RIGHTON BLACKBURNS LIMITED

STAINLESS STEEL TUBULAR PRODUCTS

RBL0619sst

RIGHTON BLACKBURNS

STAINLESS STEEL TUBULAR PRODUCTS

Range/Sizes - Tube

TUBE

SIZES TO ASTM A270

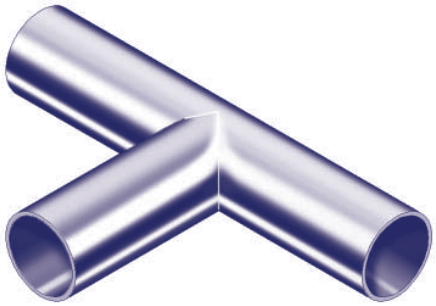
O/D	Wall		Weight
in	swg	mm	kg/m
¾	16	1.63	0.70
1	16	1.63	0.99
1½	16	1.63	1.51
2	16	1.63	1.88
2½	16	1.63	2.49
3	16	1.63	3.01
4	16	1.63	4.03
4	14	2.03	4.98

SIZES TO DIN 11850

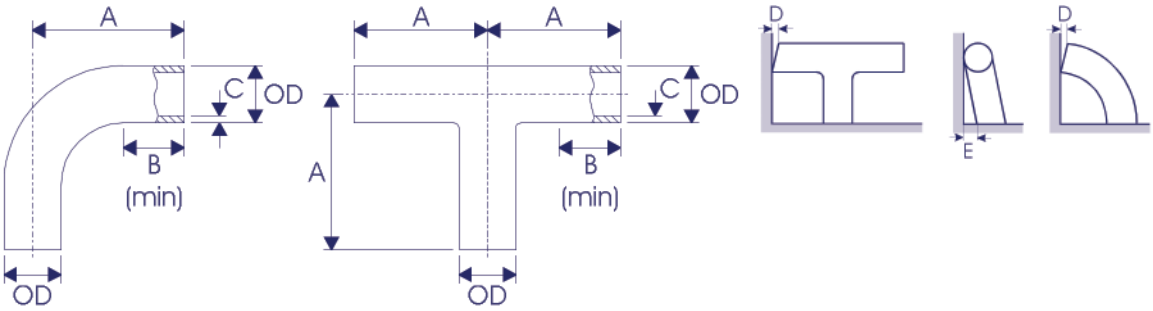
O/D	Wall	Weight
in	swg	kg/m
1	1.5	0.90
1½	1.5	1.38
2	1.5	1.85
2½	1.5	2.34
3	1.5	2.81
4	2.0	5.02

Hygienics

HYGIENIC BENDS AND TEES BS 4825 : PART 2



There are two types of bends and tees available, the Short type and Long type. For bends, the Short type simply comprises a 90° bend, while the Long type has a straight leg added at both ends. Tees have equivalent dimensions making them interchangeable. The straight leg of long type bends and tees was originally added to enable expanded type clamp and union parts to be fitted, but they are now widely used in all-welded installations.



DIMENSIONS AND TOLERANCES

OD	Short Type			Long Type			Max Deviation	
	A	B	C	A	B	C	D	E
mm	mm	mm	mm	mm	mm	mm	mm	mm
12.7	-	-	-	45	25	1.2	0.1	0.2
15.88	-	-	-	55	25	1.2	0.2	0.4
19.05	-	-	-	60	25	1.2	0.2	0.4
25.4	43.5	25	1.6	65	25	1.6 (or 1.21)	0.25	0.5
38.1	63.5	25	1.6	85	25	1.6 (or 1.21)	0.3	0.6
50.8	88.5	30	1.6	110	30	1.6 (or 1.21)	0.4	0.8
63.5	113.5	35	1.6	135	35	1.6	0.5	1.0
76.2	133.5	38	1.6	155	38	1.6	0.5	1.0
101.6	173.5	38	2.0	195	38	2.0	0.7	1.4

NOTES

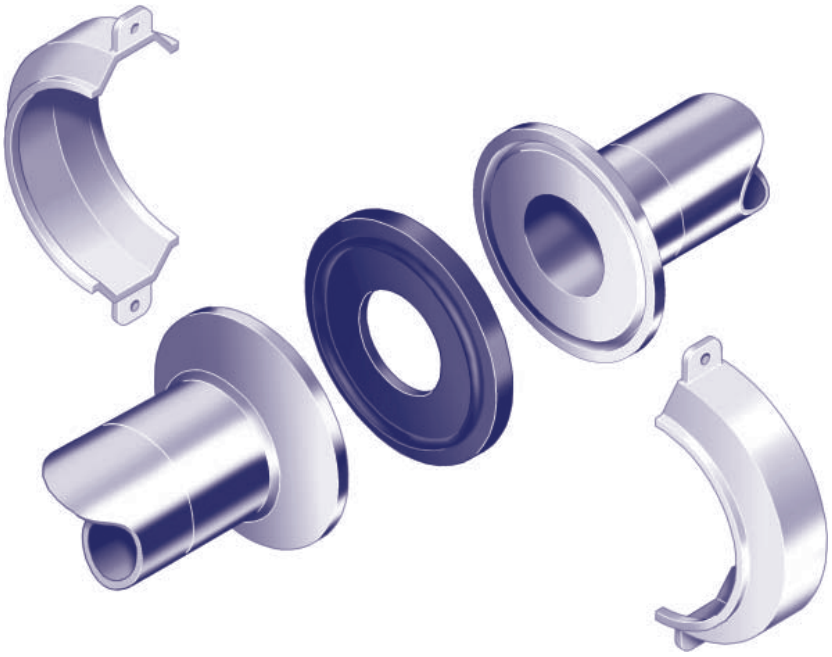
1 The 1.2mm wall thickness is for use with expanded fittings.

LENGTH TOLERANCES: +0.5mm, -0mm.

Hygienics

CLAMP FITTINGS

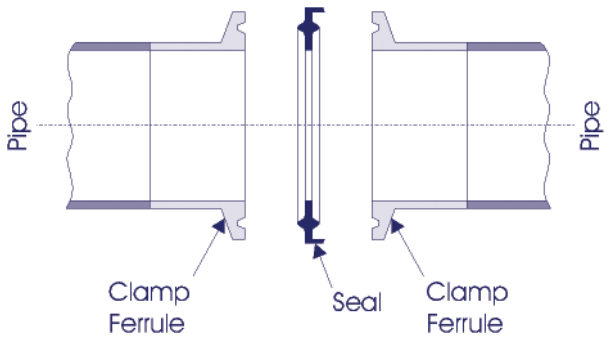
BS 4825 : PART 3

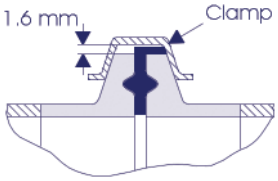


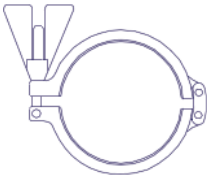
Clamp fittings provide a crevice free joint and, depending on the clamp design, requires no tools for assembly or dismantling for cleaning. Provides quick method of regularly opening up a system and often has some kind of closure device such as a 'Triclover' clamp. Used where corrosion and contamination are particular hazards, as in the pharmaceutical industry. Also used in systems carrying warm semi-solids and viscous liquids, such as chocolate and tomato sauce, which must not cool in the line but tend to cause regular blockages.

Clamp fittings comprise four parts - two welding ferrules, a seal ring and a clamp. The ends of the tubes and/or fittings to be joined have a welding ferrule fitted by welding (or expansion on to expanded type parts if used). The joint is made by positioning the welding ferrules together, with a seal inserted between the faces, and then clamping the ferrules together. The clamp is not in contact with the contents of the pipe and may be made of any suitable material.

ASSEMBLY

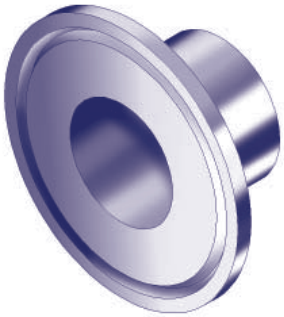


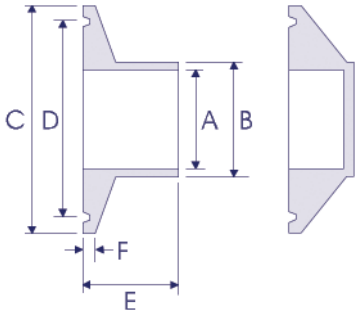




Typical Clamp

WELDING FERRULE

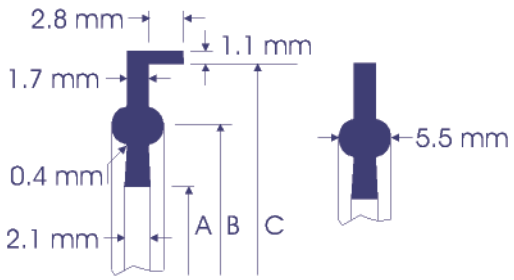




OD	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
25.4	22.2	25.65	50.5	43.5	21.5	2.85
38.1	34.9	38.35	50.5	43.5	21.5	2.85
50.8	47.6	51.05	64.0	56.5	21.5	2.85
63.5	60.3	63.75	77.5	70.5	21.5	2.85
76.2	73.0	76.45	91.0	83.5	21.5	2.85
101.6	97.6	101.85	119.0	110.0	21.5	2.85

SEALS

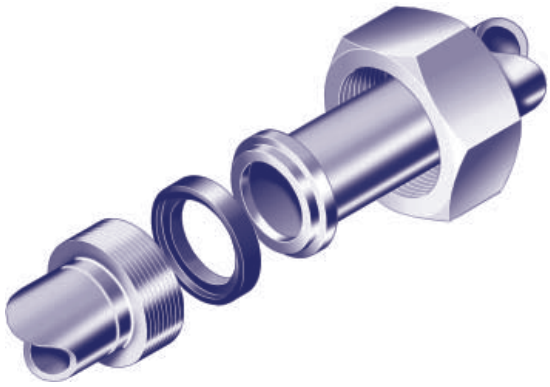
Two types of seal are defined in BS 4825, the first for use when a joint is to be frequently disconnected and the second for use in less frequently disconnected joints. The dimensions of both types are given below:



OD	A	B	C
mm	mm	mm	mm
25.4	22.8	43.5	50.5
38.1	35.5	43.5	50.5
50.8	48.2	56.5	64.0
63.5	60.5	70.5	77.5
76.2	73.2	83.5	91.0
101.6	97.8	110.0	119.0

Hygienics

IDF UNIONS
BS 4825 : PART 4



The International Dairy Federation, IDF, coupling provides a crevice free joint originally designed for applications where frequent dismantling for cleaning would not be necessary. They may be operated at pressures up to 1.6 MPa.

The Liner is machined and the Nitrile or EPDM Seal is a square section and is more substantial than the RJT. The IDF Union also has a thicker Nut than the RJT. It is machined rather than pressed and is considered easier to use.

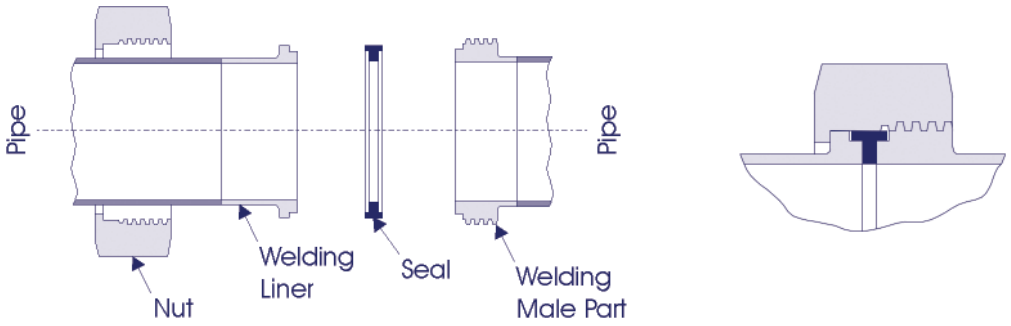
Compared to the RJT, the IDF has a smoother and cleaner flow line that is free of crevices and bug traps. It is used where CIP (Clean In Place) systems prevail, with the RJT only tending to be used where very regular access is needed.

IDF type couplings comprise four parts – a male part, a liner, a seal ring and a hexagonal or round nut.

The ends of the tubes and/or fittings to be joined have a male part and liner fitted by welding (or expansion on to expanded type parts if used). The joint is made by positioning the male part and the liner together, with a seal inserted between. The nut is then slipped over the liner, screwed on to the male part and tightened against the liner to compress the seal.

BS 4825 : Part 3 requirements for IDF union parts follow.

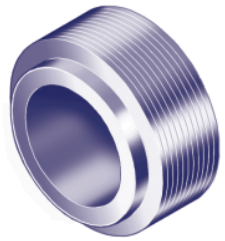
ASSEMBLY

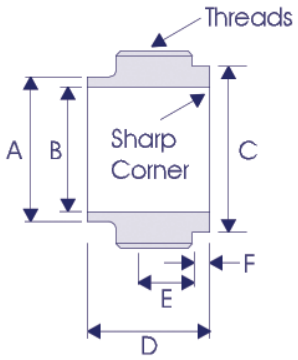


The illustration above shows the assembly of an IDF union with welded parts. Options:

- EXPANDED IDF: Expanded type union parts are available.
- ROUND NUTS: True IDF round nuts have no slots on their circumference, making them tamper proof, but necessitating the use of a special spanner.

WELDING MALE PART (THREADED)



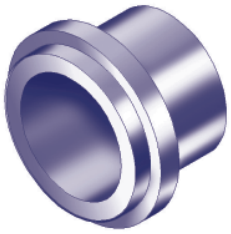


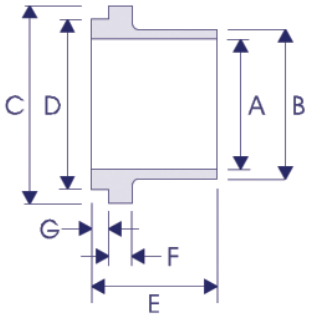
NOTES

- An ACME form thread is used.

OD	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
25.4	25.65	22.2	29.2	21.5	13.5	3.0
38.1	38.35	34.9	42.7	21.5	13.5	3.0
50.8	51.05	47.6	56.2	21.5	13.5	3.0
63.5	63.75	60.3	69.9	21.5	13.5	3.0
76.2	76.45	73.0	82.6	21.5	13.5	3.0
101.6	101.85	97.6	111.1	30.0	16.0	3.2

WELDING LINER





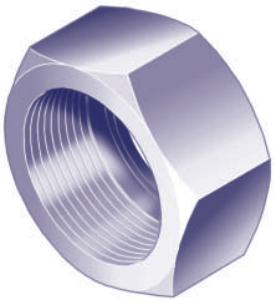
OD	A	B	C	D	E	F	G
mm	mm	mm	mm	mm	mm	mm	mm
25.4	22.2	25.65	33.8	29.2	21.5	4.0	3.0
38.1	34.9	38.35	47.0	42.7	21.5	4.0	3.0
50.8	47.6	51.05	60.5	56.2	21.5	4.0	3.0
63.5	60.3	63.75	74.0	69.9	21.5	4.0	3.0
76.2	73.0	76.45	87.5	82.6	21.5	4.0	3.0
101.6	97.6	101.85	120.6	111.1	30.0	4.75	3.2

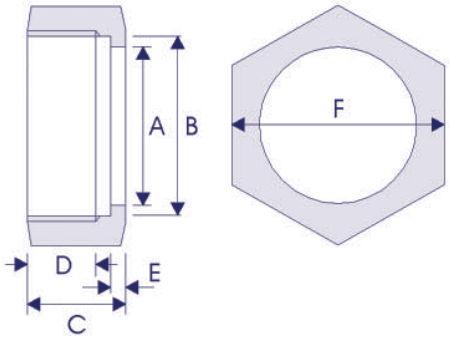
Hygienics

IDF UNIONS

BS 4825 : PART 4

HEXAGONAL NUT



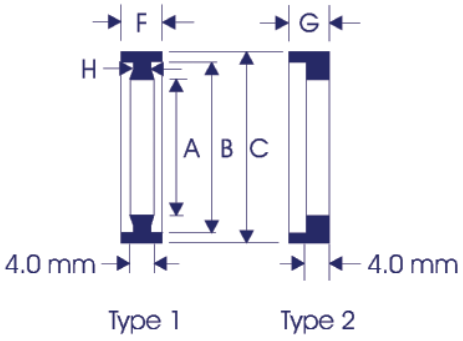


NOTES

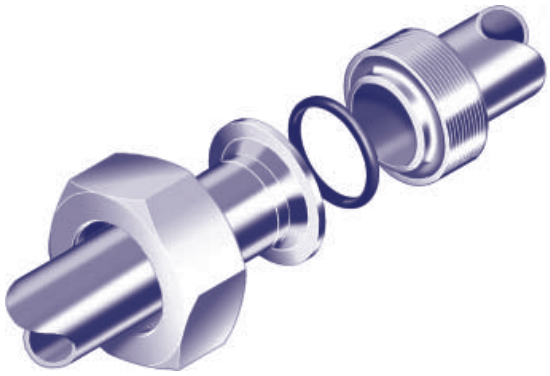
- An ACME form thread is used.
- A round nut may be specified.

OD	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
25.4	30.5	34.34	30	16	3.5	46
38.1	43.5	47.86	30	16	3.5	60
50.8	57.0	61.37	30	16	3.5	75
63.5	70.7	74.88	30	16	3.5	90
76.2	83.3	88.40	30	16	3.5	105
101.6	112.0	122.00	35	20	4.7	133

SEALS



OD	A	B	C	F	G	H
mm	mm	mm	mm	mm	mm	mm
25.4	23.2	29.2	32.5	7.0	6.0	3.0
38.1	35.9	42.7	46.0	7.0	6.0	3.0
50.8	48.6	56.2	59.5	7.0	6.0	3.0
63.5	61.3	69.9	73.2	7.0	6.0	3.0
76.2	74.0	82.6	86.5	7.0	6.0	3.0
101.6	98.6	111.0	119.0	9.6	6.0	5.0

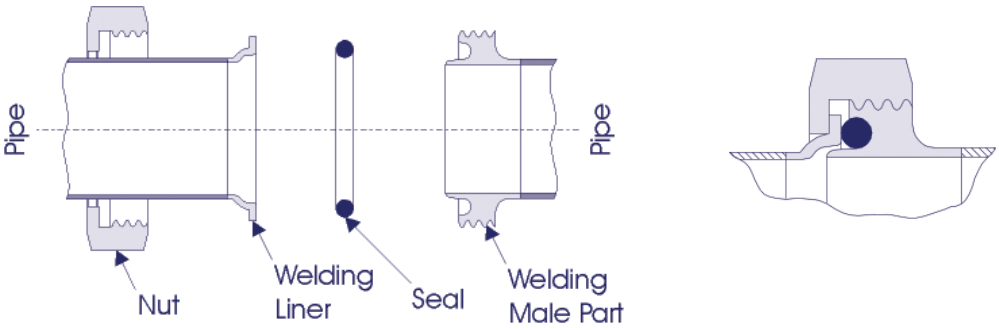


Ring Type Joint, RJT, unions are easily assembled and dismantled for cleaning purposes, this being a result of their having a Whitworth form thread. The RJT joint is not crevice free and may accumulate a deposit of the product being passed. However, present day cleaning systems are able to sanitise this area successfully without dismantling in the majority of applications. RJT unions may be operated at pressures up to 1.0 MPa.

RJT type couplings comprise four parts – a male part, a liner, an O-ring seal and a hexagonal nut. The ends of the tubes and/or fittings to be joined have a male part and liner fitted by welding (or expansion on to expanded type parts if used). The joint is made by positioning the male part and the liner together, with a seal inserted between. The nut is then slipped over the liner, screwed on to the male part and tightened against the liner to compress the seal.

BS 4825: Part 5 requirements for RJT union parts follow. Additional RJT components are also available (see page 74).

ASSEMBLY



The illustration above shows the assembly of an IDF union with welded parts.

Options:

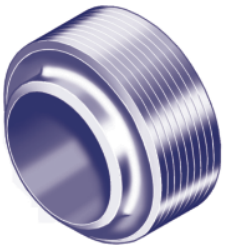
- EXPANDED RJT: Expanded type union parts are available.

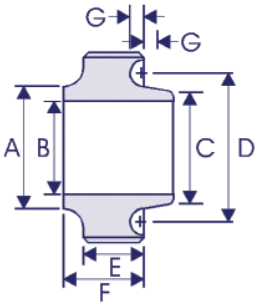
Hygienics

RJT UNIONS

BS 4825 : PART 5

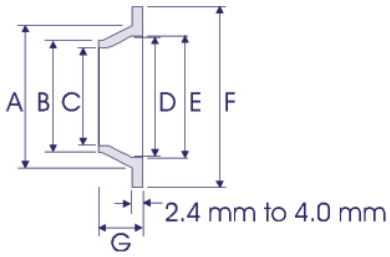
WELDING MALE PART (THREADED)





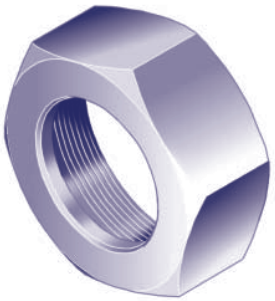
OD	A	B	C	D	E	F	G
mm	mm	mm	mm	mm	mm	mm	mm
25.4	25.65	22.2	25.4	33.3	14.3	21.5	4.8
38.1	38.35	34.9	38.1	46.0	14.3	21.5	4.8
50.8	51.05	47.6	50.8	58.7	14.3	21.5	4.8
63.5	63.75	60.3	63.5	71.4	14.3	21.5	4.8
76.2	76.45	73.0	76.2	84.1	14.3	21.5	4.8
101.6	101.85	97.6	101.6	109.5	14.3	21.5	4.8

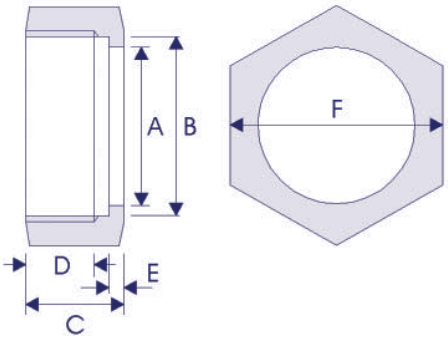
WELDING LINER



OD	A	B	C	D	E	F	G
mm	mm	mm	mm	mm	mm	mm	mm
25.4	32.5	25.65	22.2	26.2	27.8	41.3	10 or 12.7
38.1	45.2	38.35	34.9	38.9	40.5	54.0	10 or 12.7
50.8	57.9	51.05	47.6	51.6	53.2	66.7	10 or 12.7
63.5	70.6	63.75	60.3	64.3	65.9	79.4	10 or 12.7
76.2	83.3	76.45	73.0	77.0	78.6	92.1	10 or 12.7
101.6	108.5	101.85	97.6	102.4	104	117.5	12.7 or 25.4

HEXAGONAL NUT





OD	A	B	C	D	E	F
mm	mm	mm	mm	mm	mm	mm
25.4	33.3	46.6	22.2	15.1	4.0	50.8
38.1	46.0	59.3	22.2	15.1	4.0	65.0
50.8	58.7	73.6	22.2	15.1	4.0	79.4
63.5	71.4	86.3	22.2	15.1	4.0	92.1
76.2	84.1	99.0	22.2	15.1	4.0	104.8
101.6	109.5	124.4	22.2	15.1	4.0	130.2

RING JOINT SEALS

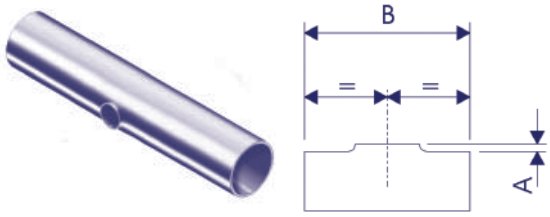
OD	A	B
mm	mm	mm
25.4	33.3	6.6
38.1	46.0	6.6
50.8	58.7	6.6
63.5	71.4	6.6
76.2	84.1	6.6
101.6	109.5	6.6

Hygienics

ADDITIONAL HYGIENIC FITTINGS AND COMPONENTS

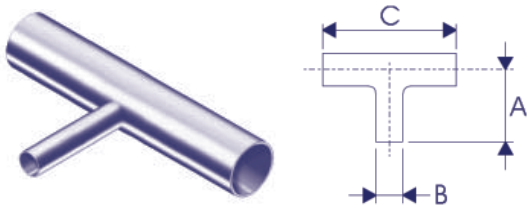
This subsection covers additional fittings and components that are compatible with the BS 4825 tube and fittings specifications.

PULLED TEES



OD	A	B
mm	mm	mm
25.4	2	89
38.1	2	130
50.8	3	178
63.5	3	229
76.2	3	267
101.06	5	348

REDUCING TEES



OD	A	B	C
mm	mm	mm	mm
38.1 to 25.4	38	25.4	70
50.8 to 25.4	51	25.4	82
50.8 to 38.1	51	38.1	82
63.5 to 38.1	63.5	38.1	105
63.5 to 50.8	63.5	50.8	105
76.2 to 50.8	76	50.8	110
76.2 to 63.5	76	63.5	110

CONCENTRIC AND ECCENTRIC REDUCERS

Eccentric Reducer

Concentric Reducer

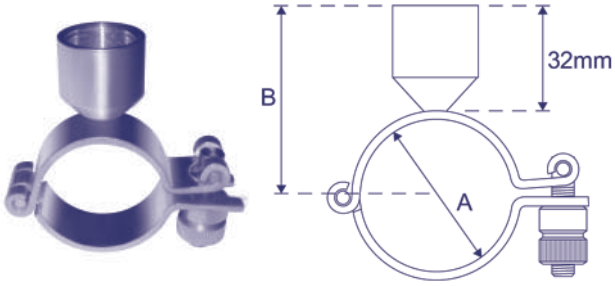
OD	Availability	
mm	Eccentric	Concentric
38.1 to 25.4	✔	✔
50.8 to 38.1	✔	✔
50.8 to 25.4	✔	✔
63.5 to 50.8	✔	✔
63.5 to 38.1	✔	✔
63.5 to 25.4	✔	-
76.2 to 63.5	✔	-
76.2 to 50.8	✔	✔
76.2 to 38.1	✔	✔
76.2 to 25.4	✔	✔
101.6 to 76.2	✔	✔
101.6 to 63.5	✔	-

NOTES

- Dimensions are subject to agreement with purchaser

HINGED PIPE CLIP

Two piece hinged pipe clip tightened by an M8 knurled thumb nut and having a BSP threaded boss.



OD	A	B
mm	mm	mm
½	12.7	40
¾	19.0	40
1	25.4	45
1½	38.1	50
2	50.8	60
2½	63.2	65
3	76.2	70
4	101.6	80

NOTES

- Dimensions are subject to agreement with purchaser