Bt 1070

Deltone Valves

UNIDELTA

Since 1973



DELTONE Valves

Valvole in polipropilene (PP-B)

Valvole a sfera • Valvole di ritegno • Valvole a globo

Polypropylene (PP-B) valves

Ball valves • Non-return valves • Stop cock valves

Made in Italy





Valvole in polipropilene - **3**

Polypropylene valves - **23**

Vannes en polypropylène - **43**

Válvulas de polipropileno - **63**

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Valvole in polipropilene

Italiano

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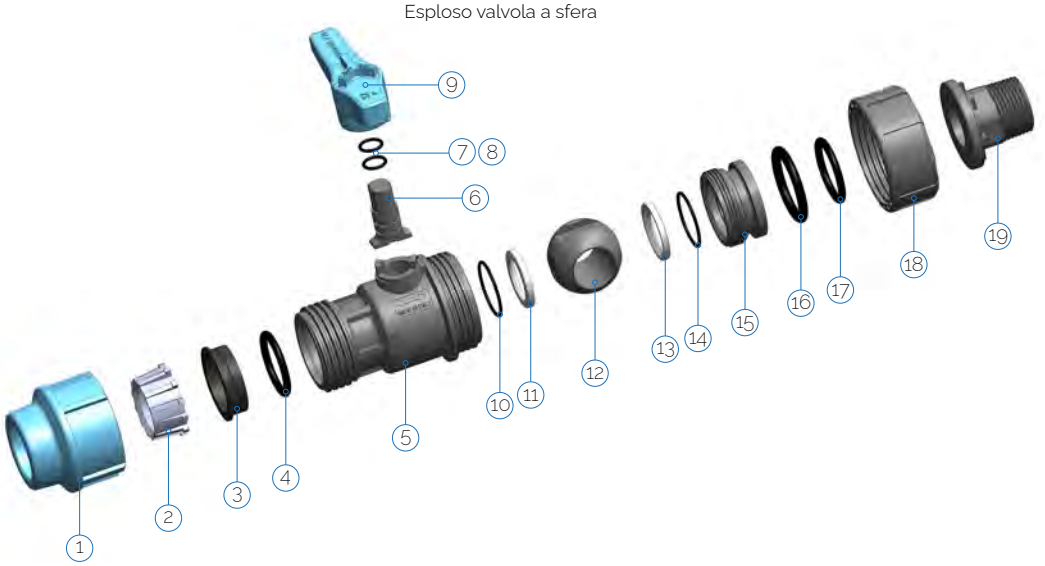

UNIDELTA
Since 1973

1. 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.**

1.1 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.

1.2 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.

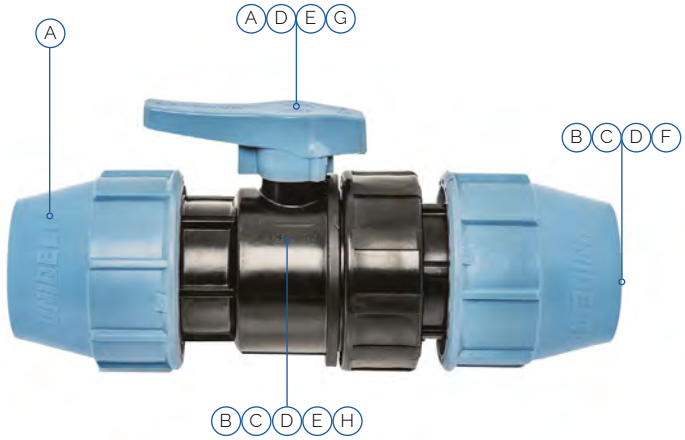
Flusso bidirezionale
Le valvole a sfera Unidelta non necessitano di un determinato verso del flusso dell'acqua ma possono essere installate con orientamento casuale indipendentemente dalla direzione del flusso stesso.

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 8).

1.3 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 (ad es. "**PN 16**");
(G) Direzione di apertura e chiusura della valvola sulla maniglia ("**OPEN**" e "**CLOSE**");
(H) **Doppia freccia** indicante la bidirezionalità del flusso.



1.4 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 5). 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).





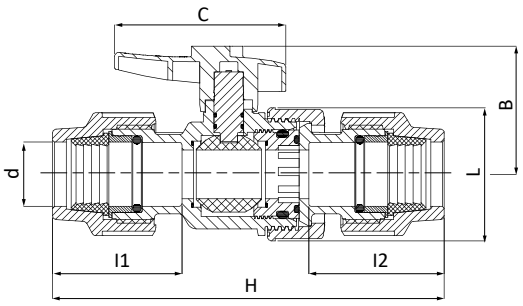
Rimuovere il supporto della guarnizione della sfera in modo da permettere l'accesso alla sfera stessa (Figura 3A e Figura 3B).

1.5 Schede tecniche

1070

Valvola a sfera a compressione

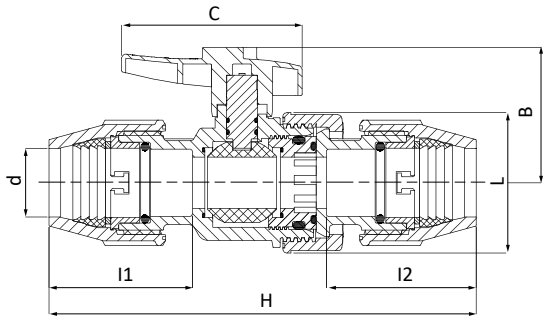




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





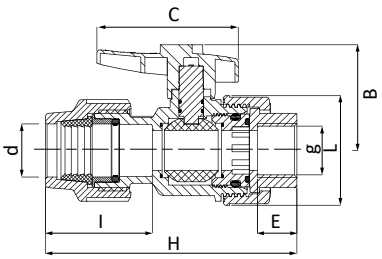
>>>

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

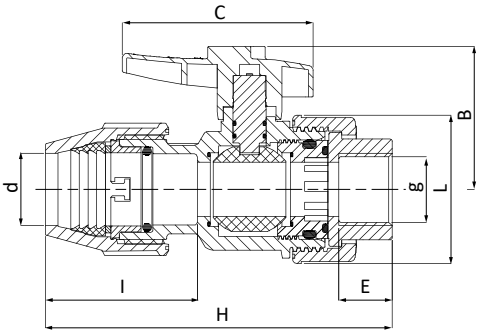




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82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

>>>





>>>

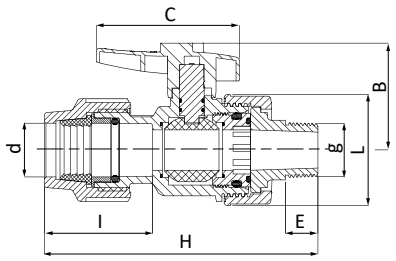
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

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

1072

Valvola a sfera a compressione filettata maschio

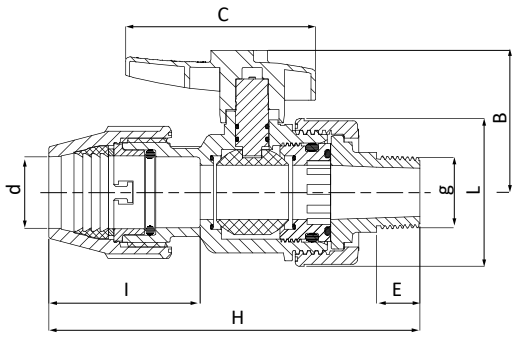




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80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

>>>





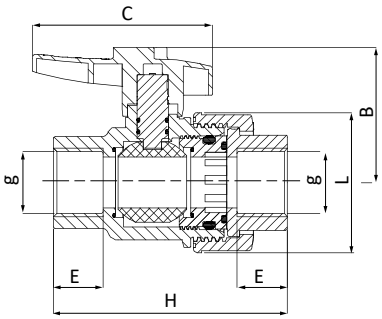
>>>

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





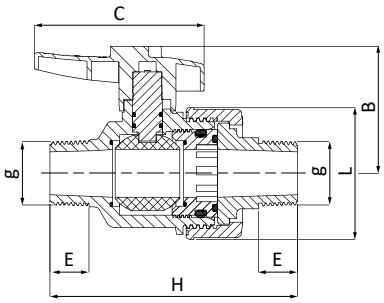
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	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



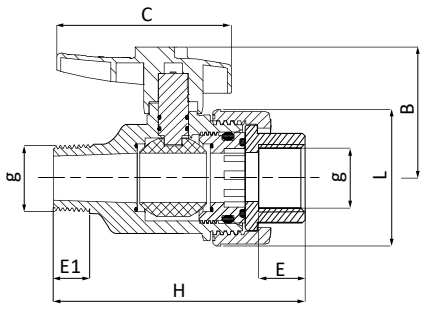


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2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





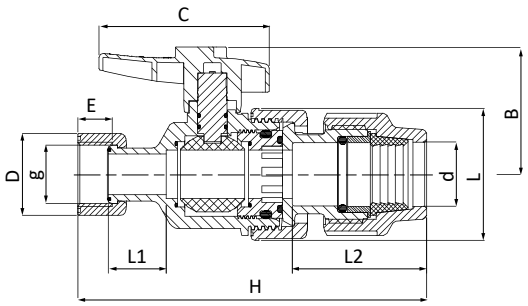
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	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



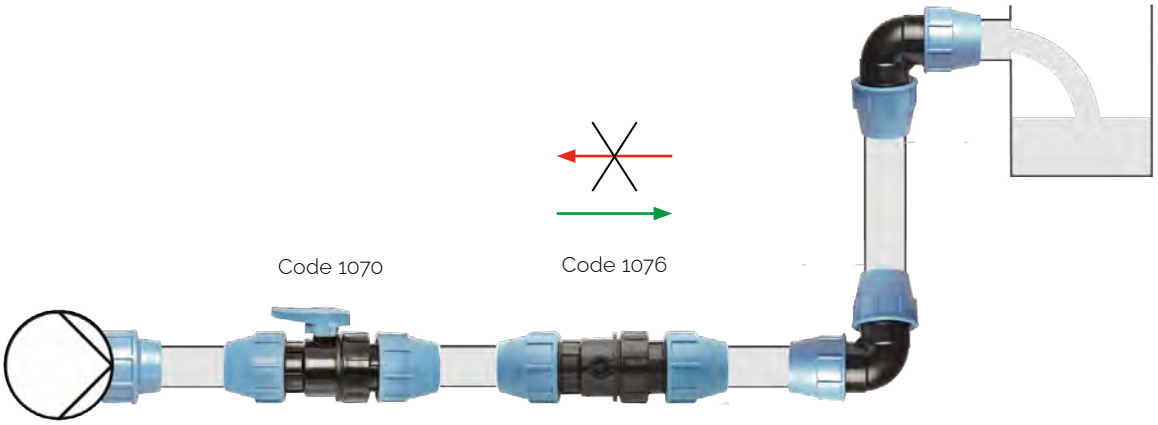


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

2. Valvole di ritegno

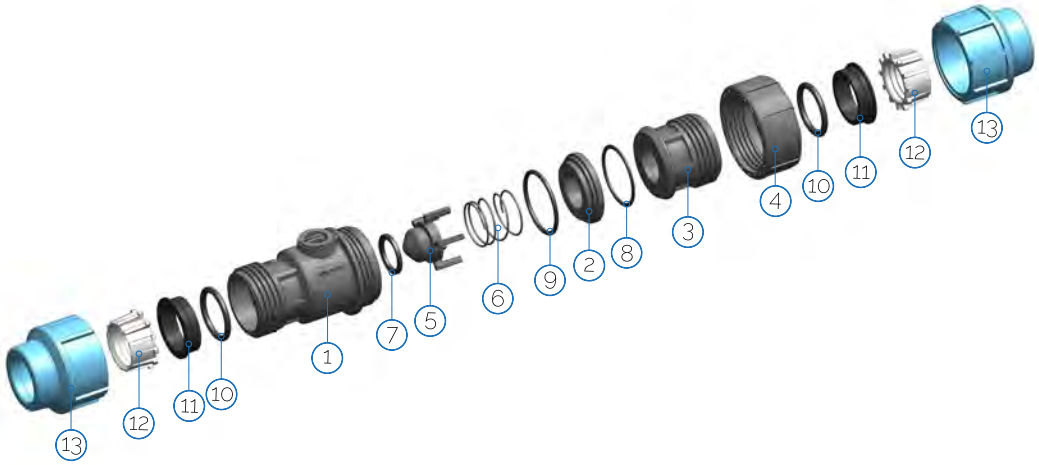
Le valvole di ritegno in polipropilene Unidelta sono specificatamente realizzate per essere accoppiate a tubi di polietilene e/o giunzioni filettate. Sono compatibili con i tubi in PEBD, PEAD, PE40, PE80, PE100, PE100RC realizzati secondo le normative **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Sono 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



2.1 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.

2.2 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 15). 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

2.3 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.

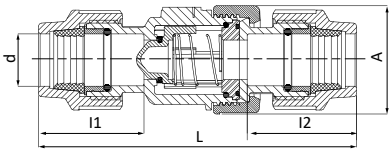


2.4 Schede tecniche

1076

Valvola di ritegno a compressione

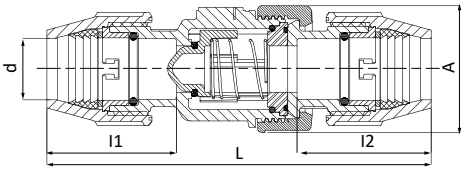




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





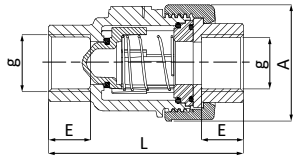
>>>

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

1077

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

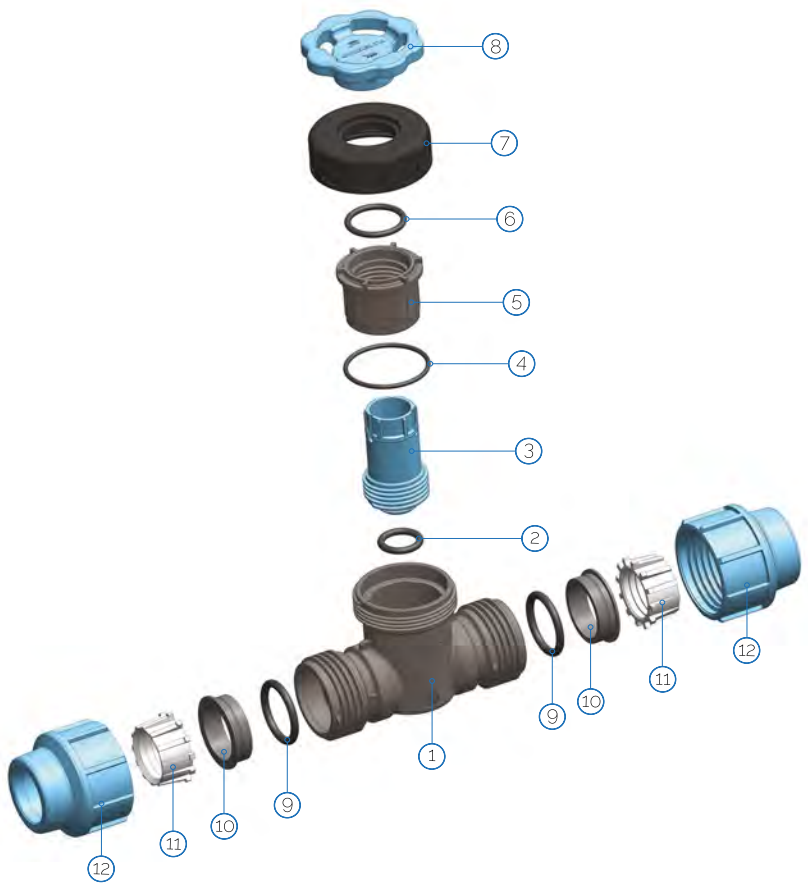
* La bocca filettata è rinforzata da un anello di acciaio inox

3. 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.

3.1 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.

3.2 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.

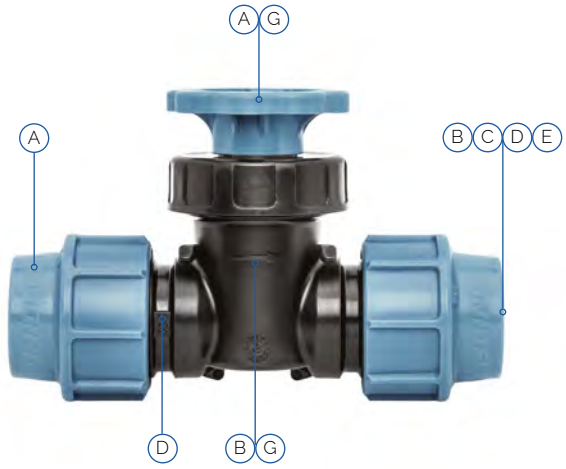
Ispezionabilità della valvola
La valvola a globo è smontabile semplicemente svitando la ghiera superiore (componente (7) dell'"Esploso valvola a globo" a pagina 18). Questa caratteristica consente di ripulire agevolmente l'otturatore da eventuali depositi formatosi durante l'utilizzo.

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

3.3 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**").

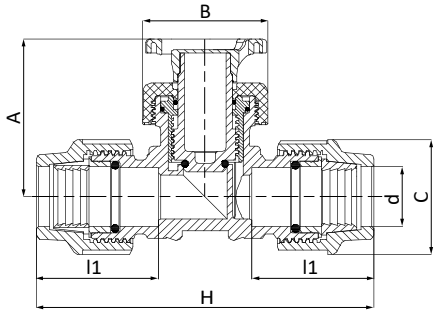


3.4 Schede tecniche

1078

Valvola a globo a compressione



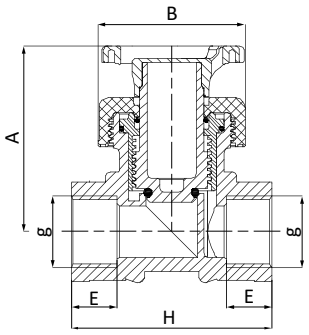


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

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

4. 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.

Polypropylene valves

English

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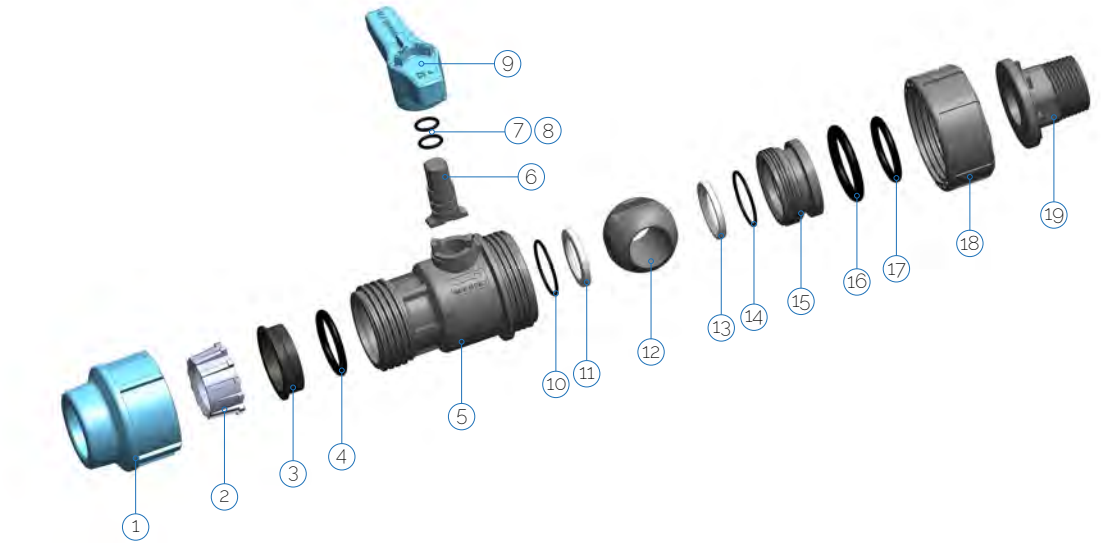

UNIDELTA
Since 1973

1. 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.**

1.1 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.

1.2 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.

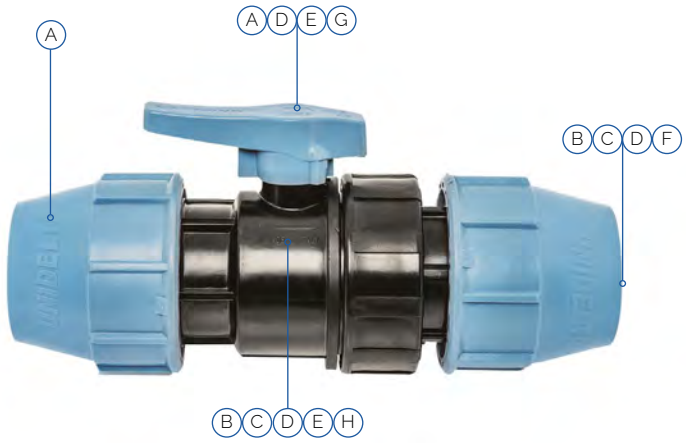
Two-way flow
The Unidelta ball valves do not require a specific direction of water flow so they can be installed regardless of the direction of the flow.

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 28).

1.3 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.



1.4 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 25). 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).





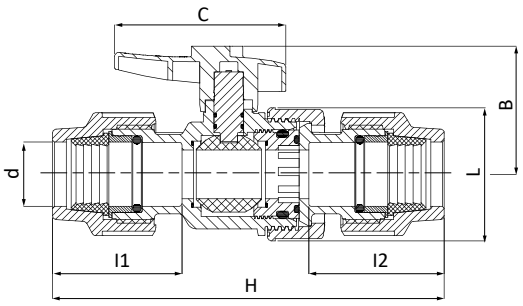
Remove the ball gasket support in order to access the ball itself (figure 3A and 3B).

1.5 Technical sheets

1070

Compression ball valve

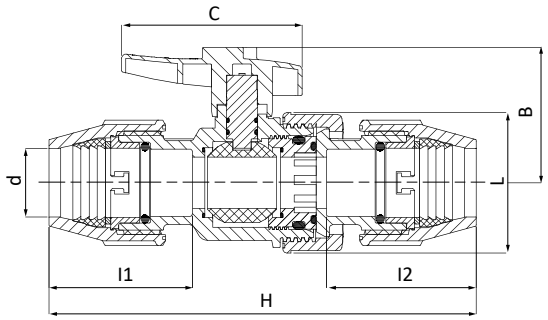




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





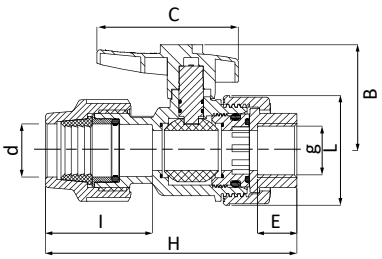
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50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Compression ball valve female threaded

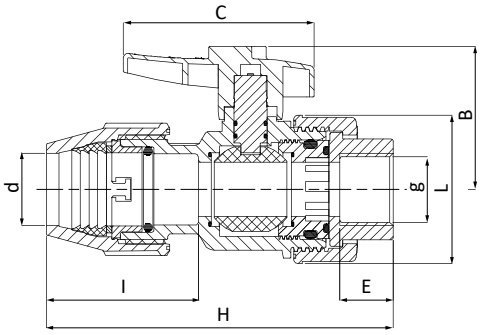




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82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

>>>





>>>

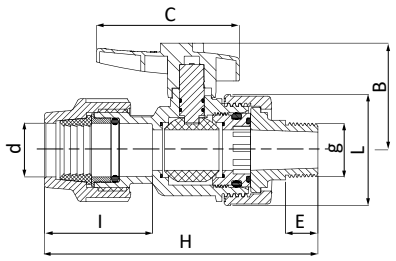
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* The threaded end is reinforced with a stainless steel ring

1072

Compression ball valve male threaded

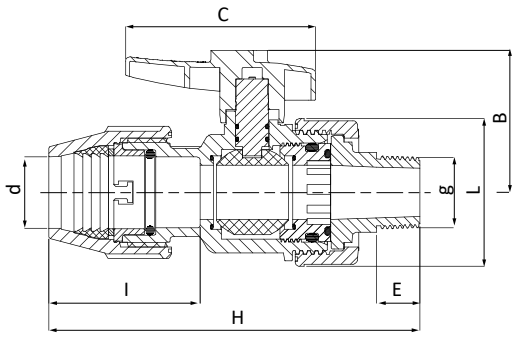




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80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

>>>





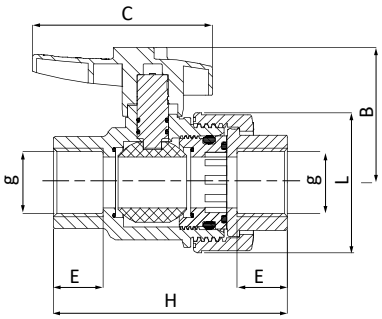
>>>

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





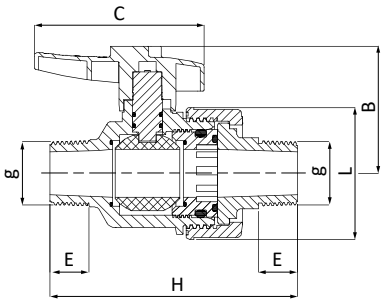
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	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



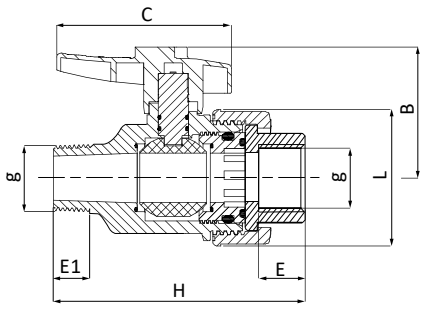


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2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

1081

Ball valve threaded male/female





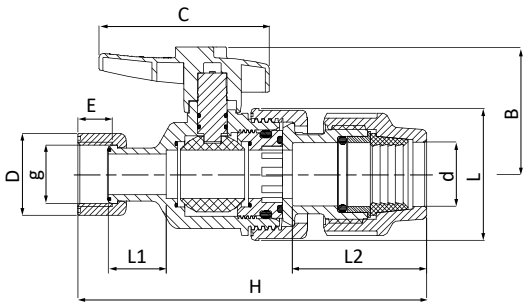
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	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



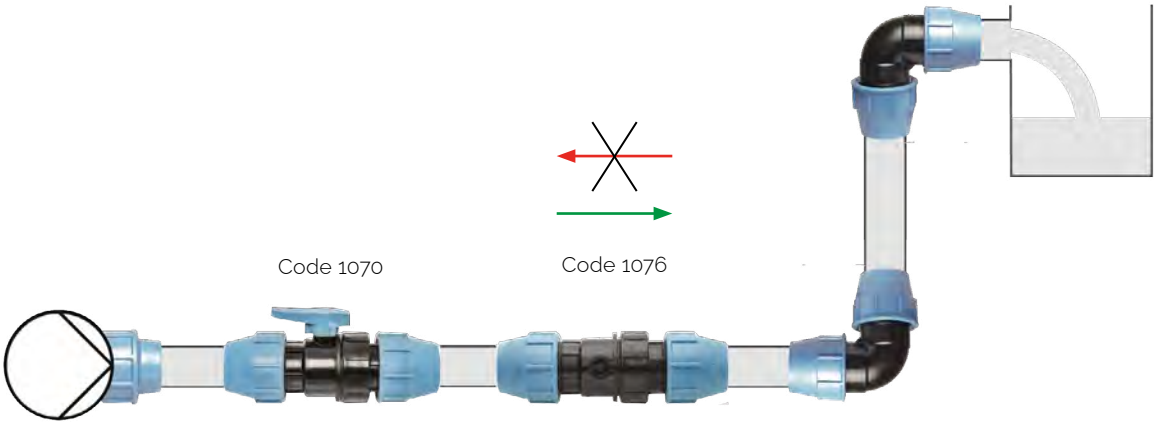


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

2. Non-return valves

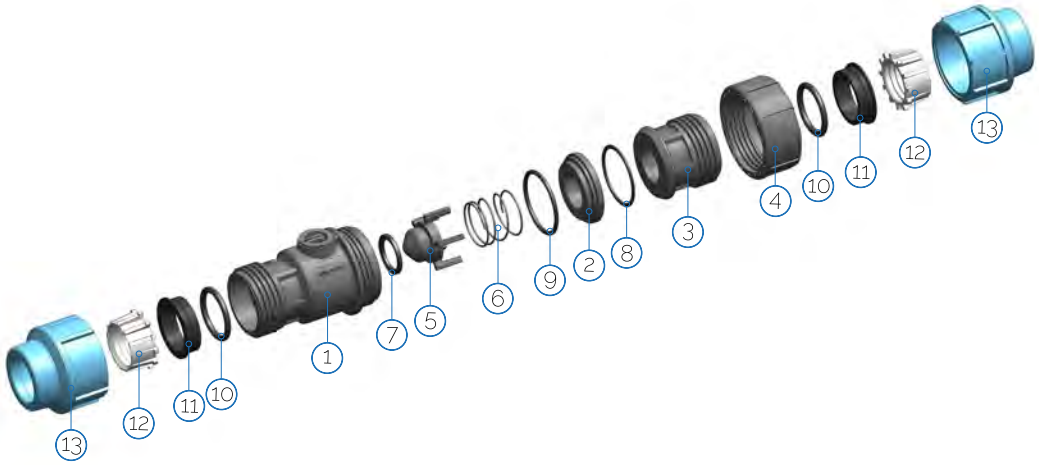
The Unidelta polypropylene non-return valves are specifically designed to be joined to polyethylene pipes and/or threaded connections. They are compatible with LDPE, HDPE, PE40, PE80, PE100, PE100RC pipes made according to **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
They are normally used for the conveying 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



2.1 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.

2.2 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 35). 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

2.3 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.

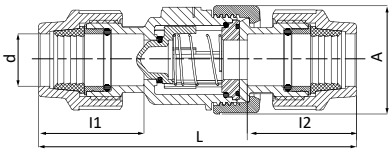


2.4 Technical sheets

1076

Compression non-return valve

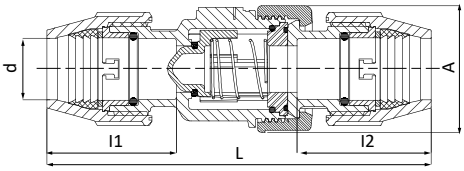




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





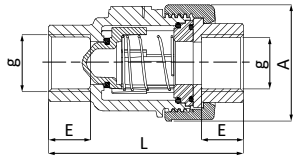
>>>

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

1077

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

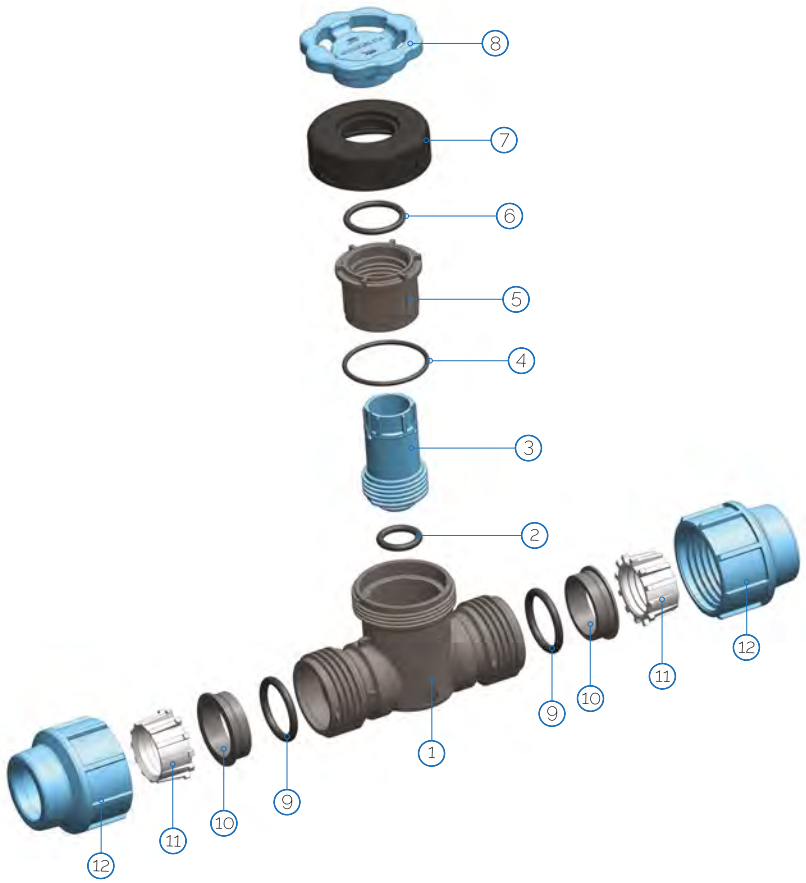
* The threaded end is reinforced with a stainless steel ring

3. 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.

3.1 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.

3.2 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.

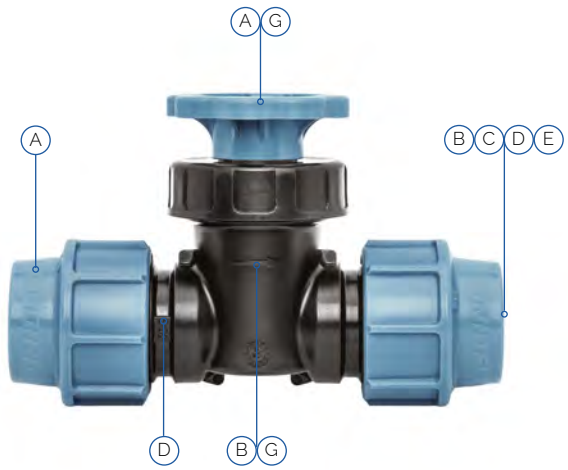
Inspection of the valve
The stop cock valves can be disassembled by simply unscrewing the upper ring nut (component (7) "Exploded-view of stop cock valve" page 38). This feature makes it easy to remove any deposits formed inside during use.

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

3.3 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**").

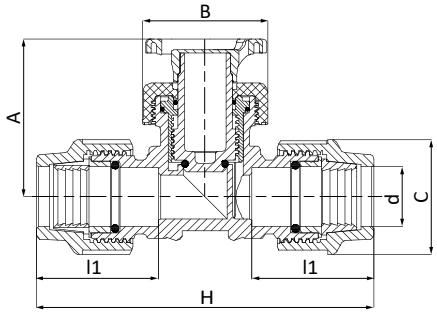


3.4 Technical sheets

1078

Compression stop cock valve



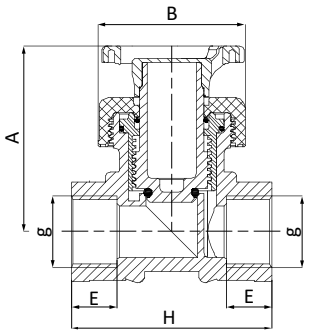


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

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

4. 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.

Vannes en polypropylène

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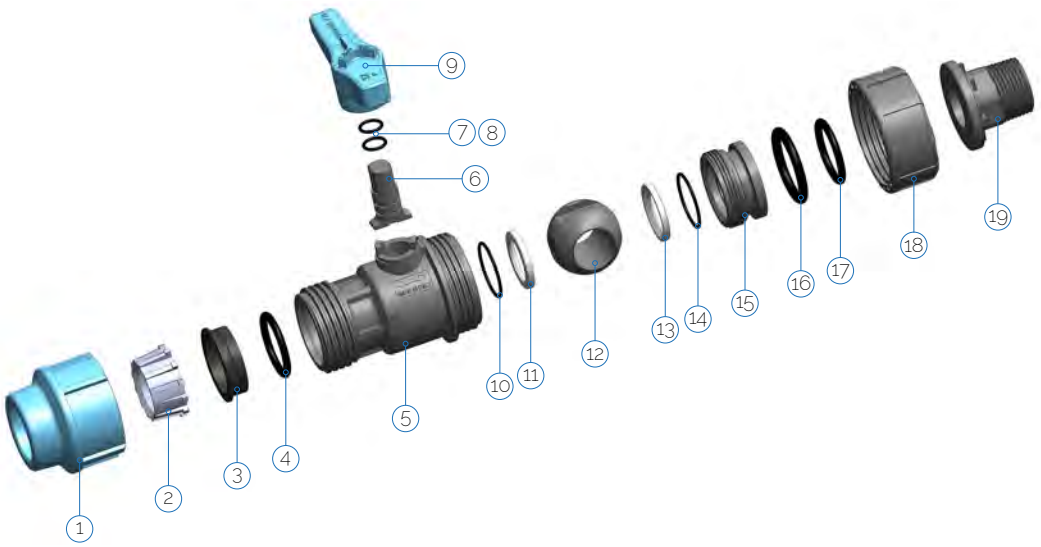

UNIDELTA
Since 1973

1. 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.**

1.1 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.

1.2 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.

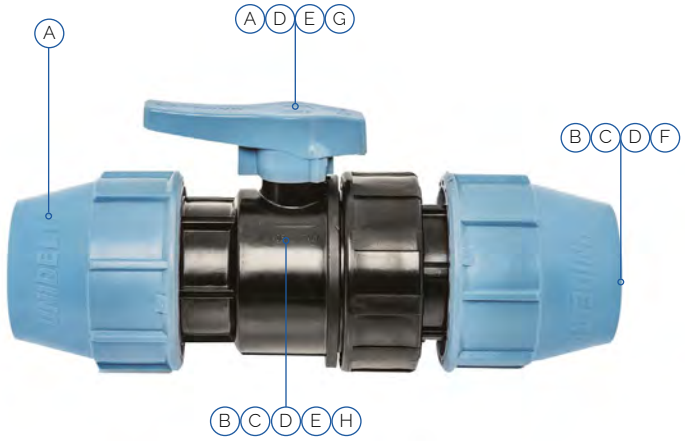
Flux bidirectionnel
Les vannes Unidelta peuvent être installées sans respecter le sens de passage de l'eau. Elles peuvent être installées dans le sens du flux ou inversement.

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 48).

1.3 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.



1.4 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 45). 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).





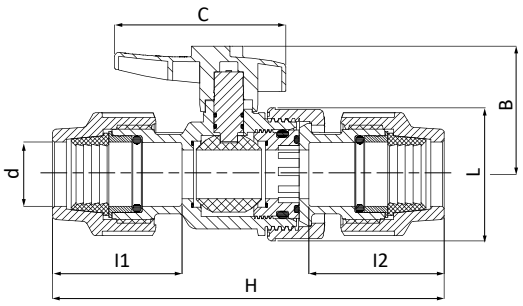
Retirer le support du joint de la bille de manière à permettre l'accès à la bille (figure 3A et 3B).

1.5 Fiches techniques

1070

Vanne à bille avec raccord à compression

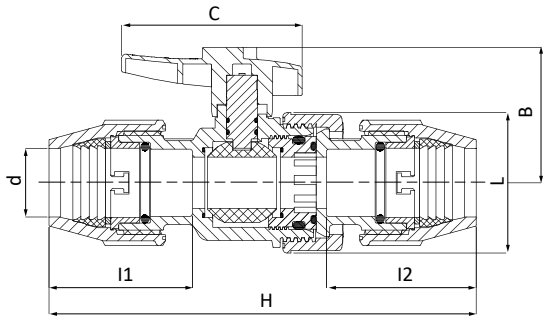




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

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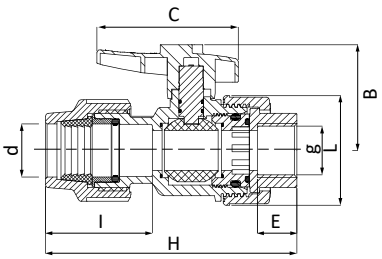
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50x50	1070051000001	96x303x136	303	110	115	96	88	116	16
63x63	1070064000001	116x342x158	342	130	126	116	100	127	16
75x75	1070076000001	155x430x201	430	140	153	155	123	155	10
90x90	1070091000001	197x490x258	490	160	182	197	159	281	10

1071

Vanne à bille de compression femelle

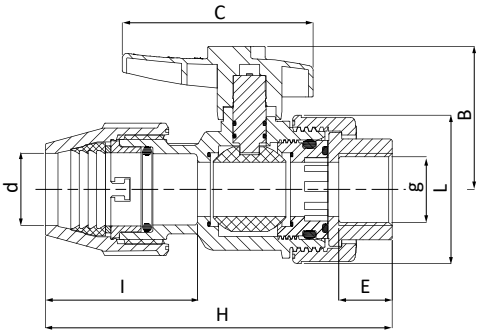




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82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

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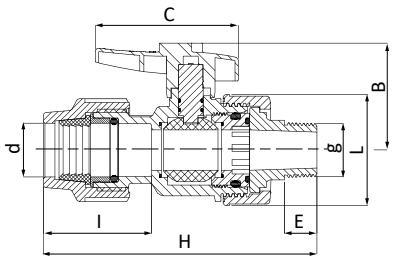
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

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

1072

Vanne à bille de compression mâle

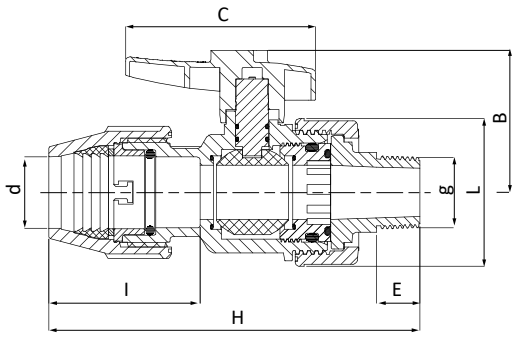




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80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

>>>





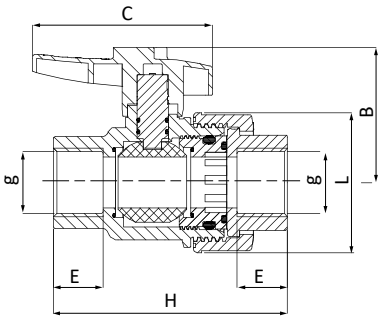
>>>

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





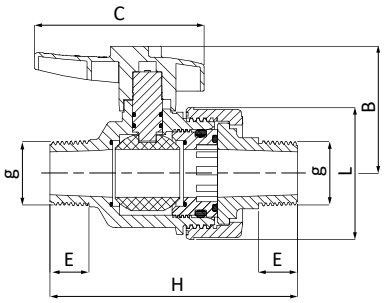
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	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



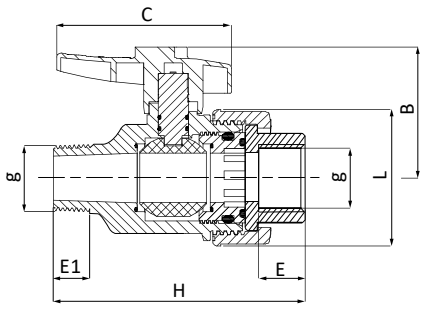


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2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





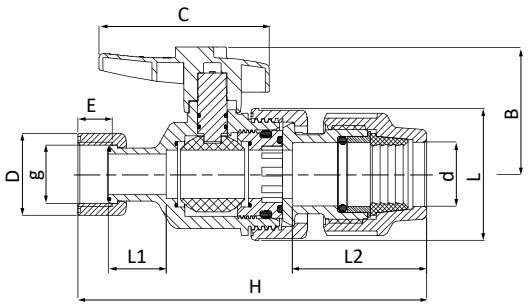
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	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



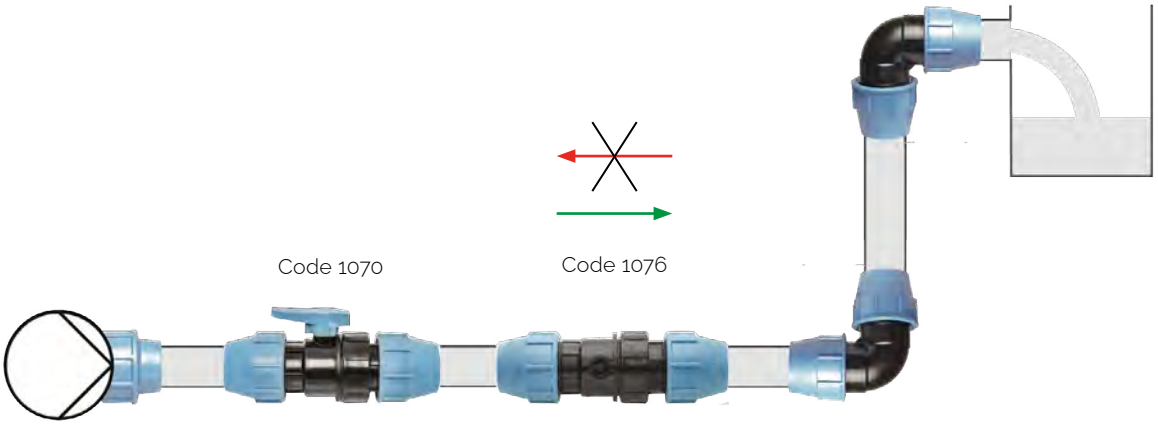


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

2. Vannes de retenue

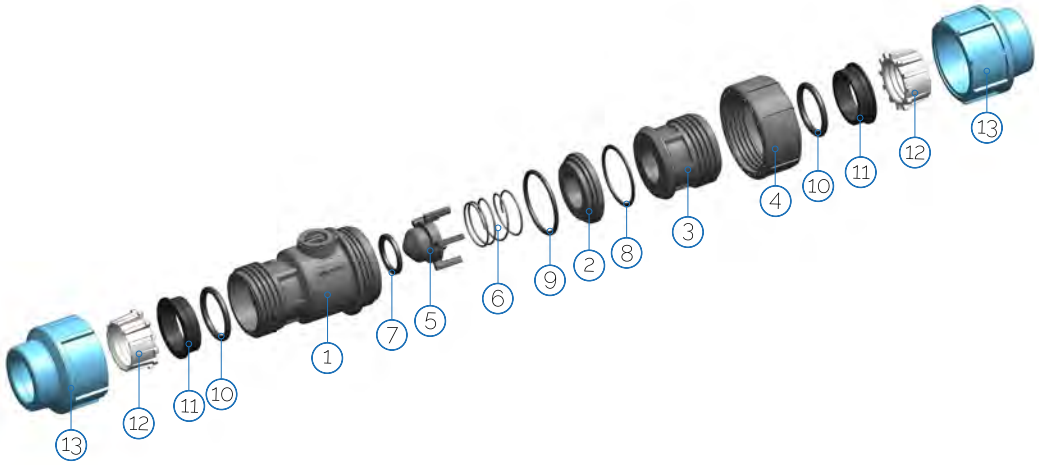
Les vannes de retenue en polypropylène Unidelta sont spécifi quement réalisés pour être couplés à des tubes en polyéthylène et/ou à des jonctions filetées. Ils sont compatibles avec les tubes en LDPE, HDPE, PE40, PE80, PE100, PE100RC réalisés selon les normes **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
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



2.1 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.

2.2 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 55). 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

2.3 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.

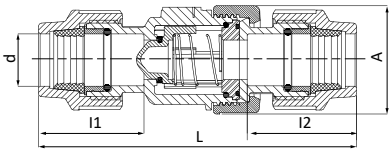


2.4 Fiches techniques

1076

Vanne de retenue à compression

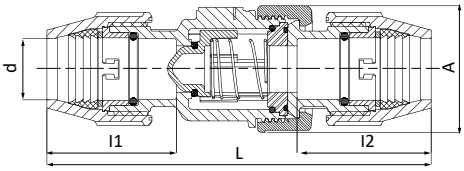




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





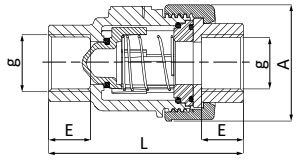
>>>

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

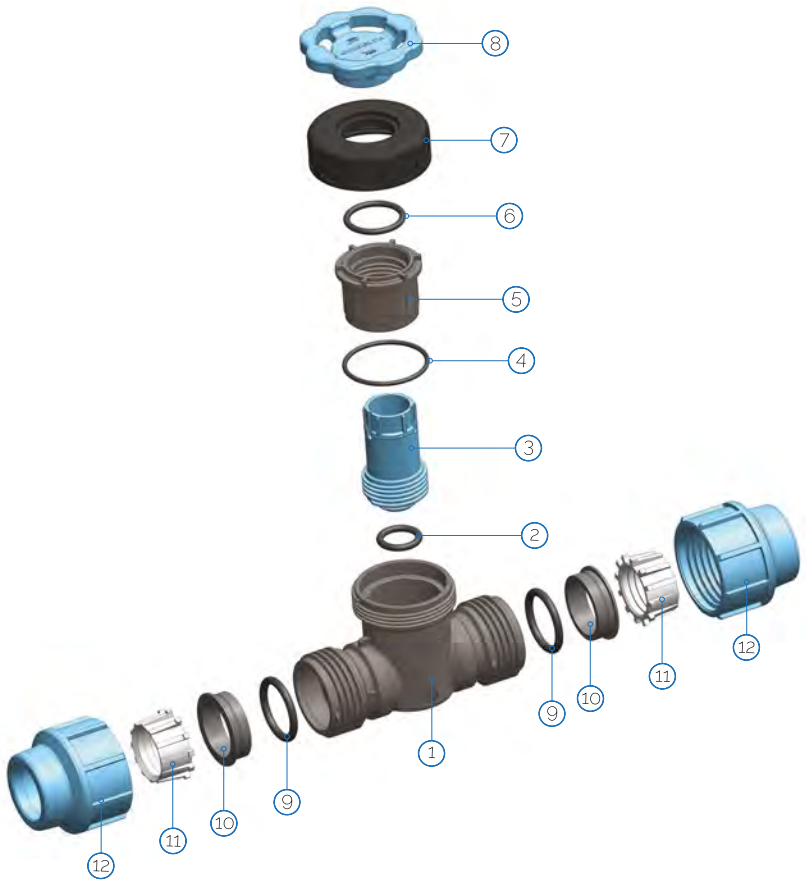
* La bouche filetée est renforcée par une bague en acier inox

3. 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.

3.1 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.

3.2 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.

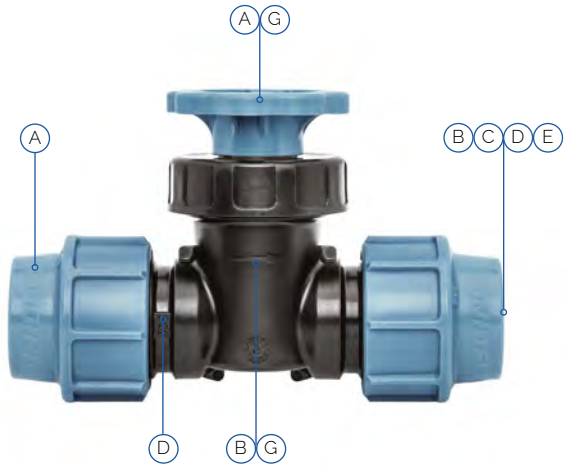
Ispezionabilità della valvola
La vanne à soupape droite est démontable simplement en dévissant l'écrou supérieur (composant (7) "Vue en éclaté vanne à soupape droite" page 58). Cette caractéristique permet de nettoyer facilement l'obturateur d'éventuels dépôts qui se sont formés pendant l'utilisation.

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

3.3 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**").

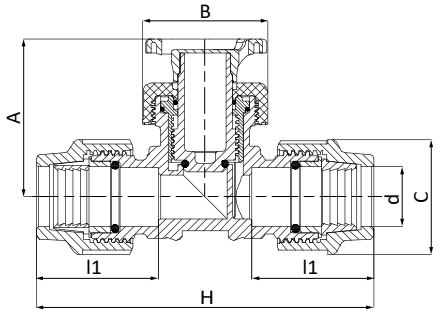


3.4 Fiches techniques

1078

Vanne à soupape à compression



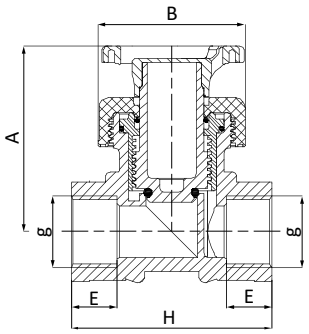


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

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

4. 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.



Válvulas de polipropileno

Español

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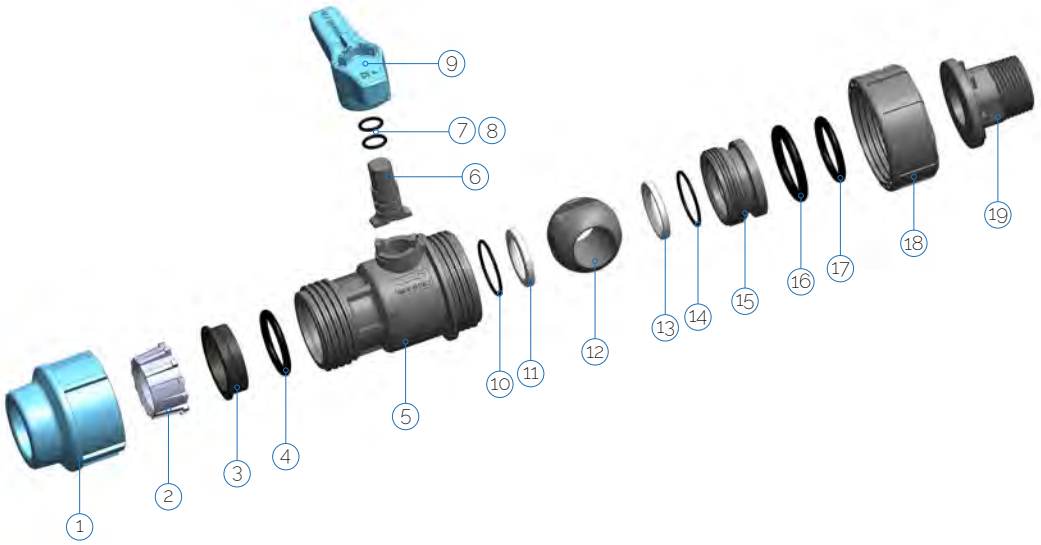

UNIDELTA
Since 1973

1. 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.**

1.1 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.

1.2 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.

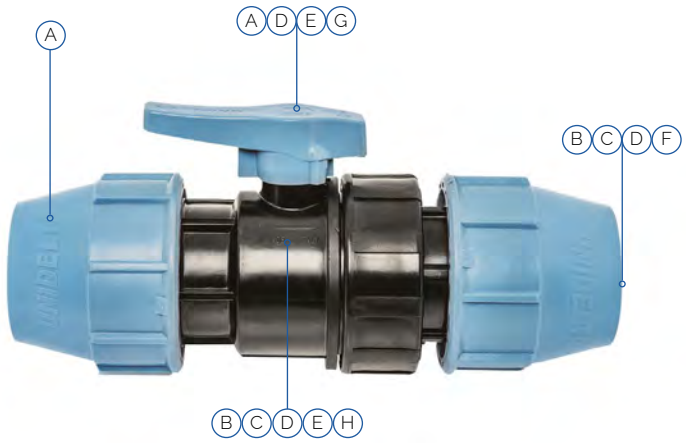
Flujo bidireccional
Las válvulas Unidelta no necesitan una determinada dirección del flujo del agua sino que se pueden instalar con orientación casual independientemente de la dirección del mismo flujo.

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 68).

1.3 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.



1.4 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 65). 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).





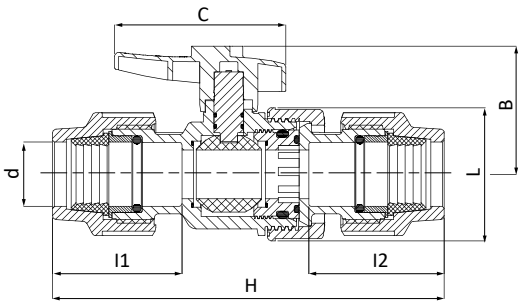
Quite el soporte de la junta de la esfera de manera que permita el acceso a la misma esfera (figura 3A y 3B).

1.5 Fichas técnicas

1070

Válvula de bola compresión

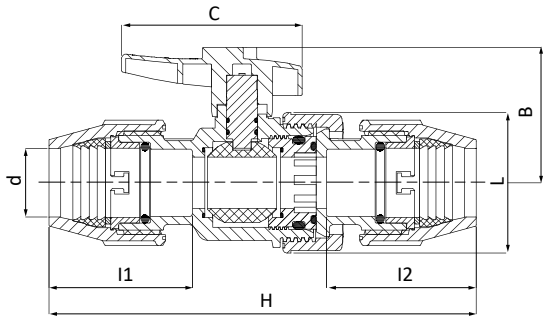




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





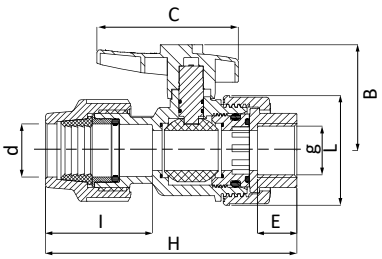
>>>

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

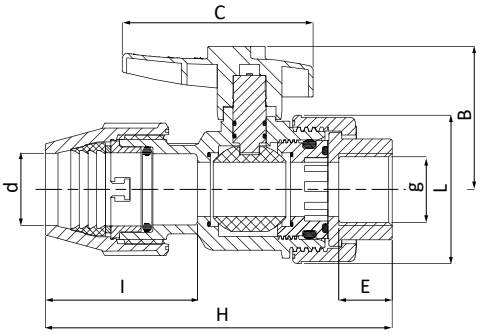




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82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

>>>





>>>

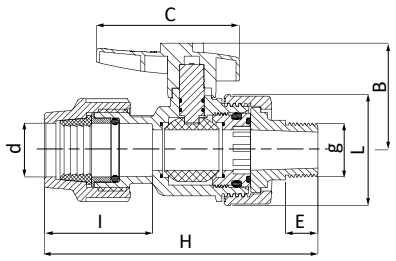
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

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

1072

Válvula de bola compresión rosca macho

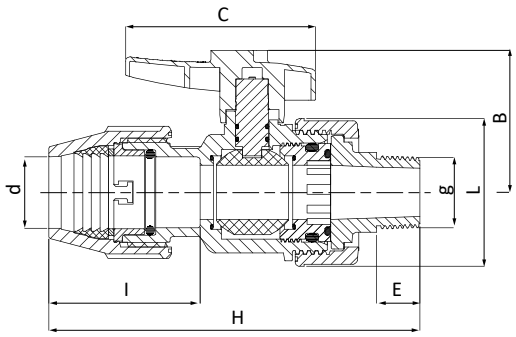




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80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

>>>





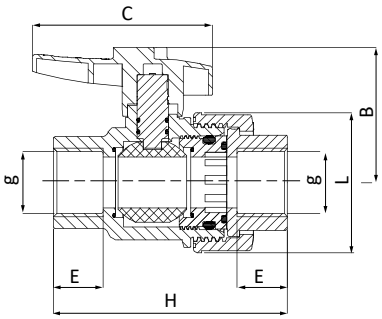
>>>

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





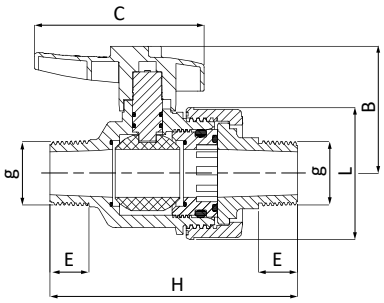
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	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



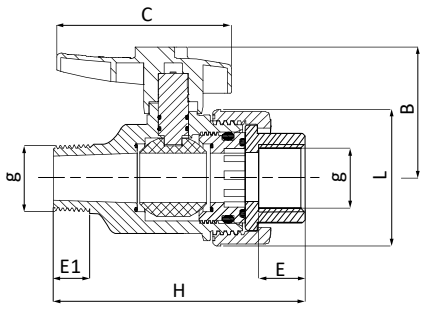


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2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





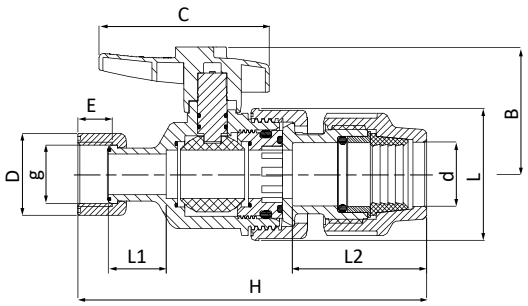
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	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



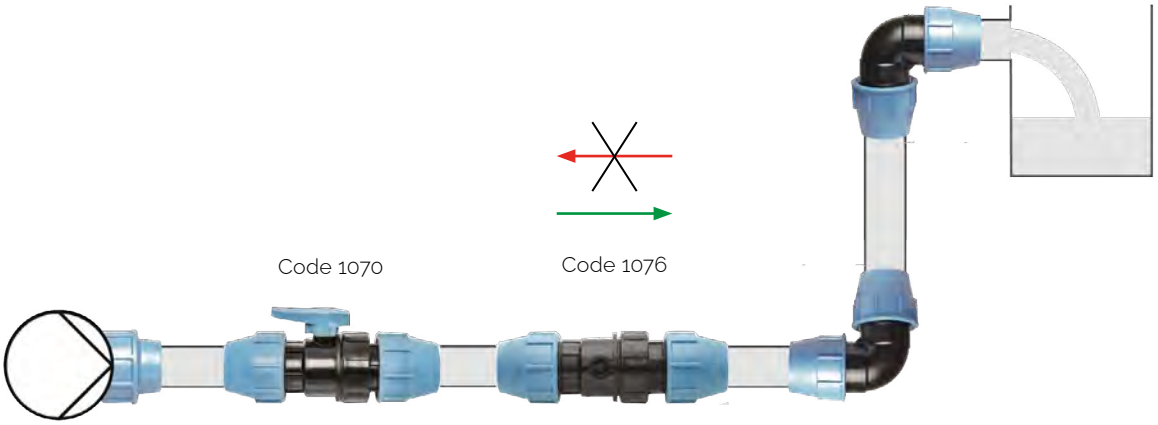


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

2. Válvulas de retención

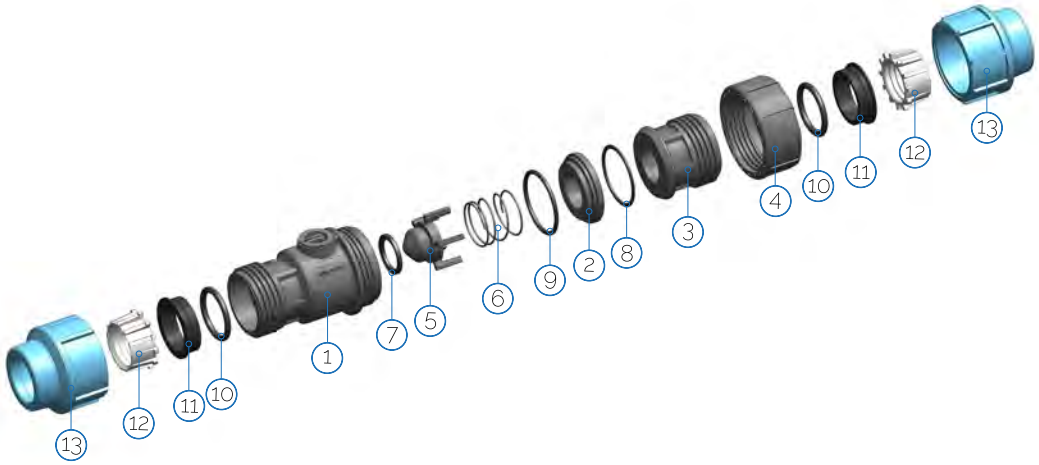
Las válvulas de retención de polipropileno Unidelta han sido realizadas específi camente para acoplarse a tubos de polietileno y/o uniones roscadas. Son compatibles con los tubos de LDPE, HDPE, PE40, PE80, PE100, PE100RC realizados según las normativas **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Se utilizan 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



2.1 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.

2.2 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 75). 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

2.3 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.

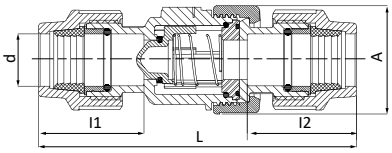


2.4 Fichas técnicas

1076

Válvula de retención compresión

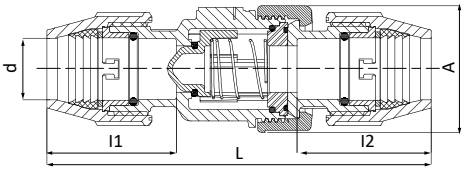




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





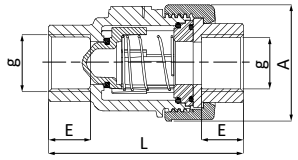
>>>

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

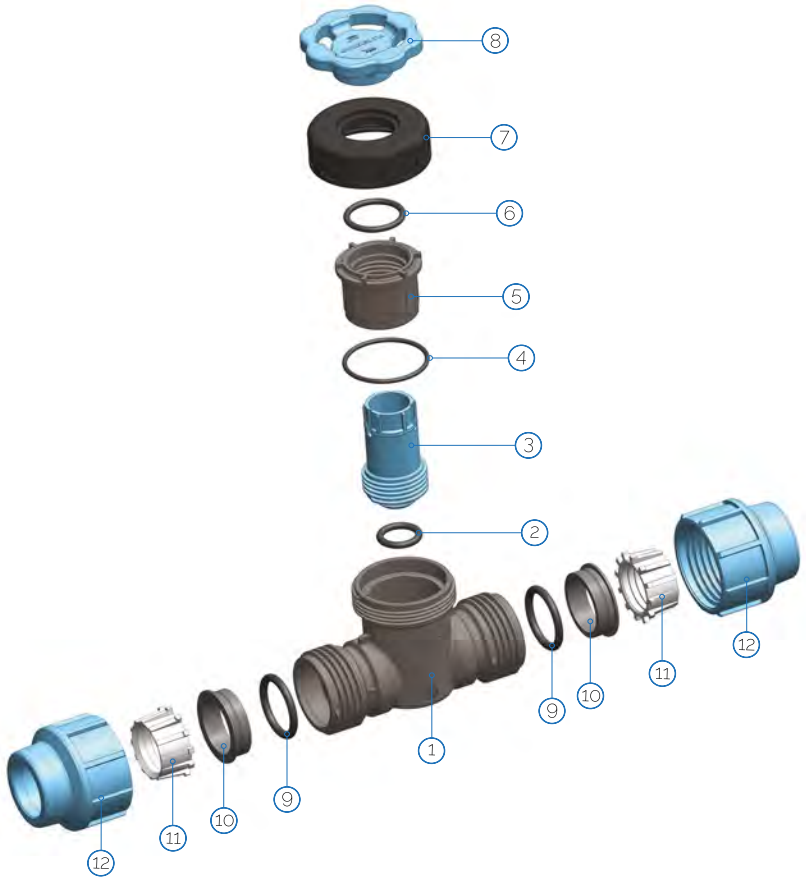
* La boca filetiada está reforzada por un anillo de acero inox

3. 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.

3.1 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.

3.2 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.

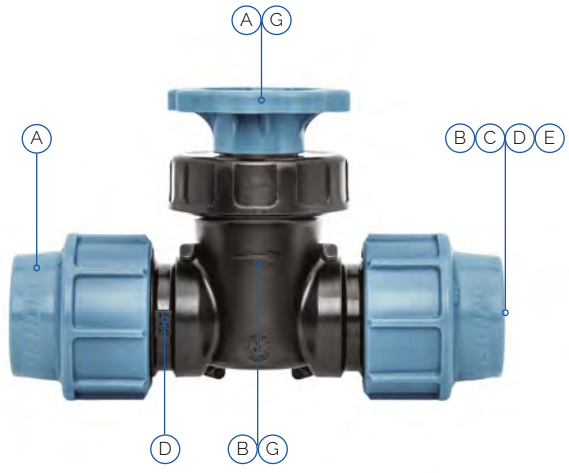
Inspeccionabilidad de la válvula
La válvula de asiento puede ser desmontada simplemente destornillando la tuerca superior (componente (7) de la "Vista explosionada de la válvula de asiento" página 78). Esta característica permite limpiar fácilmente el obturador de los depósitos que hayan podido formarse durante el uso.

Regulación del flujo
Actuando sobre el mando se puede regular el flujo de manera gradual.

3.3 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).

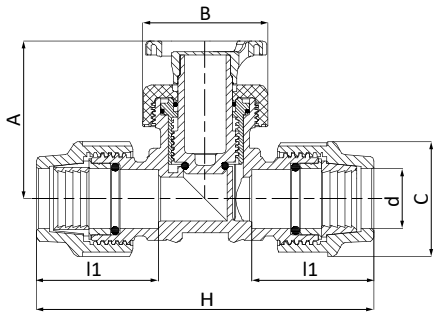


3.4 Fichas técnicas

1078

Válvula de asiento compresión



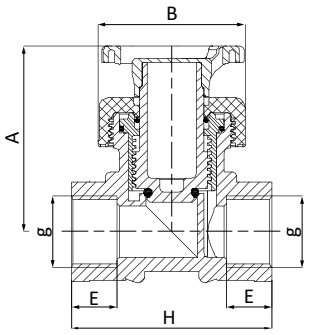


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

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

4. 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.



Ventile aus Polypropylen

Deutsch

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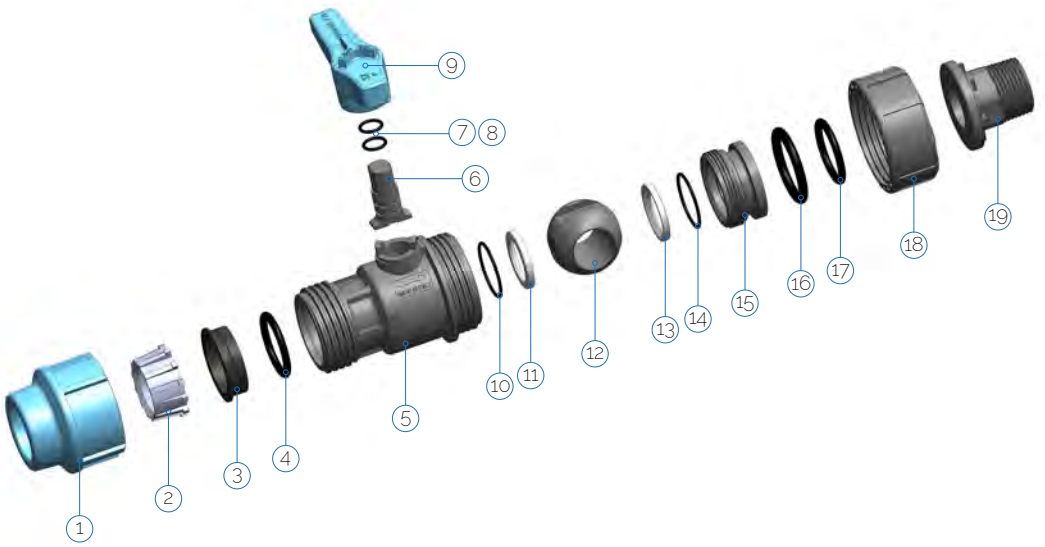

UNIDELTA
Since 1973

1. 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.

1.1 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.

1.2 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.

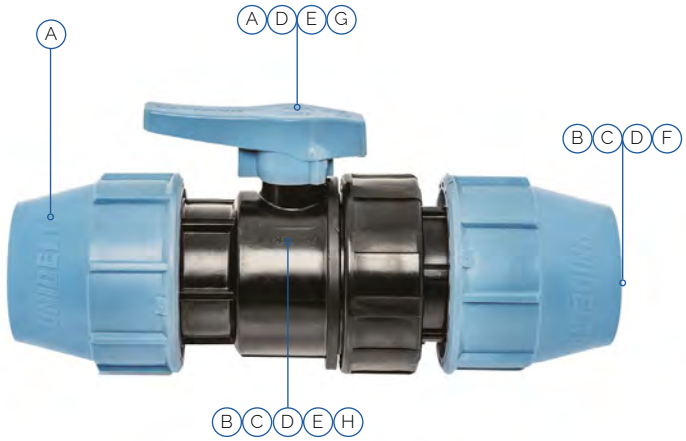
Beidseitige Flussrichtung
Die Unidelta-Ventile benötigen keine bestimmte Flussrichtung des Wassers, denn sie können unabhängig von der Flussrichtung in einer beliebigen Richtung installiert werden.

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. 88).

1.3 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.



1.4 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. 85). 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).





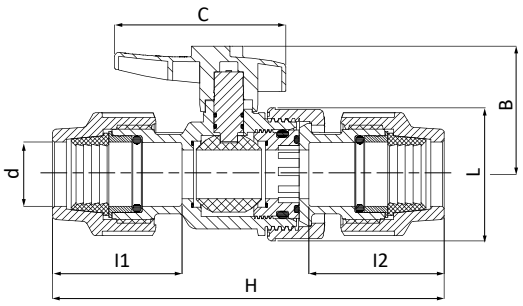
Die Halterung der Kugeldichtung entfernen, um den Zugang zur Kugel selbst zu ermöglichen (Abbildung 3A und 3B).

1.5 Datenblätter

1070

PP-Kugelhahn mit Klemmanschluss

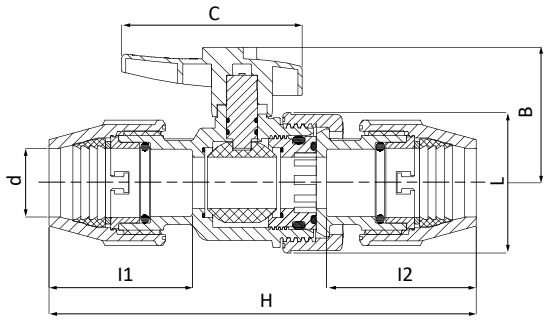




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





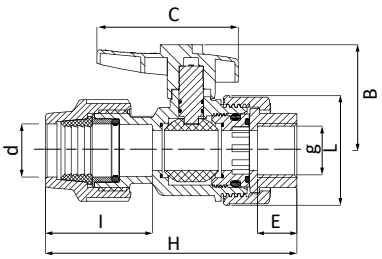
>>>

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

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PP-Kugelhahn mit Klemmanschluss und Innengewinde

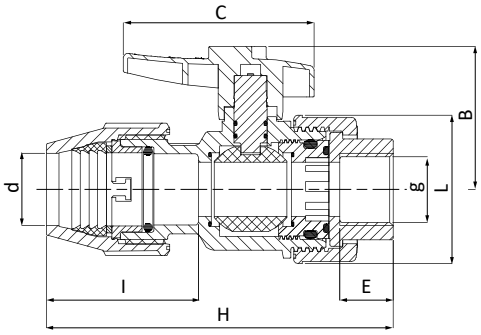




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82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

>>>





>>>

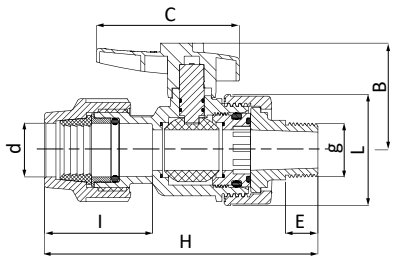
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

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PP-Kugelhahn mit Klemmanschluss und Außengewinde

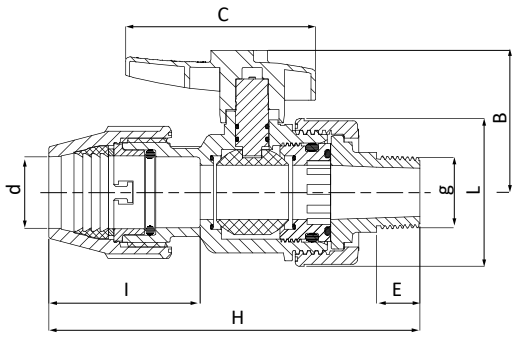




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80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

>>>





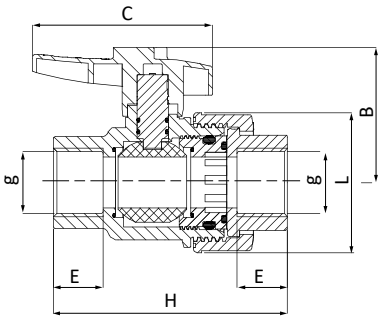
>>>

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





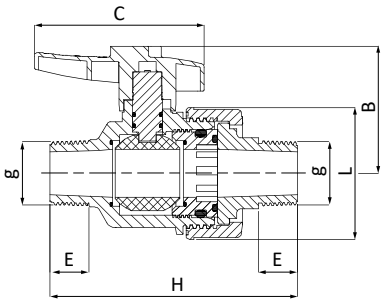
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	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



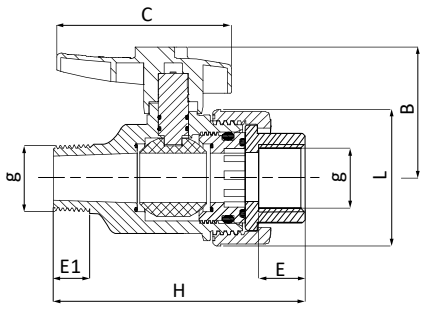


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2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

1081

PP-Kugelhahn Außengewinde/Innengewinde





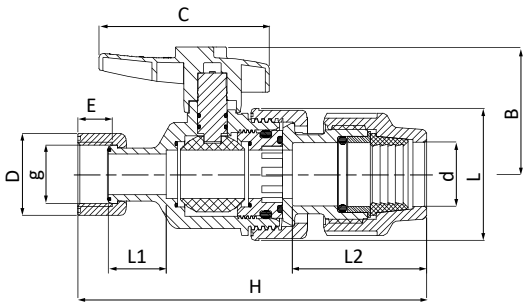
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
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3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	24	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



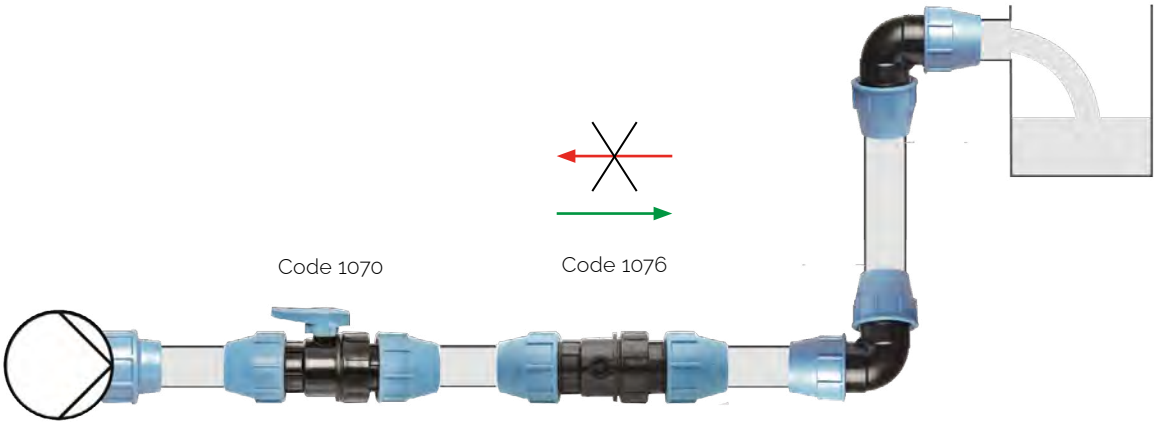


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4”	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1”	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1”	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

2. Klemmrückschlagventil

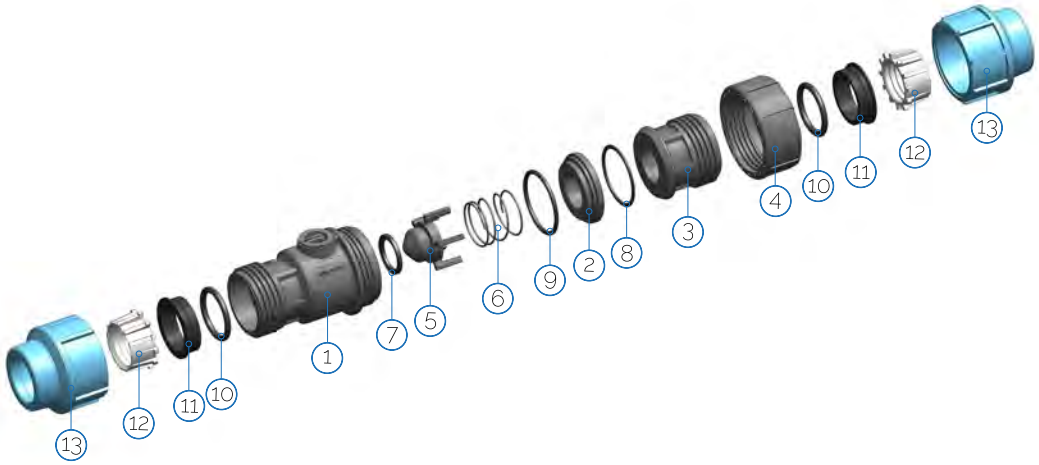
Die Rückschlagventile aus Polypropylen von Unidelta wurden spezifi sch dafür entwickelt, um mit den Polyethylenrohren bzw. Gewindeverbindungen verbunden zu werden. Sie sind kompatibel mit Rohren aus LDPE, HDPE, PE40, PE80, PE100, PE100RC gemäß den Normen **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Gewöhnlich 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



2.1 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.

2.2 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. 95) entfernt werden. Mit dieser Funktion kann der Schieber problemlos von Ablagerungen, die sich während der Verwendung gebildet haben, gereinigt werden.

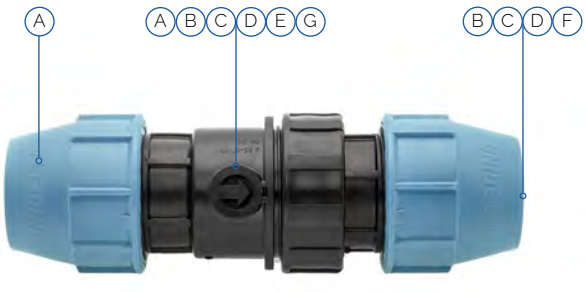
Betriebszuverlässigkeit
Die Öffnung des Schiebers erfolgt bereits bei niedrigem Druck in in der Durchflussrichtung, während auch bei geringem Gegendruck in der Gegenrichtung eine einwandfreie Abdichtung gewährleistet ist.
Siehe nachfolgende Tabelle:

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

2.3 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.

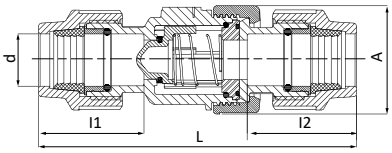


2.4 Datenblätter

1076

Klemmrückschlagventil

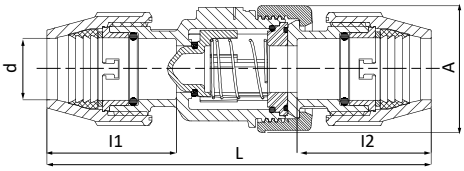




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





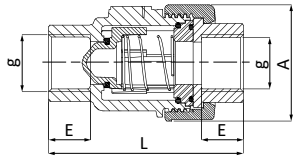
>>>

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

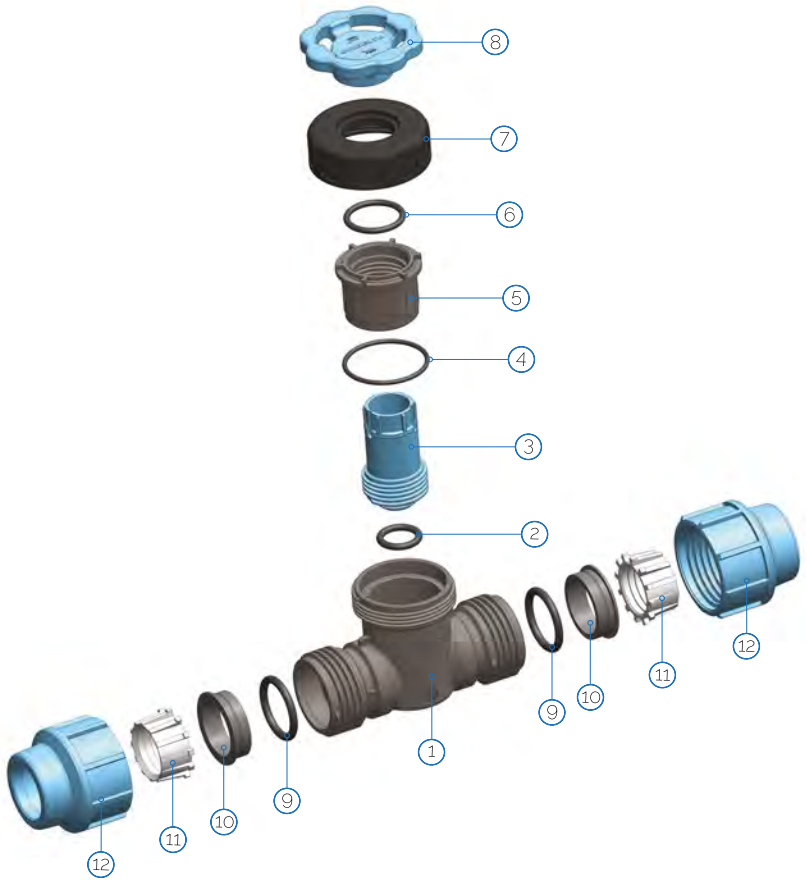
* Die Gewindeöffnung ist mit einem Ring aus rostfreiem Stahl verstärkt

3. 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.

3.1 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.

3.2 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.

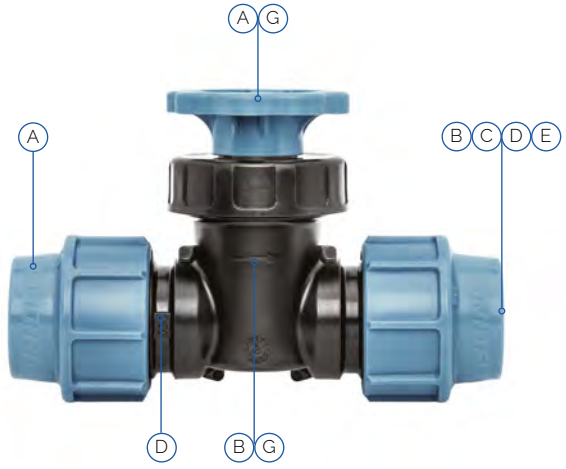
Ventilinspektionsfähigkeit
Das Geradsatzventil kann durch einfaches Abschrauben der Obere Überwurfmutter (Bauteil 7 der "Explosionszeichnung des Geradsitzventil" S. 98). entfernt werden. Mit dieser Funktion kann der Schieber problemlos von Ablagerungen, die sich während der Verwendung gebildet haben, gereinigt werden.

Regelung des Flusses
Durch den Griff kann man den Fluss schrittweise regulieren.

3.3 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**").

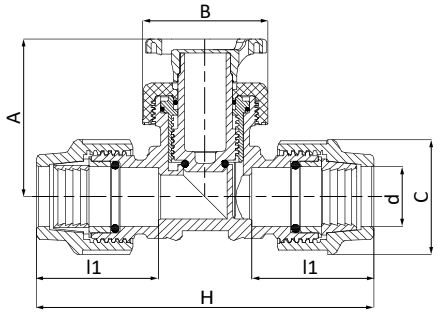


3.4 Datenblätter

1078

Geradsitzventil mit Klemmverschraubung



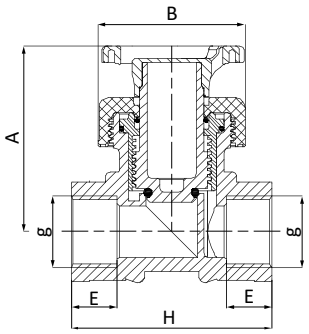


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

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

4. 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.



Вентили полипропиленовые

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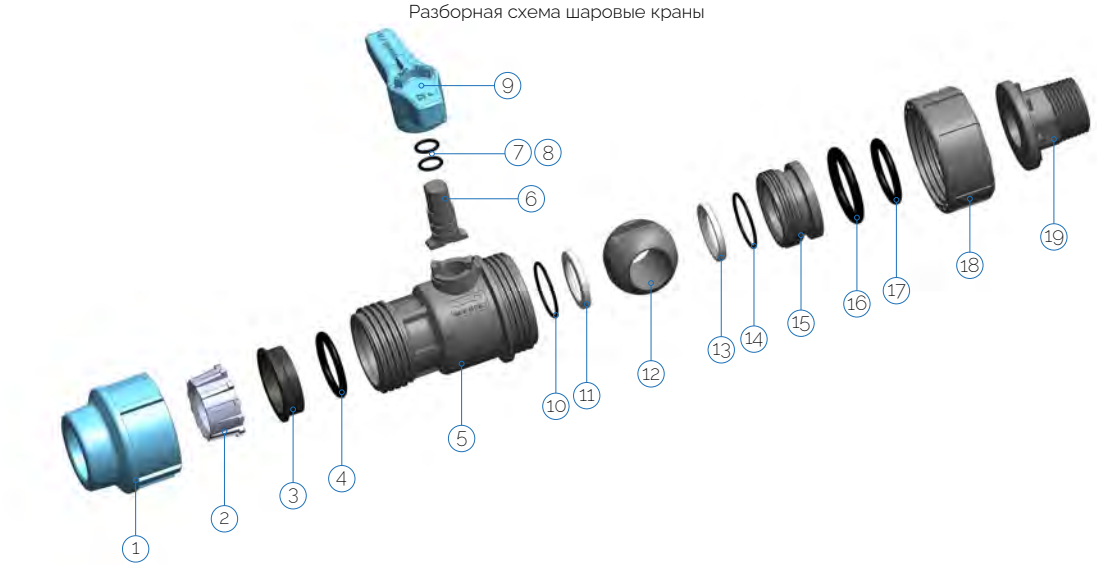

UNIDELTA
Since 1973

1. 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.**

1.1 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.

1.2 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.

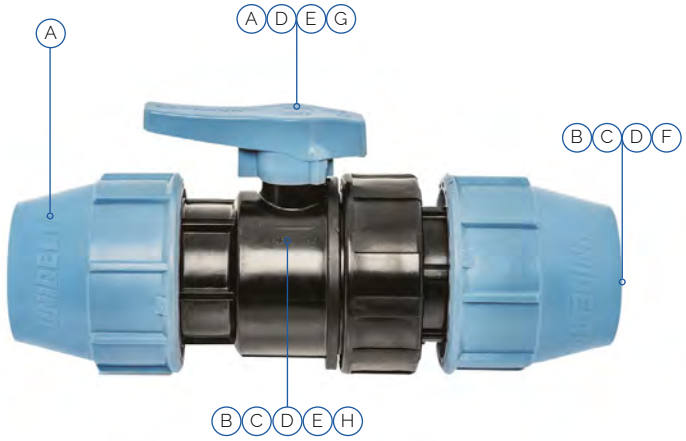
Двунаправленный поток
Шаровые краны Unidelta не требуют определенного направления потока, их можно устанавливать любой стороной, независимо от направления потока.

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 108).

1.3 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.



1.4 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 105). 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).





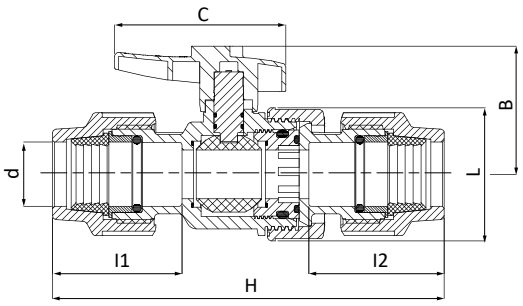
Снять опору уплотнителя шара, чтобы обеспечить доступ к шару (изображений 3A и 3B).

1.5 Технические данные

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Компрессионный шаровый кран

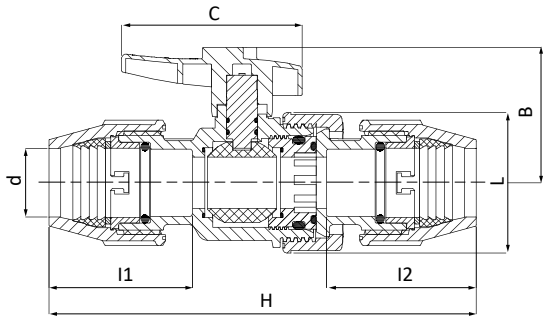




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





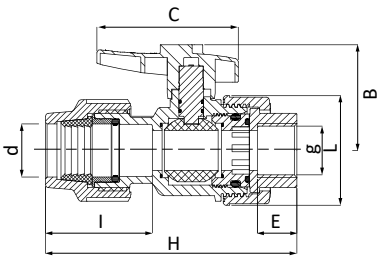
>>>

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

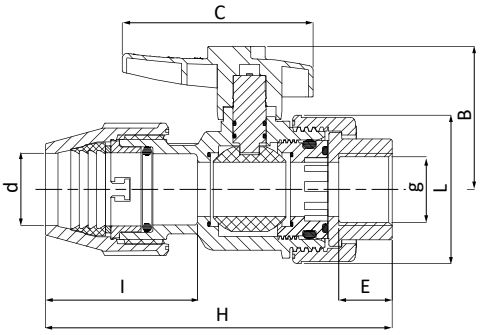




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82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

>>>





>>>

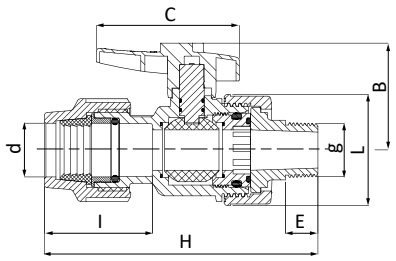
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* Конец резьбы усилен кольцом из нержавеющей стали

1072

Компрессионный шаровый кран с наружной резьбой

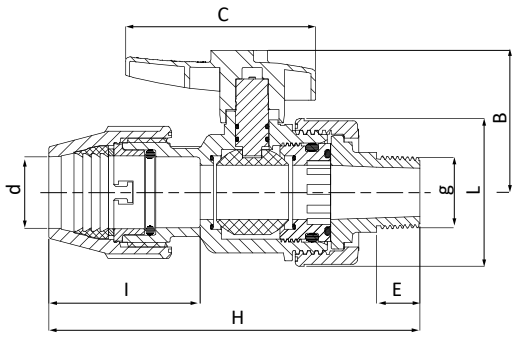




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80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

>>>





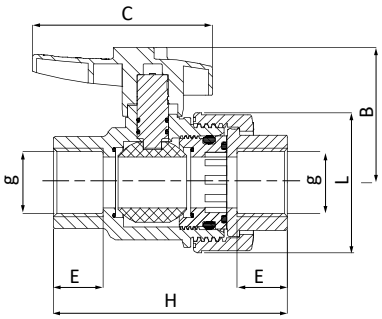
>>>

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)





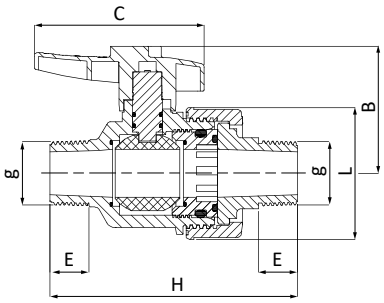
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	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)



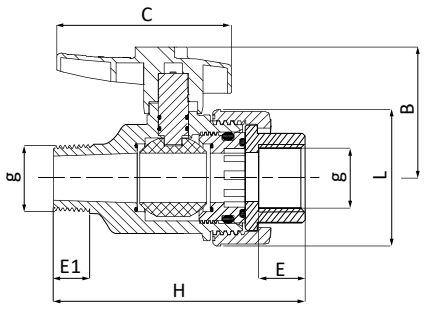


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2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

1081

Кран шаровый резьбовой (наружная/внутренняя)





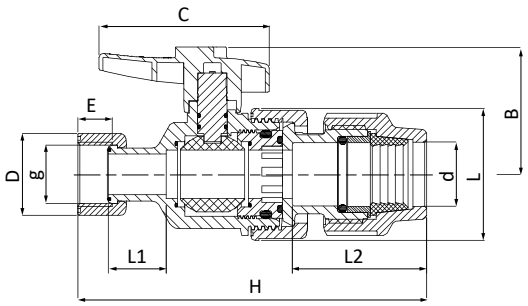
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	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



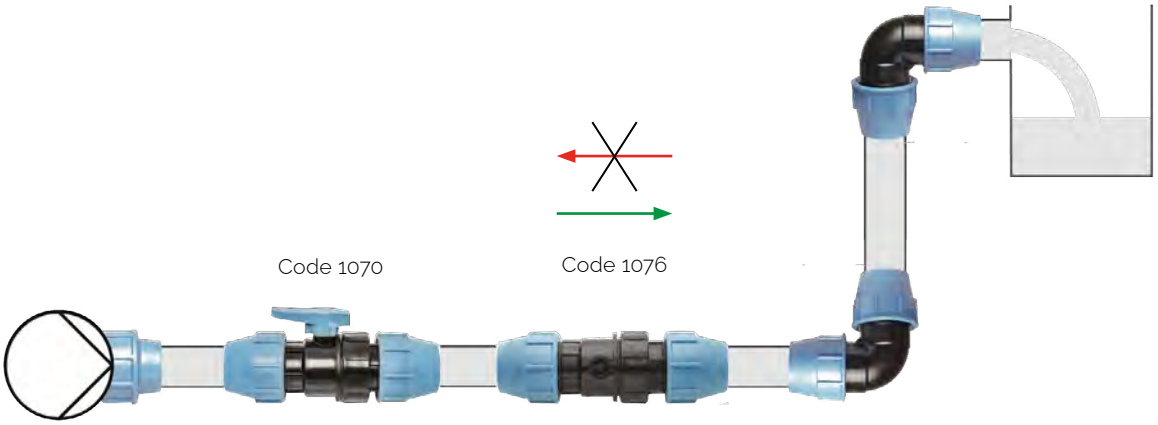


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4”	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1”	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1”	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

2. Обратные клапаны

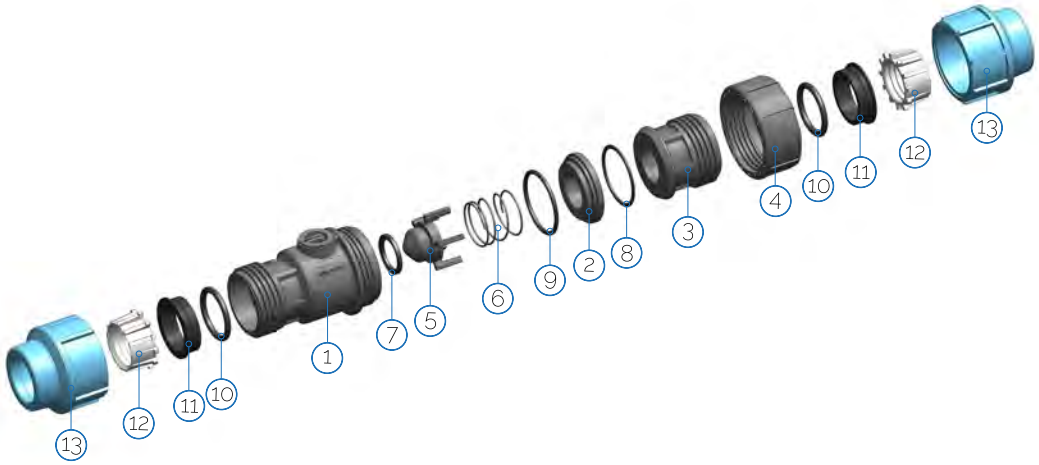
Полипропиленовые обратные клапаны Unidelta изготовлены специально для полиэтиленовых труб и/или резьбовых муфт. Они совместимы с трубами из ПЭНП, ПЭВП, ПЭ40, ПЭ80, ПЭ100, ПЭ100RC изготовленными в соответствии со стандартами **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Они обычно используются для транспортировки 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



2.1 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.

2.2 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 115). Эта характеристика позволяет без труда очистить затвор от возможных отложений, образовавшихся во время использования.

Надежность работы

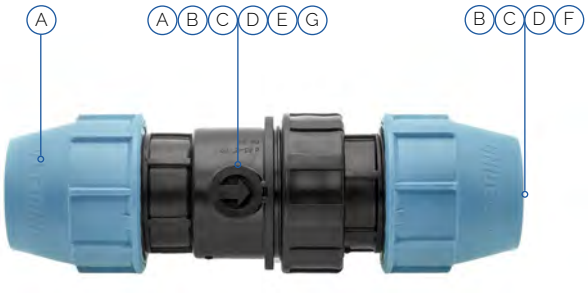
Открытие затвора происходит даже при низком давлении в направлении подачи, а идеальная герметичность обеспечивается даже при низком обратном давлении в противоположном направлении.
См. следующую таблицу.

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

2.3 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.

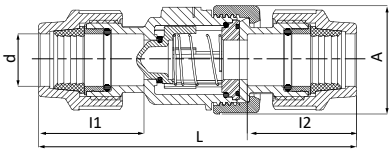


2.4 Технические данные

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Компрессионный обратный клапан

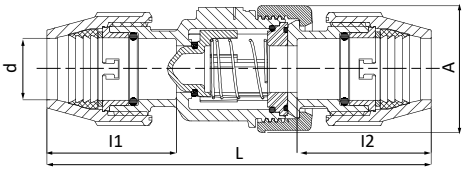




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





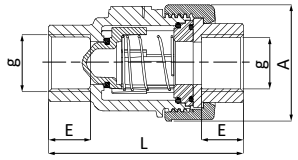
>>>

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

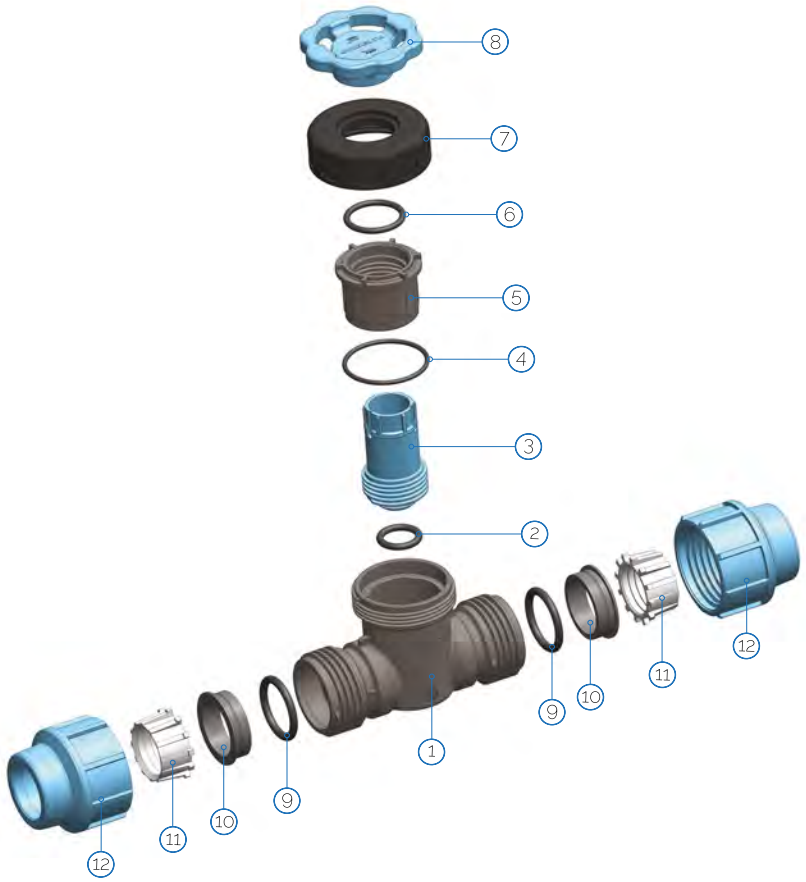
* Конец резьбы усилен кольцом из нержавеющей стали

3. 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.

3.1 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.

3.2 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.

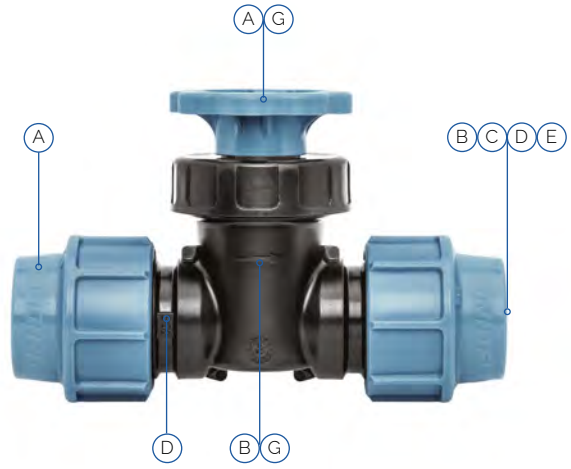
Возможность осмотра клапана
Запорный вентиль можно демонтировать, просто отвинтив "зажимную гильзу для вставки" (компонент (7) "Разборная схема вентили запорные" на странице 118). Эта характеристика позволяет без труда очистить затвор от возможных отложений, образовавшихся во время использования.

Регулирование потока
При повороте ручки вентиля можно постепенно регулировать поток.

3.3 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**").

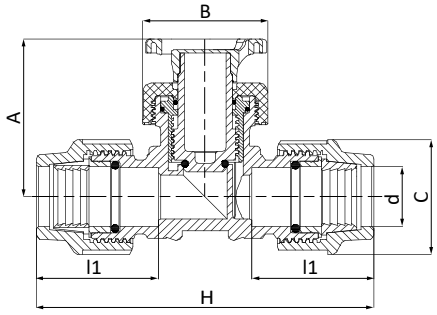


3.4 Технические данные

1078

Компрессионный запорный вентиль



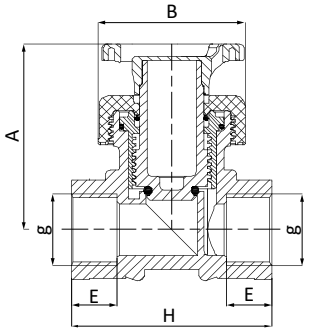


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

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

4. 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.



Válvulas de polipropileno

Português

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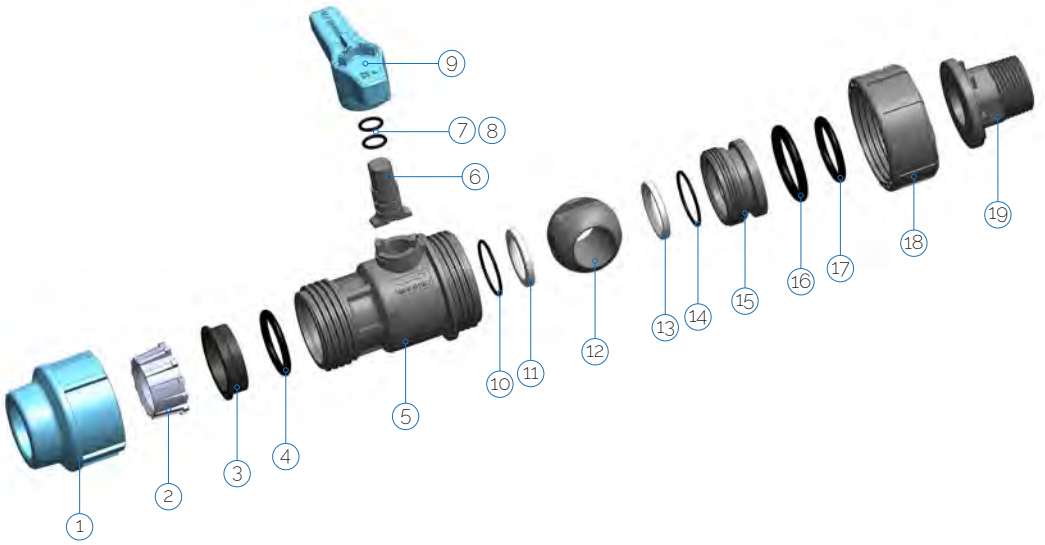

UNIDELTA
Since 1973

1. 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.**

1.1 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.

1.2 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.

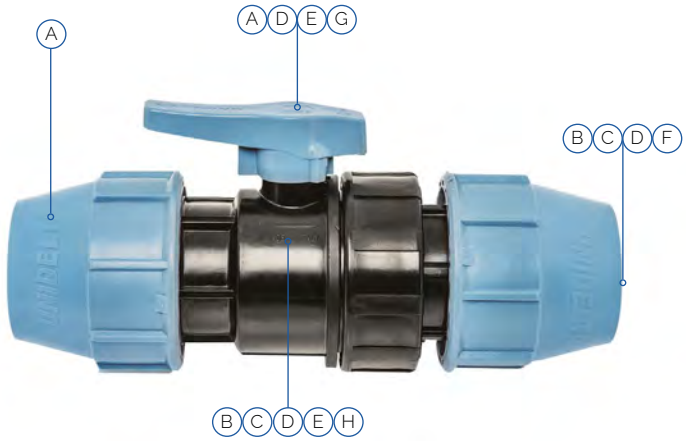
Fluxo bidirecional
As válvulas de esfera Unidelta não requerem uma específica direção do fluxo de água, mas podem ser instaladas com orientação aleatória, independentemente da direção do fluxo.

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 128).

1.3 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.



1.4 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 125). 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).





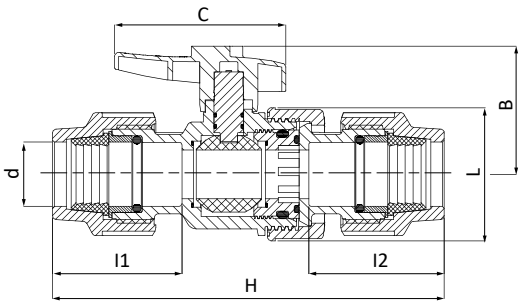
Remova o suporte da vedação para permitir o acesso à esfera mesma (figuras 3A e 3B).

1.5 Fichas técnicas

1070

Válvula esfera de compressão

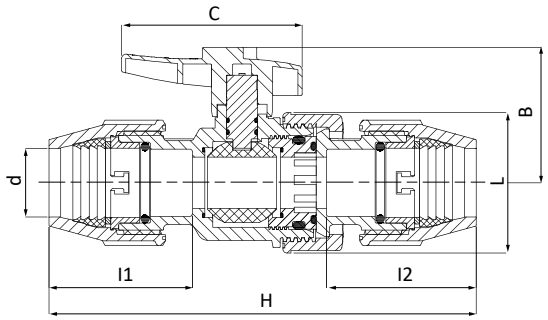




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	I1 [mm]	I2 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1070020000001	50x161x76	161	54	57	50	51	68	16
25x25	1070025000001	60x180x90	180	57	64	60	60	76	16
32x32	1070032000001	68x201x102	201	64	70	68	67	89	16
40x40	1070040000001	80x246x118	246	82	90	80	77	100	16

>>>





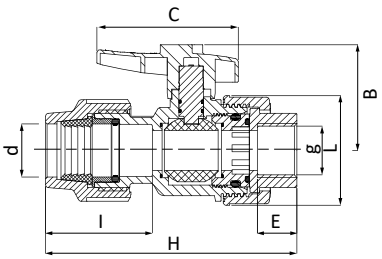
>>>

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

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Válvula esfera de compressão fêmea roscada

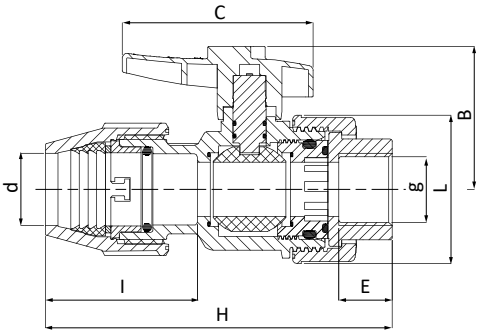




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1071020002001	50x126x76	126	54	17	50	51	68	16
25x3/4"	1071025003001	60x142x90	142	57	18	60	60	76	16
32x1"	1071032004001	68x156x102	156	64	21	68	67	89	16
***40x1"1/4**	1071040005001	80x205x118	205	82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

>>>





>>>

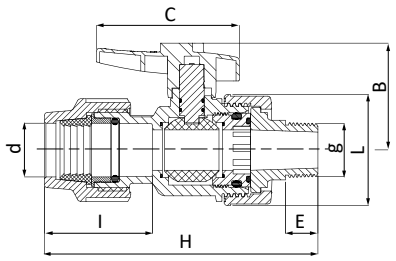
***50x1"1/2**	1071051006001	96x240x136	240	110	24	96	88	116	16
***63x2"**	1071064007001	116x275x158	275	130	27	116	100	127	16

* A extremidade roscada é reforçada com um anel de aço inoxidável

1072

Válvula esfera de compressão macho roscada

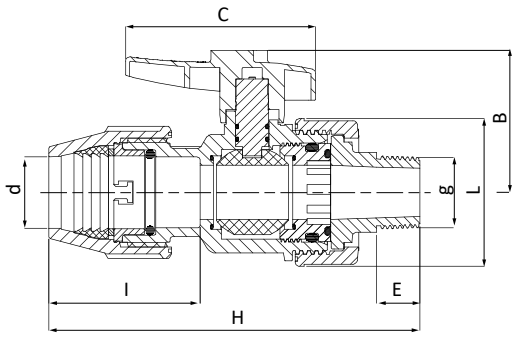




DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	I [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
20x1/2"	1072020002001	50x133x76	133	54	16	50	51	68	16
25x3/4"	1072025003001	60x149x90	149	57	17	60	60	76	16
32x1"	1072032004001	68x166x102	166	64	20	68	67	89	16
40x1"1/4	1072040005001	80x208x118	208	82	23	80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

>>>





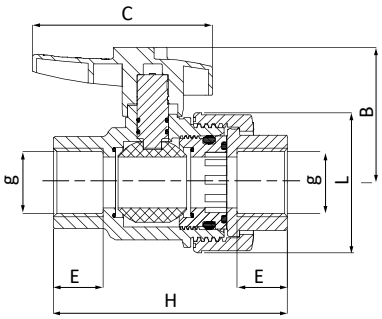
>>>

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





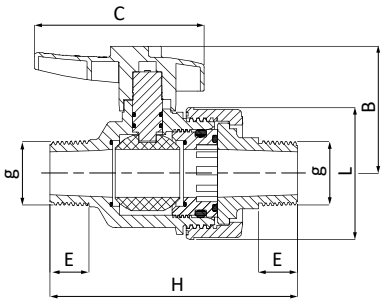
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1073002002001	50x89x76	89	17	50	51	68	16
3/4"x3/4"	1073003003001	60x99x90	99	18	60	60	76	16
1"x1"	1073004004001	68x110x102	110	21	68	67	89	16
***1"1/4x1"1/4**	1073005005001	80x128x118	128	24	80	77	100	16
***1"1/2x1"1/2**	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



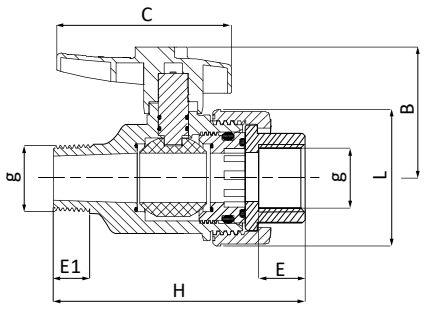


DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1074002002001	50x115x76	115	16	50	51	68	16
3/4"x3/4"	1074003003001	60x128x90	128	17	60	60	76	16
1"x1"	1074004004001	68x146x101	146	20	68	67	89	16
1"1/4x1"1/4	1074005005001	80x176x118	176	23	80	77	100	16
1"1/2x1"1/2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

1081

Válvula esfera roscada macho/fêmea





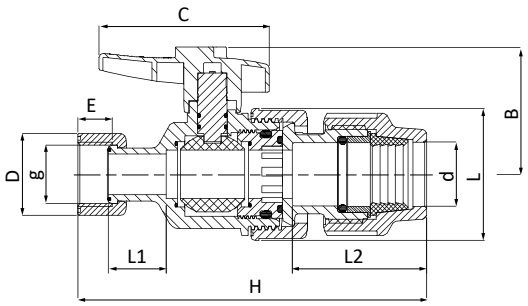
DIM gxg [in.]	CODE	DIM MAX LxHxP [mm]	H [mm]	E [mm]	E1 [mm]	L [mm]	B [mm]	C [mm]	Pmax [bar]
1/2"x1/2"	1081002002001	50x97x76	97	17	16	50	51	68	16
3/4"x3/4"	1081003003001	60x110x90	110	18	17	60	60	76	16
1"x1"	1081004004001	68x122x102	122	21	20	68	67	89	16
***1"1/4x1"1/4**	1081005005001	80x149x118	149	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



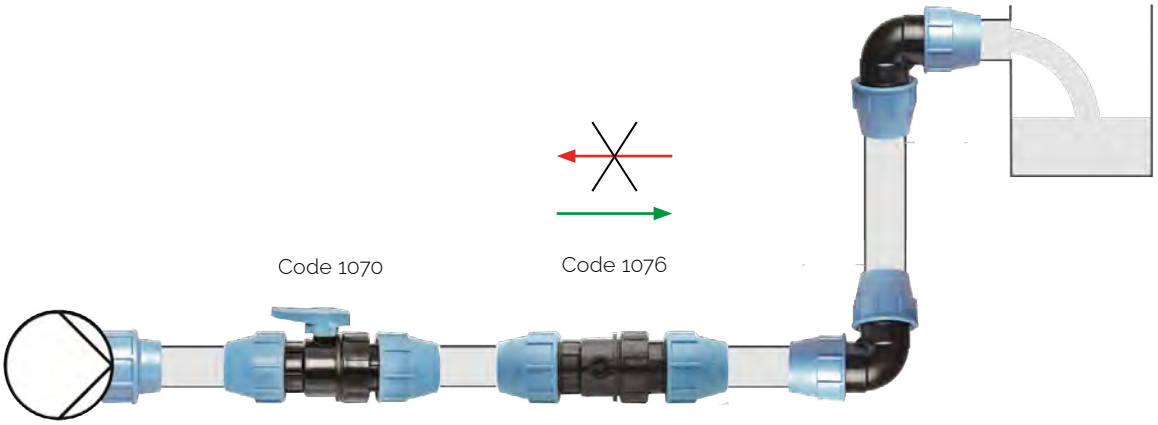


DIM dxg [mmxin.]	CODE	DIM MAX LxHxP [mm]	H [mm]	L1 [mm]	L2 [mm]	L [mm]	B [mm]	C [mm]	D [mm]	E [mm]	Pmax [bar]
25x3/4"	1080025003001	60x158x90	158	24	64	60	60	76	35	11	16
25x1"	1080025004001	60x172x90	172	34	64	60	60	76	43	15	16
32x1"	1080032004001	68x182x102	182	30	70	68	67	89	43	15	16

2. Válvulas de retenção

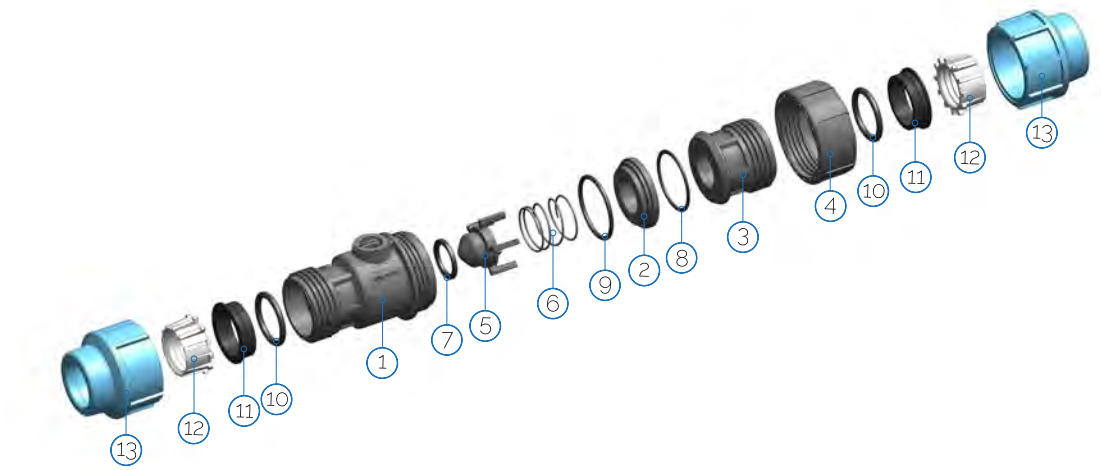
As válvulas de retenção de polipropileno Unidelta são projetadas especificamente para serem acopladas a tubos de polietileno e/ou juntas roscadas. São compatíveis com os tubos LDPE, HDPE, PE40, PE80, PE100, PE100RC feitos em conformidade com **EN 12201, ISO 4427, DIN 8074, UNI 7990.**
Normalmente são 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



2.1 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.

2.2 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 135). 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

2.3 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.

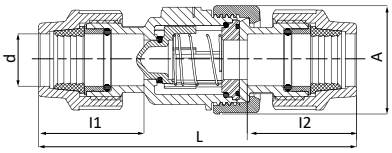


2.4 Fichas técnicas

1076

Válvula de retenção de compressão

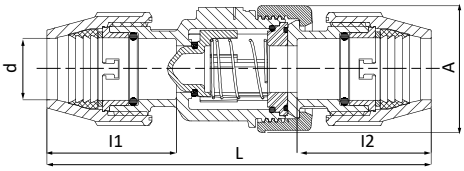




DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	L [mm]	l1 [mm]	l2 [mm]	A [mm]	Pmax [bar]
20x20	1076020000001	161x50x50	161	54	57	50	16
25x25	1076025000001	180x60x60	180	57	62	60	16
32x32	1076032000001	201x68x68	201	64	70	68	16
40x40	1076040000001	246x83x83	246	82	90	80	16

>>>





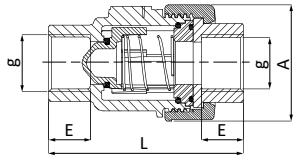
>>>

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

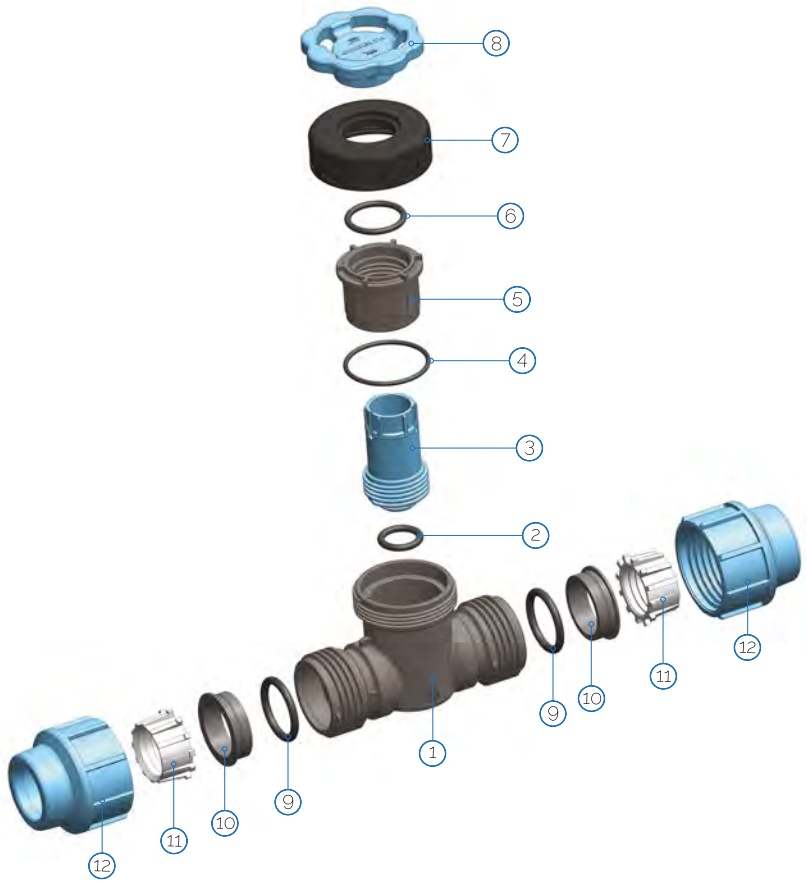
* A extremidade roscada é reforçada com um anel de aço inoxidável

3. 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.

3.1 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.

3.2 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.

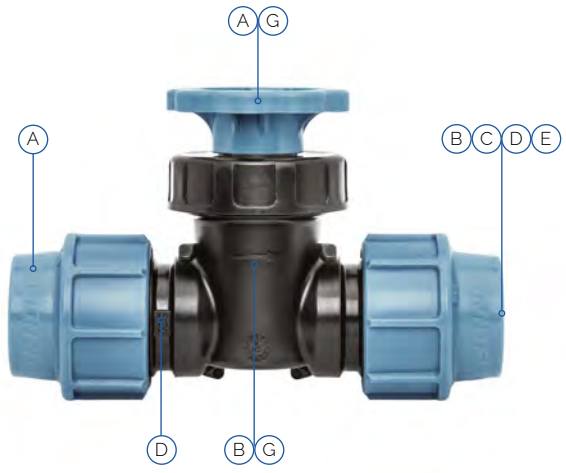
Possibilidade de inspecionar a esfera
A válvula de globo pode ser desmontada simplesmente desapertando o anel bucha superior (componente (7) "Vista explodida de uma válvula de globo" a página 138). Essa característica permite que o obturador seja facilmente limpo de quaisquer depósitos formados durante o uso.

Regulação do fluxo
Agindo no manípulo é possível regular o fluxo de modo gradual.

3.3 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**").

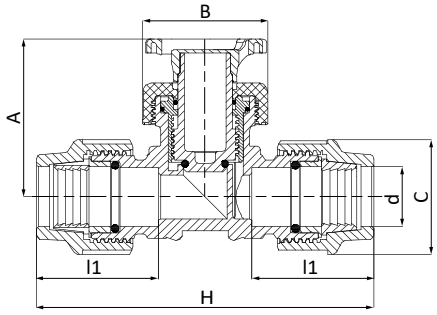


3.4 Fichas técnicas

1078

Válvula globo de compressão



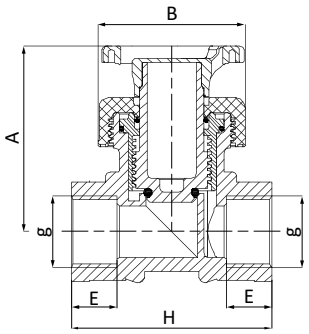


DIM dxd [mm]	CODE	DIM MAX LxHxP [mm]	H [mm]	l1 [mm]	A [mm]	B [mm]	C [mm]	Pmax [bar]
20x20	1078020000001	116x149x60	149	54	93	59	46	16
25x25	1078025000001	120x159x60	159	57	93	59	55	16
32x32	1078032000001	129x185x70	185	66	97	70	70	16

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

4. 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.

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



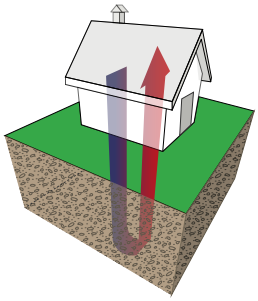
Raccordi a saldare
Welding fittings



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



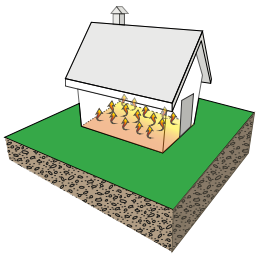
Raccordi in ottone per acqua e gas
Brass fittings for water and gas



Sistema multistrato gas
Multilayer system for gas



Impianti radianti
Radiant systems





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Since 1973

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ISO 45001 - ISO 14001

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