

UPE UnderPressure Tees

Branch connections for new installations or underpressure drilling operations

Benefits

- Ideally suited to underpressure drilling operations for both water and gas mains
- Large universal tolerance provided by elastomeric seals at each gland ring for sizes up to 600mm (24")
- Strong and robust design for safer drilling operations, especially on size for size drilling
- High performance elastomeric seals provide effective sealing on pitted or corroded pipework
- Suitable for use with flanged drilling and line stopping equipment
- Robust design can cope with the high radial and axial forces encountered during underpressure drilling operations and often encountered during flow stopping (stopple) operations



The UPE UnderPressure Tee offers the customer a robust and flexible means of taking flanged connections off both water and gas mains in sizes between 80mm and 1,200mm in diameter.

The universal tolerance and elastomeric seals ensure an easy to assemble and leak free connection on all rigid pipe materials including Ductile Iron, Cast Iron, Steel and uPVC pipe.



Technical data

Pressures	Working	Test
Water:	16 bar	24 bar
Gas:	7 bar	11 bar

The pressures stated above apply with water temperatures up to 20°C

Temperature: Up to 40°C

Temperature increases may affect the installed life of the product. For further information relating to operating temperatures please contact our customer service department at the telephone number shown below.

Sizes: 80mm - 600mm

Material:

Body:	Cast Iron or Ductile Iron
Gland ring:	Ductile Iron
Coating:	Rilsan Nylon II or Bitumen
Fasteners:	Mild steel Steel to BS 4399 Zinc Plated to BS1406

Seals: Water	EPDM (BS2494 type W)
Gas	Nitrile (BGC/PS/LC6)

All fittings are WRAS listed for below and above ground use with the exception of recent additions which may have been submitted but not yet tested.

Technical help

For further technical data, product specifications and general information please contact our Customer Service Department at the telephone number shown below.

General application

UPE UnderPressure Tees are available in two basic forms:

- Equal Tees
- Unequal Tees

Both are designed to suit nominal pipe diameters up to 1,200mm and with a minimum branch diameter of 80mm. The UnderPressure Tee flanged outlet is drilled to BS 4504 PN16 as standard. Other flange drilling specifications are available on special request, please contact UPE customer service department on the number shown below for further information.

All UnderPressure Tees are fully protected against corrosion with Rilsan Nylon II or Bitumen coating.

The operation of the UnderPressure Tee can be enhanced through the use of the UPE Converter Slide Valve, an economical and compact alternative to traditional gate valves. For further information please see page 4 of this data sheet or contact our Customer Service Department at the number shown below.

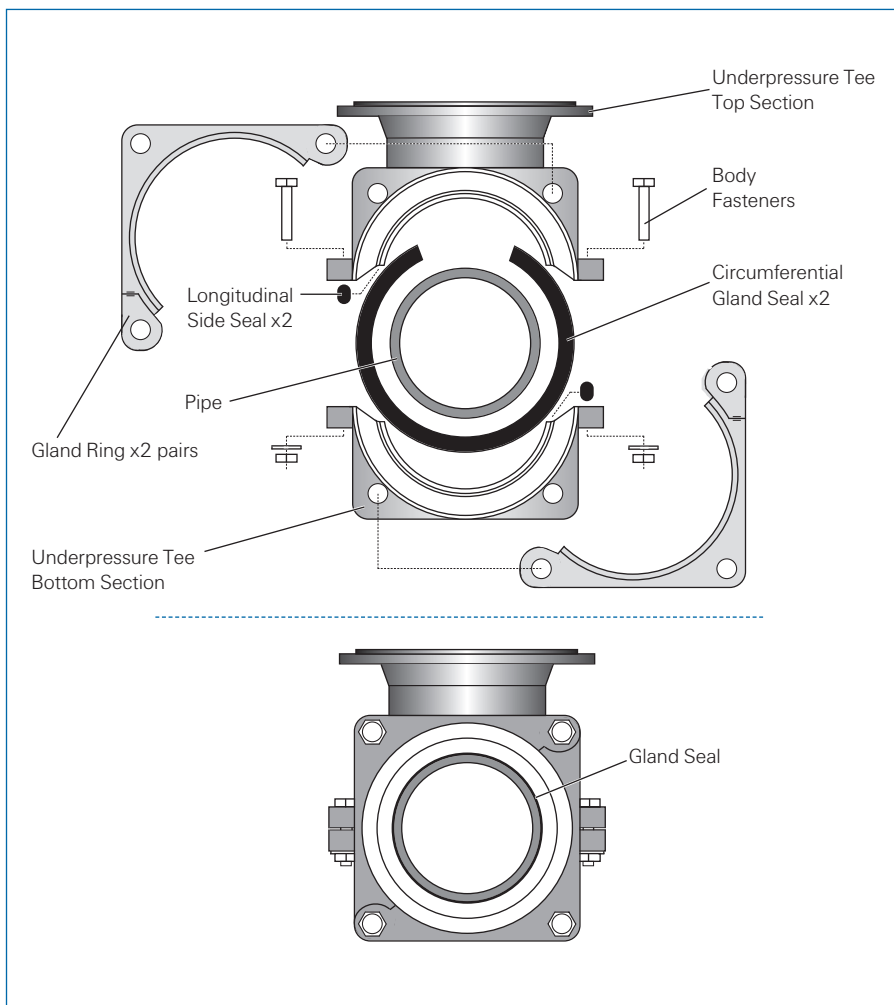
Branch Connections for Water and Gas Pipe

2

Installation Instructions

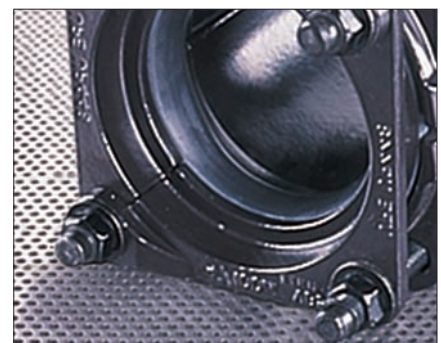
All UPE fittings are supplied ready assembled allowing easy and efficient installation on site. Seals are also pre-lubricated during manufacture to aid installation.

1. Select the correct size of fitting and flange dimensions to suit the main and branch and ensure that the pipe is clean, round and free from deep scratches, scores or general imperfections that may prevent an effective seal being made.
2. Remove the gland rings and gland seals and separate the two halves of the body
Note: *Do not remove the side seals from their housings.*
3. Position the two halves of the body around the pipe in the area to be branched off and re-assemble. Ensure the two halves re-align accurately to ensure the correct seating of the side seals
Note: *Ensure that the two side seals are located on opposing sides.*
4. Hand tighten the body fasteners.
5. Re-assemble the gland seals and gland rings in their original location and hand tighten the gland ring fasteners.
Note: *Ensure that the ends of the two gland seals do not co-inside with either the gland ring overlaps or the side seals.*
6. Rotate the fitting so the branch is at the required orientation
7. Tighten all the fasteners evenly to a torque of 95 Nm, ensuring the body fasteners are tightened first.



Corrosion Protection

The UPE UnderPressure Tee is available with either Bitumen or Rilsan Nylon II coating. The Rilsan Nylon II coating offers excellent impact and abrasion resistance and complies to DWI regulation 25 1a. This durable coating removes the need for further on site protection and gives the fitting an excellent installed life span.



Notes

The UPE UnderPressure Tee is not fully end load resistant. Please ensure that adequate restraint is provided

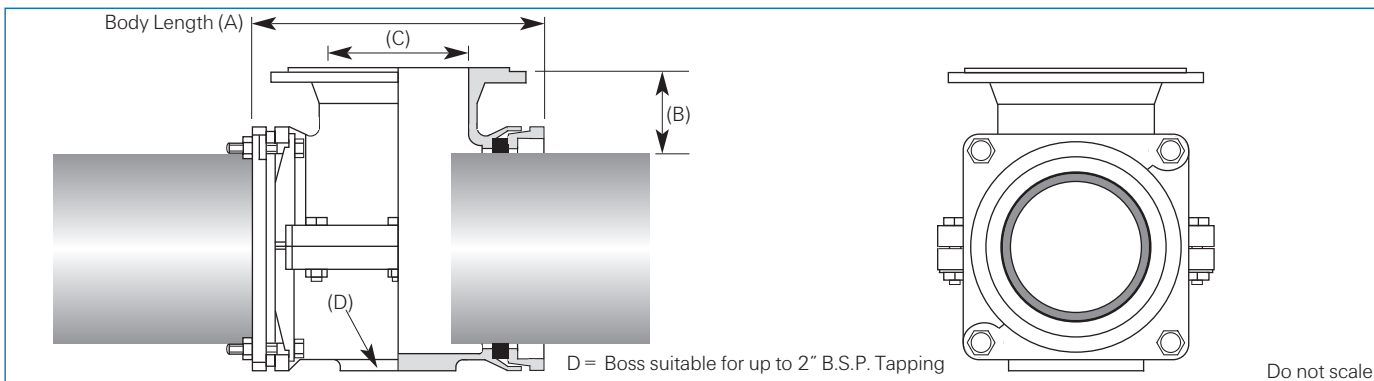
These fittings are not suitable for PE pipes

All seals have been lubricated during manufacture. If during assembly the seals get dirty this lubricant may be removed during the cleaning process. If this occurs then re-lubrication with a WRAS approved lubricant will be necessary.

Fittings for Water and Gas Pipe

UPE UnderPressure Tees

Dimensions and Details



Nominal pipe size	Flange Outlet (NP16 flange Drilling)						Pipe OD (mm)		To Suit Pipe Types			Dimensions (mm)			Number of Bolts	
	DN80	DN100	DN150	DN200	DN250	DN300	Min	Max	CI	DI	ST/PVC	A	B (max)	C	Per Side	Per End
80mm/3"	✓	✓	-	-	-	-	85.4	103.0	✓	✓	✓	265	90	78	2	4
100mm/4"	✓	✓	-	-	-	-	111.8	129.4	✓	✓	✓	285	90	108	2	4
125mm/5"	✓	✓	-	-	-	-	144.0	166.0	✓	-	-	330	105	158	3	4
150mm/6"	✓	✓	✓	-	-	-	165.2	184.8	✓	✓	✓	330	105	158	3	4
175mm/7"	✓	✓	✓	-	-	-	202.0	226.0	✓	-	-	405	130	208	3	4
200mm/8"	✓	✓	✓	✓	-	-	215.9	239.7	✓	✓	✓	405	130	208	4	8
225mm/9"	✓	✓	✓	✓	-	-	244.0	267.0	✓	-	-	405	130	208	4	8
250mm/10"	✓	✓	✓	✓	✓	-	269.2	293.5	✓	✓	✓	490	130	260	4	8
300mm/12"	✓	✓	✓	✓	✓	✓	319.9	341.3	✓	✓	✓	560	140	310	5	8
350mm/14"							355.0	381.0	-	✓	✓	560	140	310	6	10
350mm/14"							377.0	395.0	✓	-	-	560	140	310	6	10
350mm/14"							402.9	420.5	✓	-	-	600	160	408	6	10
350mm/14"							402.9	420.5	✓	-	-	600	160	408	6	10
15"							429.3	446.9	✓	-	-	600	160	408	6	10
400mm/16"							423.4	430.0	-	✓	-	600	160	408	6	10
400mm/16"							401.4	409.5	-	-	✓	600	160	408	6	10
400mm/16"							482.2	499.8	✓	-	-	700	175	463	6	12
450mm/18"							474.3	481.0	-	✓	-	700	175	463	6	12
450mm/18"							521.0	546.0	✓	✓	-	765	180	514	6	12
500mm/20"							535.0	558.0	✓	-	-	765	180	514	6	12
500mm/20"							640.1	657.1	✓	-	-	900	180	616	7	16
600mm/24"							628.5	636.0	-	✓	-	900	180	616	7	16

For mains sizes 350mm (14") to 600mm (24") all flange outlet sizes are available from DN80 to a maximum size equal to that of the host main

Standard Outside Pipe Diameter Guide Chart

Nominal Bore	Imperial Cast Iron and A C (turned end)			Steel						UPVC		ABS	Ductile Iron	GRP	Metric AC (turned end)		
	BS 1211 (up to and including 27" NB) BS78, BS486			ISO/4200			BS1387	BS3600 & BS3601 (pipe ends to BS5534)	API 5L & BS1600 (up to and including 36" NB)	BS3505	BS3506	BS55391	BS4772 DIN28601 DIN28602 DIN28603	BS5480	BS486		
	Class AB Only	Class CD Only	Non Standard	Ser 1	Ser 2	Series 3									Class 15	Class 20	Class 25
80mm 3"	95.5 3.76	95.5 3.76		88.9		82.5	88.9	88.9	88.9	88.9	88.9	98.0				96.0	
90mm 3.5"				101.6	101.6			101.6	101.6								
100mm 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	118.0				122.0	
125mm 5"	149.4 5.90	149.9 5.90		139.7	133.0	141.3 152.4	139.7	139.7	141.3	140.2	140.2	144.0 DIN 28601/3					
150mm 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	170.0		177.0		177.0	
175mm 7"	204.7 8.06	204.7 8.06				193.7		193.7			193.7						
200mm 8"	232.2 9.14	232.2 9.14		219.1			219.1	219.1	219.1	219.1	219.1	222.0	222.0	232.0	232.0	240.0	
225mm 9"	259.1 10.20	259.1 10.20				244.5		244.5			244.5			259.0	259.0	268.0	
250mm 10"	286.0 11.26	286.0 11.26		273.0			273.0	273.1	273.0	273.0		274.0	272.0	286.0	286.0	295.0	
300mm 12"	333.8 13.14	345.4 13.6		323.9			323.9	323.9	323.9	323.9		326.0	324.0	334.0	345.0	356.0	
350mm 14"	386.6 15.22	399.3 15.72		355.6			355.6	355.6	355.6	355.6		378.0	376.0	392.0	405.0	419.0	
375mm 15"	413.0 16.26	426.2 16.78															
400mm 16"	439.0 17.30	453.1 17.84		406.4			406.4	406.4	406.4	406.4		429.0	427.0	448.0	463.0	478.0	
450mm 18"	492.3 19.38	506.9 19.96		457.0			457.0	457.0	457.0	457.0		480.0 (BS only)	478.0	498.0	515.0	532.0	
500mm 20"	545.1 21.46	560.3 22.06		508.0			508.0	508.0	508.0	508.0		532.0	530.0	568.0	586.0	605.0	
525mm 21"	571.5 22.50	587.2 23.12															

The above table represents a general guideline relating to some of the pipe types and sizes available. A wall chart is available showing the above information including sizes up to 2 meters. For a copy of this chart and for more detailed information please contact the UPE Customer Service Department on the number shown on the back of this data sheet.

Associated Products



The UPE UniSoc fitting is designed for the fast, efficient repair of spigot and socket connections of water and Gas pipes, leading to significant savings in time, labour and material costs.

UniSoc fittings are suitable for use on all spigot and socketed Cast Iron and Ductile Iron pipes. They are supplied ready assembled, consisting of two identical halves and two sets of gland rings.



The UPE Universal and Engineered range of couplings and flange adaptors can be used for almost any plane-ended rigid pipe material from 40mm to 2,200mm pipe nominals. This flexibility combined with each fittings ability to accommodate a wide variety of pipe sizes makes the UPE Universal fitting a versatile and economical product to use.



The UPE Converter Slide Valve is an effective full bore construction valve that will allow underpressure gas drilling operations to be performed on low or medium pressures systems. Optimum weight savings have been made in the valve 's design and mechanism.

The Slide Valve flanges are to BS 4504, NP 16 and each one is supplied complete with studs, nuts and washers. A locking plug is also provided to enable the valve to be left in a secure manner when the operation is complete.



The UPE Converter Slide Valve is an effective, full bore construction valve, that will allow underpressure drilling operations to be performed on pressures up to 10 bar.

The UPE Slide Valve flanges are to BS 4504, NP16 and each one is supplied complete with studs, nuts and washers. Stud length can be specified, either long for use with PE stud flanges or short for standard metal flanges. Please state requirements when ordering.



The soft sealing gate valve for water distribution networks is a high performance and reliable valve manufactured to BS 5163.

The valve is fully coated on both internal and external surfaces with epoxy to a thickness of 150 microns and will provide many years of trouble free use and operation.

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