



Cascade

Manufacturers & Suppliers of Pipe Fittings

Product TechSpec

Cascade

Manufacturers & Suppliers of Pipe Fittings

Cascade are manufacturers and suppliers of pipe fittings to the UK water industry, our large stock levels and in house manufacturing reduces supply chains and speeds up delivery time, enabling us to meet the emergency nature of our clients requirements.

In 2018 Cascade have moved into the supply of fittings and services for self lay companies and developer services, offering Electrofusion fittings, PE & Barrier Pipe, Meter Boxes and Meters, Manifolds and much more!

We pride ourselves on providing excellent customer service and being available at all times day or night to help where required, through continual development and growth we have become a leading brand in the industry allowing us to acquire prized frameworks.

Our key focus areas are:

Quality and Service: Our management and staff are committed to maintaining our performance goals which are; -

Availability: Cascade holds substantial stocks of products and raw materials for production, to ensure immediate product availability.

Same Day Policy: Our goal is to dispatch orders on the day they are received and we have a proven record of dispatching at least 90% of orders on the same day.

EMERGENCY RESPONSE: Orders for emergency items and non-stock items are generally dispatched within the framework of the same-day policy - most often within a few hours

QUALITY: As an ISO 9001-2000 accredited company Cascade is totally committed to quality.

Although we remember our humble beginnings and choose to stay cautious in our claims we have grown steadily since inception and begun branching out into an already more diverse industry, which is constantly changing. Offering services like same day delivery and our Line Stopping and Drilling Services. These areas have been implemented into Cascade with only one thing in mind " you the customer".

Please browse our site for more information on who we are and what we can offer, our products page has an extensive listing of our available fittings including under pressure tees, pipe couplings and flange adaptors, repair clamps and pipe drilling machines. Our services page details Specialised Fabrications, Emergency Response scheme and Under Pressure line stops/drilling services.



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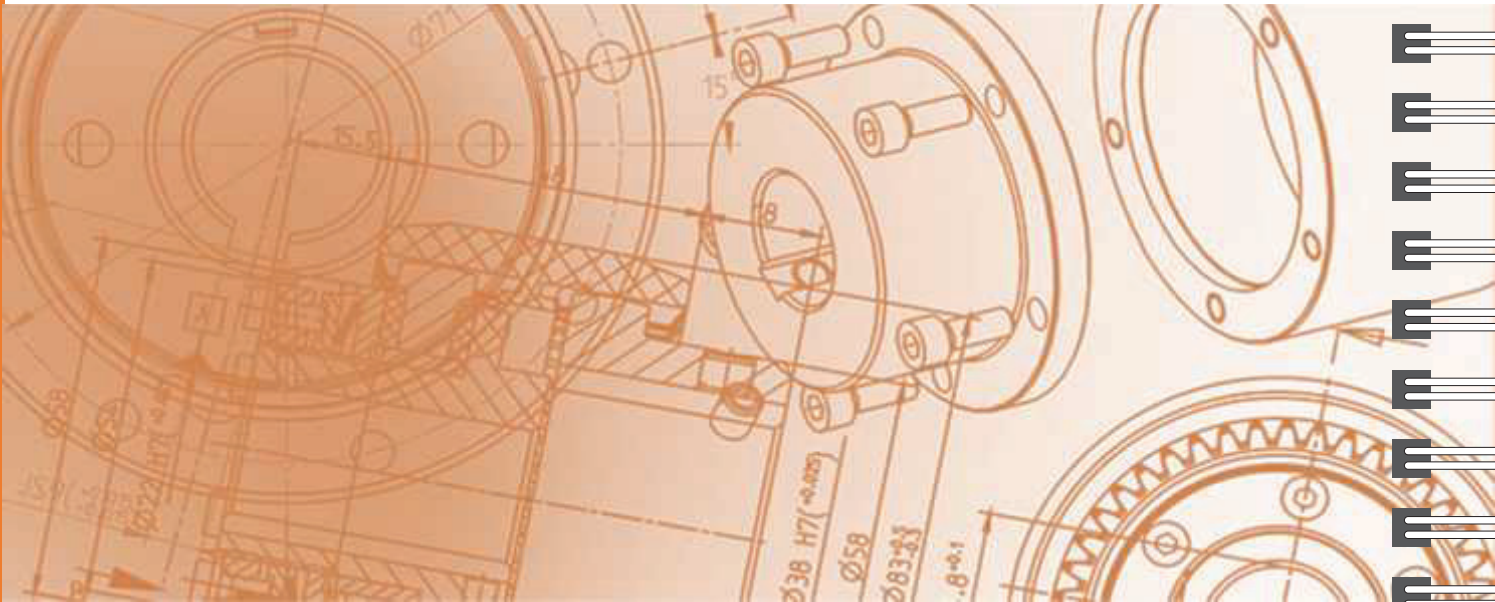
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TAPPING AND SERVICE SADDLES



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QTEE TAPPING SADDLE CONNECTORS AND TOOLS

PE OUTLET HOT TAPPING SADDLES (32 & 50)



- ▶ Sizes: PE32 and PE50.
- ▶ Sealing by rotating shut-off blade or a standard spatula.
- ▶ For branching on iron, fibre cement, PE and PVC from diameter 60mm to 400mm.
- ▶ Epoxy coating 250/500micron.

PE OUTLET HOT TAPPING SADDLES (90 & 110)



- ▶ Sizes: PE90 and PE110
- ▶ Sealing both ways by newly designed rotating shut-off blade.
- ▶ For branching on iron, fibre cement, PE and PVC from diameter 100mm to 355mm.
- ▶ Epoxy coating 250/500micron.

HOT TAPPING SADDLES (HTS)



- ▶ Sizes: ¾", 1", 1¼", 1½" and 2".
- ▶ Sealing by rotating shut-off blade or a standard spatula.
- ▶ For branching on iron, fibre cement, PE and PVC from diameter 60mm to 400mm.
- ▶ Epoxy coating 250/500micron.

Q-TTEE – FLANGED HOT TAPPING SADDLES



- ▶ Sizes: DN65, DN80 and DN100.
- ▶ Sealing both ways by newly designed rotating shut-off blade.
- ▶ For branching on iron, fibre cement, PE and PVC from diameter 100mm to 355mm.
- ▶ Epoxy coating 250/500micron.

THREADED TAPPING SADDLES



- ▶ Sizes: ¾", 1", 1¼", 1½" and 2".
- ▶ For branching on iron, fibre cement, PE and PVC from diameter 60mm to 400mm.
- ▶ Epoxy coating 250/500micron.

SLIMLINE Q-TTEE



- ▶ Sizes: DN80 and DN100.
- ▶ Minimum height and low weight.
- ▶ On iron and fibre cement pipes with two 55mm simple straps.
- ▶ For PE and PVC pipes use a 265mm wide strap.
- ▶ Epoxy coating 250/500micron.

SIMPLES STRAPS



- ▶ Compatible with all saddles.
- ▶ Seventeen sizes covering from iron diameter 60 to PE400.
- ▶ In stainless steel fitted with anti-galling system with double nut and rubber profile.
- ▶ Supplied with 2 studs, 2 nuts, and 2 ball joints.

WIDE STRAPS



- ▶ To fasten Q-Tees, PE90 and PE110 tapping saddles to PE and PVC pipes.
- ▶ Sizes: from ø160 to ø355mm
- ▶ In stainless steel fitted with anti-galling system with double nut and rubber profile.
- ▶ Supplied with 4 studs, 4 nuts, and 4 ball joints.

PE-PE HOT CONNECTORS



- ▶ Sizes: PE90 and PE110.
- ▶ To be inserted into Georg Fischer's ELGEF Plus.
- ▶ It can replace electrofusion valves in multiple installations.
- ▶ Sealing both ways by newly designed rotating shut-off blade.

FLANGED HOT CONNECTORS



- ▶ Sizes: DN80 AND DN100.
- ▶ Isolation valve to connect to a Tee.
- ▶ Ideal for assembly on duck foot fittings in fire hydrants.
- ▶ Sealing both ways by newly designed rotating shut-off blade.
- ▶ Epoxy coating 250/500micron.



Q-TEE TAPPING SADDLE

APPLICATION

The Q-Tee Tapping Saddle for flanged connections with integral isolation system, removing the need for a gate valve when live drilling. The Q-Tee can easily replace the need for a standard tee and is rated to 16 bar. The Q-Tee is suitable for common pipe materials and can cover diameters from 3" to 12".

DESIGN FEATURES

- Available in DN65, DN80, DN100 and (DN150 - size on size at present) PN16 Flanges.
- Straps to suit 80mm to 300mm diameter Cast, Ductile, Asbestos, Steel, PE and PVC pipes.
- Modular straps work with the Q-Tee, Slimline and our HTS systems - meaning less equipment required per job.
- Built in double joint isolation system allows knife blade/spatula to slide in and out without loss of sealing.
- Total profile smaller than a standard Tee and valve set up.

TECHNICAL DATA & STANDARDS

- Manufactured to European standard EN 545.
- Stainless Steel Straps - EN-GJS-450-10 Ductile iron body.
- WRAS approved epoxy coat.
- WRAS approved EPDM rubber gasket.
- Permissible working pressure of 16 bar.
- Torque settings - 30Nm Max.



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Q-TEE SLIMLINE

APPLICATION

Slimline Q-Tee for flanged connections where space is limited, its narrow profile reduces space requirements even when installing a valve. The Slimline can easily replace the need for a standard tee and is rated to 16 bar. The Slimline is suitable for most common pipe materials and can cover diameters from 3" to 12".

DESIGN FEATURES

- Available in DN80 and DN100 PN16 Flanges.
- Sizes to suit 80mm to 300mm diameter Cast, Ductile, Asbestos, Steel, PE and PVC pipes.
- Modular straps work with the Q-Tee, Slimline and our HTS systems - meaning less equipment required per job.
- Locking lugs, hold the bolts in place while connecting up valve or hydrant.
- Light, narrow profile with a 250mm total width.

TECHNICAL DATA & STANDARDS

- Manufactured to European standard EN 545.
- Stainless Steel Straps - EN-GJS-450-10 Ductile iron body.
- WRAS approved epoxy coat.
- WRAS approved EPDM rubber gasket.
- Permissible working pressure of 16 bar.
- Torque settings - 30Nm Max.



HOT TAPPING SERVICE SADDLE (HTS)

APPLICATION

The HTS tapping saddle for establishing service connections on most common pipe materials, including Ductile, Cast, PE, PVC, Asbestos Cement and Steel pipes. Available outlet sizes from 3/4", 1", 1.5" & 2", and will cover pipe diameters from 3" up to 12" (355mm).

DESIGN FEATURES

- Double interior joint provides sealing in both directions.
- Can be installed simply and easily with a 55mm wide strap.
- Open lug design allows for easy attachment of strap during installation.
- Guaranteed sealing thanks to the outside safety collar.
- Permissible working pressure of 16 bar.
- One size fits all.

TECHNICAL DATA & STANDARDS

- EN-GJS-450-10 Ductile cast body.
- WRAS approved blue epoxy coat (250-500 Micron).
- WRAS approved EPDM rubber joint to EN 681-1.
- Safety sleeve constructed from highly resistant composite.
- Straps, studs, nuts made from AISI 304 grade Stainless Steel.
- Manufactured according to the European Standard EN 545.
- Max torque 30Nm.

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PRODUCT BIO:

HTS SERVICE TAPPING SADDLE



The HTS service saddle is perfectly designed for under pressure tapping, its simple design makes easy installation and the built in isolation system removes the need for a valve. Suitable for use on most common pipe materials including PE.

For more information you can visit our website <http://www.cascadeplc.co.uk>
For product demo video visit our website for our [Demo Video](#)

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UNIVERSAL BOSSED TAPPING SADDLE

APPLICATION

The universal bossed tapping saddle for establishing connections on most common pipe materials, including Ductile, Cast, PVC, Asbestos Cement and Steel pipes. Available outlet sizes from 3/4", 1", 1.1/4", 1.5" & 2", and will cover pipe diameters from 3" up to 20" (571mm max).

DESIGN FEATURES

- Can be isolated via a ball valve.
- Can be installed simply and easily with a 55mm wide strap.
- Permissible working pressure of 16 bar.
- Large strap ranges offer better coverage.
- Suitable for most pipe materials.

TECHNICAL DATA & STANDARDS

- EN-GJS-450-10 Ductile cast body.
- WRAS approved blue epoxy coat (250-500 Micron).
- WRAS approved EPDM.
- Straps, studs, nuts made from AISI 304 grade Stainless Steel.
- Manufactured according to the European Standard EN 545.
- Max torque 55Nm.

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UNIVERSAL PIPE SADDLES

For use on cast iron, ductile iron, steel, PVC and asbestos cement



Headwork	
Part No.	Bossed
CA-60-034	¾"
CA-60-110	1"

Stainless Steel Straps		
Part No.	Min Ø	Max Ø
CA-62-00060	60	94
CA-62-00088	88	130
CA-62-00133	133	159
CA-62-00159	159	192
CA-62-00190	190	220
CA-62-00216	216	246
CA-62-00240	240	270
CA-62-00267	267	318
CA-62-00318	318	368
CA-62-00355	355	428
CA-62-00406	406	475
CA-62-00470	470	546
CA-62-00508	508	571

Fitting Instructions

Clamp headwork to pipe to 70 Nm

When tightening alternate between each 1/2 turn

CA-60-114	1 ¼"
CA-60-112	1 ½"
CA-60-200	2"

CA-62-00088	88	130
CA-62-00133	133	159
CA-62-00159	159	192
CA-62-00190	190	220
CA-62-00216	216	246
CA-62-00240	240	270
CA-62-00267	267	318
CA-62-00318	318	368
CA-62-00355	355	428
CA-62-00406	406	475
CA-62-00470	470	546
CA-62-00508	508	571

Materials

Pressure Rating: 16 operating pressure

Headwork: GGG-50 nodular cast iron

Coating: 250µ RAL epoxy coating

Bolts: stainless steel

Stainless steel band strap 60mm wide EPDM rubber

coating Seals: EPDM for potable water

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STEEL PIPE TAPPING SADDLE

APPLICATION

Steel pipe tapping saddles are dedicated for tapping into steel and galvanised pipes. Outlets from 3/4" to 2" dependant on saddle diameter. Suitable for use on drinking water and heating applications the clamps are rated to a working pressure of 16 bar.

DESIGN FEATURES

- Sizes to suit Steel pipe outside diameters from 1/2"(21,3mm) to 4" (114,3mm) inclusive and outlets from 3/4" to 2" (dependant on saddle diameter).
- Split collar design makes install easy.
- 4 Hex key bolts to tighten the clamp.
- Suitable for other pipe materials providing the diameter is the same as the steel pipe diameter.
- Can be supplied with standard NBR for gas - VITON for use on heating and steam pipes to 230*c.

TECHNICAL DATA & STANDARDS

- Body: Top/bottom constructed of GGG-40 Cast to DIN EN 1563.
- Hex screws: Galvanised steel - DIN 912, strength 8.8.
- BSP threads: conforming to ISO 7/1 respectively DIN EN 10226/1 (Formerly DIN 2999).
- For steel pipes conforming to DIN EN 10255 (Formerly DIN 2440/2441) and DIN 2442.
- Suitable for water applications to 90*c.

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STEEL PIPE TAPPING SADDLES SIZES



Part Number	Outside Diameter	Outlet Size	Length (MM)
RBG-21.3-12	1/2" - 21.3	1/2"	70
RBG-26.912	3/4" - 26.9	1/2"	70
RBG-33.7-12	1" - 33.7	1/2"	70
RBG-33.7 - 34	1" - 33.7	3/4"	70
RBG - 42.4 - 34	1 1/4" - 42.4	3/4"	80
RBG - 48.3 - 34	1 1/2" - 48.3	3/4"	100
RBG - 60.3-1	2" - 60.3	1"	100
RBG - 76.1-1	2 1/2" - 76.1	1"	100
RBG - 76.1 - 114	2 1/2" - 76.1	1 1/4"	100
RBG - 76.1 - 112	2 1/2" - 76.1	1 1/2"	100
RBG - 88.9 - 1	3" - 88.9	1"	100
RBG - 88.9 - 114	3" - 88.9	1 1/4"	100
RBG - 88.9 - 112	3" 88.9	1/2"	100
RBG - 88.9 - 2	3" 88.9	2"	100
RBG - 114.3 - 1	4" - 114.3	1"	100
RBG - 114.3 - 114	4" - 114.3	1 1/4"	100
RBG - 114.3 - 112	4" - 114.3	1 1/2"	100
RBG - 114.3 - 2	4" - 114.3	2"	100



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COPPER PIPE TAPPING SADDLE

APPLICATION

Copper pipe tapping saddles are dedicated for tapping into Copper water and heating pipes. Sizes from 10-54mm, with outlets dependant on saddle diameter. The saddles have a working pressure of 16 bar.

DESIGN FEATURES

- Sizes to suit Copper pipe outside diameters from 10mm to 54mm inclusive and outlets dependant on saddle diameter.
- Split collar design makes install easy.
- 4 Hex key bolts to tighten the clamp.
- Suitable for other pipe materials providing the diameter is the same as the steel pipe diameter.
- Can be supplied with standard NBR for gas - VITON for use on heating and steam pipes to 230*c.

TECHNICAL DATA & STANDARDS

- Body: Top/bottom constructed of Brass material no. 2.0402 respectively 2.0290.01
- Hex screws: Galvanised steel - DIN 912, strength 8.8.
- BSP threads: conforming to ISO 7/1 respectively DIN EN 10226/1 (Formerly DIN 2999).
- For steel pipes conforming to DIN EN 10255 (Formerly DIN 2440/2441) and DIN 2442.
- Suitable for water applications to 90*c.

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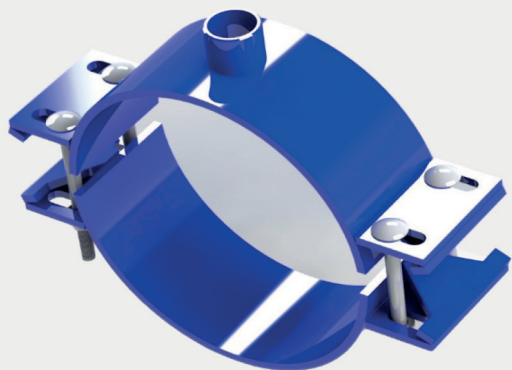
Part Number	Outside Diameter (MM)	Outlet Size	Length (MM)
RBC – 15.12	15	1/2"	15
RBC – 18.12	18	1/2"	45
RBC – 22.12	22	1/2"	50
RBC – 28.34	28	3/4"	50
RBC – 35.34	35	3/4"	50
RBC – 42.12	42	1"	50
RBC – 54.114	54	1 1/4"	100



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Technical drawing of a mechanical assembly, showing a cross-section of a housing and a central component. The drawing includes various dimensions and tolerances, such as $\phi 71$, $\phi 58$, $\phi 83 \pm 0.1$, and $\phi 22 \text{ H7} / \text{h6}$. The drawing is rendered in blue lines on a white background.

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CARBON STEEL BOSSED TAPPING SADDLE

APPLICATION

Carbon Steel Bossed Tapping Saddles for flanged connections in a water supply network, suitable for most common pipe materials like Cast Iron, Ductile, Asbestos Cement, Steel Pipe and PE - (supplied with full matted gasket). Our Tees are supplied with WRAS approved EPDM and coating and have a working pressure of 16 bar.

DESIGN FEATURES

- Constructed from heavy duty Carbon Steel.
- Can be made to specifications i.e neck length, body length.
- Outlets available are BSP male or female, NPT.
- WRAS approved EPDM Energiser O-Ring and or full matted waffle gasket or NBR dependant on the application.

TECHNICAL DATA & STANDARDS

- Construction: **Body** - Carbon Steel to BS EN 10025/**Neck** - API 5L/**Flange** - EN10025 2004 - S235JR / Available in PN16, PN10, Table D/E and ANSI 150. Sizes from 2"/50mm to DN2000 (Alternative outlets available are BSP, NPT, Male Thread).
- WRAS approved EPDM Energiser O-Ring and or full matted waffle gasket or NBR dependant on the application.
- Fasteners: M16 or M20 Grade 4.4 Zinc Plated - Stainless Steel available on request.
- Coating: WRAS Resicoat fusion bonded epoxy.
- Torque settings as follows: M16 bolts - 110Nm dry - M20 bolts - 220Nm dry

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CARBON STEEL HOT TAPPINGTEE

APPLICATION

Carbon Steel Hot Tapping Tees for flanged connections in a water supply network, suitable for most common pipe materials like Cast Iron, Ductile, Asbestos Cement, Steel Pipe and PE - (supplied with full matted gasket). Our Tees are supplied with WRAS approved EPDM and coating and have a working pressure of 16 bar.

DESIGN FEATURES

- Constructed from heavy duty Carbon Steel.
- Can be made to specifications i.e neck length, body length.
- Available flanges - PN16 - PN10 - PN25 - ANSI 150 - Table D/E, sizes from DN50 to DN2000.
- Alternative outlets available are BSP, NPT, Male Thread.
- WRAS approved EPDM Energiser O-Ring and or full matted waffle gasket or NBR dependant on the application.

TECHNICAL DATA & STANDARDS

- Construction: **Body** - Carbon Steel to BS EN 10025/**Neck** - API 5L/**Flange** - EN10025 2004 - S235JR / Available in PN16, PN10, Table D/E and ANSI 150. Sizes from 2"/50mm to DN2000 (Alternative outlets available are BSP, NPT, Male Thread).
- WRAS approved EPDM Energiser O-Ring and or full matted waffle gasket or NBR dependant on the application.
- Fasteners: M16 or M20 Grade 4.4 Zinc Plated - Stainless Steel available on request.
- Coating: Resicoat fusion bonded epoxy.
- Torque settings as follows: M16 bolts - 110Nm dry - M20 bolts - 220Nm dry

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STAINLESS STEEL UNDERPRESSURE TEES

APPLICATION

Stainless Steel Under Pressures Tees for creating branched connections in a network, suitable for use on most common pipe materials e.g. Cast Iron, Ductile, Steel, Copper, Asbestos Cement and PVC. Working pressure of 16 bar.

DESIGN FEATURES

- Pressure ratings to suit the requirements from 0.5 bar to 16 bar working, 24 bar test pressure.
- Tee Lengths from 250mm to 3000mm max.
- Outlet diameters from DN50 to DN2000mm PN10/PN16/PN25 and ANSI 150.
- Tee diameters from 90mm to 2000mm.
- Temperature range +/- (-20°C to 140°C) - various EPDM, or VITON on request to 230°C.
- Life expectancy of 50 years plus, under correct installation.

TECHNICAL DATA & STANDARDS

- Shell, Lugs, Bolts, Nuts, Armour, Locking Washer Plate and Receiver Bars - Stainless Steel AISI 304 or 316 on request.
- BSEN 682:2002 - Type 4711 to WRAS approval and listed.
- Torque Settings: M12 bolt:80Nm Max - M16 bolt:120Nm Max.

STAINLESS UNDER PRESSURE TEES



Part Number	Size Description
UPT03.3	3"/Range 88-130mm x DN80 PN16
UPT04.3	4"/Range 108-128mm x DN80 PN16
UPT04.4	4"/Range 108-128mm x DN100 PN16
UPT05.3	5"/Range 140-160mm x DN80 PN16
UPTt05.4	5"/Range 140-160 x DN100 PN16
UPT06.3A	6"/Range 158-178mm x DN80 PN16
UPT06.3	6"/Range 166-186 X DN80 PN16
UPT06.4A	6"/Range 158-178mm x DN100 PN16
UPT06.4	6"/Range 166-186mm x DN100 PN16
UPT06.6	6"/Range 166-186mm x DN150 PN16
UPT07.3	7"/Range 190-210mm x DN80 PN16
UPT07.4	7"/Range 190-210mm x DN100 PN16
UPT07.6	7"/Range 190-210mm x DN150 PN16
UPT08.3	8"/Range 216-238 x DN80 PN16
UPT08.4	8"/Range 216-238mm x DN100 PN16
UPT08.6	8"/Range 216-238mm x DN150 PN16
UPT09.3	9"/Range 249-270mm x DN80 PN16
UPT09.4	9"/Range 249-270mm x DN100 PN16
UPT09.6	9"/249-270mm x DN150 PN16
UPT10.3	10"/Range 270-290mm x DN80 PN16
UPT10.4	10"/Range 270-290mm x DN100 PN16
UPT10.6	10"/Range 270-290mm x DN150 PN16
UPT12.3	12"/Range 322-346mm x DN80 PN16
UPT12.4	12"/Range 322-346mm x DN100 PN16
UPT12.6	12"/Range 322-346mm x DN150 PN16

Cascade Standard Stainless Steel Sizes - special or larger sizes available on request.

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PE UNDER PRESSURE TEE

APPLICATION

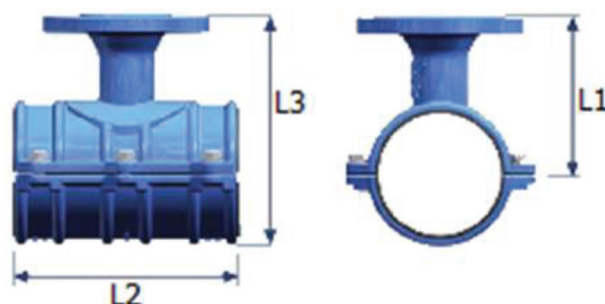
Dedicated for use on MDPE, HDPE, PVC and barrier pipe for potable drinking water. Sizes to cover from 90mm up to 630mm and available with 3,4,6 & 8" PN16 flanged outlets.

DESIGN FEATURES

- Split body design with fixed two part gasket ensures easy install with no loss of sealing.
- Strong construction ensures reliability and longevity on the network.
- Positive stop system to prevent over tightening.
- O-Ring forms tight seal on the pipe ensuring a leak free connection.
- Re-rounds oval pipe and ensures pipe integrity.
- Easier and faster to install than an Electrofusion tee, and can be installed in all conditions.

TECHNICAL DATA & STANDARDS

- Ductile iron body to EN(-1563)-GJS-400-15 (GGG40)
- WRAS approved Fusion Bonded Epoxy Coating.
- A2 Stainless Steel Bolts - DIN 993 M10.
- Permissible working pressure of 16 bar.
- Max torque 90Nm.



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PE TEE SIZES

Part Number	Pipe Size (mm)	Outlet Size	L1 (mm)	L2 (mm)	L3 (mm)
UPT03.2PE	90	DN50	145	180	201
UPT03.3PE	90	DN80	145	180	201
UPT04.2PEA	110	DN50	145	200	211
UPT04.2.5PEA	110	DN60/65	165	200	231
UPT04.3PEA	110	DN80	170	200	236
UPT04.2PE	125	DN50	160	200	233
UPT04.2.5PE	125	DN60/65	160	200	233
UPT04.3PE	125	DN80	170	200	243
UPT04.4PE	125	DN100	170	200	243
UPT05.2PE	140	DN50	160	200	241
UPT05.2.5PE	140	DN60/65	160	200	241
UPT05.3PE	140	DN80	170	200	251
UPT06.2PEA	160	DN50	170	250	261
UPT06.2.5PEA	160	DN60/65	190	250	281
UPT06.3PEA	160	DN80	200	250	291
UPT06.4PEA	160	DN100	205	250	296
UPT06.3PE	180	DN80	225	250	326
UPT06.4PE	180	DN100	230	250	331
UPT06.6PE	180	DN150	240	240	341
UPT08.2PE	200	DN50	195	250	306
UPT08.2.5PE	200	DN60/65	215	250	326
UPT08.3PE	200	DN80	225	250	336
UPT08.4PE	200	DN100	230	250	341
UPT08.6PE	200	DN150	240	250	351
UPT09.3PE	225	DN80	225	250	348
UPT09.4PE	225	DN100	230	250	353
UPT10.2PE	250	DN50	240	300	376
UPT10.3PE	250	DN80	250	300	386
UPT10.4PE	250	DN100	255	300	391
UPT10.6PE	250	DN150	265	300	401
UPT12.2PE	315	DN50	280	300	448
UPT12.3PE	315	DN80	295	300	463
UPT12.4PE	315	DN100	300	300	468
UPT12.6PE	315	DN150	310	300	478
UPT14.3PE	355	DN80	315	300	503
UPT14.4PE	355	DN100	315	300	503
UPT14.6PE	355	DN150	315	300	503
UPT16.2PE	400	DN50	320	300	531
UPT16.3PE	400	DN80	340	300	551
UPT16.4PE	400	DN100	355	300	566
UPT16.6PE	400	DN150	360	300	571
UPT18.3PE	450	DN80	340	300	578
UPT18.4PE	450	DN100	376	300	614
UPT18.6PE	450	DN150	376	300	614
UPT20.4PE	500	DN100	406	300	667
UPT20.6PE	500	DN150	411	300	672
UPT20.8PE	500	DN200	411	300	672
UPT24.4PE	630	DN100	471	300	794
UPT24.6PE	630	DN150	473	300	769

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FLANGED ELECTROFUSION BRANCH SADDLE

APPLICATION

Flanged Electrofusion Branch Saddle for use on PE for Water and Gas applications.

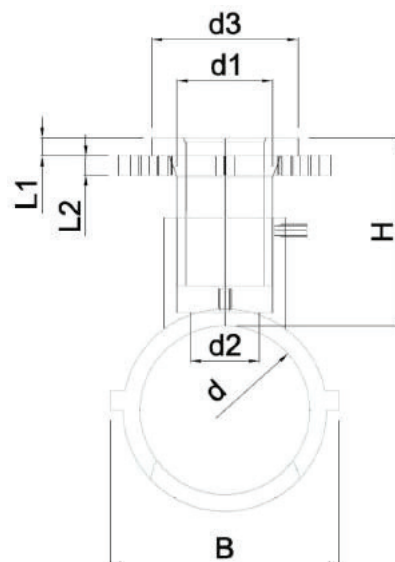
DESIGN FEATURES

- Stub flange comes Pre-Welded to saddle with PN16 Backing Ring
- Black PE 100.
- Assembled in the UK.

TECHNICAL DATA & STANDARDS

- Conforms to UK Water standards WRAS BS EN 12201.
- Conforms to GAS standards GIS PL2-6 BS EN 1555.
- Other sizes available on request.

D (mm)	DN (mm)	Part Num	Weight kg	D1 (mm)	H (mm)	D3 (mm)	L1 (mm)	L2 (mm)	B (mm)	SDR Pipe
110	80	UPT04.3APEEF	3.12	90	140	138	17	8	164	9-17.6
125	80	UPT04.3PEEF	3.77	90	140	138	17	8	179	9-17.6
160	80	UPT06.3APEEF	3.45	90	140	138	17	8	215	9-17.6
180	80	UPT06.3PEEF	3.67	90	140	138	17	8	237	9-17.6
180	100	UPT06.4PEEF	4.09	125	170	158	25	8	237	9-17.6
225	80	UPT09.3PEEF	4.00	90	140	138	17	8	287	9-17.6
250	80	UPT10.3PEEF	4.15	90	140	138	17	8	312	9-17.6
250	100	UPT10.4PEEF	5.04	125	170	158	25	8	312	9-17.6



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Technical drawing of a mechanical assembly, likely a pump or motor component, showing various parts and dimensions. The drawing includes a cross-section of a housing with a central shaft and a flange. Dimensions and tolerances are specified throughout the drawing, including diameters (e.g., $\varnothing 71$, $\varnothing 58$, $\varnothing 83_{-0.025}^{+0.025}$), radii (e.g., $R 15.5$), and surface finish requirements (e.g., $JS(0.05/0.025)$, $1022 H7(0.025)$). The drawing is rendered in green lines on a white background.

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COPPER PIPE REPAIR CLAMP

APPLICATION

Copper pipe repair clamp dedicated for use on copper sizes. For the repair of splits or pinhole leaks in copper pipe, suitable for drinking water and heating applications the clamps are rated to a working pressure of 16 bar.

DESIGN FEATURES

- Sizes to suit Copper pipe outside diameters from 10mm to 70mm inclusive.
- Split collar design makes install easy.
- 4 Hex key bolts to tighten the clamp.
- Suitable for steel pipes providing the diameter is the same as the copper pipe diameter.
- Can be supplied with standard NBR for gas - VITON for use on heating and steam pipes to 230*c.
- Working pressure of 16 bar.

TECHNICAL DATA & STANDARDS

- Body: Top/bottom constructed of Brass - Material no: 2.0402 respectively 2.0290.01.
- Hex screws: Galvanised steel - DIN ISO 898 Pt.1, strength 8.8.
- For copper pipes conforming to DIN EN 1057 hard R290 and soft R220.
- Suitable for water applications to 90*c.

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COPPER PIPE REPAIR CLAMP SIZES



Part Number	Outside Diameter (MM)	Length (MM)
RPC10	10	45
RPC12	12	45
RPC14	14	50
RPC15	15	50
RPC16	16	50
RPC18	18	50
RPC22	22	60
RPC28	28	70
RPC35	35	70
RPC42	42	70
RPC54	54	100
RPC64	64	100
RPC70	70	120



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STEEL PIPE REPAIR CLAMP

APPLICATION

Steel pipe repair clamp dedicated for use on steel & galvanised pipe. For the repair of splits or pinhole leaks, suitable for use on drinking water and heating applications the clamps are rated to a working pressure of 16 bar.

DESIGN FEATURES

Typical Areas of application:

- Sealing of holes caused by mechanical damage in water pipes.
- Sealing of corrosion holes in water pipes.
- Sealing of oil-free compressed air pipes.
- Sealing of cracks on frost damage in water pipes.
- In the cold water area an installation under plaster is possible (pressure test necessary)

TECHNICAL DATA & STANDARDS

- Body: Top/bottom constructed of GGG-40 Cast to DIN EN 1563.
- Hex screws: Galvanised steel - DIN 912, strength 8.8.
- For steel pipes conforming to DIN EN 10255 (Formerly DIN 2440/2441) and DIN 2442.
- Suitable for water applications to 90*c.

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STEEL PIPE REPAIR CLAMPS SIZES



Part Number	Outside Diameter (MM)	Length (MM)
RPG21.3	1/2" (21.3mm OD)	134
RPG26.9	3/4" (26.9mm OD)	134
RPG33.7	1" (33.7mm OD)	134
RPG42.4	1 1/4" (42.4mm OD)	134
RPG48.3	1 1/2" (48.3mm OD)	134
RPG60.3	2" (60.3mm OD)	134
RPG76.1	2 1/2" (76.1mm OD)	134
RPG88.9	3" (88.9mm OD)	134
RPG114.3	4" (114.3mm)	134



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STAINLESS STEEL REPAIR CLAMPS

APPLICATION

For the repair of holes and cracks in drinking, waste water and gas pipes. Our stainless steel repair clamps are suitable for most common pipe materials and have a PWP of 16 bar, higher pressures and temperatures on request.

DESIGN FEATURES

- Available in single and split collar (1 part or 2 part, multiple parts on request).
- Clamp Lengths from 75mm to 2000mm (specific lengths available on request).
- Clamp diameters to suit from 15mm to 2000mm.
- Temperature range +/- (-20°C to 140°C) - various EPDM, or VITON on request to 230°C.
- Stainless Steel Repair Clamps do not restrain axial pipe movement. Suitable anchorage must be provided where pipe movement may occur.
- Life expectancy of 50 years plus, under correct installation.

TECHNICAL DATA & STANDARDS

- Shell, Lugs, Bolts, Nuts, Armour, Locking Washer Plate and Receiver Bars - Stainless Steel AISI 304 or 316 on request.
- ASTM A480/A480M 04A -ASTM A240/A240 M 04A.
- Gasket - ASTM D2240 NR - NBR - NITRILE 4711 and WRAS approved EPDM, VITON for temperatures to 230°C.

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CLAMP SIZES

Part Number	Size Range (mm)	Length (mm)
RPR01.25	40-45mm	150mm
RPR01.25A	45-55mm	150mm
RPR01.5	55-65mm	150mm
RPR02	59-67mm	150mm
RPR02A	65-75mm	150mm
RPR02.5	75-85mm	150mm
RPR03	94-104mm	200mm
RPR03A	85-95mm	150mm
RPR03L	94-104mm	300mm
RPR03T	85-105mm (2 Part)	200mm
RPR04	118-128mm	200mm
RPR04A	104-114mm	200mm
RPR04AL	104-114mm	300mm
RPR04B	110-120mm	200mm
RPR04BL	110-120mm	300mm
RPR04L	118-128mm	300mm
RPR04LT	108-128mm (2 Part)	300mm
RPR04LT6	108-128mm (2 Part)	600mm
RPR04T	108-128mm (2 Part)	200mm
RPR05	144-154mm	200mm
RPR05T	140-160mm (2 Part)	200mm
RPR06	168-180mm	200mm
RPR06A	160-170mm	200mm
RPR06AL	160-170mm	300mm
RPR06B	151-161mm	200mm
RPR06BL	151-161	300mm
RPR06L	168-180mm	300mm
RPR06LT	168-189mm (2 Part)	600mm
RPR06T	158-178mm (2 Part)	200mm
RPR07	190-210mm (2 Part)	200mm
RPR07B	200-210mm	200mm
RPR07L	190-210mm (2 Part)	300mm
RPR08	216-238mm (2 Part)	300mm
RPR08LT	216-238mm (2 Part)	600mm
RPR09	249-270mm (2 Part)	300mm
RPR09LT	249-270mm (2 Part)	800mm
RPR10	270-290mm (2 Part)	300mm
RPR10LT	270-290mm (2 Part)	800mm
RPR12	322-346mm (2 Part)	300mm
RPR12L	322-346mm (2 Part)	400mm
RPR12LT	322-346mm (2 Part)	800mm
RPR12PE	305-325mm (2Part) WT*	600mm
RPR12PEA	345-365mm (2 Part) WT*	600mm

*Indicate difference in length or parts

WT= With Gripper Teeth

Sizes to 24" in stock – call us direct with size requirements

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STAINLESS STEEL PE REPAIR CLAMPS

APPLICATION

For the repair of leaks and cracks on drinking water and gas PE pipes. The PE repair Clamps are specifically designed for use on PE with gripper teeth at each end to ensure a firm hold on the pipe without crushing it.

DESIGN FEATURES

- Available in split collar 2 part.
- Clamp Lengths from 400mm to 800mm.
- Clamp diameters dedicated to suit PE sizes.
- Temperature range +/- (-20°C to 60°C) - EPDM or NBR.
- Stainless Steel Repair Clamps do not restrain axial pipe movement. Suitable anchorage must be provided where pipe movement may occur.
- Life expectancy of 50 years plus, under correct installation.

TECHNICAL DATA & STANDARDS

- Shell, Lugs, Bolts, Nuts, Armour, Locking Washer Plate, Receiver Bars and Gripper Teeth Stainless Steel AISI 304 or 316 on request.
- ASTM A480/A480M 04A -ASTM A240/A240 M 04A.
- BSEN 682:2002 - Type 4711 to WRAS approval and listed.
- Gasket - ASTM D2240 NR - NBR - NITRILE 4711 and WRAS approved EPDM, VITON for temperatures to 230°C.

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PE REPAIR COUPLING

APPLICATION

The PE Repair Coupling is designed for the repair of splits and holes in all types of PE pipe, due to its length and design it can also be used as a coupling for joining PE. Constructed from Cast and coated in a WRAS approved epoxy with WRAS approved EPDM seals, its co-axial grippers provide a firm hold without crushing the pipe.

DESIGN FEATURES

- Permanent repair solution for splits and holes in PE pipe.
- Mechanical locking by means of grip rings in order to avoid pipes axial movement.
- Working pressure of 16 bar.
- Can also be used as a coupling owing the the restraint grip rings and all round seal.

TECHNICAL DATA & STANDARDS

- Constructed from GGG-50 Cast Iron.
- Galvanised nuts, bolts and washers.
- Steel grip rings.
- WRAS approved EPDM integral gasket.
- WRAS approved blue epoxy coating.

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PE REPAIR COUPLING SIZES



Part Number	Nominal Bore (MM)	Length (MM)	Internal Sealing Length (MM)
CA-31-DE063	63	304	172
CA31-DE075	75	304	172
CA31-DE090	90	304	172
CA-31-DE110	110	304	172
CA-31-DE125	125	354	222
CA-31-DE140	140	354	222
CA-31-DE160	160	408	272
CA-31-DE180	180	408	272
CA-31-DE200	200	424	272



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ELECTROFUSION ENCAP

APPLICATION

The Electrofusion Encap designed for encapsulating failed butt fusion joints/electrofusion couplings on all PE pipe. Constructed from Cast Iron and coated in WRAS approved epoxy and installed with WRAS approved EPDM, the Encap's steel grip rings ensure a secure hold on the pipe.

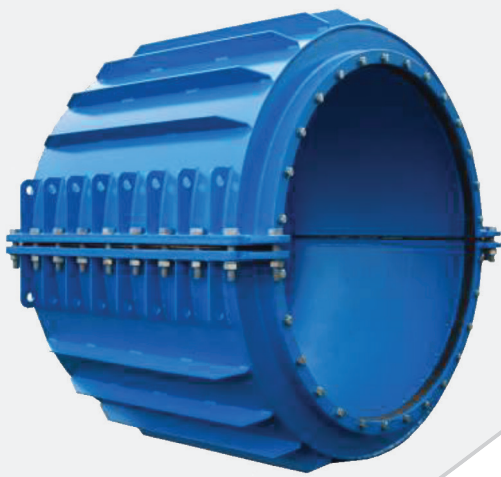
DESIGN FEATURES

- Permanent repair solution for leaking Butt fusion joints and Electrofusion couplings by encapsulating the entire failed joint.
- Mechanical locking by means of grip rings in order to avoid pipes axial movement.
- Pre-installed integral gasket prevents loss of sealing and reduces install time.
- Can also be used as a coupling owing to the restraint grip rings and all round seal.

TECHNICAL DATA & STANDARDS

- Constructed from GGG-50 Cast Iron.
- Galvanised nuts, bolts and washers.
- Steel grip rings.
- WRAS approved EPDM integral gasket.
- WRAS approved blue epoxy coating.

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PASCAL ENCAP COLLAR

APPLICATION

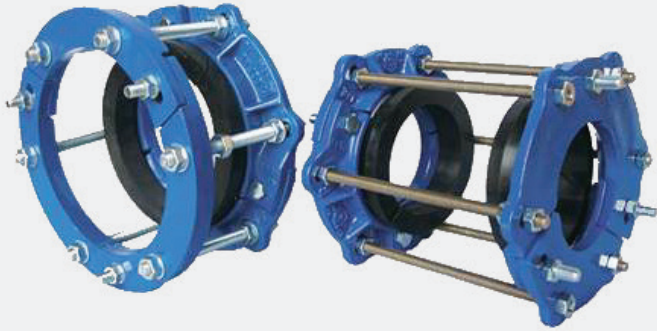
The PASCAL ENCAP collar is designed to encapsulate leaking joints and failed existing fittings. Its integral gasket makes installation easy, a simple tightening of the nuts is all that is required. The encapsulation will suit all common pipe materials and is rated to 16 bar (higher on request).

DESIGN FEATURES

- Constructed from high quality Carbon Steel (Stainless Steel available on request).
- Integral gasket system compresses and forms a tight seal, no additional tooling required.
- Lifting eyes to allow easy mobility to the pipe when on site
- Can be made to specifications, internal diameters/lengths.
- Can be supplied with EPDM, NBR or VITON gasket dependant on application/requirements.

TECHNICAL DATA & STANDARDS

- Body and outer rings constructed of Steel S235JRG2.
- Bolts, nuts and washers in A2 Stainless Steel.
- WRAS approved Fusion Bonded Epoxy Coating.
- WRAS approved EPDM integral seals - NBR for gas/waste or VITON for Chemicals and water with temperatures to 230°C.
- Working pressure of 16 bar - higher pressures on request.
- Torque settings: outside bolts for gasket compression 80Nm Max.
Bolts for joining the two sections to a maximum of 120Nm.



SOCKET & SPIGOT REPAIR COLLAR

APPLICATION

Socket and Spigot repair collars for the repair of leaking socket joints on Cast and Ductile Iron pipe. The two rings are pulled together by tightening the nuts at the end of each stud, this in turn pulls the joint together, the gasket then forms a tight seal around the socket stopping the leak.

DESIGN FEATURES

- Simple design allows easy installation.
- Ring sections expand providing a tolerance to cover for odd sizes and ovality.
- Supplied with EPDM or NBR gaskets.
- Supplied with Hot Dip Galvanised studs, nuts, washers - Stainless steel available on request.

TECHNICAL DATA & STANDARDS

- Clamp rings constructed of Ductile EN-GJS-400-15 acc. to EN 1563.
- WRAS approved EPDM gasket.
- WRAS approved blue epoxy coating 250 Micron.
- Galvanised rods, nuts, and washers.

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PRODRILL 45 - PIPE DRILLING MACHINE

APPLICATION

The ProDrill 45 pipe drilling machine for making connections in a water or gas supply network, ideal when used in conjunction with our HTS tapping saddles but not limited to use with all threaded saddles. The ProDrill 45 will tap from 1" to 1.1/2" holes in all common pipe materials and comes as a complete kit, with cutters and connectors.

DESIGN FEATURES

- Compact and easy to operate.
- High quality drill made from Steel.
- Automatic control of drilling pressure via the adjustable spring.
- Will drill through any wall thickness.
- Air-valve and safety stop.

TECHNICAL DATA & STANDARDS

- Constructed from Steel and double zinc coated.
- Working stroke of 50mm.
- Total length of 220mm.
- Will tap into any pipe and will operate up to pressures of 16 bar water and 4 bar gas.

PARTS SHEET



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Part Number	Description
C101	Hole saw connector for 1".
C102	Hole saw connector for 1, 1/2"
C104	Mandrill for 1" hole saw
C105	Mandrill for 1, 1/2" hole saw
C106	AV Type hole saw 19mm (1")
C107	AV Type hole saw 37mm (1, 1/2")
C108	Tool for assembly/disassembly of extension rods.

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PRODRILL 20 - PIPE DRILLING MACHINE

APPLICATION

The ProDrill 20 pipe drilling machine for making connections in a water or gas supply network, ideal when used in conjunction with our HTS tapping saddles but not limited to use with all BSP threaded saddles or bossed clamps. The ProDrill 20 will tap from 3/4" to 2" holes in all common pipe materials and comes as a complete kit, with cutters, connectors and extension rods for added reach.

DESIGN FEATURES

- Compact and easy to operate.
- High quality drill made from Steel.
- Automatic control of drilling pressure via the adjustable spring.
- Will drill through any wall thickness.
- Air-valve and safety stop.

TECHNICAL DATA & STANDARDS

- Constructed from Steel and double zinc coated.
- Working stroke of 160mm.
- Total length of 450mm.
- Will tap into any pipe and will operate up to pressures of 10 bar water and 4 bar gas.

DESIGN FEATURES



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Part Number	Description
C105	Mandrel for hole saws from 1, 1/2" to 2".
C108	Tool for assembly and disassembly of extension rods.
C109	Mandrel for 1/2" drill bit.
C110	Hole saw connector for 1/2" drill bit.
C111	Pilot drill 6,35x70mm.
C112	Pilot drill with coupon catcher system 8mm.
C113	AV Type hole saw for steel & cast iron.
C114	TA Type hole saw for steel & cast iron.
C115	AT hole saw for non-iron materials.
C116	PE hole saw for polyethylene.
C117	Double hexagon plug carrier.
C118	Plug carrier mandrel up to 2".
C119	Male/female 350mm extension rod.
C120	Male/female 150mm extension rod.
C121	Male/female 50mm extension rod.
C123	Mandrel for hole saws 3/4" to 1,1/4"
C124	Pressure release valve/swarf drain off.
C125	Compensation spring.
C126	Non return valve.
C127	Safety release catch.

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PRODRILL 26 - PIPE DRILLING MACHINE

APPLICATION

The ProDrill 26 pipe drilling machine for making connections in a water or gas supply network, ideal when used in conjunction with our Q-Tee tapping saddles but not limited to use with all flanged saddles. The ProDrill 26 will tap from 2.5" to 6" holes in all common pipe materials and comes as a complete kit, with cutters, connectors, adaptor flanges and extension rods for added reach.

DESIGN FEATURES

- Compact and easy to operate.
- High quality drill made from Steel.
- Automatic control of drilling pressure via the adjustable spring.
- Will drill through any wall thickness.
- Air-valve and safety stop.
- Comes with DN80, DN100 and DN150 PN16 adaptor flanges - DN65 and DN125 available on request at additional cost.

TECHNICAL DATA & STANDARDS

- Constructed from Steel and double zinc coated.
- Working stroke of 500mm (with extension rods fitted).
- Total length of 450mm.
- Will tap into any pipe and will operate up to pressures of 16 bar water and 4 bar gas.

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PARTS SHEET



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PRODRILL 26 PART NUMBERS

Part Number	Description
C111	Pilot drill 6,35x70mm.
C112	Pilot drill with coupon catcher system 8mm.
C113	AV Type hole saw for steel & cast iron.
C114	TA Type hole saw for steel & cast iron.
C115	AT hole saw for non-iron materials.
C116	PE hole saw for polyethylene.
C117	Double hexagon plug carrier.
C118	Plug carrier mandrel up to 2".
C124	Pressure release valve/swarf drain off.
C126	Non return valve.
C127	Safety release catch.
C132	Pilot drill with coupon catcher 12mm with cylindrical stem.
C133	Pilot drill with coupon catcher 12mm with threaded stem.
C135	M46PS mandrel for AV-AT-PE hole saw, from 1,1/2" to 3".
C136	M45 mandrel for AV-AT-PE hole saw, from 1,1/4" to 1,1/2".
C137	M44 mandrel for AV-AT-PE hole saw, from 3/4" to 1,1/4".
C145	Tool to assemble/disassemble extensions.
C146	Compensation spring.
C147	Plug carrier mandrel over 2".
C148	Plug carrier mandrel with 10MA tang.
C149	Pilot drill 6,35x105mm.
C151	TAD type hole saw for steel & cast iron.
C162	3&4" hole saw cutter carrier with cylindrical tip seat.
C163	5&6" hole saw cutter carrier with cylindrical tip seat.
C164	3&4" hole saw cutter carrier with threaded tip seat.
C165	5&6" hole saw cutter carrier with threaded tip seat.
C166	Mandrel for precision hole saw from 1,1/2" to 3"
C167	Mandrel for precision hole saw from 1" to 1,1/4"
C168	Hexagonal mandrel for TA-TAD hole saw.
C266	Male/Female 250mm compoundable extension.

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FULL BORE BALL VALVE

APPLICATION

Full bore ball valves for isolating live connections or for isolation in a network. The male to female connection reduces travel for the drill, also due to the valve being full bore there is no loss of flow. Suitable for potable drinking water and rated to PN40.

DESIGN FEATURES

- Screwed BSP Parallel M/F Ends.
- PTFE Seats and Seals.
- Anti-Blow Out Stem.
- Locking Lever and Tee handle options available.
- WRAS approved.
- PN40 working pressure.
- Working Temperature -20*c to 150*c.

TECHNICAL DATA & STANDARDS

- Body/Body End: Brass/Nickel Plated.
- Seat: PTFE
- Ball: Brass/Chrome Plated.
- Stem: Brass.
- O-Rings: FP
- Lever: Steel/PVC-Plastic Coated.

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CASCADE WATERGATE LINE STOP SPECIFICATION SHEET

The Watergate line stop fittings and equipment can be used on all pipe types, please check with the manufacture if you are unsure of the suitability of your application.

SPECIFICATION:

Watergate Linetop Range	Max Pressure (bar/psi)	Black Carbide Tipped Starrett Cutter or equivalent required for HOLESAW (mm)	Line Stop Tolerance Pipe ID Range (mm)	Line Stop Tee Pipe O/D Range (mm)	Total Equipment Weight (kg)	Drilling Depths (mm)	Price (GBP/USD)
3"	12 bar (174psi)	76mm	76-94mm	88-130mm	31Kgs	59mm	?
4"	12 bar (174psi)	98mm	96-120mm	88-130mm	37Kgs	70mm	?
6"	12 bar (174psi)	140mm	140-172mm	170-180mm	57Kgs	95mm	?

All Watergate Line Stop Equipment Includes:

- Ratchet And Pressure Gauge
- Shaft
- Gearbox
- Rubber Stopper
- Bypass outlet and Ball Valve

Warranty Agreement

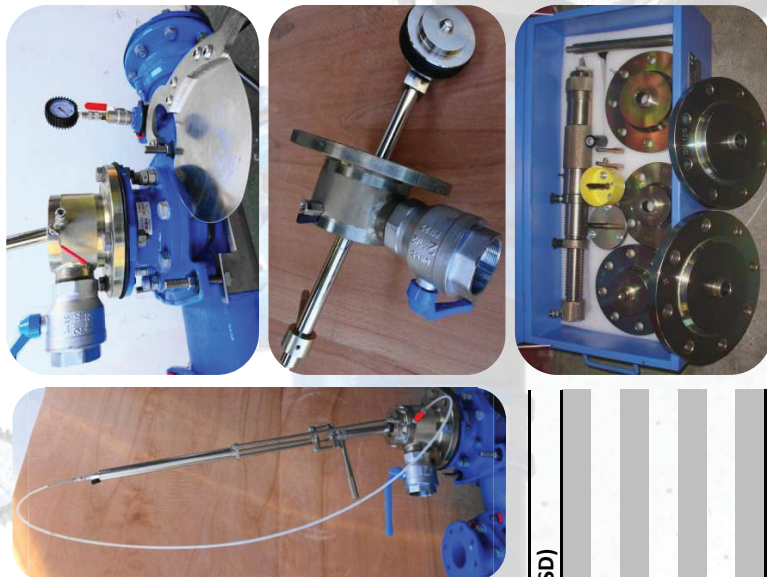
Watergate Line Stops are guaranteed for 12 months from the date of purchase for defects in materials, workmanship and assembly. The company reserves the right to replace it under warranty at its expense and at its headquarters, just the parts defective, after an examination of its technicians. Parts that are exempt from warranty are those that suffer normal wear and tear

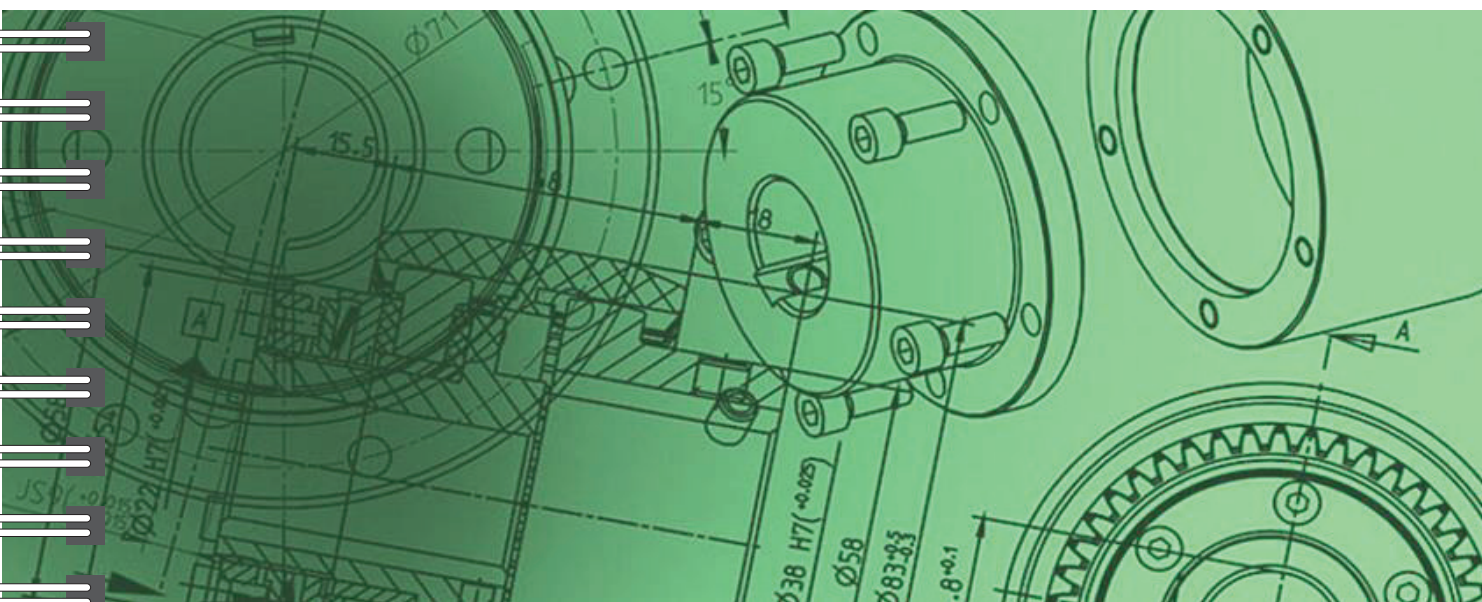
Warranty will not be granted if:

- If repairs were carried out with non-original parts, adapted or modified.
- the machine is modified or used in applications other than its natural use.
- The machine is used with any other line stop fittings other than the Watergate Q-Tee line stop fittings

COMPONENTS:

Component	Weight (Kgs)	Quantity	Price (GBP/USD)
3" Line Stop Tee	10Kgs (per ?)	52 units (per pallet)	
4" Line Stop Tee	14Kgs (per ?)	52 units (per pallet)	
3" and 4" Strap	24Kgs (per box)	50 straps (per box)	
6" Line Stop Tee	21Kgs (per ?)	24 units (per pallet)	
6" Line Stop Wide Strap	3.6Kgs (per unit)	1 (Packed Individually)	
Pro Drill26 with Case	44Kgs (per unit)	1	
Pro Drill26 (drill only)	10Kgs (per unit)	1	





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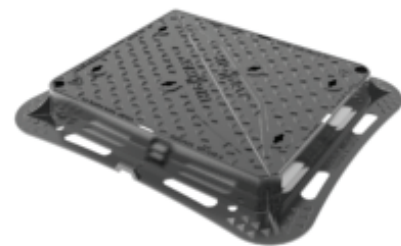
D400 SURFACE BOX

APPLICATION

D400 surface boxes for secure access to Fire Hydrants, Sluice Valves and Water Meters. These lightweight boxes offer strength and durability as well as as stability with a single piece cover.

DESIGN FEATURES

- For use in a Group 4 Class D400 Carriageway enviroment.
- All fully compliant with BS EN124:1994 and are kitemarked by BSI.
- Constructed from strong and highly durable ductile iron.
- Anti skid coating.



TECHNICAL DATA & STANDARDS

- Fully compliant to BS EN124: 1994.
- D400 load bearing.
- For more information and additional sizes please [click here](http://www.cascadeplc.co.uk).



COMPOSITE CHAMBER SYSTEM

OVERVIEW

The ecoNOMY® 100% recycled plastic chamber system has been designed to provide an environmentally friendly alternative to traditional pre-cast concrete products.

Predominantly used within the utilities sector as valve, hydrant and meter chambers, the ecoNOMY® product is a one-piece compression moulded chamber available in all industry standard sizes. The interlocking design allows each chamber section to locate securely to form a totally load bearing and free-standing chamber that has been independently tested to BSEN124 D400 loadings and fully complies with BS5834.

Chamber sections that are manufactured from traditional materials such as concrete can be extremely brittle and become damaged easily. The ecoNOMY® system WILL NOT crack, shatter or break during transportation, storage or installation.

Manufactured from 100% recycled PVC, which is processed in-house, makes these chambers not only lightweight and extremely durable but also environmentally friendly. Furthermore, the chambers can be easily cut or drilled on-site using hand tools or can be supplied from the factory complete with bespoke entries and exits to specific client requirements.



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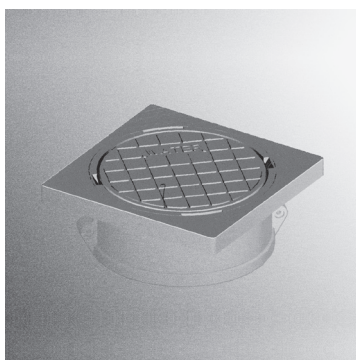
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MATRIX Below Ground Boundary Box Sealed Telescopic Plastic Raised Manifold



25/32mm PE Connections
Class 1.S.C

16 Bar pressure rating Grade C load bearing



Part Code	Connections	Shut Off	Manifold Style	Lid*
E8951	25mm PE	¼ Turn / Long Key	Raised / Plastic	TPSS
E9136	32mm PE	¼ Turn / Long Key	Raised / Plastic	TPSS
E9859	25mm PE	360° / Tee Head	Raised / Plastic	TPSS
E9884	32mm PE	360° / Tee Head	Raised / Plastic	TPSS

* Lid marked 'WATER' and incorporates metal detector plate

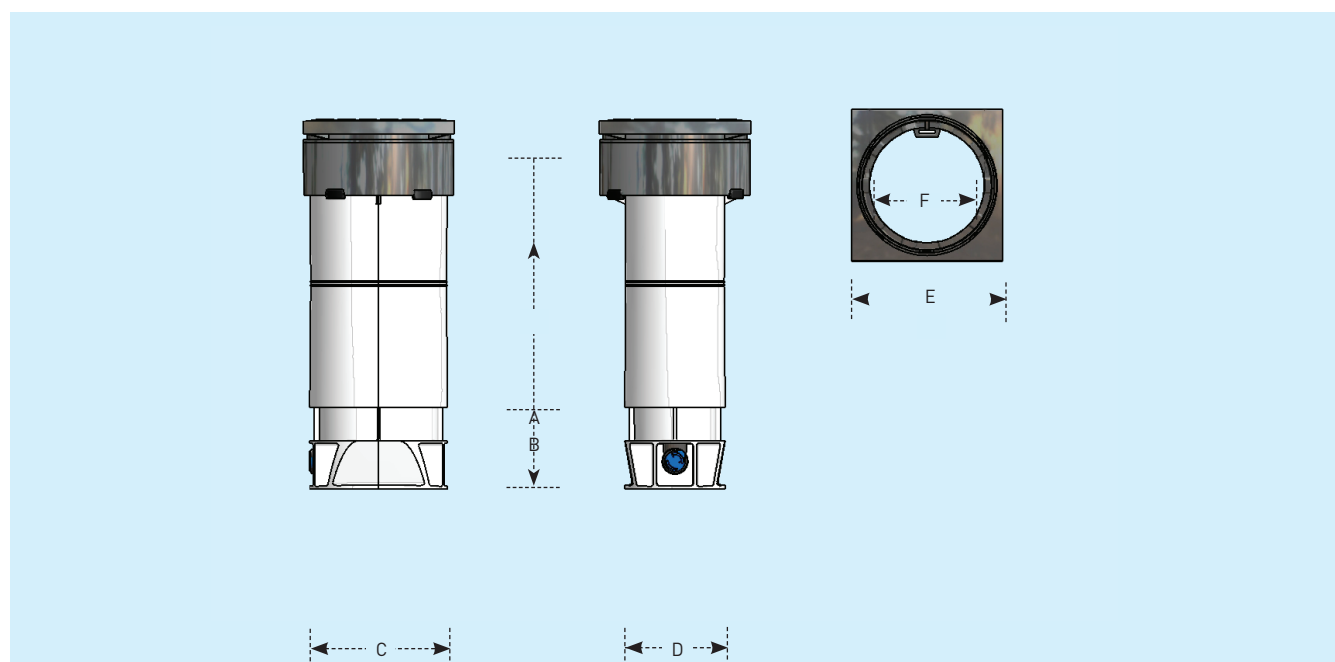
Key to Table Acronyms

TPSS: Tilt / Pluck / Swivel / Square

MATRIX Below Ground Boundary Boxes

25/32mm push fit Class 1.S.C.

Feature	Specification
Frame and Cover	Universal 8° tilt. Pluck lid. Square swivel plate. Lid tether as standard. Optional without swivel plate or lid tether. Glass Filled Polypropylene. Grade C load bearing according to WIS 4-37-01
Guard Tube Material	Mineral Filled Polypropylene
Guard Tube Profile	Stadium profile with 173mm x 116mm opening
Height Adjustment (apr.)	470mm to 870mm (inc. 50mm final height adjustment in surface box and 25mm guard tube overlap)
Frost Protection	As standard in accordance with WIS 4-37-01
Water Tightness	Watertight
Shut Off Device	¼ turn with long key or 360° with tee head
Non Return Valve	In accordance with WIS 5-11-01
Manifold	Raised style; Plastic (Acetal Co-Polymer)
Meter Connection	1½" BSP concentric meters up to Qn 2.5m³/hr
Head Loss	< 3 metres @ 25 l/min flowrate with meter
Inlet	25mm or 32mm push fit for PE pipe in accordance with WIS 4-32-11
Outlet	25mm or 32mm push fit for PE pipe in accordance with WIS 4-32-11
Blanking Plugs	Full Flow (standard), Trickle Flow (optional), No Flow (optional). 27/28mm tapered A/F hexagonal upstand
Product Weight (approx.)	4.5kg
Pallet Quantity	40 per pallet
Tools	APC00598: Lid pluck tool BOP77011: 27mm socket for meter plug and NRV BOP77008: Short T bar 400mm long BOP77009: T bar extension 500mm long



Box	A [min/max]	B	C	D	E	F
Matrix	470/870 mm	35 mm	208 mm	151mm	225 mm	173 mm

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MATRIX PLUS Below Ground Boundary Boxes

20/25/32mm and ½"/¾"/1" IHG push fit Class 1.S.C.

MATRIX PLUS

The Matrix Plus is the latest generation of the popular Matrix boundary box, incorporating all the benefits of previous models plus new features and improvements. It is a telescopic, self contained chamber system that is used to provide a safe and clean underground environment for concentric water meters. Its small, stable footprint makes it easy to install with minimal excavation. The fully sealed box is height adjustable and comes with a rotatable tilt lid to align with paving material and gradients. It comes with integrated pipe connections, isolating valve and meter carrier.

FEATURES

Now also available with a round guard tube (Matrix Plus R) in order to give more space inside the box to fit the latest automatic meter reading technology

ADVANTAGES

- ▮ **Reduced environmental impact**
guard tube made from recycled black polypropylene.
- ▮ **Improved ground retention**
to give greater stability and to give more space for feet to hold it down whilst making telescopic height adjustment.
- ▮ **Integrated holding clips**
on the surface box for greater reliability.
- ▮ **Optional NRV**
to eliminate overpressure in the box, to make lid levelling easy.
- ▮ **Optional Grade B surface box**
with rotatable square trim for installation in paved areas.
- ▮ **Meets new standard**
BS 5834-1:2017
- ▮ **Improved point load resistance**
more ductile material in the guard tube protects against damage from loading from sharp stones in the soil.
- ▮ **Improved design**
to ensure performance of seals and retention of manifold.



APPLICATIONS



House connection

ROUND PROFILE OPTION



USES

- ▮ Provides a clean underground environment for concentric water meters
- ▮ Enables easy meter reading.
- ▮ Allows for water shutoff to the property



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MATRIX DOUBLE BOUNDARY BOX



Flexible connection system - Boxes are available with either Talbot Pushfit connectors or PE tails. The double box has one 32mm inlet and two 25mm or 32mm outlets. The twin box has two 25mm inlets and two 25mm or 32mm outlets. All types have horizontal swivel connections to provide flexibility on site.

Upper Chamber –

Stadium shape provides easy access to the meter and valve assemblies.

Lower Chamber and

Base – Houses the service pipe Pushfit connections or tails as well as the meter manifolds with integrated check valves and stop valves.

Ease of installation –

The oval surface box has a rectangular flange that makes reinstatement easy. It has up to 6° of tilt making alignment with paving materials and gradients simple. the box is also available without the rectangular flange for installation in tarmac areas.

16 bar pressure rating -

The 16 bar pressure rating not only exceeds the 8-10 bar normal working pressure, it also exceeds the typical 12.5 bar pressure rating of the pipe.



WATER METERS

OVERVIEW

As an approved distributor of Honeywell & ARAD products Cascade are please to offer, quality industry standard water meters and associated products for all applications



M210

The M210 Elster water meter is the newest and most advanced of residential water meters, it offers electronic sensing of rotor speed, integrated EMERIS(R) radio technology. An additional option to this meter is integrated air detection which is required in dry regions.

V200/V210 HYBRID METER

By upgrading the leading V200 and V210 range of volumetric water meters with integrated electronic registers, incorporating advanced data features and radio communication, Elster combines its latest flow measurement technology with Smart Metering functionality, producing a hybrid solution that enables utilities to focus more effectively on water resource management and consumer engagement. Both meters are available in a range of sizes covering a wide range of flow rates.



H4000P

The H4000P is a Woltmann-type meter designed for measuring bulk flows of cold potable water for revenue billing in commercial or industrial applications and distribution system monitoring. Available in sizes 40mm to 300mm for flow rates of between 0.35m³/h and 2000m³/h.

For more on the range and downloadable Data Sheets click here

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FERRULE STRAPS

OVERVIEW

EBCO Bronze Self Tapping Ferrule Straps for PE, PVC and AC mains pipe incorporate an integral ferrule with a self contained cutter, eliminating the need for drilling machines. Straps are made from aluminium bronze or gunmetal or a combination of aluminium bronze or gunmetal and plastic making the product durable and corrosion resistant. The strap also uses a specially designed cutter, which tests show greatly reduces the risk of bursting a PVC main or creating a swarf blockage whilst cutting. Aluminium bronze straps have the added benefit of reduced weight.

DESIGN FEATURES

No Special Equipment or Conditions Needed

The fitting has an integral cutter and requires only a spanner and standard ferrule key to install and carry out the drilling operation, dry or under pressure and in wet and congested trench conditions making it a viable alternative to electrofusion.

Integral Cutter

The integral cutter is designed to greatly reduce the risk of fracturing PVC pipe during the drilling procedure. Its design also reduces the chance of swarf blockage whilst tapping by retaining the polyethylene/PVC slug. The cutter also provides a shut off facility once the tapping has been made.

Range of Outlets

The EBCO Self Tapping Ferrule Strap can be supplied with a variety of banjo outlet types to suit Copper, Male Threaded and PE pipe (both Barrier pipe for use in contaminated land sites and conventional PE pipe).

EBCO Banjo Outlet Types and Assembly Instructions

The range of EBCO Self Tapping Ferrule Straps can supply outlet types to suit a wide range of service pipe material and in a range of sizes.

Outlet Types

Fittings for PE Barrier pipe, 20mm (1/2") to 63mm (2") - EBCO-C
Fittings for metric and imperial PE pipe, 20mm (1/2") to 63mm (2") - EBCO-B
Fittings for steel threaded pipe, 1/2" to 2" BSP - Pipe
Fittings for copper pipe, 15mm to 54mm - EBCO-S

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ELECTROFUSION FITTINGS

APPLICATION

Due to our extensive offering, some fittings within our range may have a lower maximum operating pressure than quoted above. For the most up to date pressure ratings, product approval and welding compatibility, please refer to the fitting's packaging or contact Cascade for more information.

DESIGN FEATURES

Our range of saddle fittings have been specifically designed with a universal integral cutter and NBR O-ring seal which are approved for use in gas and water applications.

Manufactured from high performance PE100 our saddle fittings are designed with a Unifit of pipe diameters, considerably reducing the need to carry additional stocks of fittings.

Quick and easy to install, our saddle fitting solutions are available with a 32 or 63 mm outlet, in diameters 40 mm to 560 mm.

TECHNICAL DATA & STANDARDS

- A range of universal fittings suitable for gas, water and wastewater applications
- Manufactured from high strength polyethylene
- Exposed wire technology for maximum heat transfer during the fusion process
- Patented Easigrip® technology for large diameter
- Fittings for ease of handling during installation
- Simultaneous socket fusion for all fittings

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PUDDLE FLANGE APPLICATION

Quick and easy to install, our range of Puriton® mechanical fittings for service pipes are manufactured from polypropylene and supplied with integral inserts, grip rings and O-ring seals for maximum contamination protection. The system is easy to construct with no requirement for pipe surface preparation and no need to post-wrap the joint after installation.

Fitting diameter	25 mm	32 mm	63 mm
Grip ring colour	Blue	Blue	Grey
Insert colour	Black	Black	White

Couplers



Diameter mm	Pack quantity	Product code
25	1	XR5244
32	1	XR5245
63	1	XR5251

Equal tees



Diameter mm	Pack quantity	Product code
25	1	XR5247
32	1	XR5248
63	1	XR5253

90° elbows



Diameter mm	Pack quantity	Product code
25	1	XR5249
32	1	XR5250
63	1	XR5252

Reducers



Diameter mm	Pack quantity	Product code
32 x 25	1	XR5246
63 x 25	1	XR5257
63 x 32	1	XR5254

Female adaptors



Diameter mm	Pack quantity	Product code
25 x 3/4"	1	XR5240
32 x 3/4"	1	XR5241
32 x 1"	1	XR5242
63 x 2"	1	XR5260

Male adaptors



Diameter mm	Pack quantity	Product code
25 x 3/4"	1	XR5235
32 x 3/4"	1	XR5236
32 x 1"	1	XR5237
63 x 1 1/2"	1	XR5258
63 x 2"	1	XR5259

C ring wrenches



Pipe diameter	Pack quantity	Product code
25-32 mm	1	XR4998
63 mm	1	XR4999

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BARRIERLINE PIPE SYSTEM

APPLICATION

The barrier pipe system of choice for your new or replacement drinking water supply, Barrierline is a cutting edge solution for the safe distribution of drinking water through contaminated land.

The Barrierline system consists of a multi-layer composite structure pipe, which combines the unique characteristics of polyethylene with the exceptional barrier properties of aluminium, and a range of specifically designed fittings to suit the pipe. The system is quick and easy to install and is designed to provide a high level of protection against soil contaminants commonly found in brownfield sites.



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TECHNICAL DATA & STANDARDS

Application	Drinking water in contaminated land	
Pipe Material	Polyethylene & Aluminium	
Pipe Colour	Light Blue / Dark Blue	
Diameter Range	25mm to 180mm	Bespoke: No
SDR	11 and 17	Bespoke: No
Max Operating Pressure	16 bar	
Lengths	6 m, 12 m, 50 m, 100 m	Bespoke: Yes
Compliance / Approvals	BS 58588, WIS 4-32-19, WRAS	
Approved Fittings & Jointing Techniques	Puriton® plastic mechanical fittings Puriton® electrofusion fittings Puriton® gun metal tapping tees Redman™ hydraulic compression fittings	
Suitability	New installations Pipe replacement Pipe rehabilitation	
Jointing Techniques	Mechanical jointing Electrofusion Mechanical hydraulic compression	
Jointing Equipment	C ring wrenches, electrofusion control box, Redman hydraulic pump	
Installation Techniques	Open-cut Slip lining Directional drilling	

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PE100 BLACK POTABLE WATER PIPE

APPLICATION

PE100 High Density Polyethylene (HDPE) pipe - For potable water above ground, pumped & pressurised gravity sewer systems and hydroelectricity applications. Manufactured from conventional PE100 (HDPE) material, the solid wall polyethylene black pipes are ideal for potable and non-potable water applications, specifically for pumped and gravity sewer and hydroelectricity purposes. With the capability to manufacture bespoke diameters up to 1200mm as well as non-standard lengths and SDRs, our polyethylene pipes are ideal for use in pipe rehabilitation projects, as a liner for damaged metallic pipelines. Strong, lightweight and flexible, the pipes can be joined together using standard electrofusion or butt-fusion jointing techniques.

TECHNICAL DATA & STANDARDS

Application	<ul style="list-style-type: none"> • Potable water above ground • Pumped & pressurised gravity sewer systems • Hydroelectricity applications 	
Pipe Material	Polyethylene	
Pipe Colour	Black	
Diameter Range	20mm to 1200mm	Bespoke: Yes
SDR	9 to 41	Bespoke: Yes
Max Operating Pressure	16 bar	
Lengths	6m to 100m	Bespoke: Yes
Jointing Techniques	<ul style="list-style-type: none"> • Electrofusion • Butt fusion 	
Jointing Equipment	GZ0041 - BEAD GAUGE FOR BUTT FUSION	

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CASPLAS PE COMPRESSION RANGE

APPLICATION

CASPLAS mechanical compression fittings and accessories are designed for use with PE pipe and the conveyance of potable water, fluids and slurries under high pressures. Polyethylene pipes with compression fittings are one of the most widely used systems for above and below ground pipe installations. CASPLAS Compression fittings are manufactured to the highest quality and are regularly tested and approved by the main testing institutes and certification bodies.

DESIGN FEATURES

- Quality

Cascades commitment to quality is reflected by our operation of an independently assessed quality management system EN ISO 9001.

- Materials

Body - High performance Polypropylene Copolymer
Nut – High performance Polypropylene Copolymer
Insert – High performance Polypropylene Copolymer
O-Ring – Nitrile Rubber (NBR)
Split Ring – Acetal (POM)



TECHNICAL DATA & STANDARDS

- The CASPLAS PE Compression range has been tested and approved by the following testing institutes and certification bodies.



CERTIFICATION MARK

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AMAGRIP PUSHFIT END-RESTRAINT

APPLICATION

The Amagrip range of pushfit fittings for use on PE pipe, WRAS approved for contact with drinking water. Amagrip is a **TYPE 1** fitting and has a PWP of 16 bar.

DESIGN FEATURES

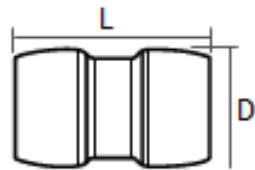
- Simple, quick and reliable.
- **No** nuts & bolts to tighten.
- **No** anti corrosive wrapping required.
- **Type 1** fitting - meaning the pipe will fail before the fitting does (**No insert required**).
- Can be easily installed in any condition/environment.
- Available in size up to 250mm.
- Constructed from a tough and durable Polypropylene Copolymer.

TECHNICAL DATA & STANDARDS

- Body made from Polypropylene Copolymer to BA160E 8229-01.
- EPDM Gasket - APE70
- Grip Ring - POM+GF (Polyoxymethylene + Glass Fiber) lupital F42025.
- WRAS approval numbers: 1405552 - 1406515 - 1506501.
- Manufactured to the following standards - UNI 9561 - ONORM 14236 - DVGW GW 335-B3(P) DIN 8076:2008.

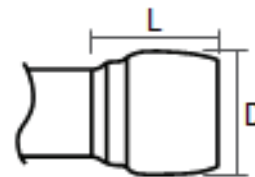
AMAGRIP RANGE

Coupling



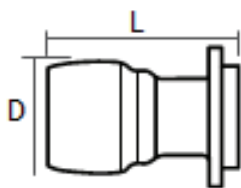
Nominal Bore	PN	D(mm)	L(mm)
63mm	16	96	180
75mm	16	112	200
90mm	16	134	220
110mm	16	162	240
125mm	16	179	253
140mm	16	190	272
160mm	16	220	298
180mm	16	240	308
200mm	10	260	350
225mm	10	285	380
250mm	10	314	400

Socket



Nominal Bore	PN	D(mm)	L(mm)
90mm	16	134	146
110mm	16	162	164
125mm	16	179	176
140mm	16	190	190
160mm	16	220	215
180mm	16	240	230
200mm	10	260	258
225mm	10	285	275
250mm	10	314	400

Flange Adaptor



Nominal Bore	PN	DN	D(mm)	L(mm)
90mm	16	100	134	210
110mm	16	100	162	230
125mm	16	100	179	240
140mm	19	125	190	270
160mm	16	150	220	290
180mm	16	150	240	320
200mm	10	200	260	350
225mm	10	200	285	370
250mm	10	250	314	390

Available on request



90 Degree Bend



End Cap



Equal Tee



45 Degree Bend



Reducer Coupling



Reducer Tee

Amagrip Insertion Tool - for easy connections
Available on request.

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WIDE TOLERANCE FLANGE ADAPTOR

APPLICATION

Wide tolerance Flange Adaptors have 40% more range than most standard adaptors, meaning they can cover odd sizes and pipes with ovality. These can be used on Cast, Ductile, Steel, PVC, ABS and Asbestos Cement pipes and have a working pressure of 16 bar.

DESIGN FEATURES

- Wide range of diameters covering 60mm to 1477mm.
- PN10/PN16 operating pressures.
- Large tolerance allows for odd diameter and oval pipes.
- Large bodies and wide gaskets improve performance.
- Can be supplied with A2 or A4 grade stainless steel bolts, nuts and washers (On request).

TECHNICAL DATA & STANDARDS

- Flange Specifications: According to BS EN1092-2 PN10/PN16, ANSI up to DN400, According to BS 4504 Part 3.
- Body and end ring DN50-DN800 constructed of GGG-50 - DN900 to DN1400 constructed of Steel to EN 1025, EN 1514 and BS 6920.
- Flanges: EN 1025, EN 1514 and BS 6920.
- WRAS approved EPDM gasket.
- Akzo Nobel R4-ES WRAS approved Fusion Bonded Blue Epoxy.
- Torque settings: DN50 to DN350 inclusive 55Nm Max. - DN400 to DN1400 inclusive 95Nm Max.

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WIDE TOLERANCE FLANGE SIZES



Manufacturers & Suppliers of Pipe Fittings

Part Number	DN	MM	L1 MM	L2 MM
13-DN050	50	60-80	145	192
13-DN065	60/65	70-90	145	200
13-DN080	80	88-113	150	223
13-DN100	100	107-132	125	242
13-DN125	125	133-159	140	269
13-DN150	150	159-184	175	296
13-DN175	175	165-195	183	317
13-DN200-A	200	194-226	183	354
13-DN200	200	216-246	183	368
13-DN250-A	250	244-276	158	400
13-DN250	250	266-297	158	419
13-DN300	300	315-345	158	469
13-DN300-A	300	345-375	200	499
13-DN350	350	375-405	200	529
13-DN400	400	400-435	209	565
13-DN400-A	400	435-470	298	600
13-DN450	450	475-510	298	640
13-DN500-A	500	499-534	208	665
13-DN500	500	530-565	208	695
13-DN500-B	500	575-610	208	695
13-DN600	600	610-645	208	775
13-DN600-A	600	645-680	298	810
13-DN700	700	710-745	220	910
13-DN800	800	810-845	225	1025
13-DN900	900	913-949	200	1115
13-DN1000	1000	1016-1052	200	1230
13-DN1100-A	1100	1108-1133	200	1340
13-DN1100	1100	1142-1167	200	1340
13-DN1200-A	1200	1209-1234	200	1455
13-DN1200	1200	1245-1270	200	1455
13-DN1400-A	1400	1412-1437	200	1675
13-DN1400	1400	1452-1477	200	1675

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WIDE TOLERANCE COUPLINGS & STEP COUPLINGS

APPLICATION

Wide tolerance Couplings have 40% more range than most standard Couplings, meaning they can cover odd sizes and pipes with ovality. These can be used on Cast, Ductile, Steel, PVC, ABS and Asbestos Cement pipes and have a working pressure of 16 bar.

DESIGN FEATURES

- Wide range of diameters covering 60mm to 1477mm.
- PN10/PN16 operating pressures.
- Large tolerance allows for odd diameter and oval pipes.
- Large bodies and wide gaskets improve performance.
- Can be supplied with A2 or A4 grade stainless steel bolts, nuts and washers (On request).

TECHNICAL DATA & STANDARDS

- Body and rings DN50-DN800 constructed of GGG-50 - DN900 to DN1400 constructed of Steel to EN 1025, EN 1514 and BS 6920.
- Angular deflection of 6° Max.
- WRAS approved EPDM gasket.
- Akzo Nobel R4-ES WRAS approved Fusion Bonded Blue Epoxy.
- Torque settings: DN50 to DN350 inclusive 55Nm Max. - DN400 to DN1400 inclusive 95Nm Max.

WIDE TOLERANCE COUPLINGS SIZES

Standard Coupling Sizes				
Part Number	DN	Ø mm	L1 mm	L2 mm
12-DN050	50	60-80	186	190
12-DN065	60-65	70-90	186	200
12-DN080	80	88-113	186	223
12-DN100	100	107-132	186	242
12-DN125	125	133-159	206	269
12-DN150	150	159-184	206	296
12-DN175	175	165-195	222	317
12-DN200-A	200	194-226	222	348
12-DN200	200	216-246	222	368
12-DN2502-A	250	244-276	242	398
12-DN250	250	266-297	242	419
12-DN300	300	315-345	242	469
12-DN300-A	300	345-375	242	499
12-DN350	350	375-405	242	529
12-DN400	400	400-435	292	565
12-DN400-A	400	435-470	292	600
12-DN450	450	475-510	292	640
12-DN500-A	500	499-534	292	665
12-DN500	500	530-565	292	695
12-DN600	600	610-645	292	775
12-DN600-A	600	645-680	292	810
12-DN700	700	710-745	300	895
12-DN800	800	810-845	300	995
12-DN900	900	913-949	300	1115
12-DN1000	1000	1016-1052	300	1218
12-DN1100-A	1100	1108-1133	300	1299
12-DN1100	1100	1142-1167	300	1333
12-DN1200-A	1200	1209-1234	300	1400
12-DN1200	1200	1245-1270	300	1436
12-DN1400-A	1400	1412-1437	300	1603
12-DN1400	1400	1452-1477	300	1643
Step Coupling Sizes				
Part Number	DN	Ø1 / Ø2 mm	L1 mm	L2mm
14-DN200	200	194-226 / 216-246	255	368
14-DN250	250	244-276 / 266-297	255	419
14-DN300	300	315-345 / 345-375	255	499
14-DN350	350	375-405 / 400-435	295	565
14-DN400	400	400-435 / 435-470	302	600
14-DN450	450	475-510 / 530-565	302	695
14-DN500	500	499-534 / 530-565	302	695
14-DN500-A	500	530-565 / 575-610	302	695

Units 32-37, Vinehall Rd,
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Robertsbridge
TN32 5JW
01424 777102



SUPAFIT COUPLINGS & FLANGE ADAPTORS

APPLICATION

The SupaFit range of couplings and flange adaptors are suitable for most common pipe materials like Cast, Ductile, A/C, and Steel. The SupaFit range can be used on potable and waste water applications and has a working pressure of up to 16 bar.

DESIGN FEATURES

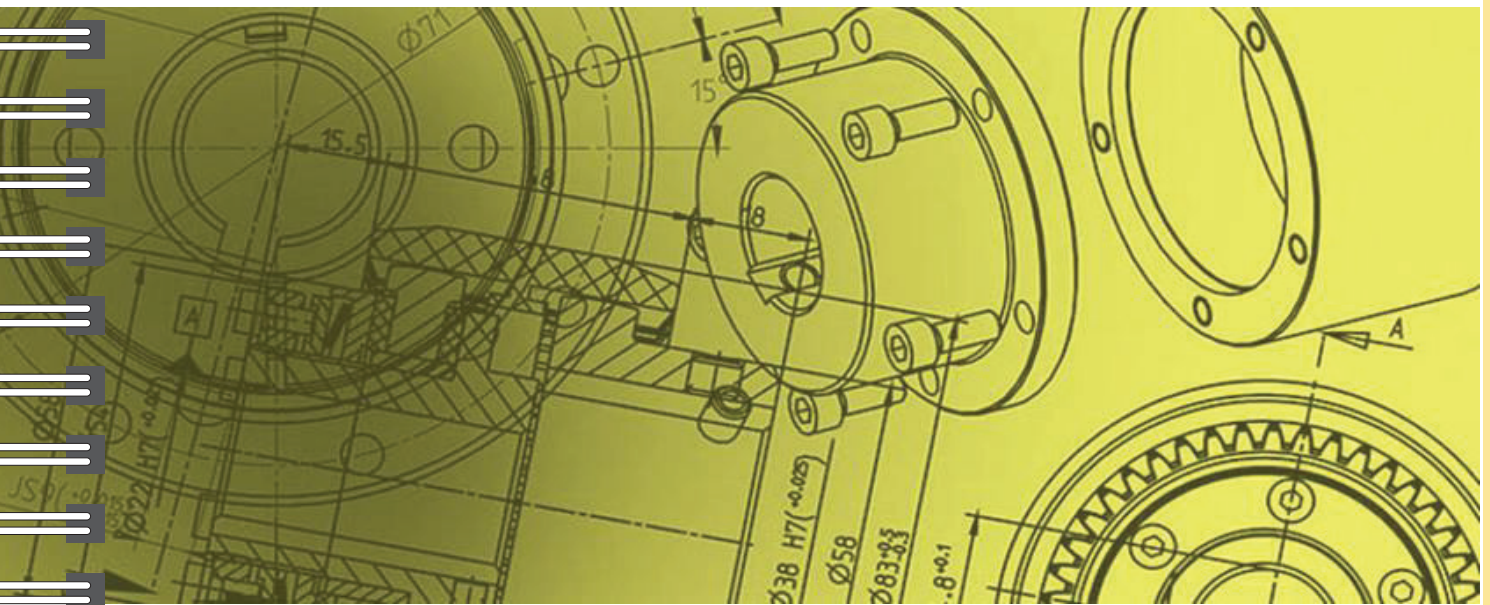
- Range is made up of flange adaptors & couplings in both standard and reducing sizes covering diameters from DN250 to DN2400 PN16 - can also be made to specific sizes +7mm / -7mm from the OD provided.
- Suitable for use on potable water and waste, can be supplied with EPDM or NITRILE gaskets to suit application.
- Coating to suit application, Fusion Bonded Blue Epoxy for potable water, and Red oxide for waste water.
- 3* of angular deflection.
- Range will allow for large steps/reductions in pipe sizes.

TECHNICAL DATA & STANDARDS

- Body & Rings made from Steel S235JR acc. to DIN-1.0037.
- Flanges acc. to PN-EN 1092-1.
- Steel bolts 8.8 grade, Stainless Steel or hot dip galv on request.
- WRAS approved blue epoxy coating.
- WRAS approved EPDM gasket.

Units 32-37, Vinehall Rd,
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END RESTRAINT FITTINGS



Units 32-37, Vinehall Rd,
VINEHALL BUSINESS CENTRE,
Robertsbridge
TN32 5JW
01424 777102



WAGA END RESTRAINT FLANGE ADAPTOR

APPLICATION

WAGA End Restraint Flange Adaptor for joining of plain ended pipe, made from common materials such as PE, PVC, Steel, Cast & Ductile Iron and Asbestos Cement to a PN16 flange. The WAGA end restraint gripper teeth provide a secure hold on the main preventing movement under pressure, these fittings are rated to 16 bar and are fully WRAS approved.

DESIGN FEATURES

- Constructed from GGG-40 ductile cast iron.
- Will join most common pipe materials.
- Suitable for use on Drinking and Waste Water applications.
- Multi joint segmented gripper system and gasket ensure a firm hold and tight seal on the pipe.
- WAGA fittings can be submersed in seawater for outlet and under water applications.
- Angular deflection of 8*.

TECHNICAL DATA & STANDARDS

- Body & rings constructed from GGG45 ductile cast iron EN-GJS-450-10 HB200 to EN1563.
- Uni Fiksers ring made from POM and polyimide with steel teeth providing end restraint properties on water to 16 bar.
- Stainless Steel fixings to AISI 304, A2 quality conforming to DIN 1.4301, ISO 683/13 11.
- Coating - RESICOAT RT 9000 R4 (Red) - WRAS approved - impact resistant.
- EPDM rubber seals - WRAS approved.

Units 32-37, Vinehall Rd,
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WAGA END RESTRAINT SIZES



Part Number	Size Description
FEL050	2" Flange Adaptor Range 46-71mm
FEL065	2.5" Flange Adaptor Range 63-90mm
FEL080	3" Flange Adaptor Range 84-105mm
FEL100	4" Flange Adaptor Range 104-132mm
FEL125	5" Flange Adaptor Range 132-155mm
FEL150	6" Flange Adaptor Range 154-192mm
FEL200	8" Flange Adaptor Range 192-232mm
FEL225 (DN200)	9" Flange Adaptor Range 230-268mm (DN200 PN16 Flange)
FEL225 (DN250)	9" Flange Adaptor Range 230-268mm (DN250 PN16 Flange)
FEL250	10" Flange Adaptor Range 267-310mm
FEL300	12" Flange Adaptor Range 315-356mm
FEL350	14" Flange Adaptor Range 352-393mm
FEL400	16" Flange Adaptor Range 392-433mm
FEL450	18" Flange Adaptor Range 450-482 (DN400 PN16 Flange)
FEL500	20" Flange Adaptor Range 500-532mm
FEL550	22" Flange Adaptor Range 548-580mm
FEL600	24" Flange Adaptor Range 605-637mm

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www.cascadeplc.co.uk



WAGA END RESTRAINT COUPLING

APPLICATION

WAGA End Restraint Couplings for the joining all common pipe materials such as PE, PVC, Steel, Cast & Ductile Iron and Asbestos Cement. The WAGA couplings end restraint gripper teeth provide a secure hold on the main preventing movement under pressure, these fittings are rated to 16 bar and are fully WRAS approved.

DESIGN FEATURES

- Constructed from GGG-40 ductile cast iron.
- Will join most common pipe materials.
- Suitable for use on Drinking and Waste Water applications.
- Multi joint segmented gripper system and gasket ensure a firm hold and tight seal on the pipe.
- WAGA fittings can be submersed in seawater for outlet and under water applications.
- Angular deflection of 8*.

TECHNICAL DATA & STANDARDS

- Body & rings constructed from GGG45 ductile cast iron EN-GJS-450-10 HB200 to EN1563.
- Uni Fiklers ring made from POM and polymide with steel teeth providing end restraint properties on water to 16 bar.
- Stainless Steel fixings to AISI 304, A2 quality conforming to DIN 1.4301, ISO 683/13 11.
- Coating - RESICOAT RT 9000 R4 (Red) - WRAS approved - impact resistant.
- EPDM rubber seals - WRAS approved.

Units 32-37, Vinehall Rd,
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Robertsbridge
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Part Number	Size Description
CEL050	2" Coupling Range 46-71mm
CEL065	2.5" Coupling Range 63-90mm
CEL080	3" Coupling Range 84-105mm
CEL100	4" Coupling Range 104-132mm
CEL125	5" Coupling Range 132-155mm
CEL150	6" Coupling Range 154-192mm
CEL200	8" Coupling Range 192-232mm
CEL225	9" Coupling Range 230-268mm
CEL250	10" Coupling Range 267-310mm
CEL300	12" Coupling Range 315-356mm
CEL350	14" Coupling Range 352-393mm
CEL400	16" Coupling Range 392-433mm
CEL425	16" Coupling Range 432-464mm
CEL450	18" Coupling Range 450-482mm
CEL475	18" Coupling Range 481-513mm
CEL500	20" Coupling Range 500-532mm
CEL550	22" Coupling Range 548-580mm
CEL600	24" Coupling Range 605-637mm

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Cascade

Manufacturers & Supplies of Pipe Fittings

Competent customer service

The connection for all pipe diameters
Restraint - non restraint
DN50 - DN600

Maintenance and repair

Georg Fischer Waga N.V. is the connection technology specialist, offering a complete range of products that have been used in the water and gas market for already many years. No matter how complicated your connection problem seems, we offer you a solution when it comes to connecting, repairing, tapping and additional spare parts.

MULTI/JOINT®

3000 Plus

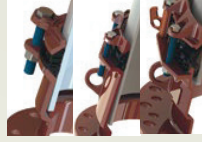
MULTI/JOINT®

3000 Plus

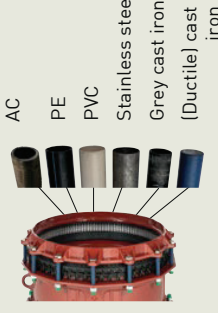
Specifications:

- May be used on all pipe materials
- Clamp ring: Ductile cast iron GGG45 in accordance with EN-GJS-450-10
- Coating: Resiboat epoxy powder coating. Minimum layer thickness 250 micron in accordance with the GSK-register
- Bolts and nuts: Stainless steel A2 (AISI 316) or stainless steel A4 (AISI 316)
- 316 Bolts are PTFE coated, nuts are galvanised and passivated to prevent galling
- Nominal angularity: max +8° (flange adaptor), max +16° (coupling)
- Working temperature (PFA): Non restraint - 25 bar water/ 8 bar gas
- Restraint - 16 bar water / 8 bar gas
- Reusable
- Applications: above and below ground
- All couplings delivered hygienically packed
- Flanges DN350-DN600 PN10 / PN16 drilled
- Certificates: EN 14525, WRAS

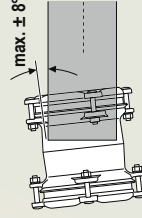
Sealing system



Suitable for all pipe materials



Nominal angularity*



* based on the middle of the range

Insert stiffener

In case of connecting PE or PVC pipes, install an insert stiffener.



MULTI//JOINT® 3057 Plus -
Flange Adaptor Restraint



dim. (DN)	Range (mm)	Drilling Pattern	EPDM/A2 GF Code
500DN50	46-71	PN16	709355610
650DN65	63-90	PN16	709355612
800DN80	84-105	PN16	709355614
1000DN100	104-132	PN16	709355616
1250DN125	132-155	PN16	709355618
1500DN150	154-192	PN16	709355620
2000DN200	192-232	PN10	709355624
2000DN200	192-232	PN16	709355625
2500DN250	267-310	PN10	709355628
2500DN250	267-310	PN16	709355629
3000DN300	315-356	PN10	709355632
3000DN300	315-356	PN16	709355633
3500DN350	352-393	PN10	709355636
3500DN350	352-393	PN16	709355637
4000DN400	392-433	PN10	709355638
4000DN400	393-433	PN16	709355639
5000DN500	500-532	PN10/16	709355674
5500DN550	548-580	PN10/16	709355676
6000DN600	605-637	PN10/16	709355678

MULTI//JOINT® 3407 Plus -
Bend Restraint



dim. (DN)	Range (mm)	EPDM/A2 GF Code
80	84-105	709475614
100	104-132	709475616
150	154-192	709475620

MULTI//JOINT® 3157 Plus -
Reduced Flange Adaptor
Restraint



dim. (DN)	Range (mm)	Drilling Pattern	EPDM/A2 GF Code
500DN40	46-71	PN16	709455608
650DN80	63-90	PN16	709455618
1000DN80	104-132	PN16	709455624
1250DN100	132-155	PN16	709455632
1250DN150	132-155	PN16	709455638
1500DN100	154-192	PN16	709455636
2000DN150	192-232	PN16	709455639
2250DN200	230-268	PN16	709455679
2250DN250	230-268	PN16	709455681
3000DN250	315-356	PN10	709455686
3000DN250	315-356	PN16	709455687
3500DN300	352-393	PN10	709455684
3500DN300	352-393	PN16	709455685
4500DN400	450-482	PN10/16	709455692

MULTI//JOINT® 3457
Plus - Reduced Duckfoot
Restraint



dim. (DN)	Range (mm)	Drilling Pattern	EPDM/A2 GF Code
50-80	46-72	PN16	709495618
65-80	63-90	PN10	709495636
65-80	63-90	PN16	709495630
80	84-105	PN16	709485608
100-80	104-132	PN16	709495623
125-80	132-155	PN10	709495661
125-80	132-155	PN16	709495648
150-80	154-192	PN10	709495673

MULTI//JOINT® 3207 Plus - End Cap threaded Restraint



dim. (DN)	Range (mm)	Rp inch	EPDM/A2 GF Code
50	46-71	3/4"	709385604
65	63-90	3/4"	709385609
65	63-90	1"	709385610
80	84-105	3/4"	709385614
100	104-132	3/4"	709385619
125	132-155	3/4"	709385624
150	154-192	3/4"	709385629
200	192-232	3/4"	709385634
225	230-268	3/4"	709385649
250	267-310	3/4"	709385639
300	315-356	3/4"	709385644
400	392-433	3/4"	709385654
50	46-71	2"	709385608
65	63-90	2"	709385613
80	84-105	2"	709385618
100	104-132	2"	709385623
125	132-155	2"	709385628
150	154-192	2"	709385633
200	192-232	2"	709385638
225	230-268	2"	709385653
250	267-310	2"	709385643
300	315-356	2"	709385648
400	392-433	2"	709385658

+ Other dimensions available.

MULTI//JOINT® 3207 Plus - End Cap Restraint



dim. (DN)	Range (mm)	EPDM/A2 GF Code
50	46-71	709375610
65	63-90	709375612
80	84-105	709375614
100	104-132	709375616
125	132-155	709375618
150	154-192	709375620
200	192-232	709375624
225	230-268	709375626
250	267-310	709375628
300	315-356	709375632
400	392-433	709375634

+ Full catalogue available at www.gfps.com/uk

Insert Stiffener Economy

In case of connecting PE or PVC pipes, install an insert stiffener



Insert Stiffener Economy without wedge



Insert Stiffener with wedge

+ Other dimensions available.

d x e	SDR	GF Code	GF Code
50 x 4.6	SDR 11	709026203	-
50 x 2.9	SDR 17.6/17	709026206	-
63 x 5.8	SDR 11	709026211	-
63 x 3.6	SDR 17.6/17	709026214	-
75 x 6.8	SDR 11	709026220	-
75 x 4.3	SDR 17.6/17	709026223	-
90 x 8.2	SDR 11	709026230	-
90 x 5.2	SDR 17.6/17	709026233	-
110 x 10	SDR 11	709026242	-
110 x 6.3	SDR 17.6/17	709026245	-
125 x 11	SDR 11	709026254	-
125 x 7.2	SDR 17.6/17	709026257	-
140 x 13	SDR 11	709026266	-
140 x 8	SDR 17.6/17	709026269	-
160 x 15	SDR 11	709026278	-
160 x 9.1	SDR 17.6/17	709026281	-
180 x 16	SDR 11	709026290	-
180 x 11	SDR 17	709026408	-
180 x 10	SDR 17.6	709026293	-
200 x 18	SDR 11	709026302	-
200 x 12	SDR 17	709026409	-
200 x 11	SDR 17.6	709026305	-
225 x 21	SDR 11	709026314	-
225 x 13	SDR 17	709026410	-
225 x 13	SDR 17.6	709026317	-
250 x 23	SDR 11	709026326	-
250 x 15	SDR 17	709026341	-
250 x 14	SDR 17.6	709026329	-
280 x 26	SDR 11	709026338	-
280 x 17	SDR 17	709026340	-
280 x 16	SDR 17.6	709026341	-
315 x 29	SDR 11	709026350	-
315 x 19	SDR 17	709026413	-
315 x 18	SDR 17.6	709026353	-
355 x 32	SDR 11	709026362	-
355 x 21	SDR 17	709026414	-
355 x 20	SDR 17.6	709026365	-
400 x 36	SDR 11	-	709026138
400 x 23	SDR 17.6	-	709026139
450 x 41	SDR 11	-	709026148
450 x 26	SDR 17.6	-	709026149
500 x 46	SDR 11	-	709026158
500 x 28	SDR 17.6	-	709026159
560 x 51	SDR 11	-	709026168
560 x 32	SDR 17.6	-	709026169
630 x 57	SDR 11	-	709026178
630 x 36	SDR 17.6	-	709026179



P-FIX END RESTRAINT FLANGE ADAPTOR

APPLICATION

The P-Fix flange adaptor is a dedicated end restraint fitting for PE and PVC water pipes, its co-axial grippers provide secure end restraint without crushing the pipe meaning that no Insert is required. The P-Fix has a working pressure of 16 bar, and has a WRAS approved coating and EPDM gasket.

DESIGN FEATURES

- Dedicated to suit PE & PVC sizes.
- Co-axial grippers provide firm hold without crushing the pipe (No insert required).
- Positive stop system prevents overtightened.
- Lighter and narrower profile reduces the space required to install.
- Covers pipe diameters from 63mm to 400mm.
- PN16 operating pressure.

TECHNICAL DATA & STANDARDS

- Body and top ring constructed of GGG-50 Cast Iron.
- Flange according to 1092-2 PN10/PN16.
- Galvanised nuts, bolts and washers (Stainless steel on request).
- Steel grip ring to BS 080M46.
- WRAS approved fusion bonded blue epoxy coating - 250 Micron.
- WRAS approved EDPM gasket.

Units 32-37, Vinehall Rd,
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Part Number	Size Description
FPE063	63mm OD to DN50/60/65 PN16 Slotted flange
FPE075	75mm OD to DN50/60/65 PN16 Slotted flange
FPE090	90mm OD to DN80 PN16 flange
FPE110	110mm OD to DN100 PN16 flange
FPE125	125mm OD to DN100 PN16 flange
FPE125-125	125mm OD to DN125 PN16 flange
FPE140	140mm OD to DN125 PN16 flange
FPE160	160mm OD to DN150 PN16 flange
FPE180	180mm OD to DN150 PN16 flange
FPE200	200mm OD to DN200 PN16 flange
FPE225	225mm OD to DN200 PN16 flange
FPE250	250mm OD to DN250 PN16 flange
FPE280	280mm OD to DN250 PN16 flange
FPE315	315mm OD to DN300 PN16 flange
FPE400	400mm OD to DN400 PN16 flange

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Robertsbridge
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01424 777102



P-FIX END RESTRAINT COUPLING

APPLICATION

The P-Fix coupling is a dedicated end restraint fitting for PE and PVC water pipes, its co-axial grippers provide secure end restraint without crushing the pipe meaning that no Insert is required. The P-Fix has a working pressure of 16 bar, and has a WRAS approved coating and EPDM gasket.

DESIGN FEATURES

- Dedicated to suit PE & PVC sizes.
- Co-axial grippers provide firm hold without crushing the pipe (No insert required).
- Positive stop system prevents overtightened.
- Lighter and narrower profile reduces the space required to install.
- Covers pipe diameters from 63mm to 400mm.
- PN16 operating pressure.

TECHNICAL DATA & STANDARDS

- Body and end rings constructed of GGG-50 Cast Iron.
- Galvanised nuts, bolts and washers (Stainless steel on request).
- Steel grip ring to BS 080M46.
- WRAS approved fusion bonded blue epoxy coating - 250 Micron.
- WRAS approved EPDM gasket.

P-FIX END RESTRAINT SIZES



Part Number	Size Description
CPE063	63mm OD
CPE075	75mm OD
CPE090	90mm OD
CPE110	110mm OD
CPE125	125mm OD
CPE160	160mm OD
CPE180	180mm OD
CPE200	200mm OD
CPE250	250mm OD
CPE315	315mm OD

BOLTS AND PINS

Bolts and Pins			
Size	Q-ty	Length (mm)	Torque (Nm_
M14	14	250	60
M16	56	50	120*

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TIED RESTRAINT FLANGE ADAPTORS

APPLICATION

Tied Restraint Adaptors for use on Ductile and Steel water pipes, and can be restrained via the use of tie bars owing to the narrow profile of the top ring. Rated to a working pressure of 16 bar these adaptors are suitable for use on drinking water and are supplied in WRAS approved epoxy with WRAS approved EPDM gasket.

DESIGN FEATURES

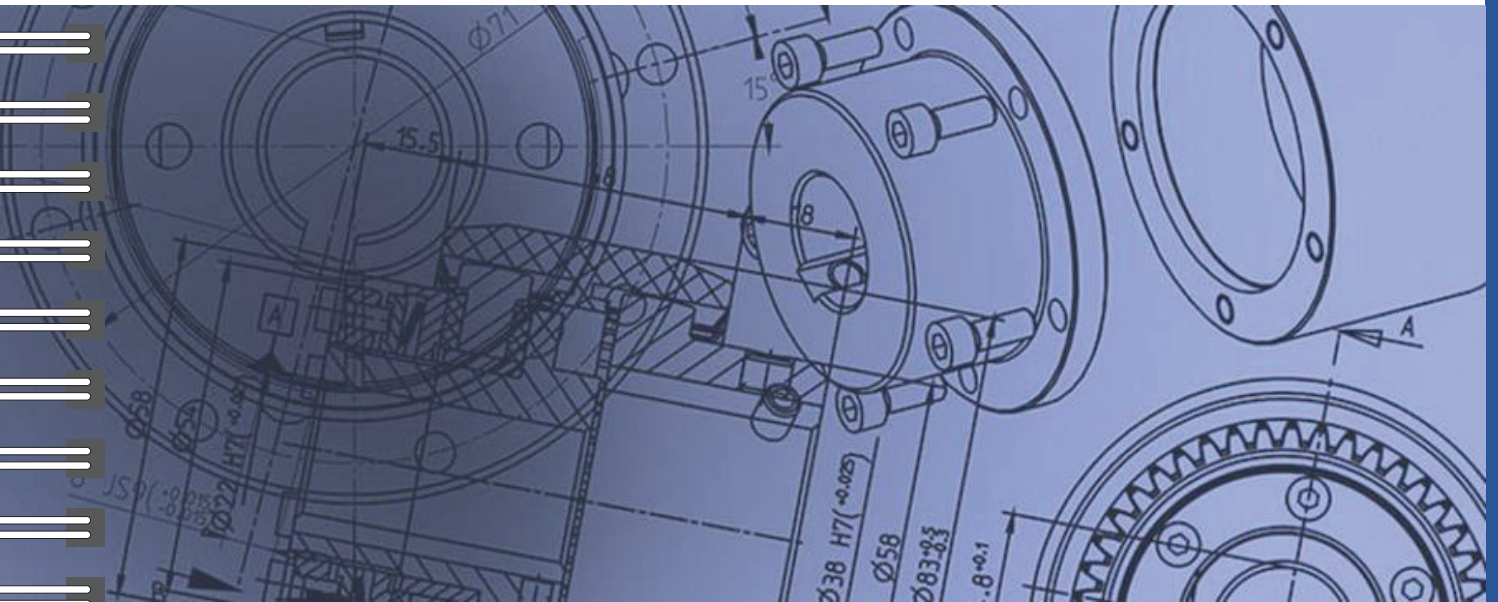
- Stocked sizes from 3"/80mm to 12"/300mm - larger sizes manufactured to order.
- Suitable for use with Tie Bars or can be used as standard adaptors for Ductile and Steel pipes.
- Narrow profile meaning less space required to install.
- Working pressure of 16 bar.
- Suitable for use on potable drinking water.

TECHNICAL DATA & STANDARDS

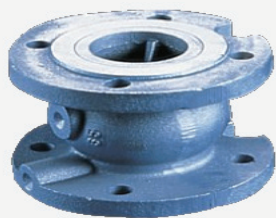
- Body & Top Ring constructed from GGG-50 Ductile Cast.
- Flanges Acc. to BS EN 1092-2 PN10/PN16.
- Galvanised fixings (Stainless Steel on request).
- WRAS approved fusion bonded blue epoxy.
- WRAS approved EPDM gasket.

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VALVES AND HYDRANTS



Units 32-37, Vinehall Rd,
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Robertsbridge
TN32 5JW
01424 777102



NON-RETURN CHECK VALVE APPLICATION

The O2 system offers the best compromise between hydraulic performance, ruggedness, sealing-tightness and price for use with clear liquids : pumping, supply, distribution, general circuits. This range extends from 40 to 500 mm for both non-return valves and foot valves, thereby suiting a large number of applications, especially where there may be a risk of water hammer.

- **Internal and external Epoxy coating** increasing resistance to corrosion
- **Hydraulic shape** means very little energy loss
- Excellent sealingtightness ensured by **seal EPDM**
- **Bronze guide ring** enables a better movement of the closing system and preventing premature wear
- **Stainless steel spring** allowing system to function in any position
- **Bosses drilled** on request for by-pass or controlled evacuation
- **Passage for cables** of submersible pumps



402

Non-return axial guided valves - System O2

DN in mm	PN	PFA in bar	PS in bar				Cat	Ref.	Weight Kg
			L1	L2	G1	G2			
40	10/16	16	16	16	16	16	I	149B2281	4,2
50	10/16	16	16	16	16	16	I	149B2282	5,8
60	10/16	16	16	16	16	16	I	149B1176	8,1
65	10/16	16	16	16	15	16	I	149B2283	8,1
80	10/16	16	16	16	12	16	I	149B2284	10,2
80	10/16	16	16	16	16	16	II	149B2284C2	10,2
100	10/16	16	16	16	10	16	I	149B2285	14,5
100	10/16	16	16	16	16	16	II	149B2285C2	14,5
125	10/16	16	16	16	0,5	16	I	149B2226	24
125	10/16	16	16	16	16	16	II	149B2226C2	24
150	10/16	16	13	16	0,5	16	I	149B2227	32
150	10/16	16	16	16	16	16	II	149B2227C2	32
200	10	10	10	10	10	10	II	149B2229	53
250	10	10	10	10	10	10	II	149B2230	94
300	10	10	10	10	10	10	II	149B2231	140
350	10	10	10	10	0,5	10	II	149B2232	225
400	10	10	10	10	0,5	10	II	149B2233	312
500	10	10	10	10	0,5	10	II	149B2235	540

Important notice:

The indicated pressure for the different categories of fluids (L1/L2/G1/G2) is under no condition a guarantee of use.

Therefore, it is essential to validate the use of products under given operating conditions.

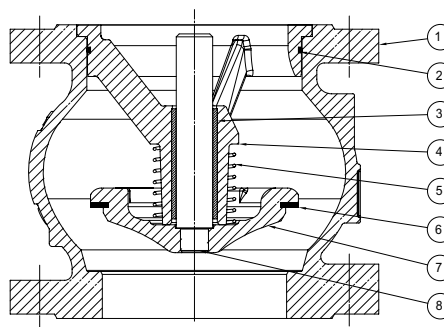
The operating instructions are available on our web site www.socla.com or by requesting from our sales department.

Technical features

Operating temperature	-10 °C at 100 °C
Permissible operating pressure (PFA) in water	See table above
Maximum permissible pressure (PS) other mediums	See table above
Connection	Flanges drilled PN (see table)
Mediums	Liquids not loaded, gas

Nomenclature and materials

N°	Description	Materials	EURO	ANSI
1	Body	DN 40-400	Cast iron/Epoxy EN 1561 EN-GJL-250	ASTM A 48 35 B
		DN 500	Cast iron/Epoxy EN 1563 EN-GJS-400-15	ASTM A 536 65-45-12
2	O-ring seal	DN 40-250	EPDM	
3	Ring		Bronze EN 1982 CuSn5Zn5Pb2-C GS	
4	Guide	DN 50	Bronze EN 1982 CuSn5Zn5Pb2-C GS	
		DN 40 & 60-400	Cast iron/Epoxy EN 1561 EN-GJL-250	ASTM A 48 35 B
		DN 500	Cast iron/Epoxy EN 1563 EN-GJS-400-15	ASTM A 536 65-45-12
5	Spring		Stainless steel EN 10270-3 X10CrNi18-8	AISI 302
6	Seal		EPDM	
		DN 40	Brass EN 12164 CuZn40Pb2 R360 mini	
		DN 50-65	Bronze EN 1982 CuSn5Zn5Pb2-C GS	
7-8	Closing system	DN 80-400	Stem Bronze EN 1982 CuSn5Zn5Pb2-C GS	
		Check-valve	Cast iron/Epoxy EN 1561 EN-GJL-250	ASTM A 48 35 B
		Stem Bronze	EN 1982 CuSn12-C GS	
		DN 500	Check-valve Cast iron/Epoxy EN 1563 EN-GJS-400-15	ASTM A 536 65-45-12



Approvals

ACS CE PED 2014/68/UE



WRAS kiwa

International construction Standards :

CE Conformity Directive 2014/68/UE

Flange drilling according to EN1092-2

Application

The non-return valve 402 SOCLA is the most universal for water supply, water distribution, pumping, industry. It can be installed in any position with liquids not loaded and gas.

Installation

Installation :

Before putting valve into operation, check that:

- the working conditions are compatible with the details given on the identification plate, the instruction notice and the manufacturer's detail,
- the valve works effectively when tried (carry out a few opening and closing operations of the closing system),
- the valve is free-pollution inside.

On a new installation or after maintenance, the circuit must be rinsed with the valve completely open in order to remove solid matter which may damage the internal parts of the valve.

Commissioning :

The installation should be put under pressure progressively to avoid damage which might occur to internal components.

Make sure that when flow stops the valve maintains pressure well and that there is no water-hammer which might damage the valve or installation.

If there is water-hammer, an anti-water hammer system must be added to the installation.

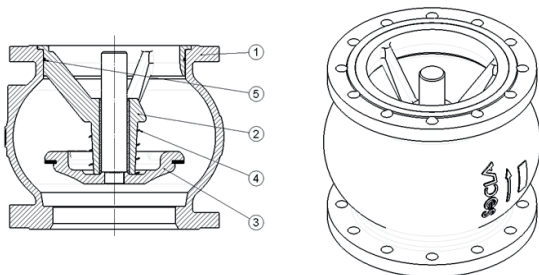
During a prolonged stoppage, a change in the state of the fluid may result in damage when the installation is brought back into service (solidification...).

Establish an adequate procedure program for cleaning the system.

Maintenance

• Removing :

1. Remove all guide (N°2)
2. Remove the o-ring seal (N°5) from its throat
3. Remove the spring (N°4)
4. Remove all the closing system (N°3)



• Reassembly :

Make sure that the seal is a good condition before assembly the valve.

Clean and lubricate it if necessary with a suitable product.

1. Put all the closing system (N°3) into the casing (N°1)
2. Insert the spring (N°4)
3. Put the o-ring seal (N°5) in its throat
4. Insert all the closing system (N°2). This step may

require use a press.

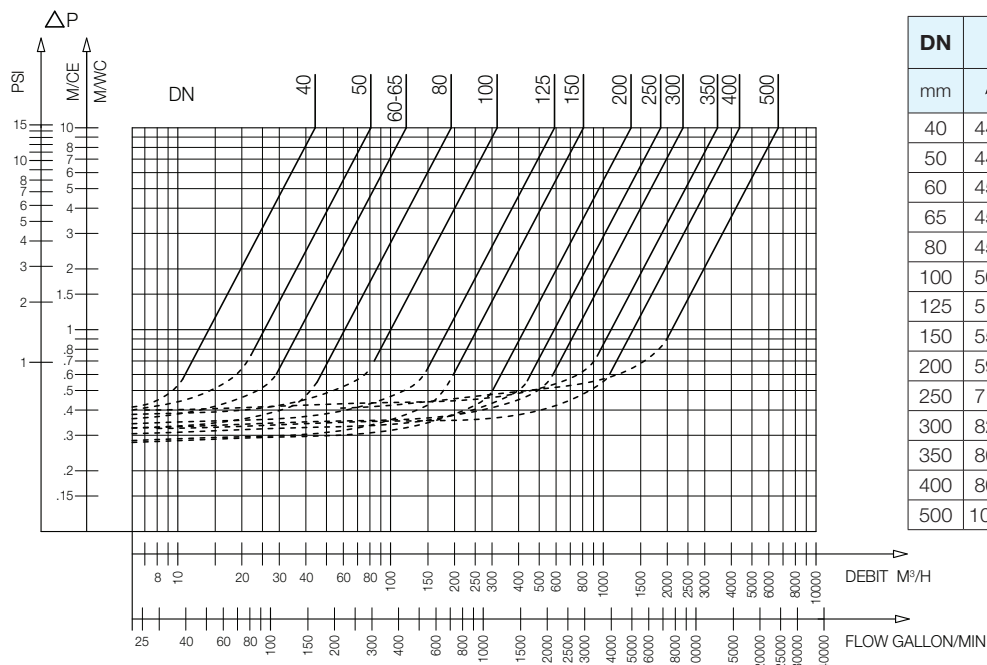
Once the reassembly done, test the device in order to check its sealing.

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Operation

Direction for use :

- Solid line: Valve completely open
- Dotted line: opening stage of valve



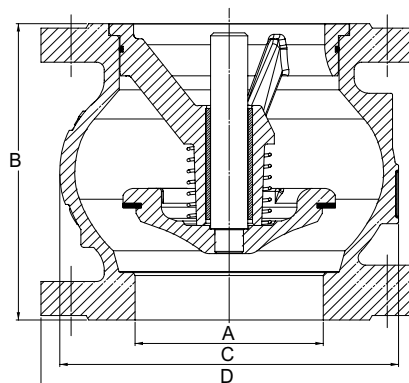
402 - Headloss chart

DN mm	Opening pressure in mm CE				Kv m³/H	ζ
	↑	↓	↔	Without spring		
40	440	210	320	120	44,20	2,10
50	440	220	330	110	80,80	1,50
60	450	190	320	130	118,50	1,50
65	450	190	320	130	118,50	2,00
80	450	190	320	130	192,80	1,80
100	500	240	370	130	318,00	1,60
125	510	210	360	150	590,00	1,10
150	550	210	380	170	807,50	1,25
200	590	210	400	190	1351,00	1,40
250	710	210	460	250	1861,80	1,80
300	820	90	460	365	2371,70	2,30
350	860	100	480	380	3444,70	2,00
400	800	50	410	390	4371,20	2,14
500	1030	0	430	580	6646,20	2,26

Sizing

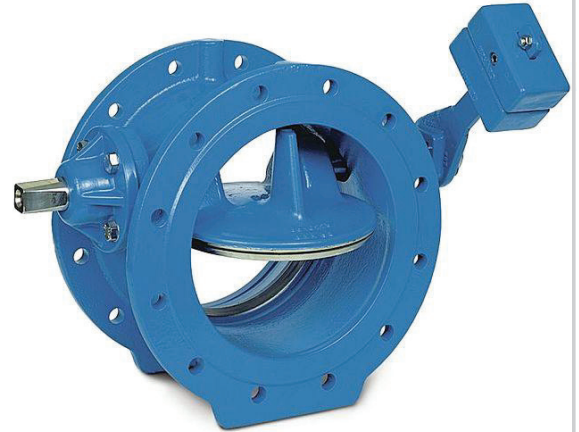
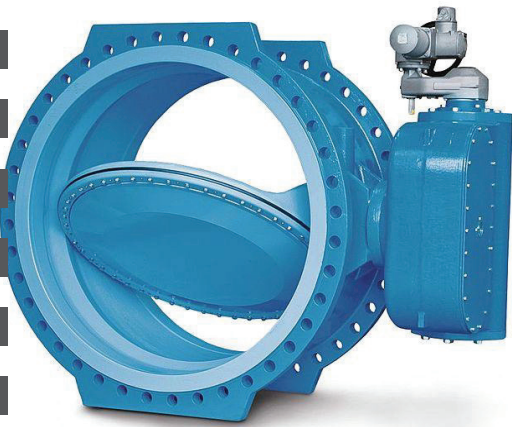
A	B	C	D
mm	mm	mm	mm
40	85	80	150
50	100	97	165
60	120	125	185
65	120	125	185
80	140	150	200
100	170	187	220
125	200	220	250
150	230	250	285
200	289	340	340
250	354	420	405
300	396	490	460
350	473	586	533
400	560	680	597
500	750	880	670

402



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VALVE SHOWCASE



Cascade can offer through our list of approved suppliers most types of valves, from butterfly to Needle, Swing check to Axial Check we can source and supply the valve(s) needed.

For more information you can visit our website link here: [More Info](#)

Can't find the valve you are looking for? Contact us directly.



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RESILIENT SEAT GATE VALVE

APPLICATION

Resilient seated gate valves for the control of flow in a water supply network, WRAS approved for use on drinking water and rated to PN16 operating pressure. Stock sizes from 3"/80 to 12"/300mm.

DESIGN FEATURES

- Low torque closure.
- Multi-Seal Security Wedge.
- Integral Low Friction Guides.
- Superior Rubber Technology exceeds EN681-1.
- High Grade Valve Construction - ZERO Maintenance - 'valve for life'.
- Multi-Seal Wedge - Advanced Technology for absolute tight shut off and low torque operation.
- Available with a wide range of operating gear and actuation, including cap top & handwheel.

TECHNICAL DATA & STANDARDS

- Body/Bonnet - Ductile Iron GGG50 coated 250 Micron FBE.
- Wedge - GGG50 encapsulated with EPDM.
- Stem - Stainless steel 1.4021 or 1.4057 Type B.
- Middle Gasket - EPDM.
- Stem Nut/Brush - Aluminum bronze.
- Manufactured in accordance with BS EN ISO 9001:2008 QMS, ISO 14001:2004 EMS.

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METAL SEATED GATE VALVE

APPLICATION

Metal seated gate valves for the control of flow in a water supply network, for use on potable or raw water and neutral liquids to max 80*c and rated to PN16 operating pressure. Stock sizes from 3"/80 to 12"/300mm.

DESIGN FEATURES

- Face to face in accordance to BS 5163 Type B.
- Flange and drilling in accordance to BS EN1092-2, PN16.
- Design in accordance to BS EN558-1 Series 3.
- Pressure test in accordance to EN12266.

TECHNICAL DATA & STANDARDS

- Body/Bonnet - Ductile Iron GGG50 coated 250 Micron FBE.
- Wedge - Ductile Iron GGG50
- Stem - Stainless steel 316/ DIN 1.4401
- O-Rings: EPDM - Dust cover: NBR.
- Bonnet bolts carbon steel grade 8.8.
- Body/wedge seal ring: Gunmetal - CC 491K.

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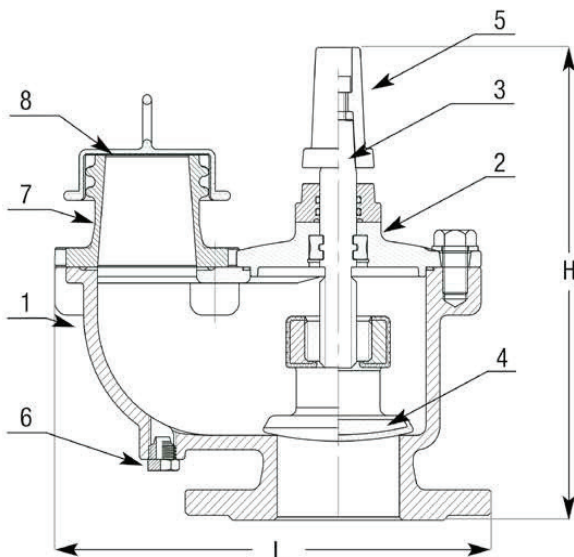
BS750 UNDERGROUND FIRE HYDRANT

PN16 Temp -20°C to +70°C DN80 & DN100 Fixed Stopper

- ✓ 2 1/2" London Round Thread Outlet
- ✓ Range of outlet options available
- ✓ WRAS Approved Product



- ✓ Flange Standard BS EN1092-2
- ✓ Universal Flange Drilling PN16 / BS10 Table E
- ✓ Max Working Pressure 16 Bar
- ✓ FBE Coated Internally and Externally to a minimum of 250 µm



Materials List

No.	Name	Material
1	Body	Ductile Iron GGG50
2	Bonnet	Ductile Iron GGG50
3	Stem	Stainless Steel
4	Stopper	Ductile Iron GGG50 EPDM/NBR Vulcanised with EPDM
5	Cap	Ductile Iron GGG50
6	Auto Frost Valve	Brass with Stainless Steel Spring
7	Outlet	Gun Metal LG2
8	Dust Cover	PVC

Dimensions Table

DN	L	H
80	278	273
100	288	273

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AG03

BS, DN50 - DN300

PN 7

Patented dual seal technology, the optimal Resilient Seated Gate Valve provides perfect seal tightness with low torque, minimal number of turns, and full traceability.

Design features

- Patented double seated integral ductile iron wedge, fully NBR encapsulated
- Very low closing torque with perfectly smooth patented guiding
- Two stem seals fully replaceable under pressure
- Patented primary seal integrated in the wedge to achieve perfect top seal when valve is opened.

Catalogue No. & Dimension (mm & kg)

Group	DN	50	80	100	125	150	200	250	300
AG03 - BS	PN16	AG0507	AG0807	AG1007	AG1257	AG1507	AG2007	AG2507	AG3007
L		178	203	229	254	267	292	330	356
H1		254	265	299	402	390	490	562	642
H		303	308	342	446	435	563	635	715
B		75	95	102	120	134	165	196	225
K		125	160	180	210	240	295	355	410
b x n		19x4	19x8	19x8	19x8	23x8	23x12	28x12	28x12
D		165	200	220	250	285	340	405	460
Stem Top Square		14,3	17,3	19,3	19,3	19,3	24,3	27,3	27,3
Turns to open/close		9 ¾	11 ½	14 ¼	20 ¼	20 ¼	18	21 ¾	26 ½
Weight kg		14,7	18,6	21,6	37,6	39,3	65,3	88,6	137
Kv [m3/h]		198	654	1252	1957	2818	5601	8751	12602

Technical Details

Face to Face in accordance to:
BS 5163 (EN 558-1 Series 3)
Maximum Operating Pressure MOP:
7 bar for double-block-and-bleed
Working temperature:
-20 to +60°C
Construction complies to:
GIS/V7-1 Class A/B, EN 13774 Class 1/2
Certification:
BSI Kitemark, CE (PED 97/23/EC), DVGW
Flange Type:
EN 1092-2 PN16
Bonnet Top:
Complies to GW 336 (adaptation of extension spindle)
Coating:
250 FBE coating, external and internal
Marking:
Full traceability with bar-code
Application:
Natural gas lines at medium working pressure and temperature range from -20° to +60°C

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BG12

BS, DN400

PN 3

The Aeon valve gives 100% leak tight performances at low closing torques and is therefore ideally suited for the gas application.

Design features

- Fully NBR encapsulated ductile iron wedge
- Stem packing with three O-Rings, one primary O-Ring seal and one dust seal

Heavy duty ductile iron construction with stainless steel 13% Cr stem. Brass wedge nut and collar.

Technical Details

Face to Face in accordance to:
BS 5163 (EN 558-1 Series 3)
Maximum Operating Pressure
MOP:
3 bar for double-block-and-bleed
Working temperature:
-20 to +60°C
Construction complies to:
EN 13774 Class 1/2
Certification:
BSI Kitemark,
Flange Type:
EN 1092-2 PN16
Coating:
250 µm FBE coating, external
and internal
Application:
Natural gas lines at medium
working pressure and
temperature range from -20° to
+60°C

Dimension (mm & kg)

Group	DN	400
BG12	PN16	BG4007
L		406
H		975
B		285
K PN16		525
b x n PN16 / PN10		31x16
D		580
Stem Top Square		32
Turns to open/close		34
Weight kg		295,7

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BG03

BS, DN50 - DN300

PN 7

The Type B Resilient Seated Gate Valve with higher standard of performance has been developed on the basis of years of experience to ensure tightness and high durability.

Design features

- Patented double seated integral ductile iron wedge, fully NBR encapsulated
- Very low closing torque with perfectly smooth patented guiding
- Three stem seals fully replaceable under pressure
- Patented primary seal integrated in the wedge to achieve perfect top seal when valve is opened
- The strength of the stem is three times higher than the requirements of EN 13774.

Technical Details

Face to Face in accordance to:
BS 5163 (EN 558-1 Series 3)
Maximum Operating Pressure MOP:
7 bar for double-block-and-bleed
Working temperature:
-20 to +60°C
Construction complies to:
GIS/V7-1 Class A/B, EN 13774 Class 1/2
Certification:
BSI Kitemark, CE (PED 97/23/EC), AGA, DVGW
Flange Type:
EN 1092-2 PN16
ANSI B16.5 150#RF
Coating:
250 μ m FBE coating, external and internal
Marking:
Full traceability with bar-code
Application:
Natural gas lines at medium working pressure and temperature range from -20° to +60°C

Group	DN	50	80	100	150	200	250	300
BG03 - BS	BS	BG0500	BG0807	BG1007	BG1507	BG2007	BG2507	BG3007
	ANSI	BG0002	BG0003	BG0004	BG0006	BG0008	BG0010	BG0012
L		178	203	229	267	292	330	356
H1		330	315	349	454	556	646	727
H		370	355	389	494	598	690	771
B		75	95	102	134	165	196	225
K EN 1092-2/ANSI B16.5		125 / 120,7	160 / 152,4	180 / 190,5	240 / 241,3	295 / 298,4	355 / 362	410 / 431,8
b x n EN 1092-2/ANSI B16.5		19x4	19x8	19x8	23x12 / 22,3x8	23x12 / 22,3x8	28x12 / 25,4x12	28x12 / 25,4x12
D EN 1092-2/ANSI B16.5		165 / 152,4	200 / 190,5	220 / 228,6	285 / 279,4	340 / 342,9	405 / 406,4	460 / 482,6
Stem Top Square Квадрат штока Kwadrat trzpienia \square S		19,3	19,3	19,3	19,3	24,3	27,3	27,3
Turns to open/close Число оборотов Liczba obrotów		7 ½	7 ½	9 ¼	13 ¾	18	21 ¾	26 ½
Weight kg Бес, кг Waga kg	BS	19,1	21	24,2	45,3	71,3	93,5	142
	ANSI	18,2	21,4	27,3	48,5	79,1	107	168,9

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Q-TI ISOLATION VALVE

APPLICATION

The Q-TI or Complete Isolation Valve is part of the modular Q-Tee range, designed in the same way as the Q-Tee tapping saddle but with studs on the bottom to allow install to an existing Stainless Steel or Carbon Steel Tee, allowing it to be isolated with a Q-Tee blade. The Q-TI is also shallower in profile than a standard gate valve.

DESIGN FEATURES

- Available in 80mm and 100mm.
- Built in double joint isolation system allows knife blade/spatula to slide in and out without loss of sealing.
- Shallow profile design reducing travel required by a drill to tap the pipe.
- Full bore.
- Uses the same isolation blade as the Q-Tee tapping saddle.
- 16 bar working pressure.

TECHNICAL DATA & STANDARDS

- Manufactured to European standard EN 545.
- EN-GJS-450-10 Ductile iron construction.
- WRAS approved epoxy coat.
- WRAS approved EPDM internal seals.
- Permissible working pressure of 16 bar.

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CASCADE PRODUCT TECHNICAL CATALOGUE | www.cascadeplc.co.uk



STUDED FLANGE CONVERTERS

APPLICATION

Cascade Studded Flange Converters for connecting different drilling patterns or larger to smaller flanges. Suitable for use on drinking, waste water and petrochemical applications they are rated to a working pressure of 16 bar, and have WRAS approved coating and gaskets.

DESIGN FEATURES

- Available in a large range of standard sizes.
- Can be manufactured to specifications, drillings available made to your specified standard: ISO EN 1092, BS4505 PN16/PN10, BS 10 Table D, Table E etc, ANSI/ASME B16 Class 150 etc.
- Available with gaskets to suit the application, such as WRAS approved EPDM for potable drinking water, or Nitrile (NBR) for Gas, Oils and Petroleum.
- Can be supplied in blue epoxy for water, Red Oxide for waste and uncoated or 316 stainless steel for industrial applications.

TECHNICAL DATA & STANDARDS

- Body: Ductile Iron to BS EN 1563 EN-GJS-500-7 or Mild Steel to BSEN 10025 S275JR.
- Studs, nuts and washers: Mild Steel BS EN 10025 S275JR bright zinc plated, galvanised or Stainless Steel on request.
- WRAS approved 250 Micron RAL 5015 epoxy coating.
- 3mm thick WRAS approved EPDM gasket - Nitrile/others on request.

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DISMANTLING JOINT

APPLICATION

Dismantling Joints allow longitudinal adjustment in flanged pipe systems. This provides greater flexibility in the planning and install stages of a network. Rated to a working pressure of 16 bar and suitable for drinking and waste water applications.

DESIGN FEATURES

- In stock from DN80 to DN300 PN16 - Sizes from DN300 to DN1800 PN16 available on request, up to DN2000 on special fabrication.
- Available in PN10/PN16 and PN25/PN40 on request.
- Self restraining due to the fittings full set of tie bars.
- Available with Stainless Steel fixings on request.
- Strong and durable construction improves product lifespan.

TECHNICAL DATA & STANDARDS

- Sleeves, rim and flanges: constructed from GGG-40 Cast Ductile Iron.
- Bolts, nuts and washers: Zinc coated steel, Stainless Steel on request.
- WRAS approved fusion bonded blue epoxy coating.
- WRAS approved EPDM seals.

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TALBOT PUSHFIT

APPLICATION

The Talbot Pushfit connection is a tried and tested method of connecting low, medium and high density metric polyethylene water pipe from 16mm to 63mm.

DESIGN FEATURES

User Friendly

The Talbot Pushfit fitting is quick and easy to use with no nuts to leave undone ,simply push the pipe into the fitting.

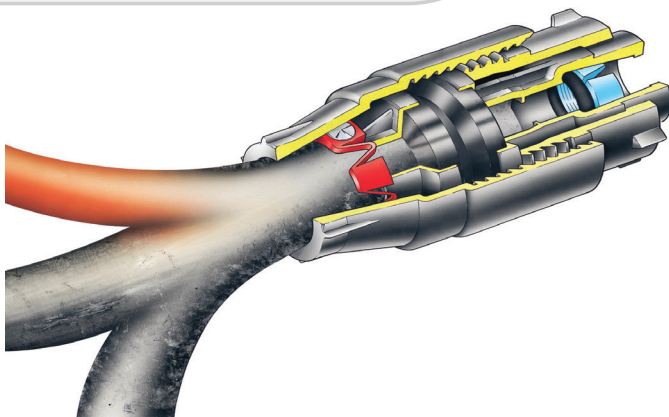
Stronger Than The Pipe

The fittings grip and seal on the pipe increases with water pressure and tensile load. This means that the PE pipe will burst or neck before the connection fails. The Talbot Pushfit fitting is pressure rated PN 16.

Tough and Robust

Talbot Pushfit fittings are manufactured from high performance materials for resistance to distortion and corrosion and for strong threaded connections.

TECHNICAL DATA & STANDARDS



The Talbot Grippa is a universal fitting that connects onto a wide variety of existing lead, galvanised iron and copper pipes with no change of components. The range consists of just three fittings which suit all metal pipes with outside diameters of 15mm ($\frac{3}{4}$ ") to 34mm (

Connectors PE x PE

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E7652	E4340	16mm ($\frac{3}{8}$ ")	5	0.060	0.050
E6507	E2801	20mm ($\frac{1}{2}$ ")	5	0.063	0.053
E6075	E2802	25mm ($\frac{3}{4}$ ")	5	0.087	0.071
E6073	E2803	32mm (1")	5	0.143	0.113
E6510	E6511	40mm (1 $\frac{1}{4}$ ")	1	0.257	0.217
E6078	E4002	50mm (1 $\frac{1}{2}$ ")	1	0.424	
E6077	E4007	63mm (2")	1	0.696	0.605

Reducing Connectors PE x PE

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E7653	E4346	20mm ($\frac{1}{2}$ ") X 16mm ($\frac{3}{8}$ ")	5	0.062	
E7654	E4345	25mm ($\frac{3}{4}$ ") X 16mm ($\frac{3}{8}$ ")	5	0.077	
E6463	E2817	25mm ($\frac{3}{4}$ ") x 20mm ($\frac{1}{2}$ ")	5	0.080	
E6465	E3408	32mm (1") x 20mm ($\frac{1}{2}$ ")	5	0.098	
E6060	E2818	32mm (1") x 25mm ($\frac{3}{4}$ ")	5	0.118	
E9014	E9982	40mm (1 $\frac{1}{4}$ ") x 25mm ($\frac{3}{4}$ ")	1	0.150	
E6516	E9983	40mm (1 $\frac{1}{4}$ ") x 32mm (1")	1		
E6466	E3999	50mm (1 $\frac{1}{2}$ ") x 20mm ($\frac{1}{2}$ ")	1	0.250	
E6467	E4000	50mm (1 $\frac{1}{2}$ ") x 25mm ($\frac{3}{4}$ ")	1	0.260	
E6061	E4001	50mm (1 $\frac{1}{2}$ ") x 32mm (1")	1	0.283	
E7790	E7793	50mm (1 $\frac{1}{2}$ ") x 40mm (1 $\frac{1}{4}$ ")	1	0.342	0.305
E6468	E4003	63mm (2") x 20mm ($\frac{1}{2}$ ")	1	0.040	
E6469	E4004	63mm (2") x 25mm ($\frac{3}{4}$ ")	1	0.409	
E6470	E7402	63mm (2") x 32mm (1")	1	0.446	
E8118	E8610	63mm (2") x 40mm (1 $\frac{1}{4}$ ")	1		
E6076	E4006	63mm (2") x 50mm (1 $\frac{1}{2}$ ")	1	0.552	

Grippa - The Universal Service Adaptor

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E7470	E6604	20mm ($\frac{1}{2}$ ") x $\frac{3}{8}$ "	5	0.177	
E7472	E6264	20mm ($\frac{1}{2}$ ") x $\frac{1}{2}$ "	5	0.239	
E7471	E6606	20mm ($\frac{1}{2}$ ") x $\frac{3}{4}$ "	5	0.333	
E7468	E6607	25mm ($\frac{3}{4}$ ") x $\frac{3}{8}$ "	5	0.169	
E7467	E6608	25mm ($\frac{3}{4}$ ") x $\frac{1}{2}$ "	5	0.234	
E7469	E6265	25mm ($\frac{3}{4}$ ") x $\frac{3}{4}$ "	5	0.316	

Adaptors, Pushfit - PE x Copper Table X

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E4145	E4142	20mm ($\frac{1}{2}$ ") x 15mm Copper	5	0.054	0.048
E4147	E4150	25mm ($\frac{3}{4}$ ") x 15mm Copper	5	0.079	
E5182	E5183	25mm ($\frac{3}{4}$ ") x 22mm Copper	5	0.094	
E5945	E5946	32mm (1") x 28mm Copper	5		

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Adaptors, Pushfit - PE x Male Threaded

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E7655	E4342	16mm (5/8") x 1/2" MI	5		
E6483	E1932	20mm (1/2") x 1/2" MI	5	0.036	0.030
E7600	E6609	20mm (1/2") x 3/4" MI	5	0.037	
E7601	E6610	25mm (3/4") x 1/2" MI	5	0.053	
E6484	E1933	25mm (3/4") x 3/4" MI	5	0.054	0.046
E7602	E4699	32mm (1") x 1/2" MI	5		
E7271	E6611	32mm (1") x 3/4" MI	5	0.102	
E6485	E2715	32mm (1") x 1" MI	5	0.090	
E9161	-	32mm (1") x 2" MI	1	0.112	
E6517	E6518	40mm (1 1/4") x 1 1/4" MI	1		
	E11083	40mm (1 1/4") x 1 1/2" MI	1		
E11087	E7408	50mm (1 1/2") x 1 1/2" MI	1	0.228	
E9162	E4016	63mm (2") x 2" MI	1	0.389	0.343

Tank Connectors - PE x Male Thread (Complete with nut and washers)

E7636	E7263	25mm (3/4") x 3/4" MI	5	0.072	
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Adaptors, Pushfit - PE x Female Threaded

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E6478	E4343	16mm (5/8") x 1/2" taper FI	5		
E6479	E2722	20mm (1/2") x 1/2" taper FI	5	0.042	
E11088	E11084	20mm (1/2") x 3/4" taper FI	5		
E8114		25mm (3/4") x 1/2" parallel FI	5		
E7137	E2723	25mm (3/4") x 3/4" taper FI	5	0.061	
E7567		25mm (3/4") x 3/4" parallel FI	5		
E7566		25mm (3/4") x 1" parallel FI	5		
E7730	E6612	32mm (1") x 1/2" taper FI	5	0.127	
E7270	E6613	32mm (1") x 3/4" taper FI	5	0.120	
E7694		32mm (1") x 3/4" parallel FI	5		
E7269	E2724	32mm (1") x 1" taper FI	5	0.105	
E7568		32mm (1") x 1" parallel FI	5		
E9020		32mm (1") x 1 1/4" parallel FI	5		
E9148		32mm (1") x 1 1/2" parallel FI	5		
E11542		40mm (1 1/4") x 1" taper FI	1		
E6519		40mm (1 1/4") x 1 1/4" parallel FI	1	0.168	
	E6520	40mm (1 1/4") x 1 1/4" taper FI	1		
E7373	E7409	50mm (1 1/2") x 1 1/2" taper FI	1	0.267	
E6480		50mm (1 1/2") x 1 1/2" parallel FI	1		
E8116		50mm (1 1/2") x 2" parallel FI	1		
E7375	E4014	63mm (2") x 2" taper FI	1	0.460	
E6481		63mm (2") x 2" parallel FI	1		

Stop End, Pushfit - PE x Blank

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E6489	E3367	20mm (1/2")	5	0.051	
E6490	E3368	25mm (3/4")	5	0.074	
E6491	E3369	32mm (1")	5	0.118	0.099
E8571		40mm (1 1/4")	1		
E7268	E5027	50mm (1 1/2")	1	0.224	
E7267	E6614	63mm (2")	1	0.376	



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Adaptors, Pushfit - PE x Female Threaded

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E7628	E5200	20mm (½") x ½" FI (straight)	5	0.088	
E5044	E5202	20mm (½") x ¾" FI (straight)	5		
E7629	E8441	25mm (¾") x ½" FI (straight)	5		
E7630		25mm (¾") x ¾" FI (straight)	5		
E7494		25mm (¾") x 1" FI (straight)	5		
E7631	E5203	32mm (1") x 1" FI (straight)	5		
E7632	E5035	20mm (½") x ½" FI (bent)	5	0.091	
E5031		20mm (½") x ¾" FI (bent)	5		
E7633	E5034	25mm (¾") x ½" FI (bent)	5	0.123	
E7634	E5033	25mm (¾") x ¾" FI (bent)	5		
E7635	E5032	32mm (1") x 1" FI (bent)	5		



Elbows (90°) - PE x PE

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E6461	E2769	20mm (½") x 20mm (½")	5	0.069	0.058
E8537	-	25mm (¾") x 20mm (½")	5	0.076	
E6471	E2770	25mm (¾") x 25mm (¾")	5	0.098	0.081
E9009	-	32mm (1") x 25mm (¾")	5	0.117	
E6472	E2771	32mm (1") x 32mm (1")	5	0.160	
E6514	E6515	40mm (1½") x 40mm (1½")	1		
E6473	E7404	50mm (1½") x 50mm (1½")	1	0.464	
E6474	E4009	63mm (2") x 63mm (2")	1	0.772	



Elbows (90°) - PE x Male Thread

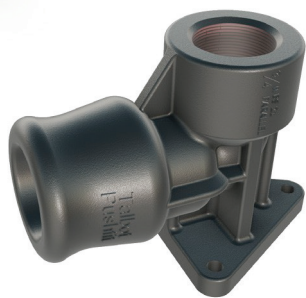
Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E6236	E4874	25mm (¾") x ¾" MI	5	0.066	
E6237	E4875	32mm (1") x 1" MI	5	0.110	



Elbows (90°) - PE x Female Thread

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E6282	E6281	20mm (½") x ½" FI (taper)	5		
E6475	E2776	20mm (½") x ½" FI (parallel)	5	0.051	
E6276	E6275	25mm (¾") x ½" FI (taper)	5		
E6476	E2780	25mm (¾") x ½" FI (parallel)	5	0.073	
E6277	E6278	25mm (¾") x ¾" FI (taper)	5		
E6477	E2777	25mm (¾") x ¾" FI (parallel)	5	0.077	
E6280	E6279	32mm (1") x 1" FI (taper)	5		
E6462	E3406	32mm (1") x 1" FI (parallel)	5	0.121	
E7473	E6564	50mm (1½") x 1½" FI (taper)	5	0.350	
E8780		50mm (1½") x 1½" FI (parallel)	5		
E7474	E6563	63mm (2") x ½" FI (taper)	5	0.577	
E8781		63mm (2") x 2" FI (parallel)	5		

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Wall Plate Elbows

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E8245		16mm (5/8") x 1/2"	5		
E7609	E2796	20mm (1/2") x 1/2"	5	0.086	
E7610	E2797	25mm (3/4") x 1/2"	5	0.107	
E7611	E3407	25mm (3/4") x 3/4"	5	0.086	

All fittings are in plastic unless otherwise stated.

Tees, Equal - PE x PE x PE

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E7657	E4448	16mm (5/8")	5		
E6492	E3016	20mm (1/2")	5	0.108	0.091
E6493	E3019	25mm (3/4")	5	0.150	0.122
E6494	E3022	32mm (1")	5	0.244	
E6512	E6513	40mm (1 1/4")	1		
E6495	E4010	50mm (1 1/2")	1	0.690	
E6496	E4011	63mm (2")	1	1.112	

Tees, Un-Equal - PE x PE x PE

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E7613	E3416	20mm (1/2") x 20mm (1/2") x 32mm (1")	5		
E6497	E3023	25mm (3/4") x 25mm (3/4") x 20mm (1/2")	5	0.130	
E7612	E3417	32mm (1") x 20mm (1/2") x 20mm (1/2")	5		
E7613	E3416	20mm (1/2") x 20mm (1/2") x 32mm (1")	5		
E6498	E3403	32mm (1") x 32mm (1") x 20mm (1/2")	5	0.215	0.171
E7614	E3419	25mm (3/4") x 25mm (3/4") x 32mm (1")	5	0.191	0.020
E6499	E3405	32mm (1") x 32mm (1") x 25mm (3/4")	5		
E6500	E4013	63mm (2") x 63mm (2") x 25mm (3/4")	1	0.725	
E6501	E4012	63mm (2") x 63mm (2") x 32mm (1")	1	0.728	

Tees, Un-Equal - PE x PE x Female Taper Thread

Code		Size	Bag Quantity	Weight	
Metric	Imperial			Metric	Imperial
E6502	E3017	20mm (1/2") x 20mm (1/2") x 1/2" taper FI	5	0.076	
E6503	E3020	25mm (3/4") x 25mm (3/4") x 1/2" taper FI	5	0.121	
E6504	E3021	25mm (3/4") x 25mm (3/4") x 3/4" taper FI	5	0.126	
E6505	E3404	32mm (1") x 32mm (1") x 1" taper FI	5		
E8782	E6573	50mm (1 1/2") x 50mm (1 1/2") x 1 1/2" taper FI	1		
E7044	E6574	63mm (2") x 63mm (2") x 2" taper FI	1	0.947	

Adaptors, Leadfit - PE x Lead

Code	Size	Bag Quantity	Weight
E9287	20mm (1/2") x 3/4" 9lb Lead	5	
E9289	25mm (3/4") x 3/4" 9lb Lead	5	
E9290	25mm (3/4") x 1" 16lb Lead	5	
E9292	32mm (1") x 1" 16lb Lead	5	

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PUDDLE FLANGE

APPLICATION

The bolted puddle flange for buried water and wastewater pipes is intended to be used as a restrained anchor. It can be used on DI pipes and flanged spigots with pipe outside diameter to EN 545.

DESIGN FEATURES

dimensions in mm				No. of bolts	Screws (bolts)*		All. operating pressure/bar	kg/piece**
DN	dn	D	L					
80	98	200	50	2	M 16x50	120	16	3,4
100	118	220	57	2	M 16x50	150	16	3,9
125	144	250	60	2	M 16x50	200	16	4,9
150	170	285	60	2	M 16x50	225	16	5,9
200	222	340	120	4	M 20x60	250	16	11,3
250	274	405	120	6	M 20x60	300	16	16,8
300	326	455	120	6	M 20x60	300	16	20,1

Material: ductile cast iron GGG, a gasket is placed at the factory
Coating: bitumen

* Bolts in accordance with DIN EN 24017** Complete weight including bolts

TECHNICAL DATA & STANDARDS

Installation instructions for the bolted puddle flange – suitable for GGG pipes to EN 545:

The bolted puddle flange for buried water and wastewater pipes is intended to be used as a restrained anchor. It can be used on DI pipes and flanged spigots with pipe outside diameter to EN 545.

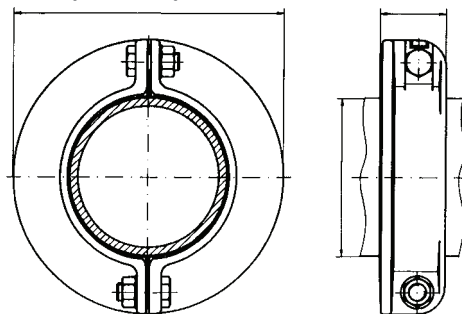
Bolts to be used:

Hexagon bolts to EN 24017 zinc coated with plain washers and zinc coated nuts to EN 24032

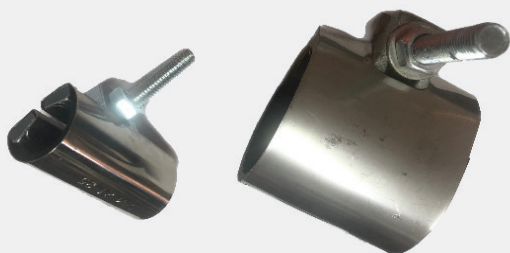
Minimum material grade 8.8, as corresponding torques must be followed (see table)

Installation:

Hexagon bolts to EN 24017 zinc coated with plain washers and zinc coated nuts to EN 24032 Minimum material grade 8.8, as corresponding torques must be followed (see table)



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MINI FAST / HALF CLAMPS

APPLICATION

Used for repairing pin-hole breaks in smaller diameter pipes, they provide a quick, easy and cost-effective solution for this type of break.

Mini Fast / Half Clamp Sizes

Nominal Pipe Size (mm)	Outside Diameter of pipe (mm)	Part Number	Length (mm)
15mm	21.3mm	CFC – 084-03	75mm
20mm	26.7mm	CFC – 105-03	75mm
25mm	33.4mm	CFC – 132-03	75mm
32mm	42.2mm	CFC – 160-03	75mm
40mm	48.3mm	CFC – 190-03	75mm
50mm	60.3mm	CFC – 238-03	75mm

TECHNICAL DATA & STANDARDS

Standard lengths always in stock are 75mm.

The sizes above are available Ex-Stock - Sizes not listed are available on request.

PIPE OD CHART

STANDARD OUTSIDE DIAMETER																			
NOMINAL BORE	IMPERIAL CAST IRON & ASBESTOS CEMENT (TURNED END) BS1211 (1981) (UT1 27" NB) BS78 (1981) BS486 (1966)				STEEL ISO/4200 (1991)										PVC-U	ABS	DUCTILE IRON	GRP	METRIC ASBESTOS CEMENT (TURNED END SEE NOTE) BS486 (1990)
	CLASS AB ONLY	CLASS CD ONLY	NON STD	SER 1	SER 2	SER 3	SER 3	BS1387 (1990)	BS3600 (1997) & BS3601 (1993) (pipe ends to BS334 1990)	API 5L (2000) & BS1600 (2000) UT1 56" NB	BS3303 (1998)	BS3306 (1969)	BS3391 (1976)	BS EN 545 (2002), BS EN 598 (1995), BS4772 (1986) DIN 24601, 24602, 24603, 24605	BS4860 (1990) (Typical UK sizes)	CLASS 15	CLASS 20	CLASS 25	
mm inches																			
15 0.5				21.3				21.3	21.4	21.4	21.4	21.4	21.4						
20 0.75				26.9	25.0	25.4		26.9	26.8	26.7	26.8	26.8	26.8						
25 1				33.7	32.0	30.0	35.0	33.7	33.6	33.4	33.6	33.6	33.6						
32 1.25				42.4	40.0	44.5		42.4	42.3	42.2	42.3	42.3	42.3						
40 1.5	55.9 2.20	55.9 2.20	57.0 2.25	48.3	57.0	54.0		48.3	48.3	48.3	48.3	48.3	48.3	56					
50 2	69.1 2.72	69.1 2.72		60.3	63.5			60.3	60.4	60.3	60.4	60.4	60.4	66				69	
65 2.5	82.3 3.24	82.3 3.24	82.5 3.25	76.1	70.0	73.0		76.1	76.1	73.0		75.2		82					
80 3	95.5 3.76	95.5 3.76		88.9		82.5		88.9	88.9	88.9	88.9	88.9	88.8	98				96	
90 3.5					101.6				101.6	101.6									
100 4	121.9 4.80	121.9 4.80		114.3	127.0	108.0		114.3	114.3	114.3	114.3	114.3	114.3	118				122	
125 5	149.9 5.90	149.9 5.90		139.7	133.0	141.3	152.4	139.7	141.3	140.2	140.2	140.2		144					
150 6	177.3 6.98	177.3 6.98		168.3		159.0	177.8	165.1	168.3	168.3	168.3	168.3	168.3	170		177		177	
175 7	204.7 8.06	204.7 8.06				193.7			193.7				193.8						
200 8	232.2 9.14	232.2 9.14		219.1					219.1	219.1	219.1	219.1	219.1	222	220	232	232	240	
225 9	259.1 10.20	259.1 10.20				244.5			244.5				244.5			259	259	268	
250 10	286.0 11.26	286.0 11.26		273.0					273.0	273.1	273.0	273.0		274	272	286	286	295	
300 12	333.8 13.14	345.4 13.60		323.9					323.9	323.9	323.9	323.9		326	324	334	345	356	
350 14	387.0 15.22	399.3 15.72		355.6					355.6	355.6	355.6	355.5		378	376	392	405	419	
375 15	413.0 16.26	426.2 16.78																	
400 16	439.0 17.30	453.1 17.84		406.4					406.4	406.4	406.4	406.4		429	427	448	463	478	
450 18	492.0 19.38	506.9 19.96		457.0					457.0	457.2	457.2	457.2		480	478	498	515	532	
500 20	545.0 21.46	560.3 22.06		508.0					508.0	508.0	508.0	508.0		532	530	568	586	605	
525 21	572.0 22.50	578.2 23.12																	
550 22	598.0 23.54	613.7 24.16				559.0			559.0	559.0		558.8							
600 24	650.0 25.60	667.0 26.26		610.0					610.0	609.6	609.6	609.6		635	633	654	672	691	
650 26	703.0 27.66	720.3 28.36				600.0			660.0	660.4									
675 27	729.0 28.70	746.8 29.40																	
700 28	755.0 29.72	773.2 30.44		711.0	762.0				711.0	711.2				736	718	761	780	801	
750 30	807.0 31.78	826.0 32.52							762.0	762.0						808	830	852	
800 32	860.0 33.84	879.3 34.62		813.0					813.0	812.8				842	820	882	904	915	
825 33	886.0 34.88	905.8 35.66																	
850 34	912.0 35.92					864.0			864.0	863.6						927	952	977	
900 36	964.0 37.96	984.5 38.76		914.0					914.0	914.4				945	924	970	996	1024	
1000 40	1068.0 42.06	1090.2 42.92		1016.0					1016.0	1016.0				1048	1027				
1050 42	1121.0 44.12	1143.0 45.00		1067.0	1168.0				1067.0	1066.8									
1100 44	1172.0 46.16			1118.0						1117.6				1152	1144				
1200 48	1277.0 50.26	1300.5 51.20		1219.0					1219.0	1219.2				1255	1228				
1300 52					1321.0					1320.8					1350				
1400 56				1422.0					1422.0	1422.4				1462	1449				
1600 64				1626.0					1626.0	1625.6				1668	1640				
1800 72				1829.0					1829.0	1828.8				1875	1844				
2000 80				2032.0					2032.0	2032.0				2082	2048				

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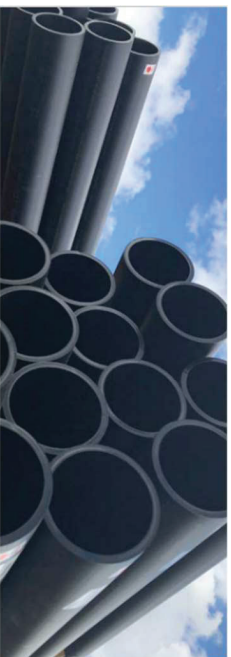
FLANGE DRILLING TABLES

Size in inches and mm		BS 10 Table 'D'					BS 10 Table 'E'					BS 10 Table 'F'					BS 10 Table 'H'				
		No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.
1/2"	15	4	14	67	95	—	4	14	67	95	—	4	14	67	95	—	4	17	83	114	57
3/4"	20	4	14	73	102	—	4	14	73	102	—	4	14	73	102	—	4	17	83	114	57
1"	25	4	14	83	114	—	4	14	83	114	—	4	17	87	121	—	4	17	87	121	64
1 1/4"	32	4	14	87	121	—	4	14	87	121	—	4	17	98	133	—	4	17	98	133	76
1 1/2"	40	4	14	98	133	—	4	14	98	133	—	4	17	105	140	—	4	17	105	140	83
2"	50	4	17	114	152	—	4	17	114	152	—	4	17	127	165	—	4	17	127	165	102
2 1/2"	65	4	17	127	165	—	4	17	127	165	—	8	17	146	184	—	8	17	146	184	114
3"	80	4	17	146	184	—	4	17	146	184	—	8	17	165	203	—	8	17	165	203	127
4"	100	4	17	178	216	—	8	17	178	216	—	8	17	191	229	—	8	17	191	229	152
5"	125	8	17	210	254	—	8	17	210	254	—	8	22	235	279	—	8	22	235	279	178
6"	150	8	17	235	279	—	8	22	235	279	—	12	22	260	305	—	12	22	260	305	210
8"	200	8	17	292	337	—	8	22	292	337	—	12	22	324	368	—	12	22	324	368	260
10"	250	8	22	356	406	—	12	22	356	406	—	12	25	381	432	—	12	25	381	432	311
12"	300	12	22	406	457	—	12	25	406	457	—	16	25	438	489	—	16	25	438	489	362
14"	350	12	25	470	527	—	12	25	470	527	—	16	29	495	552	—	16	29	495	552	419
16"	400	12	25	521	578	—	12	25	521	578	—	20	29	552	610	—	20	29	552	610	483
18"	450	12	25	584	641	—	16	25	584	641	—	20	32	610	673	—	20	32	610	673	533
20"	500	16	25	642	705	—	16	25	642	705	—	24	32	673	737	—	24	32	673	737	597
24"	600	16	29	756	826	—	16	32	756	826	—	24	35	781	851	—	24	35	781	851	699

Size in inches and mm		BS 4505 Table 10					BS 4505 Table 16					BS 4505 Table 25					BS 4505 Table 40				
		No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.
1/2"	15	4	14	65	95	45	4	14	65	95	45	4	14	65	95	45	4	14	65	95	45
3/4"	20	4	14	75	105	58	4	14	75	105	58	4	14	75	105	58	4	14	75	105	58
1"	25	4	14	85	115	68	4	14	85	115	68	4	14	85	115	68	4	14	85	115	68
1 1/4"	32	4	18	100	140	78	4	18	100	140	78	4	18	100	140	78	4	18	100	140	78
1 1/2"	40	4	18	110	150	88	4	18	110	150	88	4	18	110	150	88	4	18	110	150	88
2"	50	4	18	125	165	102	4	18	125	165	102	4	18	125	165	102	4	18	125	165	102
2 1/2"	65	4	18	145	185	122	4	18	145	185	122	8	18	145	185	122	8	18	145	185	122
3"	80	8	18	160	200	138	8	18	160	200	138	8	18	160	200	138	8	18	160	200	138
4"	100	8	18	180	220	158	8	18	180	220	158	8	22	190	235	162	8	22	190	235	162
5"	125	8	18	210	250	188	8	18	210	250	188	8	26	220	270	188	8	26	220	270	188
6"	150	8	22	240	285	212	8	22	240	285	212	8	26	250	300	218	8	26	250	300	218
8"	200	8	22	295	340	268	12	22	295	340	268	12	26	310	360	278	12	30	320	375	285
10"	250	12	22	350	395	320	12	26	355	405	320	12	30	370	425	335	12	33	385	450	345
12"	300	12	22	400	445	370	12	26	410	460	378	16	30	430	485	395	16	33	450	515	410
14"	350	16	22	460	505	430	16	26	470	520	438	16	33	490	555	450	16	36	510	580	465
16"	400	16	26	515	565	482	16	30	525	580	490	16	36	550	620	505	16	39	585	660	535
18"	450	20	26	565	615	532	20	30	585	640	550	20	36	600	670	555	20	39	610	685	560
20"	500	20	26	620	670	585	20	33	650	715	610	20	36	660	730	615	20	42	670	755	615
24"	600	20	30	725	780	685	20	36	770	840	725	20	39	770	845	720	20	48	795	890	735

Size in inches and mm	ANSI 150					ANSI 300					ANSI 600					ANSI 900/1500					
	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	No. of Holes	Hole Dia.	P.C.D.	Flange O.D.	RF Dia.	
1/2"	15	4	16	60	89	35	4	16	67	95	35	4	16	67	95	35	4	22	83	121	35
3/4"	20	4	16	70	98	43	4	19	83	117	43	4	19	83	117	43	4	22	89	130	43
1"	25	4	16	79	108	51	4	19	89	124	51	4	19	89	124	51	4	25	102	149	51
1 1/4"	32	4	16	89	117	64	4	19	98	133	64	4	19	98	133	64	4	25	111	159	64
1 1/2"	40	4	16	98	127	73	4	22	114	156	73	4	22	114	156	73	4	29	124	178	73
2"	50	4	19	121	152	92	8	19	127	165	92	8	19	127	165	92	8	25	165	216	92
2 1/2"	65	4	19	140	178	105	8	22	149	191	105	8	22	149	191	105	8	29	191	244	105
3"	80	4	19	152	191	127	8	22	168	210	127	8	22	168	210	127	Adjacent "TABLES" with colour shading in the same row indicates identical dimensions.				
4"	100	8	19	191	229	157	8	22	200	254	157	8	25	216	273	157					
5"	125	8	22	216	254	186	8	22	235	279	186	8	29	267	330	186					
6"	150	8	22	241	279	216	12	22	270	318	216	12	29	292	356	216					
8"	200	8	22	298	343	270	12	25	330	381	270	12	32	349	419	270					
10"	250	12	25	362	406	324	16	29	387	445	324	16	35	432	508	324					
12"	300	12	25	432	483	381	16	32	451	521	381	20	35	489	559	381					
14"	350	12	29	476	533	413	20	32	514	584	413	20	38	527	603	413					
16"	400	16	29	540	597	470	20	35	571	648	470	20	41	603	686	470					
18"	450	16	32	578	635	533	24	35	629	711	533	20	44	654	743	533					
20"	500	20	32	635	699	584	24	35	686	775	584	24	44	724	813	584					
24"	600	20	35	749	813	692	24	41	812	914	692	24	51	838	940	692					

Adjacent "TABLES" with colour shading in the same row indicates identical dimensions.



Potable drinking water, waste water, compressed air, gasses and exhaust fumes, sludge, mortar, bentonite, crude oil and oil products, pneumatic loading of powder materials, and many more, subject to suitable seal options.

Stainless steel range suitable for food, pharmaceutical, and chemical industries



COUPLING SYSTEM

Unrivalled after 50 years of development

HK COUPLING SYSTEM

ADVANTAGES

■ Fast

A complete system quickly installed, even in the dark. No tools – no loose parts.

■ Flexibility With up to 30° articulation on coupling joint. Suction and pressure-proof, providing

excellent flexibility of installation, ideal for difficult site conditions.

■ Strong and durable Produced from high-grade high-tensile steel, abrasion-resistant hot-dip galvanisation according to DIN 50976 – also stainless steel option.

■ Safe Suction and pressure-proof up to 20 bar with all types of media, subject to suitable seal material options.

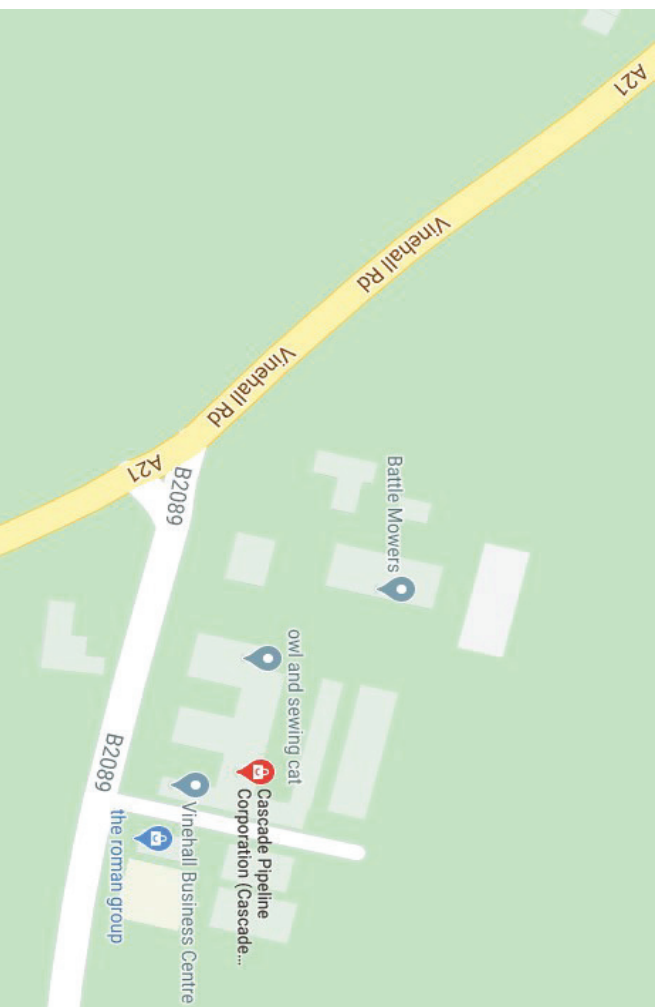
■ Heat resistance Resists up to 110 °C with special seals.

■ Tensile resistance Suction and pressure-proof while subject to tensile stress.

■ Versatile Suitable for handling all types of products: hot dip galvanised or stainless steel product range. Special coatings on application.

■ Security With special locking pin system option.

How to find Cascade



- From the M25 keep right on M26,
- Exit onto A21 towards Sevenoaks / Hastings,
- Continue onto Hastings Rd/Pembury Bypass/A21,
- Continue to follow Hastings Rd/A21,
- At Kippings Cross Roundabout, take the 2nd exit onto A21,
- At the roundabout, take the 2nd exit onto A21,
- At Northbridge Street Roundabout, take the 2nd exit onto Robertsbridge Bypass/A21
- Continue to follow A21,
- At John's Cross Roundabout, take the 1st exit onto Vinehall Rd/A21 Slight left onto B2089, then turn second left 100 yards on the left

VINEHALL BUSINESS CENTRE, Units 32-37, Vinehall Rd, Robertsbridge TN32 5JW

Tel: 01424 777102 , Email: inbox@cascadeplc.co.uk, website: www.cascadeplc.co.uk/

Cascade
Pipeline Corporation

