178x129x129	129	178	135	34	16
75x3”	1003076009001	178x129x129	129	178	135	34	16
90x2”	1003091007001	200x155x155	155	200	158	34	16
90x2”1/2	1003091008001	200x155x155	155	200	158	34	16
90x3”	1003091009001	200x155x155	155	200	158	34	16
90x4”	1003091010001	200x155x155	155	200	158	36	16
110x2”	1003111007001	247x183x183	183	247	198	34	16
110x3”	1003111009001	250x183x183	183	250	198	37	16
110x4”	1003111010001	250x183x183	183	250	200	37	16

1004

Enlace rosca hembra

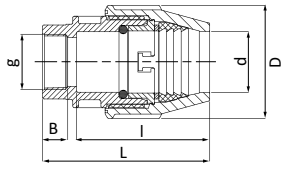




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x1/2”	1004016002001	69x42x42	42	69	50	17	16
16x3/4”	1004016003001	73x42x42	42	73	50	19	16
20x1/2”	1004020002001	77x46x46	46	77	58	18	16
20x3/4”	1004020003001	79x46x46	46	79	58	20	16
20x1”	1004020004001	81x47x47	47	81	58	22	16
25x1/2”	1004025002001	84x55x55	55	84	65	18	16
25x3/4”	1004025003001	86x55x55	55	86	65	20	16
25x1”	1004025004001	88x55x55	55	88	65	22	16
32x1/2”	1004032002001	92x63x63	63	92	71	18	16
32x3/4”	1004032003001	94x63x63	63	94	71	20	16
32x1”	1004032004001	96x63x63	63	96	71	22	16
***32x1”1/4**	1004032005001	97x63x63	63	97	71	23	16
40x1”	1004040004001	110x80x80	80	110	81	20	16
***40x1”1/4**	1004040005001	112x80x80	80	112	81	22	16
***40x1”1/2**	1004040006001	113x80x80	80	113	81	23	16

>>>





>>>

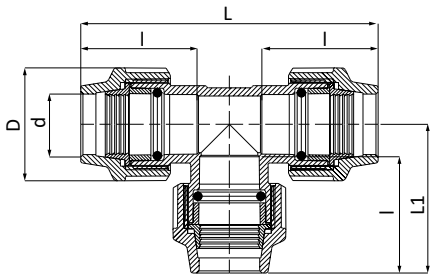
***50x1”**	1004051004001	140x96x96	96	140	117	20	16
***50x1”1/4**	1004051005001	144x96x96	96	144	112	22	16
***50x1”1/2**	1004051006001	144x96x96	96	144	112	23	16
***50x2”**	1004051007001	149x96x96	96	149	111	27	16
***63x1”1/4**	1004064005001	159x115x115	115	159	121	23	16
***63x1”1/2**	1004064006001	160x115x115	115	160	121	28	16
***63x2”**	1004064007001	165x115x115	115	165	121	22	16
***63x2”1/2**	1004064008001	168x115x115	115	168	121	23	16
***75x2”**	1004076007001	182x129x129	129	182	137	28	16
***75x2”1/2**	1004076008001	187x129x129	129	187	137	33	16
***75x3”**	1004076009001	187x129x129	129	187	137	33	16
***90x2”**	1004091007001	190x155x155	155	190	152	26	16
***90x2”1/2**	1004091008001	195x155x155	155	195	152	33	16
***90x3”**	1004091009001	195x155x155	155	195	152	33	16
***90x4”**	1004091010001	204x155x155	155	204	152	42	16
***110x3”**	1004111009001	263x183x183	183	263	204	40	16
***110x4”**	1004111010001	263x183x183	183	263	204	43	16

* La boca filetiada está reforzada por un anillo de acero inox

1005

Te 90°

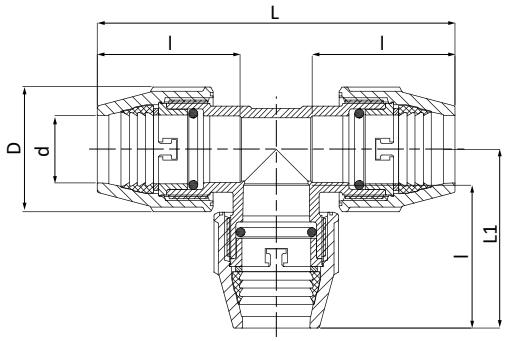




DIM dxdxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	L1 [mm]	PN [bar]
16x16x16	1005016000001	124x81x42	42	124	52	60	16
20x20x20	1005020000001	139x92x46	46	139	59	69	16
25x25x25	1005025000001	162x107x55	55	162	66	79	16
32x32x32	1005032000001	183x122x63	63	183	74	90	16
40x40x40	1005040000001	218x148x80	80	218	88	108	16

>>>





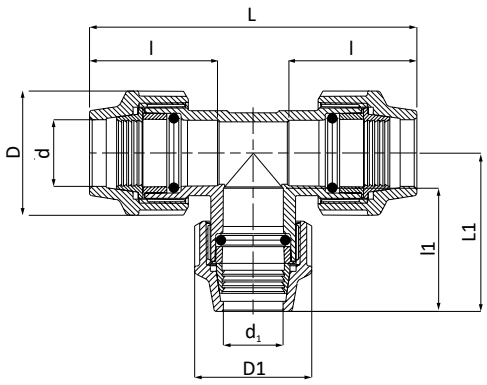
>>>

50x50x50	1005051000001	282x187x96	96	282	115	139	16
63x63x63	1005064000001	314x214x115	115	314	124	156	16
75x75x75	1005076000001	364x245x129	129	364	142	180	16
90x90x90	1005091000001	407x277x155	155	407	154	199	16
110x110x110	1005111000001	539x356x183	183	539	209	264	16

1013

Te 90° reducida

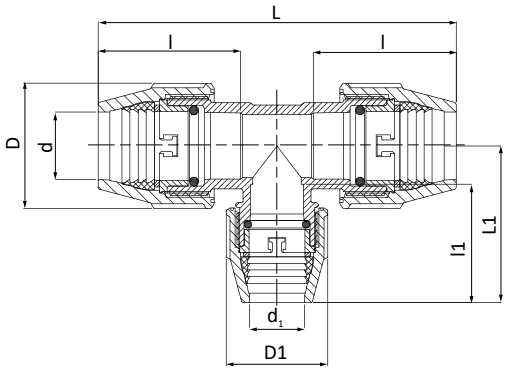




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x16x20	1013020016001	140x88x46	46	42	140	55	65	45	16
25x20x25	1013025020001	160x101x55	55	46	160	63	73	56	16
32x20x32	1013032020001	183x106x63	63	46	183	68	74	56	16
32x25x32	1013032025001	183x116x63	63	55	183	68	84	64	16
40x25x40	1013040025001	222x132x80	80	55	222	83	92	68	16
40x32x40	1013040032001	222x141x80	80	63	222	83	101	79	16

>>>





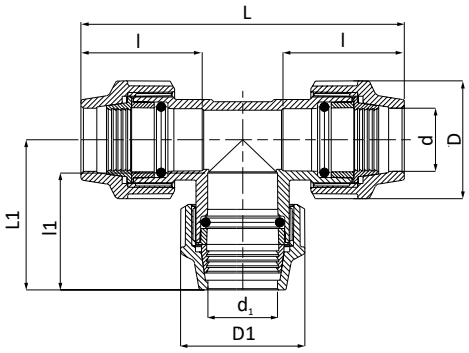
>>>

50x25x50	1013051025001	287x149x96	96	55	287	104	101	63	16
50x32x50	1013051032001	287x156x96	96	63	287	104	108	68	16
50x40x50	1013051040001	287x174x96	96	80	287	104	126	94	16
63x25x63	1013064025001	336x174x115	115	55	336	133	116	62	16
63x32x63	1013064032001	336x171x115	115	63	336	133	113	67	16
63x40x63	1013064040001	336x194x115	115	80	336	133	136	94	16
63x50x63	1013064051001	336x215x115	115	96	336	133	157	111	16
75x50x75	1013076051001	365x245x129	129	96	365	136	180	120	16
75x63x75	1013076064001	365x235x129	129	115	365	136	170	123	16
90x63x90	1013091064001	415x270x155	155	115	415	154	192	133	16
90x75x90	1013091076001	407x273x155	155	129	407	154	195	136	16
110x75x110	1013111076001	535x312x183	183	129	535	203	220	149	16
110x90x110	1013111091001	535x323x183	183	155	535	203	231	156	16

1029

Te 90° con derivación aumentada

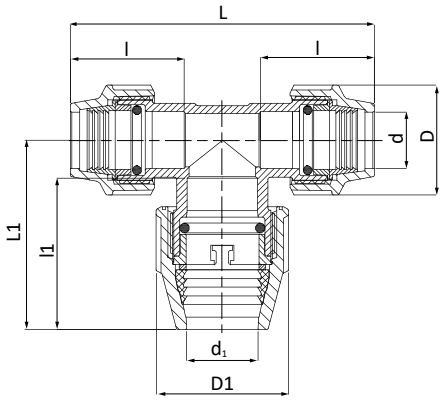




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x25x20	1029020025001	139x102x55	46	55	139	56	79	65	16
25x32x25	1029025032001	160x114x63	55	63	160	63	86	69	16
32x40x32	1029032040001	183x131x80	63	80	183	68	99	81	16

>>>





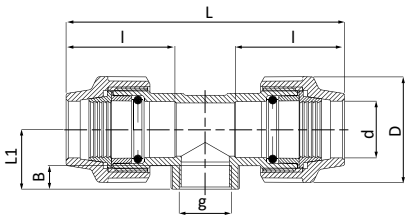
>>>

40x50x40	1029040051001	218x175x96	80	96	218	81	135	97	16

1007

Te 90° con derivación roscada hembra

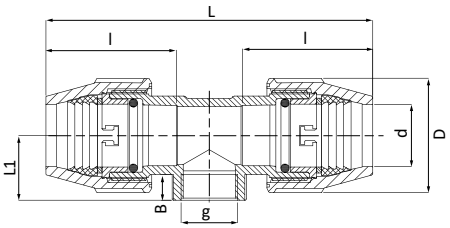




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1007016002001	123x52x42	42	123	49	17	31	16
16x3/4”x16	1007016003001	123x52x42	42	123	49	17	31	16
20x1/2”x20	1007020002001	139x70x46	46	139	55	19	47	16
20x3/4”x20	1007020003001	139x70x46	46	139	55	19	47	16
25x1/2”x25	1007025002001	160x78x55	55	160	63	16	50	16
25x3/4”x25	1007025003001	160x78x55	55	160	63	16	50	16
25x1”x25	1007025004001	160x83x55	55	160	63	21	55	16
32x1/2”x32	1007032002001	183x85x63	63	183	68	17	53	16
32x3/4”x32	1007032003001	183x85x63	63	183	68	17	53	16
32x1”x32	1007032004001	183x89x63	63	183	68	21	57	16
***32x1”1/4x32**	1007032005001	183x92x63	63	183	68	24	60	16
40x1”x40	1007040004001	205x85x80	80	205	81	21	45	16
***40x1”1/4x40**	1007040005001	217x89x80	80	217	81	25	49	16
***40x1”1/2x40**	1007040006001	210x87x80	80	210	81	23	47	16

>>>





>>>

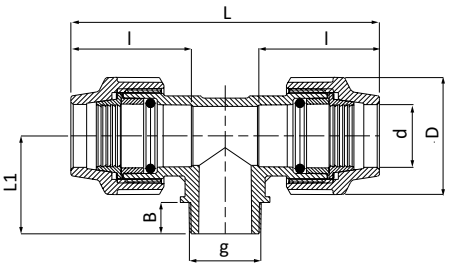
50x1/2”x50	1007051002001	282x109x96	96	282	105	31	61	16
***50x1”1/4x50**	1007051005001	282x105x96	96	282	105	24	57	16
***50x1”1/2x50**	1007051006001	282x104x96	96	282	105	24	56	16
***50x2”x50**	1007051007001	282x104x96	96	282	105	27	56	16
***63x1”1/4x63**	1007064005001	313x120x115	115	313	123	27	62	16
***63x1”1/2x63**	1007064006001	313x120x115	115	313	123	27	62	16
***63x2”x63**	1007064007001	313x123x115	115	313	123	30	65	16
***63x2”1/2x63**	1007064008001	313x123x115	115	313	123	30	65	16
***75x2”x75**	1007076007001	362x149x129	129	362	138	35	84	16
***75x2”1/2x75**	1007076008001	362x149x129	129	362	138	35	84	16
***75x3”x75**	1007076009001	362x150x129	129	362	138	36	85	16
***90x2”1/2x90**	1007091008001	406x169x155	155	406	154	43	91	16
***90x3”x90**	1007091009001	406x173x155	155	406	154	47	95	16
***90x4”x90**	1007091010001	406x173x155	155	406	154	47	95	16
***110x3”x110**	1007111009001	534x196x183	183	534	205	41	104	16
***110x4”x110**	1007111010001	534x196x183	183	534	205	45	104	16

* La boca filetiada está reforzada por un anillo de acero inox

1010

Te 90° con derivación rosca macho

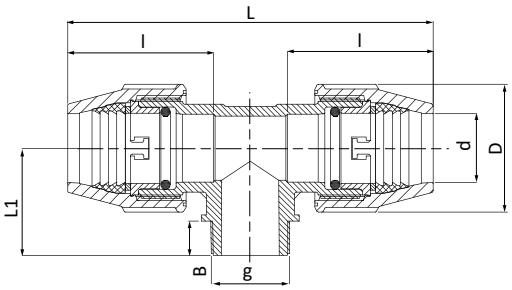




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1010016002001	125x57x42	42	125	50	18	36	16
16x3/4”x16	1010016003001	125x57x42	42	125	50	18	36	16
20x1/2”x20	1010020002001	139x58x46	46	139	56	16	35	16
20x3/4”x20	1010020003001	139x59x46	46	139	56	17	36	16
25x1/2”x25	1010025002001	160x63x55	55	160	63	16	35	16
25x3/4”x25	1010025003001	160x64x55	55	160	63	17	36	16
25x1”x25	1010025004001	160x66x55	55	160	63	19	38	16
32x1/2”x32	1010032002001	183x67x63	63	183	68	16	35	16
32x3/4”x32	1010032003001	183x68x63	63	183	68	17	36	16
32x1”x32	1010032004001	183x71x63	63	183	68	20	39	16
32x1”1/4x32	1010032005001	183x73x63	63	183	68	22	41	16
40x1”x40	1010040004001	218x84x80	80	218	81	20	44	16
40x1”1/4x40	1010040005001	218x84x80	80	218	81	22	44	16
40x1”1/2x40	1010040006001	218x84x80	80	218	81	22	44	16

>>>





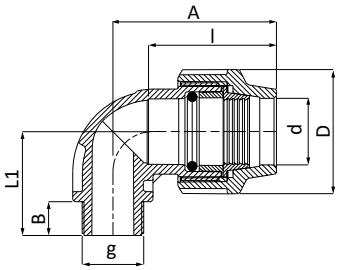
>>>

50x1”1/4x50	1010051005001	287x126x96	96	287	103	24	78	16
50x1”1/2x50	1010051006001	287x130x96	96	287	103	23	82	16
50x2”x50	1010051007001	287x136x96	96	287	103	29	88	16
63x1”1/2x63	1010064006001	335x148x115	115	335	130	25	90	16
63x2”x63	1010064007001	335x150x115	115	335	130	27	92	16
63x2”1/2x63	1010064008001	335x151x115	115	335	130	28	93	16
75x2”1/2x75	1010076008001	365x165x129	129	365	137	32	100	16
75x3”x75	1010076009001	365x168x129	129	365	137	35	103	16
90x3”x90	1010091009001	408x181x155	155	408	155	35	103	16
90x4”x90	1010091010001	408x189x155	155	408	155	41	111	16
110x4”x110	1010111010001	538x220x183	183	538	211	42	128	16

1008

Codo 90° con salida rosca macho

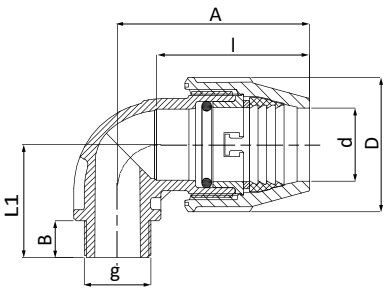




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1008016002001	69x69x42	42	39	18	58	48	16
16x3/4”	1008016003001	71x69x42	42	39	19	58	48	16
20x1/2”	1008020002001	77x62x46	46	45	18	62	39	16
20x3/4”	1008020003001	77x63x46	46	45	19	62	40	16
25x1/2”	1008025002001	92x71x55	55	53	18	74	43	16
25x3/4”	1008025003001	92x72x55	55	53	19	74	44	16
25x1”	1008025004001	92x75x55	55	53	22	74	47	16
32x1/2”	1008032002001	107x82x63	63	57	18	85	50	16
32x3/4”	1008032003001	107x83x63	63	57	19	85	51	16
32x1”	1008032004001	107x85x63	63	57	22	85	53	16
32x1”1/4	1008032005001	107x88x63	63	57	25	85	56	16
40x1”	1008040004001	132x101x80	80	70	22	105	61	16
40x1”1/4	1008040005001	132x104x80	80	70	25	105	64	16
40x1”1/2	1008040006001	132x104x80	80	70	25	105	64	16

>>>





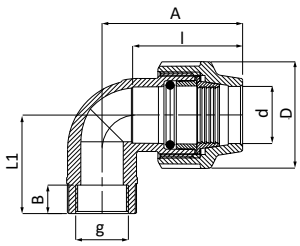
>>>

50x1”1/4	1008051005001	178x135x96	96	106	26	144	87	16
50x1”1/2	1008051006001	178x129x96	96	106	28	144	81	16
50x2”	1008051007001	182x129x96	96	111	28	149	81	16
63x1”1/2	1008064006001	214x143x115	115	130	23	173	85	16
63x2”	1008064007001	214x158x115	115	130	28	173	100	16
63x2”1/2	1008064008001	214x162x115	115	130	32	173	104	16
75x2”	1008076007001	240x165x129	129	142	28	193	100	16
75x2”1/2	1008076008001	240x169x129	129	142	32	193	104	16
75x3”	1008076009001	240x172x129	129	142	35	193	107	16
90x3”	1008091009001	276x192x155	155	158	35	217	114	16
90x4”	1008091010001	276x198x155	155	158	41	217	120	16
110x4”	1008111010001	362x236x183	183	222	42	294	144	16

1009

Codo 90° con salida rosca hembra

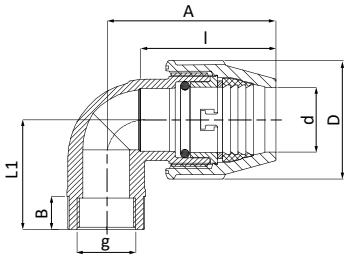




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	I [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1009016002001	74x69x42	42	39	18	58	48	16
16x3/4”	1009016003001	76x69x42	42	39	18	58	48	16
20x1/2”	1009020002001	79x62x46	46	45	18	63	39	16
20x3/4”	1009020003001	84x63x46	46	45	18	66	40	16
25x1/2”	1009025002001	95x73x55	55	53	18	77	45	16
25x3/4”	1009025003001	96x73x55	55	53	18	77	45	16
25x1”	1009025004001	100x76x55	55	53	20	77	48	16
32x1/2”	1009032002001	108x80x63	63	57	17	86	48	16
32x3/4”	1009032003001	108x81x63	63	57	18	86	49	16
32x1”	1009032004001	109x83x63	63	57	21	86	51	16
***32x1”1/4**	1009032005001	115x92x63	63	57	26	86	60	16
40x3/4”	1009040003001	132x95x80	80	70	18	105	55	16
40x1”	1009040004001	132x99x80	80	70	21	105	59	16
***40x1”1/4**	1009040005001	134x104x80	80	70	25	105	64	16
***40x1”1/2**	1009040006001	135x106x80	80	70	25	105	66	16

>>>





>>>

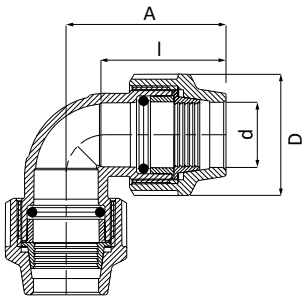
***50x1”1/4**	1009051005001	179x133x96	96	107	24	145	85	16
***50x1”1/2**	1009051006001	179x138x96	96	107	25	145	90	16
***50x2”**	1009051007001	184x138x96	96	107	25	145	90	16
***63x1”1/2**	1009064006001	214x159x115	115	130	26	173	101	16
***63x2”**	1009064007001	214x166x115	115	130	35	173	108	16
***63x2”1/2**	1009064008001	218x166x115	115	130	35	173	108	16
***75x2”**	1009076007001	240x188x129	129	142	36	193	123	16
***75x2”1/2**	1009076008001	240x190x129	129	142	37	193	125	16
***75x3”**	1009076009001	247x194x129	129	142	38	193	129	16
***90x3”**	1009091009001	274x218x155	155	157	40	216	140	16
***90x4”**	1009091010001	281x220x155	155	157	40	216	142	16
***110x3”**	1009111009001	362x226x183	183	222	40	294	134	16
***110x4”**	1009111010001	362x230x183	183	222	40	294	138	16

* La boca filetiada está reforzada por un anillo de acero inox

1006

Codo 90°

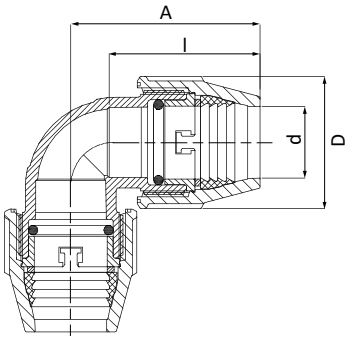




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	PN [bar]
16x16	1006016000001	85x85x42	42	64	49	16
20x20	1006020000001	92x92x46	46	69	50	16
25x25	1006025000001	113x113x55	55	86	62	16
32x32	1006032000001	127x127x63	63	96	70	16
40x40	1006040000001	157x157x80	80	117	79	16

>>>





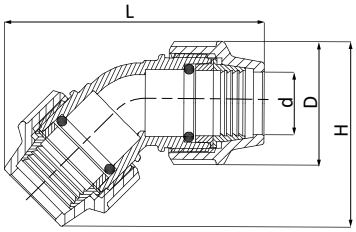
>>>

50x50	1006051000001	187x187x96	96	139	103	16
63x63	1006064000001	224x224x115	115	166	122	16
75x75	1006076000001	254x254x129	129	190	135	16
90x90	1006091000001	298x298x155	155	220	155	16
110x110	1006111000001	367x367x183	183	275	200	16

1018

Codo 45°

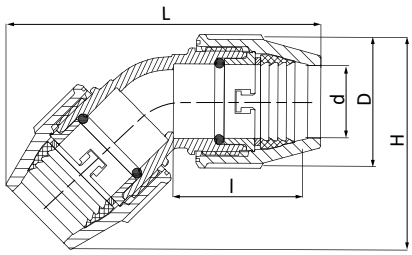




DIM dxd [mm]	CODE	D [mm]	L [mm]	H [mm]	PN [bar]
20x20	1018020000001	46	117	78	16
25x25	1018025000001	55	141	94	16
32x32	1018032000001	63	160	107	16
40x40	1018040000001	80	190	130	16

>>>





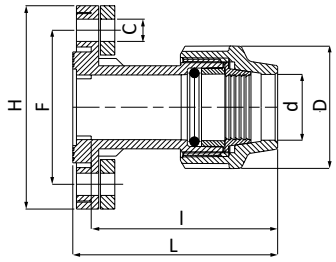
>>>

50x50	1018051000001	96	232	158	16
63x63	1018064000001	115	246	176	16

1011

Enlace brida

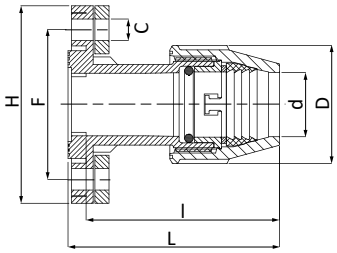




DIM dxDN [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	H [mm]	F [mm]	C [mm]	NF	PN [bar]
40x1”1/2 (DN40)	1011040006001	141x152x152	80	141	128	152	110	18	4	16

>>>





>>>

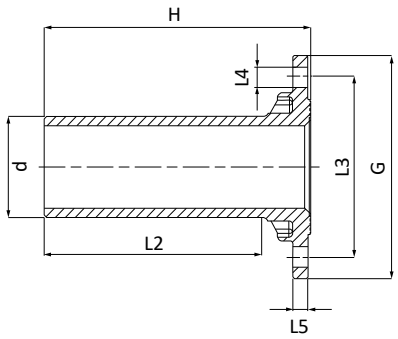
50x1”1/2 (DN40)	1011051006001	172x151x151	96	172	159	151	110	18	4	16
50x2” (DN50)	1011051007001	147x165x165	96	147	138	165	125	18	4	16
63x2” (DN50)	1011064007001	193x165x165	115	193	178	165	125	18	4	16
63x2”1/2 (DN65)	1011064008001	193x184x184	115	193	178	184	145	18	4	16
75x2”1/2 (DN65)	1011076008001	201x184x184	129	201	186	184	145	18	4	16
75x3” (DN80)	1011076009001	203x198x198	129	203	186	198	160	18	8	16
90x3” (DN80)	1011091009001	220x198x198	155	220	202	198	160	18	8	16
90x4” (DN100)	1011091010001	223x220x220	155	223	202	220	180	18	8	16
110x4” (DN100)	1011111010001	253x220x220	183	253	233	220	180	18	8	16

Brida de acero cincado

1053-A223

Punta de brida





DIM d (DN) [mm]	CODE	DIM MAX LxHxP [mm]	G [mm]	H [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	NF	PN [bar]
63 (DN50)	1053063000001	170x201x170	170	201	169	125	18	12	4	16
63 (DN65)	1053063001001	183x201x183	183	201	164	145	18	12	4	16
75 (DN65)	1053075000001	183x217x183	183	217	184	145	18	12	4	16
75 (DN80)	1053075001001	200x217x200	200	217	177	160	18	12	8	16
90 (DN80)	1053090000001	200x240x200	200	240	199	160	18	14	8	16
110 (DN80)	1053110001001	200x305x200	200	305	272	160	18	14	8	16
110 (DN100)	1053110000001	224x305x224	224	305	265	180	18	14	8	16

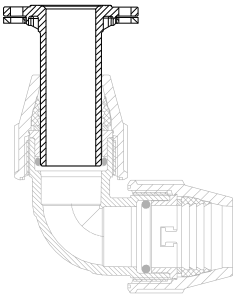
La brida compatible se vende por separado

Brida de acero cincado

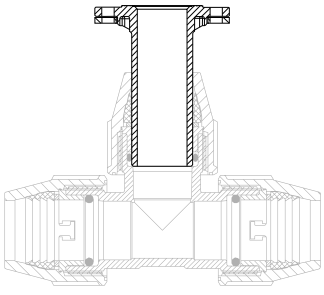
DIM [mm]	CODE	NF
63 (DN50)	A223000003	4
63 (DN65)	A223000004	4
75 (DN65)	A223000005	4
75 (DN80) - 90 (DN80) - 110 (DN80)	A223000007	8
110 (DN100)	A223000009	8

EJEMPLO DE INSTALACIÓN

Apto para inserción en la salida de compresión de los accesorios Unidelta



CODE 1006

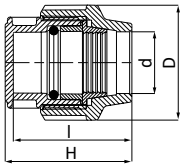


CODE 1005

1012

Tapón

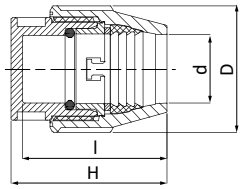




DIM d [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	PN [bar]
16	1012016000001	42x55x42	42	55	50	16
20	1012020000001	46x70x46	46	70	65	16
25	1012025000001	55x77x55	55	77	72	16
32	1012032000001	63x85x63	63	85	79	16
40	1012040000001	80x89x80	80	89	83	16

>>>





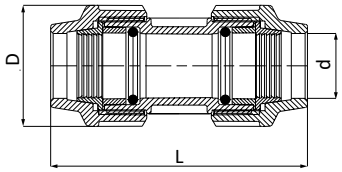
>>>

50	1012051000001	96x125x96	96	125	100	16
63	1012064000001	115x135x115	115	135	123	16
75	1012076000001	129x158x129	129	158	137	16
90	1012091000001	155x179x155	155	179	158	16
110	1012111000001	183x226x183	183	226	202	16

1014

Manguito de reparación

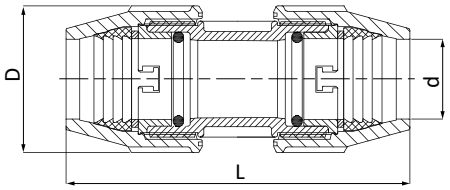




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	PN [bar]
25x25	1014025000001	122x55x55	55	122	16
32x32	1014032000001	139x63x63	63	139	16
40x40	1014040000001	168x80x80	80	168	16

>>>





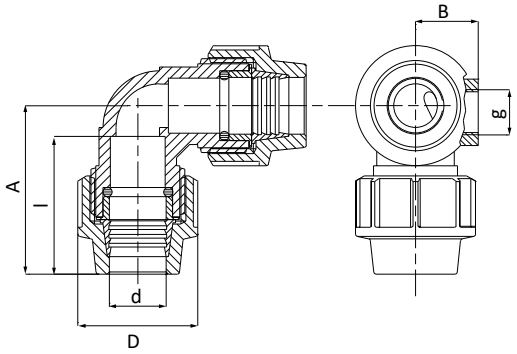
>>>

50x50	1014051000001	230x96x96	96	230	16
63x63	1014064000001	248x115x115	115	248	16
75x75	1014076000001	278x129x129	129	278	16
90x90	1014091000001	315x155x155	155	315	16
110x110	1014111000001	422x183x183	183	422	16

1023

Codo a 90° con derivación lateral hembra



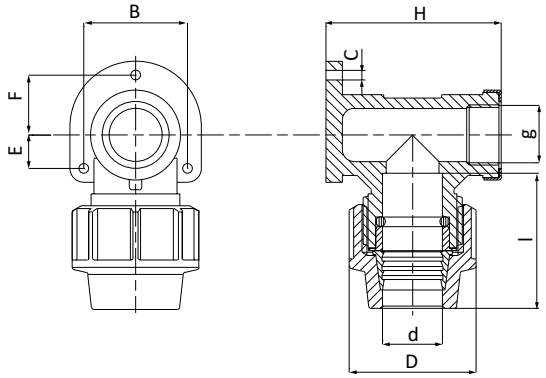


DIM dxdxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	B [mm]	PN [bar]
25x25x1/2”	1023025002001	113x113x58	55	86	62	30	16
32x32x1/2”	1023032002001	127x127x67	63	96	70	35	16
32x32x3/4”	1023032003001	127x127x68	63	96	70	36	16

1034

Codo grifo

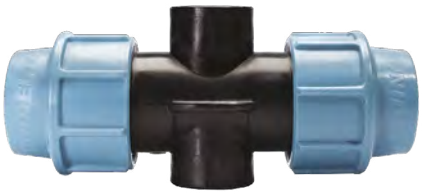


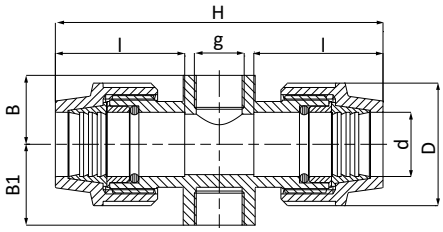


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	C [mm]	B [mm]	E [mm]	F [mm]	PN [bar]
20x1/2”	1034020002001	89x62x49	46	62	49	4	38	12	22	16
25x1/2”	1034025002001	116x74x57	55	74	66	4	44	15	25	16
25x3/4”	1034025003001	110x75x60	55	75	59	4	44	15	27	16
32x1”	1034032004001	124x86x67	63	86	72	5	56	20	28	16

1021

Te hembra con fijación para pincho





DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	B [mm]	B1 [mm]	PN [bar]
32x3/4"x32	1021320303001	77x168x63	63	168	66	36	41	16

1050

Extensión macho/hembra



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"F	1050003002001	28
3/4"Mx3/4"F	1050003003001	28

1052

Extensión macho/macho



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"M	1052003002001	29,5

1051

Pincho



DIM g [in.]	CODE	L [cm]
3/4" M	1051000003001	29

EJEMPLO DE INSTALACIÓN





3.2 Manguito de transición universal

La junta universal Unidelta cod. 1033 permite unir de modo rápido y sólido los tubos de polietileno con diámetro de 20 y 32 mm con tubos de cualquier material (por ejemplo acero, cobre, plomo, PVC, etc.) con diámetro exterior comprendido entre 15 y 35 mm. Además es apto para pasar desde tuberías en serie métrica (diámetros en milímetros a tubos de serie imperial (diámetros en pulgadas).

Acero galvanizado, cobre, plomo, U-PVC, PP, PE imperial y otros

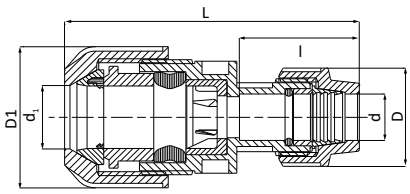


PE serie métrica

1033

Manguito de transición universal





DIM $d_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	PN [bar]
15/22x20	1033020003001	145x62x62	46	62	145	60	10
15/22x25	1033025003001	145x62x62	55	62	145	64	10
20/27x20	1033020004001	150x69x69	46	69	150	64	10
20/27x25	1033025004001	150x69x69	55	69	150	64	10
27/35x25	1033025006001	158x79x79	55	79	158	64	10
20/27x32	1033032004001	158x69x69	63	69	158	72	10
27/35x32	1033032006001	165x79x79	63	79	165	72	10

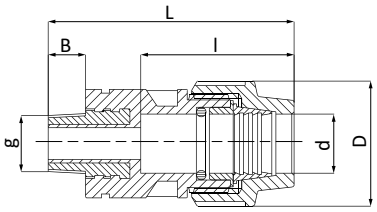
3.3 Accesorios de compresión de transición

El accesorio de compresión de transición Unidelta está equipado con un especial inserto metálico con rosca de latón impreso en el cuerpo de polipropileno.

1035

Enlace rosca macho con rosca en latón

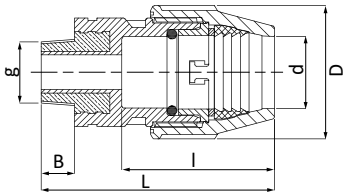




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1035020002001	103x46x46	46	103	58	15	16
25x3/4”	1035025003001	112x55x55	55	112	64	17	16
32x1”	1035032004001	116x63x63	63	116	69	19	16
40x1”1/4	1035040005001	140x80x80	80	140	81	23	16
40x1”1/2	1035040006001	150x80x80	80	150	87	32	16

>>>





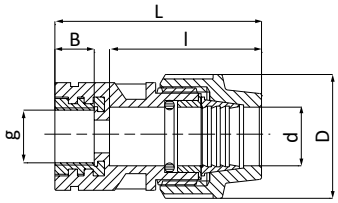
>>>

50x1”1/2	1035051006001	172x96x96	96	172	112	23	16
63x2”	1035064007001	186x115x115	115	186	122	24	16

1036

Enlace rosca hembra con rosca en latón

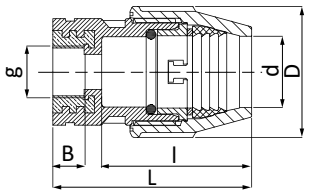




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1036020002001	88x46x46	46	88	58	14	16
25x3/4”	1036025003001	95x55x55	55	95	64	15	16
32x1”	1036032004001	106x63x63	63	106	69	18	16
40x3/4"	1036040003001	110x80x80	80	110	85	18	16
40x1”1/4	1036040005001	118x80x80	80	118	82	20	16
40x1”1/2	1036040006001	111x80x80	80	111	86	27	16

>>>





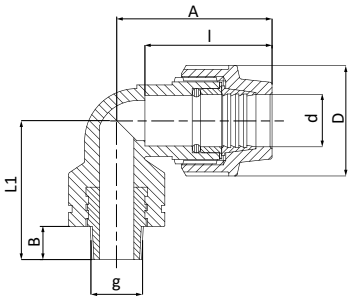
>>>

50x1”1/2	1036051006001	151x96x96	96	151	113	23	16
63x2”	1036064007001	164x115x115	115	164	121	24	16

1039

Codo 90° macho con rosca en latón

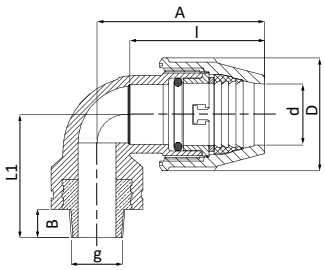




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	B [mm]	PN [bar]
20x1/2”	1039020002001	94x87x48	46	70	49	64	15	16
20x3/4”	1039020003001	99x89x55	46	71	51	66	16	16
25x3/4”	1039025003001	110x94x55	55	83	57	66	16	16
32x1”	1039032004001	126x118x66	63	93	62	86	29	16
40x1”1/4	1039040005001	149x127x80	80	112	72	87	23	16
40x1”1/2	1039040006001	144x127x80	80	112	78	87	32	16

>>>





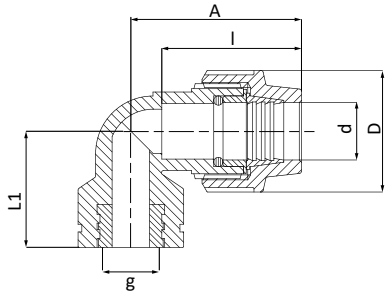
>>>

50x1”1/2	1039051006001	180x135x96	96	139	93	87	23	16
63x2”	1039064007001	196x163x115	115	149	99	105	27	16

1030

Codo 90° hembra con rosca en latón





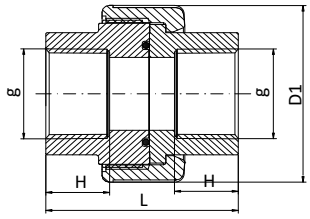
DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	PN [bar]
40x3/4”	1030040003001	80x139x127	79	112	78	53	16

3.4 Enlace 3 piezas

1054

Enlace 3 piezas rosca hembra/hembra





DIM gxg [in.xin.]	CODE	L [mm]	H [mm]	D1 [mm]	Pmax [bar]
1/2"x1/2"	1054002002001	53	18	50	16
3/4"x3/4"	1054003003001	56	20	60	16
1"x1"	1054004004001	60	22	68	16
***1"1/4x1"1/4**	1054005005001	78,5	24	80	16
***1"1/2x1"1/2**	1054006006001	88,5	24	95	16
***2"x2"**	1054007007001	95	28	116	16
***2"1/2x2"1/2**	1054008008001	146	33	160,5	10
***3"x3"**	1054009009001	175,5	40	197	10

* La boca filetiada está reforzada por un anillo de acero inox

3.5 Collar de derivación de toma en carga

Características técnicas:
- Idóneo para tubos PE y PVC
- Material: PP-B
- Perforador: latón
- Junta torica: O-ring
- Tornillos: acero INOX A4

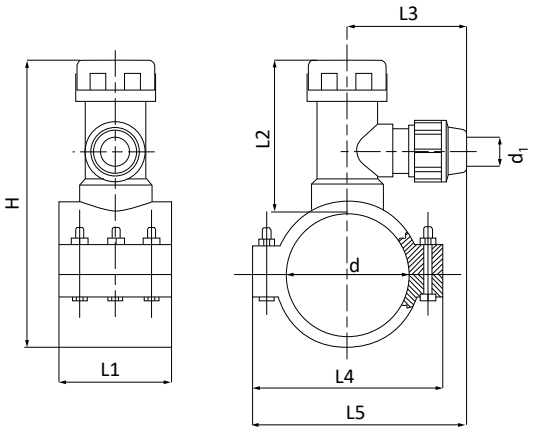
Normativas:
- Apto para tubos PE según: UNI EN 12201 - ISO 4427 - DIN 8074
- Apto para Tubos PVC según: UNI EN 1452 - DIN 8062
- Test: ISO 13460

Prescripciones sanitarias:
Los collares de derivación de toma en carga Unidelta cumplen las normativas para la conducción de agua potable según las prescripciones vigentes en Italia y en otros numerosos países. Decreto Ministerial n.º 174 del 06/04/2004.

1025

Collar de derivación de toma en carga





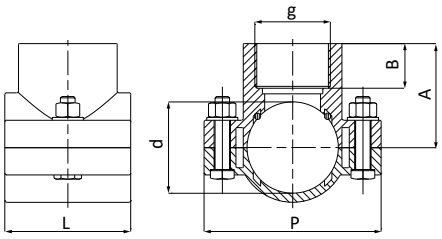
DIM dxd$_1$ [mm]	CODE	NF	V	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	Pmax [bar]
63x25	1025063025001	6	M8x40	201	80	132	115	115	173	16
63x32	1025063032001	6	M8x40	201	80	132	125	115	183	16
75x25	1025075025001	6	M8x50	211	90	129	115	129	180	16
75x32	1025075032001	6	M8x50	211	90	129	125	129	190	16
90x25	1025090025001	6	M8x50	226	90	129	115	144	187	16
90x32	1025090032001	6	M8x50	226	90	129	125	144	197	16
110x20	1025110020001	6	M8x60	249	100	130	110	168	194	16
110x25	1025110025001	6	M8x60	249	100	130	115	168	199	16
110x32	1025110032001	6	M8x60	249	100	130	125	168	209	16
160x20	1025160020001	6	M8x100	304	174	130	110	215	218	16
160x25	1025160025001	6	M8x100	304	174	130	115	215	223	16
160x32	1025160032001	6	M8x100	304	174	130	125	215	233	16

3.6 Collarines de toma

1019

Collarín de toma





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1019025002001	38	20	76	49	2	10
25x3/4”	1019025003001	38	21	76	49	2	10
32x1/2”	1019032002001	41	17	81	56	2	10
32x3/4”	1019032003001	41	21	81	56	2	10
32x1”	1019032004001	44	23	81	56	2	10
40x1/2”	1019040002001	41	17	81	60	2	10
40x3/4”	1019040003001	46	18	81	60	2	10
40x1”	1019040004001	46	23	81	60	2	10
50x1/2”	1019050002001	50	17	98	69	4	10
50x3/4”	1019050003001	50	18	98	69	4	10
50x1”	1019050004001	52	20	98	69	4	10
50x1”1/4	1019050005001	57	25	98	69	4	10
63x1/2”	1019063002001	55	16	105	79	4	10
63x3/4”	1019063003001	55	18	105	79	4	10
63x1”	1019063004001	59	20	105	79	4	10
63x1”1/4	1019063005001	63	25	105	79	4	10
63x1”1/2	1019063006001	63	28	105	79	4	10
75x1/2”	1019075002001	62	17	120	90	4	10
75x3/4”	1019075003001	62	18	120	90	4	10
75x1”	1019075004001	65	21	120	90	4	10
75x1”1/4	1019075005001	68	24	120	90	4	10
75x1”1/2	1019075006001	68	23	120	90	4	10
75x2”	1019075007001	72	27	120	90	4	10
90x1/2”	1019090002001	70	17	135	90	4	10
90x3/4”	1019090003001	70	19	135	90	4	10
90x1”	1019090004001	72	21	135	90	4	10
90x1”1/4	1019090005001	76	24	135	90	4	10
90x1”1/2	1019090006001	76	24	135	90	4	10
90x2”	1019090007001	80	27	135	90	4	10

>>>

*PN 6 bar

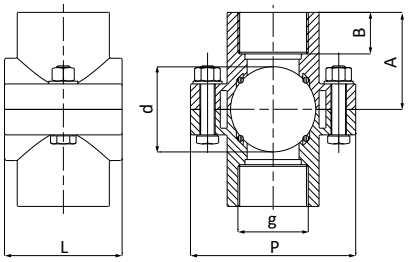
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1019110002001	80	17	168	99	4	10
110x3/4”	1019110003001	80	19	168	99	4	10
110x1”	1019110004001	84	20	168	99	4	10
110x1”1/4	1019110005001	86	23	168	99	4	10
110x1”1/2	1019110006001	86	23	168	99	4	10
110x2”	1019110007001	90	27	168	99	4	10
125x1/2”	1019125002001	108	25	190	106	6	10
125x3/4”	1019125003001	108	26	190	106	6	10
125x1”	1019125004001	109	26	190	106	6	10
125x1”1/4	1019125005001	109	25	190	106	6	10
125x1”1/2	1019125006001	113	28	190	106	6	10
125x2”	1019125007001	113	30	190	106	6	10
***160x3/4”**	1019160003001	108	19	215	175	6	6
***160x1”**	1019160004001	110	21	215	175	6	6
***160x1”1/4**	1019160005001	113	24	215	175	6	6
***160x1”1/2**	1019160006001	115	26	215	175	6	6
***160x2”**	1019160007001	117	30	215	175	6	6
***160x2”1/2**	1019160008001	125	32	215	175	6	6
***160x3”**	1019160009001	134	35	215	175	6	6
***160x4”**	1019160010001	135	40	215	175	6	6
***200x3/4”**	1019200003001	128	23	262	175	6	6
***200x1”**	1019200004001	130	23	262	175	6	6
***200x1”1/4**	1019200005001	133	23	262	175	6	6
***200x1”1/2**	1019200006001	133	23	262	175	6	6
***200x2”**	1019200007001	135	30	262	175	6	6
***200x2”1/2**	1019200008001	150	32	262	175	6	6
***200x3”**	1019200009001	152	35	262	175	6	6
***200x4”**	1019200010001	155	42	262	175	6	6

1020

Double collarín de toma





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1020025002001	38	20	76	49	2	10
25x3/4”	1020025003001	38	21	76	49	2	10
32x1/2”	1020032002001	41	17	81	56	2	10
32x3/4”	1020032003001	41	21	81	56	2	10
32x1”	1020032004001	44	23	81	56	2	10
40x1/2”	1020040002001	41	17	81	60	2	10
40x3/4”	1020040003001	46	18	81	60	2	10
40x1”	1020040004001	46	23	81	60	2	10
50x1/2”	1020050002001	50	17	98	69	4	10
50x3/4”	1020050003001	50	18	98	69	4	10
50x1”	1020050004001	52	20	98	69	4	10
50x1”1/4	1020050005001	57	25	98	69	4	10
63x1/2”	1020063002001	55	16	105	79	4	10
63x3/4”	1020063003001	55	18	105	79	4	10
63x1”	1020063004001	59	20	105	79	4	10
63x1”1/4	1020063005001	63	25	105	79	4	10
63x1”1/2	1020063006001	63	28	105	79	4	10
75x1/2”	1020075002001	62	17	120	90	4	10
75x3/4”	1020075003001	62	18	120	90	4	10
75x1”	1020075004001	65	21	120	90	4	10
75x1”1/4	1020075005001	68	24	120	90	4	10
75x1”1/2	1020075006001	68	23	120	90	4	10
75x2”	1020075007001	72	27	120	90	4	10

>>>

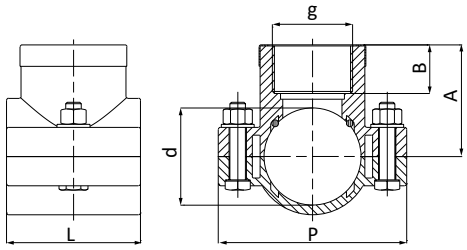
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1020090002001	70	17	135	90	4	10
90x3/4”	1020090003001	70	19	135	90	4	10
90x1”	1020090004001	72	21	135	90	4	10
90x1”1/4	1020090005001	76	24	135	90	4	10
90x1”1/2	1020090006001	76	24	135	90	4	10
90x2”	1020090007001	80	27	135	90	4	10
110x1/2”	1020110002001	80	17	168	99	4	10
110x3/4”	1020110003001	80	19	168	99	4	10
110x1”	1020110004001	84	20	168	99	4	10
110x1”1/4	1020110005001	86	23	168	99	4	10
110x1”1/2	1020110006001	86	23	168	99	4	10
110x2”	1020110007001	90	27	168	99	4	10
125x1/2”	1020125002001	108	25	190	106	6	10
125x3/4”	1020125003001	108	26	190	106	6	10
125x1”	1020125004001	109	26	190	106	6	10
125x1”1/4	1020125005001	109	25	190	106	6	10
125x1”1/2	1020125006001	113	28	190	106	6	10
125x2”	1020125007001	113	30	190	106	6	10

1026

Collarín de toma con anillo de refuerzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1026025002001	38	20	76	49	2	10
25x3/4”	1026025003001	38	21	76	49	2	10
32x1/2”	1026032002001	41	17	81	56	2	10
32x3/4”	1026032003001	41	21	81	56	2	10
32x1”	1026032004001	44	23	81	56	2	10
40x1/2”	1026040002001	41	17	81	60	2	10
40x3/4”	1026040003001	46	18	81	60	2	10
40x1”	1026040004001	46	23	81	60	2	10
50x1/2”	1026050002001	50	17	98	69	4	10
50x3/4”	1026050003001	50	18	98	69	4	10
50x1”	1026050004001	52	20	98	69	4	10
50x1”1/4	1026050005001	57	25	98	69	4	10
63x1/2”	1026063002001	55	16	105	79	4	10
63x3/4”	1026063003001	55	18	105	79	4	10
63x1”	1026063004001	59	20	105	79	4	10
63x1”1/4	1026063005001	63	25	105	79	4	10
63x1”1/2	1026063006001	63	28	105	79	4	10
75x1/2”	1026075002001	62	17	120	90	4	10
75x3/4”	1026075003001	62	18	120	90	4	10
75x1”	1026075004001	65	21	120	90	4	10
75x1”1/4	1026075005001	68	24	120	90	4	10
75x1”1/2	1026075006001	68	23	120	90	4	10
75x2”	1026075007001	72	27	120	90	4	10
90x1/2”	1026090002001	70	17	135	90	4	10
90x3/4”	1026090003001	70	19	135	90	4	10
90x1”	1026090004001	72	21	135	90	4	10
90x1”1/4	1026090005001	76	24	135	90	4	10
90x1”1/2	1026090006001	76	24	135	90	4	10
90x2”	1026090007001	80	27	135	90	4	10

>>>

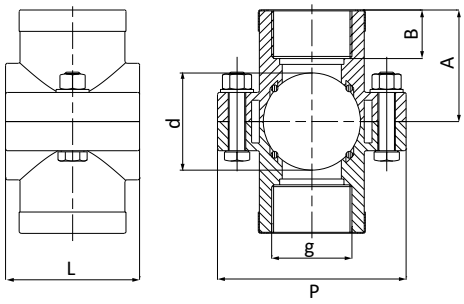
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1026110002001	80	17	168	99	4	10
110x3/4”	1026110003001	80	19	168	99	4	10
110x1”	1026110004001	84	20	168	99	4	10
110x1”1/4	1026110005001	86	23	168	99	4	10
110x1”1/2	1026110006001	86	23	168	99	4	10
110x2”	1026110007001	90	27	168	99	4	10
125x1/2”	1026125002001	108	25	190	106	6	10
125x3/4”	1026125003001	108	26	190	106	6	10
125x1”	1026125004001	109	26	190	106	6	10
125x1”1/4	1026125005001	109	25	190	106	6	10
125x1”1/2	1026125006001	113	28	190	106	6	10
125x2”	1026125007001	113	30	190	106	6	10
125x3”	1026125009001	113	35	190	106	6	10
160x3/4"	1026160003001	108	19	215	175	6	10
160x1”	1026160004001	110	21	215	175	6	10
160x1”1/4	1026160005001	113	24	215	175	6	10
160x1”1/2	1026160006001	115	26	215	175	6	10
160x2”	1026160007001	117	30	215	175	6	10
160x2”1/2	1026160008001	125	32	215	175	6	10
160x3”	1026160009001	134	35	215	175	6	10
160x4”	1026160010001	135	40	215	175	6	10
200x3/4”	1026200003001	128	23	262	175	6	10
200x1”	1026200004001	130	23	262	175	6	10
200x1”1/4	1026200005001	133	23	262	175	6	10
200x1”1/2	1026200006001	133	23	262	175	6	10
200x2”	1026200007001	135	30	262	175	6	10
200x2”1/2	1026200008001	150	32	262	175	6	10
200x3”	1026200009001	152	35	262	175	6	10
200x4”	1026200010001	155	42	262	175	6	10

1027

Double collarín de toma con anillo de refuerzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1027025002001	38	20	76	49	2	10
25x3/4”	1027025003001	38	21	76	49	2	10
32x1/2”	1027032002001	41	17	81	56	2	10
32x3/4”	1027032003001	41	21	81	56	2	10
32x1”	1027032004001	44	23	81	56	2	10
40x1/2”	1027040002001	41	17	81	60	2	10
40x3/4”	1027040003001	46	18	81	60	2	10
40x1”	1027040004001	46	23	81	60	2	10
50x1/2”	1027050002001	50	17	98	69	4	10
50x3/4”	1027050003001	50	18	98	69	4	10
50x1”	1027050004001	52	20	98	69	4	10
50x1”1/4	1027050005001	57	25	98	69	4	10
63x1/2”	1027063002001	55	16	105	79	4	10
63x3/4”	1027063003001	55	18	105	79	4	10
63x1”	1027063004001	59	20	105	79	4	10
63x1”1/4	1027063005001	63	25	105	79	4	10
63x1”1/2	1027063006001	63	28	105	79	4	10
75x1/2”	1027075002001	62	17	120	90	4	10
75x3/4”	1027075003001	62	18	120	90	4	10
75x1”	1027075004001	65	21	120	90	4	10
75x1”1/4	1027075005001	68	24	120	90	4	10
75x1”1/2	1027075006001	68	23	120	90	4	10
75x2”	1027075007001	72	27	120	90	4	10

>>>

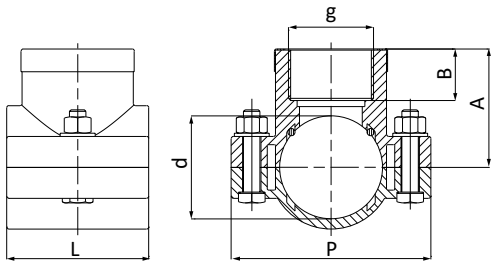
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1027090002001	70	17	135	90	4	10
90x3/4”	1027090003001	70	19	135	90	4	10
90x1”	1027090004001	72	21	135	90	4	10
90x1”1/4	1027090005001	76	24	135	90	4	10
90x1”1/2	1027090006001	76	24	135	90	4	10
90x2”	1027090007001	80	27	135	90	4	10
110x1/2”	1027110002001	80	17	168	99	4	10
110x3/4”	1027110003001	80	19	168	99	4	10
110x1”	1027110004001	84	20	168	99	4	10
110x1”1/4	1027110005001	86	23	168	99	4	10
110x1”1/2	1027110006001	86	23	168	99	4	10
110x2”	1027110007001	90	27	168	99	4	10
125x1/2”	1027125002001	108	25	190	106	6	10
125x3/4”	1027125003001	108	26	190	106	6	10
125x1”	1027125004001	109	26	190	106	6	10
125x1”1/4	1027125005001	109	25	190	106	6	10
125x1”1/2	1027125006001	113	28	190	106	6	10
125x2”	1027125007001	113	30	190	106	6	10

1031 - LA BLU

Collarín de toma con anillo de refuerzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
20x1/2”	1031020002001	40	25	76	54	2	16
25x1/2”	1031026002001	38	20	76	49	2	16
25x3/4”	1031026003001	38	21	76	49	2	16
32x1/2”	1031033002001	41	17	81	56	2	16
32x3/4”	1031033003001	41	21	81	56	2	16
32x1"	1031033004001	44	23	81	56	2	16
40x1/2”	1031041002001	41	17	81	60	2	16
40x3/4”	1031041003001	46	18	81	60	2	16
40x1”	1031041004001	46	23	81	60	2	16
50x1/2”	1031051002001	50	17	98	69	6	16
50x3/4”	1031051003001	50	18	98	69	6	16
50x1”	1031051004001	52	20	98	69	6	16
50x1”1/4	1031051005001	57	25	98	69	6	16
63x1/2”	1031064002001	55	16	105	79	6	16
63x3/4”	1031064003001	55	18	105	79	6	16
63x1”	1031064004001	59	20	105	79	6	16
63x1”1/4	1031064005001	63	25	105	79	6	16
63x1”1/2	1031064006001	63	28	105	79	6	16
75x1/2”	1031076002001	62	17	120	90	6	16
75x3/4”	1031076003001	62	18	120	90	6	16
75x1”	1031076004001	65	21	120	90	6	16
75x1”1/4	1031076005001	68	24	120	90	6	16
75x1”1/2	1031076006001	68	23	120	90	6	16
75x2”	1031076007001	72	27	120	90	6	16

>>>

>>>

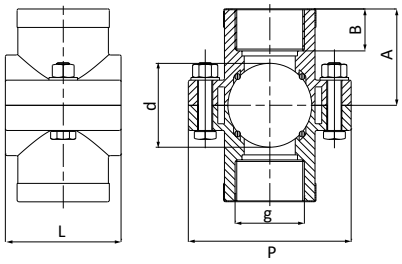
DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1031091002001	70	17	135	90	6	16
90x3/4”	1031091003001	70	19	135	90	6	16
90x1”	1031091004001	72	21	135	90	6	16
90x1”1/4	1031091005001	76	24	135	90	6	16
90x1”1/2	1031091006001	76	24	135	90	6	16
90x2”	1031091007001	80	27	135	90	6	16
110x1/2”	1031111002001	80	17	168	99	6	16
110x3/4”	1031111003001	80	19	168	99	6	16
110x1”	1031111004001	84	20	168	99	6	16
110x1”1/4	1031111005001	86	23	168	99	6	16
110x1”1/2	1031111006001	86	23	168	99	6	16
110x2”	1031111007001	90	27	168	99	6	16
125X1/2”	1031126002001	108	25	190	106	6	16
125X3/4”	1031126003001	108	26	190	106	6	16
125X1”	1031126004001	109	26	190	106	6	16
125X1”1/4	1031126005001	109	25	190	106	6	16
125X1”1/2	1031126006001	113	28	190	106	6	16
125x2"	1031126007001	113	30	190	106	6	16
160x3/4"	1031161003001	108	19	215	175	6	16
160x1"	1031161004001	110	21	215	175	6	16
160x1”1/4	1031161005001	113	24	215	175	6	16
160x1”1/2	1031161006001	115	26	215	175	6	16
160x2"	1031161007001	117	30	215	175	6	16
200x3/4"	1031201003001	128	23	262	175	6	16
200x1"	1031201004001	130	23	262	175	6	16
200x1”1/4	1031201005001	133	23	262	175	6	16
200x1”1/2	1031201006001	133	23	262	175	6	16
200x2"	1031201007001	135	30	262	175	6	16

También compatible con tuberías de PVC que tengan las dimensiones definidas en la norma EN 1452-2

1032 - LA BLU

Double collarín de toma con anillo de refuerzo





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1032026002001	38	20	76	49	2	16
25x3/4”	1032026003001	38	21	76	49	2	16
32x1/2”	1032033002001	41	17	81	56	2	16
32x3/4”	1032033003001	41	21	81	56	2	16
32x1”	1032033004001	44	23	81	56	2	16
40x1/2”	1032041002001	41	17	81	60	2	16
40x3/4”	1032041003001	46	18	81	60	2	16
40x1”	1032041004001	46	23	81	60	2	16
50x1/2”	1032051002001	50	17	98	69	6	16
50x3/4”	1032051003001	50	18	98	69	6	16
50x1”	1032051004001	52	20	98	69	6	16
50x1”1/4	1032051005001	57	25	98	69	6	16
63x1/2”	1032064002001	55	16	105	79	6	16
63x3/4”	1032064003001	55	18	105	79	6	16
63x1”	1032064004001	59	20	105	79	6	16
63x1”1/4	1032064005001	63	25	105	79	6	16
63x1”1/2	1032064006001	63	28	105	79	6	16

>>>

>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
75x1/2”	1032076002001	62	17	120	90	6	16
75x3/4”	1032076003001	62	18	120	90	6	16
75x1”	1032076004001	65	21	120	90	6	16
75x1”1/4	1032076005001	68	24	120	90	6	16
75x1”1/2	1032076006001	68	23	120	90	6	16
75x2”	1032076007001	72	27	120	90	6	16
90x1/2”	1032091002001	70	17	135	90	6	16
90x3/4”	1032091003001	70	19	135	90	6	16
90x1”	1032091004001	72	21	135	90	6	16
90x1”1/4	1032091005001	76	24	135	90	6	16
90x1”1/2	1032091006001	76	24	135	90	6	16
90x2”	1032091007001	80	27	135	90	6	16
110x1/2”	1032111002001	80	17	168	99	6	16
110x3/4”	1032111003001	80	19	168	99	6	16
110x1”	1032111004001	84	20	168	99	6	16
110x1”1/4	1032111005001	86	23	168	99	6	16
110x1”1/2	1032111006001	86	23	168	99	6	16
110x2”	1032111007001	90	27	168	99	6	16

También compatible con tuberías de PVC que tengan las dimensiones definidas en la norma EN 1452-2


UNIDELTA
Since 1973

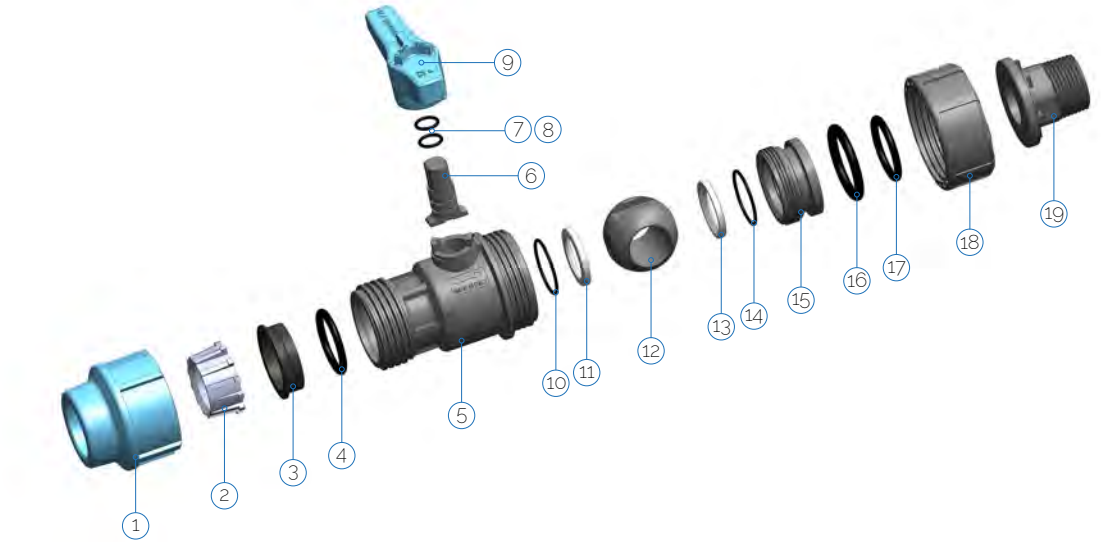

UNIDELTA

4. Válvulas de bola

Las válvulas de bola de polipropileno Unidelta están fabricadas específi camente para ser acopladas a tubos de polietileno y/o juntas roscadas. Son compatibles con todos los tubos de LDPE, HDPE, PE40, PE80, PE100, PE100RC fabricados de acuerdo con las normas **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Se utilizan normalmente para el transporte de agua con una presión máxima de 16 bares a 20°C hasta el diámetro 63/2" y de 10 bares a 20°C a partir del diámetro 75/2"1/2 (para temperaturas superiores tome como referencia los límites impuestos por las normativas del tubo PE). Las válvulas están disponibles también en la versión con salida(s) roscada(s) realizada(s) según las normativas **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**

4.1 Estructura y materiales

Vista explosionada de la válvula de bola



1. **Tuerca:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
2. **Anillo de bloqueo:** resina acetálica POM.
3. **Casquillo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
4. **Junta tórica de estanqueidad radial en el tubo:** goma de nitrilo (NBR).
5. **Cuerpo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
6. **Barra de mando:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
7. 8. **Juntas tóricas de la barra de mando:** goma de nitrilo (NBR).
9. **Maneta:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
10. 14. **Juntas tóricas de estanqueidad de la junta de la esfera:** gomma nitrilica (NBR).
11. 13. **Juntas de estanqueidad de la esfera:** politetrafluoroetileno (PTFE).
12. **Esfera:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
15. **Soporte de la junta de la esfera:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
16. **Junta tórica de estanqueidad radial:** goma de nitrilo (NBR).
17. **Junta tórica de estanqueidad axial:** goma de nitrilo (NBR).
18. **Tuerca de soporte del inserto:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
19. **Inserto con salida roscada:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.

4.2 Ventajas de las válvulas de bola

Materiales utilizados
La válvula Unidelta está compuesta por componentes realizados exclusivamente con material plástico. Por lo tanto no existe el riesgo de que se produzcan oxidación o corrosión durante el uso.

Alta resistencia a la presión
Las válvulas Unidelta pueden trabajar con una presión máxima de 16 bares a 20°C.

Diseño
Las válvulas Unidelta presentan un diseño compacto que hace posible su instalación incluso en espacios reducidos. Además la maneta se puede desmontar del cuerpo de la válvula.

Facilidad de montaje
Las válvulas Unidelta tienen un montaje extremadamente fácil gracias también al sistema innovador DeltOne para el diámetro Ø50, Ø63, Ø75, Ø90.

Protección contra los rayos UV
Los materiales de los componentes expuestos de las válvulas Unidelta están estabilizados a los rayos UV. Por lo tanto se pueden instalar incluso externamente.

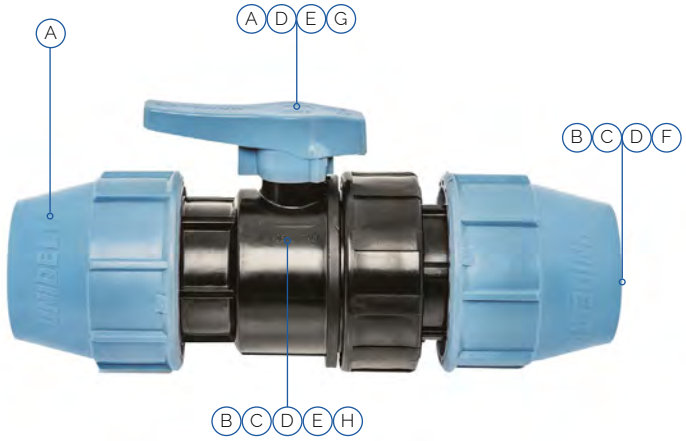
Flujo bidireccional
Las válvulas Unidelta no necesitan una determinada dirección del flujo del agua sino que se pueden instalar con orientación casual independientemente de la dirección del mismo flujo.

Posibilidad de inspección de la esfera
La esfera de la válvula se puede inspeccionar. Esta característica permite limpiar cómodamente la esfera de eventuales incrustaciones formadas durante el uso (consulte las instrucciones en el parágrafo "Acceso a la esfera" página 278).

4.3 Marcado

La información importante está marcada directamente en la válvula:

Ⓐ Nombre del fabricante "**UNIDELTA**";
Ⓑ Lugar de producción "**MADE IN ITALY**";
Ⓒ Material "**PP**";
Ⓓ Diámetro del tubo de polietileno a acoplar (por ej. "**Ø40**");
Ⓔ Diámetro nominal correspondiente a una posible rosca y orientativamente a la sección de paso (por ej. "**1"1/4**" y "**DN 32**");
Ⓕ Presión máxima de funcionamiento (por ej. "**PN 16**");
Ⓖ Dirección de apertura y cierre de la válvula en la maneta ("**OPEN**" abierto y "**CLOSE**" serrado);
Ⓗ **Doble flecha** que indica la bidireccionalidad del flujo.



4.4 Acceso a la esfera

En las válvulas Unidelta la esfera se puede inspeccionar: esta característica representa una gran ventaja ya que permite eliminar de la esfera posibles incrustaciones que se hayan formado durante el uso.

Para acceder a la esfera siga los 3 pasos siguientes:





Desenrosque la abrazadera de soporte del inserto (componente (18) del despiece en la "Vista explosionada de la válvula de bola" página 275). De esta manera los dientes internos del soporte de la junta de la esfera (componente (15)) resultarán visibles. Después quite la maneta (componente (9)) de la barra de mando. Hay que señalar que los dientes de la maneta para las válvulas Ø20-25-32 se encuentran en la parte superior (figura 1A) mientras que para las válvulas Ø40-50-63-75-90 se encuentran en la parte inferior (figura 1B).





Introduzca la dentadura de la maneta dentro de la dentadura de soporte de la junta de la esfera. Para desenroscar gire la maneta introducida hacia la derecha (figura 2A y 2B).





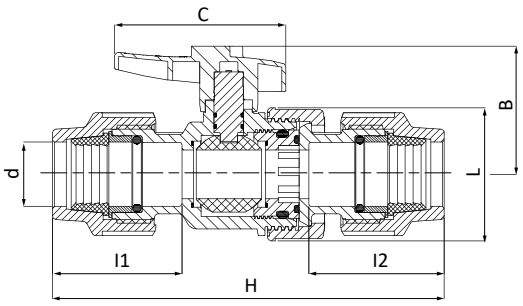
Quite el soporte de la junta de la esfera de manera que permita el acceso a la misma esfera (figura 3A y 3B).

4.5 Fichas técnicas

1070

Válvula de bola compresión

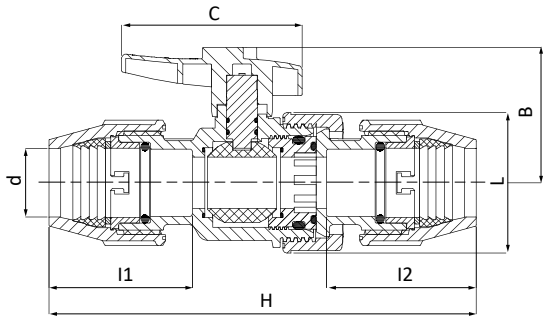




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





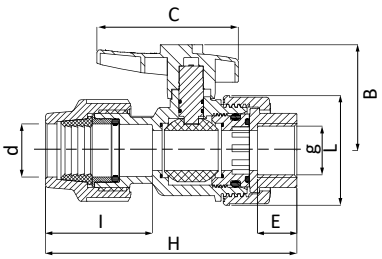
>>>

50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Válvula de bola compresión rosca hembra

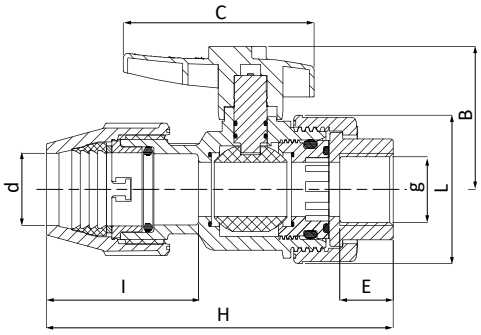




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82	24	80	77	100	16

>>>





>>>

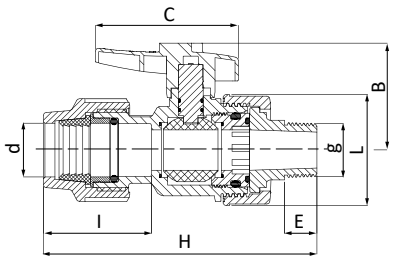
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* La boca filetiada está reforzada por un anillo de acero inox

1072

Válvula de bola compresión rosca macho

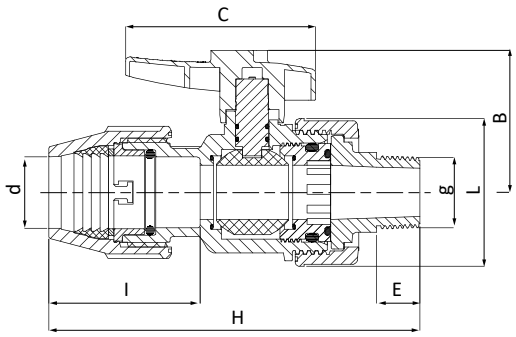




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80	77	100	16

>>>





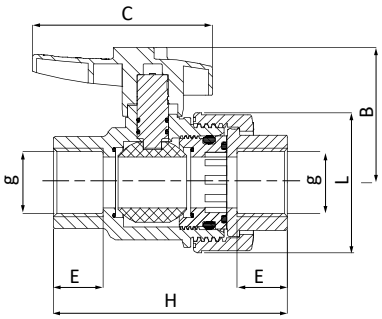
>>>

50x1"1/2	1072051006001	96x245x136	245	110	23	96	88	116	16
63x2"	1072064007001	116x275x158	275	120	27	116	100	127	16

1073

Válvula de bola rosca hembra/hembra





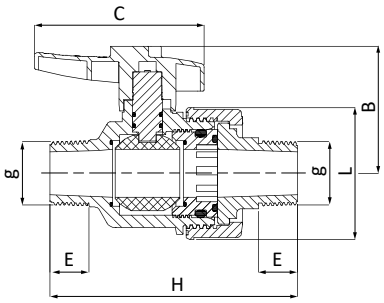
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	1073006006001	95x142x136	142	24	96	88	116	16
***2"x2"**	1073007007001	116x164x158	164	27	116	100	127	16
***2"1/2x2"1/2**	1073008008001	155x240x203	240	35	155	125	155	10
***3"x3"**	1073009009001	197x310x261	310	50	197	162	281	10

* La boca filetiada está reforzada por un anillo de acero inox

1074

Válvula de bola rosca macho/macho



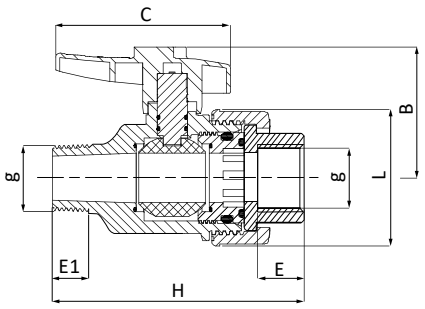


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2	1074006006001	95x187x136	187	23	95	88	116	16
2"x2"	1074007007001	116x216x158	216	27	116	100	127	16

1081

Válvula de bola rosca macho/hembra





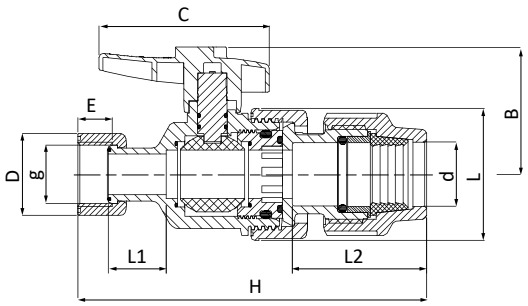
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	23	80	77	100	16
***1"1/2x1"1/2**	1081006006001	95x160x136	160	24	23	95	88	116	16
***2"x2"**	1081007007001	116x189x158	189	27	27	116	100	127	16

* La boca filetiada está reforzada por un anillo de acero inox

1080

Válvula de bola compresión con tuerca giratoria



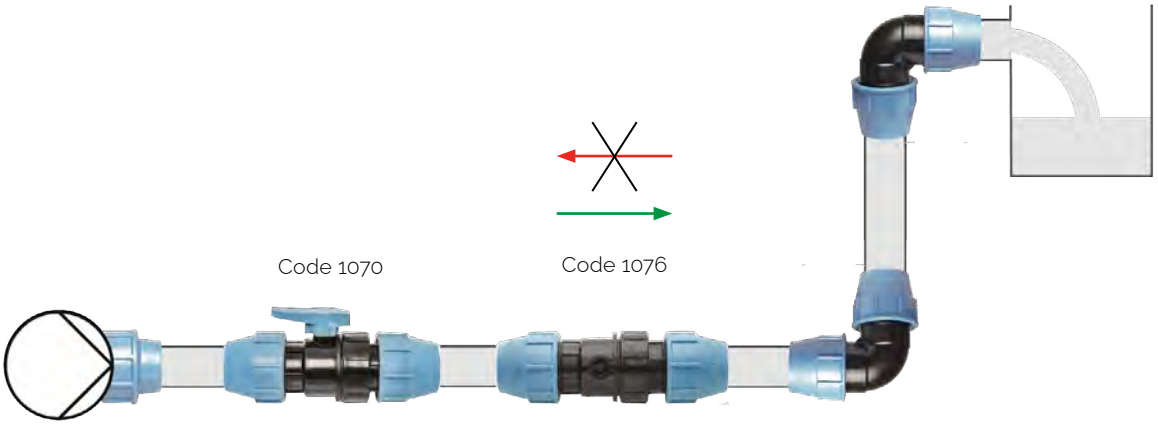


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

5. Válvulas de retención

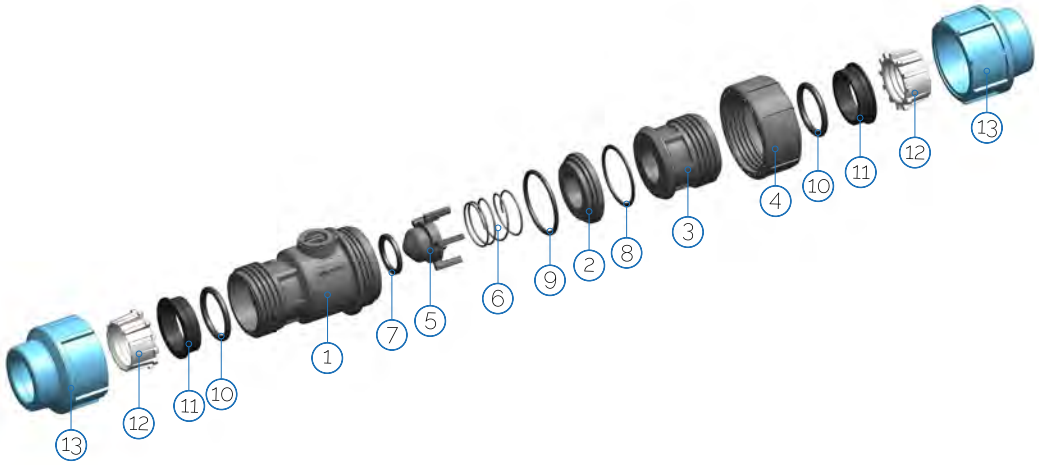
Las válvulas de retención de polipropileno Unidelta han sido realizadas específi camente para acoplarse a tubos de polietileno y/o uniones roscadas. Son compatibles con los tubos de LDPE, HDPE, PE40, PE80, PE100, PE100RC realizados según las normativas **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Se utilizan normalmente para el transporte de agua con una presión máxima de 16 bares a 20°C (para temperaturas mayores, consulte los límites establecidos por las normativas para el tubo PE). Las válvulas Unidelta están disponibles además en la versión con salidas roscadas hembra realizadas según las normativas **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
Estas válvulas, mediante un obturador, permiten el paso del fl ujo en un solo sentido oponiéndose automáticamente a cualquier retorno en la dirección opuesta. En la imagen siguiente se muestra, de forma esquemática, un ejemplo de una posible aplicación de la válvula de retención instalada en el circuito de impulsión de una bomba.

Ejemplo esquemático de una aplicación



5.1 Estructura y materiales

Vista explosionada de la válvula de retención



1. **Cuerpo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
2. **Soporte juntas tóricas:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
3. **Inserto:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
4. **Tuerca de soporte del inserto:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
5. **Obturador:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
6. **Resorte:** acero inoxidable AISI 302.
7. **Guarnición del obturador:** goma de nitrilo (NBR).
8. **Junta tórica delantera:** goma de nitrilo (NBR).
9. **Junta tórica radial:** goma de nitrilo (NBR).
10. **Junta tórica radial en el tubo:** goma de nitrilo (NBR).
11. **Casquillo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
12. **Anillo de bloqueo:** resina acetálica POM.
13. **Tuerca:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.

5.2 Ventajas de las válvulas de retención

Materiales utilizados
La válvula Unidelta está compuesta por componentes realizados exclusivamente con material plástico, excepto por la resorte de acero inox. Por lo tanto no existe el riesgo de que se produzcan oxidación o corrosión durante el uso.

Alta resistencia a la presión
Las válvulas Unidelta pueden trabajar con una presión máxima de 16 bares a 20°C.

Diseño
Las válvulas Unidelta presentan un diseño compacto que hace posible su instalación incluso en espacios reducidos.

Facilidad de montaje
Las válvulas Unidelta tienen un montaje extremadamente fácil gracias también al sistema innovador DeltOne para el diámetro Ø50, Ø63.

Protección contra los rayos UV
Los materiales de los componentes expuestos de las válvulas Unidelta están estabilizados a los rayos UV. Por lo tanto se pueden instalar incluso externamente.

Inspeccionabilidad de la válvula

La válvula de retención puede ser desmontada simplemente destornillando la tuerca de soporte del inserto (componente (4) de la "Vista explosionada de la válvula de retención" página 285). Esta característica permite limpiar fácilmente el obturador de los depósitos que hayan podido formarse durante el uso.

Fiabilidad de funcionamiento

La apertura del obturador se realiza con baja presión en la dirección de impulsión, mientras que la perfecta estanquidad está garantizada incluso con baja contrapresión en el sentido opuesto. Véase la tabla siguiente.

Ø	Presión mínima de apertura de la válvula [bar]	Presión mínima de estanqueidad de la válvula [bar]
20	0,030	0,09
25	0,030	0,09
32	0,030	0,09
40	0,035	0,09
50	0,040	0,09
63	0,050	0,09

5.3 Marcado

La información importante está marcada directamente en la válvula:

(A) Nombre del fabricante "**UNIDELTA**";
(B) Lugar de producción "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diámetro del tubo de polietileno a acoplar (por ej. "**Ø40**");
(E) Diámetro nominal correspondiente a una posible rosca y orientativamente a la sección de paso (por ej. "**1"1/4**" y "**DN 32**");
(F) Presión máxima de funcionamiento ("**PN 16**");
(G) **Flecha** que indica la dirección del flujo.

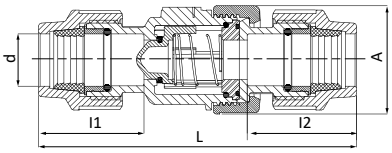


5.4 Fichas técnicas

1076

Válvula de retención compresión

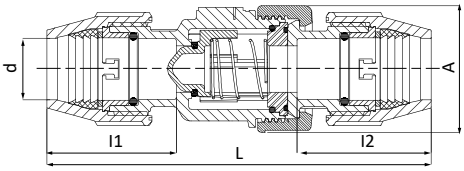




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





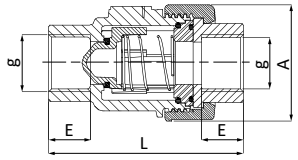
>>>

50x50	1076051000001	303x99x99	303	110	110	95	16
63x63	1076064000001	342x117x117	342	130	126	116	16

1077

Válvula de retención rosca hembra/hembra





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	L [mm]	E [mm]	A [mm]	Pmax [bar]
1/2”x1/2”	1077002002001	89x50x50	89	17	50	16
3/4”x3/4”	1077003003001	99x60x60	99	18	60	16
1”x1”	1077004004001	110x68x68	110	21	68	16
***1”1/4x1”1/4**	1077005005001	128x83x83	128	24	80	16
***1”1/2x1”1/2**	1077006006001	142x99x99	142	24	95	16
***2”x2”**	1077007007001	167x117x117	167	27	116	16

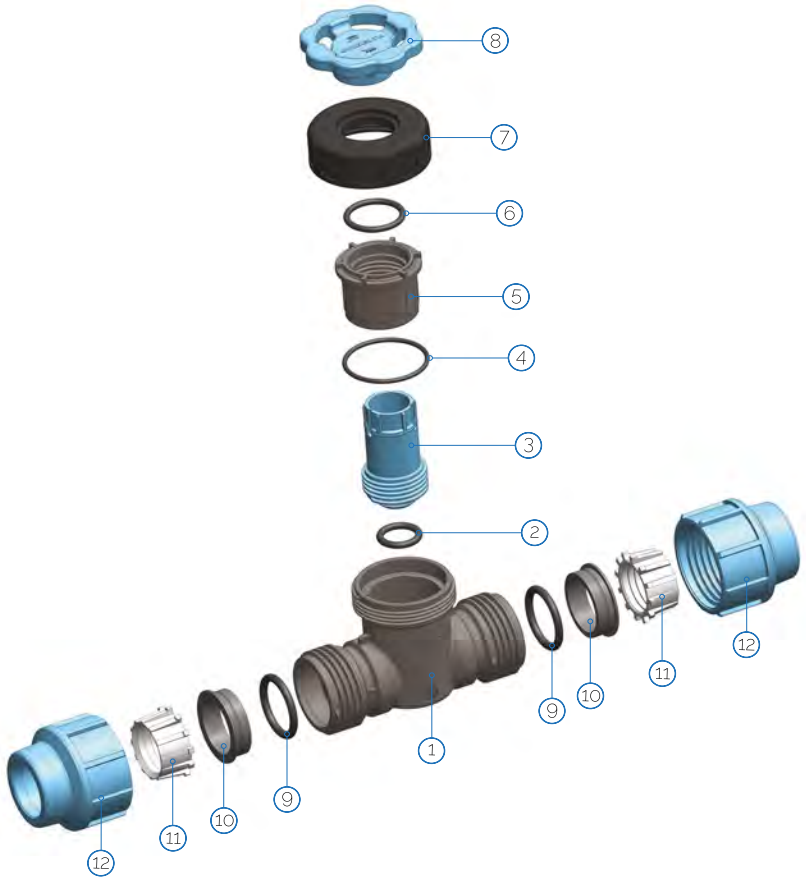
* La boca filetiada está reforzada por un anillo de acero inox

6. Válvulas de asiento

Las válvulas de asiento de polipropileno Unidelta han sido realizadas específicamente para acoplarse a tubos de polietileno y/o uniones roscadas. Son compatibles con los tubos de LDPE, HDPE, PE40, PE80, PE100, PE100RC realizados según las normativas **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Se utilizan normalmente para el transporte de agua con una presión máxima de 16 bares a 20°C (para temperaturas mayores, consulte los límites establecidos por las normativas para el tubo PE). Las válvulas Unidelta están disponibles además en la versión con salidas roscadas realizadas según las normativas **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
La válvula se abre y cierra girando el mando que permite la regulación gradual del flujo.

6.1 Estructura y materiales

Vista explosionada de la válvula de asiento



1. **Cuerpo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
2. **Junta tórica tampón:** goma de nitrilo (NBR).
3. **Tampón de cierre:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
4. **Junta tórica cuerpo:** goma de nitrilo (NBR).
5. **Inserto:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
6. **Junta tórica inserto:** goma de nitrilo (NBR).
7. **Tuerca superior:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
8. **Mando:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
9. **Junta tórica de estanqueidad radial en el tubo:** goma de nitrilo (NBR).
10. **Casquillo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
11. **Anillo de bloqueo:** resina acetálica POM.
12. **Tuerca:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.

6.2 Ventajas de las válvulas de asiento

Materiales utilizados
La válvula Unidelta está compuesta por componentes realizados exclusivamente con material plástico. Por lo tanto no existe el riesgo de que se produzcan oxidación o corrosión durante el uso.

Alta resistencia a la presión
Las válvulas Unidelta pueden trabajar con una presión máxima de 16 bares a 20°C.

Diseño
Las válvulas Unidelta presentan un diseño compacto que hace posible su instalación incluso en espacios reducidos.

Facilidad de montaje
Las válvulas Unidelta tienen un montaje extremadamente fácil.

Protección contra los rayos UV
Los materiales de los componentes expuestos de las válvulas Unidelta están estabilizados a los rayos UV. Por lo tanto se pueden instalar incluso externamente.

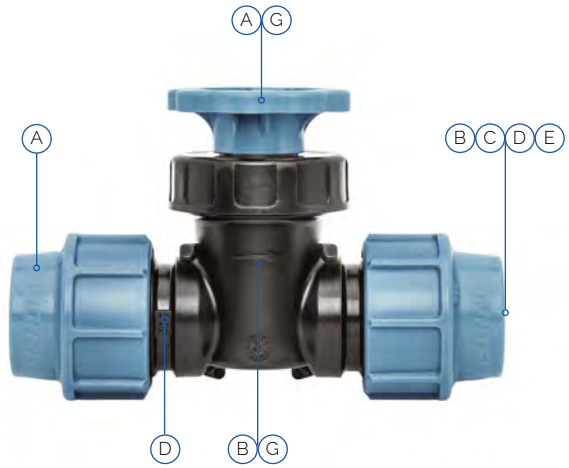
Inspeccionabilidad de la válvula
La válvula de asiento puede ser desmontada simplemente destornillando la tuerca superior (componente (7) de la "Vista explosionada de la válvula de asiento" página 288). Esta característica permite limpiar fácilmente el obturador de los depósitos que hayan podido formarse durante el uso.

Regulación del flujo
Actuando sobre el mando se puede regular el flujo de manera gradual.

6.3 Marcado

La información importante está marcada directamente en la válvula:

(A) Nombre del fabricante "**UNIDELTA**";
(B) Lugar de producción "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diámetro del tubo de polietileno a acoplar (por ej. "**Ø32**") o de la rosca de unión (por ej. "**1"**");
(E) Presión máxima de funcionamiento ("**PN 16**");
(F) **Flecha** que indica la dirección del flujo;
(G) Dirección de apertura y cierre de la válvula en el mando ("**OPEN**" abierto y "**CLOSE**" cerrado).

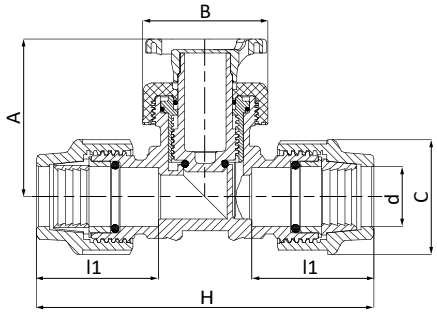


6.4 Fichas técnicas

1078

Válvula de asiento compresión



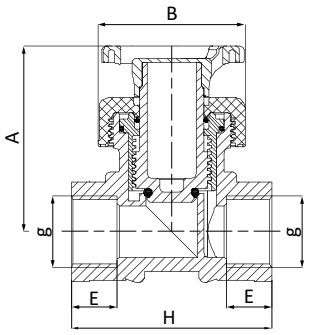


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

1079

Válvula de asiento rosca hembra/hembra





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	A [mm]	B [mm]	Pmax [bar]
3/4"x3/4"	1079003003001	132x79x60	79	18	112	59	16
1"x1"	1079004004001	143x95x70	95	21	120	70	16

7. Instrucciones de montaje de las válvulas

Válvulas de bola, de retención y de asiento Ø 20 mm ÷ 40 mm



Corte el tubo perpendicularmente al eje utilizando sierras especiales para tubos o sierras circulares o de cinta. En este último caso para obtener una sección recta es aconsejable usar cajas guía.



Elimine rebabas causadas por el corte y bisele las extremidades del tubo para facilitar el montaje y para no provocar daños a la junta. La superficie exterior del tubo no debe presentar defectos o cortes en toda la longitud de inserción en el cuerpo de la válvula.



Desenrosque la tuerca azul e introdúzcala en el tubo seguida por el anillo de bloqueo. Asegúrese de que este último tenga la conicidad en la dirección correcta, o sea, con la parte más ancha dirigida hacia el cuerpo de la válvula.



Empuje el tubo dentro de la válvula en dirección axial superando la junta hasta el tope interno del cuerpo de la válvula.



Primero enrosque la tuerca manualmente y después utilizando la llave correspondiente de apriete. La tuerca debe estar cerrada con fuerza aunque no es necesario que entre en contacto con el tope terminal del cuerpo de la válvula.

Válvulas de bola, de retención y de asiento Ø 50 mm ÷ 90 mm



Corte el tubo perpendicularmente al eje utilizando sierras especiales para tubos o sierras circulares o de cinta. En este último caso para obtener una sección recta es aconsejable usar cajas guía.



Desenrosque la tuerca azul sin quitar los anillos bloqueados en su interior (componente integrado).



Introduzca el componente integrado en el tubo seguido por la junta. Es útil lubricar la parte terminal del tubo y la junta con un lubricante a la silicona adecuado para el transporte de agua potable.



Empuje el tubo dentro de la válvula en dirección axial hasta el tope interno del cuerpo de la válvula.



Primero enrosque la tuerca manualmente y después utilizando la llave de apriete. La tuerca debe estar cerrada con fuerza aunque no es necesario que entre en contacto con el tope terminal del cuerpo de la válvula.

8. Componentes

8.1 Componentes para accesorios de compresión

A217

Casquillo



DIM	CODE
16	A217016000
20	A217020000
25	A217025000
32	A217032000
40	A217040000

>>>

>>>

DIM	CODE
50	A217050001
63	A217063001
75	A217075001
90	A217090001
110	A217110001

A218

Tuerca



DIM	CODE
16	A218016000
20	A218020000
25	A218025000
32	A218032000
40	A218040000

>>>

>>>

DIM	CODE
50	A218050002
63	A218063002
75	A218075002
90	A218090002
110	A218110002

A219

Anillo de bloqueo



DIM	CODE
16	A219016000
20	A219020000
25	A219025000
32	A219032000
40	A219040000

>>>

>>>

DIM	CODE
50	A219050001
63	A219063001
75	A219075001
90	A219090001
110	A219110001

A220

Junta tórica



DIM	CODE
16	A220016000
20	A220020000
25	A220025000
32	A220032000
40	A220040000

>>>

>>>

DIM	CODE
50	A220050001
63	A220063001
75	A220075001
90	A220090001
110	A220110001

8.2 Componentes para válvulas

A24601

Tuerca de soporte del inserto para válvula de bola



DIM	CODE
20	A246010200
25	A246010250
32	A246010320
40	A246010400

>>>

>>>

DIM	CODE
50	A246010500
63	A246010630
75	A246010750
90	A246010900

A24602

Maneta para válvula de bola



DIM	CODE
20	A246020200
25	A246020250
32	A246020320
40	A246020400

>>>

>>>

DIM	CODE
50	A246020500
63	A246020630
75	A246020750
90	A246020900

A24603

Maneta para válvula de asiento



DIM	CODE
20-25 - 3/4"	A246032025
32 - 1"	A246030032

A24604

Anillo negro superior para válvula de asiento



DIM	CODE
20-25 - 3/4"	A246042025
32 - 1"	A246040032

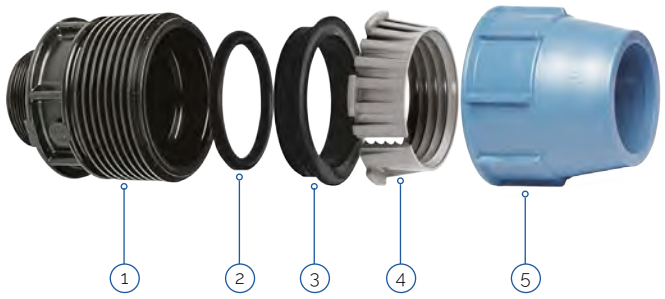
8.3 Componentes especiales

Deltone Mining es un accesorio innovador desarrollado específicamente por Unidelta para **conectar tubos de polietileno en aplicaciones de tipo minero,** en las que es fundamental la resistencia química a compuestos particulares. Por ejemplo, en un proceso tal como la lixiviación, utilizado frecuentemente para extraer cobre, se utilizan soluciones más o menos concentradas de ácido sulfúrico.
Esto es muy agresivo en juntas de NBR y anillos de bloqueo de resina acetálica usada para accesorio de compresión tradicionales. Por eso Unidelta ha decidido, para este tipo de aplicaciones, equipar sus accesorios con componentes de materiales con mayor resistencia química respecto a los que se utilizan normalmente.
DeltOne Mining conserva el mismo diseño innovador, de fácil montaje y sujeción segura como el accesorio clásico DeltOne, pero tiene una **junta tórica de fluoroelastómero (VITON)** y el **anillo de bloqueo de CPVC.** Además, el cuerpo, el casquillo y la tuerca están siempre hechos de polipropileno.

Materiales

Todos los materiales enumerados se caracterizan por una resistencia química significativa y permiten a Deltone Mining trabajar en contacto con compuestos químicos extremadamente agresivos, especialmente ácidos, que actúantan desde el interior (desde el líquido transportado) como desde el medio externo.
Por lo tanto, Deltone Mining es ideal no solo en el sector minero, sino también en todas aquellas aplicaciones que requieran una alta resistencia química. Para las resistencias químicas específicas, ponerse en contacto directamente con Unidelta.

1. **Cuerpo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
2. **Junta tórica:** O-ring en VITON.
3. **Casquillo:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.
4. **Anillo de bloqueo**: CPVC.
5. **Tuerca:** polipropileno (PP-B) con alto grado de estabilidad con protección contra los rayos UV.



A219 - CPVC

Anillo de bloqueo en CPVC



DIM	CODE
32	A219032002
63	A219063002
75	A219075002
90	A219090002
110	A219110002

A220 - VITON

Junta tórica en VITON



DIM	CODE
63	A220063003
75	A220075003
90	A220090003
110	A220110003

1101

Chaflanadora



DIM	CODE
16 ÷ 160	1101016160001

1037

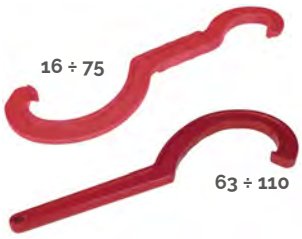
Llave para accesorios de polipropileno



DIM	CODE
16 ÷ 63	1037016001001

1038

Llave para accesorios de resina acetálica



DIM	CODE
16 ÷ 75	1038016002001
63 ÷ 110	1038063002001

5033

Sierra



DIM	CODE
10 ÷ 32	5033010032001
16 ÷ 63	5033016063001

10. Resistencia química

"APPENDIX A Chemical resistance" página 521

La siguiente tabla muestra la resistencia química de los materiales utilizados para los componentes de los racores en contacto con el fluido. Se refiere a la temperatura de 20°C para los racores no sometidos a esfuerzos mecánicos.

La resistencia química está indicada por medio de los símbolos siguientes. Donde no está indicada no han sido efectuadas pruebas.

S = Resistencia satisfactoria: pueden ser utilizados sin restricciones.
L = Resistencia limitada: la sustancia puede atacar al material. Se debe reducir la presión y la temperatura de funcionamiento. La duración en servicio del accesorio puede reducirse.
NS = Resistencia no satisfactoria: la sustancia perjudica al material. El accesorio no puede ser utilizado.

La concentración está expresada como porcentaje en masa de la sustancia en solución acuosa; en algunos casos está indicada por medio de los símbolos siguientes:

Dil.sol. = Solución acuosa diluida en concentración no superior al 10%.
Sol. = Solución acuosa en concentración superior al 10% pero no saturada.
Sat.sol. = Solución acuosa saturada.
tg = Sustancia pura.
tg-l = Sustancia pura en estado líquido.
tg-g = Sustancia pura en estado gaseoso.
tg-s = Sustancia pura en estado sólido.
Work.sol. = Solución en concentración usualmente utilizada en la industria.
Susp. = Suspensión de sólido en solución saturada.


UNIDELTA
Since 1973



Klemmverbindungen
Deutsch

Definitionen und Symbole		**301**
1.	**Unidelta-Fittings mit mechanischer Spannung**	**301**
2.	**Klemmverbindungen und Anbohrschellen**	**303**
2.1	Anwendungsgebiete	303
2.2	Bezugsnormen	303
2.3	Qualitätszertifikate	303
2.4	Betriebstemperatur	304
2.5	Zugfestigkeit	304
2.6	Hydraulische Dichtigkeit	305
2.7	Materialien	306
2.8	Montageanleitungen	309
3.	**Datenblätter**	**316**
3.1	Klemmverbindungen	316
3.2	Spezialkupplung	335
3.3	Anschlussverschraubungen	336
3.4	Kupplungsstück	339
3.5	Abzweigschelle zum Anbohren unter Druck	340
3.6	Anbohrschellen	341
4.	**Kugelhähne**	**349**
4.1	Ventilaufbau und Materialien	349
4.2	Vorteile der Kugelhähne	350
4.3	Kennzeichnung des Ventils	351
4.4	Zugang zur Kugel	352
4.5	Datenblätter	353
5.	**Klemmrückschlagventil**	**358**
5.1	Ventilaufbau und Materialien	359
5.2	Vorteile der Rückschlagventile	359
5.3	Kennzeichnung des Ventils	360
5.4	Datenblätter	361

6.	**Geradsitzventil**	**362**
6.1	Ventilaufbau und Materialien	362
6.2	Vorteile der Geradsitzventile	363
6.3	Kennzeichnung des Ventils	363
6.4	Datenblätter	364
7.	**Montageanleitung für Ventile**	**365**
8.	**Komponenten**	**367**
8.1	Bestandteile für Klemmverbindungen	367
8.2	Bestandteile für Ventile	368
8.3	Sonderkomponenten	369
9.	**Zubehör**	**370**
10.	**Chemische Beständigkeit**	**371**

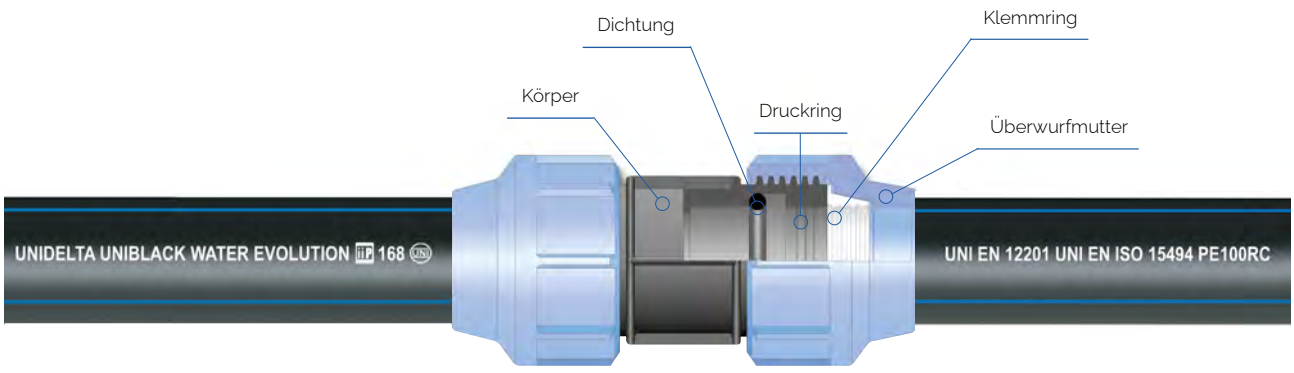
Definitionen und Symbole

PP-B	Kopolymer-Polypropylen	DN	Nenndurchmesser [mm]
POM	Acetalharz	NF, V	Anzahl von Löchern
NBR	Nitrilkautschuk	d, d_1	Paarungsdurchmesser [mm]
PEBD	Polyäthylen niedriger Dichte	g	Nominalgewinde [in.]
PEAD	Polyäthylen hoher Dichte		Für Kaltwasser geeignet
PTFE	Polytetrafluorethylen		Sonderkomponente
PN	Nenndruck [bar]		Klemmverbindungen
Pmax	Maximaldruck [bar]		Technischen Handbuch
PFA	Zulässiger Betriebsdruck (EN805) maximaler hydrostatischer Druck, dem eine Komponente während des Dauerbetriebs standhalten kann [bar]		

1. Unidelta-Fittings mit mechanischer Spannung

Diese Verbindungsarten können aus Metall oder Kunststoff hergestellt werden, wie die Klemmverbindungen aus Polypropylen von Unidelta: Es sind leicht zu installierende, abnehmbare Verbindungen. Das Verbindungssystem basiert darauf, dass das Polyäthylenrohr mithilfe von gezahnten Ringen, die das Rohr fest umklammern, verklemmt wird. Das Angebot der Klemmverbindungen aus Polypropylen von Unidelta umfasst Durchmesser von 16 mm bis 110 mm mit einem Nenndruck von 16 bar.

Muffe aus Polypropylen mit mechanischer Spannung




UNIDELTA

2. Klemmverbindungen und Anbohrschellen

2.1 Anwendungsgebiete

Die Klemmverbindungen und Anbohrschellen von Unidelta wurden speziell für die **Verbindung von Polyethylenrohren** mit Außendurchmessern zwischen 16 mm und 110 mm (200 mm für Anbohrschellen) entwickelt, und sind mit allen nach den Normen **EN 12201, ISO 4427, DIN 8074, UNI 7990** gefertigten Rohren aus LDPE, HDPE, PE40, PE80, PE100, PE100RC kompatibel. Sie werden normalerweise für die **Förderung von Trinkwasser und Flüssigkeiten mit einem Druck von bis zu 16 bar** und für allgemeine Anwendungen eingesetzt. Dank der Eigenschaften ihrer Werkstoffe sind die Fittings gegen den Angriff zahlreicher **chemischer Substanzen** (siehe: "APPENDIX A Chemical resistance" S. 521) und gegen **UV-Strahlen** beständig.
Mithilfe der Spezialkupplung von Unidelta können Rohrsysteme aus metrischem PE mit bereits existierenden Rohren aus jeglichem Material und Außendurchmessern zwischen 15 mm und 35 mm verbunden werden.

2.2 Bezugsnormen

Die Unidelta-Fittings und Anbohrschellen erfüllen die Vorschriften für die Förderung von Trinkwasser entsprechend den in Italien (Ministerialerlass Nr. 174 vom 06.04.2004) und in zahlreichen anderen Ländern geltenden Vorschriften.

Fittings und Anbohrschellen
Gemäß den Normen ISO 17885, DIN 8076, ISO 13460.

Gewinde
Gemäß den Normen ISO7/1, DIN 2999, BS 21, EN 10226-1.

Flansche
Löcher und Achsabstände entsprechen der Norm UNI 2223, UNI 2278, DIN 8063, UNI EN 1092-1.

2.3 Qualitätszertifikate

Unidelta wirkt unter vollkommener Einhaltung der Bestimmungen für Qualitätsmanagementsysteme **DIN EN ISO 9001:2015** und ist seit 1995 danach zertifiziert. Seit 2016 besitzt es auch die Zertifizierungen **ISO 14001** (Umweltmanagementsysteme) und **BS OHSAS 18001** (Managementsysteme für Sicherheit und Gesundheit am Arbeitsplatz) aktualisiert im Jahr 2020 mit **ISO 45001:2018** (Managementsysteme für Sicherheit und Gesundheit am Arbeitsplatz).
Die Unidelta-Fittings wurden von zahlreichen Zertifizierungsstellen getestet und zugelassen.



NB. La gamma dei prodotti certificati IIP è visionabile sul sito www.unidelta.com e/o www.iip.it
NB. The range of products approved by Kiwa can be seen on the web site www.kiwa.com/nl
NB. Watermark L.N. 26588: Please see the certifi cate for the list of the products which are covered by the approval. register.saiglobal.com

2.4 Betriebstemperatur

Die Fittings und Anbohrschellen **sind nicht für den Gebrauch mit Warmwasser geeignet,** da ihre Verwendung auf die Anwendungsgebiete von Polyethylenrohren beschränkt ist. Die maximalen Betriebstemperaturen sind die, die für den Gebrauch von Polyethylenrohren vorgesehen sind. Es muss daher auf die im betreffenden Land geltenden Vorschriften Bezug genommen werden. **Die Fittings und Anbohrschellen halten Temperaturen unter 0°C stand.** In der nachstehender Tabelle ist der maximal zulässige Betriebsdruck im Dauerbetrieb (PFA) bei Änderung der Temperatur aufgeführt, wenn es sich bei der beförderten Flüssigkeit um Wasser gemäß den Normen EN 805, EN 12201 und ISO 13761 handelt. Bei Werten im Bereich der angegebenen Parameter kann eine lineare Interpolation durchgeführt werden.

Betriebstemperatur [°C]	≤20°	25°	30°	35°	40°	45°
PFA [bar]	16	14,9	13,9	12,8	11,8	10,8
PFA [bar]	10	9,3	8,7	8	7,4	6,7

2.5 Zugfestigkeit

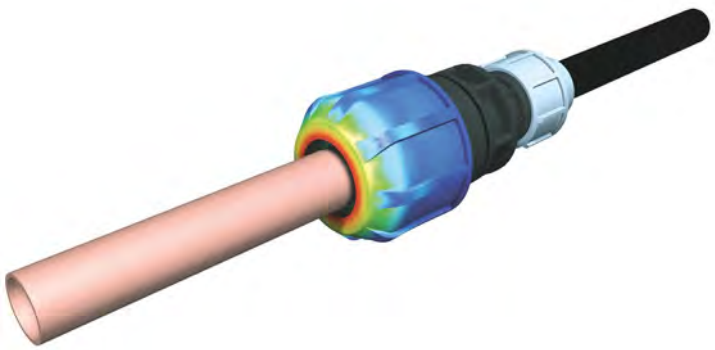
In Übereinstimmung mit den strengsten Rechtsvorschriften unterzieht Unidelta seine Fittings Zugfestigkeitsversuchen mit den in der Tabelle "Zugprüfkräfte" angegebenen Lasten (Dauer des Tests: Eine Stunde bei 20°C).

Zugprüfkräfte

	PE100 - PN 16	
Ø [mm]	**F [N]**	**F [kgf]**
16	883	85
20	1225	125
25	1774	181
32	2950	301
40	4557	465
50	7076	722
63	11250	1148
75	15719	1604
90	22736	2320
110	33898	3459



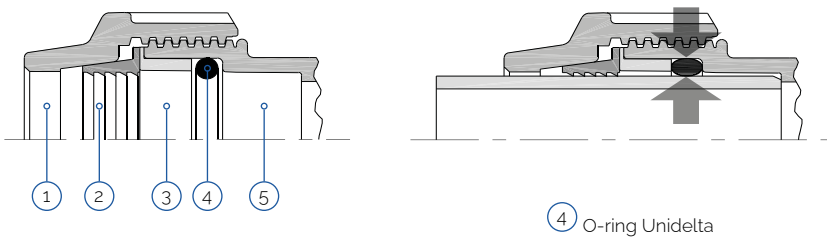
FEM-Analysen - Kräfteverteilung in der Überwurfmutter des Universalfi ttings, das kombinierten Zug- und Druckkräften ausgesetzt wird



2.6 Hydraulische Dichtigkeit

Die hydraulische Dichtigkeit in einem mechanischen Fitting ist vom verwendeten Dichtungstyp und vom Druck, den das installierte Fitting auf die Kontaktflächen zwischen der Dichtung, dem Rohr und dem Fittingkörper ausüben kann, abhängig.

Hydraulische Dichtigkeit des Unidelta-Fittings mit Durchmessern zwischen 16 und 40 mm



1 Überwurfmutter
2 Klemmring
3 Druckring
4 Dichtung
5 Körper

4 O-ring Unidelta

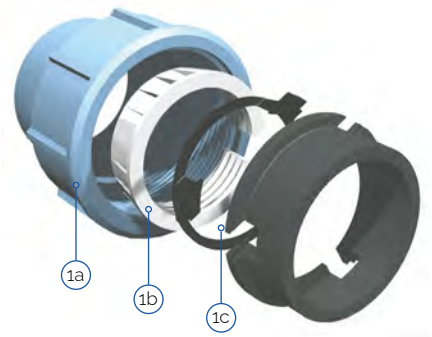


Unidelta hat bei der Planung und Entwicklung seiner Fittings unzählige Tests unter den schwierigsten Bedingungen durchgeführt, denen die Fittings während ihrer Betriebsdauer sowohl in Bezug auf den Zustand des zu verbindenden Rohrs (Ovalisierung, Unterbemessung) als auch in Bezug auf die angewendete Last ausgesetzt werden können. Ein in einer Anlage eingebautes Fitting kann u.a. durch Dauerzyklen mit unterschiedlichen Druckwerten, durch Überdrucke, die auf Störungen wie Druckstöße hervorgerufen werden, durch externe Drücke, die höher sind, als der Druck in der Anlage sowie durch Zugkräfte und Druckabfälle belastet werden.
Da normalerweise ein langjähriger Betrieb der Anlage vorausgesetzt wird, müssen die Fittings auch langfristig konstante Leistungen garantieren können. Aus den durchgeführten Untersuchungen geht hervor, dass der Dichtungstyp, der in allen möglichen Fällen die besten Leistungen garantiert, der toroidförmige O-ring ist (nicht durch Zufall ist der O-ring die Dichtung, die üblicherweise bei schwierigsten mechanischen Anwendungen verwendet wird).

Um langfristig eine erhöhte Sicherheit zu gewährleisten, ist es wichtig, dass die Kompression der Dichtung nicht von der Spannkraft der Überwurfmutter beeinflusst wird, da sonst Gefahren einer Leckage bestünden, die durch eine nicht ganz ausgeführte Spannung des Fittings oder durch eine Lockerung der den verschiedenen Druckzyklen ausgesetzten Überwurfmutter hervorgerufen wird. Die Unidelta-Fittings sind mit O-ringen ausgestattet, die auf sichere Weise in einem zylinderförmigen Sitz untergebracht sind und keine Druckringe benötigen.

Für die Fittings mit Durchmessern 50, 63, 75, 90 und 110 mm wurde das DeltOne-System entwickelt, bei dem die Überwurfmutter, der Klemmring und der Druckring eine einzige Komponente bilden. Wie auch beim klassischen Modell handelt es sich bei der verwendeten Dichtung um einen O-ring. Auf diese Weise erweist sich die Montage des Fittings als überaus einfach und schnell, ohne Beeinträchtigung der Sicherheitseigenschaften der Dichtung.

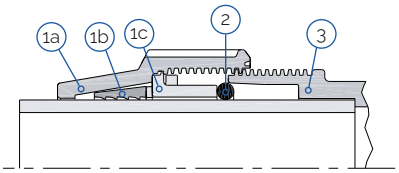
DeltOne-System für Fittings Ø 50, 63, 75, 90, 110 mm



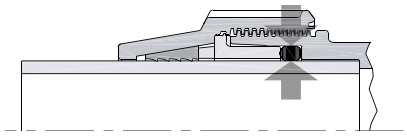
Die Überwurfmutter 1a, der Klemmring 1b und der Druckring 1c bilden ein einziges Element, um die Montage des Fittings auf dem Rohr zu vereinfachen.



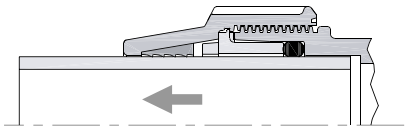
Hydraulische Dichtigkeit des Fittings DeltOne Ø 50, 63, 75, 90, 110 mm



Die Überwurfmutter (1a), der Klemmring (1b) und der Druckring (1c) sind in einem einzigen Element vereint.



Durch Festschrauben der Überwurfmutter (1a) am Körper (3) wird die Dichtung (2) auf sichere Weise in ihren Sitz geschoben (um die Funktionstüchtigkeit des O-rings aufrechtzuerhalten, darf der Druckring die Dichtung nicht komprimieren).

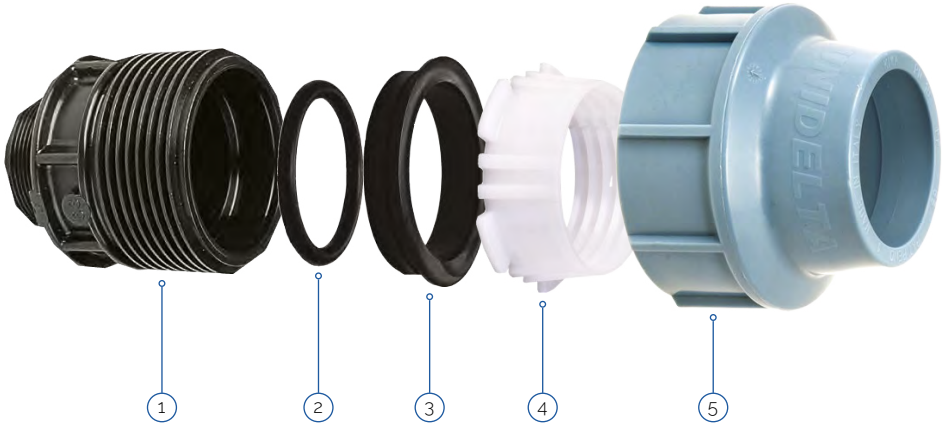


Bei Zugkraft zwängt sich der Klemmring in den Konus der Überwurfmutter und sichert die Beständigkeit gegen ein Herausziehen.

2.7 Materialien

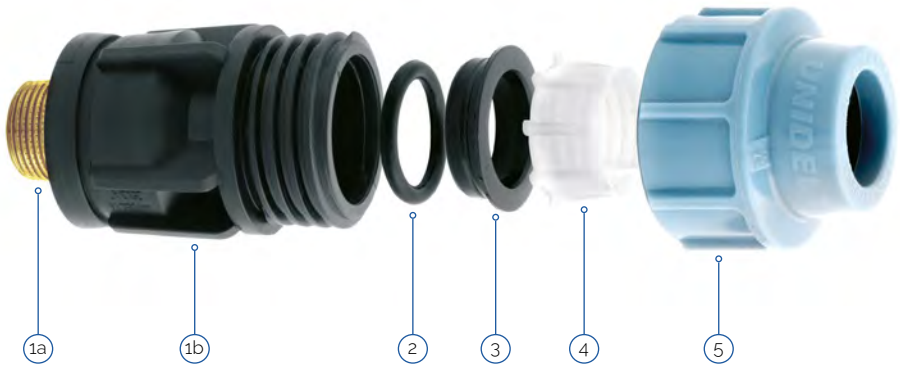
Klemmverbindungen

(1) **Körper:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
(2) **Dichtung:** O-ring.
(3) **Druckring:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
(4) **Klemmring:** Acetalharz (POM).
(5) **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.



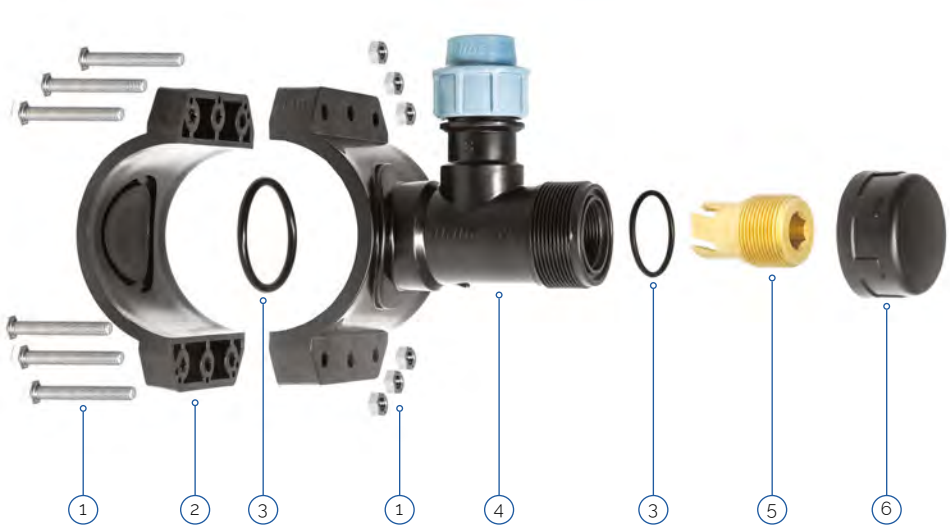
Anschlussverschraubungen

1a **Gewinde:** Gewindepressmessing-einsatzes im Rohrkörper verbunden werden.
1b **Körper:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
2 **Dichtung:** O-ring.
3 **Druckring:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
4 **Klemmring:** Acetalharz (POM).
5 **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.



Abzweigschelle zum Anbohren unter Druck

1 **Bolzen:** Rostfreiem Stahl.
2 **Unterseite der Abzweigschelle:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
3 **Dichtungen:** O-ring.
4 **Ableitung der Abzweigschelle:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
5 **Bohrer:** Messing.
6 **Stopfen:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.



Anbohrschellen PN 10

1 **Schrauben und Muttern:** Galvanisierter Stahl.
2 **Anbohrschellenunterteil:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
3 **Dichtung:** O-ring.
4 **Anbohrschellenoberteil mit Gewindeabgang:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
5 **Verstärkungsring:** Edelstahl.



Anbohrschellen PN 16

1 **Schrauben und Muttern:** Galvanisierter Stahl.
2 **Anbohrschellenunterteil:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
3 **Dichtung:** O-ring.
4 **Anbohrschellenoberteil mit Gewindeabgang:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
5 **Verstärkungsring:** Edelstahl.



2.8 Montageanleitungen

Video Tutorial
Unidelta SPA Official

Klemmverbindungen Ø 16 mm ÷ 40 mm



Das Rohr mit speziellen Rohrschneidern oder Kreis- oder Bandsägen rechtwinklig zur Achse schneiden. Beim Sägen wird für einen rechtwinkeligen Schnitt der Einsatz einer Gehrungslade empfohlen.



Durch den Schnitt entstandene Grate entfernen und das Rohrende anschrägen, um die Montage zu erleichtern und das Fitting nicht zu beschädigen.
Die Außenfläche des Rohrs darf entlang der gesamten Länge, die in den Fittingkörper eingeführt wird, keine Mängel oder Kerben aufweisen.



Die blaue Überwurfmutter abschrauben und sie gefolgt vom Klemmring auf das Rohr aufschieben. Sich vergewissern, dass der Konus des Falzrings in der korrekten Richtung montiert ist (der breitere Teil des Falzrings muss zum Fitting schauen).



Das Rohr in Achsenrichtung in das Fitting über die Dichtung hinaus bis zum Innenanschlag des Fittingkörpers schieben. Es wird empfohlen, das Rohrende und die Dichtung mit einem Silikonschmiermittel oder einem anderen Schmiermittel, das jedoch die Eigenschaften des Trinkwassers nicht beeinträchtigen darf, zu versehen. Keinesfalls Öle oder Fette auf Mineralbasis verwenden.



Die Überwurfmutter zuerst von Hand und anschließend mit einem geeigneten Fittingschlüssel festschrauben. Die Überwurfmutter muss gut festgeschraubt werden, auch wenn es nicht erforderlich ist, dass sie den Endanschlag des Fittingkörpers berührt.

Klemmverbindungen Deltone Ø 50 mm ÷ 110 mm



Das Rohr mit speziellen Rohrschneidern oder Sägen rechtwinklig zur Achse schneiden. Beim Sägen wird für einen rechtwinkeligen Schnitt der Einsatz einer Gehrungslade empfohlen.



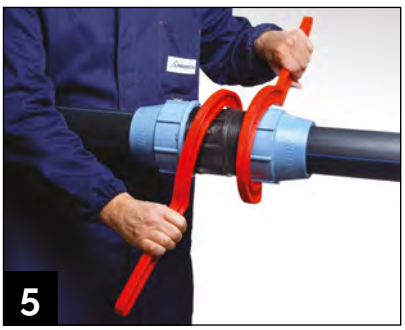
Die blaue Überwurfmutter abschrauben, ohne die in ihrem Inneren befestigten Ringe (integrierte Komponente) zu entfernen.



Die integrierten Komponente gefolgt von der Dichtung auf das Rohr aufschieben. Es wird empfohlen, das Rohrende und die Dichtung mit einem Silikonschmiermittel oder einem anderen Schmiermittel, das jedoch die Eigenschaften des Trinkwassers nicht beeinträchtigen darf, zu versehen. Keinesfalls Öle oder Fette auf Mineralbasis verwenden.



Das Rohr bis zum Innenanschlag in den Fittingkörper schieben.



Die Überwurfmutter zuerst von Hand und anschließend mit einem Fittingschlüssel festschrauben. Die Überwurfmutter muss gut festgeschraubt werden, auch wenn es nicht erforderlich ist, dass sie den Endanschlag des Fittingkörpers berührt.

Spezialkupplung CODE 1033



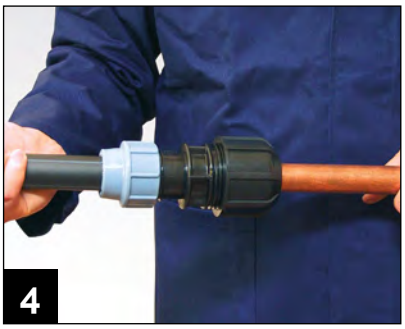
Das Rohr rechtwinklig zur Achse schneiden und evtl. durch den Schnitt erzeugte Grate beseitigen. Die Außenfläche des Rohrs darf entlang der gesamten Länge, die in den Fittingkörper eingeführt wird, keine Mängel oder Kerben aufweisen.



Im Fall einer besonders stark abgeschraubten Überwurfmutter das Fitting auf der Universalseite in Achsenrichtung bis zum Innenanschlag des Fittingkörpers auf das Rohr schieben.



Mit dem Fittingschlüssel die Überwurfmutter festschrauben.
Die Überwurfmutter muss gut festgeschraubt werden, auch wenn es nicht erforderlich ist, dass sie den Endanschlag des Fittingkörpers berührt.



Das PE-Rohr der metrischen Serie (Durchmesser in mm) entsprechend den Anleitungen des Standardfittings ("Klemmverbindungen Ø 16 mm ÷ 40 mm" S. 309) zusammenbauen.

Abzweigschelle zum Anbohren unter Druck CODE 1025



Den Installationsort bestimmen und sicherstellen, dass die Außenoberfläche des Rohrs nicht mit Erde verschmutzt ist und/oder Mängel oder Einschnitte in der Kontaktzone mit der Dichtung aufweist. Die Dichtung in den dafür vorgesehenen Sitz über der Schelle einfügen.



Den unteren Teil der Schelle an der ausgewählten Stelle positionieren. Den oberen Teil der Schelle mit dem unteren verbinden, dazu die Schrauben von unten einfügen (an der unteren Seite der Schelle befindet sich eine Vertiefung für den Kopf der Schrauben).



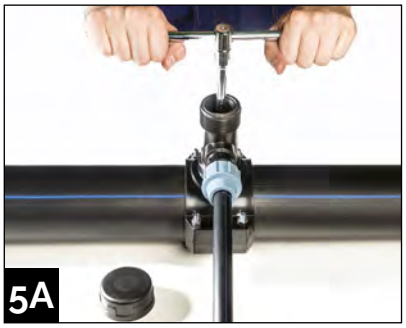
Die Muttern anbringen und festziehen, dazu wird diagonal überkreuzt vorgegangen.

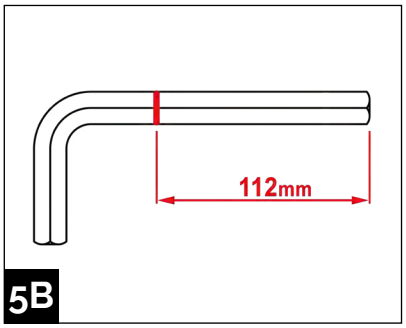


Das Abzweigrohr gemäß den Anweisungen über die Klemmverbindungen einfügen ("Klemmverbindungen Ø 16 mm ÷ 40 mm" S. 309).

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>>>





Den oberen Dichtungsdeckel abschrauben und den Schlüssel bis zum Anschlag in den entsprechenden sechskantigen Sitz des Bohrers schieben. Den Bohrer drehen, bis die Klinge die Rohrwand vollständig durchtrennt hat. Hierzu einen Hebel von ausreichender Länge zu Hilfe nehmen. (Es wird empfohlen, den Schlüssel auf einer Höhe von 112 mm zu markieren, siehe Zeichnung). Die Perforation wird durch den Austritt von etwas Wasser und/oder einen verminderten Eindrehwiderstand angezeigt. **Auf keinen Fall die auf dem Schlüssel markierte Höhe von 112 mm überschreiten.**



Den Bohrer lösen und ihn bis zur oberen Grenze des Gewindes, aber nicht darüber hinaus, zurückschrauben (der Abschnitt des geschnittenen Rohres bleibt am Bohrer haften).



Die Dichtungskappe fest schließen und das Spannen mit einem Schlüssel beenden.

Anbohrschellen



Die Montagestelle bestimmen und sich vergewissern, dass die Außenfläche des Rohrs im Kontaktbereich mit der Dichtung nicht mit Erde beschmutzt ist, Fehler oder Kerben aufweist. Die Dichtung in ihrem Sitz im Anbohrschellenoberteil einsetzen.



Den unteren Teil der Anbohrschelle an der gewählten Stelle positionieren. Den oberen Teil der Anbohrschelle mit dem unteren Teil verbinden.



Die Schrauben von unten aus einsetzen (der Anbohrschellen-Unterteil verfügt über eine Aussparung für den Schraubenkopf). Die Schrauben diagonal (über Kreuz) anschrauben und fest anziehen.



Das Rohr anbohren und dabei darauf achten, das Anschlussgewinde und die Dichtung nicht zu beschädigen. Ferner ist bei diesem Vorgang ein Anschlag zu verwenden, um zu verhindern, das Rohr auf der anderen Seite durchzubohren. Es ist der Gebrauch von Dosenbohrern vorzuziehen, da sie die Gefahr einer Beschädigung der Gewinde und der Dichtung einschränken und die Verunreinigung durch Bohrspäne in der Rohrleitung vermindern.

>>>

>>>

Alternativverfahren:



Mit einem wasserfesten weißen Filzstift Markierungspunkte auf das Rohr zeichnen, die eine exakte Positionierung der Anbohrschelle nach dem Erstellen der Bohrung ermöglichen. Die Anbohrschelle nochmals vom Rohr entfernen.



Das Rohr anbohren und die in der Rohrleitung durch das Anbohren entstandenen Verunreinigungen aus dem Rohr entfernen.

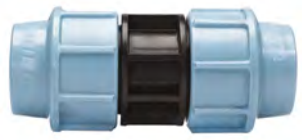


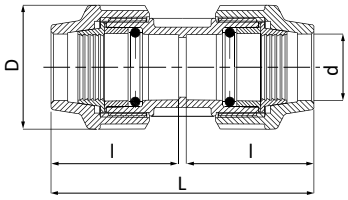
Die Anbohrschelle in Übereinstimmung mit den zuvor gezeichneten Markierungen wieder festschrauben und dabei eine Montagehilfe verwenden (zum Beispiel den für die Lochung verwendeten Bohrer), um die Achsausrichtung zwischen Anbohrschellen-Abgang und Bohrung zu gewährleisten.

3.1 Klemmverbindungen

1001

Kupplung

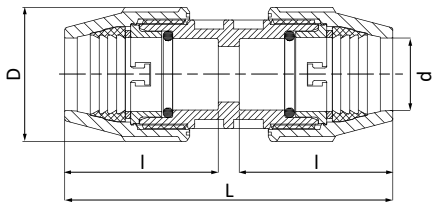




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	PN [bar]
16x16	1001016000001	103x42x42	42	103	49	16
20x20	1001020000001	108x46x46	46	108	52	16
25x25	1001025000001	122x55x55	55	122	59	16
27x27	1001027000001	126x55x55	55	126	61	16
32x32	1001032000001	139x63x63	63	139	68	16
40x40	1001040000001	168x80x80	80	168	82	16

>>>





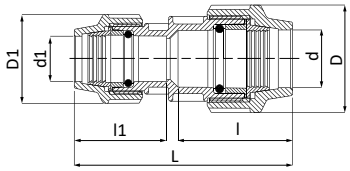
>>>

50x50	1001051000001	232x96x96	96	232	110	16
63x63	1001064000001	248x115x115	115	248	121	16
75x75	1001076000001	278x129x129	129	278	136	16
90x90	1001091000001	315x155x155	155	315	154	16
110x110	1001111000001	422x183x183	183	422	205	16

1002

Kupplung reduziert

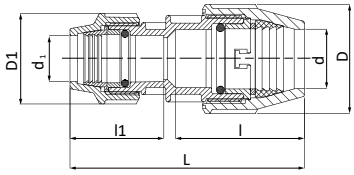




DIM dxd_1 [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	l1 [mm]	PN [bar]
20x16	1002020016001	110x46x46	46	42	110	56	50	16
25x20	1002025020001	128x55x55	55	46	128	67	56	16
32x20	1002032020001	139x63x63	63	46	139	70	60	16
32x25	1002032025001	143x63x63	63	55	143	70	66	16
40x25	1002040025001	158x80x80	80	55	158	85	66	16
40x32	1002040032001	163x80x80	80	63	163	88	71	16

>>>





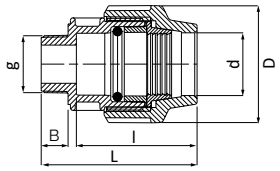
>>>

50x25	1002051025001	180x96x96	96	55	180	113	65	16
50x32	1002051032001	186x96x96	96	63	186	113	69	16
50x40	1002051040001	212x96x96	96	80	212	115	86	16
63x25	1002064025001	192x115x115	115	55	192	119	64	16
63x32	1002064032001	194x115x115	115	63	194	119	71	16
63x40	1002064040001	204x115x115	115	80	204	121	81	16
63x50	1002064051001	260x115x115	115	96	260	130	118	16
75x50	1002076051001	262x129x129	129	96	262	134	114	16
75x63	1002076064001	285x129x129	129	115	285	146	130	16
90x63	1002091064001	298x155x155	155	115	298	157	134	16
90x75	1002091076001	318x155x155	155	129	318	162	146	16
110x75	1002111076001	351x183x183	183	129	351	210	130	16
110x90	1002111091001	370x183x183	183	155	370	201	158	16

1003

Anschlussverschraubung mit Aussengewinde

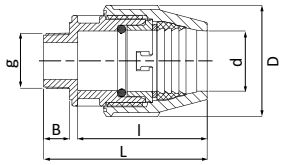




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x3/8”	1003016001001	69x42x42	42	69	50	13	16
16x1/2”	1003016002001	69x42x42	42	69	50	16	16
16x3/4”	1003016003001	69x42x42	42	69	50	17	16
20x1/2”	1003020002001	81x46x46	46	81	61	16	16
20x3/4”	1003020003001	82x46x46	46	82	61	17	16
20x1”	1003020004001	85x46x46	46	85	61	20	16
25x1/2”	1003025002001	89x55x55	55	89	69	16	16
25x3/4”	1003025003001	90x55x55	55	90	69	17	16
25x1”	1003025004001	93x55x55	55	93	69	20	16
32x1/2”	1003032002001	98x63x63	63	98	76	16	16
32x3/4”	1003032003001	98x63x63	63	98	76	17	16
32x1”	1003032004001	101x63x63	63	101	76	20	16
32x1”1/4	1003032005001	104x63x63	63	104	76	23	16
32x1”1/2	1003032006001	104x63x63	63	104	76	23	16
40x1”	1003040004001	108x80x80	80	108	82	21	16
40x1”1/4	1003040005001	117x80x80	80	117	82	29	16
40x1”1/2	1003040006001	117x80x80	80	117	82	28	16
40x2”	1003040007001	120x80x80	80	120	82	34	16

>>>





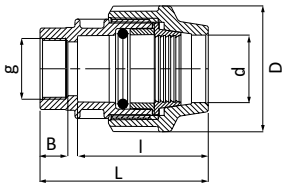
>>>

50x1”	1003051004001	143x96x96	96	143	111	26	16
50x1”1/4	1003051005001	146x96x96	96	146	111	28	16
50x1”1/2	1003051006001	146x96x96	96	146	111	28	16
50x2”	1003051007001	151x96x96	96	151	112	32	16
63x1”1/4	1003064005001	157x115x115	115	157	120	28	16
63x1”1/2	1003064006001	157x115x115	115	157	120	28	16
63x2”	1003064007001	161x115x115	115	161	120	32	16
63x2”1/2	1003064008001	158x115x115	115	158	120	29	16
75x2”	1003076007001	171x129x129	129	171	135	27	16
75x2”1/2	1003076008001	178x129x129	129	178	135	34	16
75x3”	1003076009001	178x129x129	129	178	135	34	16
90x2”	1003091007001	200x155x155	155	200	158	34	16
90x2”1/2	1003091008001	200x155x155	155	200	158	34	16
90x3”	1003091009001	200x155x155	155	200	158	34	16
90x4”	1003091010001	200x155x155	155	200	158	36	16
110x2”	1003111007001	247x183x183	183	247	198	34	16
110x3”	1003111009001	250x183x183	183	250	198	37	16
110x4”	1003111010001	250x183x183	183	250	200	37	16

1004

Anschlussverschraubung mit Innengewinde

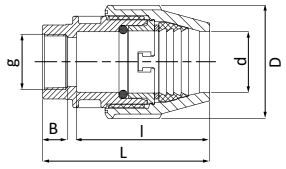




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x1/2”	1004016002001	69x42x42	42	69	50	17	16
16x3/4”	1004016003001	73x42x42	42	73	50	19	16
20x1/2”	1004020002001	77x46x46	46	77	58	18	16
20x3/4”	1004020003001	79x46x46	46	79	58	20	16
20x1”	1004020004001	81x47x47	47	81	58	22	16
25x1/2”	1004025002001	84x55x55	55	84	65	18	16
25x3/4”	1004025003001	86x55x55	55	86	65	20	16
25x1”	1004025004001	88x55x55	55	88	65	22	16
32x1/2”	1004032002001	92x63x63	63	92	71	18	16
32x3/4”	1004032003001	94x63x63	63	94	71	20	16
32x1”	1004032004001	96x63x63	63	96	71	22	16
***32x1”1/4**	1004032005001	97x63x63	63	97	71	23	16
40x1”	1004040004001	110x80x80	80	110	81	20	16
***40x1”1/4**	1004040005001	112x80x80	80	112	81	22	16
***40x1”1/2**	1004040006001	113x80x80	80	113	81	23	16

>>>





>>>

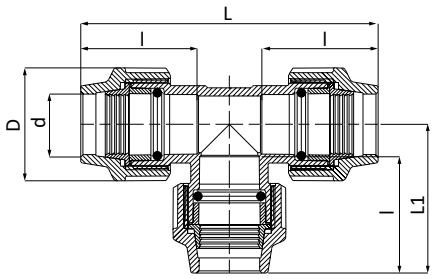
***50x1”**	1004051004001	140x96x96	96	140	117	20	16
***50x1”1/4**	1004051005001	144x96x96	96	144	112	22	16
***50x1”1/2**	1004051006001	144x96x96	96	144	112	23	16
***50x2”**	1004051007001	149x96x96	96	149	111	27	16
***63x1”1/4**	1004064005001	159x115x115	115	159	121	23	16
***63x1”1/2**	1004064006001	160x115x115	115	160	121	28	16
***63x2”**	1004064007001	165x115x115	115	165	121	22	16
***63x2”1/2**	1004064008001	168x115x115	115	168	121	23	16
***75x2”**	1004076007001	182x129x129	129	182	137	28	16
***75x2”1/2**	1004076008001	187x129x129	129	187	137	33	16
***75x3”**	1004076009001	187x129x129	129	187	137	33	16
***90x2”**	1004091007001	190x155x155	155	190	152	26	16
***90x2”1/2**	1004091008001	195x155x155	155	195	152	33	16
***90x3”**	1004091009001	195x155x155	155	195	152	33	16
***90x4”**	1004091010001	204x155x155	155	204	152	42	16
***110x3”**	1004111009001	263x183x183	183	263	204	40	16
***110x4”**	1004111010001	263x183x183	183	263	204	43	16

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

1005

T-Stück 90°

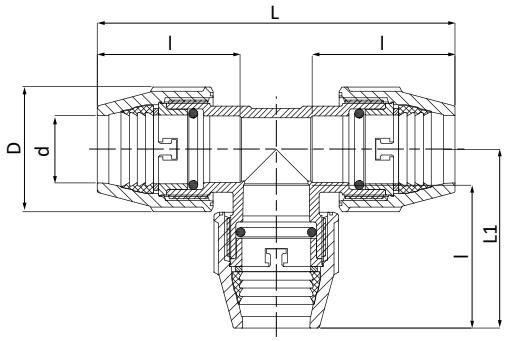




DIM dxdxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	L1 [mm]	PN [bar]
16x16x16	1005016000001	124x81x42	42	124	52	60	16
20x20x20	1005020000001	139x92x46	46	139	59	69	16
25x25x25	1005025000001	162x107x55	55	162	66	79	16
32x32x32	1005032000001	183x122x63	63	183	74	90	16
40x40x40	1005040000001	218x148x80	80	218	88	108	16

>>>





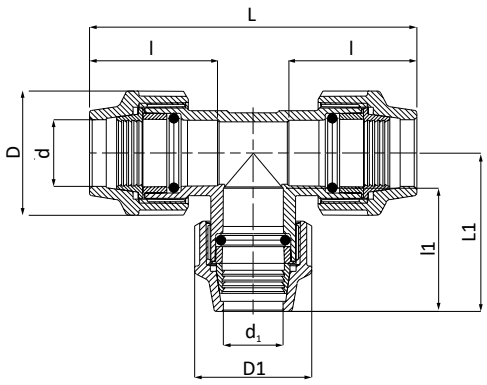
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50x50x50	1005051000001	282x187x96	96	282	115	139	16
63x63x63	1005064000001	314x214x115	115	314	124	156	16
75x75x75	1005076000001	364x245x129	129	364	142	180	16
90x90x90	1005091000001	407x277x155	155	407	154	199	16
110x110x110	1005111000001	539x356x183	183	539	209	264	16

1013

T-Stück 90° reduziert

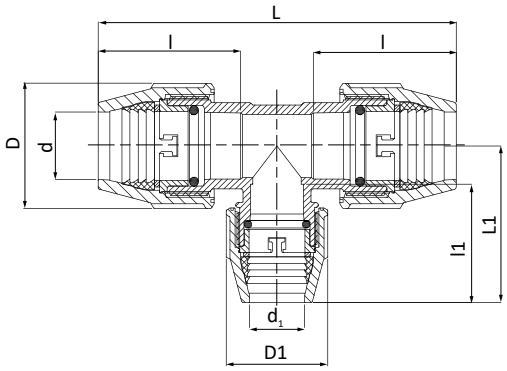




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x16x20	1013020016001	140x88x46	46	42	140	55	65	45	16
25x20x25	1013025020001	160x101x55	55	46	160	63	73	56	16
32x20x32	1013032020001	183x106x63	63	46	183	68	74	56	16
32x25x32	1013032025001	183x116x63	63	55	183	68	84	64	16
40x25x40	1013040025001	222x132x80	80	55	222	83	92	68	16
40x32x40	1013040032001	222x141x80	80	63	222	83	101	79	16

>>>





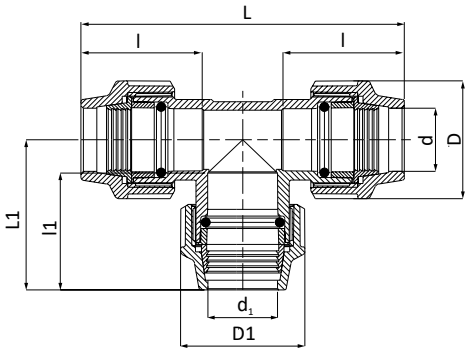
>>>

50x25x50	1013051025001	287x149x96	96	55	287	104	101	63	16
50x32x50	1013051032001	287x156x96	96	63	287	104	108	68	16
50x40x50	1013051040001	287x174x96	96	80	287	104	126	94	16
63x25x63	1013064025001	336x174x115	115	55	336	133	116	62	16
63x32x63	1013064032001	336x171x115	115	63	336	133	113	67	16
63x40x63	1013064040001	336x194x115	115	80	336	133	136	94	16
63x50x63	1013064051001	336x215x115	115	96	336	133	157	111	16
75x50x75	1013076051001	365x245x129	129	96	365	136	180	120	16
75x63x75	1013076064001	365x235x129	129	115	365	136	170	123	16
90x63x90	1013091064001	415x270x155	155	115	415	154	192	133	16
90x75x90	1013091076001	407x273x155	155	129	407	154	195	136	16
110x75x110	1013111076001	535x312x183	183	129	535	203	220	149	16
110x90x110	1013111091001	535x323x183	183	155	535	203	231	156	16

1029

T-Stück 90° mit vergrössertem Mittelabgang

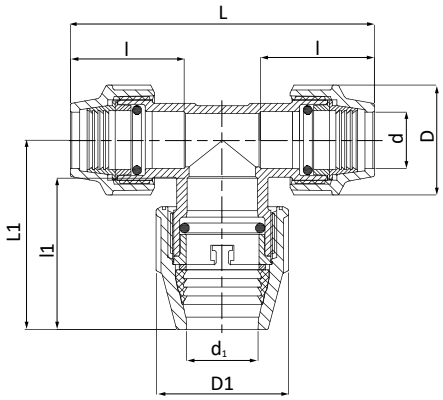




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x25x20	1029020025001	139x102x55	46	55	139	56	79	65	16
25x32x25	1029025032001	160x114x63	55	63	160	63	86	69	16
32x40x32	1029032040001	183x131x80	63	80	183	68	99	81	16

>>>





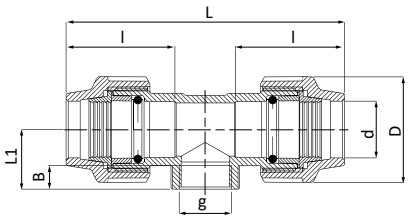
>>>

40x50x40	1029040051001	218x175x96	80	96	218	81	135	97	16

1007

T-Stück 90° mit Innengewinde am Mittelstutzen

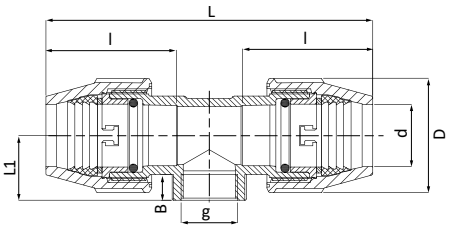




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1007016002001	123x52x42	42	123	49	17	31	16
16x3/4”x16	1007016003001	123x52x42	42	123	49	17	31	16
20x1/2”x20	1007020002001	139x70x46	46	139	55	19	47	16
20x3/4”x20	1007020003001	139x70x46	46	139	55	19	47	16
25x1/2”x25	1007025002001	160x78x55	55	160	63	16	50	16
25x3/4”x25	1007025003001	160x78x55	55	160	63	16	50	16
25x1”x25	1007025004001	160x83x55	55	160	63	21	55	16
32x1/2”x32	1007032002001	183x85x63	63	183	68	17	53	16
32x3/4”x32	1007032003001	183x85x63	63	183	68	17	53	16
32x1”x32	1007032004001	183x89x63	63	183	68	21	57	16
***32x1”1/4x32**	1007032005001	183x92x63	63	183	68	24	60	16
40x1”x40	1007040004001	205x85x80	80	205	81	21	45	16
***40x1”1/4x40**	1007040005001	217x89x80	80	217	81	25	49	16
***40x1”1/2x40**	1007040006001	210x87x80	80	210	81	23	47	16

>>>





>>>

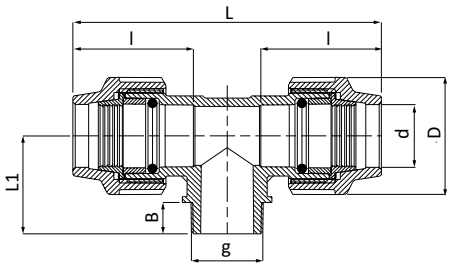
50x1/2”x50	1007051002001	282x109x96	96	282	105	31	61	16
***50x1”1/4x50**	1007051005001	282x105x96	96	282	105	24	57	16
***50x1”1/2x50**	1007051006001	282x104x96	96	282	105	24	56	16
***50x2”x50**	1007051007001	282x104x96	96	282	105	27	56	16
***63x1”1/4x63**	1007064005001	313x120x115	115	313	123	27	62	16
***63x1”1/2x63**	1007064006001	313x120x115	115	313	123	27	62	16
***63x2”x63**	1007064007001	313x123x115	115	313	123	30	65	16
***63x2”1/2x63**	1007064008001	313x123x115	115	313	123	30	65	16
***75x2”x75**	1007076007001	362x149x129	129	362	138	35	84	16
***75x2”1/2x75**	1007076008001	362x149x129	129	362	138	35	84	16
***75x3”x75**	1007076009001	362x150x129	129	362	138	36	85	16
***90x2”1/2x90**	1007091008001	406x169x155	155	406	154	43	91	16
***90x3”x90**	1007091009001	406x173x155	155	406	154	47	95	16
***90x4”x90**	1007091010001	406x173x155	155	406	154	47	95	16
***110x3”x110**	1007111009001	534x196x183	183	534	205	41	104	16
***110x4”x110**	1007111010001	534x196x183	183	534	205	45	104	16

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

1010

T-Stück 90° mit Aussengewinde am Mittelstutzen

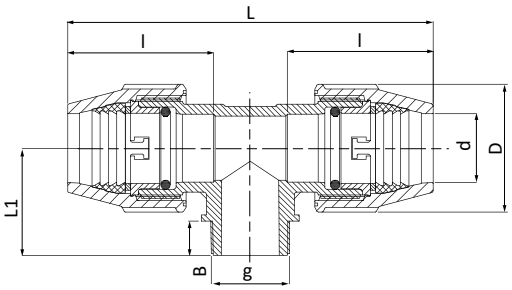




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1010016002001	125x57x42	42	125	50	18	36	16
16x3/4”x16	1010016003001	125x57x42	42	125	50	18	36	16
20x1/2”x20	1010020002001	139x58x46	46	139	56	16	35	16
20x3/4”x20	1010020003001	139x59x46	46	139	56	17	36	16
25x1/2”x25	1010025002001	160x63x55	55	160	63	16	35	16
25x3/4”x25	1010025003001	160x64x55	55	160	63	17	36	16
25x1”x25	1010025004001	160x66x55	55	160	63	19	38	16
32x1/2”x32	1010032002001	183x67x63	63	183	68	16	35	16
32x3/4”x32	1010032003001	183x68x63	63	183	68	17	36	16
32x1”x32	1010032004001	183x71x63	63	183	68	20	39	16
32x1”1/4x32	1010032005001	183x73x63	63	183	68	22	41	16
40x1”x40	1010040004001	218x84x80	80	218	81	20	44	16
40x1”1/4x40	1010040005001	218x84x80	80	218	81	22	44	16
40x1”1/2x40	1010040006001	218x84x80	80	218	81	22	44	16

>>>





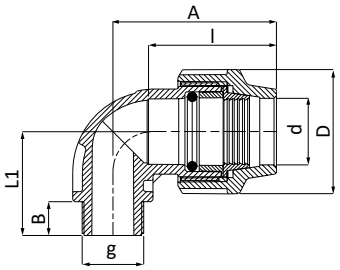
>>>

50x1”1/4x50	1010051005001	287x126x96	96	287	103	24	78	16
50x1”1/2x50	1010051006001	287x130x96	96	287	103	23	82	16
50x2”x50	1010051007001	287x136x96	96	287	103	29	88	16
63x1”1/2x63	1010064006001	335x148x115	115	335	130	25	90	16
63x2”x63	1010064007001	335x150x115	115	335	130	27	92	16
63x2”1/2x63	1010064008001	335x151x115	115	335	130	28	93	16
75x2”1/2x75	1010076008001	365x165x129	129	365	137	32	100	16
75x3”x75	1010076009001	365x168x129	129	365	137	35	103	16
90x3”x90	1010091009001	408x181x155	155	408	155	35	103	16
90x4”x90	1010091010001	408x189x155	155	408	155	41	111	16
110x4”x110	1010111010001	538x220x183	183	538	211	42	128	16

1008

Winkel 90° mit Aussengewinde

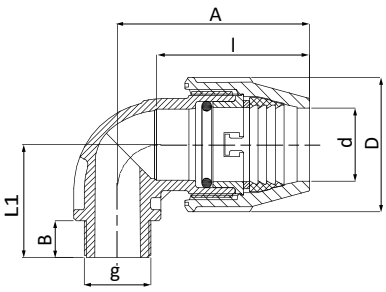




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1008016002001	69x69x42	42	39	18	58	48	16
16x3/4”	1008016003001	71x69x42	42	39	19	58	48	16
20x1/2”	1008020002001	77x62x46	46	45	18	62	39	16
20x3/4”	1008020003001	77x63x46	46	45	19	62	40	16
25x1/2”	1008025002001	92x71x55	55	53	18	74	43	16
25x3/4”	1008025003001	92x72x55	55	53	19	74	44	16
25x1”	1008025004001	92x75x55	55	53	22	74	47	16
32x1/2”	1008032002001	107x82x63	63	57	18	85	50	16
32x3/4”	1008032003001	107x83x63	63	57	19	85	51	16
32x1”	1008032004001	107x85x63	63	57	22	85	53	16
32x1”1/4	1008032005001	107x88x63	63	57	25	85	56	16
40x1”	1008040004001	132x101x80	80	70	22	105	61	16
40x1”1/4	1008040005001	132x104x80	80	70	25	105	64	16
40x1”1/2	1008040006001	132x104x80	80	70	25	105	64	16

>>>





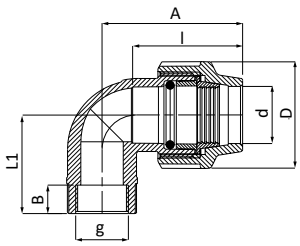
>>>

50x1”1/4	1008051005001	178x135x96	96	106	26	144	87	16
50x1”1/2	1008051006001	178x129x96	96	106	28	144	81	16
50x2”	1008051007001	182x129x96	96	111	28	149	81	16
63x1”1/2	1008064006001	214x143x115	115	130	23	173	85	16
63x2”	1008064007001	214x158x115	115	130	28	173	100	16
63x2”1/2	1008064008001	214x162x115	115	130	32	173	104	16
75x2”	1008076007001	240x165x129	129	142	28	193	100	16
75x2”1/2	1008076008001	240x169x129	129	142	32	193	104	16
75x3”	1008076009001	240x172x129	129	142	35	193	107	16
90x3”	1008091009001	276x192x155	155	158	35	217	114	16
90x4”	1008091010001	276x198x155	155	158	41	217	120	16
110x4”	1008111010001	362x236x183	183	222	42	294	144	16

1009

Winkel 90° mit Innengewinde

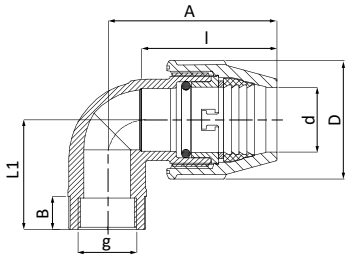




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1009016002001	74x69x42	42	39	18	58	48	16
16x3/4”	1009016003001	76x69x42	42	39	18	58	48	16
20x1/2”	1009020002001	79x62x46	46	45	18	63	39	16
20x3/4”	1009020003001	84x63x46	46	45	18	66	40	16
25x1/2”	1009025002001	95x73x55	55	53	18	77	45	16
25x3/4”	1009025003001	96x73x55	55	53	18	77	45	16
25x1”	1009025004001	100x76x55	55	53	20	77	48	16
32x1/2”	1009032002001	108x80x63	63	57	17	86	48	16
32x3/4”	1009032003001	108x81x63	63	57	18	86	49	16
32x1”	1009032004001	109x83x63	63	57	21	86	51	16
***32x1”1/4**	1009032005001	115x92x63	63	57	26	86	60	16
40x3/4”	1009040003001	132x95x80	80	70	18	105	55	16
40x1”	1009040004001	132x99x80	80	70	21	105	59	16
***40x1”1/4**	1009040005001	134x104x80	80	70	25	105	64	16
***40x1”1/2**	1009040006001	135x106x80	80	70	25	105	66	16

>>>





>>>

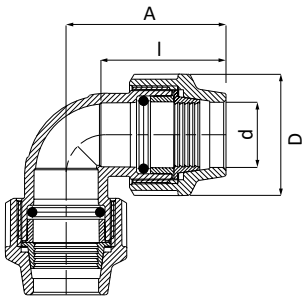
***50x1”1/4**	1009051005001	179x133x96	96	107	24	145	85	16
***50x1”1/2**	1009051006001	179x138x96	96	107	25	145	90	16
***50x2”**	1009051007001	184x138x96	96	107	25	145	90	16
***63x1”1/2**	1009064006001	214x159x115	115	130	26	173	101	16
***63x2”**	1009064007001	214x166x115	115	130	35	173	108	16
***63x2”1/2**	1009064008001	218x166x115	115	130	35	173	108	16
***75x2”**	1009076007001	240x188x129	129	142	36	193	123	16
***75x2”1/2**	1009076008001	240x190x129	129	142	37	193	125	16
***75x3”**	1009076009001	247x194x129	129	142	38	193	129	16
***90x3”**	1009091009001	274x218x155	155	157	40	216	140	16
***90x4”**	1009091010001	281x220x155	155	157	40	216	142	16
***110x3”**	1009111009001	362x226x183	183	222	40	294	134	16
***110x4”**	1009111010001	362x230x183	183	222	40	294	138	16

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

1006

Winkel 90°

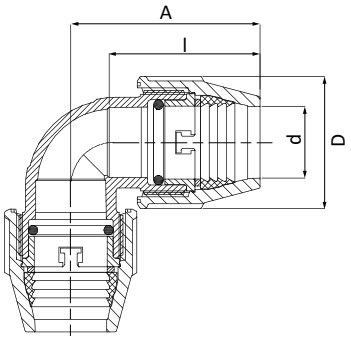




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	PN [bar]
16x16	1006016000001	85x85x42	42	64	49	16
20x20	1006020000001	92x92x46	46	69	50	16
25x25	1006025000001	113x113x55	55	86	62	16
32x32	1006032000001	127x127x63	63	96	70	16
40x40	1006040000001	157x157x80	80	117	79	16

>>>





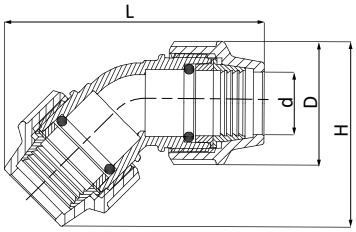
>>>

50x50	1006051000001	187x187x96	96	139	103	16
63x63	1006064000001	224x224x115	115	166	122	16
75x75	1006076000001	254x254x129	129	190	135	16
90x90	1006091000001	298x298x155	155	220	155	16
110x110	1006111000001	367x367x183	183	275	200	16

1018

Winkel 45°

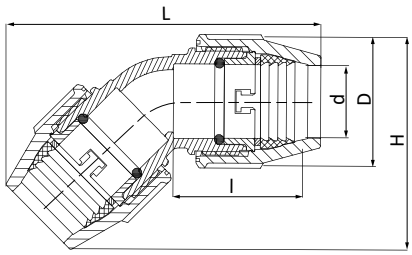




DIM dxd [mm]	CODE	D [mm]	L [mm]	H [mm]	PN [bar]
20x20	1018020000001	46	117	78	16
25x25	1018025000001	55	141	94	16
32x32	1018032000001	63	160	107	16
40x40	1018040000001	80	190	130	16

>>>





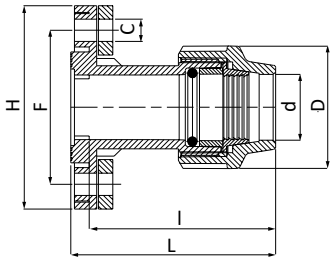
>>>

50x50	1018051000001	96	232	158	16
63x63	1018064000001	115	246	176	16

1011

Flansch-Muffenstück mit Klemmverschraubung

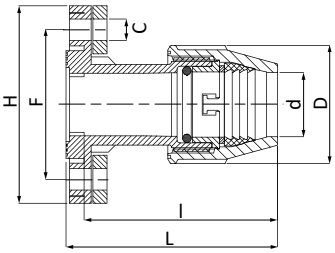




DIM dxDN [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	H [mm]	F [mm]	C [mm]	NF	PN [bar]
40x1”1/2 (DN40)	1011040006001	141x152x152	80	141	128	152	110	18	4	16

>>>





>>>

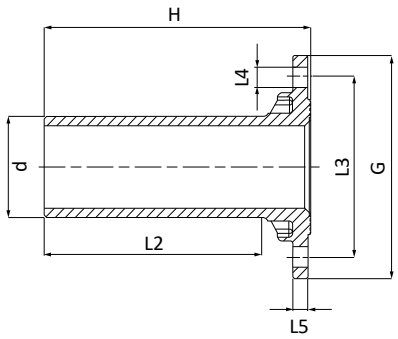
50x1”1/2 (DN40)	1011051006001	172x151x151	96	172	159	151	110	18	4	16
50x2” (DN50)	1011051007001	147x165x165	96	147	138	165	125	18	4	16
63x2” (DN50)	1011064007001	193x165x165	115	193	178	165	125	18	4	16
63x2”1/2 (DN65)	1011064008001	193x184x184	115	193	178	184	145	18	4	16
75x2”1/2 (DN65)	1011076008001	201x184x184	129	201	186	184	145	18	4	16
75x3” (DN80)	1011076009001	203x198x198	129	203	186	198	160	18	8	16
90x3” (DN80)	1011091009001	220x198x198	155	220	202	198	160	18	8	16
90x4” (DN100)	1011091010001	223x220x220	155	223	202	220	180	18	8	16
110x4” (DN100)	1011111010001	253x220x220	183	253	233	220	180	18	8	16

Flansch aus verzinktem Stahl

1053-A223

Spitze des Flansches





DIM d (DN) [mm]	CODE	DIM MAX LxHxP [mm]	G [mm]	H [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	NF	PN [bar]
63 (DN50)	1053063000001	170x201x170	170	201	169	125	18	12	4	16
63 (DN65)	1053063001001	183x201x183	183	201	164	145	18	12	4	16
75 (DN65)	1053075000001	183x217x183	183	217	184	145	18	12	4	16
75 (DN80)	1053075001001	200x217x200	200	217	177	160	18	12	8	16
90 (DN80)	1053090000001	200x240x200	200	240	199	160	18	14	8	16
110 (DN80)	1053110001001	200x305x200	200	305	272	160	18	14	8	16
110 (DN100)	1053110000001	224x305x224	224	305	265	180	18	14	8	16

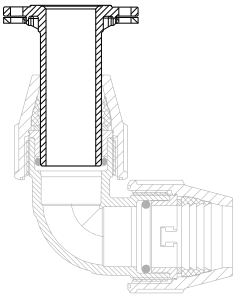
Die passende Flansch muss separat bestellt werden

Flansch aus verzinktem Stahl

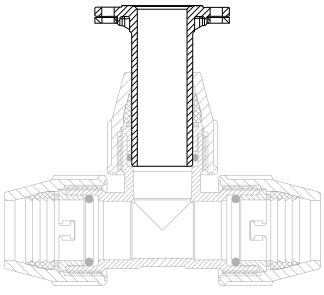
DIM [mm]	CODE	NF
63 (DN50)	A223000003	4
63 (DN65)	A223000004	4
75 (DN65)	A223000005	4
75 (DN80) - 90 (DN80) - 110 (DN80)	A223000007	8
110 (DN100)	A223000009	8

INSTALLATIONSBEISPIEL

Zum Einfügen in das Gewinde von den Klemmverbindungen Unidelta geeignet



CODE 1006

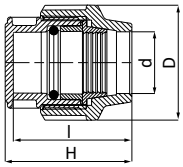


CODE 1005

1012

Endkappe mit Klemmverschraubung

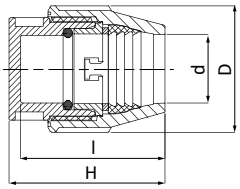




DIM d [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	PN [bar]
16	1012016000001	42x55x42	42	55	50	16
20	1012020000001	46x70x46	46	70	65	16
25	1012025000001	55x77x55	55	77	72	16
32	1012032000001	63x85x63	63	85	79	16
40	1012040000001	80x89x80	80	89	83	16

>>>



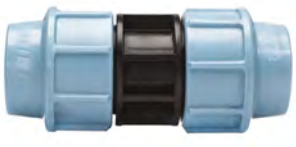


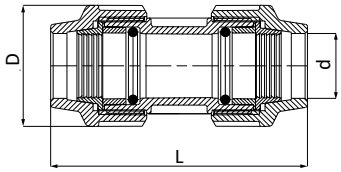
>>>

50	1012051000001	96x125x96	96	125	100	16
63	1012064000001	115x135x115	115	135	123	16
75	1012076000001	129x158x129	129	158	137	16
90	1012091000001	155x179x155	155	179	158	16
110	1012111000001	183x226x183	183	226	202	16

1014

Reparaturkupplung

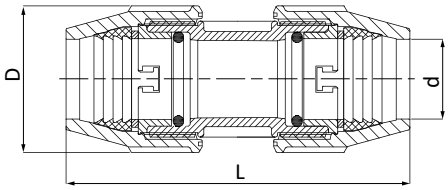




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	PN [bar]
25x25	1014025000001	122x55x55	55	122	16
32x32	1014032000001	139x63x63	63	139	16
40x40	1014040000001	168x80x80	80	168	16

>>>





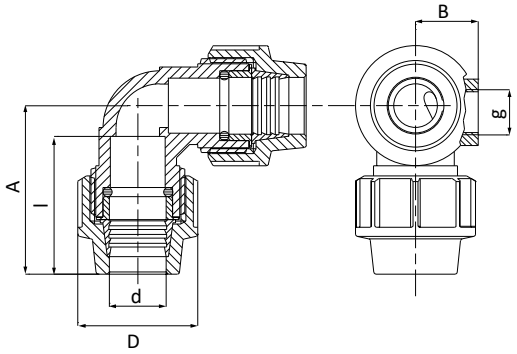
>>>

50x50	1014051000001	230x96x96	96	230	16
63x63	1014064000001	248x115x115	115	248	16
75x75	1014076000001	278x129x129	129	278	16
90x90	1014091000001	315x155x155	155	315	16
110x110	1014111000001	422x183x183	183	422	16

1023

Winkel 90° mit seitlichem Innengewinde-Abgang



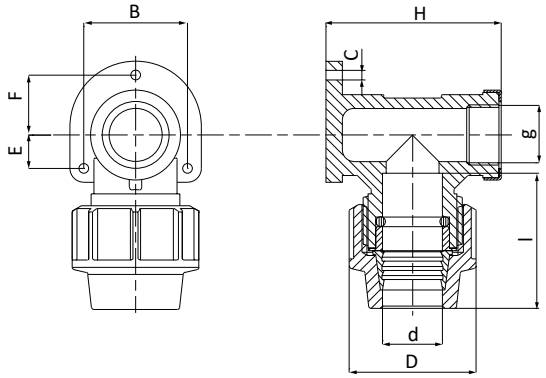


DIM dxdxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	B [mm]	PN [bar]
25x25x1/2”	1023025002001	113x113x58	55	86	62	30	16
32x32x1/2”	1023032002001	127x127x67	63	96	70	35	16
32x32x3/4”	1023032003001	127x127x68	63	96	70	36	16

1034

Wandscheibe

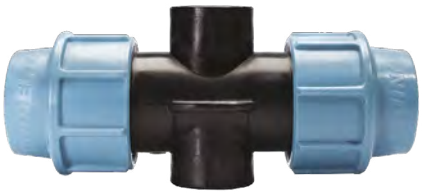


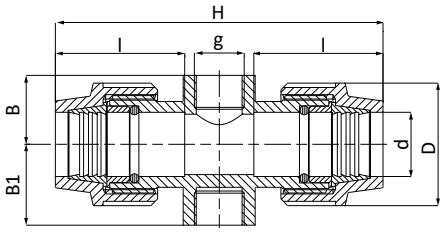


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	C [mm]	B [mm]	E [mm]	F [mm]	PN [bar]
20x1/2”	1034020002001	89x62x49	46	62	49	4	38	12	22	16
25x1/2”	1034025002001	116x74x57	55	74	66	4	44	15	25	16
25x3/4”	1034025003001	110x75x60	55	75	59	4	44	15	27	16
32x1”	1034032004001	124x86x67	63	86	72	5	56	20	28	16

1021

T-Stück mit Innengewinde und Spieß-Verbindungsstück





DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	B [mm]	B1 [mm]	PN [bar]
32x3/4"x32	1021320303001	77x168x63	63	168	66	36	41	16

1050

Verlängerung Außengewinde/Innengewinde



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"F	1050003002001	28
3/4"Mx3/4"F	1050003003001	28

1052

Verlängerung Außengewinde/Außengewinde



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"M	1052003002001	29,5

1051

Spieß



DIM g [in.]	CODE	L [cm]
3/4" M	1051000003001	29

INSTALLATIONSBEISPIEL





3.2 Spezialkupplung

Die Unidelta Spezialkupplung Cod. 1033 ermöglicht eine schnelle und stabile Verbindung von Polyäthylenrohren mit Durchmessern von 20 und 32 mm mit Rohren aus jedem beliebigen Material (z.B. Stahl, Kupfer, Blei, PVC usw.) mit Außendurchmessern zwischen 15 und 35 mm. Sie eignet sich außerdem zum Übergang von Rohrleitungen der metrischen Serie (Durchmesser in Millimeter) auf Rohre der Imperial-Serie (Durchmesser in Zoll).

Galvanisierter Stahl, Kupfer, Blei, U-PVC, PP, Imperial-PE und andere

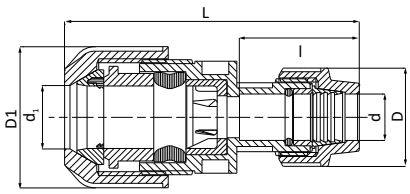


PE metrische Serie

1033

Spezialkupplung





DIM $d_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	PN [bar]
15/22x20	1033020003001	145x62x62	46	62	145	60	10
15/22x25	1033025003001	145x62x62	55	62	145	64	10
20/27x20	1033020004001	150x69x69	46	69	150	64	10
20/27x25	1033025004001	150x69x69	55	69	150	64	10
27/35x25	1033025006001	158x79x79	55	79	158	64	10
20/27x32	1033032004001	158x69x69	63	69	158	72	10
27/35x32	1033032006001	165x79x79	63	79	165	72	10

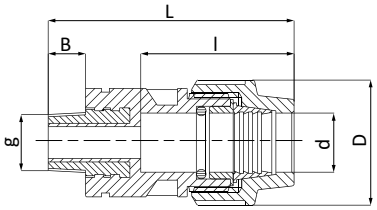
3.3 Anschlussverschraubungen

Der Unidelta Kompressionsanschluss weist einen speziellen vom Polypropylenkörper aufgedruckten Gewindepressmessing-Einsatz auf.

1035

Anschlussverschraubung mit Aussengewinde Messing

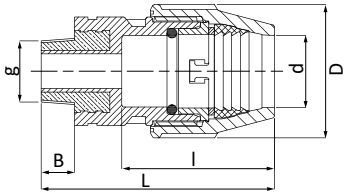




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1035020002001	103x46x46	46	103	58	15	16
25x3/4”	1035025003001	112x55x55	55	112	64	17	16
32x1”	1035032004001	116x63x63	63	116	69	19	16
40x1”1/4	1035040005001	140x80x80	80	140	81	23	16
40x1”1/2	1035040006001	150x80x80	80	150	87	32	16

>>>





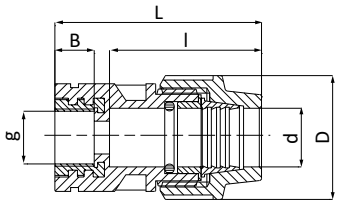
>>>

50x1”1/2	1035051006001	172x96x96	96	172	112	23	16
63x2”	1035064007001	186x115x115	115	186	122	24	16

1036

Anschlussverschraubung mit Innengewinde Messing

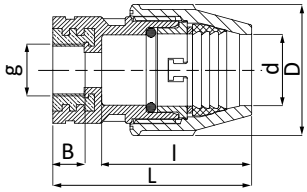




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1036020002001	88x46x46	46	88	58	14	16
25x3/4”	1036025003001	95x55x55	55	95	64	15	16
32x1”	1036032004001	106x63x63	63	106	69	18	16
40x3/4"	1036040003001	110x80x80	80	110	85	18	16
40x1”1/4	1036040005001	118x80x80	80	118	82	20	16
40x1”1/2	1036040006001	111x80x80	80	111	86	27	16

>>>





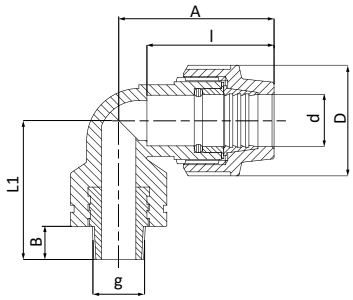
>>>

50x1”1/2	1036051006001	151x96x96	96	151	113	23	16
63x2”	1036064007001	164x115x115	115	164	121	24	16

1039

Winkel 90° mit Aussengewinde Messing

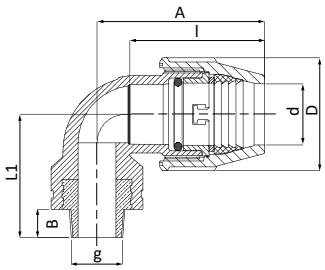




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	L1 [mm]	B [mm]	PN [bar]
20x1/2”	1039020002001	94x87x48	46	70	49	64	15	16
20x3/4”	1039020003001	99x89x55	46	71	51	66	16	16
25x3/4”	1039025003001	110x94x55	55	83	57	66	16	16
32x1”	1039032004001	126x118x66	63	93	62	86	29	16
40x1”1/4	1039040005001	149x127x80	80	112	72	87	23	16
40x1”1/2	1039040006001	144x127x80	80	112	78	87	32	16

>>>





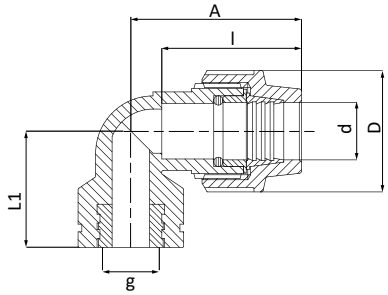
>>>

50x1”1/2	1039051006001	180x135x96	96	139	93	87	23	16
63x2”	1039064007001	196x163x115	115	149	99	105	27	16

1030

Winkel 90° mit Innengewinde aus Messing





DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	L1 [mm]	PN [bar]
40x3/4”	1030040003001	80x139x127	79	112	78	53	16

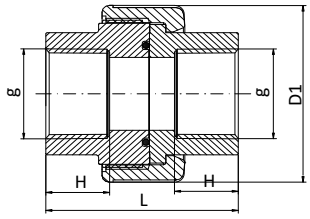
3.4 Kupplungsstück

1054

Kupplungsstück mit Innen-/Innengewinde







DIM gxg [in.xin.]	CODE	L [mm]	H [mm]	D1 [mm]	Pmax [bar]
1/2"x1/2"	1054002002001	53	18	50	16
3/4"x3/4"	1054003003001	56	20	60	16
1"x1"	1054004004001	60	22	68	16
***1"1/4x1"1/4**	1054005005001	78,5	24	80	16
***1"1/2x1"1/2**	1054006006001	88,5	24	95	16
***2"x2"**	1054007007001	95	28	116	16
***2"1/2x2"1/2**	1054008008001	146	33	160,5	10
***3"x3"**	1054009009001	175,5	40	197	10

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

3.5 Abzweigschelle zum Anbohren unter Druck

Technische Eigenschaften:
- Für PE und PVC-Rohre geeignet
- Material: PP-B
- Bohrer: Messing
- Dichtungen: O-ring aus NBR
- Schrauben: A4 aus rostfreiem -Stahl

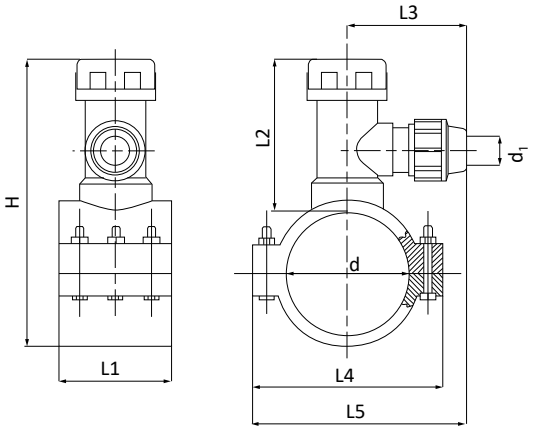
Richtlinien:
- Für PE-Rohre nach DIN EN 12201 - ISO 4427 DIN 8074 geeignet
- Für PVC-Rohr nach: DIN EN 1452 - DIN 8062 geeignet
- Test: ISO 13460

Gesundheitsvorschriften:
Die Abzweigschellen zum Anbohren unter Druck von Unidelta entsprechen den Bestimmungen für die Trinkwasserversorgung gemäß den in Italien und vielen anderen Ländern geltenden Vorschriften. (Ital.) Ministerialerlass Nr. 174 vom 06.04.2004.

1025

Abzweigschelle zum Anbohren unter Druck





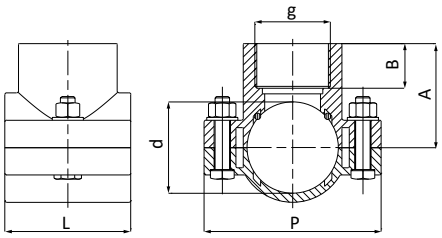
DIM dxd$_1$ [mm]	CODE	NF	V	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	Pmax [bar]
63x25	1025063025001	6	M8x40	201	80	132	115	115	173	16
63x32	1025063032001	6	M8x40	201	80	132	125	115	183	16
75x25	1025075025001	6	M8x50	211	90	129	115	129	180	16
75x32	1025075032001	6	M8x50	211	90	129	125	129	190	16
90x25	1025090025001	6	M8x50	226	90	129	115	144	187	16
90x32	1025090032001	6	M8x50	226	90	129	125	144	197	16
110x20	1025110020001	6	M8x60	249	100	130	110	168	194	16
110x25	1025110025001	6	M8x60	249	100	130	115	168	199	16
110x32	1025110032001	6	M8x60	249	100	130	125	168	209	16
160x20	1025160020001	6	M8x100	304	174	130	110	215	218	16
160x25	1025160025001	6	M8x100	304	174	130	115	215	223	16
160x32	1025160032001	6	M8x100	304	174	130	125	215	233	16

3.6 Anbohrschellen

1019

Anbohrschelle





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1019025002001	38	20	76	49	2	10
25x3/4”	1019025003001	38	21	76	49	2	10
32x1/2”	1019032002001	41	17	81	56	2	10
32x3/4”	1019032003001	41	21	81	56	2	10
32x1”	1019032004001	44	23	81	56	2	10
40x1/2”	1019040002001	41	17	81	60	2	10
40x3/4”	1019040003001	46	18	81	60	2	10
40x1”	1019040004001	46	23	81	60	2	10
50x1/2”	1019050002001	50	17	98	69	4	10
50x3/4”	1019050003001	50	18	98	69	4	10
50x1”	1019050004001	52	20	98	69	4	10
50x1”1/4	1019050005001	57	25	98	69	4	10
63x1/2”	1019063002001	55	16	105	79	4	10
63x3/4”	1019063003001	55	18	105	79	4	10
63x1”	1019063004001	59	20	105	79	4	10
63x1”1/4	1019063005001	63	25	105	79	4	10
63x1”1/2	1019063006001	63	28	105	79	4	10
75x1/2”	1019075002001	62	17	120	90	4	10
75x3/4”	1019075003001	62	18	120	90	4	10
75x1”	1019075004001	65	21	120	90	4	10
75x1”1/4	1019075005001	68	24	120	90	4	10
75x1”1/2	1019075006001	68	23	120	90	4	10
75x2”	1019075007001	72	27	120	90	4	10
90x1/2”	1019090002001	70	17	135	90	4	10
90x3/4”	1019090003001	70	19	135	90	4	10
90x1”	1019090004001	72	21	135	90	4	10
90x1”1/4	1019090005001	76	24	135	90	4	10
90x1”1/2	1019090006001	76	24	135	90	4	10
90x2”	1019090007001	80	27	135	90	4	10

>>>

*PN 6 bar

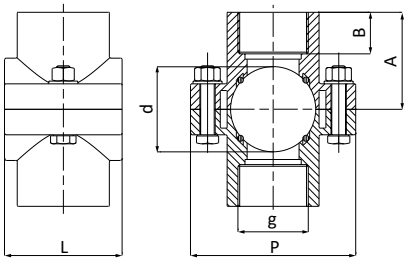
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1019110002001	80	17	168	99	4	10
110x3/4”	1019110003001	80	19	168	99	4	10
110x1”	1019110004001	84	20	168	99	4	10
110x1”1/4	1019110005001	86	23	168	99	4	10
110x1”1/2	1019110006001	86	23	168	99	4	10
110x2”	1019110007001	90	27	168	99	4	10
125x1/2”	1019125002001	108	25	190	106	6	10
125x3/4”	1019125003001	108	26	190	106	6	10
125x1”	1019125004001	109	26	190	106	6	10
125x1”1/4	1019125005001	109	25	190	106	6	10
125x1”1/2	1019125006001	113	28	190	106	6	10
125x2”	1019125007001	113	30	190	106	6	10
***160x3/4”**	1019160003001	108	19	215	175	6	6
***160x1”**	1019160004001	110	21	215	175	6	6
***160x1”1/4**	1019160005001	113	24	215	175	6	6
***160x1”1/2**	1019160006001	115	26	215	175	6	6
***160x2”**	1019160007001	117	30	215	175	6	6
***160x2”1/2**	1019160008001	125	32	215	175	6	6
***160x3”**	1019160009001	134	35	215	175	6	6
***160x4”**	1019160010001	135	40	215	175	6	6
***200x3/4”**	1019200003001	128	23	262	175	6	6
***200x1”**	1019200004001	130	23	262	175	6	6
***200x1”1/4**	1019200005001	133	23	262	175	6	6
***200x1”1/2**	1019200006001	133	23	262	175	6	6
***200x2”**	1019200007001	135	30	262	175	6	6
***200x2”1/2**	1019200008001	150	32	262	175	6	6
***200x3”**	1019200009001	152	35	262	175	6	6
***200x4”**	1019200010001	155	42	262	175	6	6

1020

Doppelanbohrschelle





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1020025002001	38	20	76	49	2	10
25x3/4”	1020025003001	38	21	76	49	2	10
32x1/2”	1020032002001	41	17	81	56	2	10
32x3/4”	1020032003001	41	21	81	56	2	10
32x1”	1020032004001	44	23	81	56	2	10
40x1/2”	1020040002001	41	17	81	60	2	10
40x3/4”	1020040003001	46	18	81	60	2	10
40x1”	1020040004001	46	23	81	60	2	10
50x1/2”	1020050002001	50	17	98	69	4	10
50x3/4”	1020050003001	50	18	98	69	4	10
50x1”	1020050004001	52	20	98	69	4	10
50x1”1/4	1020050005001	57	25	98	69	4	10
63x1/2”	1020063002001	55	16	105	79	4	10
63x3/4”	1020063003001	55	18	105	79	4	10
63x1”	1020063004001	59	20	105	79	4	10
63x1”1/4	1020063005001	63	25	105	79	4	10
63x1”1/2	1020063006001	63	28	105	79	4	10
75x1/2”	1020075002001	62	17	120	90	4	10
75x3/4”	1020075003001	62	18	120	90	4	10
75x1”	1020075004001	65	21	120	90	4	10
75x1”1/4	1020075005001	68	24	120	90	4	10
75x1”1/2	1020075006001	68	23	120	90	4	10
75x2”	1020075007001	72	27	120	90	4	10

>>>

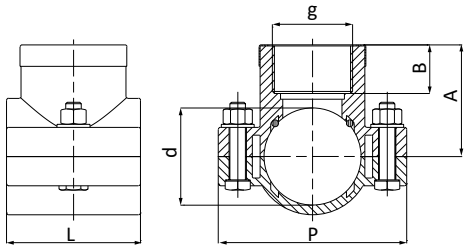
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1020090002001	70	17	135	90	4	10
90x3/4”	1020090003001	70	19	135	90	4	10
90x1”	1020090004001	72	21	135	90	4	10
90x1”1/4	1020090005001	76	24	135	90	4	10
90x1”1/2	1020090006001	76	24	135	90	4	10
90x2”	1020090007001	80	27	135	90	4	10
110x1/2”	1020110002001	80	17	168	99	4	10
110x3/4”	1020110003001	80	19	168	99	4	10
110x1”	1020110004001	84	20	168	99	4	10
110x1”1/4	1020110005001	86	23	168	99	4	10
110x1”1/2	1020110006001	86	23	168	99	4	10
110x2”	1020110007001	90	27	168	99	4	10
125x1/2”	1020125002001	108	25	190	106	6	10
125x3/4”	1020125003001	108	26	190	106	6	10
125x1”	1020125004001	109	26	190	106	6	10
125x1”1/4	1020125005001	109	25	190	106	6	10
125x1”1/2	1020125006001	113	28	190	106	6	10
125x2”	1020125007001	113	30	190	106	6	10

1026

Anbohrschelle mit Verstärkung





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1026025002001	38	20	76	49	2	10
25x3/4”	1026025003001	38	21	76	49	2	10
32x1/2”	1026032002001	41	17	81	56	2	10
32x3/4”	1026032003001	41	21	81	56	2	10
32x1”	1026032004001	44	23	81	56	2	10
40x1/2”	1026040002001	41	17	81	60	2	10
40x3/4”	1026040003001	46	18	81	60	2	10
40x1”	1026040004001	46	23	81	60	2	10
50x1/2”	1026050002001	50	17	98	69	4	10
50x3/4”	1026050003001	50	18	98	69	4	10
50x1”	1026050004001	52	20	98	69	4	10
50x1”1/4	1026050005001	57	25	98	69	4	10
63x1/2”	1026063002001	55	16	105	79	4	10
63x3/4”	1026063003001	55	18	105	79	4	10
63x1”	1026063004001	59	20	105	79	4	10
63x1”1/4	1026063005001	63	25	105	79	4	10
63x1”1/2	1026063006001	63	28	105	79	4	10
75x1/2”	1026075002001	62	17	120	90	4	10
75x3/4”	1026075003001	62	18	120	90	4	10
75x1”	1026075004001	65	21	120	90	4	10
75x1”1/4	1026075005001	68	24	120	90	4	10
75x1”1/2	1026075006001	68	23	120	90	4	10
75x2”	1026075007001	72	27	120	90	4	10
90x1/2”	1026090002001	70	17	135	90	4	10
90x3/4”	1026090003001	70	19	135	90	4	10
90x1”	1026090004001	72	21	135	90	4	10
90x1”1/4	1026090005001	76	24	135	90	4	10
90x1”1/2	1026090006001	76	24	135	90	4	10
90x2”	1026090007001	80	27	135	90	4	10

>>>

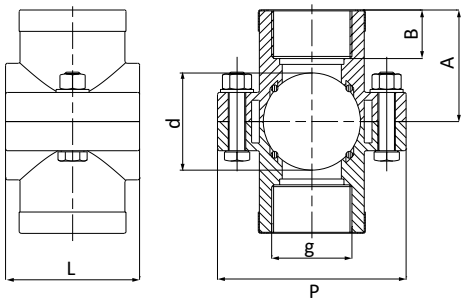
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1026110002001	80	17	168	99	4	10
110x3/4”	1026110003001	80	19	168	99	4	10
110x1”	1026110004001	84	20	168	99	4	10
110x1”1/4	1026110005001	86	23	168	99	4	10
110x1”1/2	1026110006001	86	23	168	99	4	10
110x2”	1026110007001	90	27	168	99	4	10
125x1/2”	1026125002001	108	25	190	106	6	10
125x3/4”	1026125003001	108	26	190	106	6	10
125x1”	1026125004001	109	26	190	106	6	10
125x1”1/4	1026125005001	109	25	190	106	6	10
125x1”1/2	1026125006001	113	28	190	106	6	10
125x2”	1026125007001	113	30	190	106	6	10
125x3”	1026125009001	113	35	190	106	6	10
160x3/4"	1026160003001	108	19	215	175	6	10
160x1”	1026160004001	110	21	215	175	6	10
160x1”1/4	1026160005001	113	24	215	175	6	10
160x1”1/2	1026160006001	115	26	215	175	6	10
160x2”	1026160007001	117	30	215	175	6	10
160x2”1/2	1026160008001	125	32	215	175	6	10
160x3”	1026160009001	134	35	215	175	6	10
160x4”	1026160010001	135	40	215	175	6	10
200x3/4”	1026200003001	128	23	262	175	6	10
200x1”	1026200004001	130	23	262	175	6	10
200x1”1/4	1026200005001	133	23	262	175	6	10
200x1”1/2	1026200006001	133	23	262	175	6	10
200x2”	1026200007001	135	30	262	175	6	10
200x2”1/2	1026200008001	150	32	262	175	6	10
200x3”	1026200009001	152	35	262	175	6	10
200x4”	1026200010001	155	42	262	175	6	10

1027

Doppelanbohrschelle mit Verstärkung





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1027025002001	38	20	76	49	2	10
25x3/4”	1027025003001	38	21	76	49	2	10
32x1/2”	1027032002001	41	17	81	56	2	10
32x3/4”	1027032003001	41	21	81	56	2	10
32x1”	1027032004001	44	23	81	56	2	10
40x1/2”	1027040002001	41	17	81	60	2	10
40x3/4”	1027040003001	46	18	81	60	2	10
40x1”	1027040004001	46	23	81	60	2	10
50x1/2”	1027050002001	50	17	98	69	4	10
50x3/4”	1027050003001	50	18	98	69	4	10
50x1”	1027050004001	52	20	98	69	4	10
50x1”1/4	1027050005001	57	25	98	69	4	10
63x1/2”	1027063002001	55	16	105	79	4	10
63x3/4”	1027063003001	55	18	105	79	4	10
63x1”	1027063004001	59	20	105	79	4	10
63x1”1/4	1027063005001	63	25	105	79	4	10
63x1”1/2	1027063006001	63	28	105	79	4	10
75x1/2”	1027075002001	62	17	120	90	4	10
75x3/4”	1027075003001	62	18	120	90	4	10
75x1”	1027075004001	65	21	120	90	4	10
75x1”1/4	1027075005001	68	24	120	90	4	10
75x1”1/2	1027075006001	68	23	120	90	4	10
75x2”	1027075007001	72	27	120	90	4	10

>>>

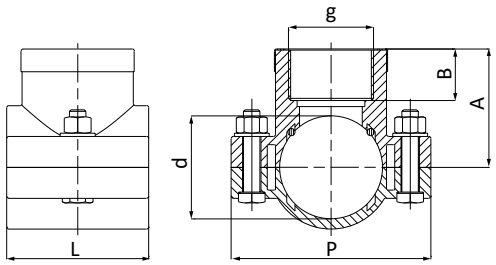
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1027090002001	70	17	135	90	4	10
90x3/4”	1027090003001	70	19	135	90	4	10
90x1”	1027090004001	72	21	135	90	4	10
90x1”1/4	1027090005001	76	24	135	90	4	10
90x1”1/2	1027090006001	76	24	135	90	4	10
90x2”	1027090007001	80	27	135	90	4	10
110x1/2”	1027110002001	80	17	168	99	4	10
110x3/4”	1027110003001	80	19	168	99	4	10
110x1”	1027110004001	84	20	168	99	4	10
110x1”1/4	1027110005001	86	23	168	99	4	10
110x1”1/2	1027110006001	86	23	168	99	4	10
110x2”	1027110007001	90	27	168	99	4	10
125x1/2”	1027125002001	108	25	190	106	6	10
125x3/4”	1027125003001	108	26	190	106	6	10
125x1”	1027125004001	109	26	190	106	6	10
125x1”1/4	1027125005001	109	25	190	106	6	10
125x1”1/2	1027125006001	113	28	190	106	6	10
125x2”	1027125007001	113	30	190	106	6	10

1031 - LA BLU

Anbohrschelle mit Verstärkung





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
20x1/2”	1031020002001	40	25	76	54	2	16
25x1/2”	1031026002001	38	20	76	49	2	16
25x3/4”	1031026003001	38	21	76	49	2	16
32x1/2”	1031033002001	41	17	81	56	2	16
32x3/4”	1031033003001	41	21	81	56	2	16
32x1"	1031033004001	44	23	81	56	2	16
40x1/2”	1031041002001	41	17	81	60	2	16
40x3/4”	1031041003001	46	18	81	60	2	16
40x1”	1031041004001	46	23	81	60	2	16
50x1/2”	1031051002001	50	17	98	69	6	16
50x3/4”	1031051003001	50	18	98	69	6	16
50x1”	1031051004001	52	20	98	69	6	16
50x1”1/4	1031051005001	57	25	98	69	6	16
63x1/2”	1031064002001	55	16	105	79	6	16
63x3/4”	1031064003001	55	18	105	79	6	16
63x1”	1031064004001	59	20	105	79	6	16
63x1”1/4	1031064005001	63	25	105	79	6	16
63x1”1/2	1031064006001	63	28	105	79	6	16
75x1/2”	1031076002001	62	17	120	90	6	16
75x3/4”	1031076003001	62	18	120	90	6	16
75x1”	1031076004001	65	21	120	90	6	16
75x1”1/4	1031076005001	68	24	120	90	6	16
75x1”1/2	1031076006001	68	23	120	90	6	16
75x2”	1031076007001	72	27	120	90	6	16

>>>

>>>

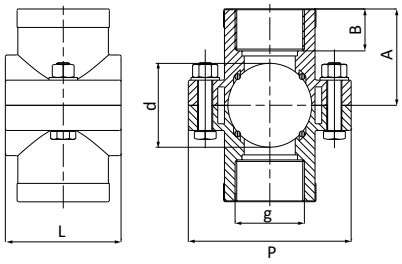
DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1031091002001	70	17	135	90	6	16
90x3/4”	1031091003001	70	19	135	90	6	16
90x1”	1031091004001	72	21	135	90	6	16
90x1”1/4	1031091005001	76	24	135	90	6	16
90x1”1/2	1031091006001	76	24	135	90	6	16
90x2”	1031091007001	80	27	135	90	6	16
110x1/2”	1031111002001	80	17	168	99	6	16
110x3/4”	1031111003001	80	19	168	99	6	16
110x1”	1031111004001	84	20	168	99	6	16
110x1”1/4	1031111005001	86	23	168	99	6	16
110x1”1/2	1031111006001	86	23	168	99	6	16
110x2”	1031111007001	90	27	168	99	6	16
125X1/2”	1031126002001	108	25	190	106	6	16
125X3/4”	1031126003001	108	26	190	106	6	16
125X1”	1031126004001	109	26	190	106	6	16
125X1”1/4	1031126005001	109	25	190	106	6	16
125X1”1/2	1031126006001	113	28	190	106	6	16
125x2"	1031126007001	113	30	190	106	6	16
160x3/4"	1031161003001	108	19	215	175	6	16
160x1"	1031161004001	110	21	215	175	6	16
160x1”1/4	1031161005001	113	24	215	175	6	16
160x1”1/2	1031161006001	115	26	215	175	6	16
160x2"	1031161007001	117	30	215	175	6	16
200x3/4"	1031201003001	128	23	262	175	6	16
200x1"	1031201004001	130	23	262	175	6	16
200x1”1/4	1031201005001	133	23	262	175	6	16
200x1”1/2	1031201006001	133	23	262	175	6	16
200x2"	1031201007001	135	30	262	175	6	16

Auch für PVC-Rohre geeignet, die Abnessungen laut EN 1452-2 haben

1032 - LA BLU

Doppelanbohrschelle mit Verstärkung





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1032026002001	38	20	76	49	2	16
25x3/4”	1032026003001	38	21	76	49	2	16
32x1/2”	1032033002001	41	17	81	56	2	16
32x3/4”	1032033003001	41	21	81	56	2	16
32x1”	1032033004001	44	23	81	56	2	16
40x1/2”	1032041002001	41	17	81	60	2	16
40x3/4”	1032041003001	46	18	81	60	2	16
40x1”	1032041004001	46	23	81	60	2	16
50x1/2”	1032051002001	50	17	98	69	6	16
50x3/4”	1032051003001	50	18	98	69	6	16
50x1”	1032051004001	52	20	98	69	6	16
50x1”1/4	1032051005001	57	25	98	69	6	16
63x1/2”	1032064002001	55	16	105	79	6	16
63x3/4”	1032064003001	55	18	105	79	6	16
63x1”	1032064004001	59	20	105	79	6	16
63x1”1/4	1032064005001	63	25	105	79	6	16
63x1”1/2	1032064006001	63	28	105	79	6	16

>>>

>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
75x1/2”	1032076002001	62	17	120	90	6	16
75x3/4”	1032076003001	62	18	120	90	6	16
75x1”	1032076004001	65	21	120	90	6	16
75x1”1/4	1032076005001	68	24	120	90	6	16
75x1”1/2	1032076006001	68	23	120	90	6	16
75x2”	1032076007001	72	27	120	90	6	16
90x1/2”	1032091002001	70	17	135	90	6	16
90x3/4”	1032091003001	70	19	135	90	6	16
90x1”	1032091004001	72	21	135	90	6	16
90x1”1/4	1032091005001	76	24	135	90	6	16
90x1”1/2	1032091006001	76	24	135	90	6	16
90x2”	1032091007001	80	27	135	90	6	16
110x1/2”	1032111002001	80	17	168	99	6	16
110x3/4”	1032111003001	80	19	168	99	6	16
110x1”	1032111004001	84	20	168	99	6	16
110x1”1/4	1032111005001	86	23	168	99	6	16
110x1”1/2	1032111006001	86	23	168	99	6	16
110x2”	1032111007001	90	27	168	99	6	16

Auch für PVC-Rohre geeignet, die Abnessungen laut EN 1452-2 haben


UNIDELTA
Since 1973

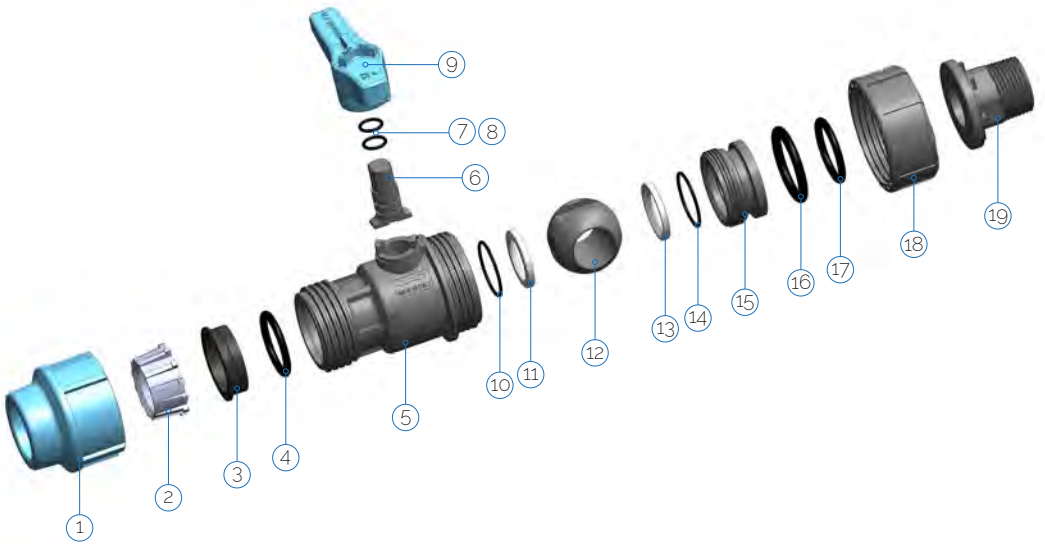

UNIDELTA

4. Kugelhähne

Die Kugelhähne aus Polypropylen von Unidelta wurden spezifisch dafür entwickelt, um mit den Polyethylenrohren bzw. Gewindeverbindungen verbunden zu werden. Sie sind kompatibel mit Rohren aus LDPE, HDPE, PE40, PE80, PE100, PE100RC gemäß den Normen **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Gewöhnlich werden sie für die Beförderung von Wasser mit einem Höchstdruck von 16 bar bei 20°C bis zu einem Durchmesser von 63/2'' und von 10 bar bei 20°C bis zu einem Durchmesser von 75/2"1/2 verwendet (für höhere Temperaturen wird auf die von den Richtlinien der PE-Rohre vorgesehenen Einschränkungen verwiesen). Die Ventile von Unidelta sind auch in der Version mit Gewindeausgang/Gewindeausgänge gemäß den Richtlinien **ISO 7/1, EN 10226-1, DIN 2999, BS 21** verfügbar.

4.1 Ventilaufbau und Materialien

Explosionszeichnung des Kugelhähne



1. **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
2. **Klemmring:** Acetalharz POM (Polyoxymethylen).
3. **Druckring:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
4. **O-Dichtungsradialring auf dem Rohr:** Nitrilkautschuk (NBR).
5. **Körper:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
6. **Steuerstab:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
7. 8. **O-Ringe Steuerstab:** Nitrilkautschuk (NBR).
9. **Griff:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
10. 14. **O-Dichtungsringe der Kugeldichtung:** Nitrilkautschuk (NBR).
11. 13. **Kugeldichtungen:** Polytetrafluorethylen (PTFE).
12. **Kugel:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
15. **Halterung der Kugeldichtung:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
16. **Radialer O-Dichtungsring:** Nitrilkautschuk (NBR).
17. **Axialer O-Dichtungsring:** Nitrilkautschuk (NBR).
18. **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
19. **Einlegteil mit Gewindeabgang:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.

4.2 Vorteile der Kugelhähne

Verwendete Materialien
Alle Komponenten des Unidelta-Ventils sind aus Kunststoff. Daher besteht nicht die Gefahr der Oxidation und Korrosion während der Nutzung.

Hohe Druckbeständigkeit
Die Unidelta-Ventile können bis zu einem Höchstdruck von 16 bar bei 20°C.

Design
Die Unidelta-Ventile weisen ein kompaktes Design auf, wodurch sie auch in beengten Räumen installiert werden können. Außerdem kann der Griff vom Ventilkörper entfernt werden.

Einfache Montage
Die Unidelta-Ventile sind dank des innovativen Systems DeltOne für den Durchmesser Ø50, Ø63, Ø75, Ø90 besonders leicht zu montieren.

Uv-Schutz
Die Materialien der exponierten Bauteile der Unidelta-Ventile sind UV-beständig. Sind können daher auch außen angebracht werden.

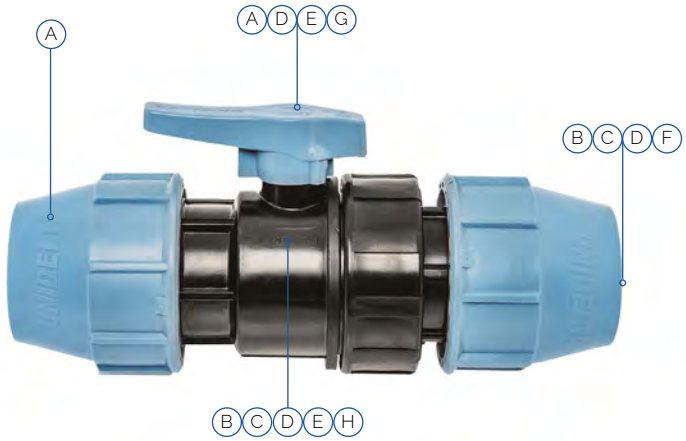
Beidseitige Flussrichtung
Die Unidelta-Ventile benötigen keine bestimmte Flussrichtung des Wassers, denn sie können unabhängig von der Flussrichtung in einer beliebigen Richtung installiert werden.

Überprüfbarkeit der Kugel
Die Kugel des Ventils ist gut zugänglich und kann im Falle von Ablagerungen deshalb einfach gereinigt werden (siehe Anleitungen in Abschnitt "Zugang zur Kugel" S. 352).

4.3 Kennzeichnung des Ventils

Die wichtigen Informationen sind direkt auf dem Ventil gekennzeichnet:

Ⓐ Name des Herstellers "**UNIDELTA**";
Ⓑ Ort der Herstellung "**MADE IN ITALY**";
Ⓒ Werkstoff "**PP**";
Ⓓ Durchmesser des zu verbindenden Polyethylenrohrs (z.B. "**Ø40**");
Ⓔ Nennweite - Innendurchmesser bezüglich einem eventuellen Gewinde und ungefähr der Übergangssektion (z.B. "**1"1/4**" und "**DN 32**");
Ⓕ Maximaler Betriebsdruck (z.B. "**PN 16**");
Ⓖ Öffnungs- und Schließrichtung des Ventils auf dem Griff ("**OPEN**" und "**CLOSE**");
Ⓗ **Doppelpfeil,** der die beidseitige Flussrichtung anzeigt.



4.4 Zugang zur Kugel

Bei den Unidelta-Ventilen ist die Kugel zu Prüfzwecken gut zugänglich. Das ist ein großer Vorteil, da etwaige Ablagerungen, die sich während des Gebrauchs angesammelt haben, einfach entfernt werden können.

Um auf die Kugel zuzugreifen, diesen 3 Schritten folgen:





Die Überwurfmutter lösen (Komponent (18) der "Explosionszeichnung des Kugelhähne" S. 349). Dadurch wird die Innenverzahnung der Halterung der Kugeldichtung (Komponent (15)) sichtbar. Dann den Griff (Komponent (9)) vom Steuerstab entfernen. Beachten Sie, dass sich die Verzahnung des Griffs für die Ventile mit Ø20-25-32 im oberen Teil befindet (Abbildung 1A), und für die Ventile mit Ø40-50-63-75-90 befindet sie sich im unteren Teil (Abbildung 1B).





Die Verzahnung des Griffs in das Innere der Verzahnung der Halterung der Kugeldichtung einfügen. Zum Lösen, den so eingefügten Griff im Uhrzeigersinn drehen (Abbildung 2A und 2B).





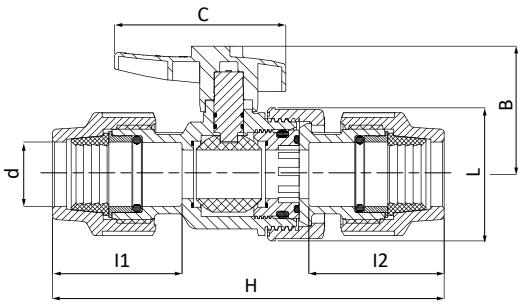
Die Halterung der Kugeldichtung entfernen, um den Zugang zur Kugel selbst zu ermöglichen (Abbildung 3A und 3B).

4.5 Datenblätter

1070

PP-Kugelhahn mit Klemmanschluss

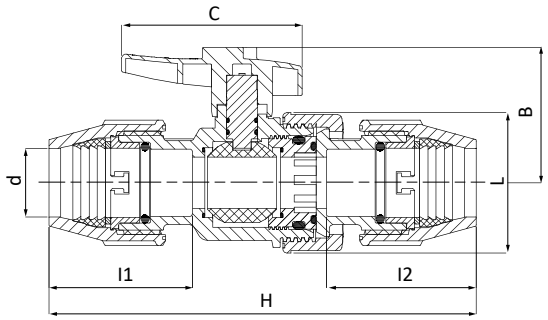




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





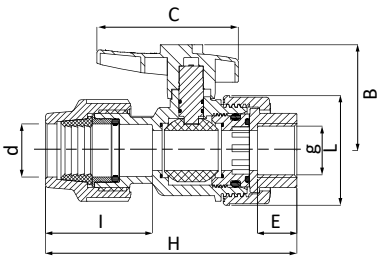
>>>

50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

PP-Kugelhahn mit Klemmanschluss und Innengewinde

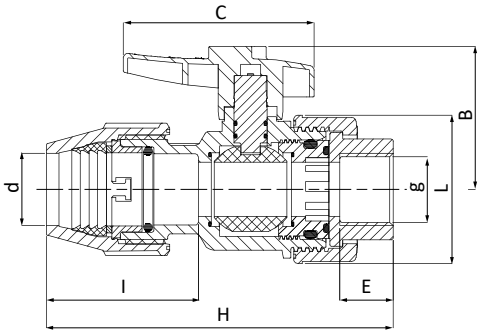




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82	24	80	77	100	16

>>>





>>>

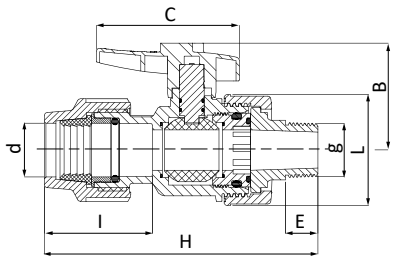
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

1072

PP-Kugelhahn mit Klemmanschluss und Außengewinde

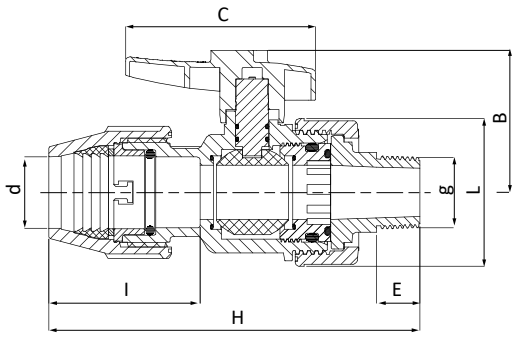




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80	77	100	16

>>>





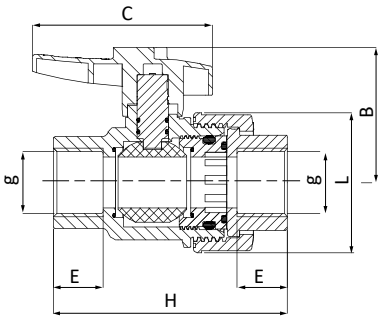
>>>

50x1"1/2	1072051006001	96x245x136	245	110	23	96	88	116	16
63x2"	1072064007001	116x275x158	275	120	27	116	100	127	16

1073

PP-Kugelhahn mit Innengewinden





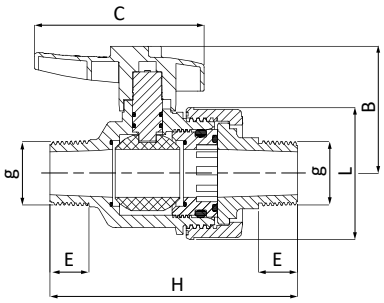
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	1073006006001	95x142x136	142	24	96	88	116	16
***2"x2"**	1073007007001	116x164x158	164	27	116	100	127	16
***2"1/2x2"1/2**	1073008008001	155x240x203	240	35	155	125	155	10
***3"x3"**	1073009009001	197x310x261	310	50	197	162	281	10

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

1074

PP-Kugelhahn mit Außengewinden



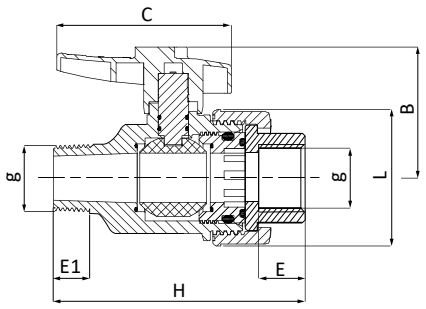


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2	1074006006001	95x187x136	187	23	95	88	116	16
2"x2"	1074007007001	116x216x158	216	27	116	100	127	16

1081

PP-Kugelhahn Außengewinde/Innengewinde





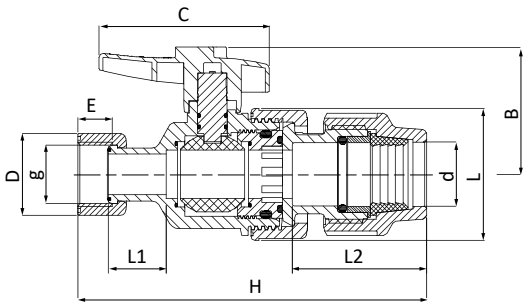
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	23	80	77	100	16
***1"1/2x1"1/2**	1081006006001	95x160x136	160	24	23	95	88	116	16
***2"x2"**	1081007007001	116x189x158	189	27	27	116	100	127	16

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

1080

Kugelhahn mit Klemm- und Überwurfmutteranschluss



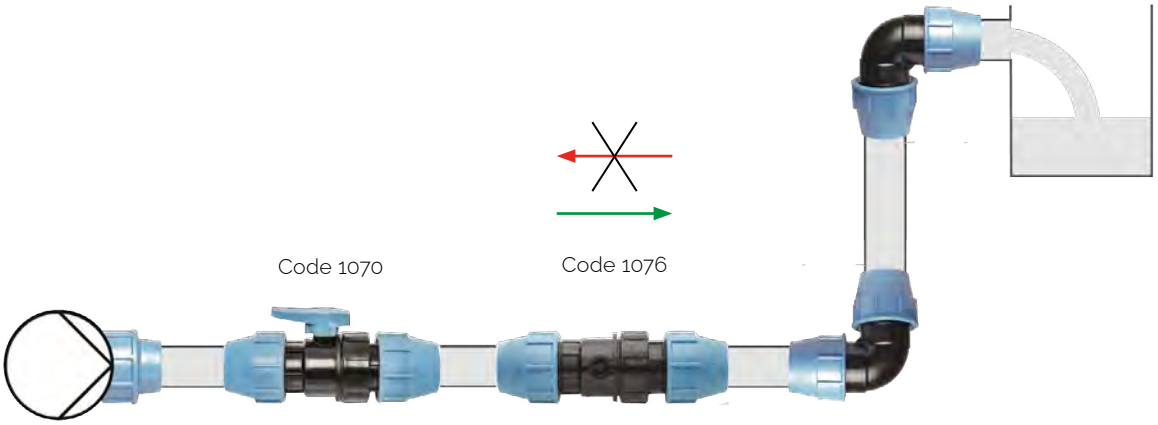


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4”	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1”	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1”	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

5. Klemmrückschlagventil

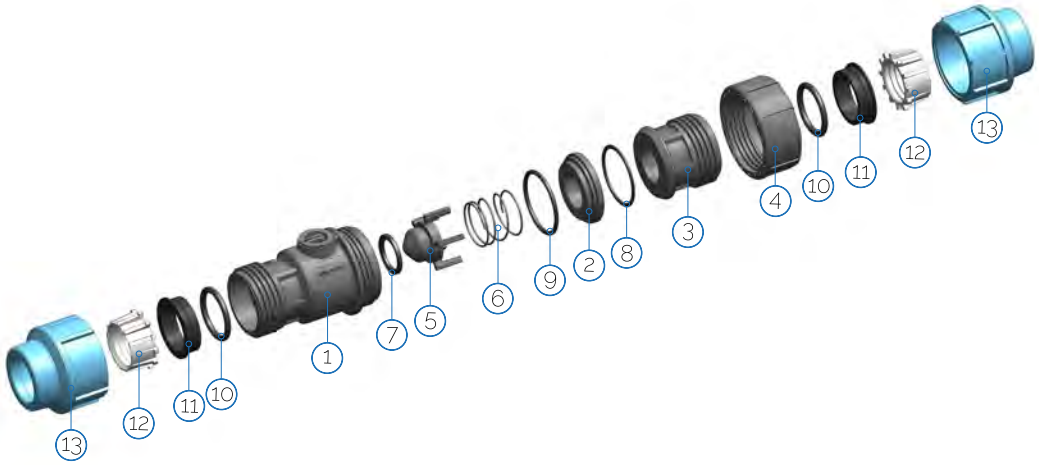
Die Rückschlagventile aus Polypropylen von Unidelta wurden spezifi sch dafür entwickelt, um mit den Polyethylenrohren bzw. Gewindeverbindungen verbunden zu werden. Sie sind kompatibel mit Rohren aus LDPE, HDPE, PE40, PE80, PE100, PE100RC gemäß den Normen **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Gewöhnlich werden sie für die Beförderung von Wasser mit einem Höchstdruck von 16 bar bei 20°C verwendet (für höhere Temperaturen wird auf die von den Richtlinien der PE-Rohre vorgesehenen Einschränkungen verwiesen). Die Ventile von Unidelta sind auch in der Version mit Gewindeausgang/Gewindeausgänge gemäß den Richtlinien **ISO 7/1, EN 10226-1, DIN 2999, BS 21** verfügbar.
Dank eines Schiebers ermöglichen diese Ventile den Durchfluss nur in eine Richtung und jeder Rücklauf in die entgegengesetzte Richtung wird gehemmt. Die folgende schematische Abbildung zeigt ein Beispiel für eine mögliche Anwendung des im Förderkreislauf einer Pumpe installierten Rückschlagventils.

Schematisches Beispiel für eine Anwendung



5.1 Ventilaufbau und Materialien

Explosionszeichnung des Rückschlagventil



1. **Körper:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
2. **O-Ring Halterung:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
3. **Einsatz:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
4. **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
5. **Schieber:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
6. **Feder:** Edelstahl Inox AISI 302.
7. **Dichtung Schieber:** Nitrilkautschuk (NBR).
8. **O-Ring vorne:** Nitrilkautschuk (NBR).
9. **Radialer O-Ring:** Nitrilkautschuk (NBR).
10. **O-Dichtungsradialring auf dem Rohr:** Nitrilkautschuk (NBR).
11. **Druckring:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
12. **Klemmring:** Acetalharz POM.
13. **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.

5.2 Vorteile der Rückschlagventile

Verwendete Materialien
Alle Komponenten des Unidelta-Ventils mit Ausnahme der Feder aus Edelstahl sind aus Kunststoff. Daher besteht nicht die Gefahr der Oxidation und Korrosion während der Nutzung.

Hohe Druckbeständigkeit
Die Unidelta-Ventile können bis zu einem Höchstdruck von 16 bar bei 20°C betrieben werden.

Design
Die Unidelta-Ventile weisen ein kompaktes Design auf, wodurch sie auch in beengten Räumen installiert werden können.

Einfache Montage
Die Unidelta-Ventile sind dank des innovativen Systems DeltOne für den Durchmesser Ø50, Ø63 besonders leicht zu montieren.

Uv-Schutz
Die Materialien der exponierten Bauteile der Unidelta-Ventile sind UV-beständig. Sind können daher auch außen angebracht werden.

Ventilinspektionsfähigkeit

Das Rückschlagventil kann durch einfaches Abschrauben des "Einsatz-Halterungsrings" (Bauteil (4) der "Explosionszeichnung des Rückschlagventil" S. 359) entfernt werden. Mit dieser Funktion kann der Schieber problemlos von Ablagerungen, die sich während der Verwendung gebildet haben, gereinigt werden.

Betriebszuverlässigkeit

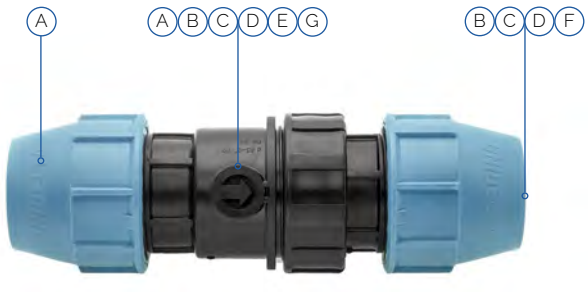
Die Öffnung des Schiebers erfolgt bereits bei niedrigem Druck in in der Durchflussrichtung, während auch bei geringem Gegendruck in der Gegenrichtung eine einwandfreie Abdichtung gewährleistet ist.
Siehe nachfolgende Tabelle:

Ø	Mindestöffnungsdruck des ventils [bar]	Mindestschliessdruck des ventils [bar]
20	0,030	0,09
25	0,030	0,09
32	0,030	0,09
40	0,035	0,09
50	0,040	0,09
63	0,050	0,09

5.3 Kennzeichnung des Ventils

Die wichtigen Informationen sind direkt auf dem Ventil gekennzeichnet:

(A) Name des Herstellers "**UNIDELTA**";
(B) Ort der Herstellung "**MADE IN ITALY**";
(C) Werkstoff "**PP**";
(D) Durchmesser des zu verbindenden Polyethylenrohrs (z.B. "**Ø40**");
(E) Nennweite - Innendurchmesser bezüglich einem eventuellen Gewinde und ungefähr der Übergangssektion (z.B. "**1"1/4**" und "**DN 32**");
(F) Maximaler Betriebsdruck ("**PN 16**");
(G) **Pfeil** zur Anzeige der Durchflussrichtung.

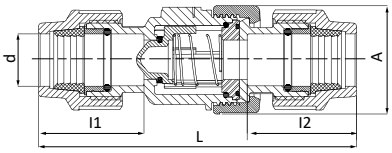


5.4 Datenblätter

1076

Klemmrückschlagventil

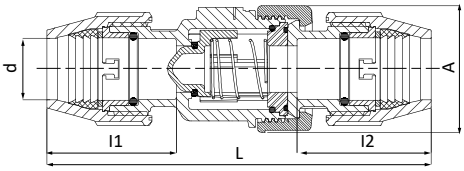




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





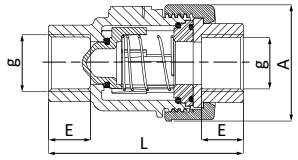
>>>

50x50	1076051000001	303x99x99	303	110	110	95	16
63x63	1076064000001	342x117x117	342	130	126	116	16

1077

Rückschlagventil mit Innen-/Innengewinde





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	L [mm]	E [mm]	A [mm]	Pmax [bar]
1/2”x1/2”	1077002002001	89x50x50	89	17	50	16
3/4”x3/4”	1077003003001	99x60x60	99	18	60	16
1”x1”	1077004004001	110x68x68	110	21	68	16
***1”1/4x1”1/4**	1077005005001	128x83x83	128	24	80	16
***1”1/2x1”1/2**	1077006006001	142x99x99	142	24	95	16
***2”x2”**	1077007007001	167x117x117	167	27	116	16

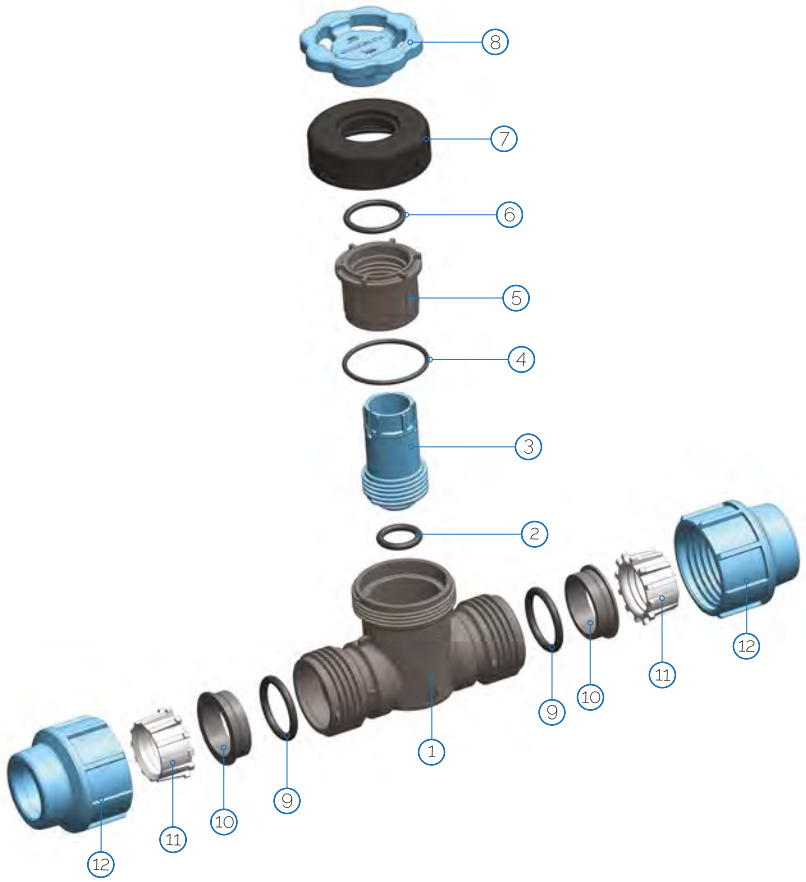
* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

6. Geradsitzventil

Die Geradsitzventile aus Polypropylen von Unidelta wurden spezifisch dafür entwickelt, um mit den Polyethylenrohren bzw. Gewindeverbindungen verbunden zu werden. Sie sind kompatibel mit Rohren aus LDPE, HDPE, PE40, PE80, PE100, PE100RC gemäß den Normen **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Gewöhnlich werden sie für die Beförderung von Wasser mit einem Höchstdruck von 16 bar bei 20°C verwendet (für höhere Temperaturen wird auf die von den Richtlinien der PE-Rohre vorgesehenen Einschränkungen verwiesen). Die Ventile von Unidelta sind auch in der Version mit Gewindeausgang/Gewindeausgänge gemäß den Richtlinien **ISO 7/1, EN 10226-1, DIN 2999, BS 21** verfügbar. Das Ventil wird durch den Griff geöffnet und geschlossen, der eine schrittweise Regelung des Flusses erlaubt.

6.1 Ventilaufbau und Materialien

Explosionszeichnung des Geradsitzventil



1. **Körper:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
2. **O-ring Dichtung des Tupfers:** Nitrilkautschuk (NBR).
3. **Abschaltungstupfer:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
4. **O-ring Dichtung des Körpers:** Nitrilkautschuk (NBR).
5. **Einsatz:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
6. **O-ring Dichtung des Inserts:** Nitrilkautschuk (NBR).
7. **Obere Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
8. **Griff:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
9. **O-Dichtungsradialring auf dem Rohr:** Nitrilkautschuk (NBR).
10. **Druckring:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
11. **Klemmring:** Acetalharz POM (Polyoxymethylen).
12. **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.

6.2 Vorteile der Geradsitzventile

Verwendete Materialien
Alle Komponenten des Unidelta-Ventils sind aus Kunststoff. Daher besteht nicht die Gefahr der Oxidation und Korrosion während der Nutzung.

Hohe Druckbeständigkeit
Die Unidelta-Ventile können bis zu einem Höchstdruck von 16 bar bei 20°C betrieben werden.

Design
Die Unidelta-Ventile weisen ein kompaktes Design auf, wodurch sie auch in beengten Räumen installiert werden können.

Einfache Montage
Die Unidelta-Ventile sind besonders leicht zu montieren.

Uv-Schutz
Die Materialien der exponierten Bauteile der Unidelta-Ventile sind UV-beständig. Sind können daher auch außen angebracht werden.

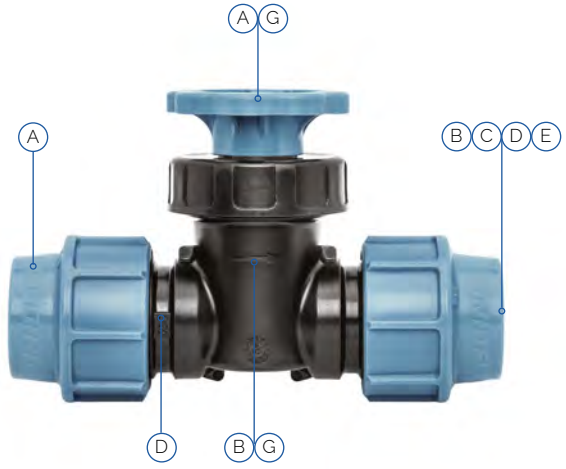
Ventilinspektionsfähigkeit
Das Geradsatzventil kann durch einfaches Abschrauben der Obere Überwurfmutter (Bauteil (7) der "Explosionszeichnung des Geradsitzventil" S. 362). entfernt werden. Mit dieser Funktion kann der Schieber problemlos von Ablagerungen, die sich während der Verwendung gebildet haben, gereinigt werden.

Regelung des Flusses
Durch den Griff kann man den Fluss schrittweise regulieren.

6.3 Kennzeichnung des Ventils

Die wichtigen Informationen sind direkt auf dem Ventil gekennzeichnet:

(A) Name des Herstellers "**UNIDELTA**";
(B) Ort der Herstellung "**MADE IN ITALY**";
(C) Werkstoff "**PP**";
(D) Durchmesser des zu verbindenden Polyethylenrohrs (z.B. "**Ø32**") oder des Verbindungsgewindes (z.B. "**1"**");
(E) Maximaler Betriebsdruck ("**PN 16**");
(F) **Pfeil** zur Anzeige der Durchflussrichtung;
(G) Öffnungs- und Schließrichtung des Ventils auf dem Griff ("**OPEN**" und "**CLOSE**").

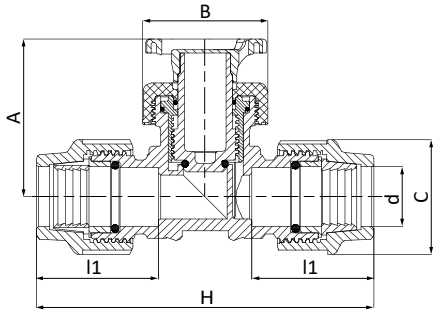


6.4 Datenblätter

1078

Geradsitzventil mit Klemmverschraubung



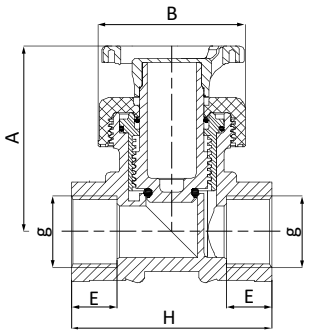


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

1079

Geradsitzventil mit Klemmverschraubung und Innengewinde





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	A [mm]	B [mm]	Pmax [bar]
3/4"x3/4"	1079003003001	132x79x60	79	18	112	59	16
1"x1"	1079004004001	143x95x70	95	21	120	70	16

7. Montageanleitung für Ventile

Kugel-, Rückschlag- und Geradsitzventile Ø 20 mm ÷ 40 mm



Das Rohr rechtwinkelig zur Achse mit einem entsprechenden Rohrschneider, einer Kreissäge oder Bandsäge schneiden. Es empfiehlt sich, eine entsprechende Führung zu verwenden, um einen geraden Abschnitt zu erhalten.



Durch den Schnitt verursachte Grate entfernen und die Rohrenden abrunden, um die Montage zu erleichtern und die Dichtung nicht zu beschädigen. Die Außenfläche des Rohres darf über die gesamte Einführungslänge in den Ventilkörper keine Mängel oder Einkerbungen aufweisen.



Die blaue Überwurfmutter lösen und sie auf das Rohr schieben, gefolgt vom Klemmring. Sicherstellen, dass die Konizität des Klemmrings in die richtige Richtung geht, d.h. der größere Teil richtet sich zum Ventilkörper.



Das Rohr in Axialrichtung bis zum Innenanschlag hinter der Dichtung in das Ventil einführen.



Die Überwurfmutter zuerst manuell anschrauben und danach mit einem entsprechenden Schraubschlüssel festziehen. Die Überwurfmutter muss unter Kraftanwendung geschlossen werden, obwohl es nicht notwendig ist, dass sie mit dem Anschlag des Ventilkörpers in Kontakt kommt.

Kugel-, Rückschlag- und Geradsitzventile Ø 50 mm ÷ 90 mm



Das Rohr rechtwinkelig zur Achse mit einem entsprechenden Rohrschneider, einer Kreissäge oder Bandsäge schneiden. Es empfiehlt es sich, eine entsprechende Führung zu verwenden, um einen geraden Abschnitt zu erhalten.



Die blaue Überwurfmutter lösen, ohne die blockierten Ringe in ihrem Inneren zu entfernen (integriertes Bauteil).



Das integrierte Bauteil auf das Rohr stecken, gefolgt von der Dichtung. Das Endteil des Rohres und die Dichtung sind mit einem Silikonfett zu schmieren, das für die Verbringung von Trinkwasser geeignet ist.



Das Rohr in das Ventil in Axialrichtung bis zum Innenanschlag des Ventilkörpers einführen.



Die Überwurfmutter zuerst manuell anschrauben und danach mit einem Schraubschlüssel festziehen. Die Überwurfmutter muss unter Kraftanwendung geschlossen werden, obwohl es nicht notwendig ist, dass sie mit dem Anschlag des Ventilkörpers in Kontakt kommt.

8. Komponenten

8.1 Bestandteile für Klemmverbindungen

A217

Hulse



DIM	CODE
16	A217016000
20	A217020000
25	A217025000
32	A217032000
40	A217040000

>>>

>>>

DIM	CODE
50	A217050001
63	A217063001
75	A217075001
90	A217090001
110	A217110001

A218

Überwurfmutter



DIM	CODE
16	A218016000
20	A218020000
25	A218025000
32	A218032000
40	A218040000

>>>

>>>

DIM	CODE
50	A218050002
63	A218063002
75	A218075002
90	A218090002
110	A218110002

A219

Klemmring



DIM	CODE
16	A219016000
20	A219020000
25	A219025000
32	A219032000
40	A219040000

>>>

>>>

DIM	CODE
50	A219050001
63	A219063001
75	A219075001
90	A219090001
110	A219110001

A220

O-ring Dichtung



DIM	CODE
16	A220016000
20	A220020000
25	A220025000
32	A220032000
40	A220040000

>>>

>>>

DIM	CODE
50	A220050001
63	A220063001
75	A220075001
90	A220090001
110	A220110001

8.2 Bestandteile für Ventile

A24601

Überwurfmutter für Kugelhahn



DIM	CODE
20	A246010200
25	A246010250
32	A246010320
40	A246010400

>>>

>>>

DIM	CODE
50	A246010500
63	A246010630
75	A246010750
90	A246010900

A24602

Griff für Kugelhahn



DIM	CODE
20	A246020200
25	A246020250
32	A246020320
40	A246020400

>>>

>>>

DIM	CODE
50	A246020500
63	A246020630
75	A246020750
90	A246020900

A24603

Griff für Geradsitzventil



DIM	CODE
20-25 - 3/4"	A246032025
32 - 1"	A246030032

A24604

Schwarzer oberen Ring für Geradsitzventil



DIM	CODE
20-25 - 3/4"	A246042025
32 - 1"	A246040032

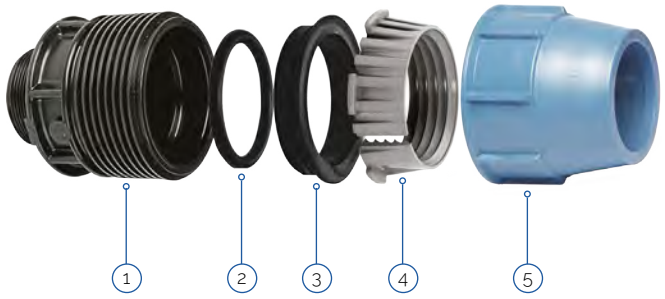
8.3 Sonderkomponenten

DeltOne Mining ist ein innovatives Fitting, das von Unidelta speziell zur **Verbindung von Polyäthylenrohren bei Bergbauanwendungen entwickelt wurde,** wo die Beständigkeit gegen besondere chemische Verbindungen von grundlegender Bedeutung ist. Zum Beispiel werden bei einem Verfahren wie Laugung, das oft zur Kupfergewinnung angewandt wird, mehr oder weniger konzentrierte Schwefelsäurelösungen verwendet.
Diese sind sehr aggressiv und greifen NBR-Dichtungen und Klemmringe aus Acetalharz, die für herkömmliche Klemmverschraubungen verwendet werden, an.
Deshalb hat Unidelta für diese Art von Anwendungen Komponenten entwickelt, die aus Materialien mit höherer chemischer Beständigkeit im Vergleich zu den normalerweise verwendeten bestehen.
DeltOne Mining zeichnet sich durch dasselbe innovative Design, die leichte Montage und den sicheren Halt wie die klassische DeltOne Klemmverschraubung aus, besitzt jedoch eine **OR-Dichtung aus Fluorelastomer (VITON)** und der **Klemmring ist aus CPVC.** Zudem sind Körper, Muffe und Überwurfmutter ebenfalls aus Polypropylen.

Materialen

Alle aufgelisteten Materialien gestatten aufgrund ihrer erheblichen chemischen Beständigkeit, dass DeltOne Mining mit extrem aggressiven chemischen Verbindungen, insbesondere Säuren, die sowohl von innen (weil sie in der beförderten Flüssigkeit vorhanden sind), als auch von außen einwirken, in Berührung stehen kann. DeltOne Mining ist deshalb nicht nur für den Bergbausektor ideal, sondern für alle Anwendungen, die eine hohe chemische Beständigkeit erfordern. Für spezifische chemische Beständigkeit kann Unidelta direkt kontaktiert werden.

1. **Körper:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
2. **Dichtung:** VITON O-ring.
3. **Druckring:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.
4. **Klemmring**: CPVC.
5. **Überwurfmutter:** Polypropylen (PP-B) mit hohem Stabilitätsgrad und UV-Schutz.



A219 - CPVC

CPVC Klemmring



DIM	CODE
32	A219032002
63	A219063002
75	A219075002
90	A219090002
110	A219110002

A220 - VITON

VITON O-ring Dichtung



DIM	CODE
63	A220063003
75	A220075003
90	A220090003
110	A220110003

9. Zubehör

1101

Anschräggerät



DIM	CODE
16 ÷ 160	1101016160001

1037

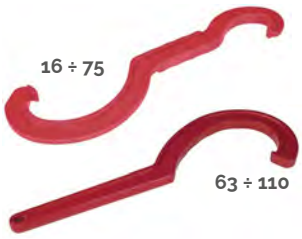
Fitting Schlüssel aus Polypropylen



DIM	CODE
16 ÷ 63	1037016001001

1038

Fitting Schlüssel aus Polyacetal



DIM	CODE
16 ÷ 75	1038016002001
63 ÷ 110	1038063002001

5033

Schere



DIM	CODE
10 ÷ 32	5033010032001
16 ÷ 63	5033016063001

10. Chemische Beständigkeit

"APPENDIX A Chemical resistance" S. 521

Die in der folgenden Tabelle angegebene chemische Beständigkeit der für die Komponenten der Anschlüsse, die mit dem Medium in Berührung kommen, verwendeten Materialien bezieht sich auf eine Temperatur von 20°C und auf Anschlussstücke, die keinen mechanischen Belastungen ausgesetzt sind.

Die chemische Beständigkeit wird mittels folgender Symbole angegeben. Wo dies nicht angegeben ist, wurden keine Tests durchgeführt.

S = Zufriedenstellende Beständigkeit: Sie können ohne Einschränkungen eingesetzt werden.
L = Begrenzte Beständigkeit: Der Stoff kann das Material angreifen. Betriebsdruck und Betriebstemperatur müssen reduziert werden. Die Betriebsdauer des Anschlussstücks kann verkürzt werden.
NS = Nicht zufriedenstellende Beständigkeit: Der Stoff greift das Material an. Das Anschlussstück kann nicht eingesetzt werden.

Die Konzentration wird als Masseprozentsatz des Stoffs in einer wässrigen Lösung angegeben. In einigen Fällen wird sie mit folgenden Symbolen angegeben:

Dil.sol. = Verdünnte wässrige Lösung mit einer Konzentration von höchstens 10%.
Sol. = Wässrige Lösung in einer Konzentration über 10 % aber nicht gesättigt.
Sat.sol. = Gesättigte wässrige Lösung.
tg = Reine Substanz.
tg-l = Reine Substanz im Flüssigzustand.
tg-g = Reine Substanz in gasförmigem Zustand.
tg-s = Reine Substanz in festem Zustand.
Work.sol. = Lösung in einer Konzentration, wie sie gewöhnlich in der Industrie verwendet wird.
Susp. = Schwebestoffe in einer gesättigten Lösung.


UNIDELTA
Since 1973



Компрессионные фитинги

Русский

Определения и символы **375**

1. Фитингов Unidelta с механическим фиксацией **375**

2. Компрессионные фитинги и зажимные хомуты **377**
2.1 Области применения 377
2.2 Ссылки на нормативы 377
2.3 Certificazioni di qualità 377
2.4 Рабочая температура 378
2.5 Тяговое сопротивление 378
2.6 Гидравлическая непроницаемость 379
2.7 Материалы 380
2.8 Инструкции по монтажу 383

3. Технические данные **390**
3.1 Компрессионные фитинги 390
3.2 Переходная муфта универсальная 409
3.3 Переходные фитинги компрессионные 410
3.4 Муфта разборная 413
3.5 Хомутовый отвод на напорные трубы 414
3.6 Зажимные хомуты 415

4. Шаровые краны **423**
4.1 Конструкция и материалы 423
4.2 Преимущества 424
4.3 Маркировка 425
4.4 Доступ к шару 426
4.5 Технические данные 427

5. Обратные клапаны **432**
5.1 Конструкция и материалы 433
5.2 Преимущества 433
5.3 Маркировка 434
5.4 Технические данные 435

6.	**Вентили запорные**	**436**
6.1	Конструкция и материалы	436
6.2	Преимущества	437
6.3	Маркировка	437
6.4	Технические данные	438
7.	**Инструкции по монтажу клапанов**	**439**
8.	**Компоненты**	**441**
8.1	Компоненты для компрессионных фитингов	441
8.2	Компоненты для клапанов	442
8.3	Специальные компоненты	443
9.	**Дополнительные устройства**	**444**
10.	**Химическая стойкость**	**445**

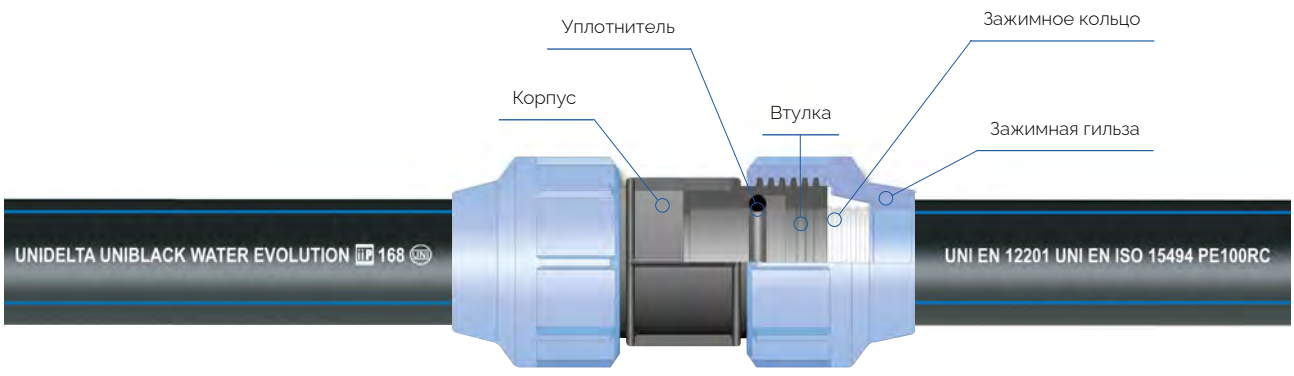
Определения и символы

PP-B	Сополимерный полипропилен	DN	Номинальный диаметр [mm]
POM	Ацетальная смола	NF, V	Количество отверстий
NBR	Нитриловая резина	d, d_1	Диаметры соединения [mm]
PEBD	Полиэтилен низкой плотности	g	Номинальная резьба [in.]
PEAD	Полиэтилен высокой плотности		Подходит для холодной воды
PTFE	Политетрафторэтилен		Специальные компоненты
PN	Номинальное давление [bar]		Компрессионные фитинги
Pmax	Максимальное давление [bar]		Технический каталог
PFA	Допустимое производимое давление (EN805): Максимальное гидростатическое давление, которое как отдельно взятый компонент, может выдержать в течении постоянной работы [bar]		

1. Фитингов Unidelta с механическим фиксацией

Этот тип фитингов может быть выполнен из металла или пластмассы, как и компрессионные фитинги из полипропилена Unidelta: это разъёмные соединения, которые легко устанавливаются. Система соединения основана на захватывании полиэтиленовой трубы зубчатыми кольцами, которые охватывают и обжимают трубу. Гамма полипропиленовых фитингов Unidelta включает в себя диаметры от 16 мм до 110 мм с номинальным давлением эксплуатации 16 бар.

Муфта с механическим завинчиванием из полипропилена компании Unidelta



UNIDELTA

Since 1973



DELTONE System

Polypropylene (PP-B) high-stability

Compression fittings • Valves • Clamp saddles

unidelta.com

2. Компрессионные фитинги и зажимные хомуты

2.1 Области применения

Компрессионные переходники и зажимные хомуты Unidelta это специальные изделия для соединения труб из полиэтилена с внешним диаметром от 16 мм и до 110 мм (200 мм для зажимных хомутов). Они совместимы со всеми трубами из полиэтилена низкой плотности, высокой плотности, ПЭ40, ПЭ80, ПЭ100, ПЭ100RC и реализованны согласно нормативным требованиям **EN 12201, ISO 4427, DIN 8074, UNI 7990.** Обычно используются для транспортировки питьевой воды и жидкости под давлением до 16 бар для различных целей. Благодаря материалам из которых они изготовлены, переходники обладают высокой сопротивляемостью к различным **химическим веществам** (смотри главу "APPENDIX A Chemical resistance" на странице 521) и устойчивы к **лучам УФ.**
С помощью универсального переходника Unidelta можно соединять установки из метрических полиэтиленовых труб с уже установленными трубами из любых материалов с внешним диаметром от 15 мм и до 35 мм.

2.2 Ссылки на нормативы

Переходники и хомуты Unidelta соответствуют нормативным требованиям для транспортировкИ питьевой воды согласно предписаниям, действующим в Италии и в других странах. Министерский декрет n.174 del 06/04/2004.

Компрессионные переходники и зажимные хомуты
Соответствуют нормативным требованиям ISO 17885, DIN 8076, ISO 13460.

Резьба
Соответствует нормативным требованиям ISO7/1, DIN 2999, BS 21, EN 10226-1.

Фланец
Отверстия и расстояние между отверстиями соответствуют нормативным требования ми UNI 2223, UNI 2278, DIN 8063, UNI EN 1092-1.

2.3 Certificazioni di qualità

Компания Unidelta работает полностью соблюдая требования стандарта систем менеджмента качества **UNI EN ISO 9001:2015**, согласно которым она сертифицирована с 1995 года. В 2016 году компания получила сертификаты **ISO 14001** (Системы экологического менеджмента) и **BS OHSAS 18001** (Обеспечение охраны труда и промышленной безопасности), обновленные в 2020 году с **ISO 45001: 2018** (Системы менеджмента безопасности и охраны труда).
Переходники Unidelta были протестированы и одобрены основными институтами сертификации.



NB. La gamma dei prodotti certificati IIP è visionabile sul sito www.unidelta.com e/o www.iip.it
NB. The range of products approved by Kiwa can be seen on the web site www.kiwa.com/nl
NB. Watermark L.N. 26588: Please see the certifi cate for the list of the products which are covered by the approval. register.saiglobal.com

2.4 Рабочая температура

Переходники и зажимные хомуты, **не подходят для использования с горячей водой,** так как ограничены областями применения труб из полиэтилена. Максимальные рабочие температуры, являются максимальными рабочими температурами полиэтиленовых труб, и поэтому необходимо обратиться к нормативным требованиям собственной Страны. **Переходникии и зажимные хомуты выдерживают температуры ниже 0°C.** В нижеприведённой таблице указано максимально допустимое рабочее давление при постоянной работе (PFA) в зависимости от температуры, в том случае, если переносимая жидкость соответствует нормам EN 805, EN 12201 e ISO 13761. Для значений взятых между указанными, можно произвести линейную интерполяцию.

Рабочая T [°C]	≤20°	25°	30°	35°	40°	45°
PFA [bar]	16	14,9	13,9	12,8	11,8	10,8
PFA [bar]	10	9,3	8,7	8	7,4	6,7

2.5 Тяговое сопротивление

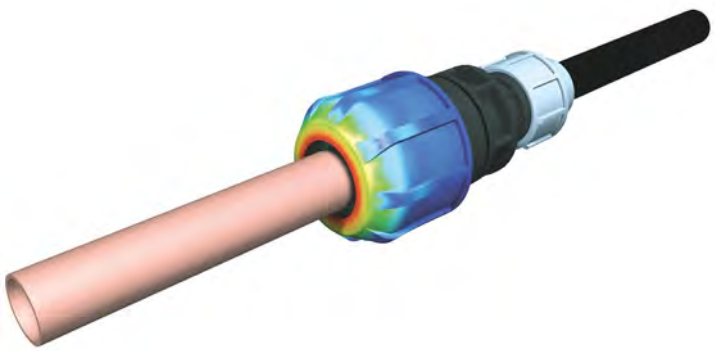
Unidelta подвергает свои переходники испытаниям на тягу с грузами указанными в таблице "Грузами испытаниям на тягу" (продолжительность испытания: 1 час при 20°C), следуя указаниям самых строгих нормативных требований.

Грузами испытаниям на тягу

PE100 - PN 16		
Ø [mm]	**F [N]**	**F [kgf]**
16	883	85
20	1225	125
25	1774	181
32	2950	301
40	4557	465
50	7076	722
63	11250	1148
75	15719	1604
90	22736	2320
110	33898	3459



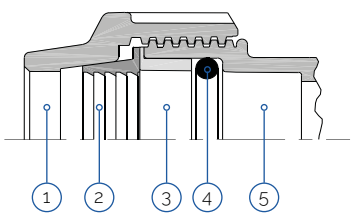
Анализы FEM - Распределение нагрузки в обойме универсального переходника, подверженного переменной нагрузке тяги и давления

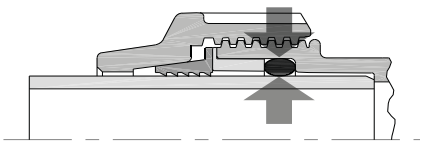


2.6 Гидравлическая непроницаемость

Гидравлическая непроницаемость механического переходника зависит от типа используемой уплотнительной прокладки и от давления, которое установленный переходник, может производить на соприкасаемые поверхности между той же прокладкой, трубой и корпусом переходника.

Гидравлическая непроницаемость переходника Unidelta с диаметрром от 16 и до 40 мм





1. Зажимная гильза
2. Зажимное кольцо
3. Втулка
4. Прокладка
5. Корпус

4 Уплотнительное кольцо Unidelta

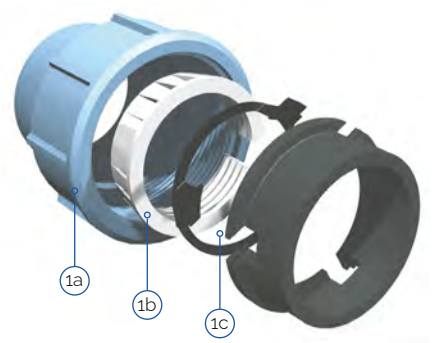


Unidelta при разработке и развитии своих переходников, смогла проверитьразличные решенияи в самых тяжёлых условиях, которым могут быть подвергнуты переходники, в течении рабочего периода как и состояние подключаемой трубы овализация,размер меньше номинального и осуществляемая нагрузка. Так как переходник, используемый в установке, может быть подвержен постоянным циклам переменного давления, перенагрузке, вызванные такими помехами как гидравлический удар, внешнее давление, превышающее внутреннее давление установки, тяговая нагрузка, изгиб и многие другие. Обычно предусматривается, что эксплутационный срок установки длится много лет, и поэтому переходники должны гарантировать постоянные эксплуатационные качества на долгий период. По итогам произведённых тестов выяснилось, что прокладка, которая гарантирует лучшие эксплуатацилнные качества, во всех возможных случаях, это тороидальная прокладка O-ring (не случайно O-ring это прокладка, которая обычно используется в механической области).

Для гарантии высокой степени безопасности во времени очень важно, что компрессия уплотнительной прокладки не соответствует силе скрепления обоймы, в обратном случае может вызвать риск утечки, вызванныЙ некорректным скреплением или обоймой подверженной циклам давления. Переходники Unidelta используют уплотнительную прокладку типа O-ring точно установленную в цилиндрическом гнезде и не нуждаются в компрессионых кольцах.

Для переходников диаметром 50, 63, 75, 90 и 110 мм была разработана система DeltOne в котором зажимная гайка, зажимное кольцо и втулка, объединены, для образования единого компонента (см. рисунок 1.4). Как и в классической модели используется уплотнительная прокладка - O-ring. Таким образом, установка переходника является особенно простой и быстрой, не причиняя при этом ущерб характеристикам безопасности прокладки.

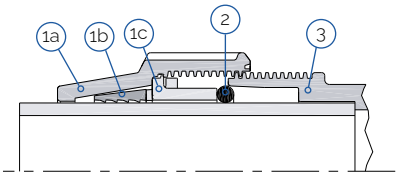
Система DeltOne для переходников диаметром Ø 50, 63, 75, 90 и 110 мм



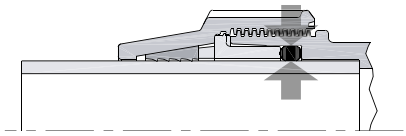
Зажимная гильза (1a), обжимное кольцо (1b) и втулка (1c) объединены в единый элемент для облегчения установки переходника на трубу.



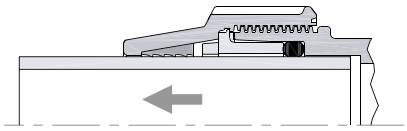
Гидровлическая непроницаемость переходника типа DeltOne Ø 50, 63, 75, 90, 110 мм



Зажимная гильза (1a), зажимное кольцо (1b) и втулка (1c) объединены в единый элемент.



Прикручивая гайку (1a) на корпусе (3), уплотнительная прокладка (2) входит в своё местоположение должным образом (втулка не должна надавливать на прокладку для сохранения функциональности O-ring).

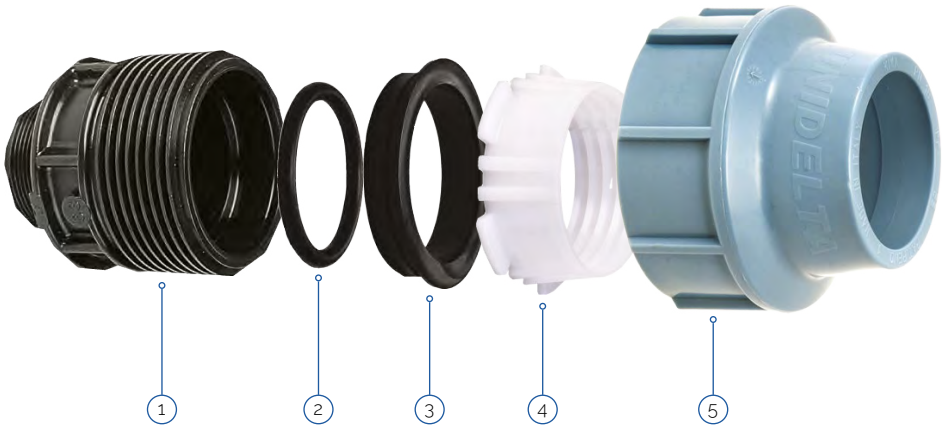


В случае силовой тяги, зажимное кольцо вклинивается в конусность обоймы, обеспечивая непроницаемость.

2.7 Материалы

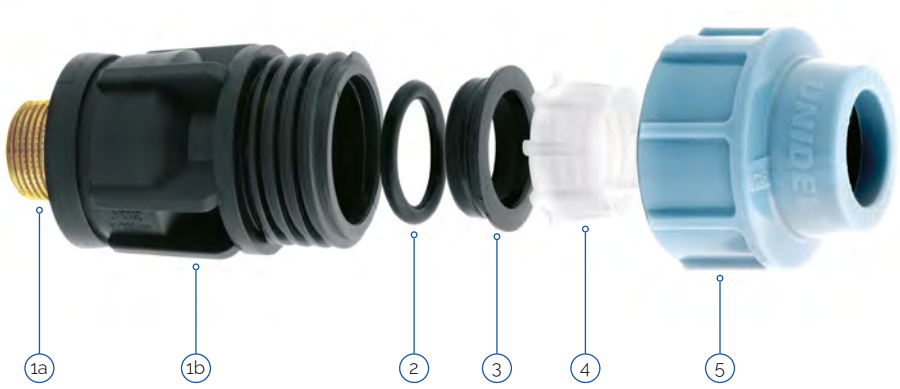
Компрессионные фитинги

(1) **Корпус:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
(2) **Уплотнительная прокладка:** O-ring.
(3) **Втулка:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
(4) **Зажимное кольцо:** ацетальная смола (POM).
(5) **Зажимная гильза:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.



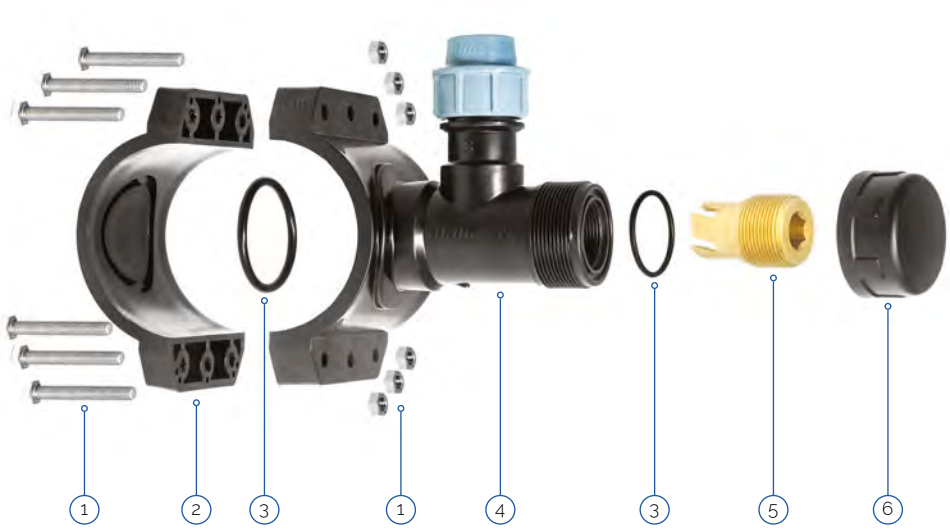
Переходные фитинги компрессионные

1a **Резьба:** латунная резьбовая вставка, отлитая в корпус.
1b **Корпус:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
2 **Уплотнительная прокладка:** O-ring.
3 **Втулка:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
4 **Зажимное кольцо:** ацетальная смола (POM).
5 **Зажимная гильза:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.



Хомутовый отвод на напорные трубы

1 **Болты:** нержавеющая Сталь A4.
2 **Нижняя часть скобы:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
3 **Уплотнители:** O-ring.
4 **Отвод :** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
5 **Перфоратор:** латунь.
6 **Заглушка:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.



Зажимные хомуты PN 10

1. **Болты:** гальванизированная сталь.
2. **Днище хомута:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
3. **Уплотнительная прокладка:** O-ring.
4. **Отвод хомута:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
5. **Укрепляющее кольцо:** нержавеющая сталь.



Зажимные хомуты PN 16

1. **Болты:** гальванизированная сталь.
2. **Днище хомута:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
3. **Уплотнительная прокладка:** O-ring.
4. **Отвод хомута:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
5. **Укрепляющее кольцо:** нержавеющая сталь.



2.8 Инструкции по монтажу

Video Tutorial
Unidelta SPA Official

Компрессионные фитинги Ø 16 mm ÷ 40 mm



Отрезать трубу ортагонально от оси, используя специальный труборез, циркулярную или ленточную пилу. В последнем случае, для получения прямого сечения рекомендуется успользовать направляющее устройство.



Удалить заусенцы, образовавшиеся после резки и притупить кромку трубы для облегчения установки, чтобы не нанесити ущерб уплотнительной прокладке переходника. Внешняя поверхность трубы не должна иметь неровностей или надрезов по всей вводимой длине в корпус переходника.



Открутить голубую гайку и ввести в трубу сначало её и после, зажимное кольцо. Удостовериться, что конусность последнего, направлено в должном направлении, то есть, широкой стороной направленой в сторону переходника.



Протолкнуть трубу в переходник, действуя в осевом направлении, преодолевая прокладку до внутренней кромки корпуса переходника. Полезно смазать концевую часть трубы и уплотнитель силиконовым смазочным средством, которое не влияет на питьевые свойства воды. Не использовать масло или смазку на минеральной основе.



Прикрутить гайку сначало вручную и после, используя специльный зажимной ключ. Зажимная гайка должна быть закрыта с силой, так как необходимо, чтобы она соприкасалась с конечной кромкой переходника.

Компрессионные фитинги Deltone Ø 50 mm ÷ 110 mm



Отрезать трубу ортагонально от оси, используя специальный труборез, циркулярную или ленточную пилу. В последнем случае, для получения прямого сечения рекомендуется успользовать направляющее устройство.



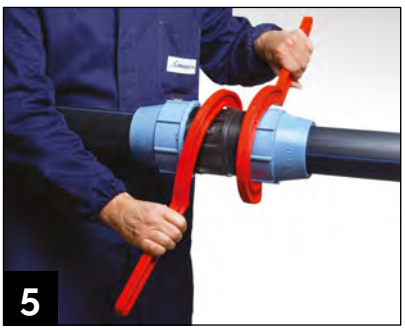
Открутить голубую гайку, не смещяя при этом внутренние блокирующие кольца (интегрированный компонент).



Надеть на трубу сначала интегрированный компонент и далие, уплотнительную прокладку. Будет полезно произвести смазку конечного участка трубы силиконовой смазкой или любой другой смазкой, которая не влияет на качество питьевой воды. Не использовать масло или смазку на минеральной основе.



Протолкнуть трубу в корпус переходника до внутренней кромки.



Прикрутить гайку сначало вручную и после, используя специльный зажимной ключ. Зажимная гайка должна быть закрыта с силой, так как необходимо, чтобы она соприкасалась с конечной кромкой переходника.

Переходная муфта универсальная CODE 1033



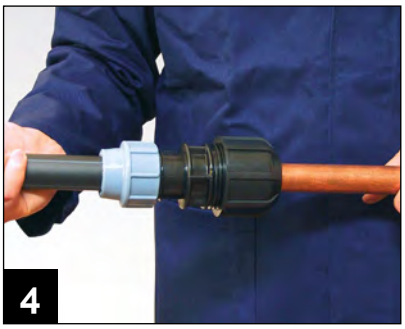
Перпендикулярно разрезать трубу вдоль оси и удалить, грат, образовавшейся при резке. Наружная поверхность трубы не должна иметь дефектов или надрезов по всей длине ввода в корпус фитинга.



В условиях, когда зажимная гильза особенно отвинчена, протолкнуть фитинг с универсальной стороны на трубе, действуя в осевом направлении до внутреннего упора на корпусе фитинга.



Прикрутить гайку, используя зажимной ключ. Зажимная гайка должна быть закрыта с силой, так как необходимо, чтобы она соприкасалась с конечной кромкой переходника.



Собрать трубу из полиэтилена метрической серии (диаметр в мм) следуя инструкциям стандартного переходника ("Компрессионные фитинги Ø 16 mm ÷ 40 mm" на странице 383).

Хомутовый отвод на напорные трубы CODE 1025



Определить место установки и проверить, что внешняя поверхность трубы не запачкана землёй, а также убедиться в отсутствии разрезов или неровностей в зоне соприкосновения с уплотнительной прокладкой. Поместить уплотнительную прокладку в верхнюю часть хомута.



Установить нижнюю часть хомута в выбранном месте. Соединить верхнюю часть хомута с его нижней частью, вставляя винты снизу вверх (в нижней части хомута находятся выемки под головку винтов).



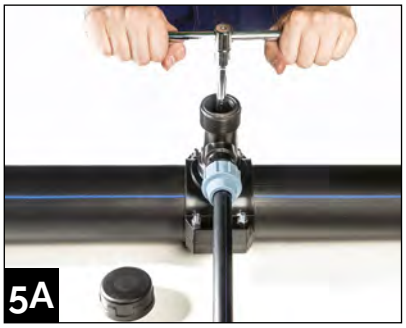
Завинтить и затянуть гайки, делая это крест-накрест, по диагонали.

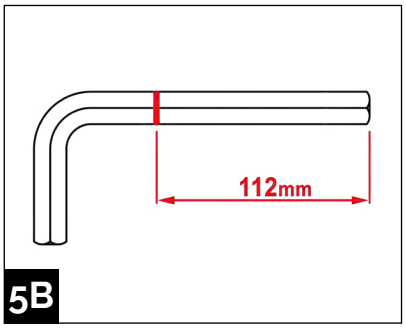


Вставить трубу распределительной системы, как указано в инструкции, в компрессионные фитинги ("Компрессионные фитинги Ø 16 mm ÷ 40 mm" на странице 383).

>>>

>>>





Отвинтить верхнюю герметичную заглушку и вставить ключ в специальное шестигранное гнездо перфоратора до упора. Завинтить перфоратор при помощи достаточно длинного рычага до тех пор, пока лезвие полностью не разрежет стенку трубы (напоминаем, что на ключе необходимо сделать отметку, соответствующую 112 мм, как показано на рисунке). Перфорация выделяется незначительным выходом воды и/или уменьшением сопротивления завинчиванию. **В любом случае, никогда нельзя превышать указанную на ключе отметку 112 мм.**



Запустить реверсный (обратный) ход перфоратора и отвести его до верхнего края резьбы, но не более (вырезанная секция трубы останется подсоединённой к перфоратору).



Закрыть герметичную заглушку и затянуть до конца ключом.

Зажимные хомуты



Обозначить точку установки и убедиться, что внешняя поверхность трубы не загрезнена землёй, не имеет неровностей или надрезов на участке контакта с прокладкой. Установить прокладку в соответствующее положение хомута.



Установить нижнюю часть хомута в выбранной точке. Соеденить нижнюю часть хомута с верхней.



Ввести винт снизу (слепая часть хомута имеет выемку для головки винтов). Прикрутить и закрепить гайки диагонально (крестообразно).



Просверлить трубу, не повреждая при этом резьбу хомута и уплотнительную прокладку, используя распорку, во избежание повреждения трубы, с другой стороны. Лучше использовать чашевидные сверла, так как ограничивают риск повреждения резьбы и уплотнительной прокладки и уменьшают скапливание материала внутри канала.

>>>

>>>

Альтернативный метод:



С помощью несмываемого белого фломастера обозначить контрольные точки на трубе, которые позволяют переустановку хомута. Открутить снова хомут с трубопровода.



Просверлить трубу и удалить материал, накопившийся внутри канала.



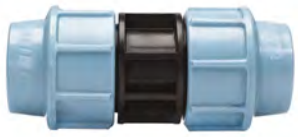
Переустановить зажимной хомут в соответствии с контрольными точками, начерченными перед этим с помощью шипа (например наконечник сверла, используемого для пробивания отверстий) для сохранения отвода в оси вместе с отверстием.

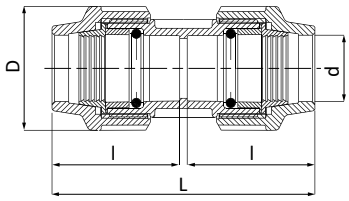
3. Технические данные

3.1 Компрессионные фитинги

1001

Муфта

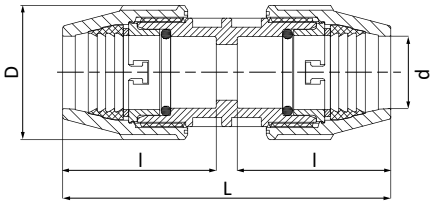




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	PN [bar]
16x16	1001016000001	103x42x42	42	103	49	16
20x20	1001020000001	108x46x46	46	108	52	16
25x25	1001025000001	122x55x55	55	122	59	16
27x27	1001027000001	126x55x55	55	126	61	16
32x32	1001032000001	139x63x63	63	139	68	16
40x40	1001040000001	168x80x80	80	168	82	16

>>>





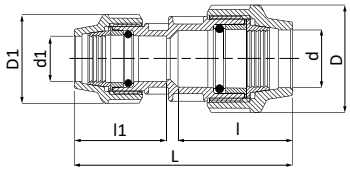
>>>

50x50	1001051000001	232x96x96	96	232	110	16
63x63	1001064000001	248x115x115	115	248	121	16
75x75	1001076000001	278x129x129	129	278	136	16
90x90	1001091000001	315x155x155	155	315	154	16
110x110	1001111000001	422x183x183	183	422	205	16

1002

Муфта редукционная

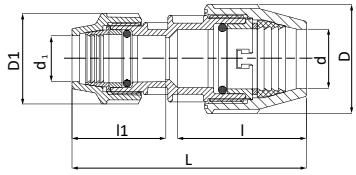




DIM dxd_1 [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	l1 [mm]	PN [bar]
20x16	1002020016001	110x46x46	46	42	110	56	50	16
25x20	1002025020001	128x55x55	55	46	128	67	56	16
32x20	1002032020001	139x63x63	63	46	139	70	60	16
32x25	1002032025001	143x63x63	63	55	143	70	66	16
40x25	1002040025001	158x80x80	80	55	158	85	66	16
40x32	1002040032001	163x80x80	80	63	163	88	71	16

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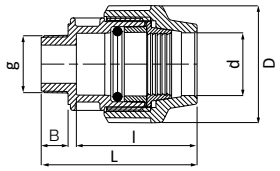
>>>

50x25	1002051025001	180x96x96	96	55	180	113	65	16
50x32	1002051032001	186x96x96	96	63	186	113	69	16
50x40	1002051040001	212x96x96	96	80	212	115	86	16
63x25	1002064025001	192x115x115	115	55	192	119	64	16
63x32	1002064032001	194x115x115	115	63	194	119	71	16
63x40	1002064040001	204x115x115	115	80	204	121	81	16
63x50	1002064051001	260x115x115	115	96	260	130	118	16
75x50	1002076051001	262x129x129	129	96	262	134	114	16
75x63	1002076064001	285x129x129	129	115	285	146	130	16
90x63	1002091064001	298x155x155	155	115	298	157	134	16
90x75	1002091076001	318x155x155	155	129	318	162	146	16
110x75	1002111076001	351x183x183	183	129	351	210	130	16
110x90	1002111091001	370x183x183	183	155	370	201	158	16

1003

Муфта с наружной резьбой

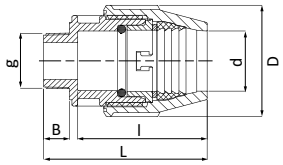




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x3/8”	1003016001001	69x42x42	42	69	50	13	16
16x1/2”	1003016002001	69x42x42	42	69	50	16	16
16x3/4”	1003016003001	69x42x42	42	69	50	17	16
20x1/2”	1003020002001	81x46x46	46	81	61	16	16
20x3/4”	1003020003001	82x46x46	46	82	61	17	16
20x1”	1003020004001	85x46x46	46	85	61	20	16
25x1/2”	1003025002001	89x55x55	55	89	69	16	16
25x3/4”	1003025003001	90x55x55	55	90	69	17	16
25x1”	1003025004001	93x55x55	55	93	69	20	16
32x1/2”	1003032002001	98x63x63	63	98	76	16	16
32x3/4”	1003032003001	98x63x63	63	98	76	17	16
32x1”	1003032004001	101x63x63	63	101	76	20	16
32x1”1/4	1003032005001	104x63x63	63	104	76	23	16
32x1”1/2	1003032006001	104x63x63	63	104	76	23	16
40x1”	1003040004001	108x80x80	80	108	82	21	16
40x1”1/4	1003040005001	117x80x80	80	117	82	29	16
40x1”1/2	1003040006001	117x80x80	80	117	82	28	16
40x2”	1003040007001	120x80x80	80	120	82	34	16

>>>





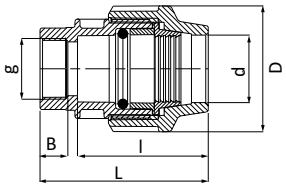
>>>

50x1”	1003051004001	143x96x96	96	143	111	26	16
50x1”1/4	1003051005001	146x96x96	96	146	111	28	16
50x1”1/2	1003051006001	146x96x96	96	146	111	28	16
50x2”	1003051007001	151x96x96	96	151	112	32	16
63x1”1/4	1003064005001	157x115x115	115	157	120	28	16
63x1”1/2	1003064006001	157x115x115	115	157	120	28	16
63x2”	1003064007001	161x115x115	115	161	120	32	16
63x2”1/2	1003064008001	158x115x115	115	158	120	29	16
75x2”	1003076007001	171x129x129	129	171	135	27	16
75x2”1/2	1003076008001	178x129x129	129	178	135	34	16
75x3”	1003076009001	178x129x129	129	178	135	34	16
90x2”	1003091007001	200x155x155	155	200	158	34	16
90x2”1/2	1003091008001	200x155x155	155	200	158	34	16
90x3”	1003091009001	200x155x155	155	200	158	34	16
90x4”	1003091010001	200x155x155	155	200	158	36	16
110x2”	1003111007001	247x183x183	183	247	198	34	16
110x3”	1003111009001	250x183x183	183	250	198	37	16
110x4”	1003111010001	250x183x183	183	250	200	37	16

1004

Муфта с внутренней резьбой

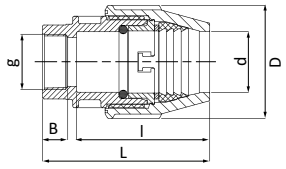




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x1/2”	1004016002001	69x42x42	42	69	50	17	16
16x3/4”	1004016003001	73x42x42	42	73	50	19	16
20x1/2”	1004020002001	77x46x46	46	77	58	18	16
20x3/4”	1004020003001	79x46x46	46	79	58	20	16
20x1”	1004020004001	81x47x47	47	81	58	22	16
25x1/2”	1004025002001	84x55x55	55	84	65	18	16
25x3/4”	1004025003001	86x55x55	55	86	65	20	16
25x1”	1004025004001	88x55x55	55	88	65	22	16
32x1/2”	1004032002001	92x63x63	63	92	71	18	16
32x3/4”	1004032003001	94x63x63	63	94	71	20	16
32x1”	1004032004001	96x63x63	63	96	71	22	16
***32x1”1/4**	1004032005001	97x63x63	63	97	71	23	16
40x1”	1004040004001	110x80x80	80	110	81	20	16
***40x1”1/4**	1004040005001	112x80x80	80	112	81	22	16
***40x1”1/2**	1004040006001	113x80x80	80	113	81	23	16

>>>





>>>

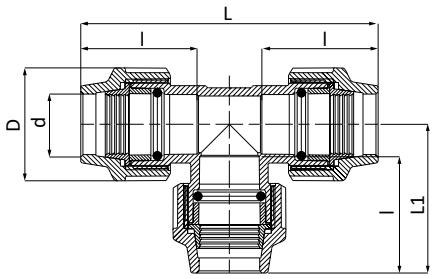
***50x1”**	1004051004001	140x96x96	96	140	117	20	16
***50x1”1/4**	1004051005001	144x96x96	96	144	112	22	16
***50x1”1/2**	1004051006001	144x96x96	96	144	112	23	16
***50x2”**	1004051007001	149x96x96	96	149	111	27	16
***63x1”1/4**	1004064005001	159x115x115	115	159	121	23	16
***63x1”1/2**	1004064006001	160x115x115	115	160	121	28	16
***63x2”**	1004064007001	165x115x115	115	165	121	22	16
***63x2”1/2**	1004064008001	168x115x115	115	168	121	23	16
***75x2”**	1004076007001	182x129x129	129	182	137	28	16
***75x2”1/2**	1004076008001	187x129x129	129	187	137	33	16
***75x3”**	1004076009001	187x129x129	129	187	137	33	16
***90x2”**	1004091007001	190x155x155	155	190	152	26	16
***90x2”1/2**	1004091008001	195x155x155	155	195	152	33	16
***90x3”**	1004091009001	195x155x155	155	195	152	33	16
***90x4”**	1004091010001	204x155x155	155	204	152	42	16
***110x3”**	1004111009001	263x183x183	183	263	204	40	16
***110x4”**	1004111010001	263x183x183	183	263	204	43	16

* Конец резьбы усилен кольцом из нержавеющей стали

1005

Тройник 90°

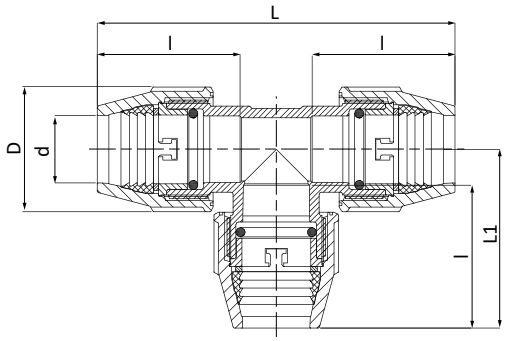




DIM dxdxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	L1 [mm]	PN [bar]
16x16x16	1005016000001	124x81x42	42	124	52	60	16
20x20x20	1005020000001	139x92x46	46	139	59	69	16
25x25x25	1005025000001	162x107x55	55	162	66	79	16
32x32x32	1005032000001	183x122x63	63	183	74	90	16
40x40x40	1005040000001	218x148x80	80	218	88	108	16

>>>





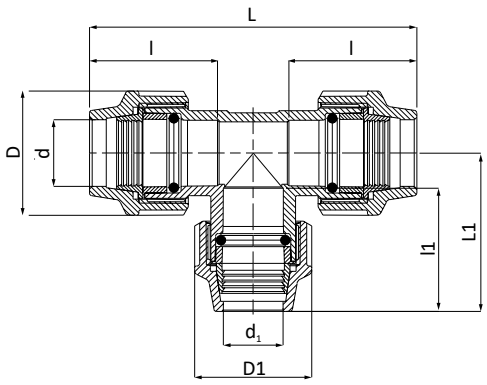
>>>

50x50x50	1005051000001	282x187x96	96	282	115	139	16
63x63x63	1005064000001	314x214x115	115	314	124	156	16
75x75x75	1005076000001	364x245x129	129	364	142	180	16
90x90x90	1005091000001	407x277x155	155	407	154	199	16
110x110x110	1005111000001	539x356x183	183	539	209	264	16

1013

Тройник 90° редукционный

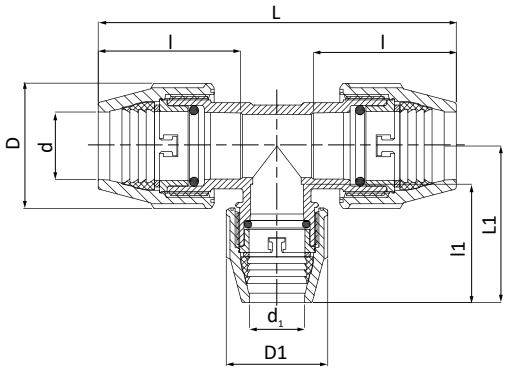




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x16x20	1013020016001	140x88x46	46	42	140	55	65	45	16
25x20x25	1013025020001	160x101x55	55	46	160	63	73	56	16
32x20x32	1013032020001	183x106x63	63	46	183	68	74	56	16
32x25x32	1013032025001	183x116x63	63	55	183	68	84	64	16
40x25x40	1013040025001	222x132x80	80	55	222	83	92	68	16
40x32x40	1013040032001	222x141x80	80	63	222	83	101	79	16

>>>





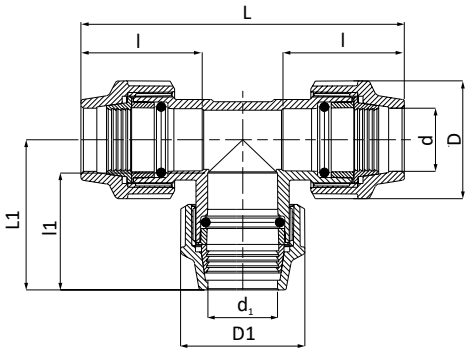
>>>

50x25x50	1013051025001	287x149x96	96	55	287	104	101	63	16
50x32x50	1013051032001	287x156x96	96	63	287	104	108	68	16
50x40x50	1013051040001	287x174x96	96	80	287	104	126	94	16
63x25x63	1013064025001	336x174x115	115	55	336	133	116	62	16
63x32x63	1013064032001	336x171x115	115	63	336	133	113	67	16
63x40x63	1013064040001	336x194x115	115	80	336	133	136	94	16
63x50x63	1013064051001	336x215x115	115	96	336	133	157	111	16
75x50x75	1013076051001	365x245x129	129	96	365	136	180	120	16
75x63x75	1013076064001	365x235x129	129	115	365	136	170	123	16
90x63x90	1013091064001	415x270x155	155	115	415	154	192	133	16
90x75x90	1013091076001	407x273x155	155	129	407	154	195	136	16
110x75x110	1013111076001	535x312x183	183	129	535	203	220	149	16
110x90x110	1013111091001	535x323x183	183	155	535	203	231	156	16

1029

Тройник 90° с выходом на больший диаметр

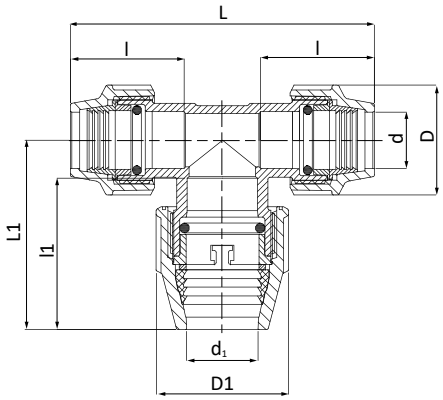




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x25x20	1029020025001	139x102x55	46	55	139	56	79	65	16
25x32x25	1029025032001	160x114x63	55	63	160	63	86	69	16
32x40x32	1029032040001	183x131x80	63	80	183	68	99	81	16

>>>





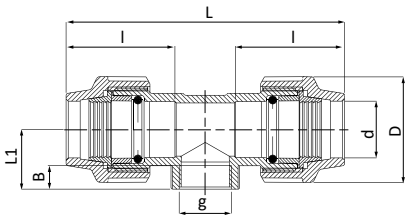
>>>

40x50x40	1029040051001	218x175x96	80	96	218	81	135	97	16

1007

Тройник 90° с внутренней резьбой

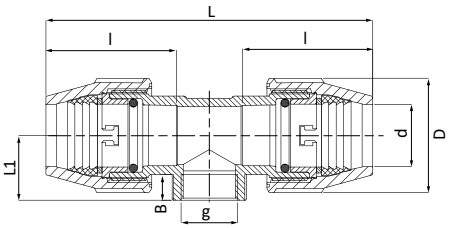




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1007016002001	123x52x42	42	123	49	17	31	16
16x3/4”x16	1007016003001	123x52x42	42	123	49	17	31	16
20x1/2”x20	1007020002001	139x70x46	46	139	55	19	47	16
20x3/4”x20	1007020003001	139x70x46	46	139	55	19	47	16
25x1/2”x25	1007025002001	160x78x55	55	160	63	16	50	16
25x3/4”x25	1007025003001	160x78x55	55	160	63	16	50	16
25x1”x25	1007025004001	160x83x55	55	160	63	21	55	16
32x1/2”x32	1007032002001	183x85x63	63	183	68	17	53	16
32x3/4”x32	1007032003001	183x85x63	63	183	68	17	53	16
32x1”x32	1007032004001	183x89x63	63	183	68	21	57	16
***32x1”1/4x32**	1007032005001	183x92x63	63	183	68	24	60	16
40x1”x40	1007040004001	205x85x80	80	205	81	21	45	16
***40x1”1/4x40**	1007040005001	217x89x80	80	217	81	25	49	16
***40x1”1/2x40**	1007040006001	210x87x80	80	210	81	23	47	16

>>>





>>>

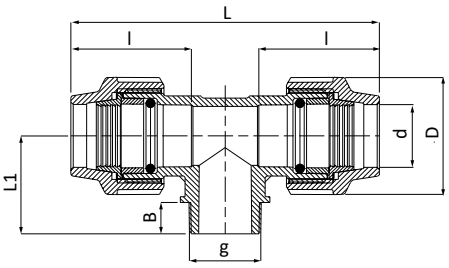
50x1/2”x50	1007051002001	282x109x96	96	282	105	31	61	16
***50x1”1/4x50**	1007051005001	282x105x96	96	282	105	24	57	16
***50x1”1/2x50**	1007051006001	282x104x96	96	282	105	24	56	16
***50x2”x50**	1007051007001	282x104x96	96	282	105	27	56	16
***63x1”1/4x63**	1007064005001	313x120x115	115	313	123	27	62	16
***63x1”1/2x63**	1007064006001	313x120x115	115	313	123	27	62	16
***63x2”x63**	1007064007001	313x123x115	115	313	123	30	65	16
***63x2”1/2x63**	1007064008001	313x123x115	115	313	123	30	65	16
***75x2”x75**	1007076007001	362x149x129	129	362	138	35	84	16
***75x2”1/2x75**	1007076008001	362x149x129	129	362	138	35	84	16
***75x3”x75**	1007076009001	362x150x129	129	362	138	36	85	16
***90x2”1/2x90**	1007091008001	406x169x155	155	406	154	43	91	16
***90x3”x90**	1007091009001	406x173x155	155	406	154	47	95	16
***90x4”x90**	1007091010001	406x173x155	155	406	154	47	95	16
***110x3”x110**	1007111009001	534x196x183	183	534	205	41	104	16
***110x4”x110**	1007111010001	534x196x183	183	534	205	45	104	16

* Конец резьбы усилен кольцом из нержавеющей стали

1010

Тройник 90° с наружной резьбой

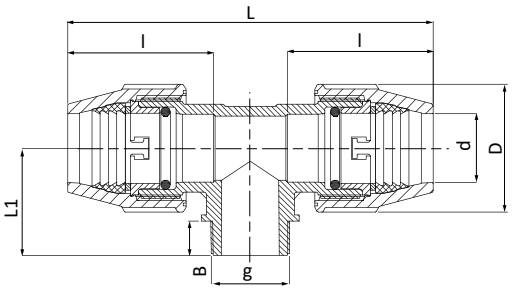




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1010016002001	125x57x42	42	125	50	18	36	16
16x3/4”x16	1010016003001	125x57x42	42	125	50	18	36	16
20x1/2”x20	1010020002001	139x58x46	46	139	56	16	35	16
20x3/4”x20	1010020003001	139x59x46	46	139	56	17	36	16
25x1/2”x25	1010025002001	160x63x55	55	160	63	16	35	16
25x3/4”x25	1010025003001	160x64x55	55	160	63	17	36	16
25x1”x25	1010025004001	160x66x55	55	160	63	19	38	16
32x1/2”x32	1010032002001	183x67x63	63	183	68	16	35	16
32x3/4”x32	1010032003001	183x68x63	63	183	68	17	36	16
32x1”x32	1010032004001	183x71x63	63	183	68	20	39	16
32x1”1/4x32	1010032005001	183x73x63	63	183	68	22	41	16
40x1”x40	1010040004001	218x84x80	80	218	81	20	44	16
40x1”1/4x40	1010040005001	218x84x80	80	218	81	22	44	16
40x1”1/2x40	1010040006001	218x84x80	80	218	81	22	44	16

>>>





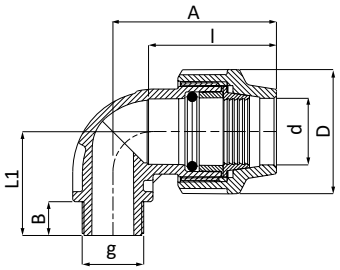
>>>

50x1”1/4x50	1010051005001	287x126x96	96	287	103	24	78	16
50x1”1/2x50	1010051006001	287x130x96	96	287	103	23	82	16
50x2”x50	1010051007001	287x136x96	96	287	103	29	88	16
63x1”1/2x63	1010064006001	335x148x115	115	335	130	25	90	16
63x2”x63	1010064007001	335x150x115	115	335	130	27	92	16
63x2”1/2x63	1010064008001	335x151x115	115	335	130	28	93	16
75x2”1/2x75	1010076008001	365x165x129	129	365	137	32	100	16
75x3”x75	1010076009001	365x168x129	129	365	137	35	103	16
90x3”x90	1010091009001	408x181x155	155	408	155	35	103	16
90x4”x90	1010091010001	408x189x155	155	408	155	41	111	16
110x4”x110	1010111010001	538x220x183	183	538	211	42	128	16

1008

Колено 90° с наружной резьбой

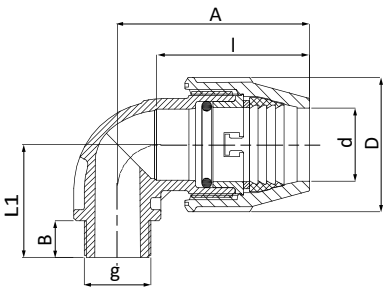




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1008016002001	69x69x42	42	39	18	58	48	16
16x3/4”	1008016003001	71x69x42	42	39	19	58	48	16
20x1/2”	1008020002001	77x62x46	46	45	18	62	39	16
20x3/4”	1008020003001	77x63x46	46	45	19	62	40	16
25x1/2”	1008025002001	92x71x55	55	53	18	74	43	16
25x3/4”	1008025003001	92x72x55	55	53	19	74	44	16
25x1”	1008025004001	92x75x55	55	53	22	74	47	16
32x1/2”	1008032002001	107x82x63	63	57	18	85	50	16
32x3/4”	1008032003001	107x83x63	63	57	19	85	51	16
32x1”	1008032004001	107x85x63	63	57	22	85	53	16
32x1”1/4	1008032005001	107x88x63	63	57	25	85	56	16
40x1”	1008040004001	132x101x80	80	70	22	105	61	16
40x1”1/4	1008040005001	132x104x80	80	70	25	105	64	16
40x1”1/2	1008040006001	132x104x80	80	70	25	105	64	16

>>>





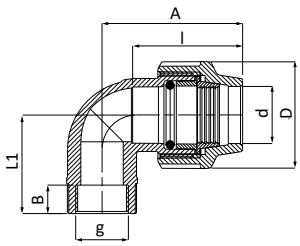
>>>

50x1”1/4	1008051005001	178x135x96	96	106	26	144	87	16
50x1”1/2	1008051006001	178x129x96	96	106	28	144	81	16
50x2”	1008051007001	182x129x96	96	111	28	149	81	16
63x1”1/2	1008064006001	214x143x115	115	130	23	173	85	16
63x2”	1008064007001	214x158x115	115	130	28	173	100	16
63x2”1/2	1008064008001	214x162x115	115	130	32	173	104	16
75x2”	1008076007001	240x165x129	129	142	28	193	100	16
75x2”1/2	1008076008001	240x169x129	129	142	32	193	104	16
75x3”	1008076009001	240x172x129	129	142	35	193	107	16
90x3”	1008091009001	276x192x155	155	158	35	217	114	16
90x4”	1008091010001	276x198x155	155	158	41	217	120	16
110x4”	1008111010001	362x236x183	183	222	42	294	144	16

1009

Колено 90° с внутренней резьбой

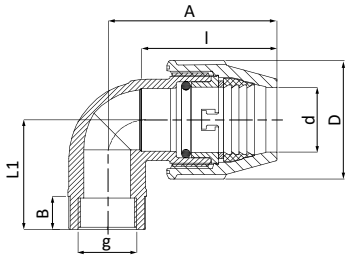




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1009016002001	74x69x42	42	39	18	58	48	16
16x3/4”	1009016003001	76x69x42	42	39	18	58	48	16
20x1/2”	1009020002001	79x62x46	46	45	18	63	39	16
20x3/4”	1009020003001	84x63x46	46	45	18	66	40	16
25x1/2”	1009025002001	95x73x55	55	53	18	77	45	16
25x3/4”	1009025003001	96x73x55	55	53	18	77	45	16
25x1”	1009025004001	100x76x55	55	53	20	77	48	16
32x1/2”	1009032002001	108x80x63	63	57	17	86	48	16
32x3/4”	1009032003001	108x81x63	63	57	18	86	49	16
32x1”	1009032004001	109x83x63	63	57	21	86	51	16
***32x1”1/4**	1009032005001	115x92x63	63	57	26	86	60	16
40x3/4”	1009040003001	132x95x80	80	70	18	105	55	16
40x1”	1009040004001	132x99x80	80	70	21	105	59	16
***40x1”1/4**	1009040005001	134x104x80	80	70	25	105	64	16
***40x1”1/2**	1009040006001	135x106x80	80	70	25	105	66	16

>>>





>>>

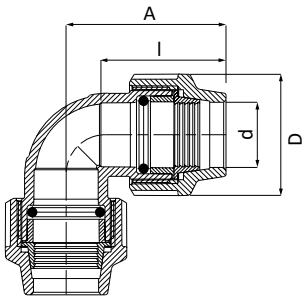
***50x1”1/4**	1009051005001	179x133x96	96	107	24	145	85	16
***50x1”1/2**	1009051006001	179x138x96	96	107	25	145	90	16
***50x2”**	1009051007001	184x138x96	96	107	25	145	90	16
***63x1”1/2**	1009064006001	214x159x115	115	130	26	173	101	16
***63x2”**	1009064007001	214x166x115	115	130	35	173	108	16
***63x2”1/2**	1009064008001	218x166x115	115	130	35	173	108	16
***75x2”**	1009076007001	240x188x129	129	142	36	193	123	16
***75x2”1/2**	1009076008001	240x190x129	129	142	37	193	125	16
***75x3”**	1009076009001	247x194x129	129	142	38	193	129	16
***90x3”**	1009091009001	274x218x155	155	157	40	216	140	16
***90x4”**	1009091010001	281x220x155	155	157	40	216	142	16
***110x3”**	1009111009001	362x226x183	183	222	40	294	134	16
***110x4”**	1009111010001	362x230x183	183	222	40	294	138	16

* Конец резьбы усилен кольцом из нержавеющей стали

1006

Колено 90°

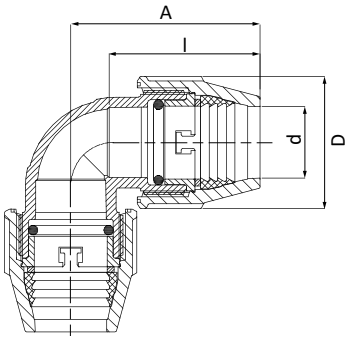




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	PN [bar]
16x16	1006016000001	85x85x42	42	64	49	16
20x20	1006020000001	92x92x46	46	69	50	16
25x25	1006025000001	113x113x55	55	86	62	16
32x32	1006032000001	127x127x63	63	96	70	16
40x40	1006040000001	157x157x80	80	117	79	16

>>>





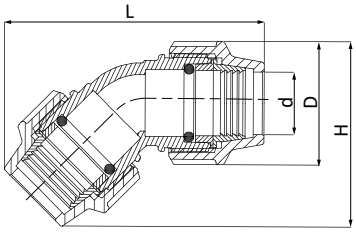
>>>

50x50	1006051000001	187x187x96	96	139	103	16
63x63	1006064000001	224x224x115	115	166	122	16
75x75	1006076000001	254x254x129	129	190	135	16
90x90	1006091000001	298x298x155	155	220	155	16
110x110	1006111000001	367x367x183	183	275	200	16

1018

Колено 45°

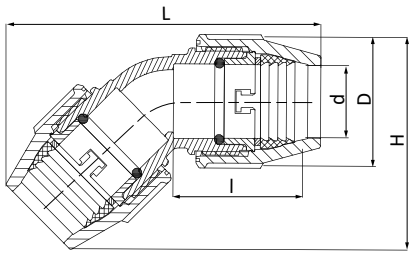




DIM dxd [mm]	CODE	D [mm]	L [mm]	H [mm]	PN [bar]
20x20	1018020000001	46	117	78	16
25x25	1018025000001	55	141	94	16
32x32	1018032000001	63	160	107	16
40x40	1018040000001	80	190	130	16

>>>





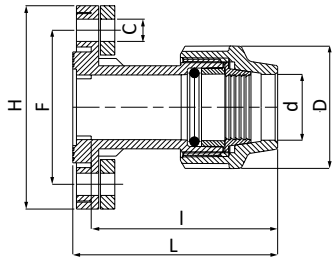
>>>

50x50	1018051000001	96	232	158	16
63x63	1018064000001	115	246	176	16

1011

Фланец присоединительный

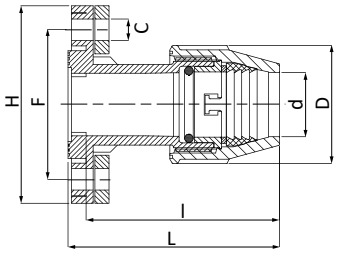




DIM dxDN [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	H [mm]	F [mm]	C [mm]	NF	PN [bar]
40x1”1/2 (DN40)	1011040006001	141x152x152	80	141	128	152	110	18	4	16

>>>





>>>

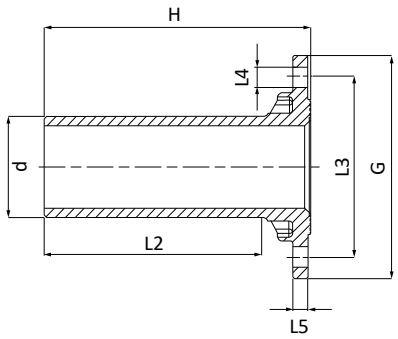
50x1”1/2 (DN40)	1011051006001	172x151x151	96	172	159	151	110	18	4	16
50x2” (DN50)	1011051007001	147x165x165	96	147	138	165	125	18	4	16
63x2” (DN50)	1011064007001	193x165x165	115	193	178	165	125	18	4	16
63x2”1/2 (DN65)	1011064008001	193x184x184	115	193	178	184	145	18	4	16
75x2”1/2 (DN65)	1011076008001	201x184x184	129	201	186	184	145	18	4	16
75x3” (DN80)	1011076009001	203x198x198	129	203	186	198	160	18	8	16
90x3” (DN80)	1011091009001	220x198x198	155	220	202	198	160	18	8	16
90x4” (DN100)	1011091010001	223x220x220	155	223	202	220	180	18	8	16
110x4” (DN100)	1011111010001	253x220x220	183	253	233	220	180	18	8	16

Фланец из оцинкованной стали

1053-A223

Фланцевый переходник





DIM d (DN) [mm]	CODE	DIM MAX LxHxP [mm]	G [mm]	H [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	NF	PN [bar]
63 (DN50)	1053063000001	170x201x170	170	201	169	125	18	12	4	16
63 (DN65)	1053063001001	183x201x183	183	201	164	145	18	12	4	16
75 (DN65)	1053075000001	183x217x183	183	217	184	145	18	12	4	16
75 (DN80)	1053075001001	200x217x200	200	217	177	160	18	12	8	16
90 (DN80)	1053090000001	200x240x200	200	240	199	160	18	14	8	16
110 (DN80)	1053110001001	200x305x200	200	305	272	160	18	14	8	16
110 (DN100)	1053110000001	224x305x224	224	305	265	180	18	14	8	16

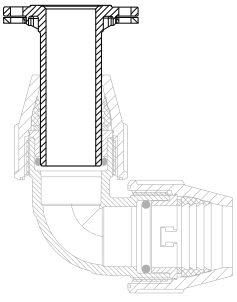
Фланец в комплект не входит

Фланец из оцинкованной стали

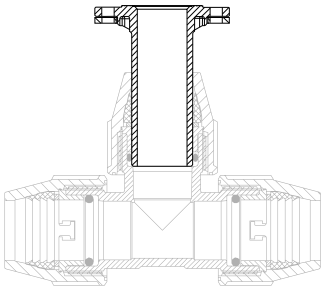
DIM [mm]	CODE	NF
63 (DN50)	A223000003	4
63 (DN65)	A223000004	4
75 (DN65)	A223000005	4
75 (DN80) - 90 (DN80) - 110 (DN80)	A223000007	8
110 (DN100)	A223000009	8

ПРИМЕР УСТАНОВКИ

Подходит для вставки в компрессионную муфту фитингов Unidelta



CODE 1006

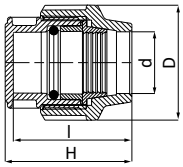


CODE 1005

1012

Заглушка

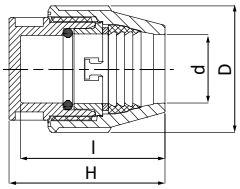




DIM d [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	PN [bar]
16	1012016000001	42x55x42	42	55	50	16
20	1012020000001	46x70x46	46	70	65	16
25	1012025000001	55x77x55	55	77	72	16
32	1012032000001	63x85x63	63	85	79	16
40	1012040000001	80x89x80	80	89	83	16

>>>





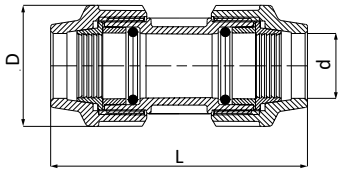
>>>

50	1012051000001	96x125x96	96	125	100	16
63	1012064000001	115x135x115	115	135	123	16
75	1012076000001	129x158x129	129	158	137	16
90	1012091000001	155x179x155	155	179	158	16
110	1012111000001	183x226x183	183	226	202	16

1014

Ремонтная муфта

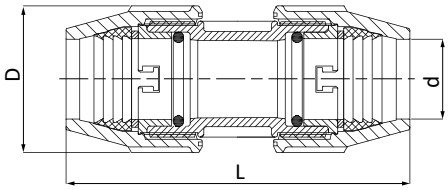




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	PN [bar]
25x25	1014025000001	122x55x55	55	122	16
32x32	1014032000001	139x63x63	63	139	16
40x40	1014040000001	168x80x80	80	168	16

>>>





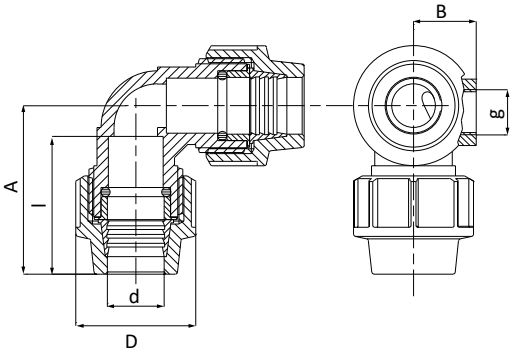
>>>

50x50	1014051000001	230x96x96	96	230	16
63x63	1014064000001	248x115x115	115	248	16
75x75	1014076000001	278x129x129	129	278	16
90x90	1014091000001	315x155x155	155	315	16
110x110	1014111000001	422x183x183	183	422	16

1023

Колено 90° с боковой внутренней резьбой



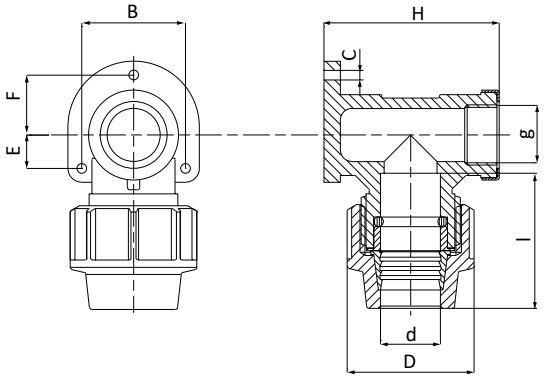


DIM dxdxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	B [mm]	PN [bar]
25x25x1/2”	1023025002001	113x113x58	55	86	62	30	16
32x32x1/2”	1023032002001	127x127x67	63	96	70	35	16
32x32x3/4”	1023032003001	127x127x68	63	96	70	36	16

1034

Кастенное колено

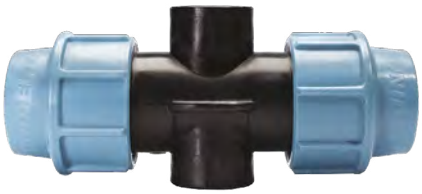


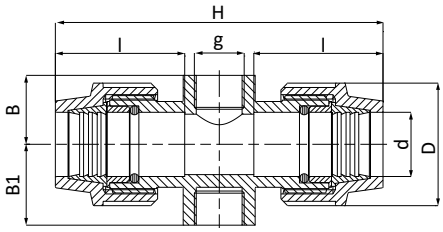


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	C [mm]	B [mm]	E [mm]	F [mm]	PN [bar]
20x1/2”	1034020002001	89x62x49	46	62	49	4	38	12	22	16
25x1/2”	1034025002001	116x74x57	55	74	66	4	44	15	25	16
25x3/4”	1034025003001	110x75x60	55	75	59	4	44	15	27	16
32x1”	1034032004001	124x86x67	63	86	72	5	56	20	28	16

1021

Тройник 90° с внутренней резьбой на верхней и нижней стороне для крепления спринклера





DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	B [mm]	B1 [mm]	PN [bar]
32x3/4”x32	1021320303001	77x168x63	63	168	66	36	41	16

1050

Удлинительный стержень резьбовой (резьба наружная/внутренняя)



DIM gxg_1 [in.]	CODE	L [cm]
3/4”Mx1/2”F	1050003002001	28
3/4”Mx3/4”F	1050003003001	28

1052

Удлинительный стержень резьбовой (резьба наружная/наружная)



DIM gxg_1 [in.]	CODE	L [cm]
3/4”Mx1/2”M	1052003002001	29,5

1051

Колышек



DIM g [in.]	CODE	L [cm]
3/4” M	1051000003001	29

ПРИМЕР УСТАНОВКИ





3.2 Переходная муфта универсальная

Универсальная муфта Unidelta код 1033 позволяет быстро и прочно соединить трубы из полиэтилена диаметром от 20 и до 32 мм с трубами из любых материалов (напримерн сталь, медь, свинец, ПВХ, и т.д.) со внешним диаметром от 15 и до 35 мм. Также предназначен для перехода трубопровода метрической серии (диаметры в миллиметрах) к трубам имперской серии (диаметры в дюймах).

Гальванизированная сталь, чугун, медь, свинец, ПВХ, полипропилен, полиэтилен нестандартных размеров

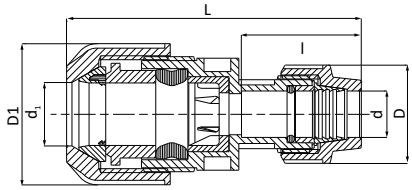


ПНД метрическая серия

1033

Переходная муфта универсальная





DIM $d_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	PN [bar]
15/22x20	1033020003001	145x62x62	46	62	145	60	10
15/22x25	1033025003001	145x62x62	55	62	145	64	10
20/27x20	1033020004001	150x69x69	46	69	150	64	10
20/27x25	1033025004001	150x69x69	55	69	150	64	10
27/35x25	1033025006001	158x79x79	55	79	158	64	10
20/27x32	1033032004001	158x69x69	63	69	158	72	10
27/35x32	1033032006001	165x79x79	63	79	165	72	10

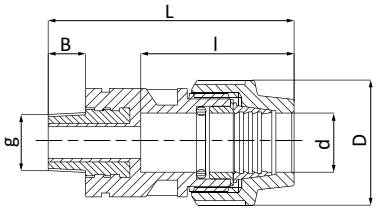
3.3 Переходные фитинги компрессионные

Переходной компрессионный фитинг Unidelta представляет собой специальную металлическую вставку с резьбой из латуни, штампованный с полипропиленовым корпусом.

1035

Муфта с наружной резьбой из латуни

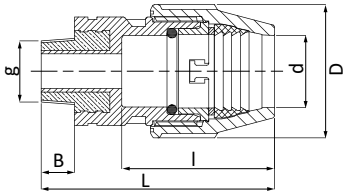




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1035020002001	103x46x46	46	103	58	15	16
25x3/4”	1035025003001	112x55x55	55	112	64	17	16
32x1”	1035032004001	116x63x63	63	116	69	19	16
40x1”1/4	1035040005001	140x80x80	80	140	81	23	16
40x1”1/2	1035040006001	150x80x80	80	150	87	32	16

>>>





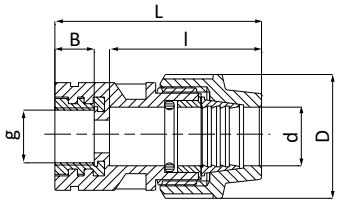
>>>

50x1”1/2	1035051006001	172x96x96	96	172	112	23	16
63x2”	1035064007001	186x115x115	115	186	122	24	16

1036

Муфта с внутренней резьбой из латуни

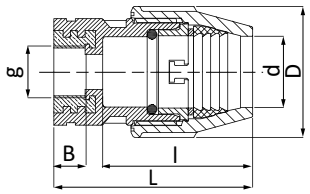




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1036020002001	88x46x46	46	88	58	14	16
25x3/4”	1036025003001	95x55x55	55	95	64	15	16
32x1”	1036032004001	106x63x63	63	106	69	18	16
40x3/4"	1036040003001	110x80x80	80	110	85	18	16
40x1”1/4	1036040005001	118x80x80	80	118	82	20	16
40x1”1/2	1036040006001	111x80x80	80	111	86	27	16

>>>





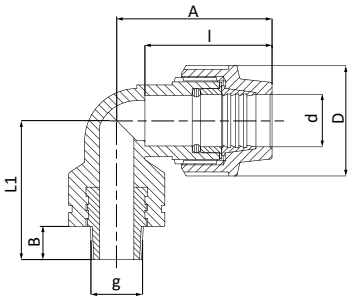
>>>

50x1”1/2	1036051006001	151x96x96	96	151	113	23	16
63x2”	1036064007001	164x115x115	115	164	121	24	16

1039

Колено 90° с наружной резьбой из латуни

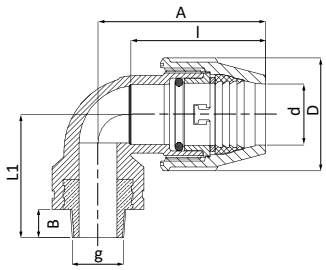




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	L1 [mm]	B [mm]	PN [bar]
20x1/2”	1039020002001	94x87x48	46	70	49	64	15	16
20x3/4”	1039020003001	99x89x55	46	71	51	66	16	16
25x3/4”	1039025003001	110x94x55	55	83	57	66	16	16
32x1”	1039032004001	126x118x66	63	93	62	86	29	16
40x1”1/4	1039040005001	149x127x80	80	112	72	87	23	16
40x1”1/2	1039040006001	144x127x80	80	112	78	87	32	16

>>>





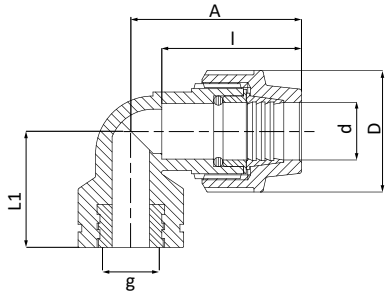
>>>

50x1”1/2	1039051006001	180x135x96	96	139	93	87	23	16
63x2”	1039064007001	196x163x115	115	149	99	105	27	16

1030

Колено 90° с внутренней резьбой из латуни





DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	L1 [mm]	PN [bar]
40x3/4”	1030040003001	80x139x127	79	112	78	53	16

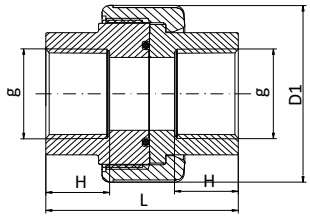
3.4 Муфта разборная

1054

Муфта разборная, внутренняя/внутренняя резьба







DIM gxg [in.xin.]	CODE	L [mm]	H [mm]	D1 [mm]	Pmax [bar]
1/2"x1/2"	1054002002001	53	18	50	16
3/4"x3/4"	1054003003001	56	20	60	16
1"x1"	1054004004001	60	22	68	16
***1"1/4x1"1/4**	1054005005001	78,5	24	80	16
***1"1/2x1"1/2**	1054006006001	88,5	24	95	16
***2"x2"**	1054007007001	95	28	116	16
***2"1/2x2"1/2**	1054008008001	146	33	160,5	10
***3"x3"**	1054009009001	175,5	40	197	10

* Конец резьбы усилен кольцом из нержавеющей стали

3.5 Хомутовый отвод на напорные трубы

Технические характеристики:

- Пригоден для труб из ПЭ (PE) и ПВХ (PVC)
- Материал: полипропилен (PP-B)
- Перфоратор: латунь
- Уплотнение: уплотнительное кольцо из синтетического каучука (NBR)
- Болты: нержавеющая сталь A4

Нормативы:

- Для труб из ПЭ (PE): UNI EN 12201 - ISO 4427 - DIN 8074
- Для труб из ПВХ (PVC): UNI EN 1452 - DIN 8062
- Для испытаний: ISO 13460

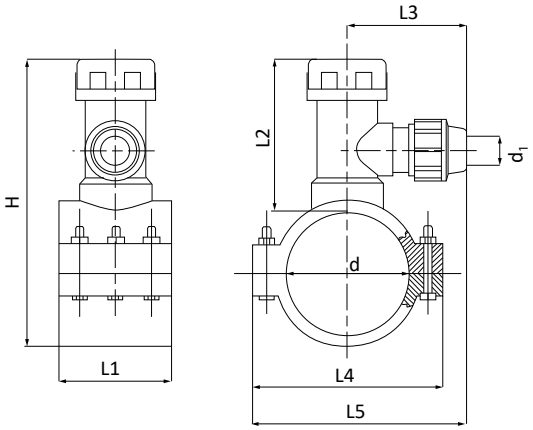
Санитарные предписания:

Переходные хомуты производства компании Unidelta отвечают нормативам для подачи питьевой воды, предусмотренным действующим законодательством Италии и многих других стран.
Министерский декрет №174 от 06/04/2004 г.

1025

Хомутовый отвод на напорные трубы





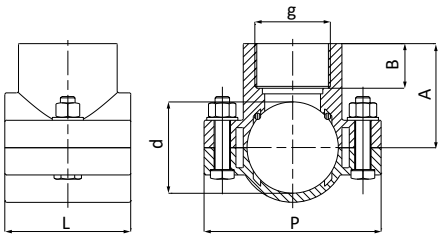
DIM dxd$_1$ [mm]	CODE	NF	V	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	Pmax [bar]
63x25	1025063025001	6	M8x40	201	80	132	115	115	173	16
63x32	1025063032001	6	M8x40	201	80	132	125	115	183	16
75x25	1025075025001	6	M8x50	211	90	129	115	129	180	16
75x32	1025075032001	6	M8x50	211	90	129	125	129	190	16
90x25	1025090025001	6	M8x50	226	90	129	115	144	187	16
90x32	1025090032001	6	M8x50	226	90	129	125	144	197	16
110x20	1025110020001	6	M8x60	249	100	130	110	168	194	16
110x25	1025110025001	6	M8x60	249	100	130	115	168	199	16
110x32	1025110032001	6	M8x60	249	100	130	125	168	209	16
160x20	1025160020001	6	M8x100	304	174	130	110	215	218	16
160x25	1025160025001	6	M8x100	304	174	130	115	215	223	16
160x32	1025160032001	6	M8x100	304	174	130	125	215	233	16

3.6 Зажимные хомуты

1019

Седло зажимное





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1019025002001	38	20	76	49	2	10
25x3/4”	1019025003001	38	21	76	49	2	10
32x1/2”	1019032002001	41	17	81	56	2	10
32x3/4”	1019032003001	41	21	81	56	2	10
32x1”	1019032004001	44	23	81	56	2	10
40x1/2”	1019040002001	41	17	81	60	2	10
40x3/4”	1019040003001	46	18	81	60	2	10
40x1”	1019040004001	46	23	81	60	2	10
50x1/2”	1019050002001	50	17	98	69	4	10
50x3/4”	1019050003001	50	18	98	69	4	10
50x1”	1019050004001	52	20	98	69	4	10
50x1”1/4	1019050005001	57	25	98	69	4	10
63x1/2”	1019063002001	55	16	105	79	4	10
63x3/4”	1019063003001	55	18	105	79	4	10
63x1”	1019063004001	59	20	105	79	4	10
63x1”1/4	1019063005001	63	25	105	79	4	10
63x1”1/2	1019063006001	63	28	105	79	4	10
75x1/2”	1019075002001	62	17	120	90	4	10
75x3/4”	1019075003001	62	18	120	90	4	10
75x1”	1019075004001	65	21	120	90	4	10
75x1”1/4	1019075005001	68	24	120	90	4	10
75x1”1/2	1019075006001	68	23	120	90	4	10
75x2”	1019075007001	72	27	120	90	4	10
90x1/2”	1019090002001	70	17	135	90	4	10
90x3/4”	1019090003001	70	19	135	90	4	10
90x1”	1019090004001	72	21	135	90	4	10
90x1”1/4	1019090005001	76	24	135	90	4	10
90x1”1/2	1019090006001	76	24	135	90	4	10
90x2”	1019090007001	80	27	135	90	4	10

>>>

*PN 6 bar

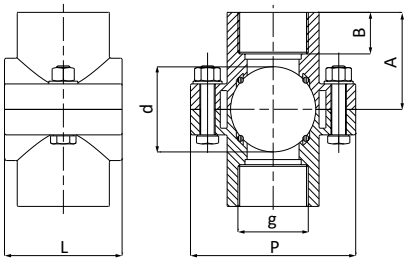
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1019110002001	80	17	168	99	4	10
110x3/4”	1019110003001	80	19	168	99	4	10
110x1”	1019110004001	84	20	168	99	4	10
110x1”1/4	1019110005001	86	23	168	99	4	10
110x1”1/2	1019110006001	86	23	168	99	4	10
110x2”	1019110007001	90	27	168	99	4	10
125x1/2”	1019125002001	108	25	190	106	6	10
125x3/4”	1019125003001	108	26	190	106	6	10
125x1”	1019125004001	109	26	190	106	6	10
125x1”1/4	1019125005001	109	25	190	106	6	10
125x1”1/2	1019125006001	113	28	190	106	6	10
125x2”	1019125007001	113	30	190	106	6	10
***160x3/4”**	1019160003001	108	19	215	175	6	6
***160x1”**	1019160004001	110	21	215	175	6	6
***160x1”1/4**	1019160005001	113	24	215	175	6	6
***160x1”1/2**	1019160006001	115	26	215	175	6	6
***160x2”**	1019160007001	117	30	215	175	6	6
***160x2”1/2**	1019160008001	125	32	215	175	6	6
***160x3”**	1019160009001	134	35	215	175	6	6
***160x4”**	1019160010001	135	40	215	175	6	6
***200x3/4”**	1019200003001	128	23	262	175	6	6
***200x1”**	1019200004001	130	23	262	175	6	6
***200x1”1/4**	1019200005001	133	23	262	175	6	6
***200x1”1/2**	1019200006001	133	23	262	175	6	6
***200x2”**	1019200007001	135	30	262	175	6	6
***200x2”1/2**	1019200008001	150	32	262	175	6	6
***200x3”**	1019200009001	152	35	262	175	6	6
***200x4”**	1019200010001	155	42	262	175	6	6

1020

Двойное зажимное седло





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1020025002001	38	20	76	49	2	10
25x3/4”	1020025003001	38	21	76	49	2	10
32x1/2”	1020032002001	41	17	81	56	2	10
32x3/4”	1020032003001	41	21	81	56	2	10
32x1”	1020032004001	44	23	81	56	2	10
40x1/2”	1020040002001	41	17	81	60	2	10
40x3/4”	1020040003001	46	18	81	60	2	10
40x1”	1020040004001	46	23	81	60	2	10
50x1/2”	1020050002001	50	17	98	69	4	10
50x3/4”	1020050003001	50	18	98	69	4	10
50x1”	1020050004001	52	20	98	69	4	10
50x1”1/4	1020050005001	57	25	98	69	4	10
63x1/2”	1020063002001	55	16	105	79	4	10
63x3/4”	1020063003001	55	18	105	79	4	10
63x1”	1020063004001	59	20	105	79	4	10
63x1”1/4	1020063005001	63	25	105	79	4	10
63x1”1/2	1020063006001	63	28	105	79	4	10
75x1/2”	1020075002001	62	17	120	90	4	10
75x3/4”	1020075003001	62	18	120	90	4	10
75x1”	1020075004001	65	21	120	90	4	10
75x1”1/4	1020075005001	68	24	120	90	4	10
75x1”1/2	1020075006001	68	23	120	90	4	10
75x2”	1020075007001	72	27	120	90	4	10

>>>

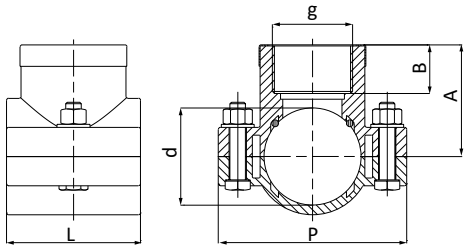
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1020090002001	70	17	135	90	4	10
90x3/4”	1020090003001	70	19	135	90	4	10
90x1”	1020090004001	72	21	135	90	4	10
90x1”1/4	1020090005001	76	24	135	90	4	10
90x1”1/2	1020090006001	76	24	135	90	4	10
90x2”	1020090007001	80	27	135	90	4	10
110x1/2”	1020110002001	80	17	168	99	4	10
110x3/4”	1020110003001	80	19	168	99	4	10
110x1”	1020110004001	84	20	168	99	4	10
110x1”1/4	1020110005001	86	23	168	99	4	10
110x1”1/2	1020110006001	86	23	168	99	4	10
110x2”	1020110007001	90	27	168	99	4	10
125x1/2”	1020125002001	108	25	190	106	6	10
125x3/4”	1020125003001	108	26	190	106	6	10
125x1”	1020125004001	109	26	190	106	6	10
125x1”1/4	1020125005001	109	25	190	106	6	10
125x1”1/2	1020125006001	113	28	190	106	6	10
125x2”	1020125007001	113	30	190	106	6	10

1026

Зажимное седло с металлическим кольцом





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1026025002001	38	20	76	49	2	10
25x3/4”	1026025003001	38	21	76	49	2	10
32x1/2”	1026032002001	41	17	81	56	2	10
32x3/4”	1026032003001	41	21	81	56	2	10
32x1”	1026032004001	44	23	81	56	2	10
40x1/2”	1026040002001	41	17	81	60	2	10
40x3/4”	1026040003001	46	18	81	60	2	10
40x1”	1026040004001	46	23	81	60	2	10
50x1/2”	1026050002001	50	17	98	69	4	10
50x3/4”	1026050003001	50	18	98	69	4	10
50x1”	1026050004001	52	20	98	69	4	10
50x1”1/4	1026050005001	57	25	98	69	4	10
63x1/2”	1026063002001	55	16	105	79	4	10
63x3/4”	1026063003001	55	18	105	79	4	10
63x1”	1026063004001	59	20	105	79	4	10
63x1”1/4	1026063005001	63	25	105	79	4	10
63x1”1/2	1026063006001	63	28	105	79	4	10
75x1/2”	1026075002001	62	17	120	90	4	10
75x3/4”	1026075003001	62	18	120	90	4	10
75x1”	1026075004001	65	21	120	90	4	10
75x1”1/4	1026075005001	68	24	120	90	4	10
75x1”1/2	1026075006001	68	23	120	90	4	10
75x2”	1026075007001	72	27	120	90	4	10
90x1/2”	1026090002001	70	17	135	90	4	10
90x3/4”	1026090003001	70	19	135	90	4	10
90x1”	1026090004001	72	21	135	90	4	10
90x1”1/4	1026090005001	76	24	135	90	4	10
90x1”1/2	1026090006001	76	24	135	90	4	10
90x2”	1026090007001	80	27	135	90	4	10

>>>

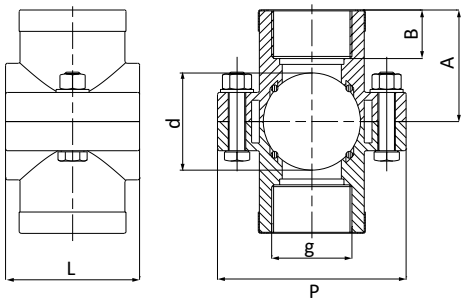
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1026110002001	80	17	168	99	4	10
110x3/4”	1026110003001	80	19	168	99	4	10
110x1”	1026110004001	84	20	168	99	4	10
110x1”1/4	1026110005001	86	23	168	99	4	10
110x1”1/2	1026110006001	86	23	168	99	4	10
110x2”	1026110007001	90	27	168	99	4	10
125x1/2”	1026125002001	108	25	190	106	6	10
125x3/4”	1026125003001	108	26	190	106	6	10
125x1”	1026125004001	109	26	190	106	6	10
125x1”1/4	1026125005001	109	25	190	106	6	10
125x1”1/2	1026125006001	113	28	190	106	6	10
125x2”	1026125007001	113	30	190	106	6	10
125x3”	1026125009001	113	35	190	106	6	10
160x3/4"	1026160003001	108	19	215	175	6	10
160x1”	1026160004001	110	21	215	175	6	10
160x1”1/4	1026160005001	113	24	215	175	6	10
160x1”1/2	1026160006001	115	26	215	175	6	10
160x2”	1026160007001	117	30	215	175	6	10
160x2”1/2	1026160008001	125	32	215	175	6	10
160x3”	1026160009001	134	35	215	175	6	10
160x4”	1026160010001	135	40	215	175	6	10
200x3/4”	1026200003001	128	23	262	175	6	10
200x1”	1026200004001	130	23	262	175	6	10
200x1”1/4	1026200005001	133	23	262	175	6	10
200x1”1/2	1026200006001	133	23	262	175	6	10
200x2”	1026200007001	135	30	262	175	6	10
200x2”1/2	1026200008001	150	32	262	175	6	10
200x3”	1026200009001	152	35	262	175	6	10
200x4”	1026200010001	155	42	262	175	6	10

1027

Двойное зажимное седло с металлическим кольцом





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1027025002001	38	20	76	49	2	10
25x3/4”	1027025003001	38	21	76	49	2	10
32x1/2”	1027032002001	41	17	81	56	2	10
32x3/4”	1027032003001	41	21	81	56	2	10
32x1”	1027032004001	44	23	81	56	2	10
40x1/2”	1027040002001	41	17	81	60	2	10
40x3/4”	1027040003001	46	18	81	60	2	10
40x1”	1027040004001	46	23	81	60	2	10
50x1/2”	1027050002001	50	17	98	69	4	10
50x3/4”	1027050003001	50	18	98	69	4	10
50x1”	1027050004001	52	20	98	69	4	10
50x1”1/4	1027050005001	57	25	98	69	4	10
63x1/2”	1027063002001	55	16	105	79	4	10
63x3/4”	1027063003001	55	18	105	79	4	10
63x1”	1027063004001	59	20	105	79	4	10
63x1”1/4	1027063005001	63	25	105	79	4	10
63x1”1/2	1027063006001	63	28	105	79	4	10
75x1/2”	1027075002001	62	17	120	90	4	10
75x3/4”	1027075003001	62	18	120	90	4	10
75x1”	1027075004001	65	21	120	90	4	10
75x1”1/4	1027075005001	68	24	120	90	4	10
75x1”1/2	1027075006001	68	23	120	90	4	10
75x2”	1027075007001	72	27	120	90	4	10

>>>

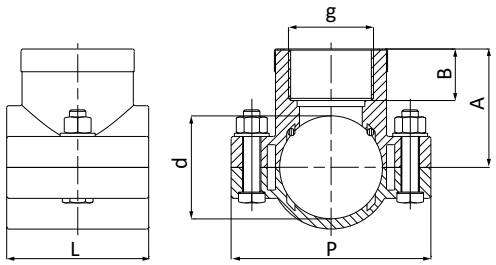
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1027090002001	70	17	135	90	4	10
90x3/4”	1027090003001	70	19	135	90	4	10
90x1”	1027090004001	72	21	135	90	4	10
90x1”1/4	1027090005001	76	24	135	90	4	10
90x1”1/2	1027090006001	76	24	135	90	4	10
90x2”	1027090007001	80	27	135	90	4	10
110x1/2”	1027110002001	80	17	168	99	4	10
110x3/4”	1027110003001	80	19	168	99	4	10
110x1”	1027110004001	84	20	168	99	4	10
110x1”1/4	1027110005001	86	23	168	99	4	10
110x1”1/2	1027110006001	86	23	168	99	4	10
110x2”	1027110007001	90	27	168	99	4	10
125x1/2”	1027125002001	108	25	190	106	6	10
125x3/4”	1027125003001	108	26	190	106	6	10
125x1”	1027125004001	109	26	190	106	6	10
125x1”1/4	1027125005001	109	25	190	106	6	10
125x1”1/2	1027125006001	113	28	190	106	6	10
125x2”	1027125007001	113	30	190	106	6	10

1031 - LA BLU

Зажимное седло с металлическим кольцом





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
20x1/2”	1031020002001	40	25	76	54	2	16
25x1/2”	1031026002001	38	20	76	49	2	16
25x3/4”	1031026003001	38	21	76	49	2	16
32x1/2”	1031033002001	41	17	81	56	2	16
32x3/4”	1031033003001	41	21	81	56	2	16
32x1"	1031033004001	44	23	81	56	2	16
40x1/2”	1031041002001	41	17	81	60	2	16
40x3/4”	1031041003001	46	18	81	60	2	16
40x1”	1031041004001	46	23	81	60	2	16
50x1/2”	1031051002001	50	17	98	69	6	16
50x3/4”	1031051003001	50	18	98	69	6	16
50x1”	1031051004001	52	20	98	69	6	16
50x1”1/4	1031051005001	57	25	98	69	6	16
63x1/2”	1031064002001	55	16	105	79	6	16
63x3/4”	1031064003001	55	18	105	79	6	16
63x1”	1031064004001	59	20	105	79	6	16
63x1”1/4	1031064005001	63	25	105	79	6	16
63x1”1/2	1031064006001	63	28	105	79	6	16
75x1/2”	1031076002001	62	17	120	90	6	16
75x3/4”	1031076003001	62	18	120	90	6	16
75x1”	1031076004001	65	21	120	90	6	16
75x1”1/4	1031076005001	68	24	120	90	6	16
75x1”1/2	1031076006001	68	23	120	90	6	16
75x2”	1031076007001	72	27	120	90	6	16

>>>

>>>

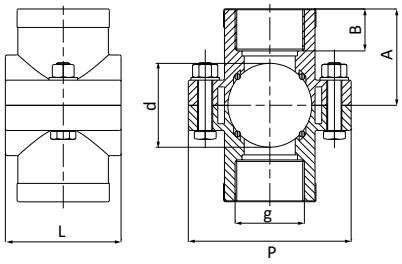
DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1031091002001	70	17	135	90	6	16
90x3/4”	1031091003001	70	19	135	90	6	16
90x1”	1031091004001	72	21	135	90	6	16
90x1”1/4	1031091005001	76	24	135	90	6	16
90x1”1/2	1031091006001	76	24	135	90	6	16
90x2”	1031091007001	80	27	135	90	6	16
110x1/2”	1031111002001	80	17	168	99	6	16
110x3/4”	1031111003001	80	19	168	99	6	16
110x1”	1031111004001	84	20	168	99	6	16
110x1”1/4	1031111005001	86	23	168	99	6	16
110x1”1/2	1031111006001	86	23	168	99	6	16
110x2”	1031111007001	90	27	168	99	6	16
125X1/2”	1031126002001	108	25	190	106	6	16
125X3/4”	1031126003001	108	26	190	106	6	16
125X1”	1031126004001	109	26	190	106	6	16
125X1”1/4	1031126005001	109	25	190	106	6	16
125X1”1/2	1031126006001	113	28	190	106	6	16
125x2"	1031126007001	113	30	190	106	6	16
160x3/4"	1031161003001	108	19	215	175	6	16
160x1"	1031161004001	110	21	215	175	6	16
160x1”1/4	1031161005001	113	24	215	175	6	16
160x1”1/2	1031161006001	115	26	215	175	6	16
160x2"	1031161007001	117	30	215	175	6	16
200x3/4"	1031201003001	128	23	262	175	6	16
200x1"	1031201004001	130	23	262	175	6	16
200x1”1/4	1031201005001	133	23	262	175	6	16
200x1”1/2	1031201006001	133	23	262	175	6	16
200x2"	1031201007001	135	30	262	175	6	16

Также совместим с трубами из ПВХ, размеры которых указаны в стандарте EN 1452-2

1032 - LA BLU

Двойное зажимное седло с металлическим кольцом





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1032026002001	38	20	76	49	2	16
25x3/4”	1032026003001	38	21	76	49	2	16
32x1/2”	1032033002001	41	17	81	56	2	16
32x3/4”	1032033003001	41	21	81	56	2	16
32x1”	1032033004001	44	23	81	56	2	16
40x1/2”	1032041002001	41	17	81	60	2	16
40x3/4”	1032041003001	46	18	81	60	2	16
40x1”	1032041004001	46	23	81	60	2	16
50x1/2”	1032051002001	50	17	98	69	6	16
50x3/4”	1032051003001	50	18	98	69	6	16
50x1”	1032051004001	52	20	98	69	6	16
50x1”1/4	1032051005001	57	25	98	69	6	16
63x1/2”	1032064002001	55	16	105	79	6	16
63x3/4”	1032064003001	55	18	105	79	6	16
63x1”	1032064004001	59	20	105	79	6	16
63x1”1/4	1032064005001	63	25	105	79	6	16
63x1”1/2	1032064006001	63	28	105	79	6	16

>>>

>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
75x1/2”	1032076002001	62	17	120	90	6	16
75x3/4”	1032076003001	62	18	120	90	6	16
75x1”	1032076004001	65	21	120	90	6	16
75x1”1/4	1032076005001	68	24	120	90	6	16
75x1”1/2	1032076006001	68	23	120	90	6	16
75x2”	1032076007001	72	27	120	90	6	16
90x1/2”	1032091002001	70	17	135	90	6	16
90x3/4”	1032091003001	70	19	135	90	6	16
90x1”	1032091004001	72	21	135	90	6	16
90x1”1/4	1032091005001	76	24	135	90	6	16
90x1”1/2	1032091006001	76	24	135	90	6	16
90x2”	1032091007001	80	27	135	90	6	16
110x1/2”	1032111002001	80	17	168	99	6	16
110x3/4”	1032111003001	80	19	168	99	6	16
110x1”	1032111004001	84	20	168	99	6	16
110x1”1/4	1032111005001	86	23	168	99	6	16
110x1”1/2	1032111006001	86	23	168	99	6	16
110x2”	1032111007001	90	27	168	99	6	16

Также совместим с трубами из ПВХ, размеры которых указаны в стандарте EN 1452-2


UNIDELTA
Since 1973


UNIDELTA

4. Шаровые краны

Полипропиленовые шаровые краны Unidelta изготовлены специально для полиэтиленовых труб и/или резьбовых муфт. Они совместимы с трубами из ПЭНП, ПЭВП, ПЭ40, ПЭ80, ПЭ100, ПЭ100 RC изготовленными в соответствии со стандартами **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Они обычно используются для транспортировки воды с максимальным давлением 16 бар при температуре 20°C до диаметра 63/2" и 10 бар при температуре 20°C для диаметров от 75/2"1/2 и выше (для более высокой температуры см. пределы, предписываемые стандартами о трубах PE). Краны Unidelta доступны также в версии с резьбовым/ыми выходом/ами, изготовленными в соответствии со стандартами **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**

4.1 Конструкция и материалы

Разборная схема шаровые краны



1. **Зажимная гильза:** полипропилен (PP-B) высокостабильный, с защитой от УФ-лучей.
2. **Зажимное кольцо:** ацетильная смола (POM).
3. **Втулка:** полипропилен (PP-B) высокостабильный с защитой от УФ-лучей.
4. **Кольцо радиального уплотнения на трубе:** нитрильный каучук (NBR).
5. **Корпус:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
6. **Стержень управления:** полипропилен (PP-B) высокостабильный, с защитой от УФ-лучей.
7. 8. **Уплотнительные кольца стержня управления:** нитрильный каучук (NBR).
9. **Ручка:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
10. 14. **Уплотнительные кольца для уплотнения шара:** нитрильный каучук (NBR).
11. 13. **Уплотнения шара:** Политетрафторэтилен (ПТФЭ).
12. **Шар:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
15. **Опора уплотнения шара:** полипропилен (PP-B) высокостабильный, с защитой от УФ-лучей.
16. **Кольцо радиального уплотнения:** нитрильный каучук (NBR).
17. **Кольцо осевого уплотнения:** нитрильный каучук (NBR).
18. **Зажимная гильза для вставки:** полипропилен (PP-B) высокостабильный, с защитой от УФ-лучей.
19. **Вставка с резьбовым выходом:** полипропилен (PP-B) высокостабильный, с защитой от УФ-лучей.

4.2 Преимущества

Использованные материалы
Шаровой кран Unidelta состоит из компонентов, изготовленных исключительно из пластмассовых материалов. Поэтому нет никакого риска, присущего металлическим материалам, возникновения окисления и коррозии.

Высокая устойчивость к воздействию давления
Краны Unidelta могут работать при максимальном давлении 16 бар при температуре 20°C.

Дизайн
Краны Unidelta имеют компактные размеры, что позволяет устанавливать их даже в местах ограниченных размеров. Кроме того, ручку можно снять с корпуса клапана.

Легкость монтажа
Монтаж кранов Unidelta легко, в том числе и благодаря инновационной системе DeltOne для диаметра Ø50, Ø63, Ø75, Ø90.

Защита от уф-лучей
Материалы компонентов кранов Unidelta, подвергающихся воздействию УФ-лучей, являются УФ-стабилизированными. Поэтому их можно устанавливать в том числе и снаружи.

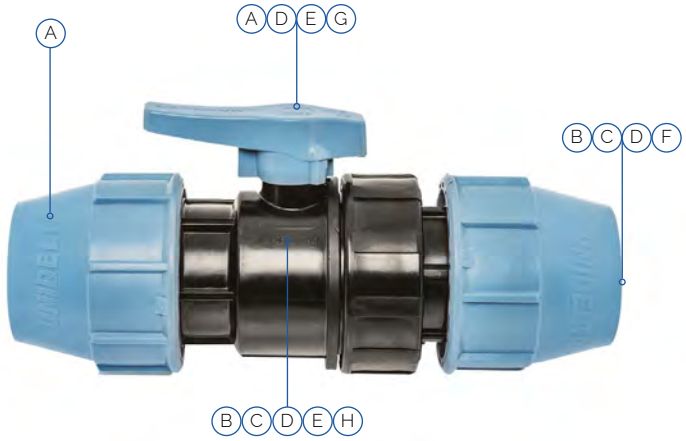
Двунаправленный поток
Шаровые краны Unidelta не требуют определенного направления потока, их можно устанавливать любой стороной, независимо от направления потока.

Возможность осмотра шара
Шар крана можно осматривать. Эта характеристика позволяет без труда очистить шар от возможных отложений, образовавшихся во время использования (см. инструкции в параграфе "Доступ к шару" на странице 426).

4.3 Маркировка

Важная информация нанесена непосредственно на кран посредством маркировки:

Ⓐ Название производителя “**UNIDELTA**”;
Ⓑ Место производства “**MADE IN ITALY**”;
Ⓒ Материал “**PP**”;
Ⓓ Диаметр соединяемой полиэтиленовой трубы (например, “**Ø40**”);
Ⓔ Номинальный диаметр, соответствующий возможной резьбе и приблизительно проходному сечению (например, “**1”1/4**” и “**DN 32**”);
Ⓕ Максимальное рабочее давление (например, “**PN 16**”);
Ⓖ Направление открытия и закрытия крана на ручке (“**OPEN**” и “**CLOSE**”);
Ⓗ **Двойная стрелка,** указывающая на двунаправленность потока.



4.4 Доступ к шару

Шар внутри крана Unidelta можно осматривать: эта характеристика представляет собой важное преимущество, поскольку позволяет удалить возможные отложения, образовавшиеся во время использования.

Чтобы получить доступ к шару, выполнить следующие 3 действия:





Отвинтить зажимную гильзу для вставки (компонент (18) "Разборная схема шаровые краны" на странице 423). Таким образом, будет видно внутреннее зубчатое сцепление опоры уплотнителя шара (компонент (15)). Затем снять ручку (компонент (9)) со стержня управления. Следует отметить, что зубчатое сцепление ручки для клапанов Ø20-25-32 находится на верхней части (изображение 1A), а для клапанов Ø40-50-63-75-90 находится на нижней части (изображение 1B).





Вставить зубчатое сцепление ручки внутрь зубчатого сцепления опоры уплотнителя шара. Чтобы отвинтить, повернуть вставленную таким образом ручку по часовой стрелке (изображений 2A и 2B).





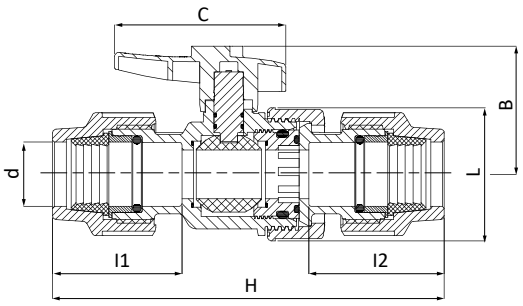
Снять опору уплотнителя шара, чтобы обеспечить доступ к шару (изображений 3A и 3B).

4.5 Технические данные

1070

Компрессионный шаровый кран

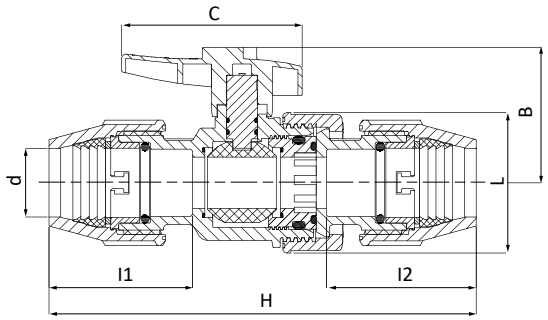




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





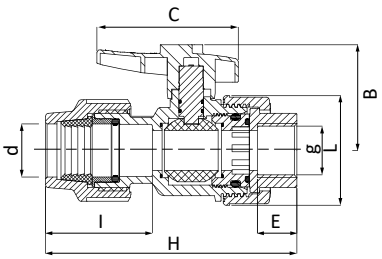
>>>

50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Компрессионный шаровый кран с внутренней резьбой

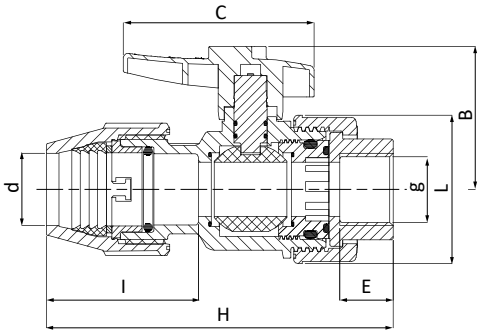




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82	24	80	77	100	16

>>>





>>>

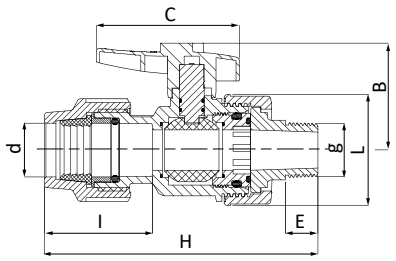
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* Конец резьбы усилен кольцом из нержавеющей стали

1072

Компрессионный шаровый кран с наружной резьбой

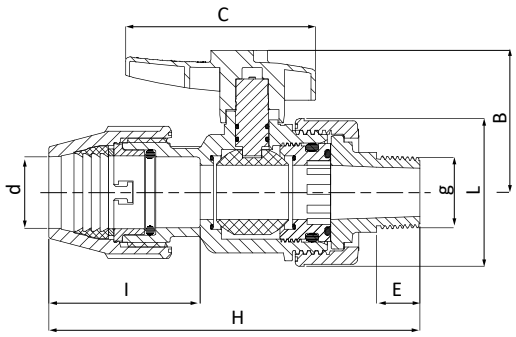




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80	77	100	16

>>>





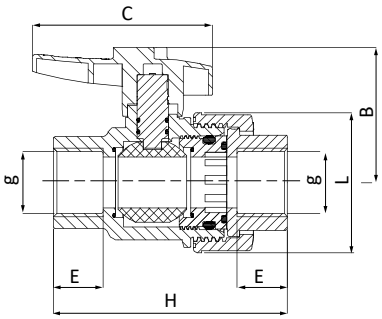
>>>

50x1"1/2	1072051006001	96x245x136	245	110	23	96	88	116	16
63x2"	1072064007001	116x275x158	275	120	27	116	100	127	16

1073

Кран шаровый резьбовой (внутренняя/внутренняя)





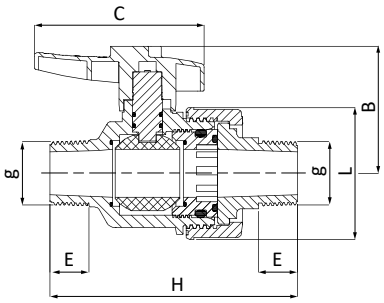
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	1073006006001	95x142x136	142	24	96	88	116	16
***2"x2"**	1073007007001	116x164x158	164	27	116	100	127	16
***2"1/2x2"1/2**	1073008008001	155x240x203	240	35	155	125	155	10
***3"x3"**	1073009009001	197x310x261	310	50	197	162	281	10

* Конец резьбы усилен кольцом из нержавеющей стали

1074

Кран шаровый резьбовой (наружная/наружная)



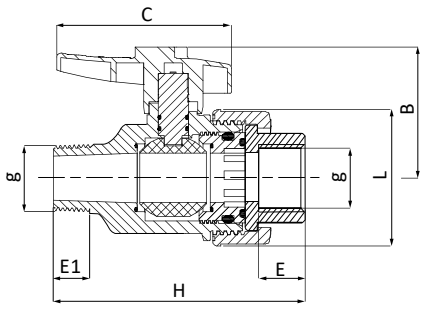


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2	1074006006001	95x187x136	187	23	95	88	116	16
2"x2"	1074007007001	116x216x158	216	27	116	100	127	16

1081

Кран шаровый резьбовой (наружная/внутренняя)





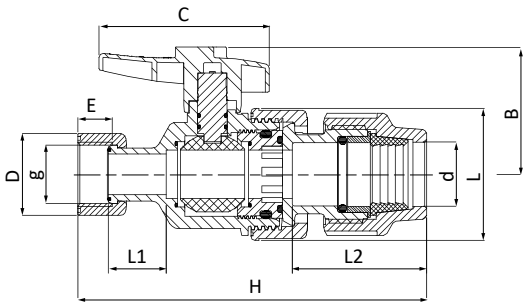
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	23	80	77	100	16
***1"1/2x1"1/2**	1081006006001	95x160x136	160	24	23	95	88	116	16
***2"x2"**	1081007007001	116x189x158	189	27	27	116	100	127	16

* Конец резьбы усилен кольцом из нержавеющей стали

1080

Компрессионный шаровой кран с накидной гайкой



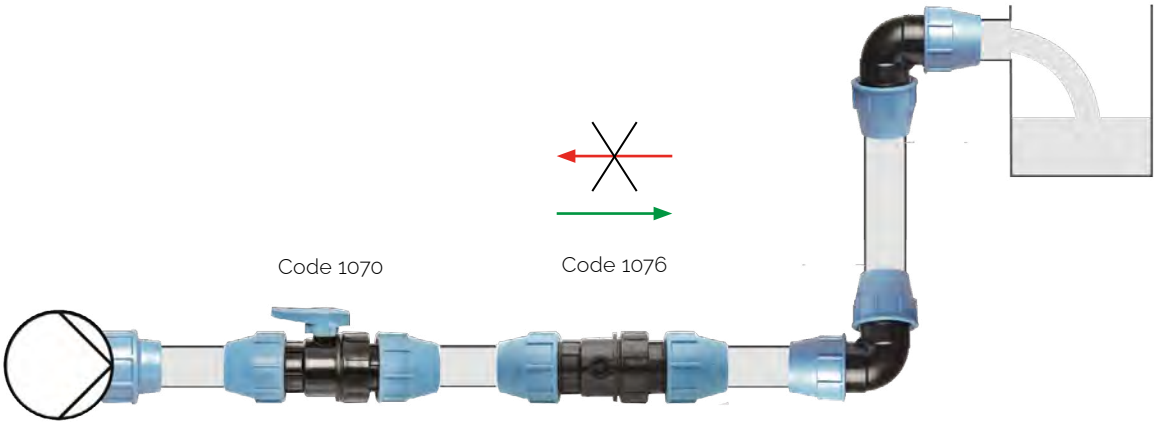


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4”	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1”	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1”	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

5. Обратные клапаны

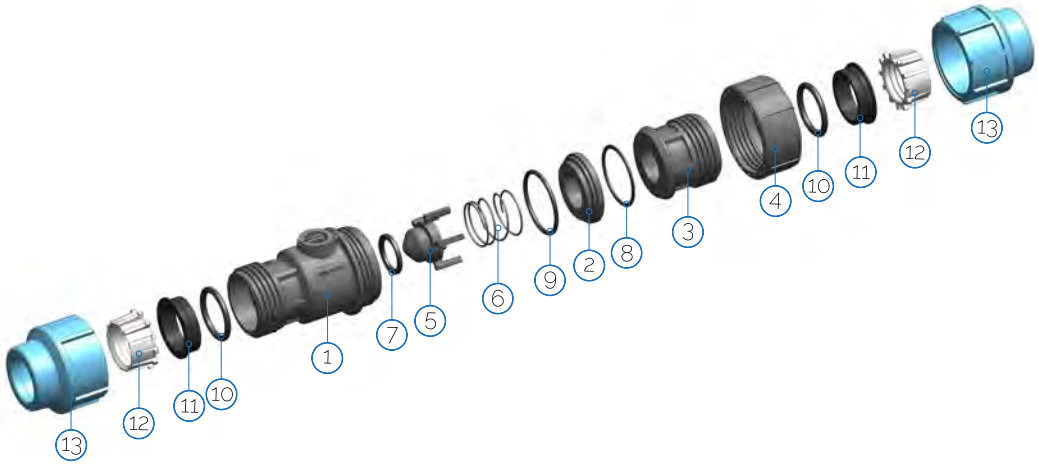
Полипропиленовые обратные клапаны Unidelta изготовлены специально для полиэтиленовых труб и/или резьбовых муфт. Они совместимы с трубами из ПЭНП, ПЭВП, ПЭ40, ПЭ80, ПЭ100, ПЭ100RC изготовленными в соответствии со стандартами **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Они обычно используются для транспортировки воды под максимальным давлением 16 бар при 20°C (для более высокой температуры см. пределы, предписываемые стандартами о трубах ПЭ). Клапаны Unidelta доступны также в версии с резьбовым выходом, изготовленным в соответствии со стандартами **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
Обратные клапаны обеспечивают посредством затвора проход потока только в одном направлении, автоматически перекрывая проход потоку в противоположном направлении. На следующем изображении схематически показан пример возможного применения обратного клапана, установленного в контуре подачи насоса.

Схематический пример применения полипропиленовых клапанов Unidelta



5.1 Конструкция и материалы

Разборная схема обратные клапаны



1. **Корпус:** (PP-B) высокостабильный полипропилен с защитой от УФ-лучей.
2. **Опора уплотнения:** (PP-B) высокостабильный полипропилен с защитой от УФ-лучей.
3. **Вставка:** (PP-B) высокостабильный полипропилен с защитой от УФ-лучей.
4. **Зажимная гильза для вставки:** (PP-B) высокостабильный полипропилен с защитой от УФ-лучей.
5. **Затвор:** (PP-B) высокостабильный полипропилен с защитой от УФ-лучей.
6. **Пружина:** нержавеющая сталь AISI 302.
7. **Уплотнение затвора:** нитрильный каучук (NBR).
8. **Переднее уплотнительное кольцо:** нитрильный каучук (NBR).
9. **Радиальное уплотнительное кольцо:** нитрильный каучук (NBR).
10. **Радиальное уплотнительное кольцо на трубе:** нитрильный каучук (NBR).
11. **Втулка:** (PP-B) высокостабильный полипропилен с защитой от УФ-лучей.
12. **Зажимное кольцо:** ацетальная смола (POM).
13. **Зажимная гильза:** (PP-B) высокостабильный полипропилен с защитой от УФ-лучей.

5.2 Преимущества

Использованные материалы
Обратный клапан Unidelta состоит из компонентов, изготовленных исключительно из пластмассовых материалов, за исключением пружины из нержавеющей стали. Поэтому нет никакого риска, присущего металлическим материалам, возникновения окисления и коррозии во время использования.

Высокая устойчивость к воздействию давления
Клапаны Unidelta могут работать при максимальном давлении 16 бар при температуре 20 °C.

Дизайн
Клапаны Unidelta имеют компактные размеры, что позволяет устанавливать их даже в местах ограниченных размеров.

Легкость монтажа
Монтаж клапанов Unidelta легко, в том числе и благодаря инновационной системе DeltOne для диаметра Ø50, Ø63.

Защита от уф-лучей

Материалы компонентов клапанов Unidelta, подвергающихся воздействию УФ-лучей, являются УФ-стабилизированными. Поэтому их можно устанавливать в том числе и снаружи.

Возможность осмотра клапана

Обратный клапан можно демонтировать, просто отвинтив "зажимную гильзу для вставки" (компонент (4) "Разборная схема обратные клапаны" на странице 433). Эта характеристика позволяет без труда очистить затвор от возможных отложений, образовавшихся во время использования.

Надежность работы

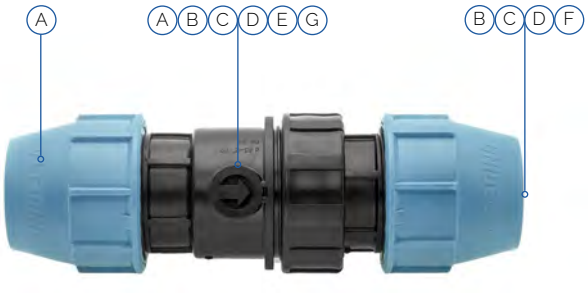
Открытие затвора происходит даже при низком давлении в направлении подачи, а идеальная герметичность обеспечивается даже при низком обратном давлении в противоположном направлении.
См. следующую таблицу.

Ø	Минимальное давление открытия клапана [bar]	Минимальное давление закрытия клапана [bar]
20	0,030	0,09
25	0,030	0,09
32	0,030	0,09
40	0,035	0,09
50	0,040	0,09
63	0,050	0,09

5.3 Маркировка

Важная информация нанесена непосредственно на клапан посредством маркировки:

(A) Название производителя "**UNIDELTA**";
(B) Место производства "**MADE IN ITALY**";
(C) Материал "**PP**";
(D) Диаметр соединяемой полиэтиленовой трубы (например, "**Ø40**");
(E) Номинальный диаметр, соответствующий возможной резьбе и приблизительно проходному сечению (например, "**1"1/4**" и "**DN 32**");
(F) Максимальное рабочее давление ("**PN 16**");
(G) **Стрелка,** указывающая направление потока.

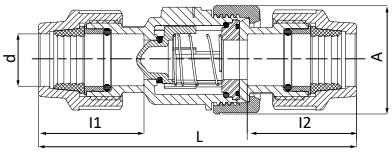


5.4 Технические данные

1076

Компрессионный обратный клапан

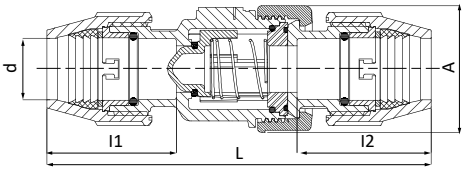




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





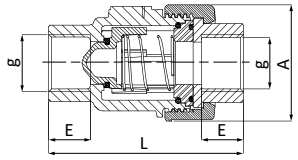
>>>

50x50	1076051000001	303x99x99	303	110	110	95	16
63x63	1076064000001	342x117x117	342	130	126	116	16

1077

Обратный клапан резьбовой (внутренняя/внутренняя)





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	L [mm]	E [mm]	A [mm]	Pmax [bar]
1/2”x1/2”	1077002002001	89x50x50	89	17	50	16
3/4”x3/4”	1077003003001	99x60x60	99	18	60	16
1”x1”	1077004004001	110x68x68	110	21	68	16
***1”1/4x1”1/4**	1077005005001	128x83x83	128	24	80	16
***1”1/2x1”1/2**	1077006006001	142x99x99	142	24	95	16
***2”x2”**	1077007007001	167x117x117	167	27	116	16

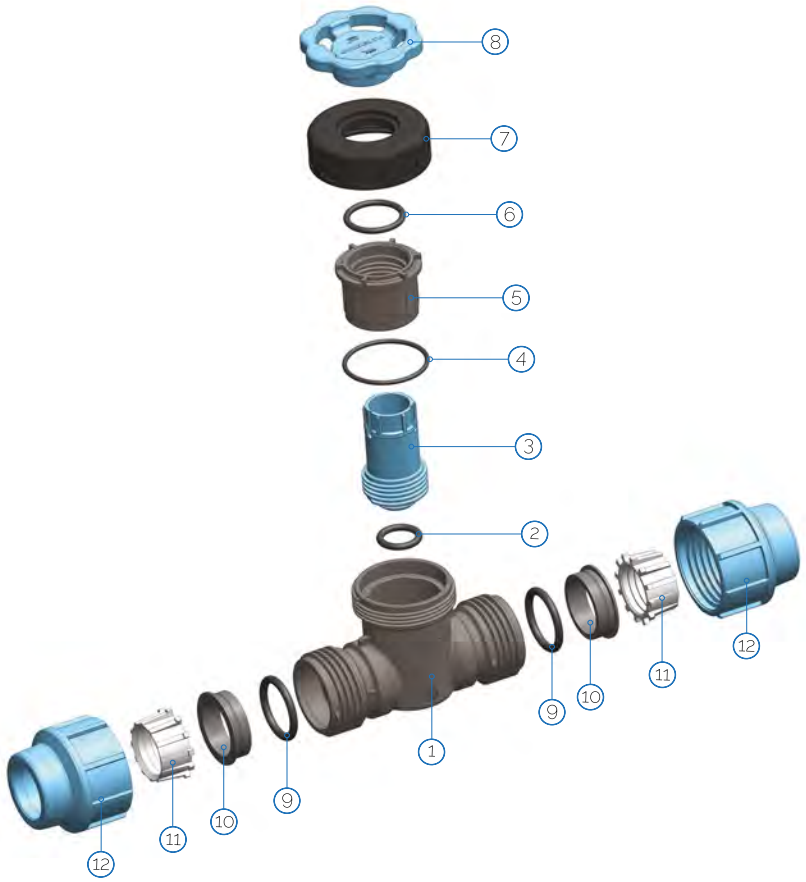
* Конец резьбы усилен кольцом из нержавеющей стали

6. Вентили запорные

Полипропиленовые вентили запорные Unidelta изготовлены специально для полиэтиленовых труб и/или резьбовых муфт. Они совместимы с трубами из ПЭНП, ПЭВП, ПЭ40, ПЭ80, ПЭ100, ПЭ100RC изготовленными в соответствии со стандартами **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Они обычно используются для транспортировки воды под максимальным давлением 16 бар при 20°C (для более высокой температуры см. пределы, предписываемые стандартами о трубах ПЭ). Вентили Unidelta доступны также в версии с резьбовыми выходами, изготовленными в соответствии со стандартами **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
Запорно-регулировочный вентиль обеспечивает плавное регулирование расхода.

6.1 Конструкция и материалы

Разборная схема вентили запорные



1. **Корпус:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
2. **Уплотнительное кольцо шпинделя:** нитрильный каучук (NBR).
3. **Шпиндель:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
4. **Уплотнительное кольцо корпуса:** нитрильный каучук (NBR).
5. **Вставка:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
6. **Уплотнительное кольцо вставки:** нитрильный каучук (NBR).
7. **Верхняя зажимная гильза:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
8. **Ручка:** полипропилен (PP-B) высокостабильный с защитой от УФ-излучения.
9. **Кольцо радиального уплотнения на трубе:** нитрильный каучук (NBR).
10. **Втулка:** полипропилен (PP-B) высокостабильный с защитой от УФ-лучей.
11. **Зажимное кольцо:** ацетальная смола (POM).
12. **Зажимная гильза:** полипропилен (PP-B) высокостабильный, с защитой от УФ-лучей.

6.2 Преимущества

Использованные материалы
Запорный вентиль Unidelta состоит из компонентов, изготовленных исключительно из пластмассовых материалов. Поэтому нет никакого риска, присущего металлическим материалам, возникновения окисления и коррозии во время использования.

Высокая устойчивость к воздействию давления
Клапаны Unidelta могут работать при максимальном давлении 16 бар при температуре 20 °C.

Дизайн
Вентили Unidelta имеют компактные размеры, что позволяет устанавливать их даже в местах ограниченных размеров.

Легкость монтажа
Монтаж вентилей Unidelta - это легко.

Защита от уф-лучей
Материалы компонентов клапанов Unidelta, подвергающихся воздействию УФ-лучей, являются УФ-стабилизированными. Поэтому их можно устанавливать в том числе и снаружи.

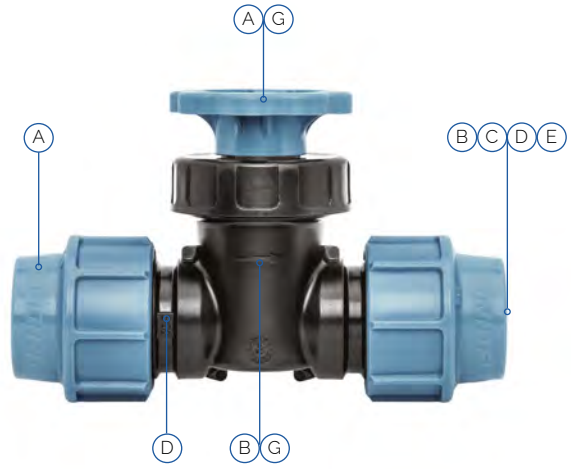
Возможность осмотра клапана
Запорный вентиль можно демонтировать, просто отвинтив "зажимную гильзу для вставки" (компонент (7) "Разборная схема вентили запорные" на странице 436). Эта характеристика позволяет без труда очистить затвор от возможных отложений, образовавшихся во время использования.

Регулирование потока
При повороте ручки вентиля можно постепенно регулировать поток.

6.3 Маркировка

Важная информация нанесена непосредственно на клапан посредством маркировки:

(A) Название производителя "**UNIDELTA**";
(B) Место производства "**MADE IN ITALY**";
(C) Материал "**PP**";
(D) Диаметр соединяемой полиэтиленовой трубы (например, "**Ø32**") или размер резьбы (например, "**1"**");
(E) Максимальное рабочее давление ("**PN 16**");
(F) **Стрелка,** указывающая направление потока;
(G) Направление открытия и закрытия вентиля на ручке ("**OPEN**" и "**CLOSE**").

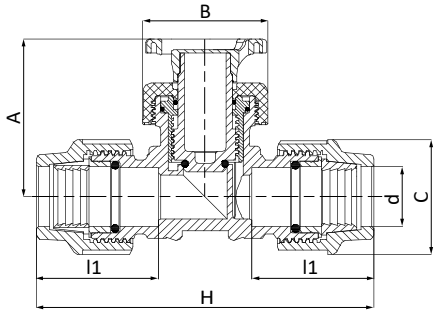


6.4 Технические данные

1078

Компрессионный запорный вентиль



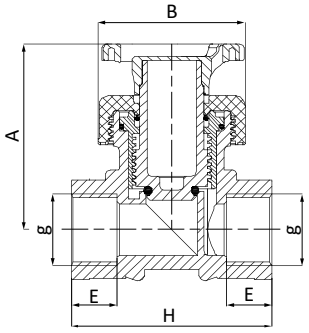


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

1079

Резьбовой запорный вентиль (внутренняя/внутренняя)





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	A [mm]	B [mm]	Pmax [bar]
3/4”x3/4”	1079003003001	132x79x60	79	18	112	59	16
1”x1”	1079004004001	143x95x70	95	21	120	70	16

7. Инструкции по монтажу клапанов

Шаровые краны, обратные клапаны и вентили запорные Ø 20 mm ÷ 40 mm



Разрезать трубу ортогонально оси, пользуясь специальными труборезами или дисковыми либо ленточными пилами. В последнем случае, чтобы получить сечение под прямым углом, рекомендуется использовать направляющие коробы.



Удалить заусенцы, полученные в результате резки, и притупить кромки трубы, чтобы облегчить монтаж и не повредить уплотнение. Наружная поверхность трубы не должна иметь дефектов или надрезов по всей длине ввода в корпус клапана.



Отвинтить голубую зажимную гильзу и вставить ее на трубу, после чего становить зажимное кольцо. Убедиться, что последнее повернуто в нужном направлении, то есть что более широкая часть обращена к корпусу клапана.



Втолкнуть трубу в клапан, действуя в осевом направлении, переходя за уплотнитель до внутреннего упора корпуса клапана.



Завинтить зажимную гильзу сначала вручную, а затем с помощью специального ключа. Зажимная гильза должна быть сильно затянута, но нет необходимости, чтобы она контактировала с концевым упором корпуса клапана.

Шаровые краны, обратные клапаны и вентили запорные Ø 50 mm ÷ 90 mm



Разрезать трубу ортогонально оси, пользуясь специальными труборезами или дисковыми либо ленточными пилами. В этом последнем случае, чтобы получить сечение под прямым углом, рекомендуется использовать направляющие коробы.



Отвинтить зажимную гильзу, не доставая зафиксированные внутри нее кольца (комплексный компонент).



Вставить комплексный компонент на трубу, после чего установить уплотнительное кольцо. Полезно смазать концевую часть трубы и уплотнитель силиконовым смазочным средством или любым другим смазочным средством, которое не влияет на питьевые свойства воды.



Втолкнуть трубу в клапан, действуя в осевом направлении до внутреннего упора корпуса клапана.



Завинтить зажимную гильзу сначала вручную, а затем с помощью ключа. Зажимная гильза должна быть сильно затянута, но нет необходимости, чтобы она контактировала с концевым упором корпуса клапана.

8. Компоненты

8.1 Компоненты для компрессионных фитингов

A217

Втулка



DIM	CODE
16	A217016000
20	A217020000
25	A217025000
32	A217032000
40	A217040000

>>>

>>>

DIM	CODE
50	A217050001
63	A217063001
75	A217075001
90	A217090001
110	A217110001

A218

Гайка



DIM	CODE
16	A218016000
20	A218020000
25	A218025000
32	A218032000
40	A218040000

>>>

>>>

DIM	CODE
50	A218050002
63	A218063002
75	A218075002
90	A218090002
110	A218110002

A219

Фальцевальное кольцо



DIM	CODE
16	A219016000
20	A219020000
25	A219025000
32	A219032000
40	A219040000

>>>

>>>

DIM	CODE
50	A219050001
63	A219063001
75	A219075001
90	A219090001
110	A219110001

A220

Уплотнительная прокладка



DIM	CODE
16	A220016000
20	A220020000
25	A220025000
32	A220032000
40	A220040000

>>>

>>>

DIM	CODE
50	A220050001
63	A220063001
75	A220075001
90	A220090001
110	A220110001

8.2 Компоненты для клапанов

A24601

Зажимная гильза для шарового крана



DIM	CODE
20	A246010200
25	A246010250
32	A246010320
40	A246010400

>>>

>>>

DIM	CODE
50	A246010500
63	A246010630
75	A246010750
90	A246010900

A24602

Ручка для шарового крана



DIM	CODE
20	A246020200
25	A246020250
32	A246020320
40	A246020400

>>>

>>>

DIM	CODE
50	A246020500
63	A246020630
75	A246020750
90	A246020900

A24603

Ручка для регулирующего клапана



DIM	CODE
20-25 - 3/4"	A246032025
32 - 1"	A246030032

A24604

Верхнее черное кольцо для регулирующего клапана



DIM	CODE
20-25 - 3/4"	A246042025
32 - 1"	A246040032

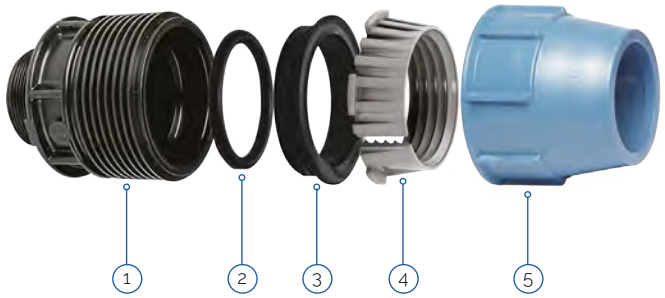
8.3 Специальные компоненты

DeltOne Mining - это инновационный фитинг, специально разработанный Unidelta **для подсоединения полиэтиленовых труб в горнодобывающей отрасли,** когда определяющим фактором является химическая устойчивость составляющих компонентов. Например, в таком процессе как выщелачивание, часто используемом для извлечения меди, используются более или менее концентрированные растворы серной кислоты. Они оказывают очень агрессивное воздействие на прокладки из бутадиен- нитрильного каучука и зажимные кольца из ацеталевой смолы, используемые в случае традиционных компрессионных фитингов. Вот почему компания Unidelta решила, для этих типов применения, оснастить свой фитинг компонентами, изготовленными из материалов с повышенной химической стойкостью по сравнению с традиционными.
DeltOne MINING сохраняет тот же инновационный дизайн, легкую сборку и надежную фиксацию, как и у классического фитинга DeltOne, но вместо уплотнительного кольца из бутадиен-нитрильного каучука используется **прокладка из флюороэластомера,** а **зажимное кольцо изготовлено из ХПВХ** вместо ацеталевой смолы. Кроме того, корпус, втулка и стопорное кольцо выполнены, как и раньше, из полипропилена.

Материалы

Все перечисленные материалы, характеризуются значительной химической стойкостью, позволяют DeltOne Mining работать в контакте с чрезвычайно агрессивными химическими соединениями, особенно с кислотами, которые действуют как изнутри (из транспортируемой жидкости), так и из внешней среды. Поэтому DeltOne Mining идеально подходит не только для применения в горнодобывающем секторе, но и в других областях, где требуется высокая химическая стойкость. По конкретным вопросам, касающимся химической стойкости, обращайтесь напрямую в компанию Unidelta.

1. **Корпус:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
2. **Уплотнительная прокладка:** O-ring VITON.
3. **Втулка:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.
4. **Зажимное кольцо**: CPVC.
5. **Зажимная гайка:** полипропилен (PP-B) с высокой степенью устойчивости и с защитой от УФ-излучения.



A219 - CPVC

CPVC зажимное кольцо



DIM	CODE
32	A219032002
63	A219063002
75	A219075002
90	A219090002
110	A219110002

A220 - VITON

VITON уплотнительная прокладка



DIM	CODE
63	A220063003
75	A220075003
90	A220090003
110	A220110003

9. Дополнительные устройства

1101

Фаскосниматель для труб



DIM	CODE
16 ÷ 160	1101016160001

1037

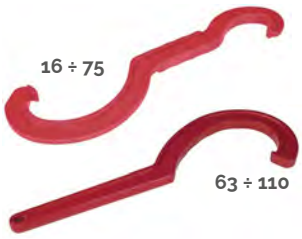
Ключ для соединений из полипропилена



DIM	CODE
16 ÷ 63	1037016001001

1038

Ключ для соединений из ацеталовой смолы



DIM	CODE
16 ÷ 75	1038016002001
63 ÷ 110	1038063002001

5033

Стандартный резак



DIM	CODE
10 ÷ 32	5033010032001
16 ÷ 63	5033016063001

10. Химическая стойкость

"APPENDIX A Chemical resistance" на странице 521

В следующей таблице приводится химическое сопротивление материалов, используемых для компонентов фитингов, соприкасающихся с жидкостью. Параметры приводятся для температуры 20°C для фитингов, не подвергаемых механической нагрузке.

Химическая стойкость указана посредством условных обозначений. Если стойкость не указана, испытания не были проведены.

S = Удовлетворительное сопротивление: можно использовать без ограничений.

L = Ограниченное сопротивление: вещество может повлиять на материал. Следует уменьшить рабочее давление и температуру. Срок службы соединения может сократиться.

NS = Неудовлетворительное сопротивление: вещество сильно воздействует на материал. Соединение не можетбытьиспользовано.

Концентрация выражается в процентах к массе вещества в водном растворе; а в некоторых случаях показана через следующие обозначения:

Dil.sol. = Разбавленный водный раствор в концентрации не более 10%.

Sol. = Водный раствор в концентрации выше 10%, но не насыщенный.

Sat.sol. = Насыщенный водный раствор.

tg = Чистое вещество.

tg-l = Чистое вещество в жидком виде.

tg-g = Чистое вещество в газообразном состоянии.

tg-s = Чистая субстанция в твердом виде.

Work.sol. = Раствор в концентрации, как правило, использующейся в промышленности.

Susp. = Твердая суспензия в насыщенном растворе.


UNIDELTA
Since 1973



Conexões de compressão

Português

Definições e símbolos		**449**
1.	**Conexões Unidelta de aperto mecânico**	**449**
2.	**Conexão de compressão e tomadas de carga**	**451**
2.1	Campo de aplicação	451
2.2	Normas de referência	451
2.3	Certificações de qualidade	451
2.4	Temperatura de funcionamento	452
2.5	Resistência à tração	452
2.6	Vedação hidráulica	453
2.7	Materiais	454
2.8	Instruções de montagem	457
3.	**Fichas técnicas**	**464**
3.1	Conexões de compressão	464
3.2	Conexão de transição universal	483
3.3	Conexões de compressão de transição	484
3.4	Conexão de união	487
3.5	Selas de derivação	488
3.6	Colares de tomada	489
4.	**Válvulas de esfera**	**497**
4.1	Estrutura e materiais	497
4.2	Vantagens das válvulas de esfera	498
4.3	Marcação	499
4.4	Acesso à esfera	500
4.5	Fichas técnicas	501
5.	**Válvulas de retenção**	**506**
5.1	Estrutura e materiais	507
5.2	Vantagens das válvulas de retenção	507
5.3	Marcação	508
5.4	Fichas técnicas	509

6.	**Válvulas globo**	**510**
6.1	Estrutura e materiais	510
6.2	Vantagens das válvulas de globo	511
6.3	Marcação	511
6.4	Fichas técnicas	512
7.	**Instruções de montagem das válvulas**	**513**
8.	**Componentes**	**515**
8.1	Componentes para conexões de compressão	515
8.2	Componentes para válvulas	516
8.3	Componentes especiais	517
9.	**Equipamentos**	**518**
10.	**Resistência química**	**519**

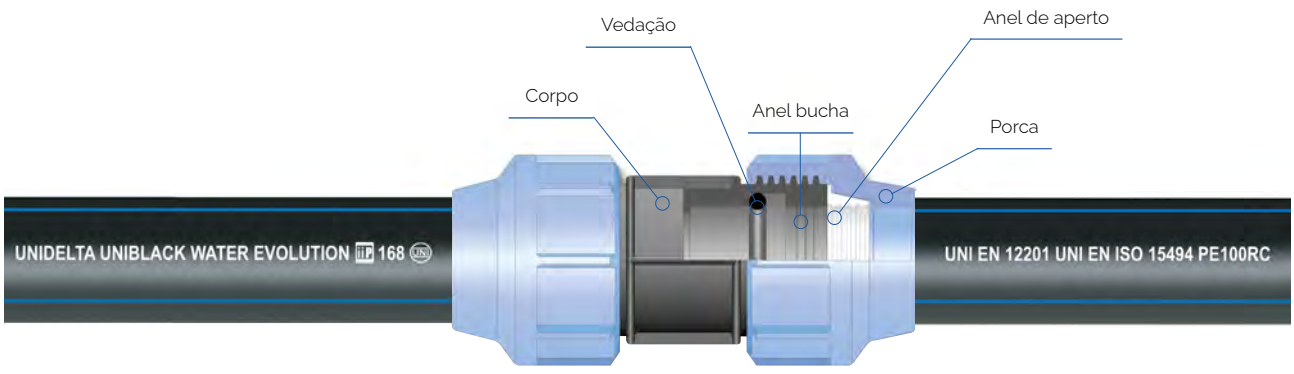
Definições e símbolos

PP-B	Polipropileno copolímero	DN	Diâmetro nominal [mm]
POM	Resina acetal	NF, V	Número de furos
NBR	Borracha nitrílica	d, d_1	Diâmetros de acoplamento [mm]
PEBD	Polietileno de baixa densidade	g	Rosca nominal [in.]
PEAD	Polietileno de alta densidade		Idôneo para água fria
PTFE	Politetrafluoretileno		Componentes especiais
PN	Pressão nominal [bar]		Conexões de compressão
Pmax	Pressão máxima [bar]		Catálogo técnico
PFA	Pressão de exercício admissível (EN805): pressão hidrostática máxima que um componente é capaz de suportar durante o funcionamento em serviço contínuo [bar]		

1. Conexões Unidelta de aperto mecânico

Estes tipos de conexões podem ser realizadas em metal ou em plástico, tal como as conexões de compressão de polipropileno Unidelta: são junções removíveis e de fácil instalação. O sistema de junção baseia-se na cravação do tubo de polietileno através de anéis dentados que envolvem e apertam a tubulação. A gama de conexões de polipropileno Unidelta inclui os diâmetros de 16 mm a 110 mm com pressão nominal de uso de 16 bar.

União de aperto mecânico de polipropileno Unidelta



UNIDELTA

Since 1973



DELTONE System

Polypropylene (PP-B) high-stability

Compression fittings • Valves • Clamp saddles

unidelta.com

2. Conexão de compressão e tomadas de carga

2.1 Campo de aplicação

As conexões de compressão e as tomadas de carga Unidelta são produtos específicos para unir tubos de polietileno com um diâmetro externo entre 16 mm e 110 mm (200 mm para as tomadas de carga). São compatíveis com todos os tubos LDPE, HDPE, PE40, PE80, PE100, PE100RC construídos em conformidade com **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Normalmente são utilizados para o transporte de água potável e fluidos pressurizados até 16 bar para usos gerais. Graças às características dos materiais com que são fabricados, as conexões são resistentes ao ataque de numerosas **substâncias químicas** (ver "APPENDIX A Chemical resistance" a página 521) e resistentes aos **raios UV.**
Com a conexaõ universal Unidelta, é possível ligar sistemas tubulares PE métricos com tubos pré-existentes de qualquer material com um diâmetro externo entre 15 mm e 35 mm.

2.2 Normas de referência

As conexões e as tomadas de carga Unidelta satisfazem as normas para a adução de água potável de acordo com as disposições vigentes em Itália e vários outros países. Decreto Ministerial n.174 de 06/04/2004.

Conexões e tomadas de carga
Em conformidade com as normas ISO 17885, DIN 8076, ISO 13460.

Roscas
Em conformidade com as normas SO7/1, DIN 2999, BS 21, EN 10226-1.

Flange
Furos e distâncias entre eixos em conformidade com as normas UNI 2223, UNI 2278, DIN 8063, UNI EN 1092-1.

2.3 Certificações de qualidade

A Unidelta opera em total conformidade com as normativas do Sistema de Qualidade **UNI EN ISO 9001: 2015,** de acordo com os quais é certificada desde 1995. Em 2016 obteve também as certificações **ISO 14001** (Sistemas de Gestão Ambiental) e **BS OHSAS 18001** (Sistemas de Gestão de Segurança e Saúde Ocupacional) atualizado em 2020 com a **ISO 45001:2018** (Sistemas de Gestão para a Saúde e Segurança no Trabalho).
As conexões Unidelta foram testadas e aprovadas por vários institutos de certificação.



NB. La gamma dei prodotti certificati IIP è visionabile sul sito www.unidelta.com e/o www.iip.it
NB. The range of products approved by Kiwa can be seen on the web site www.kiwa.com/nl
NB. Watermark L.N. 26588: Please see the certifi cate for the list of the products which are covered by the approval. register.saiglobal.com

2.4 Temperatura de funcionamento

As conexões e as tomadas de carga **não são adequadas para uso com água quente,** pois são limitadas pelos âmbitos de uso de tubos de polietileno. As temperaturas máximas de operação são aquelas relacionadas ao uso de tubos de polietileno e, portanto, é necessário consultar os regulamentos vigentes em seu país. **As conexões e as tomadas de carga podem resistir a temperaturas abaixo de 0°C.** A tabela a seguir mostra a máxima pressão de operação permitida em serviço contínuo (PFA) quando a temperatura muda no caso de o fluido transportado ser água de acordo com as normas EN 805, EN 12201 e ISO 13761. Para valores entre os indicados, pode ser executada uma interpolação linear.

T de funcionamento [°C]	≤20°	25°	30°	35°	40°	45°
PFA [bar]	16	14,9	13,9	12,8	11,8	10,8
PFA [bar]	10	9,3	8,7	8	7,4	6,7

2.5 Resistência à tração

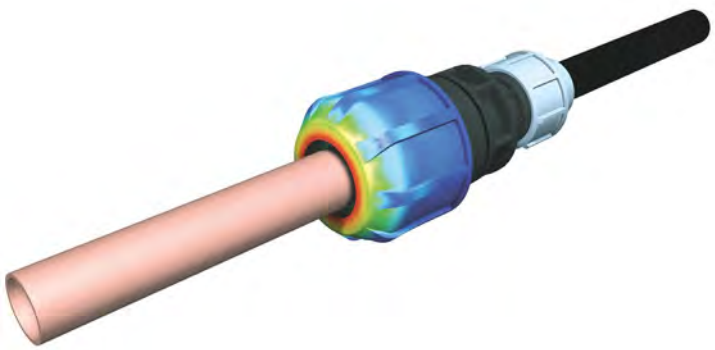
A Unidelta submete as suas conexões a testes de tração com as cargas indicadas na tabela "Cargas de teste de tração" (duração de teste de 1 hora e a 20°C), cumprindo as normas mais restritivas.

Cargas de teste de tração

	PE100 - PN 16	
Ø [mm]	**F [N]**	**F [kgf]**
16	883	85
20	1225	125
25	1774	181
32	2950	301
40	4557	465
50	7076	722
63	11250	1148
75	15719	1604
90	22736	2320
110	33898	3459



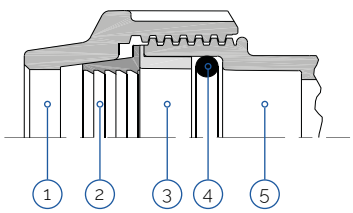
Análise FEM - Distribuição de tensões na porca da conexão universal submetida a cargas de tração e pressão combinadas

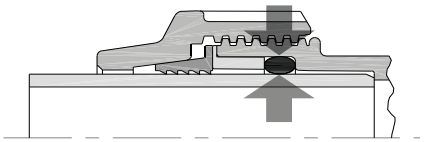


2.6 Vedação hidráulica

A vedação hidráulica em uma conexão mecânica é associada ao tipo de vedação usada e à pressão que a conexão, depois de instalada, consegue exercer sobre as superfícies de contato entre a própria vedação, o tubo e o corpo da conexão.

Vedação hidráulica da conexão Unidelta com Ø da 16 a 40 mm





1 Porca
2 Anel de aperto
3 Anel bucha
4 Vedação
5 Corpo

4 O-ring Unidelta

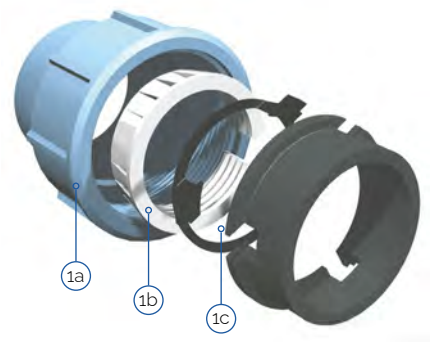


No estudo e desenvolvimento das suas conexões, a Unidelta conduziu muitos testes nas condições mais severas a que as conexões podem ser submetidas durante o seu período de funcionamento, tanto no que diz respeito à condição do tubo a ser conectado (ovalização, subdimensionamento) quanto no que diz respeito à carga aplicada. Na verdade, uma conexão usada em um sistema pode ser submetida a tensões por ciclos contínuos de pressão variável, sobrepressões devido a perturbações, tais como golpe de aríete, pressões externas mais altas que a pressão interna do sistema, cargas de tração, flexão e muito mais. Geralmente, espera-se que a vida de um sistema seja de muitos anos e, portanto, as conexões devem garantir um desempenho constante, mesmo a longo prazo. Com os testes realizados, descobriu-se que o tipo de vedação que garante o melhor desempenho em todos os casos possíveis é aquela com geometria toroidal do O-ring (não surpreende que o O-ring é a vedação normalmente usada em aplicações mecânicas mais severas).

Para garantir um alto nível de segurança ao longo do tempo, é importante que a compressão da vedação não esteja vinculada à força de aperto da porca, caso contrário, riscos de vazamento podem ser gerados devido ao aperto incorreto da conexão ou liberação da porca submetida a ciclos de pressão variável. As conexões Unidelta usam uma vedação tipo O-ring bem posicionada em uma sede cilíndrica e não precisam de anéis de compressão.

Para as conexões com diâmetro de 50, 63, 75, 90 e 110 mm, foi desenvolvido o sistema DeltOne, no qual a porca, o anel de aperto e o anel bucha estão unidos para formar um único componente. A vedação usada é sempre de tipo O-ring como no modelo clássico. Desta forma, a montagem da conexão é extremamente fácil e rápida, sem comprometer as características de segurança da junta.

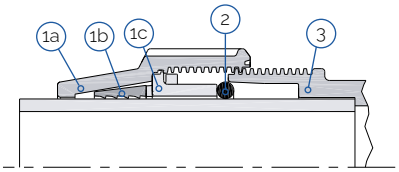
Sistema DeltOne para conexões Ø 50, 63, 75, 90, 110 mm



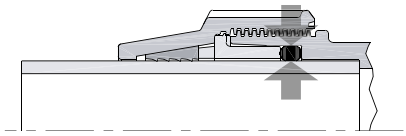
A porca 1a, o anel de aperto 1b e o anel bucha 1c estão unidos em um único elemento para facilitar montagem da conexão no tubo.



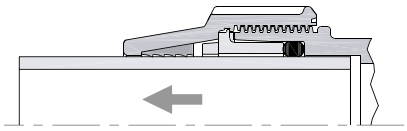
Vedação hidráulica da conexão tipo DeltOne Ø 50, 63, 75, 90, 110 mm



A porca (1a), o anel de aperto (1b) e o anel bucha (1c) estão unidos em um único elemento.



Ao apertar a porca (1a) no corpo (3), a vedação (2) é empurrada corretamente para a sua sede (o anel bucha não deve comprimir a vedação para preservar a funcionalidade do O-ring).

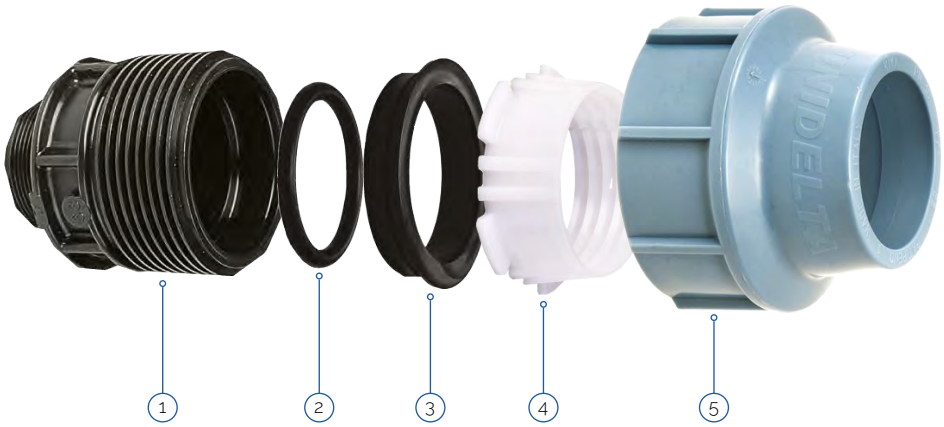


Em caso da força de tração, o anel de aperto encaixa-se na parte cônica da porca, garantindo a resistência ao desengate.

2.7 Materiais

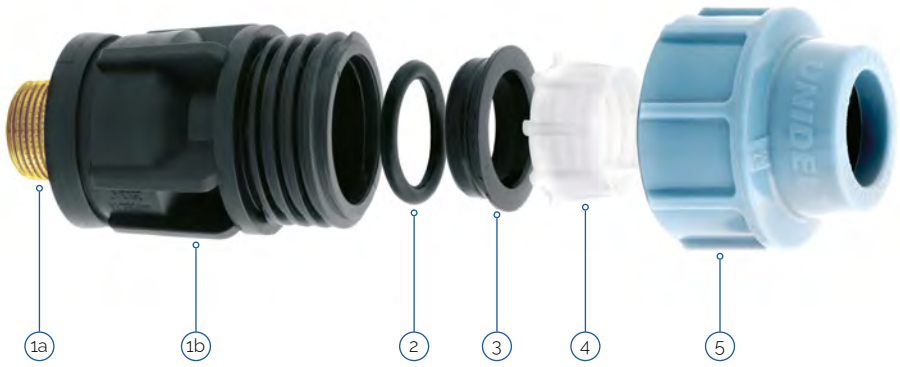
Conexões de compressão

(1) **Corpo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
(2) **Vedação:** O-ring.
(3) **Anel bucha:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
(4) **Anel de aperto:** resina acetal (POM).
(5) **Porca:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.



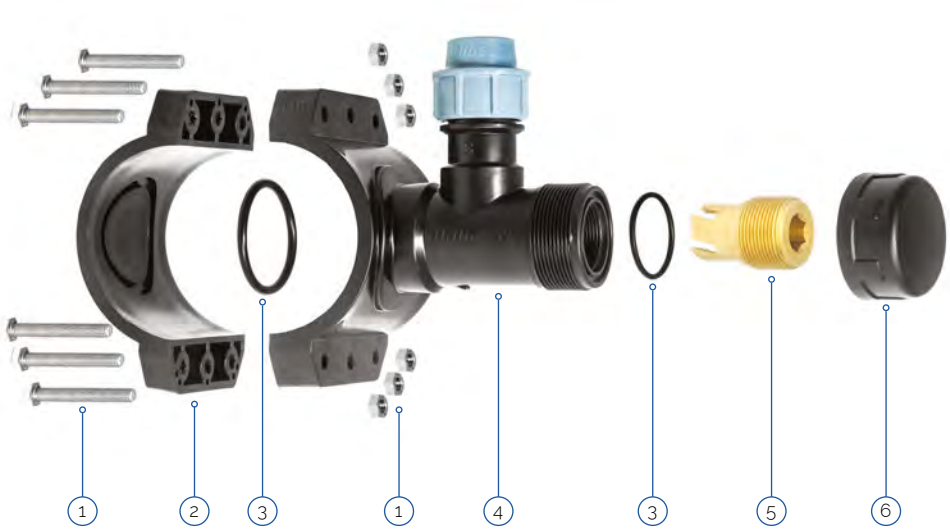
Conexões de compressão de transição

1a **Rosca:** inserto metálico em latão estampado no corpo.
1b **Corpo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
2 **Vedação:** O-ring.
3 **Anel bucha:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
4 **Anel de aperto:** resina acetal (POM).
5 **Porca:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.



Colar de derivação para carga

1 **Parafusos:** aço inox A4.
2 **Fundo da tomada de carga:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
3 **Vedações:** O-ring.
4 **Derivação de tomada de carga:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
5 **Perfurador:** latão.
6 **Tampão:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.



Tomadas de carga PN 10

1 **Parafusos:** aço galvanizado.
2 **Fundo da tomada de carga:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
3 **Vedação:** O-ring.
4 **Derivação tomada de carga:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
5 **Anel de reforço:** aço inox.



Tomadas de carga PN 16

1 **Parafusos:** aço galvanizado.
2 **Fundo da tomada de carga:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
3 **Vedação:** O-ring.
4 **Derivação tomada de carga:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
5 **Anel de reforço:** aço inox.



2.8 Instruções de montagem

Video Tutorial
Unidelta SPA Official

Conexões de compressão Ø 16 mm ÷ 40 mm



Cortar o tubo ortogonalmente ao eixo usando cortadores de tubos especiais ou serras circulares ou de fita. Neste último caso, para obter uma seção reta, é aconselhável usar caixas de orientação.



Eliminar as rebarbas devidas ao corte e chanfrar a extremidade do tubo para facilitar sua montagem e para evitar de danificar a vedação da conexão. A superfície externa do tubo não deve ter imperfeições ou entalhes durante todo o comprimento da inserção no corpo da conexão.



Desparafusar a porca azul e inseri-la no tubo com o anel de aperto. Certificar-se de que este último tenha a parte cônica do lado certo, ou seja com a parte mais larga na direção da conexão.



Empurrar o tubo para dentro da conexão, atuando em direção axial, passando a vedação até o limite interno do corpo da conexão.
É útil lubrificar a extremidade do tubo e a vedação com um lubrificante de silicone que não altere as propriedades de potabilidade da água.
Não usar óleos ou graxas de base mineral.



Primeiro aperte a porca manualmente e depois use a chave de aperto apropriada. A porca deve ser fechada com força, embora não seja necessário que entre em contato com o limite final do corpo da conexão.

Conexões de compressão Deltone Ø 50 mm ÷ 110 mm



Cortar o tubo ortogonalmente ao eixo usando cortadores de tubos especiais ou serras circulares ou de fita. Neste último caso, para obter uma seção reta, é aconselhável usar caixas de orientação.



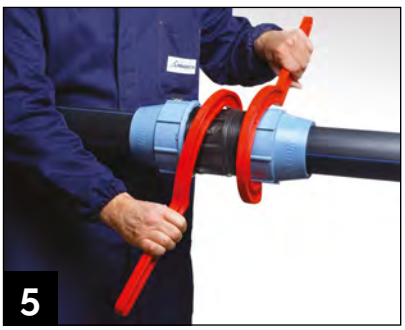
Desaparafusar a porca azul sem remover os anéis montados no interior (componente integrado).



Introduzir o componente integrado no tubo logo depois da vedação. É útil lubrificar a extremidade do tubo e a vedação com um lubrificante de silicone que não altere as propriedades de potabilidade da água. Não usar óleos ou graxas de base mineral.



Inserir o tubo no corpo da conexão até ao limite interno.



Aperte primeiro a porca manualmente e depois use a chave de aperto apropriada. A porca deve ser fechada com força, embora não seja necessário que entre em contato com extremidade do corpo da conexão.

Junta de transição universal CODE 1033



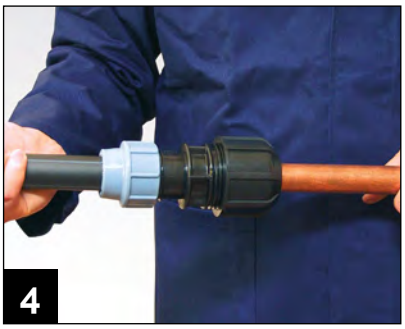
Cortar o tubo ortogonalmente ao eixo e elimine as rebarbas devidas ao corte. A superfície externa do tubo não deve ter imperfeições ou entalhes durante todo o comprimento da inserção no corpo da conexão.



Caso a porca esteja particularmente desapertada, empurrar a conexão lado universal no tubo em direção axial até à extremidade interna do corpo da conexão.



Aparafuse a porca usando a chave de aperto. A porca deve ser fechada com força, embora não seja necessário que entre em contato com o limite final do corpo da conexão.



Montar o tubo da série métrica PE (diâmetro em mm) seguindo as instruções da conexão padrão ("Conexões de compressão Ø 16 mm ÷ 40 mm" a página 457).

Colar de derivação em carga CODE 1025



Identificar o ponto de instalação e verificar se a superfície externa do tubo não apresenta resíduos de terra, imperfeições ou incisões na zona de contato com a vedação. Posicionar a vedação no respevtivo alojamento na parte superior do colar.



Posicionar a parte inferior do colar no ponto escolhido. Acoplar a parte superior do colar com a inferior inserindo os parafusos na parte inferior (a parte inferior do colar tem o encaixe para a cabeça dos parafusos).



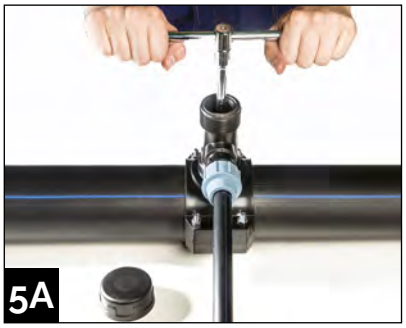
Aparafusar e apertar as porcas operando diagonalmente (em cruz).

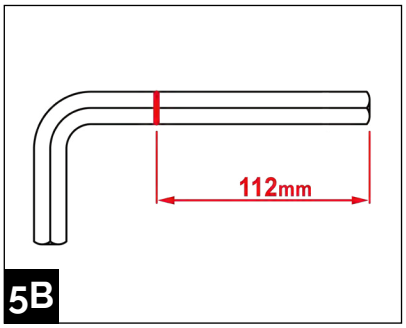


Inserir o tubo de derivação conforme as instruções sobre as conexõe de compressão ("Conexões de compressão Ø 16 mm ÷ 40 mm" a página 457).

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Desaparafusar o tampão superior de vedação e inserir a chave no respetivo alojamento hexagonal do perfurador até o limite. Aparafuse o perfurador, usando uma alavanca de comprimento sufi ciente, até que a lâmina tenha cortado completamente a parede do tubo (lembre-se de marcar na chave a altura de 112 mm mostrada no desenho).
A perfuração é destacada por uma ligeira saída de água e/ou por uma diminuição da resistência ao aparafusamento. **Em qualquer caso, nunca ultrapasse a altura de 112 mm indicada na chave.**



Desaparafusar o perfurador e colocá-lo exatamente, e não além, no limite superior da rosca interna da torre (a secção cortada do tubo permanece bloqueada de modo seguro no perfurador).



Fechar a fundo o tampão de vedação e finalizar o aperto utilizando uma chave.

Tomadas de carga



Identificar o ponto de instalação e verificar se a superfície externa do tubo não apresenta resíduos de terra, imperfeições ou incisões na zona de contacto com a guarnição. Colocar a vedação na apropriada sede da tomada de carga.



Posicionar a parte inferior da tomada de carga no ponto escolhido. Acoplar a parte superior da tomada de carga com aquela inferior.



Introduzir os parafusos de baixo (a parte cega da tomada de carga tem um encaixe para a cabeça dos parafusos). Aparafusar e apertar as porcas operando diagonalmente (em cruz).



Perfurar o tubo tomando cuidado para não danificar as roscas do suporte e a guarnição e usando um espaçador para evitar de perfurar o tubo do outro lado. É preferível usar pontas em forma de taça, pois elas limitam o risco de danificar as roscas e a vedação e reduzem o depósito de material dentro da tubulação.

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Método alternativo:



Com um marcador permanente branco, desenhe pontos de referência no tubo que permitam o reposicionamento do suporte. Desmonte novamente o suporte da tubulação.



Furar o tubo e remover o material depositado dentro da conduta.



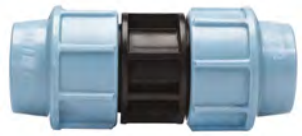
Remontar a tomada de carga nas marcas de referência previamente traçadas com o auxílio de um pino (por exemplo, a broca usada para furar) para manter a derivação no eixo com o furo.

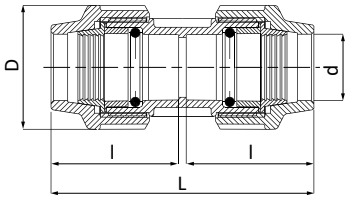
3. Fichas técnicas

3.1 Conexões de compressão

1001

União

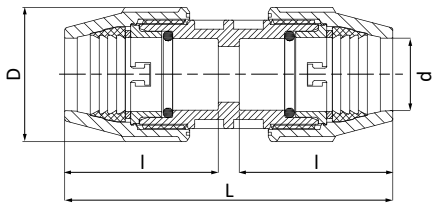




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	PN [bar]
16x16	1001016000001	103x42x42	42	103	49	16
20x20	1001020000001	108x46x46	46	108	52	16
25x25	1001025000001	122x55x55	55	122	59	16
27x27	1001027000001	126x55x55	55	126	61	16
32x32	1001032000001	139x63x63	63	139	68	16
40x40	1001040000001	168x80x80	80	168	82	16

>>>





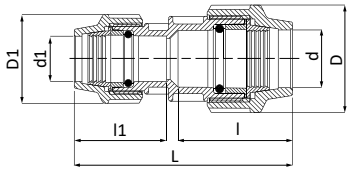
>>>

50x50	1001051000001	232x96x96	96	232	110	16
63x63	1001064000001	248x115x115	115	248	121	16
75x75	1001076000001	278x129x129	129	278	136	16
90x90	1001091000001	315x155x155	155	315	154	16
110x110	1001111000001	422x183x183	183	422	205	16

1002

União de redução

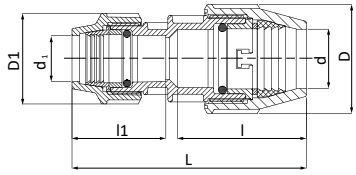




DIM dxd$_1$ [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	l1 [mm]	PN [bar]
20x16	1002020016001	110x46x46	46	42	110	56	50	16
25x20	1002025020001	128x55x55	55	46	128	67	56	16
32x20	1002032020001	139x63x63	63	46	139	70	60	16
32x25	1002032025001	143x63x63	63	55	143	70	66	16
40x25	1002040025001	158x80x80	80	55	158	85	66	16
40x32	1002040032001	163x80x80	80	63	163	88	71	16

>>>





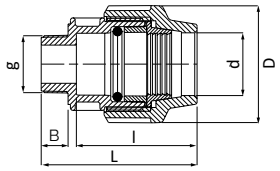
>>>

50x25	1002051025001	180x96x96	96	55	180	113	65	16
50x32	1002051032001	186x96x96	96	63	186	113	69	16
50x40	1002051040001	212x96x96	96	80	212	115	86	16
63x25	1002064025001	192x115x115	115	55	192	119	64	16
63x32	1002064032001	194x115x115	115	63	194	119	71	16
63x40	1002064040001	204x115x115	115	80	204	121	81	16
63x50	1002064051001	260x115x115	115	96	260	130	118	16
75x50	1002076051001	262x129x129	129	96	262	134	114	16
75x63	1002076064001	285x129x129	129	115	285	146	130	16
90x63	1002091064001	298x155x155	155	115	298	157	134	16
90x75	1002091076001	318x155x155	155	129	318	162	146	16
110x75	1002111076001	351x183x183	183	129	351	210	130	16
110x90	1002111091001	370x183x183	183	155	370	201	158	16

1003

Adaptador macho

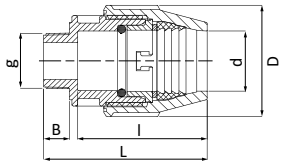




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x3/8”	1003016001001	69x42x42	42	69	50	13	16
16x1/2”	1003016002001	69x42x42	42	69	50	16	16
16x3/4”	1003016003001	69x42x42	42	69	50	17	16
20x1/2”	1003020002001	81x46x46	46	81	61	16	16
20x3/4”	1003020003001	82x46x46	46	82	61	17	16
20x1”	1003020004001	85x46x46	46	85	61	20	16
25x1/2”	1003025002001	89x55x55	55	89	69	16	16
25x3/4”	1003025003001	90x55x55	55	90	69	17	16
25x1”	1003025004001	93x55x55	55	93	69	20	16
32x1/2”	1003032002001	98x63x63	63	98	76	16	16
32x3/4”	1003032003001	98x63x63	63	98	76	17	16
32x1”	1003032004001	101x63x63	63	101	76	20	16
32x1”1/4	1003032005001	104x63x63	63	104	76	23	16
32x1”1/2	1003032006001	104x63x63	63	104	76	23	16
40x1”	1003040004001	108x80x80	80	108	82	21	16
40x1”1/4	1003040005001	117x80x80	80	117	82	29	16
40x1”1/2	1003040006001	117x80x80	80	117	82	28	16
40x2”	1003040007001	120x80x80	80	120	82	34	16

>>>





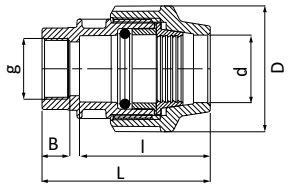
>>>

50x1”	1003051004001	143x96x96	96	143	111	26	16
50x1”1/4	1003051005001	146x96x96	96	146	111	28	16
50x1”1/2	1003051006001	146x96x96	96	146	111	28	16
50x2”	1003051007001	151x96x96	96	151	112	32	16
63x1”1/4	1003064005001	157x115x115	115	157	120	28	16
63x1”1/2	1003064006001	157x115x115	115	157	120	28	16
63x2”	1003064007001	161x115x115	115	161	120	32	16
63x2”1/2	1003064008001	158x115x115	115	158	120	29	16
75x2”	1003076007001	171x129x129	129	171	135	27	16
75x2”1/2	1003076008001	178x129x129	129	178	135	34	16
75x3”	1003076009001	178x129x129	129	178	135	34	16
90x2”	1003091007001	200x155x155	155	200	158	34	16
90x2”1/2	1003091008001	200x155x155	155	200	158	34	16
90x3”	1003091009001	200x155x155	155	200	158	34	16
90x4”	1003091010001	200x155x155	155	200	158	36	16
110x2”	1003111007001	247x183x183	183	247	198	34	16
110x3”	1003111009001	250x183x183	183	250	198	37	16
110x4”	1003111010001	250x183x183	183	250	200	37	16

1004

Adaptador fêmea

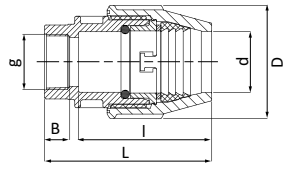




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
16x1/2”	1004016002001	69x42x42	42	69	50	17	16
16x3/4”	1004016003001	73x42x42	42	73	50	19	16
20x1/2”	1004020002001	77x46x46	46	77	58	18	16
20x3/4”	1004020003001	79x46x46	46	79	58	20	16
20x1”	1004020004001	81x47x47	47	81	58	22	16
25x1/2”	1004025002001	84x55x55	55	84	65	18	16
25x3/4”	1004025003001	86x55x55	55	86	65	20	16
25x1”	1004025004001	88x55x55	55	88	65	22	16
32x1/2”	1004032002001	92x63x63	63	92	71	18	16
32x3/4”	1004032003001	94x63x63	63	94	71	20	16
32x1”	1004032004001	96x63x63	63	96	71	22	16
***32x1”1/4**	1004032005001	97x63x63	63	97	71	23	16
40x1”	1004040004001	110x80x80	80	110	81	20	16
***40x1”1/4**	1004040005001	112x80x80	80	112	81	22	16
***40x1”1/2**	1004040006001	113x80x80	80	113	81	23	16

>>>





>>>

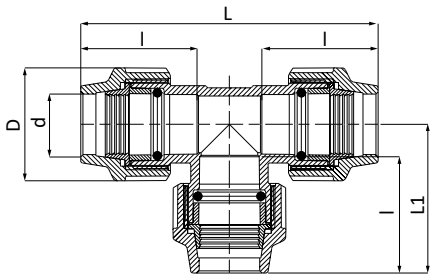
***50x1”**	1004051004001	140x96x96	96	140	117	20	16
***50x1”1/4**	1004051005001	144x96x96	96	144	112	22	16
***50x1”1/2**	1004051006001	144x96x96	96	144	112	23	16
***50x2”**	1004051007001	149x96x96	96	149	111	27	16
***63x1”1/4**	1004064005001	159x115x115	115	159	121	23	16
***63x1”1/2**	1004064006001	160x115x115	115	160	121	28	16
***63x2”**	1004064007001	165x115x115	115	165	121	22	16
***63x2”1/2**	1004064008001	168x115x115	115	168	121	23	16
***75x2”**	1004076007001	182x129x129	129	182	137	28	16
***75x2”1/2**	1004076008001	187x129x129	129	187	137	33	16
***75x3”**	1004076009001	187x129x129	129	187	137	33	16
***90x2”**	1004091007001	190x155x155	155	190	152	26	16
***90x2”1/2**	1004091008001	195x155x155	155	195	152	33	16
***90x3”**	1004091009001	195x155x155	155	195	152	33	16
***90x4”**	1004091010001	204x155x155	155	204	152	42	16
***110x3”**	1004111009001	263x183x183	183	263	204	40	16
***110x4”**	1004111010001	263x183x183	183	263	204	43	16

* A extremidade roscada é reforçada com um anel de aço inoxidável

1005

Tê 90°

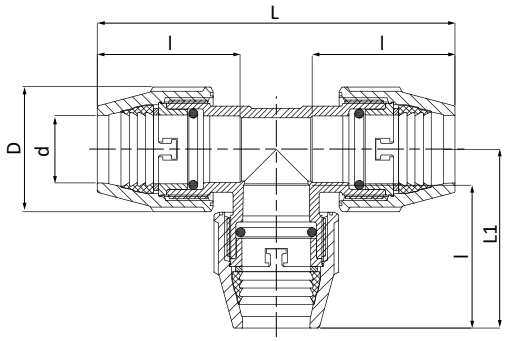




DIM dxdxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	L1 [mm]	PN [bar]
16x16x16	1005016000001	124x81x42	42	124	52	60	16
20x20x20	1005020000001	139x92x46	46	139	59	69	16
25x25x25	1005025000001	162x107x55	55	162	66	79	16
32x32x32	1005032000001	183x122x63	63	183	74	90	16
40x40x40	1005040000001	218x148x80	80	218	88	108	16

>>>





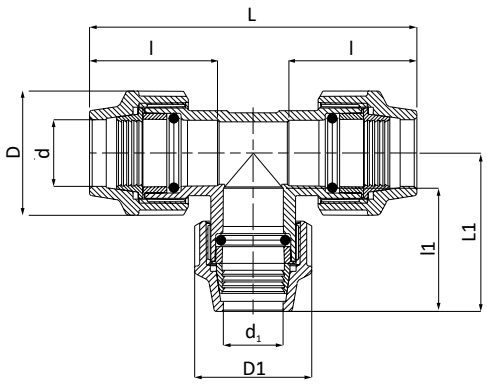
>>>

50x50x50	1005051000001	282x187x96	96	282	115	139	16
63x63x63	1005064000001	314x214x115	115	314	124	156	16
75x75x75	1005076000001	364x245x129	129	364	142	180	16
90x90x90	1005091000001	407x277x155	155	407	154	199	16
110x110x110	1005111000001	539x356x183	183	539	209	264	16

1013

Tê redutor 90°

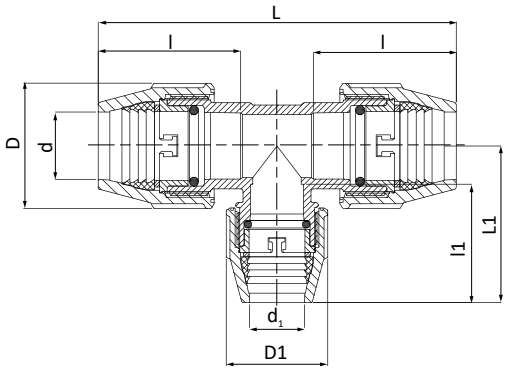




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x16x20	1013020016001	140x88x46	46	42	140	55	65	45	16
25x20x25	1013025020001	160x101x55	55	46	160	63	73	56	16
32x20x32	1013032020001	183x106x63	63	46	183	68	74	56	16
32x25x32	1013032025001	183x116x63	63	55	183	68	84	64	16
40x25x40	1013040025001	222x132x80	80	55	222	83	92	68	16
40x32x40	1013040032001	222x141x80	80	63	222	83	101	79	16

>>>





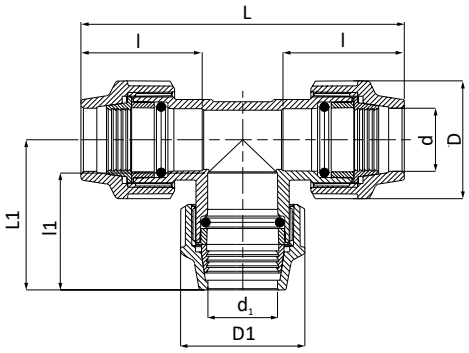
>>>

50x25x50	1013051025001	287x149x96	96	55	287	104	101	63	16
50x32x50	1013051032001	287x156x96	96	63	287	104	108	68	16
50x40x50	1013051040001	287x174x96	96	80	287	104	126	94	16
63x25x63	1013064025001	336x174x115	115	55	336	133	116	62	16
63x32x63	1013064032001	336x171x115	115	63	336	133	113	67	16
63x40x63	1013064040001	336x194x115	115	80	336	133	136	94	16
63x50x63	1013064051001	336x215x115	115	96	336	133	157	111	16
75x50x75	1013076051001	365x245x129	129	96	365	136	180	120	16
75x63x75	1013076064001	365x235x129	129	115	365	136	170	123	16
90x63x90	1013091064001	415x270x155	155	115	415	154	192	133	16
90x75x90	1013091076001	407x273x155	155	129	407	154	195	136	16
110x75x110	1013111076001	535x312x183	183	129	535	203	220	149	16
110x90x110	1013111091001	535x323x183	183	155	535	203	231	156	16

1029

Tê 90° com derivação aumentada

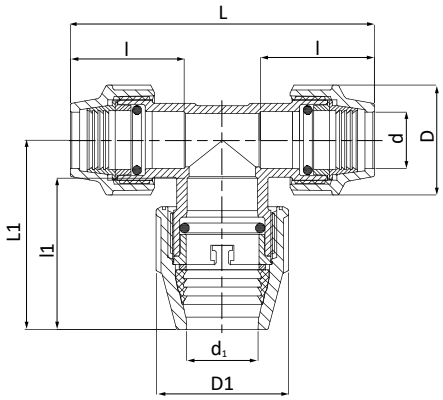




DIM dxd$_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	L1 [mm]	l1 [mm]	PN [bar]
20x25x20	1029020025001	139x102x55	46	55	139	56	79	65	16
25x32x25	1029025032001	160x114x63	55	63	160	63	86	69	16
32x40x32	1029032040001	183x131x80	63	80	183	68	99	81	16

>>>





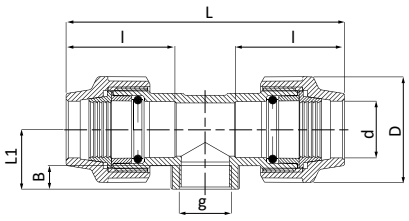
>>>

40x50x40	1029040051001	218x175x96	80	96	218	81	135	97	16

1007

Tê 90° com derivação fêmea roscada

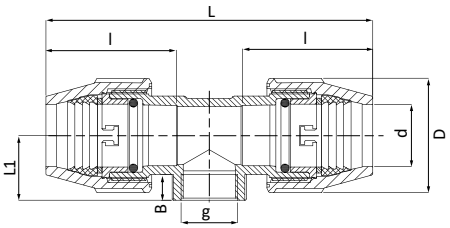




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1007016002001	123x52x42	42	123	49	17	31	16
16x3/4”x16	1007016003001	123x52x42	42	123	49	17	31	16
20x1/2”x20	1007020002001	139x70x46	46	139	55	19	47	16
20x3/4”x20	1007020003001	139x70x46	46	139	55	19	47	16
25x1/2”x25	1007025002001	160x78x55	55	160	63	16	50	16
25x3/4”x25	1007025003001	160x78x55	55	160	63	16	50	16
25x1”x25	1007025004001	160x83x55	55	160	63	21	55	16
32x1/2”x32	1007032002001	183x85x63	63	183	68	17	53	16
32x3/4”x32	1007032003001	183x85x63	63	183	68	17	53	16
32x1”x32	1007032004001	183x89x63	63	183	68	21	57	16
***32x1”1/4x32**	1007032005001	183x92x63	63	183	68	24	60	16
40x1”x40	1007040004001	205x85x80	80	205	81	21	45	16
***40x1”1/4x40**	1007040005001	217x89x80	80	217	81	25	49	16
***40x1”1/2x40**	1007040006001	210x87x80	80	210	81	23	47	16

>>>





>>>

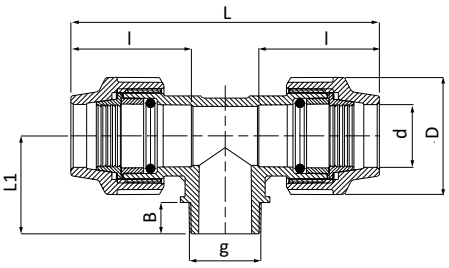
50x1/2”x50	1007051002001	282x109x96	96	282	105	31	61	16
***50x1”1/4x50**	1007051005001	282x105x96	96	282	105	24	57	16
***50x1”1/2x50**	1007051006001	282x104x96	96	282	105	24	56	16
***50x2”x50**	1007051007001	282x104x96	96	282	105	27	56	16
***63x1”1/4x63**	1007064005001	313x120x115	115	313	123	27	62	16
***63x1”1/2x63**	1007064006001	313x120x115	115	313	123	27	62	16
***63x2”x63**	1007064007001	313x123x115	115	313	123	30	65	16
***63x2”1/2x63**	1007064008001	313x123x115	115	313	123	30	65	16
***75x2”x75**	1007076007001	362x149x129	129	362	138	35	84	16
***75x2”1/2x75**	1007076008001	362x149x129	129	362	138	35	84	16
***75x3”x75**	1007076009001	362x150x129	129	362	138	36	85	16
***90x2”1/2x90**	1007091008001	406x169x155	155	406	154	43	91	16
***90x3”x90**	1007091009001	406x173x155	155	406	154	47	95	16
***90x4”x90**	1007091010001	406x173x155	155	406	154	47	95	16
***110x3”x110**	1007111009001	534x196x183	183	534	205	41	104	16
***110x4”x110**	1007111010001	534x196x183	183	534	205	45	104	16

* A extremidade roscada é reforçada com um anel de aço inoxidável

1010

Tê 90° com derivação macho roscada

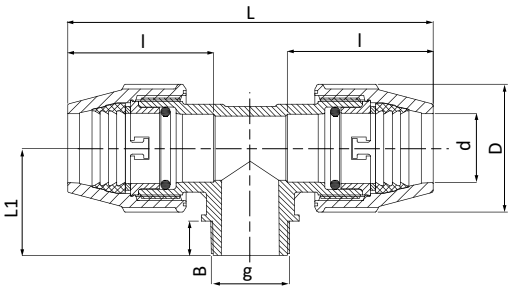




DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	B [mm]	L1 [mm]	PN [bar]
16x1/2”x16	1010016002001	125x57x42	42	125	50	18	36	16
16x3/4”x16	1010016003001	125x57x42	42	125	50	18	36	16
20x1/2”x20	1010020002001	139x58x46	46	139	56	16	35	16
20x3/4”x20	1010020003001	139x59x46	46	139	56	17	36	16
25x1/2”x25	1010025002001	160x63x55	55	160	63	16	35	16
25x3/4”x25	1010025003001	160x64x55	55	160	63	17	36	16
25x1”x25	1010025004001	160x66x55	55	160	63	19	38	16
32x1/2”x32	1010032002001	183x67x63	63	183	68	16	35	16
32x3/4”x32	1010032003001	183x68x63	63	183	68	17	36	16
32x1”x32	1010032004001	183x71x63	63	183	68	20	39	16
32x1”1/4x32	1010032005001	183x73x63	63	183	68	22	41	16
40x1”x40	1010040004001	218x84x80	80	218	81	20	44	16
40x1”1/4x40	1010040005001	218x84x80	80	218	81	22	44	16
40x1”1/2x40	1010040006001	218x84x80	80	218	81	22	44	16

>>>





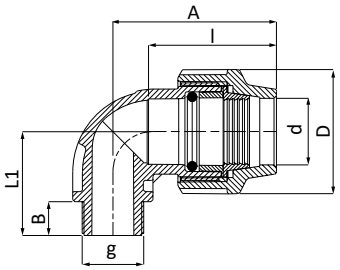
>>>

50x1”1/4x50	1010051005001	287x126x96	96	287	103	24	78	16
50x1”1/2x50	1010051006001	287x130x96	96	287	103	23	82	16
50x2”x50	1010051007001	287x136x96	96	287	103	29	88	16
63x1”1/2x63	1010064006001	335x148x115	115	335	130	25	90	16
63x2”x63	1010064007001	335x150x115	115	335	130	27	92	16
63x2”1/2x63	1010064008001	335x151x115	115	335	130	28	93	16
75x2”1/2x75	1010076008001	365x165x129	129	365	137	32	100	16
75x3”x75	1010076009001	365x168x129	129	365	137	35	103	16
90x3”x90	1010091009001	408x181x155	155	408	155	35	103	16
90x4”x90	1010091010001	408x189x155	155	408	155	41	111	16
110x4”x110	1010111010001	538x220x183	183	538	211	42	128	16

1008

Cotovelo 90° com derivação macho roscada

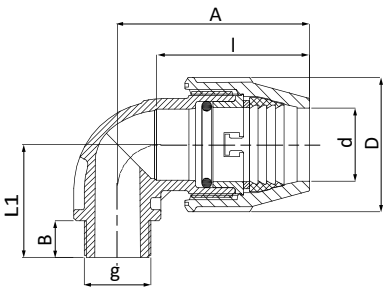




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	l [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1008016002001	69x69x42	42	39	18	58	48	16
16x3/4”	1008016003001	71x69x42	42	39	19	58	48	16
20x1/2”	1008020002001	77x62x46	46	45	18	62	39	16
20x3/4”	1008020003001	77x63x46	46	45	19	62	40	16
25x1/2”	1008025002001	92x71x55	55	53	18	74	43	16
25x3/4”	1008025003001	92x72x55	55	53	19	74	44	16
25x1”	1008025004001	92x75x55	55	53	22	74	47	16
32x1/2”	1008032002001	107x82x63	63	57	18	85	50	16
32x3/4”	1008032003001	107x83x63	63	57	19	85	51	16
32x1”	1008032004001	107x85x63	63	57	22	85	53	16
32x1”1/4	1008032005001	107x88x63	63	57	25	85	56	16
40x1”	1008040004001	132x101x80	80	70	22	105	61	16
40x1”1/4	1008040005001	132x104x80	80	70	25	105	64	16
40x1”1/2	1008040006001	132x104x80	80	70	25	105	64	16

>>>





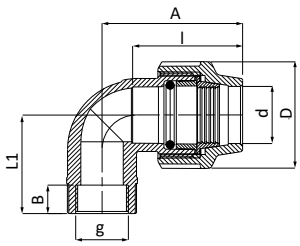
>>>

50x1”1/4	1008051005001	178x135x96	96	106	26	144	87	16
50x1”1/2	1008051006001	178x129x96	96	106	28	144	81	16
50x2”	1008051007001	182x129x96	96	111	28	149	81	16
63x1”1/2	1008064006001	214x143x115	115	130	23	173	85	16
63x2”	1008064007001	214x158x115	115	130	28	173	100	16
63x2”1/2	1008064008001	214x162x115	115	130	32	173	104	16
75x2”	1008076007001	240x165x129	129	142	28	193	100	16
75x2”1/2	1008076008001	240x169x129	129	142	32	193	104	16
75x3”	1008076009001	240x172x129	129	142	35	193	107	16
90x3”	1008091009001	276x192x155	155	158	35	217	114	16
90x4”	1008091010001	276x198x155	155	158	41	217	120	16
110x4”	1008111010001	362x236x183	183	222	42	294	144	16

1009

Cotovelo 90° com derivação fêmea roscadao

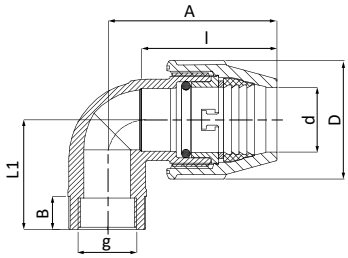




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	I [mm]	B [mm]	A [mm]	L1 [mm]	PN [bar]
16x1/2”	1009016002001	74x69x42	42	39	18	58	48	16
16x3/4”	1009016003001	76x69x42	42	39	18	58	48	16
20x1/2”	1009020002001	79x62x46	46	45	18	63	39	16
20x3/4”	1009020003001	84x63x46	46	45	18	66	40	16
25x1/2”	1009025002001	95x73x55	55	53	18	77	45	16
25x3/4”	1009025003001	96x73x55	55	53	18	77	45	16
25x1”	1009025004001	100x76x55	55	53	20	77	48	16
32x1/2”	1009032002001	108x80x63	63	57	17	86	48	16
32x3/4”	1009032003001	108x81x63	63	57	18	86	49	16
32x1”	1009032004001	109x83x63	63	57	21	86	51	16
***32x1”1/4**	1009032005001	115x92x63	63	57	26	86	60	16
40x3/4”	1009040003001	132x95x80	80	70	18	105	55	16
40x1”	1009040004001	132x99x80	80	70	21	105	59	16
***40x1”1/4**	1009040005001	134x104x80	80	70	25	105	64	16
***40x1”1/2**	1009040006001	135x106x80	80	70	25	105	66	16

>>>





>>>

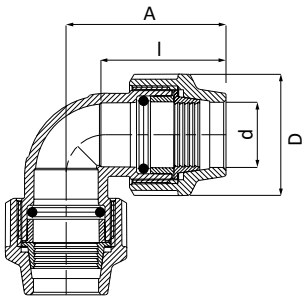
***50x1”1/4**	1009051005001	179x133x96	96	107	24	145	85	16
***50x1”1/2**	1009051006001	179x138x96	96	107	25	145	90	16
***50x2”**	1009051007001	184x138x96	96	107	25	145	90	16
***63x1”1/2**	1009064006001	214x159x115	115	130	26	173	101	16
***63x2”**	1009064007001	214x166x115	115	130	35	173	108	16
***63x2”1/2**	1009064008001	218x166x115	115	130	35	173	108	16
***75x2”**	1009076007001	240x188x129	129	142	36	193	123	16
***75x2”1/2**	1009076008001	240x190x129	129	142	37	193	125	16
***75x3”**	1009076009001	247x194x129	129	142	38	193	129	16
***90x3”**	1009091009001	274x218x155	155	157	40	216	140	16
***90x4”**	1009091010001	281x220x155	155	157	40	216	142	16
***110x3”**	1009111009001	362x226x183	183	222	40	294	134	16
***110x4”**	1009111010001	362x230x183	183	222	40	294	138	16

* A extremidade roscada é reforçada com um anel de aço inoxidável

1006

Cotovelo 90°

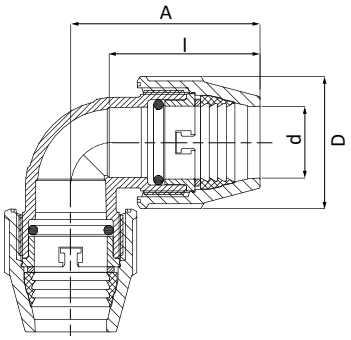




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	l [mm]	PN [bar]
16x16	1006016000001	85x85x42	42	64	49	16
20x20	1006020000001	92x92x46	46	69	50	16
25x25	1006025000001	113x113x55	55	86	62	16
32x32	1006032000001	127x127x63	63	96	70	16
40x40	1006040000001	157x157x80	80	117	79	16

>>>





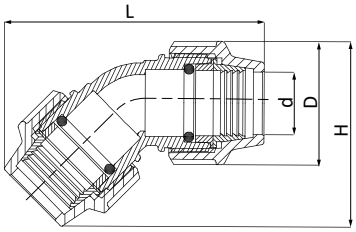
>>>

50x50	1006051000001	187x187x96	96	139	103	16
63x63	1006064000001	224x224x115	115	166	122	16
75x75	1006076000001	254x254x129	129	190	135	16
90x90	1006091000001	298x298x155	155	220	155	16
110x110	1006111000001	367x367x183	183	275	200	16

1018

Cotovelo 45°

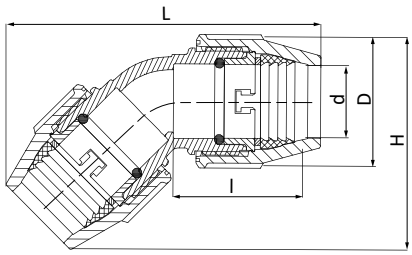




DIM dxd [mm]	CODE	D [mm]	L [mm]	H [mm]	PN [bar]
20x20	1018020000001	46	117	78	16
25x25	1018025000001	55	141	94	16
32x32	1018032000001	63	160	107	16
40x40	1018040000001	80	190	130	16

>>>





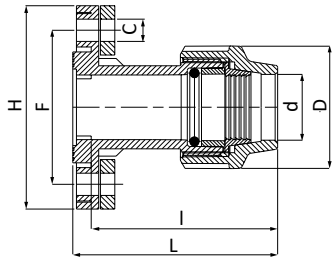
>>>

50x50	1018051000001	96	232	158	16
63x63	1018064000001	115	246	176	16

1011

Adaptador flangeado

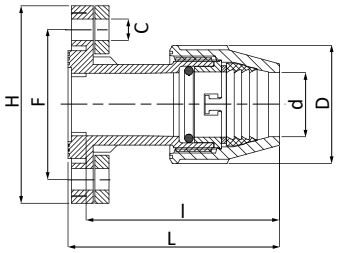




DIM dxDN [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	I [mm]	H [mm]	F [mm]	C [mm]	NF	PN [bar]
40x1”1/2 (DN40)	1011040006001	141x152x152	80	141	128	152	110	18	4	16

>>>





>>>

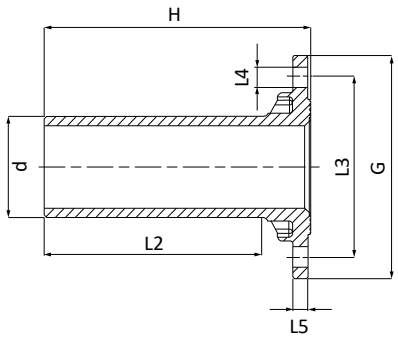
50x1”1/2 (DN40)	1011051006001	172x151x151	96	172	159	151	110	18	4	16
50x2” (DN50)	1011051007001	147x165x165	96	147	138	165	125	18	4	16
63x2” (DN50)	1011064007001	193x165x165	115	193	178	165	125	18	4	16
63x2”1/2 (DN65)	1011064008001	193x184x184	115	193	178	184	145	18	4	16
75x2”1/2 (DN65)	1011076008001	201x184x184	129	201	186	184	145	18	4	16
75x3” (DN80)	1011076009001	203x198x198	129	203	186	198	160	18	8	16
90x3” (DN80)	1011091009001	220x198x198	155	220	202	198	160	18	8	16
90x4” (DN100)	1011091010001	223x220x220	155	223	202	220	180	18	8	16
110x4” (DN100)	1011111010001	253x220x220	183	253	233	220	180	18	8	16

Flange de aço galvanizado

1053-A223

Colarinho flangeado





DIM d (DN) [mm]	CODE	DIM MAX LxHxP [mm]	G [mm]	H [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	NF	PN [bar]
63 (DN50)	1053063000001	170x201x170	170	201	169	125	18	12	4	16
63 (DN65)	1053063001001	183x201x183	183	201	164	145	18	12	4	16
75 (DN65)	1053075000001	183x217x183	183	217	184	145	18	12	4	16
75 (DN80)	1053075001001	200x217x200	200	217	177	160	18	12	8	16
90 (DN80)	1053090000001	200x240x200	200	240	199	160	18	14	8	16
110 (DN80)	1053110001001	200x305x200	200	305	272	160	18	14	8	16
110 (DN100)	1053110000001	224x305x224	224	305	265	180	18	14	8	16

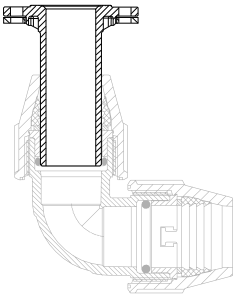
Flange correspondente deve ser encomendado separadamente

Flange de aço galvanizado

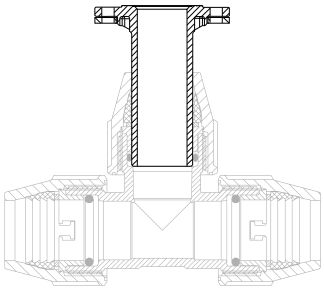
DIM [mm]	CODE	NF
63 (DN50)	A223000003	4
63 (DN65)	A223000004	4
75 (DN65)	A223000005	4
75 (DN80) - 90 (DN80) - 110 (DN80)	A223000007	8
110 (DN100)	A223000009	8

EXEMPLO DE USO

Adequado para inserção na saída de compressão das conexões Unidelta



CODE 1006

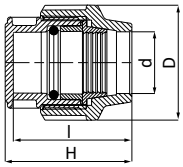


CODE 1005

1012

Tampão

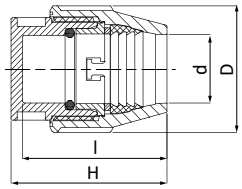




DIM d [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	l [mm]	PN [bar]
16	1012016000001	42x55x42	42	55	50	16
20	1012020000001	46x70x46	46	70	65	16
25	1012025000001	55x77x55	55	77	72	16
32	1012032000001	63x85x63	63	85	79	16
40	1012040000001	80x89x80	80	89	83	16

>>>





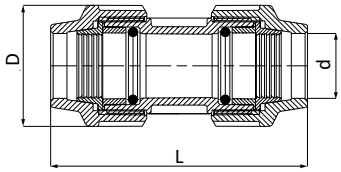
>>>

50	1012051000001	96x125x96	96	125	100	16
63	1012064000001	115x135x115	115	135	123	16
75	1012076000001	129x158x129	129	158	137	16
90	1012091000001	155x179x155	155	179	158	16
110	1012111000001	183x226x183	183	226	202	16

1014

União de reparo deslizante

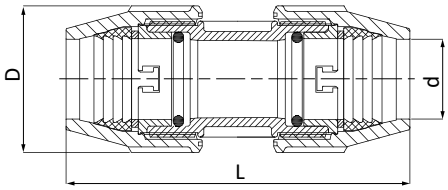




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	PN [bar]
25x25	1014025000001	122x55x55	55	122	16
32x32	1014032000001	139x63x63	63	139	16
40x40	1014040000001	168x80x80	80	168	16

>>>





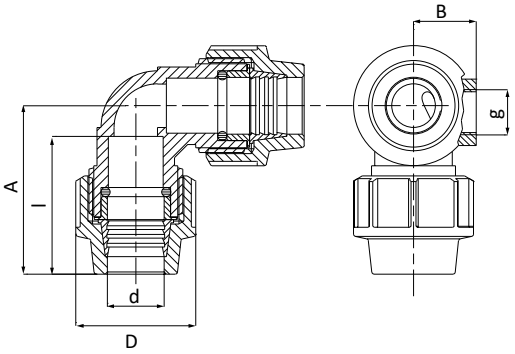
>>>

50x50	1014051000001	230x96x96	96	230	16
63x63	1014064000001	248x115x115	115	248	16
75x75	1014076000001	278x129x129	129	278	16
90x90	1014091000001	315x155x155	155	315	16
110x110	1014111000001	422x183x183	183	422	16

1023

Cotovelo 90° com derivação fêmea roscada lateral



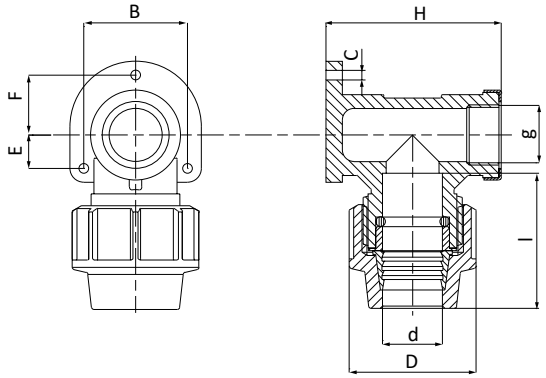


DIM dxdxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	B [mm]	PN [bar]
25x25x1/2”	1023025002001	113x113x58	55	86	62	30	16
32x32x1/2”	1023032002001	127x127x67	63	96	70	35	16
32x32x3/4”	1023032003001	127x127x68	63	96	70	36	16

1034

Conexão de cotovelo de placa de parede

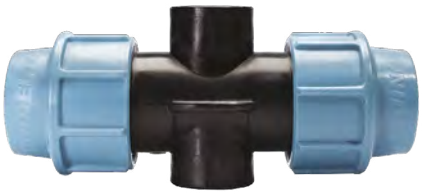


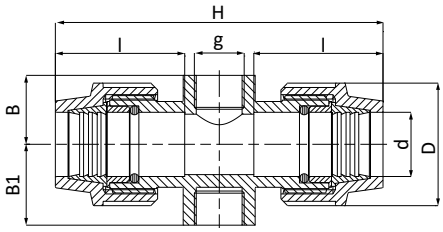


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	C [mm]	B [mm]	E [mm]	F [mm]	PN [bar]
20x1/2”	1034020002001	89x62x49	46	62	49	4	38	12	22	16
25x1/2”	1034025002001	116x74x57	55	74	66	4	44	15	25	16
25x3/4”	1034025003001	110x75x60	55	75	59	4	44	15	27	16
32x1”	1034032004001	124x86x67	63	86	72	5	56	20	28	16

1021

Tê fêmea com conexão de pino





DIM dxgxd [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	H [mm]	I [mm]	B [mm]	B1 [mm]	PN [bar]
32x3/4"x32	1021320303001	77x168x63	63	168	66	36	41	16

1050

Extensão macho/fêmea



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"F	1050003002001	28
3/4"Mx3/4"F	1050003003001	28

1052

Extensão macho/macho



DIM gxg_1 [in.]	CODE	L [cm]
3/4"Mx1/2"M	1052003002001	29,5

1051

Pino



DIM g [in.]	CODE	L [cm]
3/4" M	1051000003001	29

EXEMPLO DE USO





3.2 Conexão de transição universal

A conexão universal Unidelta cod. 1033 permite unir rápida e solidamente os tubos de polietileno de 20 e 32 mm de diâmetro com tubos de qualquer material (por exemplo, aço, cobre, chumbo, PVC, etc.) com um diâmetro externo entre 15 e 35 mm. Também é adequada para passar de tubos da série métrica (diâmetros em milímetros) para tubos da série imperial (diâmetros em polegadas).

Aço galvanizado, cobre, tubo de chumbo, U-PVC, PP, PE imperial e outros

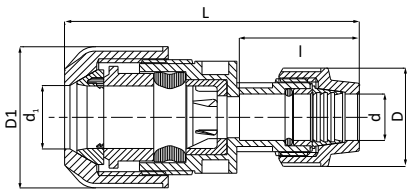


Série métrica PE

1033

Conexão de transição universal





DIM $d_1$xd [mm]	CODE	DIM MAX LxHxP [mm]	D [mm]	D1 [mm]	L [mm]	l [mm]	PN [bar]
15/22x20	1033020003001	145x62x62	46	62	145	60	10
15/22x25	1033025003001	145x62x62	55	62	145	64	10
20/27x20	1033020004001	150x69x69	46	69	150	64	10
20/27x25	1033025004001	150x69x69	55	69	150	64	10
27/35x25	1033025006001	158x79x79	55	79	158	64	10
20/27x32	1033032004001	158x69x69	63	69	158	72	10
27/35x32	1033032006001	165x79x79	63	79	165	72	10

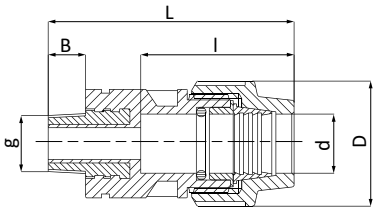
3.3 Conexões de compressão de transição

A conexão de compressão de transição Unidelta apresenta um especial inserto metálico roscado em latão estampado com corpo em polipropileno.

1035

Adaptador macho com inserto roscado de latão

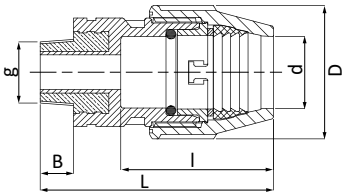




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1035020002001	103x46x46	46	103	58	15	16
25x3/4”	1035025003001	112x55x55	55	112	64	17	16
32x1”	1035032004001	116x63x63	63	116	69	19	16
40x1”1/4	1035040005001	140x80x80	80	140	81	23	16
40x1”1/2	1035040006001	150x80x80	80	150	87	32	16

>>>





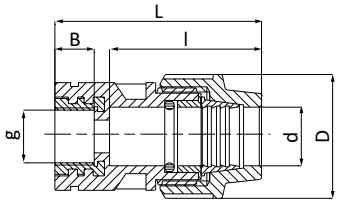
>>>

50x1”1/2	1035051006001	172x96x96	96	172	112	23	16
63x2”	1035064007001	186x115x115	115	186	122	24	16

1036

Adaptador fêmea com inserto roscado de latão

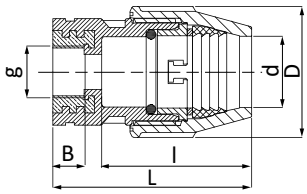




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	L [mm]	l [mm]	B [mm]	PN [bar]
20x1/2”	1036020002001	88x46x46	46	88	58	14	16
25x3/4”	1036025003001	95x55x55	55	95	64	15	16
32x1”	1036032004001	106x63x63	63	106	69	18	16
40x3/4"	1036040003001	110x80x80	80	110	85	18	16
40x1”1/4	1036040005001	118x80x80	80	118	82	20	16
40x1”1/2	1036040006001	111x80x80	80	111	86	27	16

>>>





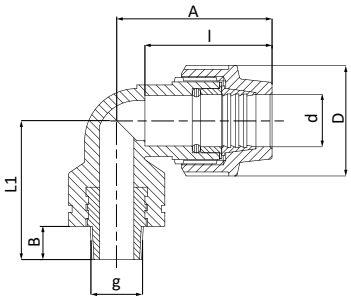
>>>

50x1”1/2	1036051006001	151x96x96	96	151	113	23	16
63x2”	1036064007001	164x115x115	115	164	121	24	16

1039

Cotovelo 90° macho com inserto roscado de latão

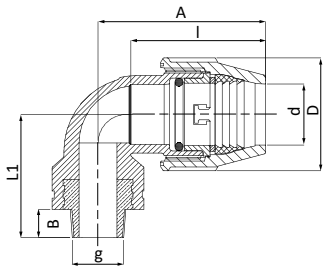




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	B [mm]	PN [bar]
20x1/2”	1039020002001	94x87x48	46	70	49	64	15	16
20x3/4”	1039020003001	99x89x55	46	71	51	66	16	16
25x3/4”	1039025003001	110x94x55	55	83	57	66	16	16
32x1”	1039032004001	126x118x66	63	93	62	86	29	16
40x1”1/4	1039040005001	149x127x80	80	112	72	87	23	16
40x1”1/2	1039040006001	144x127x80	80	112	78	87	32	16

>>>





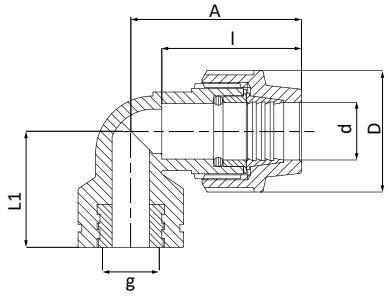
>>>

50x1”1/2	1039051006001	180x135x96	96	139	93	87	23	16
63x2”	1039064007001	196x163x115	115	149	99	105	27	16

1030

Cotovelo 90° fêmea com inserto roscado de latão





DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	D [mm]	A [mm]	I [mm]	L1 [mm]	PN [bar]
40x3/4”	1030040003001	80x139x127	79	112	78	53	16

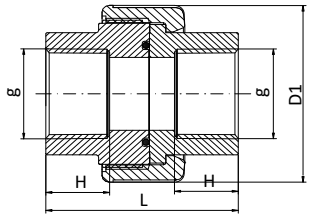
3.4 Conexão de união

1054

Conexão de união roscada fêmea/fêmea







DIM gxg [in.xin.]	CODE	L [mm]	H [mm]	D1 [mm]	Pmax [bar]
1/2"x1/2"	1054002002001	53	18	50	16
3/4"x3/4"	1054003003001	56	20	60	16
1"x1"	1054004004001	60	22	68	16
***1"1/4x1"1/4**	1054005005001	78,5	24	80	16
***1"1/2x1"1/2**	1054006006001	88,5	24	95	16
***2"x2"**	1054007007001	95	28	116	16
***2"1/2x2"1/2**	1054008008001	146	33	160,5	10
***3"x3"**	1054009009001	175,5	40	197	10

* A extremidade roscada é reforçada com um anel de aço inoxidável

3.5 Selas de derivação

Características técnicas:
- Indicado para tubos PE e PVC
- Material: PP-B
- Perfurador: latão
- Vedações: O-ring
- Elementos de fixação: aço INOX A4

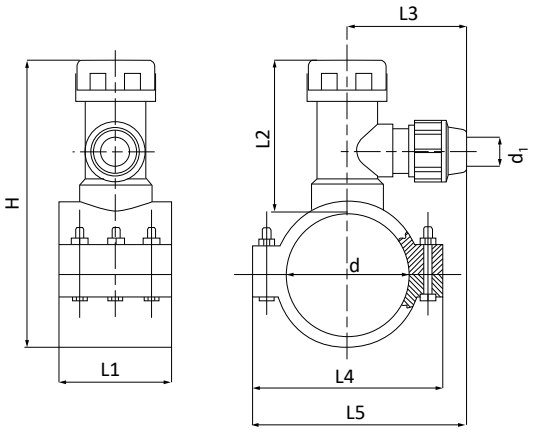
Normas:
- Indicado para tubos em PE de acordo com a: UNI EN 12201 - ISO 4427 - DIN 8074
- Indicado para tubo de PVC de acordo com a: UNI EN 1452 - DIN 8062
- Teste: ISO 13460

Prescrições sanitárias:
Os selas de derivação Unidelta satisfazem as normas relativas ao transporte de água potável de acordo com as disposições vigentes em Itália e inúmeros outros países. Decreto Ministerial n° 174 de 06/04/2004.

1025

Tê de serviço integrado





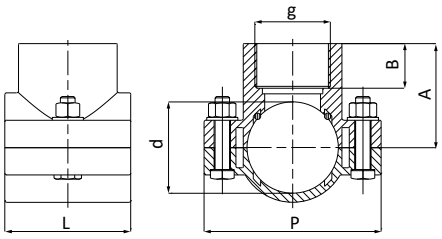
DIM dxd_1 [mm]	CODE	NF	V	H [mm]	L1 [mm]	L2 [mm]	L3 [mm]	L4 [mm]	L5 [mm]	Pmax [bar]
63x25	1025063025001	6	M8x40	201	80	132	115	115	173	16
63x32	1025063032001	6	M8x40	201	80	132	125	115	183	16
75x25	1025075025001	6	M8x50	211	90	129	115	129	180	16
75x32	1025075032001	6	M8x50	211	90	129	125	129	190	16
90x25	1025090025001	6	M8x50	226	90	129	115	144	187	16
90x32	1025090032001	6	M8x50	226	90	129	125	144	197	16
110x20	1025110020001	6	M8x60	249	100	130	110	168	194	16
110x25	1025110025001	6	M8x60	249	100	130	115	168	199	16
110x32	1025110032001	6	M8x60	249	100	130	125	168	209	16
160x20	1025160020001	6	M8x100	304	174	130	110	215	218	16
160x25	1025160025001	6	M8x100	304	174	130	115	215	223	16
160x32	1025160032001	6	M8x100	304	174	130	125	215	233	16

3.6 Colares de tomada

1019

Colar de tomada





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1019025002001	38	20	76	49	2	10
25x3/4”	1019025003001	38	21	76	49	2	10
32x1/2”	1019032002001	41	17	81	56	2	10
32x3/4”	1019032003001	41	21	81	56	2	10
32x1”	1019032004001	44	23	81	56	2	10
40x1/2”	1019040002001	41	17	81	60	2	10
40x3/4”	1019040003001	46	18	81	60	2	10
40x1”	1019040004001	46	23	81	60	2	10
50x1/2”	1019050002001	50	17	98	69	4	10
50x3/4”	1019050003001	50	18	98	69	4	10
50x1”	1019050004001	52	20	98	69	4	10
50x1”1/4	1019050005001	57	25	98	69	4	10
63x1/2”	1019063002001	55	16	105	79	4	10
63x3/4”	1019063003001	55	18	105	79	4	10
63x1”	1019063004001	59	20	105	79	4	10
63x1”1/4	1019063005001	63	25	105	79	4	10
63x1”1/2	1019063006001	63	28	105	79	4	10
75x1/2”	1019075002001	62	17	120	90	4	10
75x3/4”	1019075003001	62	18	120	90	4	10
75x1”	1019075004001	65	21	120	90	4	10
75x1”1/4	1019075005001	68	24	120	90	4	10
75x1”1/2	1019075006001	68	23	120	90	4	10
75x2”	1019075007001	72	27	120	90	4	10
90x1/2”	1019090002001	70	17	135	90	4	10
90x3/4”	1019090003001	70	19	135	90	4	10
90x1”	1019090004001	72	21	135	90	4	10
90x1”1/4	1019090005001	76	24	135	90	4	10
90x1”1/2	1019090006001	76	24	135	90	4	10
90x2”	1019090007001	80	27	135	90	4	10

>>>

*PN 6 bar

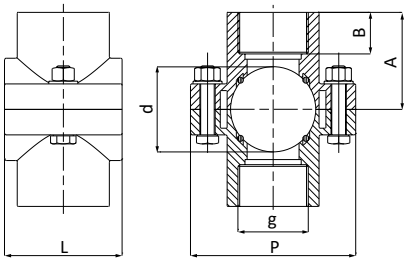
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1019110002001	80	17	168	99	4	10
110x3/4”	1019110003001	80	19	168	99	4	10
110x1”	1019110004001	84	20	168	99	4	10
110x1”1/4	1019110005001	86	23	168	99	4	10
110x1”1/2	1019110006001	86	23	168	99	4	10
110x2”	1019110007001	90	27	168	99	4	10
125x1/2”	1019125002001	108	25	190	106	6	10
125x3/4”	1019125003001	108	26	190	106	6	10
125x1”	1019125004001	109	26	190	106	6	10
125x1”1/4	1019125005001	109	25	190	106	6	10
125x1”1/2	1019125006001	113	28	190	106	6	10
125x2”	1019125007001	113	30	190	106	6	10
***160x3/4”**	1019160003001	108	19	215	175	6	6
***160x1”**	1019160004001	110	21	215	175	6	6
***160x1”1/4**	1019160005001	113	24	215	175	6	6
***160x1”1/2**	1019160006001	115	26	215	175	6	6
***160x2”**	1019160007001	117	30	215	175	6	6
***160x2”1/2**	1019160008001	125	32	215	175	6	6
***160x3”**	1019160009001	134	35	215	175	6	6
***160x4”**	1019160010001	135	40	215	175	6	6
***200x3/4”**	1019200003001	128	23	262	175	6	6
***200x1”**	1019200004001	130	23	262	175	6	6
***200x1”1/4**	1019200005001	133	23	262	175	6	6
***200x1”1/2**	1019200006001	133	23	262	175	6	6
***200x2”**	1019200007001	135	30	262	175	6	6
***200x2”1/2**	1019200008001	150	32	262	175	6	6
***200x3”**	1019200009001	152	35	262	175	6	6
***200x4”**	1019200010001	155	42	262	175	6	6

1020

Colar de tomada dupla





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1020025002001	38	20	76	49	2	10
25x3/4”	1020025003001	38	21	76	49	2	10
32x1/2”	1020032002001	41	17	81	56	2	10
32x3/4”	1020032003001	41	21	81	56	2	10
32x1”	1020032004001	44	23	81	56	2	10
40x1/2”	1020040002001	41	17	81	60	2	10
40x3/4”	1020040003001	46	18	81	60	2	10
40x1”	1020040004001	46	23	81	60	2	10
50x1/2”	1020050002001	50	17	98	69	4	10
50x3/4”	1020050003001	50	18	98	69	4	10
50x1”	1020050004001	52	20	98	69	4	10
50x1”1/4	1020050005001	57	25	98	69	4	10
63x1/2”	1020063002001	55	16	105	79	4	10
63x3/4”	1020063003001	55	18	105	79	4	10
63x1”	1020063004001	59	20	105	79	4	10
63x1”1/4	1020063005001	63	25	105	79	4	10
63x1”1/2	1020063006001	63	28	105	79	4	10
75x1/2”	1020075002001	62	17	120	90	4	10
75x3/4”	1020075003001	62	18	120	90	4	10
75x1”	1020075004001	65	21	120	90	4	10
75x1”1/4	1020075005001	68	24	120	90	4	10
75x1”1/2	1020075006001	68	23	120	90	4	10
75x2”	1020075007001	72	27	120	90	4	10

>>>

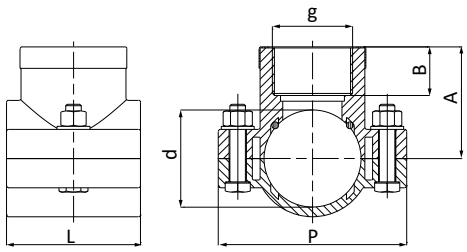
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1020090002001	70	17	135	90	4	10
90x3/4”	1020090003001	70	19	135	90	4	10
90x1”	1020090004001	72	21	135	90	4	10
90x1”1/4	1020090005001	76	24	135	90	4	10
90x1”1/2	1020090006001	76	24	135	90	4	10
90x2”	1020090007001	80	27	135	90	4	10
110x1/2”	1020110002001	80	17	168	99	4	10
110x3/4”	1020110003001	80	19	168	99	4	10
110x1”	1020110004001	84	20	168	99	4	10
110x1”1/4	1020110005001	86	23	168	99	4	10
110x1”1/2	1020110006001	86	23	168	99	4	10
110x2”	1020110007001	90	27	168	99	4	10
125x1/2”	1020125002001	108	25	190	106	6	10
125x3/4”	1020125003001	108	26	190	106	6	10
125x1”	1020125004001	109	26	190	106	6	10
125x1”1/4	1020125005001	109	25	190	106	6	10
125x1”1/2	1020125006001	113	28	190	106	6	10
125x2”	1020125007001	113	30	190	106	6	10

1026

Colar de tomada com anel de reforço





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1026025002001	38	20	76	49	2	10
25x3/4”	1026025003001	38	21	76	49	2	10
32x1/2”	1026032002001	41	17	81	56	2	10
32x3/4”	1026032003001	41	21	81	56	2	10
32x1”	1026032004001	44	23	81	56	2	10
40x1/2”	1026040002001	41	17	81	60	2	10
40x3/4”	1026040003001	46	18	81	60	2	10
40x1”	1026040004001	46	23	81	60	2	10
50x1/2”	1026050002001	50	17	98	69	4	10
50x3/4”	1026050003001	50	18	98	69	4	10
50x1”	1026050004001	52	20	98	69	4	10
50x1”1/4	1026050005001	57	25	98	69	4	10
63x1/2”	1026063002001	55	16	105	79	4	10
63x3/4”	1026063003001	55	18	105	79	4	10
63x1”	1026063004001	59	20	105	79	4	10
63x1”1/4	1026063005001	63	25	105	79	4	10
63x1”1/2	1026063006001	63	28	105	79	4	10
75x1/2”	1026075002001	62	17	120	90	4	10
75x3/4”	1026075003001	62	18	120	90	4	10
75x1”	1026075004001	65	21	120	90	4	10
75x1”1/4	1026075005001	68	24	120	90	4	10
75x1”1/2	1026075006001	68	23	120	90	4	10
75x2”	1026075007001	72	27	120	90	4	10
90x1/2”	1026090002001	70	17	135	90	4	10
90x3/4”	1026090003001	70	19	135	90	4	10
90x1”	1026090004001	72	21	135	90	4	10
90x1”1/4	1026090005001	76	24	135	90	4	10
90x1”1/2	1026090006001	76	24	135	90	4	10
90x2”	1026090007001	80	27	135	90	4	10

>>>

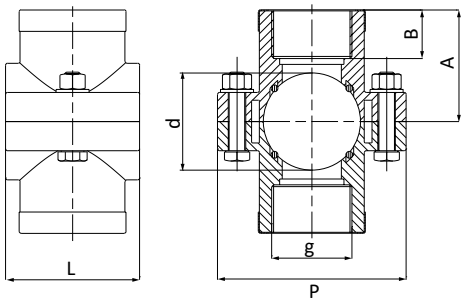
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
110x1/2”	1026110002001	80	17	168	99	4	10
110x3/4”	1026110003001	80	19	168	99	4	10
110x1”	1026110004001	84	20	168	99	4	10
110x1”1/4	1026110005001	86	23	168	99	4	10
110x1”1/2	1026110006001	86	23	168	99	4	10
110x2”	1026110007001	90	27	168	99	4	10
125x1/2”	1026125002001	108	25	190	106	6	10
125x3/4”	1026125003001	108	26	190	106	6	10
125x1”	1026125004001	109	26	190	106	6	10
125x1”1/4	1026125005001	109	25	190	106	6	10
125x1”1/2	1026125006001	113	28	190	106	6	10
125x2”	1026125007001	113	30	190	106	6	10
125x3”	1026125009001	113	35	190	106	6	10
160x3/4"	1026160003001	108	19	215	175	6	10
160x1”	1026160004001	110	21	215	175	6	10
160x1”1/4	1026160005001	113	24	215	175	6	10
160x1”1/2	1026160006001	115	26	215	175	6	10
160x2”	1026160007001	117	30	215	175	6	10
160x2”1/2	1026160008001	125	32	215	175	6	10
160x3”	1026160009001	134	35	215	175	6	10
160x4”	1026160010001	135	40	215	175	6	10
200x3/4”	1026200003001	128	23	262	175	6	10
200x1”	1026200004001	130	23	262	175	6	10
200x1”1/4	1026200005001	133	23	262	175	6	10
200x1”1/2	1026200006001	133	23	262	175	6	10
200x2”	1026200007001	135	30	262	175	6	10
200x2”1/2	1026200008001	150	32	262	175	6	10
200x3”	1026200009001	152	35	262	175	6	10
200x4”	1026200010001	155	42	262	175	6	10

1027

Colar de tomada dupla com anel de reforço





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1027025002001	38	20	76	49	2	10
25x3/4”	1027025003001	38	21	76	49	2	10
32x1/2”	1027032002001	41	17	81	56	2	10
32x3/4”	1027032003001	41	21	81	56	2	10
32x1”	1027032004001	44	23	81	56	2	10
40x1/2”	1027040002001	41	17	81	60	2	10
40x3/4”	1027040003001	46	18	81	60	2	10
40x1”	1027040004001	46	23	81	60	2	10
50x1/2”	1027050002001	50	17	98	69	4	10
50x3/4”	1027050003001	50	18	98	69	4	10
50x1”	1027050004001	52	20	98	69	4	10
50x1”1/4	1027050005001	57	25	98	69	4	10
63x1/2”	1027063002001	55	16	105	79	4	10
63x3/4”	1027063003001	55	18	105	79	4	10
63x1”	1027063004001	59	20	105	79	4	10
63x1”1/4	1027063005001	63	25	105	79	4	10
63x1”1/2	1027063006001	63	28	105	79	4	10
75x1/2”	1027075002001	62	17	120	90	4	10
75x3/4”	1027075003001	62	18	120	90	4	10
75x1”	1027075004001	65	21	120	90	4	10
75x1”1/4	1027075005001	68	24	120	90	4	10
75x1”1/2	1027075006001	68	23	120	90	4	10
75x2”	1027075007001	72	27	120	90	4	10

>>>

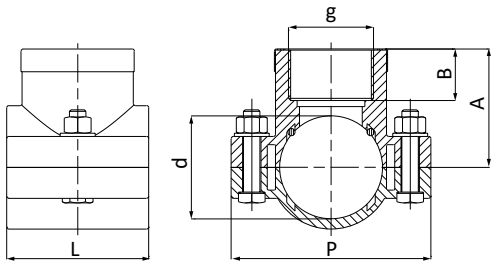
>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1027090002001	70	17	135	90	4	10
90x3/4”	1027090003001	70	19	135	90	4	10
90x1”	1027090004001	72	21	135	90	4	10
90x1”1/4	1027090005001	76	24	135	90	4	10
90x1”1/2	1027090006001	76	24	135	90	4	10
90x2”	1027090007001	80	27	135	90	4	10
110x1/2”	1027110002001	80	17	168	99	4	10
110x3/4”	1027110003001	80	19	168	99	4	10
110x1”	1027110004001	84	20	168	99	4	10
110x1”1/4	1027110005001	86	23	168	99	4	10
110x1”1/2	1027110006001	86	23	168	99	4	10
110x2”	1027110007001	90	27	168	99	4	10
125x1/2”	1027125002001	108	25	190	106	6	10
125x3/4”	1027125003001	108	26	190	106	6	10
125x1”	1027125004001	109	26	190	106	6	10
125x1”1/4	1027125005001	109	25	190	106	6	10
125x1”1/2	1027125006001	113	28	190	106	6	10
125x2”	1027125007001	113	30	190	106	6	10

1031 - LA BLU

Colar de tomada com anel de reforço





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
20x1/2”	1031020002001	40	25	76	54	2	16
25x1/2”	1031026002001	38	20	76	49	2	16
25x3/4”	1031026003001	38	21	76	49	2	16
32x1/2”	1031033002001	41	17	81	56	2	16
32x3/4”	1031033003001	41	21	81	56	2	16
32x1"	1031033004001	44	23	81	56	2	16
40x1/2”	1031041002001	41	17	81	60	2	16
40x3/4”	1031041003001	46	18	81	60	2	16
40x1”	1031041004001	46	23	81	60	2	16
50x1/2”	1031051002001	50	17	98	69	6	16
50x3/4”	1031051003001	50	18	98	69	6	16
50x1”	1031051004001	52	20	98	69	6	16
50x1”1/4	1031051005001	57	25	98	69	6	16
63x1/2”	1031064002001	55	16	105	79	6	16
63x3/4”	1031064003001	55	18	105	79	6	16
63x1”	1031064004001	59	20	105	79	6	16
63x1”1/4	1031064005001	63	25	105	79	6	16
63x1”1/2	1031064006001	63	28	105	79	6	16
75x1/2”	1031076002001	62	17	120	90	6	16
75x3/4”	1031076003001	62	18	120	90	6	16
75x1”	1031076004001	65	21	120	90	6	16
75x1”1/4	1031076005001	68	24	120	90	6	16
75x1”1/2	1031076006001	68	23	120	90	6	16
75x2”	1031076007001	72	27	120	90	6	16

>>>

>>>

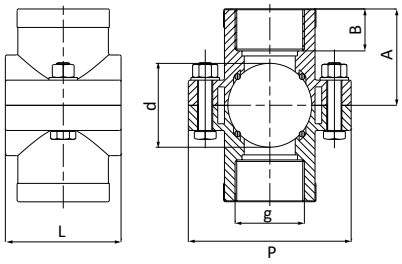
DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
90x1/2”	1031091002001	70	17	135	90	6	16
90x3/4”	1031091003001	70	19	135	90	6	16
90x1”	1031091004001	72	21	135	90	6	16
90x1”1/4	1031091005001	76	24	135	90	6	16
90x1”1/2	1031091006001	76	24	135	90	6	16
90x2”	1031091007001	80	27	135	90	6	16
110x1/2”	1031111002001	80	17	168	99	6	16
110x3/4”	1031111003001	80	19	168	99	6	16
110x1”	1031111004001	84	20	168	99	6	16
110x1”1/4	1031111005001	86	23	168	99	6	16
110x1”1/2	1031111006001	86	23	168	99	6	16
110x2”	1031111007001	90	27	168	99	6	16
125X1/2”	1031126002001	108	25	190	106	6	16
125X3/4”	1031126003001	108	26	190	106	6	16
125X1”	1031126004001	109	26	190	106	6	16
125X1”1/4	1031126005001	109	25	190	106	6	16
125X1”1/2	1031126006001	113	28	190	106	6	16
125x2"	1031126007001	113	30	190	106	6	16
160x3/4"	1031161003001	108	19	215	175	6	16
160x1"	1031161004001	110	21	215	175	6	16
160x1”1/4	1031161005001	113	24	215	175	6	16
160x1”1/2	1031161006001	115	26	215	175	6	16
160x2"	1031161007001	117	30	215	175	6	16
200x3/4"	1031201003001	128	23	262	175	6	16
200x1"	1031201004001	130	23	262	175	6	16
200x1”1/4	1031201005001	133	23	262	175	6	16
200x1”1/2	1031201006001	133	23	262	175	6	16
200x2"	1031201007001	135	30	262	175	6	16

Também adequada para tubos PVC com as dimensões definidas conforme EN 1452-2

1032 - LA BLU

Colar de tomada dupla com anel de reforço





DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
25x1/2”	1032026002001	38	20	76	49	2	16
25x3/4”	1032026003001	38	21	76	49	2	16
32x1/2”	1032033002001	41	17	81	56	2	16
32x3/4”	1032033003001	41	21	81	56	2	16
32x1”	1032033004001	44	23	81	56	2	16
40x1/2”	1032041002001	41	17	81	60	2	16
40x3/4”	1032041003001	46	18	81	60	2	16
40x1”	1032041004001	46	23	81	60	2	16
50x1/2”	1032051002001	50	17	98	69	6	16
50x3/4”	1032051003001	50	18	98	69	6	16
50x1”	1032051004001	52	20	98	69	6	16
50x1”1/4	1032051005001	57	25	98	69	6	16
63x1/2”	1032064002001	55	16	105	79	6	16
63x3/4”	1032064003001	55	18	105	79	6	16
63x1”	1032064004001	59	20	105	79	6	16
63x1”1/4	1032064005001	63	25	105	79	6	16
63x1”1/2	1032064006001	63	28	105	79	6	16

>>>

>>>

DIM dxg [mmxin.]	CODE	A [mm]	B [mm]	P [mm]	L [mm]	NF	Pmax [bar]
75x1/2”	1032076002001	62	17	120	90	6	16
75x3/4”	1032076003001	62	18	120	90	6	16
75x1”	1032076004001	65	21	120	90	6	16
75x1”1/4	1032076005001	68	24	120	90	6	16
75x1”1/2	1032076006001	68	23	120	90	6	16
75x2”	1032076007001	72	27	120	90	6	16
90x1/2”	1032091002001	70	17	135	90	6	16
90x3/4”	1032091003001	70	19	135	90	6	16
90x1”	1032091004001	72	21	135	90	6	16
90x1”1/4	1032091005001	76	24	135	90	6	16
90x1”1/2	1032091006001	76	24	135	90	6	16
90x2”	1032091007001	80	27	135	90	6	16
110x1/2”	1032111002001	80	17	168	99	6	16
110x3/4”	1032111003001	80	19	168	99	6	16
110x1”	1032111004001	84	20	168	99	6	16
110x1”1/4	1032111005001	86	23	168	99	6	16
110x1”1/2	1032111006001	86	23	168	99	6	16
110x2”	1032111007001	90	27	168	99	6	16

Também adequada para tubos PVC com as dimensões definidas conforme EN 1452-2


UNIDELTA
Since 1973

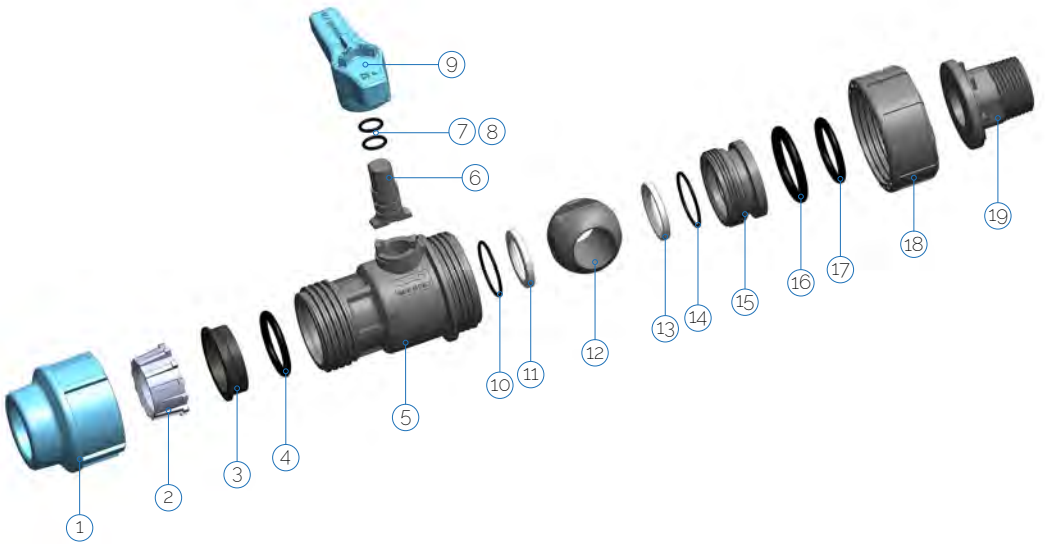

UNIDELTA

4. Válvulas de esfera

As válvulas de esfera de polipropileno Unidelta são projetadas especificamente para serem **acopladas a tubos de polietileno** e/ou juntas roscadas. São compatíveis com os tubos LDPE, HDPE, PE40, PE80, PE100, PE100RC feitos em conformidade com **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Normalmente são usadas para a condução de água com uma pressão máxima de 16 bar a 20°C para diâmetros até 63/2" e máximo de 10 bar a 20°C para diametros 75/2"1/2 e acima (para temperaturas mais altas, consulte os limites impostos pelos regulamentos do tubo PE). As válvulas Unidelta estão disponíveis também na versão com saída/s roscada/s e são feitas de acordo com as normas **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**

4.1 Estrutura e materiais

Vista explodida de uma válvula de esfera



1. **Porca:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
2. **Anel de aperto:** resina acetálica (POM).
3. **Anel bucha:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
4. **O-Ring de vedação radial no tubo:** borracha nitrílica (NBR).
5. **Corpo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
6. **Haste de comando:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
7. 8. **O-rings haste de comando:** borracha nitrílica (NBR).
9. **Manípulo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
10. 14. **O-Rings de vedação da guarnição da esfera:** borracha nitrílica (NBR).
11. 13. **Vedação da esfera:** politetrafluoretileno (PTFE).
12. **Esfera:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
15. **Suporte da vedação da esfera:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
16. **O-Ring de vedação radial:** borracha nitrílica (NBR).
17. **O-Ring de vedação axial:** borracha nitrílica (NBR).
18. **Porca porta inserção:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
19. **Inserção com saída roscada:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.

4.2 Vantagens das válvulas de esfera

Materiais utilizados
A válvula Unidelta é composta por componentes feitos exclusivamente em material plástico. Deste modo, não existe nenhum risco de oxidação e corrosão durante o uso.

Alta resistência à pressão
As válvulas Unidelta podem trabalhar com uma pressão máxima de 16 bar a 20°C.

Design
As válvulas Unidelta têm um design compacto que possibilita a sua instalação mesmo em espaços reduzidos.
O manípulo também pode ser removido do corpo da válvula.

Montagem fácil
As válvulas Unidelta são extremamente fáceis de montar, graças também ao sistema inovador DeltOne para o diâmetro Ø50, Ø63, Ø75, Ø90.

Proteção contra raios UV
Os materiais dos componentes expostos das válvulas Unidelta são estabilizados contra raios UV. Portanto, podem ser instalados também externamente.

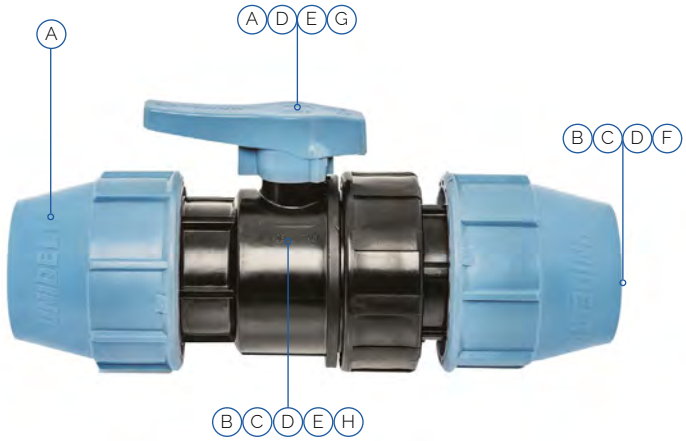
Fluxo bidirecional
As válvulas de esfera Unidelta não requerem uma específica direção do fluxo de água, mas podem ser instaladas com orientação aleatória, independentemente da direção do fluxo.

Possibilidade de inspecionar a esfera
A esfera da válvula pode ser inspecionada. Esta característica permite que a esfera seja facilmente limpa de quaisquer depósitos formados durante o uso (ver instruções no parágrafo "Acesso à esfera" a página 500).

4.3 Marcação

As informações relevantes estão marcadas diretamente na válvula:

(A) Nome do fabricante "**UNIDELTA**";
(B) Local de fabrico "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diâmetro do tubo de polietileno a ser acoplado (por ex. "**Ø40**");
(E) Diâmetro nominal correspondente a uma possível rosca e indicativamente à seção de passagem (por exemplo "**1"1/4**" e "**DN 32**");
(F) Pressão máxima de operação (por exemplo "**PN 16**");
(G) Direção de abertura e fecho da válvula no manípulo ("**OPEN**" e "**CLOSE**");
(H) **Seta dupla** que indica que o fluxo é bidirecional.



4.4 Acesso à esfera

Nas válvulas Unidelta, a esfera pode ser inspecionada: esta característica é uma grande vantagem, pois permite que quaisquer depósitos formados durante o uso sejam removidos da esfera.

Para acessar a esfera, siga os 3 passos a seguir:





Desparafuse a porca porta inserção (componente (18) da "Vista explodida de uma válvula de esfera" a página 497). Desta forma, os dentes internos do suporte da vedação da esfera (componente (15)) serão visíveis. Em seguida, remova o manípulo (componente (9)) da haste de controle. Observe que os dentes da alavanca para as válvulas Ø20-25-32 estão na parte superior (figura 1A), enquanto que para as válvulas Ø40-50-63-75-90 está na parte inferior (figura 1B).





Insira os dentes do manípulo na parte interna dos dentes do suporte da vedação das esferas. Para desaparafusar, gire o manípulo de maneira que seja inserida no sentido horário (figuras 2A e 2B).





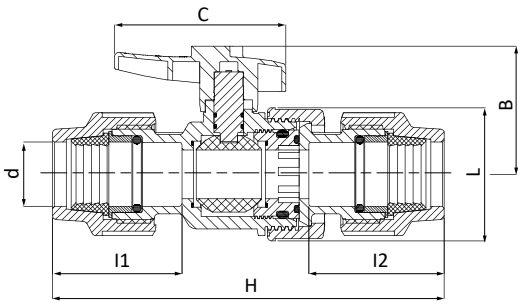
Remova o suporte da vedação para permitir o acesso à esfera mesma (figuras 3A e 3B).

4.5 Fichas técnicas

1070

Válvula esfera de compressão

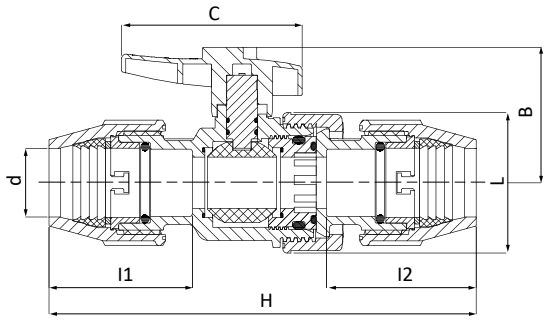




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





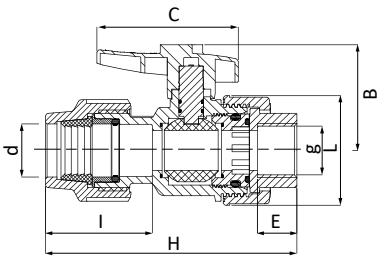
>>>

50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Válvula esfera de compressão fêmea roscada

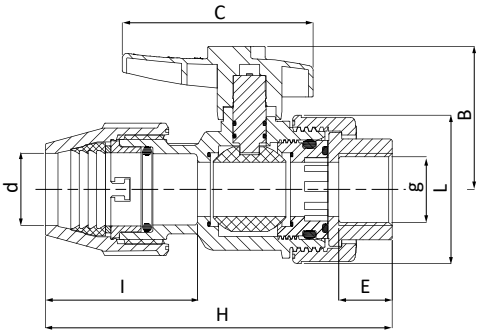




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82	24	80	77	100	16

>>>





>>>

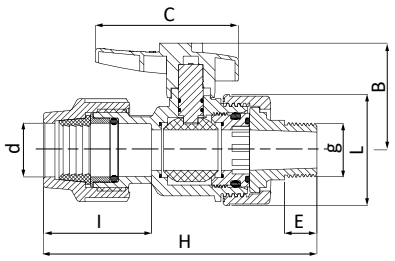
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* A extremidade roscada é reforçada com um anel de aço inoxidável

1072

Válvula esfera de compressão macho roscada

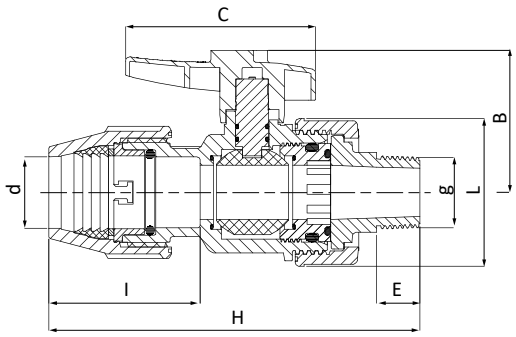




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80	77	100	16

>>>





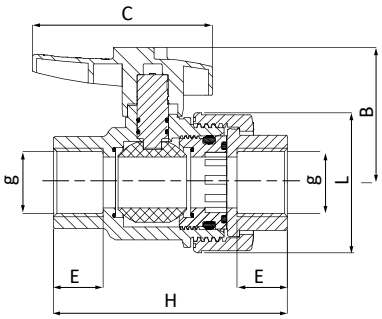
>>>

50x1"1/2	1072051006001	96x245x136	245	110	23	96	88	116	16
63x2"	1072064007001	116x275x158	275	120	27	116	100	127	16

1073

Válvula esfera roscada fêmea/fêmea





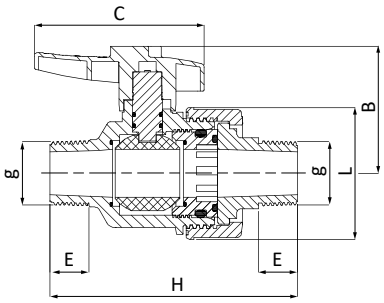
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	1073006006001	95x142x136	142	24	96	88	116	16
***2"x2"**	1073007007001	116x164x158	164	27	116	100	127	16
***2"1/2x2"1/2**	1073008008001	155x240x203	240	35	155	125	155	10
***3"x3"**	1073009009001	197x310x261	310	50	197	162	281	10

* A extremidade roscada é reforçada com um anel de aço inoxidável

1074

Válvula esfera roscada macho/macho



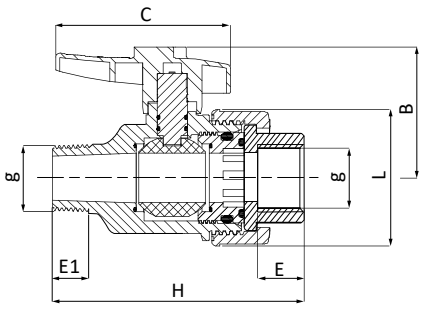


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2	1074006006001	95x187x136	187	23	95	88	116	16
2"x2"	1074007007001	116x216x158	216	27	116	100	127	16

1081

Válvula esfera roscada macho/fêmea





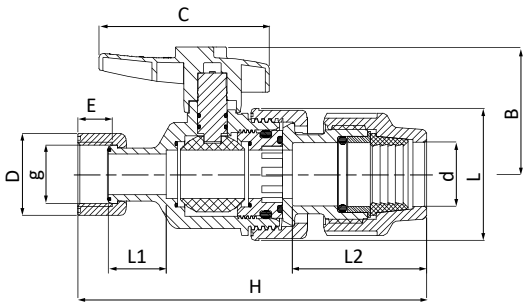
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	23	80	77	100	16
***1"1/2x1"1/2**	1081006006001	95x160x136	160	24	23	95	88	116	16
***2"x2"**	1081007007001	116x189x158	189	27	27	116	100	127	16

* A extremidade roscada é reforçada com um anel de aço inoxidável

1080

Válvula esfera de compressão com porca rotativa



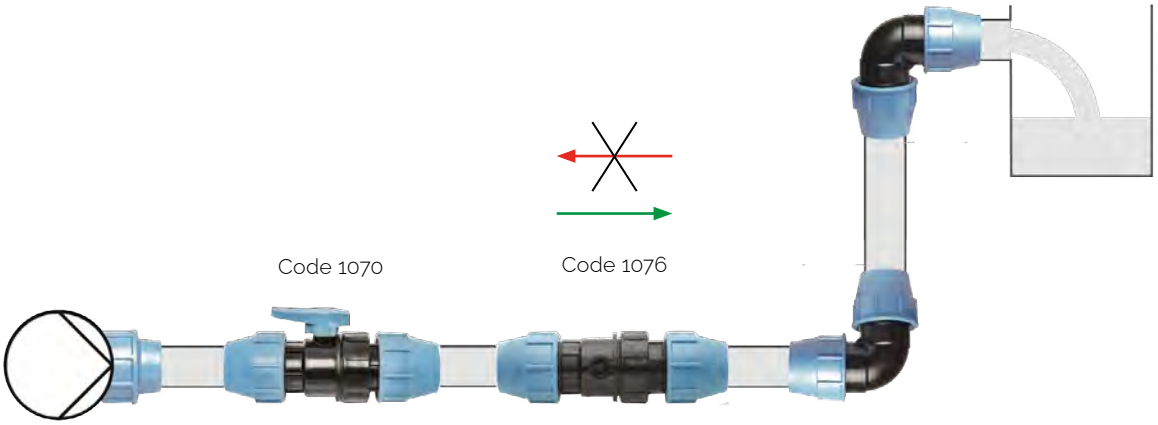


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

5. Válvulas de retenção

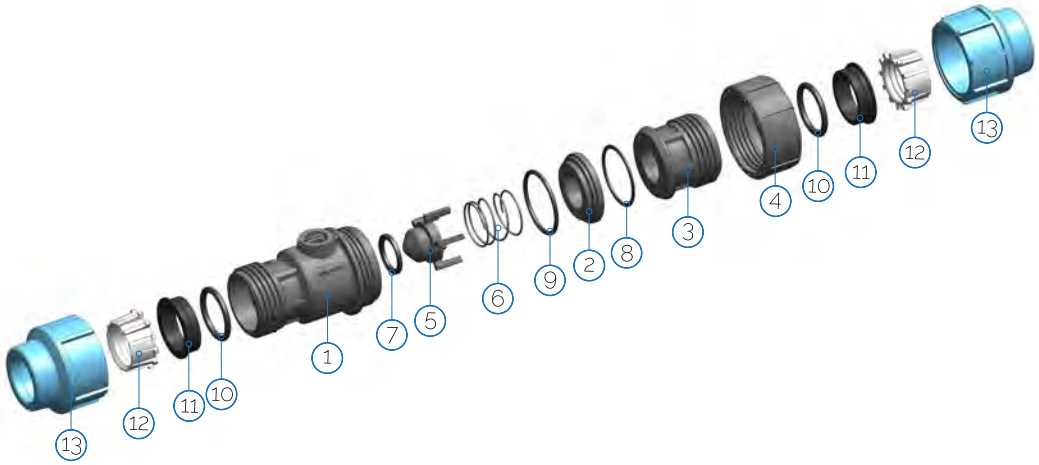
As válvulas de retenção de polipropileno Unidelta são projetadas especificamente para serem acopladas a tubos de polietileno e/ou juntas roscadas. São compatíveis com os tubos LDPE, HDPE, PE40, PE80, PE100, PE100RC feitos em conformidade com **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Normalmente são usadas para o transporte de água com uma pressão máxima de 16 bar a 20°C (para temperaturas mais altas, consulte os limites impostos pelos regulamentos do tubo PE). As válvulas Unidelta estão disponíveis também na versão com saída rosca fêmea e são feitas de acordo com as normas **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
Estas válvulas, por meio de um obturador, permitem a passagem do fluxo em apenas um sentido, opondo-se automaticamente a qualquer retorno na direção oposta. Na imagem seguinte é mostrado esquematicamente um exemplo de uma possível aplicação da válvula de retenção instalada no circuito de impulso de uma bomba.

Exemplo esquemático de uma aplicação



5.1 Estrutura e materiais

Vista explodida de uma válvula de retenção



1. **Corpo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
2. **Suporte OR:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
3. **Inserto:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
4. **Porca porta inserção:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
5. **Obturador:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
6. **Mola:** aço inox AISI 302.
7. **Vedação obturador:** borracha nitrílica (NBR).
8. **O-Ring frontal:** borracha nitrílica (NBR).
9. **O-Ring radial:** borracha nitrílica (NBR).
10. **O-Ring de vedação radial:** borracha nitrílica (NBR).
11. **Anel bucha:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
12. **Anel de aperto:** resina acetálica POM.
13. **Porca:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.

5.2 Vantagens das válvulas de retenção

Materiais utilizados
A válvula Unidelta é composta por componentes feitos exclusivamente em material plástico, excepto a mola de aço inoxidável. Assim, não existe nenhum risco de oxidação e corrosão durante o uso.

Alta resistência à pressão
As válvulas Unidelta podem trabalhar com uma pressão máxima de 16 bar a 20°C.

Design
As válvulas Unidelta têm um design compacto que possibilita a sua instalação mesmo em espaços apertados.

Montagem fácil
As válvulas Unidelta são extremamente fáceis de montar, graças também ao sistema inovador DeltOne para o diâmetro Ø50, Ø63.

Proteção contra raios UV
Os materiais dos componentes expostos das válvulas Unidelta são estabilizados contra raios UV. Portanto, podem ser instalados também externamente.

Possibilidade de inspecionar a esfera

A válvula de retenção pode ser desmontada simplesmente desapertando o porca porta inserção (componente (4) "Vista explodida de uma válvula de retenção" a página 507). Essa característica permite que o obturador seja facilmente limpo de quaisquer depósitos formados durante o uso.

Fiabilidade de funcionamento

A abertura do obturador ocorre já a baixa pressão na direção de ida, enquanto a perfeita vedação é assegurada também com baixa contrapressão na direção oposta.
Ver a tabela seguinte:

Ø	Pressão mínima de abertura da válvula [bar]	Pressão mínima de vedação da válvula [bar]
20	0,030	0,09
25	0,030	0,09
32	0,030	0,09
40	0,035	0,09
50	0,040	0,09
63	0,050	0,09

5.3 Marcação

As informações relevantes estão marcadas diretamente na válvula:

(A) Nome do fabricante "**UNIDELTA**";
(B) Local de fabrico "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diâmetro do tubo de polietileno a ser acoplado (por ex. "**Ø40**");
(E) Diâmetro nominal correspondente a uma possível rosca e indicativamente à seção de passagem (por exemplo "**1"1/4**" e "**DN 32**");
(F) Pressão máxima de operação ("**PN 16**");
(G) **Seta** que indica a direção do fluxo.

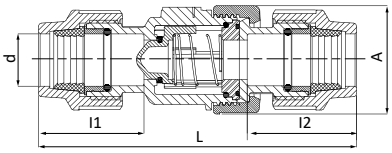


5.4 Fichas técnicas

1076

Válvula de retenção de compressão

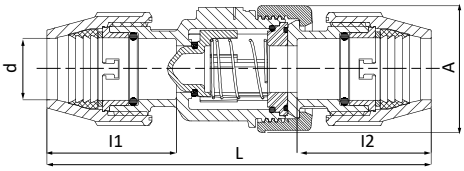




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





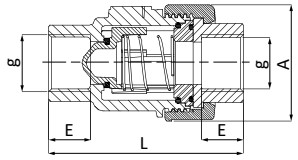
>>>

50x50	1076051000001	303x99x99	303	110	110	95	16
63x63	1076064000001	342x117x117	342	130	126	116	16

1077

Válvula de retenção roscada fêmea/fêmea





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	L [mm]	E [mm]	A [mm]	Pmax [bar]
1/2”x1/2”	1077002002001	89x50x50	89	17	50	16
3/4”x3/4”	1077003003001	99x60x60	99	18	60	16
1”x1”	1077004004001	110x68x68	110	21	68	16
***1”1/4x1”1/4**	1077005005001	128x83x83	128	24	80	16
***1”1/2x1”1/2**	1077006006001	142x99x99	142	24	95	16
***2”x2”**	1077007007001	167x117x117	167	27	116	16

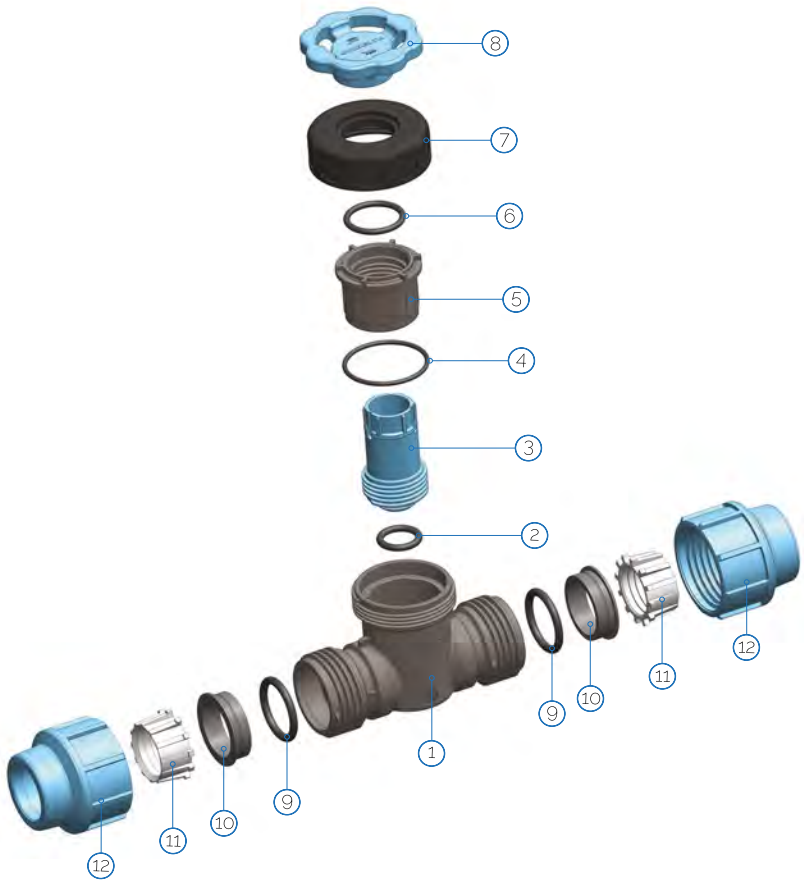
* A extremidade roscada é reforçada com um anel de aço inoxidável

6. Válvulas globo

As válvulas de globo de polipropileno Unidelta são projetadas especificamente para serem acopladas a tubos de polietileno e/ou juntas roscadas. São compatíveis com os tubos LDPE, HDPE, PE40, PE80, PE100, PE100RC fabricados em conformidade com **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Normalmente são usadas para o transporte de água com uma pressão máxima de 16 bar a 20°C (para temperaturas mais altas, consulte os limites impostos pelos regulamentos do tubo PE). As válvulas Unidelta estão disponíveis também na versão com saídas roscas e são feitas de acordo com as normas **ISO 7/1, EN 10226-1, DIN 2999, BS 21.**
A válvula abre-se e fecha-se rodando o comando que permite a regulação gradual do fluxo.

6.1 Estrutura e materiais

Vista explodida de uma válvula de globo



1. **Corpo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
2. **O-ring tampão:** borracha nitrílica (NBR).
3. **Tampão de fecho:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
4. **O-ring corpo:** borracha nitrílica (NBR).
5. **Inserto:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
6. **O-ring inserto:** borracha nitrílica (NBR).
7. **Anel bucha superior:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
8. **Manípulo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
9. **O-ring de vedação radial no tubo:** borracha nitrílica (NBR).
10. **Anel bucha:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
11. **Anel de aperto:** resina acetálica (POM).
12. **Porca:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.

6.2 Vantagens das válvulas de globo

Materiais utilizados
A válvula Unidelta é composta por componentes feitos exclusivamente em material plástico. Assim, não existe nenhum risco de oxidação e corrosão durante o uso.

Alta resistência à pressão
As válvulas Unidelta podem trabalhar com uma pressão máxima de 16 bar a 20°C.

Design
As válvulas Unidelta têm um design compacto que possibilita a sua instalação mesmo em espaços apertados.

Montagem fácil
As válvulas Unidelta são extremamente fáceis de montar.

Proteção contra raios UV
Os materiais dos componentes expostos das válvulas Unidelta são estabilizados contra raios UV. Portanto, podem ser instalados também externamente.

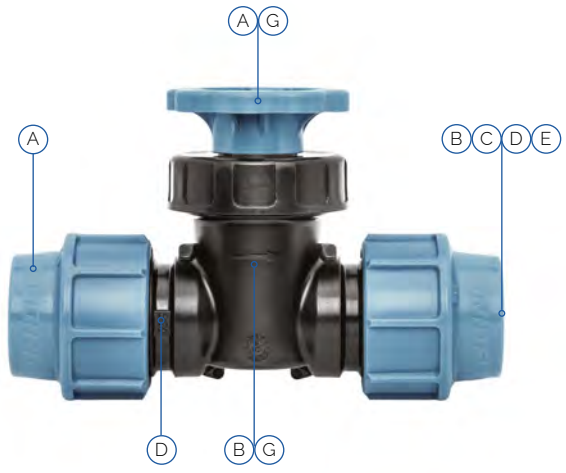
Possibilidade de inspecionar a esfera
A válvula de globo pode ser desmontada simplesmente desapertando o anel bucha superior (componente (7) "Vista explodida de uma válvula de globo" a página 510). Essa característica permite que o obturador seja facilmente limpo de quaisquer depósitos formados durante o uso.

Regulação do fluxo
Agindo no manípulo é possível regular o fluxo de modo gradual.

6.3 Marcação

As informações relevantes estão marcadas diretamente na válvula:

(A) Nome do fabricante "**UNIDELTA**";
(B) Local de fabrico "**MADE IN ITALY**";
(C) Material "**PP**";
(D) Diâmetro do tubo de polietileno a ser acoplado (por ex. "**Ø32**") ou da rosca de junção (por ex. "**1"**");
(E) Pressão máxima de operação ("**PN 16**");
(F) **Seta** que indica a direção do fluxo;
(G) Direção de abertura e fecho da válvula no manípulo ("**OPEN**" e "**CLOSE**").

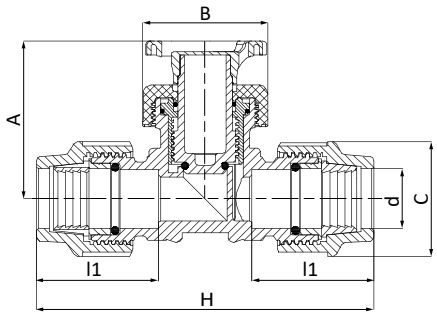


6.4 Fichas técnicas

1078

Válvula globo de compressão



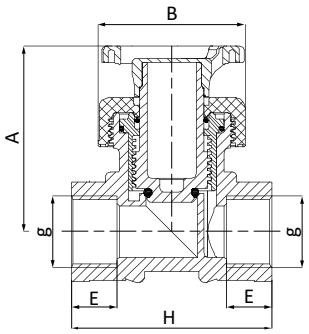


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

1079

Válvula globo roscada fêmea/fêmea





DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	A [mm]	B [mm]	Pmax [bar]
3/4"x3/4"	1079003003001	132x79x60	79	18	112	59	16
1"x1"	1079004004001	143x95x70	95	21	120	70	16

7. Instruções de montagem das válvulas

Válvulas de esfera, de retenção e de globo Ø 20 mm ÷ 40 mm



Corte o tubo ortogonalmente ao eixo usando cortadores de tubos especiais ou serras circulares ou de fita. Neste último caso, para obter uma seção reta, é aconselhável usar caixas de orientação.



Elimine as rebarbas devidas ao corte e chanfre a extremidade do tubo para facilitar a sua montagem e para evitar de estragar a junta. A superfície externa do tubo não deve ter imperfeições ou entalhes durante todo o comprimento da inserção no corpo da válvula.



Desaparafuse a porca azul e coloque-a no tubo seguido pelo anel de aperto. Verifique se este último tenha a parte cônica do lado certo, ou seja, com a parte mais larga na direção do corpo da válvula.



Empurre o tubo para dentro da válvula na direção axial, passando a junta até o limite interno do corpo da válvula.



Aperte primeiro a porca manualmente e depois use a chave de aperto apropriada. A porca deve ser fechada com força, embora não seja necessário que entre em contato com o limite final do corpo da válvula.

Válvulas de esfera, de retenção e de globo Ø 50 mm ÷ 90 mm



Corte o tubo ortogonalmente ao eixo usando cortadores de tubos especiais ou serras circulares ou de fita. Neste último caso, para obter uma seção reta, é aconselhável usar caixas de orientação.



Desaparafuse a porca azul sem remover os anéis fixos no interior (componente integrado).



Introduza o componente integrado no tubo logo depois da junta.
É útil lubrificar a extremidade do tubo e a junta com um lubrificante de silicone adequado para o transporte de água potável.



Empurre o tubo para dentro da válvula na direção axial, até chegar ao limite interno do corpo da válvula.



Aperte primeiro a porca manualmente e depois use a chave de aperto apropriada. A porca deve ser fechada com força, embora não seja necessário que entre em contato com o limite final do corpo da válvula.

8. Componentes

8.1 Componentes para conexões de compressão

A217

Anel bucha



DIM	CODE
16	A217016000
20	A217020000
25	A217025000
32	A217032000
40	A217040000

>>>

>>>

DIM	CODE
50	A217050001
63	A217063001
75	A217075001
90	A217090001
110	A217110001

A218

Porca



DIM	CODE
16	A218016000
20	A218020000
25	A218025000
32	A218032000
40	A218040000

>>>

>>>

DIM	CODE
50	A218050002
63	A218063002
75	A218075002
90	A218090002
110	A218110002

A219

Anel de aperto



DIM	CODE
16	A219016000
20	A219020000
25	A219025000
32	A219032000
40	A219040000

>>>

>>>

DIM	CODE
50	A219050001
63	A219063001
75	A219075001
90	A219090001
110	A219110001

A220

Vedação anel O-ring



DIM	CODE
16	A220016000
20	A220020000
25	A220025000
32	A220032000
40	A220040000

>>>

>>>

DIM	CODE
50	A220050001
63	A220063001
75	A220075001
90	A220090001
110	A220110001

8.2 Componentes para válvulas

A24601

Anel de travamento do inserto para válvula esfera



DIM	CODE
20	A246010200
25	A246010250
32	A246010320
40	A246010400

>>>

>>>

DIM	CODE
50	A246010500
63	A246010630
75	A246010750
90	A246010900

A24602

Manopla para válvula esfera



DIM	CODE
20	A246020200
25	A246020250
32	A246020320
40	A246020400

>>>

>>>

DIM	CODE
50	A246020500
63	A246020630
75	A246020750
90	A246020900

A24603

Manopla para válvulas de globo



DIM	CODE
20-25 - 3/4"	A246032025
32 - 1"	A246030032

A24604

Anel superior preto para válvulas de gaveta



DIM	CODE
20-25 - 3/4"	A246042025
32 - 1"	A246040032

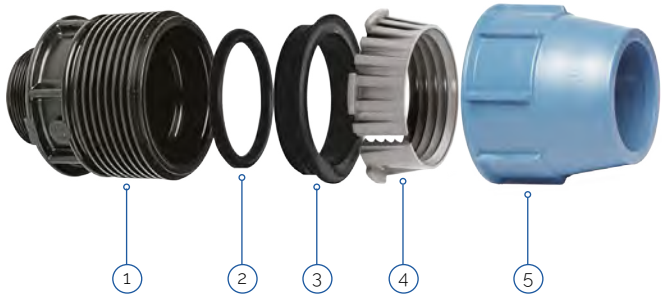
8.3 Componentes especiais

DeltOne Mining é uma conexão inovadora especialmente desenvolvida pela Unidelta para **unir tubos de polietileno para aplicações de mineração,** onde a resistência química a compostos específicos é essencial como, por exemplo, no processo de diluição, frequentemente usado para extração de cobre, são usadas soluções mais ou menos concentradas de ácido sulfúrico.
Este último, na verdade, acaba sendo muito agressivo para as guarnições NBR e para os anéis de aperto em resina acetal, usados em conexões de compressão tradicionais.
Portanto, a Unidelta decidiu, para esses tipos de aplicações, equipar seus acessórios com componentes feitos de materiais com maior resistência química do que os normalmente usados.
A DeltOne Mining mantém o mesmo design inovador, montagem simples e vedação de conexões DeltOne clássica, mas com **vedação OR de fluorelastômero (VITON)** e o **anel de aperto de CPVC**. Além disso, o corpo, o anel bucha e a porca são sempre feitos de polipropileno.

Materiais

Todos os materiais listados são caracterizados por uma resistência química significativa, que permite que a DeltOne Mining trabalhe em contato com compostos químicos extremamente agressivos, em particular ácidos, que atuam tanto a partir do interior (pois estão presentes no fluido transportado) que do ambiente externo.
DeltOne Mining é, portanto, ideal não apenas no setor de mineração, mas também em todas as aplicações com requisitos de alta resistência química. Para as específicas resistências químicas contactar diretamente Unidelta.

1. **Corpo:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
2. **Vedação:** O-ring de VITON.
3. **Anel bucha:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.
4. **Anel de aperto**: CPVC.
5. **Porca:** polipropileno (PP-B) com alto grau de estabilidade com proteção contra UV.



A219 - CPVC

Anel de aperto de CPVC



DIM	CODE
32	A219032002
63	A219063002
75	A219075002
90	A219090002
110	A219110002

A220 - VITON

Vedação anel O-ring de VITON



DIM	CODE
63	A220063003
75	A220075003
90	A220090003
110	A220110003

9. Equipamentos

1101

Ferramenta de chanfro



DIM	CODE
16 ÷ 160	1101016160001

1037

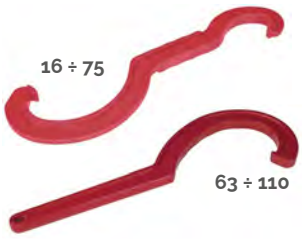
Chave de aperto de polipropileno para conexões



DIM	CODE
16 ÷ 63	1037016001001

1038

Chave de aperto de resina acetálica para conexões



DIM	CODE
16 ÷ 75	1038016002001
63 ÷ 110	1038063002001

5033

Cortador tipo tesoura



DIM	CODE
10 ÷ 32	5033010032001
16 ÷ 63	5033016063001

10. Resistência química

"APPENDIX A Chemical resistance" a página 521

Na tabela seguinte é indicada a resistência química dos materiais usados para os componentes das conexões em contacto com o fluido. É relativa à temperatura de 20°C para juntas não sujeitas a tensão mecânica.

A resistência química é indicada mediante os símbolos seguintes. Onde não é indicada não são efetuados testes.

S = Resistência satisfatória: podem ser usados sem restrições.
L = Resistência limitada: a substância pode afetar o material. A pressão e a temperatura de operação devem ser reduzidas. A vida útil da conexão pode ser reduzida.
NS = Resistência não satisfatória: a substância agride o material. A conexão não pode ser usada.

A concentração é expressa como porcentagem da massa da substância em solução aquosa; em alguns casos, é indicada mediante a simbologia seguinte:

Dil.sol. = Solução aquosa diluída numa concentração não superior a 10%.
Sol. = Solução aquosa numa concentração superior a 10% mas não saturada.
Sat.sol. = Solução aquosa saturada.
tg = Substância pura.
tg-l = Substância pura no estado líquido.
tg-g = Substância pura no estado gasoso.
tg-s = Substância pura no estado sólido.
Work.sol. = Solução na concentração normalmente usada na indústria.
Susp. = Suspensão de sólido em solução saturada.


UNIDELTA
Since 1973

APPENDIX A
Chemical resistance

CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Acetaldehyde	CH3-CHO	40%	L	NS	-
Acetaldehyde	CH3-CHO	100%	-	-	S
Acetanilide	CH3CONHC6H5	-	-	-	-
Acetic acid	CH3COOH	10%	S	S	S
Acetic acid	CH3COOH	60%	-	-	-
Acetic acid anhydride	CH3-CO-O-CO-CH3	tg-l	S	NS	-
Acetic acid, glacial	CH3COOH	>96%	-	-	L
Acetic Anhydride	CH3-CO-O-CO-CH3	100%	-	-	L
Acetone	CH3-CO-CH3	tg-l	S	NS	-
Acetone	CH3-CO-CH3	100%	-	-	S
Acrylonitrile	CH2=CH-CN	tg-l	S	NS	-
Acrylonitrile	CH2=CH-CN	100%	-	-	S
Adipic acid	HOOC-(CH2)4-COOH	Sat.sol.	S	S	S
After shave lotion		-	-	-	-
Alcoholic spirits		40% ethyl alcohol	S	S	-
Aliphatic hydrocarbons		-	-	-	-
Allyl acetate	C5H8O2	-	-	-	-
Allyl alcohol	H2C=CH-CH2-OH	tg-l	S	S	-
Allyl alcohol	H2C=CH-CH2-OH	96%	-	-	L
Allyl chloride	CH2=CHCH2Cl	-	-	-	NS
Alum (Aluminium potassium sulphate)			-	-	-
Alum (Aluminium potassium sulphate)	Al2(SO4)3K2SO44H2O	Sol.	-	-	S
Aluminium potassium sulphate	K2SO4-Al2(SO4)312H2O	50%	S	S	-
Aluminium chloride	AlCl3	Sat.sol.	S	S	S
Aluminium fluoride	AlF3	Sat.sol.	-	-	-
Aluminium hydroxide	Al(OH)3	Sat.sol.	-	-	S
Aluminium nitrate	Al(NO3)3	Sat.sol.	-	-	S
Aluminium oxychloride	AlClO	Sat.sol.	-	-	-
Aluminium sulphate	Al2(SO4)3	Sat.sol.	S	S	S
Ammonia	NH3	tg-g	S	S	-
Ammonia, gas	NH3	100%	-	-	S
Ammonia, liquid	NH3	100%	-	-	S
Ammonium acetate	CH3COONH4	Sat.sol.	S	S	-
Ammonium acetate	CH3COONH4	-	-	-	S
Ammonium carbonate	(NH4)2CO3	50%	S	S	-
Ammonium carbonate	(NH4)2CO3	Sat.sol.	-	-	S
Ammonium chloride	NH4Cl	Sat.sol.	S	S	S
Ammonium exafluorosilicate	H8F6N2Si	Sat.sol.	-	-	-
Ammonium fluoride	NH4F	Sol.	-	-	S
Ammonium hydrogen carbonate	(NH4)HCO3	Sat.sol.	-	-	-
Ammonium hydroxide	NH4OH	Susp.	S	S	-
Ammonium hydroxide	NH4OH	30%	-	-	S
Ammonium metaphosphate	(NH4)4P4O12	Sat.sol.	-	-	S
Ammonium nitrate	NH4NO3	Sat.sol.	S	S	S
Ammonium oxalate	(NH4)2C2O4 · H2O	Sat.Sol.	-	-	-
Ammonium persulfate	(NH4)2S2O8	Sat.Sol.	-	-	S
Ammonium phosphate	NH4H2PO4	Sat.sol.	S	S	S
Ammonium sulphate	(NH4)2SO4	Sat.sol.	S	S	S

>>>

>>>

CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Ammonium sulphide	(NH4)2S	Sat.sol.	S	S	S
Ammonium thiocyanate	NH4SCN	Sat.sol.	-	-	-
Amyl acetate	CH3 (CH2)4-OOCCH3	100%	-	-	L
Amyl alcohol	CH3(CH2)3-CH2-OH	100%	-	-	S
Amyl chloride	CH3(CH2)4Cl	100%	-	-	NS
Aniline	C6H5NH2	100%	-	-	NS
Antimony trichloride	SbCl3	Sat.sol.	S	NS	-
Antimony trichloride	SbCl3	Sol.	-	-	S
Apple juice		-	-	-	-
Aqua regia	HNO2+HCl		NS	NS	-
Aqua regia	HNO3+3HCl	-	-	-	NS
Aromatic hydrocarbons		-	-	-	NS
Arsenic acid	H3AsO4	80%	S	S	-
Arsenic acid	H3AsO4	Sat.sol.	-	-	S
Barium bromide	BaBr2	Sat. Sol.	-	-	S
Barium carbonate	BaCO3	Sat. Sol.	-	-	S
Barium chloride	BaCl2	Sat. Sol.	-	-	S
Barium hydroxide	Ba(OH)2	Sat.sol.	S	S	S
Barium salts		Sat.sol.	S	S	-
Barium sulphate	BaSO4	Sat. Sol.	-	-	S
Barium sulphide	BaS	Sat. Sol.	-	-	S
Battery acid	H2SO4	40%	S	L	-
Beef tallow emulsion, sulphonated		Work.sol.	S	S	-
Beer		Work.sol.	S	S	-
Beer		-	-	-	S
Benzaldehyde	C6H5-COH	Sat.sol.	-	L	-
Benzaldehyde	C6H5-COH	100%	-	-	S
Benzene	C6H6	tg-l	L	L	-
Benzene	C6H6	100%	-	-	NS
Benzine	C5H12 to C12H26	Work.sol.	L	S	-
Benzoic acid	C6H5-COOH	Sat.sol.	S	S	NS
Benzoyl chloride	C6H5COCl	-	-	-	-
Benzyl alcohol	C6H6-CH2OH	tg-l	S	NS	-
Benzyl alcohol	C6H6-CH2OH	-	-	-	NS
Bitumen		-	-	-	-
Bleach lye		10%	-	-	S
Borax	Na2B4O7	Sol.	S	S	-
Borax	Na2B4O7	Sat. Sol.	-	-	S
Boric acid	H3BO3	Sat.sol.	S	S	S
Brine		-	-	-	-
Brine, see water			S	S	-
Bromine, gas	Br2	tg-g	NS	NS	-
Bromine, gas	Br2	100%	-	-	NS
Bromine, liquid	Br2	tg-l	NS	NS	-
Bromine, liquid	Br2	100%	-	-	NS
Bromine, water		Sat.sol.	NS	NS	-
Bromoform	CHBr3	100%	-	-	-
Butadiene	CH2=CH-CH=CH2	-	-	-	NS
Butadiene, gas	H2C=CH-CH=CH2	tg-g	S	NS	-
Butandiol	HO-(CH2)4-OH	100%	-	-	-

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Butane, gas	C4H10	tg-g	S	S	-
Butanediol	HO-(CH2)4-OH	10%	S	S	-
Butanol	C4H9OH	tg-l	S	S	-
Butter		-	-	-	-
Butyl acetate	CH3COOCH2CH2CH2CH3	tg-l	L	NS	-
Butyl acetate	CH3COOCH2CH2CH2CH3	100%	-	-	L
Butyl alcohol	CH3(CH2)3OH	100%	-	-	S
Butylene glycol	HO-CH2-CH=CH-CH2-OH	tg-l	S	NS	-
Butylene glycol	HO-CH2-CH=CH-CH2-OH	100%	-	-	S
Butyric acid	CH3CH2CH2COOH	100%	-	-	L
Calcium arsenate	Ca3(AsO4)2	-	-	-	-
Calcium bisulphite	Ca(HSO3)2	Sat.sol.	-	NS	-
Calcium bromide	CaBr2	Sat. Sol.	-	-	-
Calcium carbonate	CaCO3	Sat. Sol.	-	-	S
Calcium chlorate	Ca(ClO3)2	Sat. Sol.	-	-	S
Calcium chloride	CaCl2	Sat.sol.	S	S	S
Calcium cyanide	Ca(CN)2	-	-	-	-
Calcium hydroxide	Ca(OH)2	Sat.sol.	S	S	S
Calcium hypochlorite	Ca(OCl)2	Sol.	S	S	S
Calcium nitrate	Ca(NO3)2	Sol.	S	S	-
Calcium nitrate	Ca(NO3)2	Sat. Sol.	-	-	S
Calcium oxide	CaO	Sat. Sol.	-	-	-
Calcium sulphate	CaSO4	Sat. Sol.	-	-	S
Calcium sulphide	CaS	Dil. Sol.	-	-	S
Camphor oil		-	-	-	NS
Carbon dioxide	CO2	100%	-	-	S
Carbon dioxide, aqueous sol.	CO2	Sat.sol.	S	S	-
Carbon dioxide, gas	CO2	tg-g	S	S	-
Carbon disulphide	CS2	tg-l	S	NS	-
Carbon disulphide	CS2	100%	-	-	NS
Carbon monoxide	CO	100%	-	-	S
Carbon monoxide, gas	CO	tg-g	S	-	-
Carbon tetrachloride	CCl4	tg-l	NS	NS	-
Carbon tetrachloride	CCl4	100%	-	-	NS
Carbonic acid	H2CO3	-	-	-	S
Carrot juice		-	-	-	-
Castor oil		Sol.	-	-	L
Caustic potash solution	KOH	50%	S	L	-
Caustic soda solution	NaOH	40%	S	S	-
Caustic soda solution	NaOH	50%	S	L	-
Chlorine, acqueous	Cl2	Sat. Sol.	-	-	L
Chlorine, gas	Cl2	tg-l	NS	NS	-
Chlorine, gas	Cl2	tg-g	-	-	-
Chlorine, water	Cl2	Sat.sol.	S	NS	-
Chlorine, water	Cl2	Sat.sol.	-	-	-
Chloroacetic acid, mono	ClCH2COOH	Sol.	S	NS	-
Chlorobenzene	C6H5Cl	100%	-	-	NS
Chloroform	CHCl3	tg-l	L	NS	-
Chloroform	CHCl3	100%	-	-	NS
Chloromethane, gas	CH3Cl	100%	-	-	L

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Chlorosulphonic acid	ClSO3H	tg-s	NS	NS	
Chlorosulphonic acid	ClHO3S	100%	-	-	NS
Cholrine, dry gas	Cl2	100%	-	-	NS
Chrome alum (chromium potassium sulphate)	HCr(SO4)2	Sol.	S	S	-
Chromic acid	CrO3+H2O	20%	-	-	L
Chromic acid	CrO3+H2O	50%	-	-	NS
Cider			S	S	S
Citric acid	C6H8O7	10%	S	S	-
Citric acid	C6H8O7	Sat.sol.	-	-	-
Citric acid	C3H4(OH)(COOH)3	Sat. Sol.	-	-	-
Citric acid	C3H4(OH)(COOH)3	10%	-	-	S
Citric acid	C3H4(OH)(COOH)3	25%	-	-	S
Coal gas, benzene free			S	S	-
Coconut fat alcohol		Work.sol.	S	S	-
Coconut oil		Work.sol.	S	S	-
Coffee		-	-	-	-
Compressed air containing oil			L	S	-
Cooking salt	see Sodium chloride		-	-	-
Copper chloride	CuCl2	Sat. Sol.	-	-	S
Copper cyanide	Cu(CN)2	Sat. Sol.	-	-	S
Copper fluoride	CuF2	Sat. Sol.	-	-	S
Copper nitrate	Cu(NO3)2	Sat. Sol.	-	-	S
Copper salts		Sat.sol.	S	S	-
Copper sulphate	CuSO4	Sat. Sol.	-	-	S
Corn oil		Work.sol.	S	S	-
Corn oil		-	-	-	L
Cottonseed oil		-	-	-	NS
Cresol	HO-C6H4-CH3	tg-l	S	L	-
Cresylic acid	CH3C6H4COOH	Sat. Sol.	-	-	-
Crotonic aldehyde	CH3-CH=CH-CHO	Sat.sol.	S	S	-
Cyclohexane	C6H10	tg-l	S	S	-
Cyclohexane	C6H12	-	-	-	NS
Cyclohexanol	C6H10=OH	Sat.sol.	S	L	-
Cyclohexanol	C6H11OH	100%	-	-	NS
Cyclohexanone	C6H10=O	tg-l	L	NS	-
Cyclohexanone	C6H10=O	100%	-	-	L
Decalin	C10H18	100%	-	-	NS
Decane	C10H22	-	-	-	-
Detergents		-	-	-	S
Detergents (washing powder)		Work.sol.	S	S	-
Dextrina		Sol.	-	-	S
Dextrine (starch gum)		Work.sol.	S	S	-
Dextrose	see Glucose		-	-	-
Diacetone alcohol	(CH3)2COHCH2COCH3	-	-	-	S
Dibuhtyl ether	[CH3(CH2)3]2O	-	-	-	NS
Dibutyl amine	(C4H9)2NH	-	-	-	NS
Dibutylphthalate	C6H4(COOC4H9)2	-	-	-	L
Dichlorobenzene	C6H4Cl2	-	-	-	NS
Dichloroethylene	CHCl=CHCl	-	-	-	NS
Diesel oil			L	S	NS

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Diethyl ether	C2H5OC2H5	100%	-	-	NS
Diethyl ketone	(C2H5)2CO	-	-	-	-
Diethylene glycol	C4H10O3	-	-	-	-
Diglycolic acid	HOOCCH2OCH2COOH	-	-	-	S
Diisobutylketone	(CH3)2CHCH2COCH2CH(CH3)2	100%	-	-	L
Dimethyl formamid	HCON(CH3)2	-	-	-	L
Dioctyl phthalate	C6H4(COOC8H17)2	100%	-	-	L
Dioxane	(CH2)4O2	100%	-	-	S
Ethyl acetate	CH3COOCH2CH3	100%	-	-	L
Ethyl acrylate	CH2=CHCOOCH2CH3	100%	-	-	L
Ethyl alcohol	CH3-CH2-OH	tg-l	S	S	-
Ethyl alcohol	CH3-CH2-OH	100%	-	-	S
Ethyl alcohol + acetic acid (fermentation mixture)		Work.sol.	S	L	-
Ethyl benzene	C6H6-CH2-CH3	tg-l	L	NS	-
Ethyl benzene	C6H5C2H5	-	-	-	NS
Ethyl chloride	CH3-CH2Cl	tg-g	L	NS	-
Ethyl chloride	CH3-CH2Cl	100%	-	-	NS
Ethyl eter	CH3CH2-O-CH2CH3	tg-l	S	NS	-
Ethyl ether	CH3-CH2-O-CH2-CH3	-	-	-	NS
Ethylene chloride	ClCH2-CH2Cl	tg-l	L	L	-
Ethylene chlorohydrin	ClCH2CH2OH	100%	-	-	NS
Ethylene diamine	NH2CH2CH2NH2	100%	-	-	S
Ethylene glycol	HO-CH2-CH2-OH	tg-l	S	S	-
Ethylene glycol	HO-CH2-CH2-OH	100%	-	-	S
Ferric chloride	FeCl3	Sat. Sol.	-	-	S
Ferric nitrate	Fe(NO3)3	Sat. Sol.	-	-	S
Ferric sulphate	Fe2(SO4)3	Sat. Sol.	-	-	S
Ferrous chloride	FeCl2	Sat. Sol.	-	-	S
Ferrous sulphate	FeSO4	Sat. Sol.	-	-	S
Fertilizer salts		Work.sol.	S	S	-
Fluorine	F2	tg-g	NS	NS	-
Fluorine, gas dry	F2	100%	-	-	NS
Fluoroboric acid	HBF4	-	-	-	S
Fluorosilicic acid	H2SiF6	32%	S	L	L
Formaldehyde	HCHO	40%	S	S	-
Formaldehyde	CH2O	10-30%	-	-	S
Formaldehyde	CH2O	30-40%	-	-	S
Formamide	HCONH2	tg-l	S	S	-
Formic acid	HCOOH	50%	S	NS	-
Formic acid	HCOOH	40%	-	-	S
Formic acid	HCOOH	100%	-	-	S
Frigen 12 (Freon 12)	CF2Cl2	Work.sol.	NS	L	-
Fructose	C6H12O6	Sat. Sol.	-	-	S
Fruit juice		Work.sol.	S	S	-
Fruit pulp		Work.sol.	S	S	-
Fuel oil (Gasoline)		Work.sol.	L	S	-
Furfural	C5H4O2	100%	-	-	S
Furfuryl alcohol	C5H6O2	100%	-	-	L
Gallic acid	(OH)3C6H2COOH	Sat. Sol.	-	-	S
Gasoline		-	-	-	NS

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Gelatine		Sol.	S	S	-
Glucose	C6H12O6	Sol.	S	S	-
Glucose	C6H12O6	Sat. Sol.	-	-	S
Glycerine	C3H8O3	tg-l	S	S	-
Glycerine	C3H5(OH)3	Sat. Sol.	-	-	S
Glycocoll	NH2-CH2-COOH	10%	S	S	-
Glycol	see Ethylene glycol		-	-	-
Glycolic acid	NO-CH2-COOH	37%	S	S	-
Glycolic acid	NO-CH2-COOH	Sol.	-	-	S
Grape juice		-	-	-	-
Heptane	C7H16	tg-l	S	S	-
Heptane	C7H16	100%	-	-	NS
Hexane	C6H14	tg-l	S	S	-
Hexane	C6H14	-	-	-	NS
Hydrobromic acid	HBr	50%	S	L	S
Hydrobromic acid	HBr	100%	-	-	-
Hydrochloric acid	HCl	10%	S	L	S
Hydrochloric acid	HCl	20%	-	-	S
Hydrochloric acid	HCl	30%	-	-	S
Hydrochloric acid	HCl	36%	-	-	S
Hydrocyanic acid	HCN	tg-l	S	L	-
Hydrocyanic acid	HCN	Sat. Sol.	-	-	L
Hydrofluoric acid	HF	40%	S	NS	NS
Hydrofluroric acid	HF	60%	-	-	NS
Hydrogen	H	tg-g	S	S	-
Hydrogen	H2	100%	-	-	S
Hydrogen chloride	HCl	tg-g	S	L	-
Hydrogen peroxide	H2O2	10%	S	L	-
Hydrogen peroxide	H2O2	30%	-	-	L
Hydrogen peroxide	H2O2	90%	-	-	L
Hydrogen sulphide	H2S	Sat.sol.	S	L	-
Hydrogen sulphide, gas	H2S	100%	-	-	S
Hydroquinone	C6H4O2	Sat. Sol.	-	-	S
Hydroxylamine sulphate	(H2NOH)2H2SO4	Sat.sol.	S	S	-
Ink		-	-	-	-
Iodine (in alcohol)	I2	-	-	-	-
Iodine (in potassium solution)	I2	-	-	-	-
Iodine solution		6.5% iodine in ethanol	S	S	-
Iron salts		Sat.sol.	S	S	-
Iso-octane	(CH3)3-C-CH2-CH-(CH3)2	tg-l	L	S	-
Iso-octane	C8H18	100%	-	-	NS
Iso-pentane	C5H12	-	-	-	-
Isopropanol	CH3CH(OH)CH3	-	-	-	-
Isopropyl alcohol	(CH3)2CHOH	tg-l	S	S	-
Isopropyl ether	(CH3)2-CH-O-CH-(CH3)2	tg-l	L	NS	-
Isopropyl ether	(CH3)2-CH-O-CH-(CH3)2	100%	-	-	NS
Kerosene		-	-	-	NS
Lactic acid	CH3CHOHCOOH	10%	S	NS	L
Lactic acid	CH3CHOHCOOH	100%	-	-	-
Lanolin		Work.sol.	S	S	-

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Lead acetate	Pb(CH3COO)2	Sat.sol.	S	S	S
Linseed oil		Work.sol.	S	S	-
Liqueurs			S	S	-
Lubricating oils			L	S	-
Lubricating oils free of aromatic compounds			S	S	-
Magnesium carbonate	MgCO3	Sat. Sol.	-	-	S
Magnesium chloride	MgCl2	Sat. Sol.	-	-	S
Magnesium hydroxide	Mg(OH)2	Sat. Sol.	-	-	S
Magnesium nitrate	Mg(NO3)2	Sat. Sol.	-	-	S
Magnesium salts	MgCl2	Sat.sol.	S	S	-
Magnesium sulphate	MgSO4	Sat. Sol.	-	-	S
Maleic acid	HOOC-CH=CH-COOH	Sat. Sol.	-	-	L
Marmelade			S	S	-
Mercuric chloride	HgCl2	Sat. Sol.	-	-	S
Mercuric cyanide	Hg(CN)2	Sat. Sol.	-	-	S
Mercurous nitrate	HgNO3	Sol.	-	-	S
Mercury	Hg	tg-l	S	S	-
Mercury	Hg	100%	-	-	S
Mercury salts		Sat.sol.	S	L	-
Methane (natural gas)	CH4	tg-g	S	S	-
Methanol (methyl alcohol)	CH3OH	tg-l	S	S	-
Methyl acetate	CH3COOCH3	tg-l	S	NS	-
Methyl alcohol	CH3OH	100%	-	-	S
Methyl amine	CH3NH2	32%	S	NS	-
Methyl bromide	CH3Br		NS	NS	-
Methyl bromide	CH3Br	Tg	-	-	-
Methyl bromide	CH3Br	100%	-	-	NS
Methyl chloride	CH3Cl	tg-g	NS	NS	-
Methyl chloride	CH3Cl	100%	-	-	L
Methyl ethyl ketone	CH3COC2H5	tg-l	S	NS	-
Methyl ethyl ketone	CH3COC2H5	100%	-	-	S
Methylene chloride	CH2Cl2	-	-	-	NS
Milk			S	S	S
Milk		work. sol.	-	-	-
Mineral oil		-	-	-	NS
Mineral water			S	S	-
Molasses			S	S	S
Molasses wort			S	S	-
Mowilith D		Work.sol.	S	S	-
Naphtha		-	-	-	NS
Naphthalene		tg-l	S	S	-
Naphthalene	C10H8	-	-	-	NS
Nickel chloride	NiCl2	Sat. Sol.	-	-	S
Nickel nitrate	Ni(NO3)2	Sat. Sol.	-	-	S
Nickel salts		Sat.sol.	S	S	-
Nickel sulphate	NiSO4	Sat. Sol.	-	-	S
Nicotine	C10H14N2	Dil. Sol.	-	-	-
Nicotinic acid	C5H4NCOOH	Dil. Sol.	-	-	S
Nitric acid	HNO3	25%	-	-	S
Nitric acid	HNO3	50%	-	-	-

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Nitric acid	HNO3	70%	-	-	NS
Nitric acid	HNO3	95%	-	-	-
Nitric acid	HNO3	100%	-	-	NS
Nitric acid	NHO3	6.3%	S	NS	-
Nitric acid	NHO3	25%	-	-	-
Nitrobenzene	C6H5NO2	100%	-	-	NS
Nitrotoluene	CH3C6H4NO2	-	-	-	NS
Oleic acid	C17H33COOH	tg-l	S	L	-
Oleic acid	C17H33COOH	100%	-	-	NS
Oleum	H2SO4+SO3		NS	NS	-
Oleum	H2SO4+SO3	10 SO3	-	-	-
Oleum	H2SO4+10%SO3	-	-	-	NS
Oleum	H2SO4+50%SO3	-	-	-	NS
Olive oil			S	S	NS
Oxalic acid	C2H2O4	Sat.sol.	S	L	-
Oxalic acid	HOOCCOOH	Sat. Sol.	-	-	L
Oxigen	O2	tg-g	S	NS	-
Oxigen	O2	100%	-	-	S
Ozone	O3	tg-g	-	NS	-
Ozone	O3	100%	-	-	S
Palm oil, palm nut oil			S	S	-
Paraffin emulsion		Work.sol.	S	S	-
Paraffin oil		Work.sol.	S	S	-
Paraffin oil		-	-	-	NS
Pentane	C5H12	-	-	-	-
Perchloric acid	HClO4	20%	-	-	-
Perchloric acid	HClO4	50%	-	-	-
Perchloric acid	HClO4	70%	-	-	S
Petroleum		Work.sol.	S	S	-
Petroleum ether		Work.sol.	L	L	-
Petroleum jelly		Work.sol.	S	S	-
Phenol	C6H5-OH	10%	S	NS	-
Phenol	C6H5-OH	Sol.	-	-	L
Phenylhydrazine	C6H5-NH-NH2	tg-l	L	NS	-
Phenylhydrazine hydrochloride	C6H5-NH-NH3+Cl-	Dil.sol.	S	L	-
Phenylhydrazine hydrochloride	C6H5-NH-NH3+Cl-	Dil.sol.	-	-	-
Phosgene	COCl2	tg-l	L	L	-
Phosphoric acid	COCL2	50%	S	L	-
Phosphoric acid	H3PO4	25%	-	-	S
Phosphoric acid	H3PO4	50%	-	-	S
Phosphorous pentoxide	P2O5	100%	-	-	S
Phosphorous trichloride	PCl3	100%	-	-	S
Phosphorus chlorides	PCl3	tg-l	S	NS	-
Phosphorus pentoxide	P2O5	tg-l	S	L	-
Photographic developer		Work.sol.	S	L	-
Photographic emulsion			S	L	-
Photographic fixer		Work.sol.	S	S	-
Photography solutions		-	-	-	S
Phtalic acid	COOH-C6H6-COOH	Sat.sol.	S	NS	-
Phthalic acid	C6H4(COOH)2	50%	-	-	S

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Potash (potassium carbonate)	K2CO3	Sat.sol.	S	S	-
Potassium aluminium sulphate	K2SO4-Al2(SO4)312H2O	50%	S	S	-
Potassium aluminium sulphate	K2SO4-Al2(SO4)312H2O	Sat.sol.	-	-	-
Potassium bicarbonate	KHCO3	Sat. Sol.	-	-	S
Potassium bichromate	K2Cr2O7	Sat.sol.	S	S	-
Potassium borate	K3BO3	10%	S	S	-
Potassium borate	K3BO3	Sat.sol.	-	-	S
Potassium bromate	KBrO3	Sat.sol.	S	S	S
Potassium bromide	KBr	Sat.sol.	S	S	S
Potassium carbonate	K2CO3	Sat.sol.	S	S	S
Potassium chlorate	KClO3	Sat.sol.	S	S	S
Potassium chloride	KCl	Sat.sol.	S	S	S
Potassium chromate	K2CrO4	Sat.sol.	S	S	S
Potassium cyanide	KCN	Sat.sol.	S	S	-
Potassium cyanide	KCN	Sol.	-	-	-
Potassium hydroxide	KOH	50%	S	L	-
Potassium Hydroxide	KOH	10%	-	-	S
Potassium Hydroxide	KOH	Sol.	-	-	S
Potassium iodide	KJ	Sat.sol.	S	S	-
Potassium nitrate	KNO3	50%	S	S	-
Potassium perchlorate	KClO4	Sat.sol.	S	S	S
Potassium permanganate	KMnO4	Sat.sol.	S	L	-
Potassium permanganate	KMnO4	20%	-	-	S
Potassium persulphate	K2S2O8	Sat.sol.	S	NS	S
Potassium phosphates	KH2PO4 ; K2HPO4	Sat.sol.	S	S	-
Potassium sulphate	K2SO4	Sat.sol.	S	S	S
Propane	C3H8	tg-l ; tg-g	S	S	-
Propanol, n- and iso-	C3H7OH	tg-l	S	L	-
Proparcyl alcohol	CH≡C-CH2-OH	7%	S	S	-
Propionic acid	CH3CH2COOH	50%	S	NS	S
Propionic acid	CH3CH2COOH	100%	-	-	S
Propyl alcohol	C3H7OH	-	-	-	S
Propylene glycol	C3H8O2	tg-l	S	S	-
Propylene glycol	CH3CHOHCH2OH	-	-	-	S
Pyridine	C5H5N	tg-l	L	NS	-
Pyridine	C5H5N	100%	-	-	NS
Salpetre	KNO3	50%	S	S	-
Sea water		-	-	-	S
Silicon oil		-	S	S	L
Silver nitrate	AgNO3	Sat.sol.	-	-	S
Silver salts	AgNO3	Sat.sol.	S	S	-
Soap		Sol.	S	S	-
Soda	Na2CO3	Sat.sol.	S	S	-
Sodium Hydroxide	NaOH	Sol.	-	-	S
Sodium Hydroxide	NaOH	40%	-	-	S
Sodium acetate	CH3COONa	Sat.sol.	S	S	S
Sodium benzoate	C6H6-COONa	Sat.sol.	S	S	S
Sodium bicarbonate	NaHCO3	Sat.sol.	S	S	S
Sodium bisulphate	NaHSO4	10%	S	S	-
Sodium bisulphate	NaHSO4	Sat. Sol.	-	-	S

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Sodium bisulphite	NaHSO3	Sat.sol.	S	L	S
Sodium borate	Na2B4O7	-	-	-	S
Sodium bromate	NaBrO3	Sat.sol.	S	S	-
Sodium bromide	NaBr	Sat.sol.	S	S	-
Sodium carbonate	Na2CO3	Sat.sol.	S	S	S
Sodium chlorate	NaClO3	Sat.sol.	S	S	S
Sodium chloride	NaCl	Sat. Sol.	-	-	S
Sodium chloride (cooking salt)	NaCl	Sat.sol.	S	S	-
Sodium chlorite	NaClO2	Dil.sol.	S	NS	-
Sodium chromate	Na2CrO4	Dil.sol.	S	S	-
Sodium cyanide	NaCN	Sat. Sol.	-	-	S
Sodium disulphite	Na2S2O5	Sat.sol.	S	L	-
Sodium dithionite (hyposulphite)	Na2S2O4	10%	S	S	-
Sodium fluoride	NaF	Sat. Sol.	S	S	S
Sodium hydroxide	NaOH	40%	S	S	-
Sodium hydroxide	NaOH	40% Cl	-	-	-
Sodium hypochlorite	NaOCl	12.5%	L	NS	-
Sodium hypochlorite	NaOCl	12.5% Cl	-	-	-
Sodium hypochlorite	NaOCl	12,50%	-	-	L
Sodium iodide	NaI	Sat.sol.	S	S	-
Sodium nitrate	NaNO3	Sat.sol.	S	S	S
Sodium nitrite	NaNO2	Sat.sol.	S	S	S
Sodium oxalate	Na2C2O4	Sat.sol.	S	S	-
Sodium persulphate	Na2S2O8	Sat.sol.	S	NS	-
Sodium phosphate	Na3PO4	Sat.sol.	S	S	S
Sodium silicate	Na2SiO3	Sat.sol.	S	S	-
Sodium silicate	Na2SiO3	Sol.	-	-	S
Sodium sulphate	Na2SO4	Sat.sol.	S	S	-
Sodium sulphide	Na2S	Sat.sol.	S	S	S
Sodium sulphite	Na2SO3	Sat.sol.	S	S	-
Sodium thiosulphate	Na2Sv03	Sat.sol.	S	S	-
Spindle oil			S	S	-
Spirits		Work.sol.	S	S	-
Stannic chloride	SnCl4	Sat. Sol.	-	-	S
Stannous chloride	SnCl2	Sat.sol.	S	S	S
Starch solution		Work.sol.	S	S	-
Starch syrup		Work.sol.	S	S	-
Stearic acid	C17H35COOH	tg-l	S	S	-
Stearic acid	C17H35COOH	Sat. Sol.	-	-	NS
Succinic acid	HOOC-CH2-CH2-COOH	Sat.sol.	S	S	-
Sugar syrup		Work.sol.	S	S	-
Sulphur dioxide	SO2	tg-g	S	NS	-
Sulphur dioxide, dry gas	SO2	100%	-	-	S
Sulphur trioxide	SO3	tg-g	NS	NS	-
Sulphur trioxide	SO3	100%	-	-	NS
Sulphuric acid	H2SO4	10%	-	-	S
Sulphuric acid	H2SO4	40%	S	L	-
Sulphuric acid	H2SO4	50%	-	-	S
Sulphuric acid	H2SO4	70%	-	-	S
Sulphuric acid	H2SO4	80%	-	-	S

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CHEMICAL	FORMULA	CONCENTRATION %	PP-B	NBR	EPDM 20°C
Sulphuric acid	H2SO4	98%	-	-	NS
Sulphuric acid	H2SO4	Fumante	-	-	-
Sulphurous acid	H2SO3	Sat.sol.	S	NS	-
Sulphurous acid	H2SO3	30%	-	-	-
Sulphurous acid	H2SO3	Sol.	-	-	S
Sulphuryl chloride	SO2Cl2	tg-l	NS	NS	-
Tallow		tg-l	S	S	-
Tannic acid	C14H10O9	Sol.	S	S	S
Tanning extracts from plants		Work.sol.	S	S	-
Tartaric acid	C4H6O6	Sat.sol.	S	S	-
Tartaric acid	COOH(CHOH)2COOH	Sat. Sol.	-	-	S
Tetrachloroethane	Cl2CH-CHCl2	tg-l	L	NS	-
Tetrachloroethylene	Cl2C=CCl2	100%	-	-	NS
Tetraethyl lead	(C2H5)4Pb	tg-l	S	S	-
Tetrahydrofurane	(CH2)4O	-	-	-	NS
Thionyl chloride	SOCl2	100%	-	-	NS
Toluene	C6H5-CH3	tg-l	L	NS	-
Toluene	C6H5CH3	100%	-	-	NS
Trichloroethane	Cl3-C-CH3	tg-l	L	NS	-
Trichloroethylene	ClCH=CCl2	100%	-	-	NS
Trichloromethane	CHCl3	tg-l	L	NS	-
Triethanolamine	N(CH2-CH2-OH)3	Sol.	S	L	NS
Trioctyl phosphate	(C8H17)3PO4		S	L	-
Turpentine		-	-	-	NS
Turpentine oil			NS	S	-
Turpentine oil	Tg-l	Tg-l	-	-	-
Urea	H2N-CO-NH2	30%	S	S	S
Urea	H2N-CO-NH2	Sol.	-	-	-
Urine			S	S	S
Vaseline		-	-	-	-
Vegetable oils and fats			S	S	-
Vinegar		Work.sol.	S	NS	-
Vinyl acetate	CH2=CHOOCCH3	tg-l	S	S	-
Water	H2O		S	S	-
Water, waste water without organic solvent and surfactants			S	S	-
Wax alcohol	C31H63OH	tg-l	L	S	-
Wetting agents		5%	S	S	-
Wine vinegar		Work.sol.	S	NS	S
Wines		Work.sol.	S	S	S
Xylene	C6H4(CH3)2	tg-l	NS	NS	-
Xylene	C6H4(CH3)2	100%	-	-	NS
Yeast		Susp.	S	S	-
Yeast		Sol.	-	-	S
Zinc chloride	ZnCl2	Sat. Sol.	-	-	S
Zinc salts	ZnCl2	Sol.	S	S	-
Zinc sulphate	ZnSO4	Sat. Sol.	-	-	S


UNIDELTA
Since 1973

Condizioni generali di vendita

1. Ambito di applicazione e prevalenza delle CGV. Le vendite sono effettuate da Unidelta S.p.A. unicamente alle presenti Condizioni Generali di Vendita ("CGV"). Ogni ordine accettato viene evaso a dette condizioni, in deroga espressa a qualsiasi altra norma o condizione del Cliente, salvo accordo scritto e sottoscritto da Unidelta S.p.A. Eventuali condizioni generali del Cliente, anche se richiamate negli ordini o nella corrispondenza, non troveranno applicazione se non espressamente accettate per iscritto da Unidelta S.p.A. Le presenti CGV si applicano a tutti i nuovi ordini a decorrere dalla loro pubblicazione/comunicazione e non hanno efficacia retroattiva su contratti già conclusi.

2. Ordini. Qualsiasi ordine è subordinato alla preventiva approvazione di Unidelta S.p.A., la quale potrà annullarlo e/o ridurlo e/o integrarlo nei quantitativi, senza che ciò costituisca motivo di contestazione o diritto a reclamo di sorta da parte del Cliente. Eventuali ordini evasi solo parzialmente saranno completati con forniture successive, salvo che il Cliente non comunichi per iscritto decisione diversa.

3. Prezzi – Listini – Offerte. I prezzi sono quelli indicati nei listini o nelle offerte Unidelta vigenti al momento dell'accettazione dell'ordine. Il listino prezzi di Unidelta non costituisce alcuna offerta ed è puramente indicativo; Unidelta si riserva il diritto di modificarlo unilateralmente in qualsiasi momento. Le eventuali nuove condizioni si applicheranno ai soli ordini successivi alla modifica.
3.1 Validità preventivi/offerte. Salvo diversa indicazione scritta, eventuali preventivi o offerte di Unidelta hanno validità di 30 (trenta) giorni dalla data di emissione.

4. Consegna – Spedizione – Trasporto. I termini di consegna non sono vincolanti né essenziali e hanno natura indicativa. Eventuali ritardi nella consegna non determinano diritto a penalità, annullamento o risoluzione del rapporto. Eventuali richieste di spostamento dei termini di consegna indicati saranno accettate solo se preventivamente concordate per iscritto. La spedizione si intende effettuata con consegna al vettore, momento dal quale ogni responsabilità di Unidelta S.p.A. cessa. La merce viaggia a rischio del Cliente anche se resa franco destino, salvo diversi Incoterms espressamente pattuiti per iscritto. Il vettore è scelto da Unidelta S.p.A. senza alcuna responsabilità per la scelta stessa. Le spese di spedizione sono a carico del Cliente salvo espresso patto contrario. Eventuali imballaggi sono da pagarsi o da restituirsi in ottimo stato in porto franco al domicilio della Venditrice.

5. Verifica merce – Reclami. Al ricevimento dei prodotti il Cliente deve verificare immediatamente lo stato e la conformità della merce. La firma del documento di trasporto senza riserva costituisce accettazione della quantità e dell'aspetto esteriore dei prodotti. Tutti i reclami relativi alla conformità dei prodotti all'ordine, anche in relazione alla loro quantità e/o aspetto esteriore, devono essere formulati per iscritto all'atto del ricevimento della merce e comunicati alla Venditrice entro e non oltre 8 (otto) giorni dal ricevimento. In ogni caso la restituzione dei prodotti da parte del Cliente necessita del consenso scritto di Unidelta S.p.A.; in mancanza di accordo i prodotti restituiti saranno tenuti a disposizione del Cliente a suo rischio e pericolo, con spese di trasporto, deposito e custodia a suo carico.

6. Pagamenti. Non si riconoscono pagamenti se non effettuati direttamente alla sede della Venditrice in Vestone, secondo le modalità concordate in offerta/ordine/contratto. Il mancato o ritardato pagamento comporta: applicazione automatica degli interessi di mora ai sensi del D.Lgs. 231/2002; diritto di Unidelta S.p.A. di sospendere ogni consegna, anche relativa ad ordini già accettati; facoltà di risolvere il contratto ai sensi dell'art. 1456 c.c., fatto salvo il risarcimento danni. Eventuali contestazioni non danno diritto alla sospensione o al ritardo dei pagamenti.
6.1 Sospensione forniture per insoluto/supero fido. In caso di ritardo di pagamento anche parziale, superamento del fido concordato o peggioramento della solvibilità del Cliente, Unidelta potrà sospendere immediatamente forniture in corso e future fino a regolarizzazione, senza responsabilità o penali. In caso di ritardato o mancato pagamento, oltre agli interessi di mora di cui sopra, il Cliente è tenuto a rimborsare a Unidelta S.p.A. tutti i costi sostenuti per il recupero del credito, inclusi, a titolo esemplificativo, spese amministrative interne, costi di sollecito, spese legali e di eventuale procedura giudiziale o stragiudiziale.

7. Caratteristiche dei prodotti – Modifiche. Le caratteristiche tecniche ed estetiche dei prodotti possono essere modificate per esigenze commerciali o tecniche senza preavviso. Tali modifiche non potranno incidere sulle prestazioni essenziali espressamente pattuite negli ordini già accettati. Le immagini, i dati e le indicazioni contenute in cataloghi, listini o nel sito internet hanno natura indicativa e non vincolante. Resta inteso che la scelta dei prodotti, la loro installazione e l'utilizzo finale sono effettuati sotto l'esclusiva responsabilità del Cliente, il quale dichiara di avere verificato l'idoneità dei prodotti rispetto all'uso previsto, all'impianto e/o al macchinario in cui saranno installati, nonché la conformità dell'installazione alle normative vigenti e alle istruzioni tecniche fornite da Unidelta S.p.A. Unidelta S.p.A. non risponde di danni o malfunzionamenti derivanti da errata scelta del prodotto, installazione non conforme, mancato rispetto delle istruzioni, uso improprio o utilizzo in condizioni diverse da quelle previste.

8. Proprietà intellettuale – Know-how. Il Cliente riconosce espressamente che il nome di UNIDELTA, la sua composizione grafica e il know-how relativo ai prodotti sono di proprietà esclusiva di Unidelta S.p.A. e non possono essere utilizzati, copiati o riprodotti senza preventiva autorizzazione scritta. Nessuna parte di cataloghi, listini, manuali o documentazione tecnica può essere copiata, tradotta o riprodotta, anche in forma elettronica, senza preventiva autorizzazione di Unidelta S.p.A.

9. Riserva di proprietà. La merce rimane di proprietà della Venditrice fino al momento del totale pagamento del prezzo e degli eventuali accessori.

10. Garanzia e responsabilità.
10.1 Garanzia verso clienti professionali/aziende (B2B). Unidelta S.p.A. garantisce che i prodotti forniti sono esenti da difetti originari di materiali e lavorazioni. Sono esclusi dalla garanzia i difetti derivanti da trasporto, incidenti, uso improprio, installazione non conforme a manuali o norme, negligenza, abuso, manomissioni, modifiche o riparazioni eseguite da soggetti non autorizzati, normale usura o qualsiasi causa non riconducibile a difetto originario di produzione. Il Cliente decade dalla garanzia se non denuncia per iscritto: i vizi apparenti entro 8 giorni dal ricevimento della merce; i vizi occulti entro 8 giorni dalla scoperta (o dal momento in cui avrebbero dovuto essere scoperti con ordinaria diligenza).
La garanzia ha durata di 12 mesi dalla consegna. I rimedi sono esclusivamente: riparazione o sostituzione del prodotto difettoso presso Unidelta o centro autorizzato. Restano esclusi: montaggio/smontaggio, manodopera, fermo impianto, perdite di produzione, lucro cessante e danni indiretti o consequenziali. Salvo dolo o colpa grave, l'eventuale responsabilità di Unidelta non potrà eccedere il prezzo pagato per il prodotto difettoso.
10.2 Garanzia legale verso consumatori finali (B2C). Quando i prodotti vengono venduti a consumatori finali tramite rivenditori/distributori, si applica la garanzia legale di conformità prevista dal D.Lgs. 206/2005. La durata è di 24 mesi dalla consegna e il consumatore deve denunciare il difetto entro 2 mesi dalla scoperta. Unidelta risponde nei confronti dei propri clienti diretti (rivenditori/distributori) secondo la garanzia B2B di cui al par. 10.1.
10.3 Decorrenza della garanzia. Clienti diretti B2B: dalla data di consegna. La garanzia opera durante l'uso normale del prodotto e non durante eventuali periodi di giacenza non imputabili a Unidelta.
10.4 Estensioni. Eventuali estensioni di garanzia possono essere concordate caso per caso tramite specifici accordi contrattuali scritti.
10.5 Garanzia e responsabilità per macchine saldatrici Duty Cycle Company S.p.A. Per le macchine saldatrici prodotte da Duty Cycle Company S.p.A. si applicano, oltre alle presenti CGV, le seguenti previsioni specifiche. Conformità e durata: per clienti consumatori la garanzia legale dura 24 mesi dalla consegna; per clienti professionali 12 mesi, salvo diverso accordo scritto. Garanzia del produttore: Duty Cycle Company S.p.A. è unico fabbricante e responsabile tecnico. Difetti imputabili a produzione o progettazione saranno gestiti secondo le condizioni del produttore. Manutenzione e riparazioni: la manutenzione ordinaria è a carico del Cliente; la straordinaria e le riparazioni devono essere eseguite solo dal produttore o da centri autorizzati. Ricambi non originali o interventi non autorizzati comportano decadenza della garanzia. Limitazioni: Unidelta non risponde di danni da uso improprio, errata manutenzione, fermo macchina, perdite di produzione o interventi tecnici non autorizzati. Comunicazioni: le richieste di assistenza devono essere indirizzate a Unidelta che le inoltrerà al produttore o centro competente.

11. Limitazione massima della responsabilità. In ogni caso, nei limiti consentiti dalla legge, la responsabilità complessiva di Unidelta S.p.A. nei confronti del Cliente, per qualsiasi titolo (contrattuale o extracontrattuale), è limitata al prezzo effettivamente pagato per i prodotti che hanno dato origine alla responsabilità. Sono esclusi danni indiretti, consequenziali, lucro cessante, perdita di produzione o fermo impianto, salvo dolo o colpa grave.

12. Forza maggiore. Per "forza maggiore" si intende ogni evento fuori dal ragionevole controllo di Unidelta (tra cui a titolo esemplificativo: scioperi, incendi, alluvioni, guerre, embargo, pandemie, interruzioni di energia o trasporti, indisponibilità di materie prime, provvedimenti dell'Autorità). In tali casi Unidelta potrà sospendere o annullare la fornitura senza responsabilità né penali; i termini di consegna si intenderanno automaticamente prorogati per tutta la durata dell'evento.

13. Condizioni di reso (RMA). Qualsiasi restituzione di merce deve essere preventivamente autorizzata per iscritto da Unidelta S.p.A. e dovrà avvenire secondo le indicazioni ricevute. I resi non autorizzati saranno respinti. Le spese e i rischi di trasporto restano a carico del Cliente salvo diversa pattuizione scritta. Non si accettano resi di prodotti realizzati o modificati su specifica richiesta del Cliente salvo diverso accordo scritto.

14. Privacy. Il Cliente dichiara di aver ricevuto l'informativa privacy di Unidelta. Eventuali dati personali comunicati dal Cliente saranno trattati esclusivamente per finalità connesse alla gestione dell'ordine, consegna e assistenza, nel rispetto della normativa vigente.

15. Prevalenza della versione italiana. In caso di difformità interpretative tra la versione italiana delle presenti CGV e le eventuali traduzioni, prevale la versione italiana.

16. Legge applicabile e foro competente. Le presenti CGV e ogni ordine eseguito in base alle stesse sono regolati dalla legge italiana. Tutte le controversie derivanti dalle presenti CGV e/o dagli ordini eseguiti in base alle stesse verranno devolute alla competenza esclusiva del Foro di Brescia.

17. Accesso per verifiche di conformità (prodotti a marchio). L'acquirente, per quanto riguarda i prodotti a marchio, è tenuto a consentire l'accesso ai funzionari dell'Istituto Italiano dei Plastici per esami e verifiche di conformità alle norme applicabili.

18. Disposizioni sul listino prezzi e documentazione commerciale. Il listino prezzi di Unidelta non costituisce alcuna offerta, è puramente indicativo e può essere modificato unilateralmente da Unidelta S.p.A. senza alcun preavviso. Nessuna parte del listino, dei cataloghi o della documentazione commerciale può essere copiata, tradotta o riprodotta, anche in forma elettronica, senza preventiva autorizzazione scritta di Unidelta S.p.A.

General terms and conditions of sale

1. Scope of application and precedence of the GTC. Sales are carried out by Unidelta S.p.A. exclusively under these General Terms and Conditions of Sale ("GTC"). Every accepted order is fulfilled under these conditions, expressly derogating from any other rule or condition of the Customer, unless otherwise agreed in writing and signed by Unidelta S.p.A. Any general terms of the Customer, even if referred to in orders or correspondence, shall not apply unless expressly accepted in writing by Unidelta S.p.A. These GTC apply to all new orders from the date of their publication/communication and have no retroactive effect on contracts already concluded.

2. Orders. Any order is subject to prior approval by Unidelta S.p.A., which may cancel and/or reduce and/or supplement it in terms of quantities, without this constituting grounds for dispute or any right to claim by the Customer. Any partially fulfilled orders will be completed with subsequent supplies, unless the Customer communicates a different decision in writing.

3. Prices – Price lists – Offers. Prices are those shown in Unidelta's price lists or offers in force at the time the order is accepted. Unidelta's price list does not constitute any offer and is purely indicative; Unidelta reserves the right to amend it unilaterally at any time. Any new conditions shall apply only to orders placed after the amendment.
3.1 Validity of quotations/offers. Unless otherwise stated in writing, any quotation or offer issued by Unidelta is valid for 30 (thirty) days from the date of issue.

4. Delivery – Shipment – Transport. Delivery times are not binding nor essential and are indicative only. Any delivery delays do not entitle the Customer to penalties, cancellation or termination of the relationship. Any requests to change indicated delivery times will be accepted only if agreed in writing in advance. Shipment is deemed executed upon delivery to the carrier, from which moment any responsibility of Unidelta S.p.A. ceases. Goods travel at the Customer's risk even if delivered "carriage paid to destination", unless different Incoterms have been expressly agreed in writing. The carrier is chosen by Unidelta S.p.A. without any liability for such choice. Shipping costs are borne by the Customer unless expressly agreed otherwise. Any packaging must be paid for or returned in perfect condition, carriage paid to the Seller's premises.

5. Inspection of goods – Claims. Upon receipt of the products, the Customer must immediately check the condition and conformity of the goods. Signing the transport document without reservations constitutes acceptance of the quantity and external appearance of the products. All claims relating to the conformity of the products with the order, including quantity and/or external appearance, must be made in writing upon receipt of the goods and notified to the Seller no later than 8 (eight) days from receipt. In any case, the return of products by the Customer requires Unidelta S.p.A.'s prior written consent; in the absence of an agreement, returned products will be held at the Customer's disposal at their own risk and expense, with transport, storage and custody costs borne by the Customer.

6. Payments. Payments are recognized only if made directly to the Seller's headquarters in Vestone, according to the methods agreed in the offer/order/contract. Late or non-payment entails: automatic application of late-payment interest pursuant to Legislative Decree 231/2002; Unidelta S.p.A.'s right to suspend any deliveries, including those relating to orders already accepted; Unidelta S.p.A.'s right to terminate the contract pursuant to Art. 1456 of the Italian Civil Code, without prejudice to compensation for damages. Any disputes do not entitle the Customer to suspend or delay payments.
6.1 Suspension of supplies due to unpaid invoices/credit limit exceeded. In case of late payment, even partial, exceeding the agreed credit limit or deterioration of the Customer's solvency, Unidelta may immediately suspend ongoing and future supplies until regularization, without liability or penalties. In case of late or non-payment, in addition to the late-payment interest above, the Customer must reimburse Unidelta S.p.A. for all costs incurred to recover the credit, including, by way of example, internal administrative expenses, reminder costs, legal fees and any judicial or out-of-court proceedings.

7. Product features – Changes. The technical and aesthetic features of the products may be modified for commercial or technical reasons without notice. Such changes shall not affect the essential performance expressly agreed in already accepted orders. Images, data and indications contained in catalogues, price lists or on the website are indicative and non-binding. It is understood that the selection of products, their installation and final use are under the Customer's sole responsibility. The Customer declares to have verified the suitability of the products for the intended use, plant and/or machine in which they will be installed, as well as the conformity of the installation with applicable regulations and the technical instructions provided by Unidelta S.p.A. Unidelta S.p.A. shall not be liable for damages or malfunctions resulting from incorrect product selection, non-compliant installation, failure to follow instructions, improper use or use in conditions other than those envisaged.

8. Intellectual property – Know-how. The Customer expressly acknowledges that the name UNIDELTA, its graphic composition and the know-how relating to the products are the exclusive property of Unidelta S.p.A. and may not be used, copied or reproduced without prior written authorization. No part of catalogues, price lists, manuals or technical documentation may be copied, translated or reproduced, including electronically, without prior written authorization from Unidelta S.p.A.

9. Retention of title. Goods remain the property of the Seller until full payment of the price and any accessories.

10. Warranty and liability.
10.1 Warranty towards professional/business customers (B2B). Unidelta S.p.A. warrants that supplied products are free from original defects in materials and workmanship. The warranty excludes defects due to transport, accidents, improper use, installation not compliant with manuals or standards, negligence, abuse, tampering, modifications or repairs carried out by unauthorized persons, normal wear and tear, or any cause not attributable to an original manufacturing defect. The Customer

forfeits the warranty if it does not report in writing: apparent defects within 8 days from receipt of the goods; hidden defects within 8 days from discovery (or from when they should have been discovered with ordinary diligence). The warranty lasts 12 months from delivery. Remedies are exclusively: repair or replacement of the defective product at Unidelta or an authorized center. Excluded are: assembly/disassembly, labor, plant downtime, production losses, loss of profit and indirect or consequential damages. Except in cases of willful misconduct or gross negligence, Unidelta's liability shall not exceed the price paid for the defective product.
10.2 Statutory warranty towards final consumers (B2C). When products are sold to final consumers through resellers/distributors, the statutory conformity warranty under Legislative Decree 206/2005 applies. Its duration is 24 months from delivery, and the consumer must report the defect within 2 months of discovery. Unidelta is liable towards its direct customers (resellers/distributors) under the B2B warranty set out in section 10.1.
10.3 Warranty start date. Direct B2B customers: from the delivery date. The warranty applies during normal use of the product and not during any storage periods not attributable to Unidelta.
10.4 Extensions. Any warranty extensions may be agreed on a case-by-case basis through specific written contractual agreements.
10.5 Warranty and liability for Duty Cycle Company S.p.A. welding machines. For welding machines manufactured by Duty Cycle Company S.p.A., in addition to these GTC, the following specific provisions apply. Conformity and duration: for consumer customers, statutory warranty lasts 24 months from delivery; for professional customers, 12 months unless otherwise agreed in writing. Manufacturer's warranty: Duty Cycle Company S.p.A. is the sole manufacturer and technical responsible party. Defects attributable to manufacturing or design will be handled according to the manufacturer's conditions. Maintenance and repairs: routine maintenance is the Customer's responsibility; extraordinary maintenance and repairs must be carried out only by the manufacturer or authorized centers. Non-original spare parts or unauthorized work void the warranty. Limitations: Unidelta is not liable for damages due to improper use, incorrect maintenance, machine downtime, production losses or unauthorized technical work. Communications: assistance requests must be addressed to Unidelta, which will forward them to the manufacturer or competent center.

11. Maximum limitation of liability. In any case, to the extent permitted by law, Unidelta S.p.A.'s overall liability towards the Customer, on any grounds (contractual or non-contractual), is limited to the price actually paid for the products giving rise to the liability. Indirect, consequential damages, loss of profit, production losses or plant downtime are excluded, except in cases of willful misconduct or gross negligence.

12. Force majeure. "Force majeure" means any event beyond Unidelta's reasonable control (including, by way of example: strikes, fires, floods, wars, embargoes, pandemics, power or transport interruptions, unavailability of raw materials, measures by Authorities). In such cases, Unidelta may suspend or cancel supply without liability or penalties; delivery times shall be automatically extended for the entire duration of the event.

13. Return conditions (RMA). Any return of goods must be previously authorized in writing by Unidelta S.p.A. and must be carried out according to the instructions received. Unauthorized returns will be rejected. Transport costs and risks remain with the Customer unless otherwise agreed in writing. Returns of products made or modified to the Customer's specific request are not accepted unless otherwise agreed in writing.

14. Privacy. The Customer declares to have received Unidelta's privacy notice. Any personal data communicated by the Customer will be processed solely for purposes connected with order management, delivery and assistance, in compliance with applicable laws.

15. Precedence of the Italian version. In the event of interpretative discrepancies between the Italian version of these GTC and any translations, the Italian version shall prevail.

16. Applicable law and competent court. These GTC and any order carried out under them are governed by Italian law.
All disputes arising from these GTC and/or orders carried out under them shall fall under the exclusive jurisdiction of the Court of Brescia.

17. Access for conformity checks (branded products). With reference to branded products, the buyer must allow access to officials of the Italian Plastics Institute (Istituto Italiano dei Plastici) for tests and conformity checks with applicable standards.

18. Provisions on price list and commercial documentation. Unidelta's price list does not constitute an offer, is purely indicative and may be amended unilaterally by Unidelta S.p.A. without prior notice. No part of the price list, catalogues or commercial documentation may be copied, translated or reproduced, including electronically, without prior written authorization from Unidelta S.p.A.


UNIDELTA
Since 1973

SOLUZIONI PER ESTERNO - OUTDOOR SOLUTIONS

Tubi PE
PE pipes



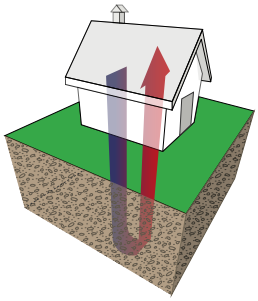
Raccordi a saldare
Welding fittings



Raccordi a compressione
Compression fittings



Impianti geotermici
Geothermal systems



SOLUZIONI PER INTERNO - INDOOR SOLUTIONS

PE-X/Al/PE-X - PE-RT/Al/PE-RT
PE-X - PE-RT pipes



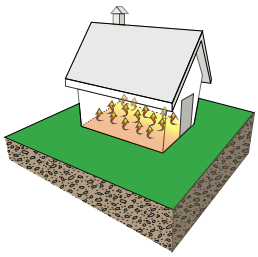
Raccordi in ottone per acqua e gas
Brass fittings for water and gas



Sistema multistrato gas
Multilayer system for gas



Impianti radianti
Radiant systems





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