

ISO 9001:2015, 14001:2004, 18001:2007 Certified Company



## BUTT-WELD PIPE FITTINGS B16.9 & B16.28 Standard ANSI B16.9, ANSI B16.28, MSS-SP-43

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**Creative Piping (UNIT I)** 



**Creative piping (UNIT II)** 



CNC Shop



## Machine Shop









HYDRO-FORMING Press



## Butt Weld Fittings Introduction

Butt Weld Fittings are a family of fittings used for forming circumferential butt weld joints in pipework systems

They are used only in conjunction with ANSI Pipe and are available in the same size range. They are used in areas where pipework is permanent and are designed to provide good flow characteristics.

#### Manufacture

**Materials**. Refer to chemical composition table ASTM A240 on page 1-6. Fittings may be made from forgings, bars, plates, or seamless or welded tubular products, provided the materials conform to the chemical composition table.

**The steel** may be melted by electric-furnace, or vacuum-furnace, or by either of these followed by vacuum or electroslagconsumable remelting.

**Forming.** Fittings may be formed by hammering, pressing, piercing, extruding, upsetting, rolling, bending, fusion welding, machining or any combination of these processes.

<u>Heat Treatment.</u> All fittings are heat treated in accordance with the heat treatment table. All welding must be done prior to heat treatment.

#### Manufacturing standards

Wrought pipe fittings are manufactured to dimensions and tolerances in ANSI B16.9 with the exception of short radius elbows and return bends which are made to ANSI B16.28. Light-weight corrosion resistant fittings are made to MSS SP43.

- Butt Weld Fittings are available to ASTM A403, ASTM A815 and MSS SP43. These standards require the fittings to be manufactured as follows:
- Seamless austenitic fittings are made from seamless pipe to ASTM A312.
- Welded fittings in austenitic grades are manufactured from welded pipe to ASTM A312 or plate to ASTM A240. Note that welded fittings manufactured from plate may have two-welds.
- Duplex (ferritic/austenitic) grades are manufactured from pipe to ASTM A790 or plate to ASTM A240

ASTM A403/A815 Butt Weld Fittings are sub-divided into four classes:

**WP-S:** Made from seamless pipe to ASTM A312 (Austenitic) or ASTM A790 (Duplex).

**WP-W:** Manufactured from welded pipe to ASTM A312 (Austenitic) or ASTM A790 (Duplex). There is no requirement for radiography unless a manufacturer's weld has been introduced or there are welds made with the addition of filler metal.

**WP-WX:** Of welded construction. All welds must be 100% radiographed in accordance with Paragraph UW-51 of Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code.

**WP-WU:** Of welded construction. All welds must be 100% examined ultrasonically in accordance with Paragraph UW-51 of Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code. Note that this Class only applies to austenitic fittings made to ASTM A403.

CR Fittings are manufactured to the requirements of MSS SP43. These are light-weight fittings and do not require radiography.

#### Notes:

WP: Means Wrought Pipe CR: Means Corrosion Resistant

#### Markings on tube and fittings

The full identification of the fitting should be marked on it including:

- Nominal Pipe Size (Nominal Bore)
- Schedule (Wall Thickness)
- Specification
- Grade
- Method of Manufacture (Seamless or Welded)
- Heat Number
- Manufacturer's Name or Symbol



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# **Buttweld Fittings**

A pipe fitting is defined as a part used in a piping system, to change direction or function, which is mechanically joined to the system.

Probably the simplest way to achieve this would be to bend the pipe in the direction required, but this process will stretch and thin the outer wall whilst thickening and wrinkling the inner wall. This results in flow resistance and accelerated wall erosion.

A second method sometimes used is a mitre joint, where pipes are cut to the correct angle and welded together to achieve the desired change. Whilst the cross-sectional area and wall thickness are maintained, a great deal of efficiency is lost due to friction and turbulence resulting from the severe changes in direction. For example, a single-mitre bend offers about six times the resistance of a swept elbow. For these reasons swept fittings are preferred on most piping systems, particularly where internal pressure, flow and corrosion are of major consideration.

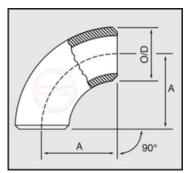
#### TYPES AND APPLICATIONS OF BUTTWELD FITTINGS

A piping system using buttweld fittings has many inherent advantages over other forms.

- Welding a fitting to the pipe means it is permanently leakproof.
- The continuous metal structure formed between pipe and fitting adds strength to the system.
- Smooth inner surface and gradual directional changes reduce pressure losses and turbulence and minimise the action of corrosion and erosion.
- A welded system utilises a minimum of space.



#### 90° ELBOWS



The function of a 90° elbow is to change direction or flow in a piping system. Elbows are split into three groups which define the distance over which they change direction, expressed as a function of the distance from the centre line of one

end to the opposite face. This is known as the centre to face distance and is equivalent to the radius through which the elbow is bent.

#### Long Radius Elbow

The most common is the long radius (LR) elbow where the centre to face dimension is always 1-½ times the nominal pipe size of the elbow.

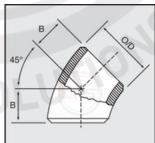
#### Short Radius Elbow

In this case the centre to face dimension is the same as the nominal pipe size of the elbow.

#### Extra Long Radius

This is where the centre to face dimension is longer than the standard long radius type. The most common of these is where the centre to face dimension is three times the nominal size. i.e. 3D.

#### **45° ELBOWS**



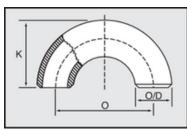
The function of a 45° elbow is the same as a 90° elbow, but the measurement of dimensions, however, is different to that of the 90° elbow. The radius of a 45° elbow is the same as the radius of the 90° LR elbow where 'R' equals  $1-\frac{1}{2} \times D$ . However, the centre to face

dimension is not equivalent to the radius as in 90° LR elbows. This is measured from each face to the point of intersection of the centre lines perpendicular to each other. This is due to the smaller degree of bend.





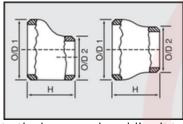
#### **180° RETURN BENDS**



The function of a 180° return bend is to change direction of flow through 180° and there are two basic types, long radius and short radius. Both types have a centre to centre dimension double the

matching 90° elbows. The primary application for these fittings is in heater coils and heat exchangers, boilers etc.

#### ECCENTRIC AND CONCENTRIC REDUCERS

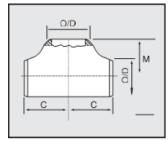


The function of both types of reducer is to reduce the line from a larger to a smaller pipe size, this obviously results in an increased flow pressure. With the eccentric reducer the smaller outlet end is off centre

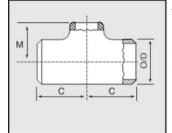
to the larger end enabling it to line up with one side of the inlet and not with the other.

The concentric reducer is so manufactured that both inlet and outlet ends are on a common centre line. The concentric reducer is easier and less expensive to produce but does not allow quite the same versatility as the eccentric reducer. The lengths of both types are fixed by manufacturing standards.

#### EQUAL AND REDUCING TEES

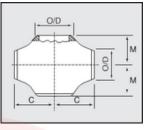


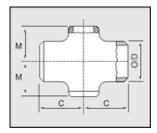
The function of a tee is to permit flow at 90° to the main direction of flow. The main flow passes through the 'run' whilst the 90° outlet is known as the 'branch'. The equal tee is manufactured with all three outlets being the same size.



The reducing tee is manufactured with the branch outlet smaller than the run to obtain the desired flow and pressure through the system.

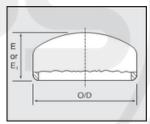
### EQUAL AND REDUCING CROSSES





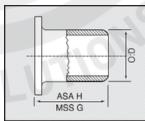
The function of a cross is similar to that of a tee with the exception of providing two 90° outlets opposite each other. Equal crosses have all four outlets of equal size. Reducing crosses have branches that are smaller in size to that of the run to obtain the desired flow and pressure through the system.

#### CAPS



The function of an end cap is to block off the end of a line in piping systems. This is achieved by placing the end cap over the open line and welding around the joint.

#### **STUB ENDS**



A stub end and its associated slip-on flange allows quick disconnection of the particular section involved as well as easy alignment of mating flanges. Stu ends are installed in pairs and mated together with two slip-or

flanges. The surface of the stub end has a phonographic serrated gasket surface which prevents leakage at the joint.

There are two basic types of stub end, ANSI types A & B long barrel, and M.S.S. types short barrel. Under certain design criteria such as temperature or pressure, it is not acceptable to have the joint between stub end and pipe in close proximity with the flange joint, in these applications ANSI types are used.

Type A stub ends are used with lap joint flanges. Type B stub ends are used with slip-on flanges.





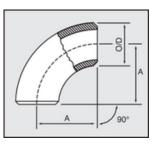


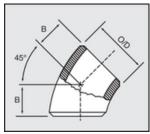
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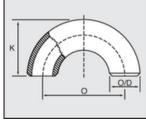
## **BUTTWELD FITTINGS WEIGHTS & DIMENSIONS**

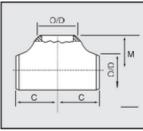


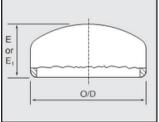






















**BUTT-WELD FITTINGS** 

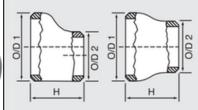
Standard ANSI B16.9, ANSI B16.28, MSS-SP-43

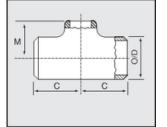
	CI	REA'	ΓΙΥ	E PIPI	NG S	SOLUI	rion	S PRIV	ATE	E LIM	ITED		<u>(w</u>	<u>ww.ci</u>	<u>reativefo</u>	<u>ged.c</u>	<u>om)</u>
	Nominal Size		90° LR ELBOW		45° LR ELBOW		90° SR ELBOW		180	)° LR E	LBOW	Equal	Тее		Cap	S	
m m	inch		A	Weight	В	Weight	A	Weight	0	K	Weight	C and M	Weight	E†	Limiting Wall	<b>E1</b> ‡	Weight
80	3	5S 10S 40S 80S 160 XXS	114	0.91 1.22 2.19 2.98 4.35 5.96	51	0.48 0.63 1.08 1.50 2.18 3.01	76	0.80 0.99 1.50 1.91 2.77 3.82	229	159	2.00 2.40 4.50 5.88 8.20 11.00	86	1.55 1.77 3.32 4.45 6.50 8.91	51	7.62	64	0.39 0.40 0.71 0.85 1.23 1.70
90	3-1/2	5S 10S 40S 80S 160 XXS	133	1.19 1.70 2.84 4.00 - 8.00	57	0.53 0.75 1.42 2.00 - 4.00	89	1.07 1.39 2.06 2.43 - 4.86	267	184	3.20 4.00 5.80 7.92 - WOR	95	2.50 2.67 4.09 5.45 - 10.91	64	8.13	76	0.55 0.57 1.02 1.14 - 2.27
100	4	5S 10S 40S 80S 160 XXS	152	1.50 2.16 4.18 6.20 9.79 12.39	64	0.75 1.08 2.09 3.10 4.94 6.20	102	1.42 1.72 3.13 4.12 6.46 8.24	305	210	3.68 4.44 6.00 12.36 19.80 24.80	105	3.27 3.47 5.29 7.73 12.21 15.45	64	8.64	76	0.57 0.65 1.22 1.61 2.52 3.22
127	5	55 105 405 805 160 XXS	190	2.95 3.64 6.88 9.60 16.04 19.21	79	1.48 1.82 3.44 4.80 7.96 9.60	127	2.25 2.78 5.29 7.32 12.15 14.64	381	262	7.60 8.52 15.00 18.90 30.00 37.00	124	5.91 6.11 9.43 11.36 18.98 22.73	76	9.65	89	0.91 1.02 1.85 2.56 4.26 5.12
150	6	5S 10S 40S 80S 160 XXS	229	4.55 5.45 10.91 16.36 27.16 32.73	95	2.27 2.73 5.45 8.18 9.49 16.36	152	3.52 4.16 7.95 11.82 19.62 23.64	457	313	9.80 12.00 18.00 33.60 52.00 60.00	143	7.82 8.09 11.02 13.64 22.64 27.27	89	10.92	102	1.25 1.36 3.24 4.55 7.27 9.09
200	8	55 105 405 805 160 XXS	305	7.86 10.68 21.59 33.18 60.00 57.73	127	3.93 5.34 10.80 16.59 29.20 29.03	203	7.02 8.01 17.09 24.91 45.08 49.55	152	106	16.00 21.48 40.80 71.40 118.00 122.00	178	14.09 15.68 20.95 28.18 50.91 49.09	102	12.70	127	2.05 2.50 5.68 7.45 13.47 10.35
250	10	5S 10S 40S 80S 160 XXS	381	14.55 19.55 38.64 51.82 116.36 -	159	7.27 9.77 19.32 25.91 57.73	254	12.45 15.91 28.64 45.36 101.82	762	518	36.00 51.28 79.80 104.00 220.00	216	25.00 26.82 35.45 50.00 112.27 -	127	12.70	152	4.32 4.91 9.23 12.41 27.92 -

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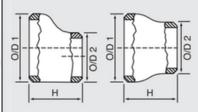


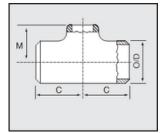


	<u>fi</u>	<u>tting</u>	s-as	<u>me-b16</u>	-9					1	itting	g <mark>s-a</mark> s	sme-b1	<u>6-9</u>		
CRE	ATIVE PIPI	NG SOL			LIMIT	ED			С	REATIVE PIP	'ING SOL			E LIMI	TED	
	ninal Size	WT SCH	Ecc	entric and centric ducers	Red	lucin	g Tees			ominal Size	WT SCH	Ec	entric and ccentric educers	R	educir	ng Tees
nm OD1 X OD2	inch OD1 X OD2		H	Weight	С	М	Weight		mm OD1 X OD2	inch OD1 X OD2		H	Weight	С	М	Weigh
		5S		0.08			0.09				5S		0.11			0.38
	Ì	10S	' L	0.10			0.11				10S		0.20			0.60
20 X 15	3/4 X 1/2	40S	38	0.14	29	29	0.15			1-1/2 X 1	40S	64	0.26	57	57	0.76
	,, <b>_</b>	80S		0.18			0.18		40 X 25		80S		0.34			0.90
	F	160 vvc	۱ I	0.25			0.26				160		0.47			1.26
		XXS		0.36			0.37				XXS		0.67			1.80
		5S 10S		0.07			0.16				5S		0.12			0.39
		10S 40S		0.12			0.25				105		0.21			0.61
25 X 15	1X1/2	405 80S	51	0.15	38	38	0.26		40 X 32	1-1/2 X 1-1/4	40S 80S	64	0.28 0.36	57	57	0.78
		160		0.20			0.34				80S		0.36			0.92
		XXS		0.28			0.47				XXS		0.51			1.29
		5S		0.40			0.68				5S		0.73			1.84 0.46
	ŀ	105		0.08			0.10				55 10S		0.15			0.46
	-	40S		0.16			0.20				40S		0.23	1		1.09
25 X 20	1X3/4	80S	51	0.22	38	38	0.35		50 X 20	2 X 3/4	403 80S	76	0.50	64	44	1.07
		160		0.22			0.49				160		0.30			2.12
	-	XXS		0.45			0.70				XXS		1.01	-	l	2.70
		5S		0.30			0.10	1			5S		0.17			0.47
		10S		0.44			0.18				105		0.28			0.73
20 77 0.0	11// 20 //	40S	51	0.52	10	10	0.22		<b>FO 1</b>	6 M .	40S		0.40			1.10
52 A 20	1-1/4 X 3/4	80S	51	0.60	48	48	0.25		50 X 25	2X1	80S	76	0.54	64	51	1.37
		160		0.79			0.33				160		0.84			2.15
		XXS		1.20			0.51				XXS		1.07			2.74
		58		0.10			0.31				55		0.19			0.49
	ľ	10S		0.18			0.45				10S	21	0.31	]		0.76
32 X 25	1-1/4 X 1	40S	51	0.22	48	48	0.53		50 X 40	2 X 1-1/2	40S	76	0.45	64	60	1.15
	/ 1471	80S	51	0.27			0.61	C	50 A 40	2 A 1-1/2	80S	10	0.59			1.43
		160	۱ <u>۱</u>	0.37			0.80	0	U		160		0.93			2.25
		XXS		0.54			1.23				XXS		1.18			2.86
		5S		0.11			0.37				5S		0.25			0.83
		105		0.18			0.59				10S		0.38			1.20
40 X 20	1-1/2 X 3/4	40S	64	0.24	57	57	0.74		65 X 25	2-1/2 X 1	40S	89	0.65	76	57	1.87
		80S		0.32	57 5		0.88			-,	80S		0.87	76		2.66
		160 VVC		0.45			1.23				160		1.18			3.62
		XXS		0.65			1.76	1			XXS		1.75			5.33







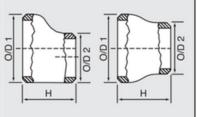


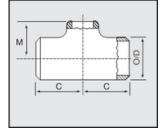


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	fitting	<u>gs-as</u>	<u>me-b16</u>	<u>5-9</u>					1	<u>fitting</u>	<u>gs-a</u>	sme-b1	<u>6-9</u>		
<b>CREATIVE P</b>	IPING SOI	UTION	S PRIVATE	LIMIT	ED			CR	REATIVE PIF	PING SOI	UTIO	NS PRIVATI	E LIMI	TED	
Nominal WT Size SCH		Eco	Concentric and Eccentric Reducers		Reducing Tees			Nominal Size		WT SCH	Ec	entric and ccentric educers	R	Reducing Tees	
mm OD1 inch OD1 X OD2 OD2	X	H	Weight	С	М	Weight		mm OD1 X OD2	inch OD1 X OD2		H	Weight	с	М	Weight
	5S		0.30			0.86				5S		0.55			2.78
	10S	]	0.45			1.24				105	1	0.79	1		2.95
65 X 40 2-1/2 X 1-	40S	89	0.76	76	67	1.94		100 X 50	4 X 2	40S	102	1.58	105	89	4.49
05 X 40 2-1/2 X 1-	80S	] 0/	0.94	10	07	2.76		100 A 50	4 A Z	80S	102	1.96	105	07	6.57
	160		1.27			3.75				160		3.07	1		10.38
	XXS		1.88			5.52				XXS		3.92			13.14
	5S		0.32			0.88				5S		0.58			2.81
	10S		0.47			1.27				105		0.83			2.98
64 X 50 2-1/2 X	40S	89	0.80	76	70	1.98		100 X 65	4 X 2-1/2	40S	102	1.66	105	95	4.55
2-1/2 X	2 80S		1.03	10	10	2.82		100 X 63	472-1/2	80S	102	2.20	105	95	6.65
	160		1.39			3.84				160		3.45			10.50
	XXS		2.05			5.65				XXS		4.39			13.29
	<mark>5</mark> 5		0.35			1.33				5S		0.61			2.88
	10S		0.51			1.52				10S		0.87			3.05
30 X 40 3 X 1-1/	40S	89	0.94	86	73	2.85		100 X 80	4 X 3	40S	102	1.75	105	98	4.65
	2 80S		1.21	00	10	3.83		100 X 90	413	80S	102	2.34	] 105	70	6.80
	160		1.75			5.59				160		3.67			10.74
	XXS		2.42			7.66				XXS		4.67			13.60
	5S		0.38			1.36				5S		1.20			5.08
	10S		0.55			1.56				105		1.45	1		5.25
30 X 50 3 X 2	40S	89	1.00	86	76	2.92		125 X 080	5 X 3	40S	127	2.86	124	111	8.11
UNU UNZ	80S		1.30	00	.0	3.92		125 A 060	373	80S	127	3.89	124	m	9.77
	160		1.88			5.72				160		6.45		5	16.32
	XXS		2.59			7.84				XXS		7.77			19.55
	5S		0.41			1.39				5S		1.25			5.32
	10S		0.59			1.60				10S		1.50			5.50
30 X 65 3 X 2-1/	40S	89	1.08	86	83	2.99		125 X 100	5 X 4	40S	127	2.99	124	117	8.49
	80S		1.49	00	00	4.01		123 A 100	544	80S	121	4.14	124		10.23
	160		2.16			5.85				160		6.87			17.08
	XXS		2.98			8.02				XXS		8.28			20.45
	5S		0.48		1	2.75		-1		5S		1.51			6.65
	10S		0.68		V	2.91				105		1.82			6.88
00 X 65 4 X 1-1/	40S	102	1.36	105	86	4.44		150 X 90	( V 2	40S	1/0	3.99	143	19.6	11.96
4 1-1/	2 80S	102	1.90	105	00	6.49		150 X 80	6 X 3	80S	140	5.52		124	11.59
	160		2.98			10.25				160		9.17			19.24
	XXS		3.80			12.98				XXS		11.05			23.18
ore Details	. 101 2	0452	12226				144		tiveforge	deam	/butt	wold nin	o fitt	inge	acma h1











SITTING Substrate Service	www.	.creativ					<u>eld-</u>	<u>pipe-</u>		www	v.creati	vefor	<u>ged</u>	.com/b	uttv	<u>veld</u>	<u>pipe-</u>
Nominal Size         WT SCH 002         Concentric and Econtric for 002         Reducers         Nominal Size         WT SCH SCH         Concentric and Reducers         Reductry Reducers         Reductry Reducers           mm 000 X 002         incb 001X 002         H         Weight         C         M         Weight <th></th> <th><u>fi</u></th> <th><u>ttings</u></th> <th>-asr</th> <th><u>ne-b16</u></th> <th><u>-9</u></th> <th></th> <th></th> <th></th> <th></th> <th>1</th> <th><u>fitting</u></th> <th><u>gs-a</u></th> <th>sme-b1</th> <th><u>6-9</u></th> <th></th> <th></th>		<u>fi</u>	<u>ttings</u>	-asr	<u>ne-b16</u>	<u>-9</u>					1	<u>fitting</u>	<u>gs-a</u>	sme-b1	<u>6-9</u>		
Naminal NameNominal NoNominal NoNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal SizeNominal Size	CREA	ATIVE PIPI	NG SOLUT	FIONS	PRIVATE	LIMITE	ED			CR	EATIVE PIE	PING SOL	UTIO	NS PRIVATI	E LIMI	TED	
002         002         012 <th></th> <th></th> <th></th> <th>Ec</th> <th>centric</th> <th colspan="3"></th> <th></th> <th colspan="2"></th> <th></th> <th colspan="2">WT Eccentric</th> <th colspan="3">Reducing Tees</th>				Ec	centric								WT Eccentric		Reducing Tees		
150 X 1006 X 41084040.995.779.7010.959.7010.9510.979.7010.9510.9710.9710.9510.97				H	Weight	С	М	Weight					H	Weight	С	М	Weight
150 X 100     6 X 4     468 160     409 5.97 5.97 5.97 5.97 5.97 5.97 5.97 5.9			5S		1.55			6.88				5S		3.92			21.50
150 X 100     6 X 4     808     140     5.97     143     130     20.0     19.92     10.5     805     160     14.3     19.92     19.92     10.5     805     160     10.27     32.09     96.36			10S	]	1.96							10S	1	4.90	1		23.06
100     100 <td>150 X 100</td> <td>6X4</td> <td>40S</td> <td>140</td> <td>4.09</td> <td>143</td> <td>130</td> <td></td> <td></td> <td>250 X 125</td> <td>10 X 5</td> <td>40S</td> <td>178</td> <td>10.89</td> <td>216</td> <td>191</td> <td>30.49</td>	150 X 100	6X4	40S	140	4.09	143	130			250 X 125	10 X 5	40S	178	10.89	216	191	30.49
XXX11.95X24.00XXXXXX0000XXX10820200	100 11 100	0111				110	100			200 A 120	10 A 5	80S	170	14.27	210	1/1	43.00
150 X 125         6 X 5         164 405 405 105 105 105 105 105 105 105 105 105 1														32.09			96.36
150 X125         6X5         108 405 808         40 405 808         40 403 627         403 627         403 626         407         400 808         407         400 808         407         400 808         407														-			-
150 X125     6 X 5     406 808     407 160     4.31 6.27     10,40 16.27     9.92 12.27     9.92 20.37     10 X 6     10,50 808     10,50 16.0     11,15 14.82     21,16 3.322     33.20       200 X 100     8 X 4     105 808     16.6     10.6     10.7     13.49     14.7     10.8     14.82     14.7     12.7     14.1     13.91       200 X 100     408     16.7     10.6     16.6																	
150 X 125     6 X 5     806     140     6.27     143     137     1227     200 X 100     108 K     178     178     14.82     160     14.00     98.64       100     100     100     100     100     100 K     100 K <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>																	
id0         id0 <td>150 X 125</td> <td>6 X 5</td> <td></td> <td>140</td> <td></td> <td>143</td> <td>137</td> <td></td> <td></td> <td>250 X 150</td> <td>10 X 6</td> <td></td> <td>178</td> <td></td> <td>216</td> <td>194</td> <td></td>	150 X 125	6 X 5		140		143	137			250 X 150	10 X 6		178		216	194	
XXSXXS12.54XXS24.55XXSXXS-0010825310830230213.4913.4913.4910852111.5824.141004081526.5617815624.2410.8808156156.130.010.9131.91200 X 1258X56.5616.2017815612.4010.840.5156.130.010.9131.91200 X 1258X54081526.7217816218.4424.8010.87.45556.377.4534.01200 X 1258X54081526.7217816218.4424.8010.87.45155.120.1955.634.41200 X 1258X5408152177.517816214.1118.8424.8010.8155.120.1955.534.41200 X 150160177.517816825.3610.1510.86.577.6933.20200 X 150100100177.510.5425.3610.1510.86.577.6934.80100 X 16100177.517.7514.1810.810.810.810.810.1410.14250 X 100100 X 1618.3217.7512.1210.810.1410.1410.1410.1410.1410.1410.1410.1410.1410.1410.1410.1410.14<		-															
200 X 1008 X 4														33.32			98.64
108         108         302         1349         108         406         1521         11.58         11.58         11.58         11.58         11.58         11.51         11.58         11.51         11.58         11.51         11.58         11.51         11.58         11.51         11.51         11.58         11.51														-			-
200 X 100     8 X 4     408 808     152 9.25     6.56 9.25     178 9.25     18.02 2.2.24     20 X 200     10 X 8     408 808     178 16.0     11.58 15.61     210     10.01       160     70.5     16.00     70.5     70.5     10.00     100.91     100.91       200 X 125     8 X 5     58 405     2.21 405     3.09     8 X 6     6.37     7.45     2.44     3.09     3.40     3.40     3.00     3.00     10.00     100.91     3.05     7.45     3.40     3.		-															
200 X 100     8 X 4     805     152     9.25     178     156     24.24     43.77     42.33     10 X 8     805     15.61     216     194     45.00       100     XXS     16.0     16.75     16.20     16.75     16.20     10 X 8     805     15.61     35.05     10 0.91       200 X 125     8 X 5     58     221     3.09     12 X 6     18.44     37.7     10 X 8     805     15.51     216     194     45.00       200 X 125     8 X 5     58     2     3.09     18.44     24.00     18.44     24.00     10 X 8     805     15.51     216     194     45.00       200 X 125     8 X 5     100     12     6.77     7.45     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.51     25.4     15.61     15.61     15.61     25.4     15.61     25.4     15.61     25.4     15.61     15.61     25.4     15.61     25.4     15.61     25.4     15.61     25.4     15.61     25.4     15.61     25.4     15.61 <td></td> <td></td> <td></td> <td rowspan="3">152</td> <td></td>				152													
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	200 X 100	8 X 4				- 178 -	156			250 X 200	10 X 8		178		216	194	
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105 405 160152 406 1603.09 6.72 9.6917.5018.44 24.8018.44 24.80105 44.77105 405 16017.5018.44 24.80160 17.5016.9617.5044.77 43.1844.77 43.1816077.45 16020.19 52.73219 160219 18.09200 X 150 200 X 15055 40655.64300 X 15016055.71219 55.71219 55.6420.19 18.20200 X 150 200 X 15055 406105 1053.20 10517.7512.68 16.96178 17.7512.68 16.96160 17.5055.643.20 16.963.20 17.693.20 17.693.20 17.693.20 17.69160 17.692.66,77 19.602.94 16.022.94 19.652.94 19.653.20 19.65200 X 150 16016017.50168 16.922.94 16.9216.02 19.652.94 19.652.94 19.652.94 19.652.94 19.65200 X 150 16010.04 17.7517.7512.25 17.693.00 X 200 10.0410.05 12.0110.14 12.012.94 10.042.94 10.14 <td< td=""><td></td><td><math>\bigcirc</math></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>6</td><td>32 45</td></td<>		$\bigcirc$														6	32 45
200 X 1258 X 5405186.729.691848.4424.8080520805201925472.2716017.5016.9644.7744.8716052.73102018.9018.90200 X 150XX16.967.5010.9612.6810.1558.5410.1533.20200 X 15058 X 63.203.2014.1118.8610.1558.5666.5733.20100 X 15010010010010010010010010020.9434.80100 X 15010.15				1									•				
200 X 125         8X 5         808         152         9.69         178         162         24.80         44.77         160         203         2019         254         219         72.27           XXS         16.96         17.50         44.77         44.77         160         XXS         5         52.73         189.09         189.09           200 X 150         108         32.0         44.77         44.11         160         52.73         6.57         33.20           40S         152         6.96         178         18.86         14.11         18.86         105         16.00         25.46         10.60         54.55         74.09         54.55         74.09         193.64         54.55         74.09         193.64         54.55         74.09         193.64         54.55         74.09         193.64         54.55         74.09         193.64         74.09         193.64         74.09         193.64         74.09         193.64         74.09         193.64         74.09         193.64         74.09         193.64         74.09         74.09         193.64         74.09         74.09         74.09         75.95         74.09         75.95         75.95         75.95         75.95			40S	1	6.72			18.44									
Index	200 X 125	8X5	80S	152	9.69	178	162	24.80		300 X 150	12 X 6		203		254	219	
58         2.30         12.68         108         6.57         33.20         34.80<			160		17.50			44.77				160		52.73			
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			XXS		16.96			43.18				XXS		- /		11	-
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$			5S		2.30			12.68				5S		6.57		-	33.20
200 X 150       8 X 6       152       10.15       178       168       25.36       300 X 200       12 X 8       805       203       20.94       254       229       74.09         160       18.32       17.75       44.18       44.18       160       XXS       55       54.55       193.64         XXS       17.75       44.18       44.18       160       XXS       -       193.64         XXS       17.75       44.18       23.25       XXS       58       6.83       33.95         100 X 4       408       178       10.54       21.6       23.25       300 X 250       10S       80S       800       800       33.95         250 X 100       10 X 4       408       12.58       21.6       184       42.50       300 X 250       10S       80S       800       203       6.83       24       241       35.59         250 X 100       10 X 4       408       12.58       28.32       216       184       42.50       300 X 250       10S       80S       16.67       254       241       55.91         197.73       160       28.32       95.45       160       56.36       56.36       197.73 </td <td></td> <td></td> <td>105</td> <td></td> <td>3.20</td> <td></td> <td></td> <td>14.11</td> <td></td> <td></td> <td></td> <td>10S</td> <td></td> <td>7.69</td> <td></td> <td></td> <td>34.80</td>			105		3.20			14.11				10S		7.69			34.80
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	200 V 150	0.7	40S	150	6.96	170	1/0	18.86		000 V 000	10 V 0	40S	000	16.02	05/	000	54.55
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	200 A 150	010	80S	] 1.52	10.15		100	25.36		300 X 200	12 X 8	80S	203	20.94	254	229	74.09
10X4         5S         3.79         21.25         5S         6.83         4.74         33.95           10S         4.74         23.25         30.14         105         405         10.54         30.14         10.54         10.54         23.25         102         405         10.54         10.75         10.75         10.75         10.75         10.75         10.75         10.75         10.75         10.75         10.75         10.75         10.75         10.75         10.75         1			160		18.32			45.91				160		54.55	1		193.64
10S         4.74         23.25         10S         40S         10.54         216         23.25         30.14         10S         40S         16.67         250 X 100         160			XXS		17.75			44.18				XXS		-			-
250 X 100         10 X 4         40s         18         10.54         216         <			5S									55		6.83			33.95
250 X 100       10 X 4       178       12.58       216       184       42.50       300 X 250       12 X 10       80S       203       2168       254       241       75.45         160       28.32       95.45       95.45       160       160       56.36       263       216       197.73					4.74					- 1		10S	-	8.00			35.59
80S         12.58         42.50         80S         21.68         75.45           160         28.32         95.45         160         56.36         197.73	250 X 100	10 X 4		178		216	184			300 X 250	12 X 10	40S	203	16.67	254	241	55.91
						_10				000 A 200	12 11 10	80S	200	21.68	204	271	75.45
XXS XXS					28.32			95.45						56.36			197.73
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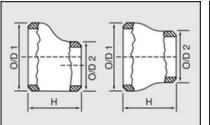
More Details: +91 7045212326

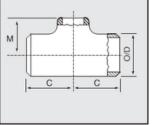
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	<u>creativ.</u> fi			<u>ne-b16</u>					
				TIONS PRIV		IMITE	ED		
	ninal ize	WT SCH	Ec	entric and ccentric educers		Reducing Tees			
nm OD1 X OD2	inch OD1 X OD2		H	Weight	С	М	Weight		
350 X 150	14 X 6	5S 10S 40S 80S 160	330	10.81 13.18 26.36 35.37	279	238	34.39 41.34 67.27 80.91		
350 X 200	14 X 8	XXS 5S 10S 40S 80S 160	- 330	11.41 13.91 27.89 36.92	279	248	- 7.04 7.28 9.92 12.27 20.37		
350 X 250	14 X 10	XXS 5S 10S 40S 80S	330	- 11.84 14.44 28.89 38.82	279	257	24.55 35.60 72.80 70.00 84.09		
	2	160 XXS		-			-		
350 X 300	14 X 12	5S 10S 40S 80S 160 XXS	330	12.56 15.32 30.65 40.44 -	279	270	36.41 43.77 71.36 85.91 -		
400 X 200	16 X 8	5S 10S 40S 80S 160 XXS	356	14.72 16.73 33.46 44.31	305	273	44.43 50.00 85.00 102.27 -		
i00 X 250	16 X 10	5S 10S 40S 80S 160	356	15.62 17.75 35.51 46.36	305	283	44.95 50.91 85.91 103.64		

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	<u>1</u>	<u>itting</u>	<u>gs-a</u> s	sme-b1	<u>6-9</u>							
CREATIVE PIPING SOLUTIONS PRIVATE LIMITED												
	ninal ize	WT SCH	Ec	entric and ccentric educers	Reducing Tees							
mm OD1 X OD2	inch OD1 X OD2		H	Weight	С	М	Weight					
400 X 300	16 X 12	5S 10S 40S 80S 160	356	16.18 18.39 36.78 47.73	305	295	45.91 51.82 87.73 105.91 -					
400 X 350	16 X 14	XXS 5S 10S 40S 80S	356	- 16.58 18.85 37.69 49.09	305	305	46.82 53.18 90.00 108.18					
		160 XXS 5S		- - 18.54			27.27					
450 X 250	18 X 10	10S 40S 80S 160 XXS	381	21.06 42.13 54.55 -	343	308	65.00 110.45 132.73					
450 X 300	18 X 12	XXS           5S           10S           40S           80S           160           XXS	381	18.94 21.52 43.05 57.27 -	343	321	58.18 65.91 111.82 134.55 -					
450 X 350	18 X 14	55 105 405 805 160 XXS	381	19.31 21.95 43.89 57.73	343	330	59.55 67.27 114.09 137.73 -					
450 X 400	18 X 16	5S 10S 40S 80S 160 XXS	381	19.84 22.55 45.09 59.09 -	343	330	60.91 69.09 116.82 140.45 -					

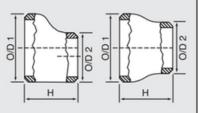
More Details: +91 7045212326

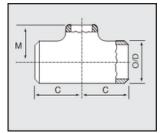
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				<u>ne-b16</u>					-			sme-b1			
	CREATIVI	E PIPING S		FIONS PRIV	ATE L	IMITE	E <b>D</b>		CREAT	TIVE PIP		DLUTIONS F	RIVA	TE LIMI	TED
Nom		WT		entric and centric	Rec	lucin	g Tees		ninal	WT Concentric and Eccentric SCH Reducers			Reducing Tees		ng Tees
Si	ze	SCH	Re	educers	-			S	Size			educers			
mm OD1 X OD2	inch OD1 X OD2		H	Weight	С	М	Weight	mm OD1 X OD2	inch OD1 X OD2		H	Weight	С	М	Weight
		5S		32.50			65.91			5S		WOR			78.47
		10S		32.50			87.73			10S		WOR			131.14
500 X 300	20 X 12	40S	508	65.00	381	346	138.18	550 X 450	22 X18	40S	508	WOR	419	394	131.14
0001000	201112	80S		85.91	001	010	165.91		22 /10	80S	500	WOR	117	374	170.74
		160		-			-			160		-			-
		XXS		-			-			XXS		-			-
		5S		32.95			66.82			5S		WOR			78.94
		10S		38.23			89.09	550 X 500		10S		42.01			132.06
500 X 350	20 X 14	40S	508	65.91	381	356	140.00		22 X 20	40S	508	68.94	419	406	132.06
		80S		87.21			168.18			80S		<mark>89.8</mark> 0	11/		172.88
		160		-			-			160		-			-
		XXS		-			-			XXS		-			-
		5S	- - 508	33.18	381 356		68.18			5S		44.55			116.36
		105		<u>38.49</u>			90.91			105		44.55			134.09
500 X 400	20 X 16	40S		66.36		356	143.18	600 X 400	24 X 16	40S	508	76.82	432	406	194.55
		805		<mark>88</mark> .64			171.82			80S		102.73	102		234.55
		160		-		-			160		-	4		-	
		XXS		-			-			XXS		-			-
		5S		34.32			70.00			5S		45.45	Γ.	1	119.09
		105		26.17			93.18			105		45.45	/ 7		137.27
500 X 450	20 X 18	40S	508	68.64	381	368	146.36	600 X 450	24 X 18	40S	508	78.64	432	406	199.09
	- X.	80S		90.00			175.91			80S		104.55			240.00
	-	160					-			160		-			-
		XXS		-			-			XXS		-	-		-
		5S		WOR			WOR			55		46.82			121.82
		105		36.01			WOR			105		46.82	· · · ·		140.00
550 X 350	22 X 14	40S	508	59.08	419	381	WOR	600 X 500	24 X 20	40S	508	81.36	432	432	203.64
		80S		76.97			WOR			80S		106.36			245.45
		160	-		271		-			160		-			-
		XXS		-			-	- 1		XXS		-			-
		55		WOR	1	1	78.00			5S		WOR			98.56
		105		38.01			130.23			105		52.91			141.16
550 X 400	22 X 16	405	508	62.40	419	381	130.23	600 X 550	24 X 22	40S	508	75.53	432	432	141.16
		80S		81.25		419 381 -	169.22		50 24 X 22	80S		98.36			184.53
		160		-			-			160		-			-
		XXS		-			-			XXS		-			-

More Details: +91 7045212326

#### fittings-asme-b16-9 **CREATIVE PIPING SOLUTIONS PRIVATE LIMITED Concentric and** nal WT **Reducing Tees** Eccentric SCH Reducers ch OD1 X H Weight С Μ Weight OD2 5S WOR 78.47 10S WOR 131.14 40S WOR 131.14 22 X18 508 419 394 80S WOR 170.74 160 --XXS --**5**S WOR 78.94 10S 132.06 42.01 40S 68.94 132.06 22 X 20 508 419 406 80S 89.80 172.88 160 -\_

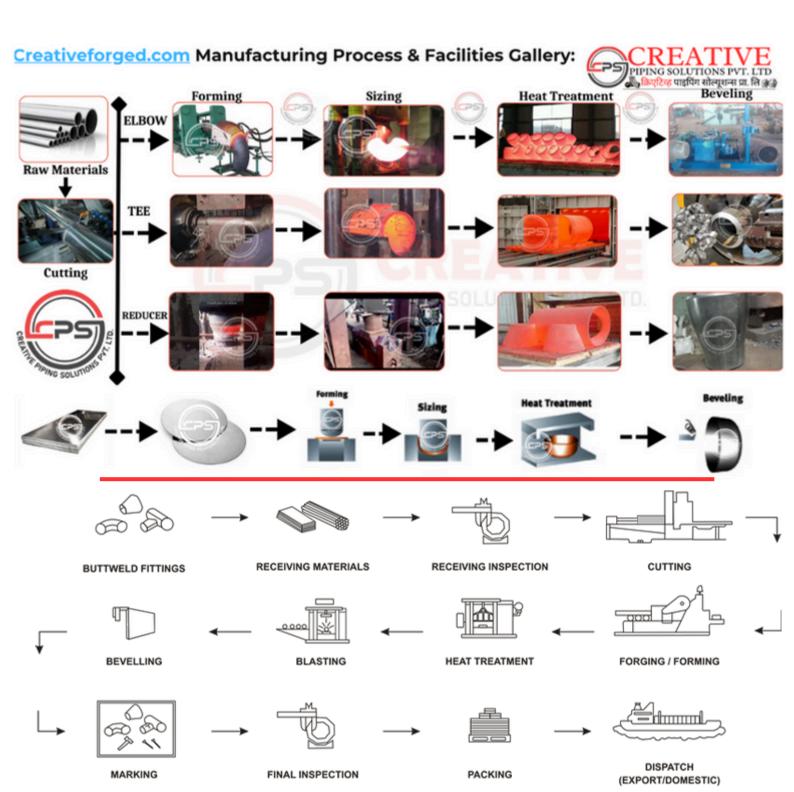
		XXS		-			-
		5S		44.55			116.36
		10S	1	44.55	1		134.09
600 X 400	24 X 16	40S	508	76.82	432	406	194.55
600 A 400	24 A 10	80S	508	102.73	432	406	234.55
		160		-			-
		XXS		-			-
		5S		45.45			119.09
		10S		45.45	1.5		137.27
600 X 450	24 X 18	40S	508	78.64	432	406	199.09
000 A 400	24 A 10	80S	500	104.55	432	400	240.00
		160		-			-
		XXS		-			-
		5S		46.82			121.82
		10S		46.82	P		140.00
600 X 500	24 X 20	40S	508	81.36	432	432	203.64
000 X 300	24 A 20	80S	500	106.36	102	452	245.45
		160		-			-
		XXS		-			-
		5S		WOR			98.56
		10S		52.91			141.16
600 X 550	24 X 22	40S	508	75.53	432	432	141.16
000 X 330	24 1 22	80S	- 508	98.36	402	402	184.53
		160		-			-
		XXS		-			-

www.creativeforged.com/buttweld-pipe-fittings-asme-b16-9

**NOTE:** Weights and dimensions listed above are a guide only. Dimensions in mm. Weights in kg.

\* There are 2 possible dimensions for this size, refer to ANSI B16.9 Weights and dimensions of larger Buttweld Fittings are available from your local Creative Piping office.

## WOR: Weight on request



**CP5** 

# CREATIVE PIPING SOLUTIONS PVT LTD.<br/>www.creativeforged.comsales@creativeforged.com













**FACTORY GALLERY** 





























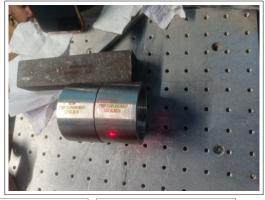














SOLU ATE LIMITED









SOLU OT ATE LIMITED







