

Pipe & Tube Fittings

Aerospace & Semiconductor Flow

Ordering Number Sheet

I DESIGNATORS PROCESS I



I DESIGNATORS SHEET I

BRAND	CLASSIFICATIONS	SIZE		
DESIGNATORS : NAME	DESIGNATORS : NAME	DESIGNATORS : NAME	DESIGNATORS : NAME	DESIGNATORS : NAME
A : ASFLOW	PIPE & TUBE FITTINGS	04 : 1/4"	16 : 1"	48 : 3"
		06 : 3/8"	20 : 1 1/4"	64 : 4"
	CX : COAXIAL FITTINGS	08 : 1/2"	24 : 1 1/2"	80 : 5"
		10 : 5/8"	32 : 2"	96 : 6"
		12 : 3/4"	40 : 2 1/2"	

* PIPE SIZE : ** A

PRODUCT (PIPE & TUBE FITTINGS)		PRODUCT (COAXIAL FITTINGS)	
DESIGNATORS : NAME	DESIGNATORS : NAME	DESIGNATORS : NAME	DESIGNATORS : NAME
90E : 90° ELBOW	JT : JOINT TEE	90E : 90° ELBOW	
45E : 45° ELBOW	JR : JOINT REDUCER	45E : 45° ELBOW	
C : CAP	JCR : JOINT CAP REDUCER	RE : REDUCER	
CR : CAP REDUCER	CL : CLEAN LAP	ET : EQUAL TEE	
CNR : CON REDUCER	FL : FLANGE	RT : REDUCING TEE	
ER : ECC REDUCER	BF : BLIND FLANGE	SS : STOP SPACER	
ET : EQUAL TEE	TF : TUBE FLANGE	SL : SLEEVE	
RT : REDUCING TEE	PF : PIPE FLANGE	OT : OVER TUBE	
		TM : TERMINATOR	

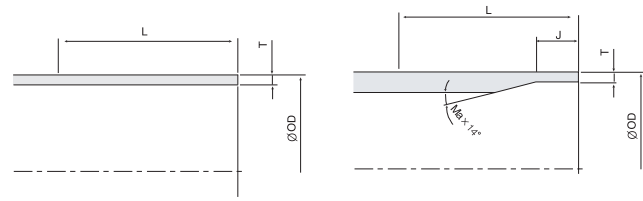


Pipe & Tube Fittings

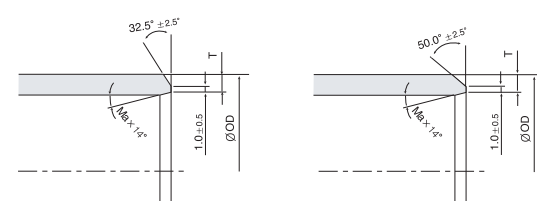


PIPE SIZE

AUTO WELDING STANDARD FORM

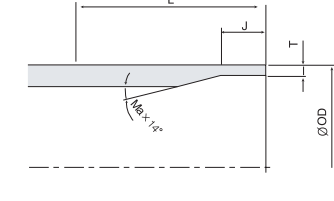
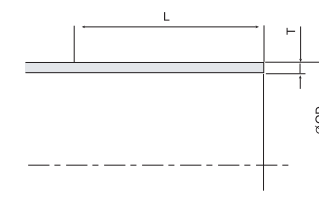


MANUAL WELDING STANDARD FORM



PIPE SIZE	OUTER DIAMETER	THICKNESS		STRAIGHT END LENGTH L	THINNING LENGTH	
	OD (mm)	T = 5S	T = 10S		J = 5S	J = 10S
8A	13.8	1.2	1.7	29	4	5
10A	17.3	1.2	1.7	36	4	5
15A	21.7	1.65	2.1	36	5	6
20A	27.2	1.65	2.1	36	5	6
25A	34.0	1.65	2.8	36	5	7
32A	42.7	1.65	2.8	46	5	7
40A	48.6	1.65	2.8	46	5	7
50A	60.5	1.65	2.8	46	5	7
65A	76.3	2.1	3.0	51	6	8
80A	89.1	2.1	3.0	51	6	8
100A	114.3	2.1	3.0	51	6	8
125A	139.8	2.8	3.4	56	7	9
150A	165.2	2.8	3.4	56	7	9
200A	216.3	2.8	4.0	56	7	10
250A	267.4	3.4	4.0			
300A	318.5	4.0	4.5			

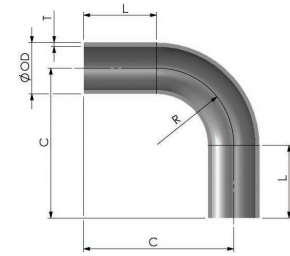
TUBE SIZE



PIPE SIZE	OUTER DIAMETER	THICKNESS	STRAIGHT END LENGTH L	THINNING LENGTH J
	OD (mm)	T		
1/4"	6.35	1.0(0.89)	29.0	4
3/8"	9.53	1.0(0.89)	29.0	4
1/2"	12.7	1.0, 1.24(1.65)	29.0	4
5/8"	15.88	1.0(1.24)	36.0	4
3/4"	19.05	1.65(1.24)	36.0	5
1"	25.4	1.65(1.24)	36.0	5
1 1/4"	31.8	1.65	36.0	5
1 1/2"	38.1	1.65	46.0	5
2"	50.8	1.65	46.0	5
2 1/2"	63.5	1.65	51.0	5
3"	76.2	1.65	51.0	5
4"	101.6	2.1	51.0	6
5"	127.0	2.77(3.05)	56.0	8
6"	152.4	2.77(3.05)	56.0	8



90° ELBOW



TUBE SIZE

unit=mm

OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
R	20	23	25	28	30	33	47.6	57.2	76.2	95.3	95.3	133.4	190.5	228.6
C	49	52	54	64	66	69	84	104	123	147	147	185	250	290

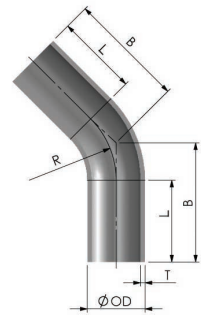
PIPE SIZE

unit=mm

OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
R	25.4	25.4	38.1	38.1	38.1	47.6	57.2	76.2	95.3	114.3	152.4	190.5	228.6	304.8
C	55	62	75	75	75	94	104	123	147	166	204	250	290	375

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.

45° ELBOW



TUBE SIZE

unit=mm

OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
R	20	23	25	28	30	33	47.6	57.2	76.2	95.3	95.3	133.4	190.5	228.6
B	38	39	40	48	49	50	56	70	78	91	91	107	140	155

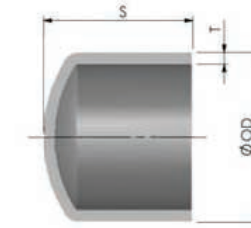
PIPE SIZE

unit=mm

OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
R	25.4	25.4	38.1	38.1	38.1	47.6	57.2	76.2	95.3	114.3	152.4	190.5	228.6	304.8
B	40	47	52	52	52	66	70	78	91	99	115	145	155	195

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.

CAP



TUBE SIZE

unit=mm

OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
S	12.7	12.7	12.7	12.7	19.1	25.4	38.1	38.1	38.1	38.1	38.1	63.5

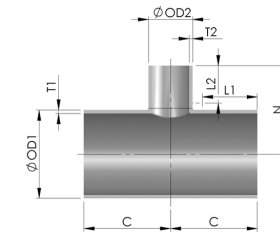
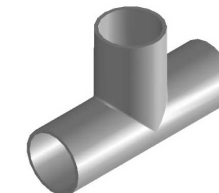
PIPE SIZE

unit=mm

OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
S	12.7	19.1	25.4	25.4	38.1	38.1	38.1	38.1	38.1	50.8	63.5	76.2	88.9	101.6

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

EQUAL-TEE



TUBE SIZE

unit=mm

OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
C=N	35	37	39	49	52	55	59	74	77	90	97	110	140	160

PIPE SIZE

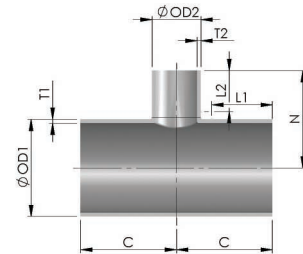
unit=mm

OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
C=N	42	49	59	65	68	88	95	102	121	130	145	160	170	190

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.



REDUCING-TEE



TUBE SIZE

unit=mm

OD1	OD2	C	N	OD1	OD2	C	N
3/8"	1/4"	37	37	3"	1/2"-1/4",8A	60	71
1/2"	3/8",1/4"	39	39		1 1/4"-5/8",25A-10A	72	79
3/4"	1/2"-1/4",8A	47	44		2",1 1/2",50A,40A,32A,	90	90
	5/8",10A"	52	52		2 1/2", 65A	97	97
1"	1/2"-1/4",8A	47	47	4"	1/2"-1/4",8A	61	87
	3/4",5/8",15A,10A	55	55		1 1/4"-5/8",25A-10A	72	95
1 1/4"	1/2"-1/4",8A	47	50		2",1 1/2",50A,40A,32A	90	105
	1",3/4",5/8",25A-10A	59	59		3",2 1/2",80A,65A	110	110
1 1/2"	1/2"-1/4",8A	57	54	5"	1/2"-1/4",8A	70	100
	1 1/4"-5/8",25A-10A	68	62		1 1/4"-5/8",25A-10A	90	110
2"	1/2"-1/4",8A	57	57		2",1 1/2",50A,40A,32A	110	120
	1 1/4"-5/8",25A-10A	68	65		4",3",2 1/2",100A,80A,65A	140	140
	1 1/2",40A,32A	77	77	1/2"-1/4",8A	80	115	
2 1/2"	1/2"-1/4",8A	61	63	6"	1 1/4"-5/8",25A-10A	100	125
	1 1/4"-5/8",25A-10A	72	71		2",1 1/2",50A,40A,32A	120	135
	2",1 1/2",50A,40A,32A	90	83		4",3",2 1/2",100A,80A,65A	140	145
					5",125A	160	160

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
"Extrusion process + short pipe-matching TIG welding" technique is applied to branch part and smaller diameter side.

PIPE SIZE

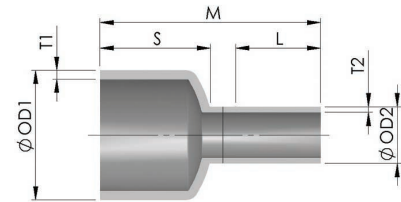
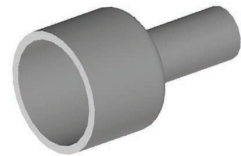
unit=mm

OD1	OD2	C	N	OD1	OD2	C	N
8A	1/2"-1/4"	42	42	80A	1/2"-1/4",8A	61	77
10A	1/2"-1/4",8A	47	44		1 1/4"-5/8",25A-10A	72	85
15A	1/2"-1/4",8A	47	44		2",1 1/2",50A,40A,32A	88	96
	3/4",5/8",10A	52	52		3",2 1/2",65A	103	103
20A	1/2"-1/4",8A	47	47	100A	1/2"-1/4",8A	61	90
	1",3/4",5/8",15A,10A	55	55		1 1/4"-5/8",25A-10A	72	98
25A	1/2"-1/4",8A	47	50		2",1 1/2",50A,40A,32A	88	109
	1 1/4"-5/8",20A-10A	59	59		4",3",2 1/2",80A,65A	116	116
32A	1/2"-1/4",8A	57	54	125A	1/2"-1/4",8A	80	110
	1 1/4"-5/8",25A-10A	68	62		1 1/4"-5/8",25A-10A	100	120
40A	1/2"-1/4",8A	57	57		2",1 1/2",50A,40A,32A	120	130
	1 1/4"-5/8",25A-10A	68	65		4",3",2 1/2",100A,80A,65A	140	140
	1 1/2",32A	77	77	5"	160	160	
50A	1/2"-1/4",8A	57	63	150A	1/2"-1/4",8A	90	130
	1 1/4"-5/8",25A-10A	68	71		1 1/4"-5/8",25A-10A	110	140
	2",1 1/2",40A,32A	83	83		2",1 1/2",50A,40A,32A	130	150
1/2"-1/4",8A	61	71	4",3",2 1/2",100A,80A,65A		150	160	
65A	1 1/4"-5/8",25A-10A	72	79	200A	5",125A	170	170
	2",1 1/2",50A,40A,32A,	88	90		1/2"-1/4",8A	100	150
	2 1/2"	97	97		1 1/4"-5/8",25A-10A	120	160
					2",1 1/2",50A,40A,32A	140	170
				4",3",2 1/2",100A,80A,65A	160	180	
				6",5",150A,125A	180	190	

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
"Extrusion process + short pipe-matching TIG welding" technique is applied to branch part and smaller diameter side.



CAP REDUCER



TUBE SIZE

unit=mm

OD1	OD2	S	M	OD1	OD2	S	M
3/8"	1/4"	-	-	3"	1/2"-1/4",8A	38.1	73
1/2"	3/8",1/4"	-	-		1 1/4"-5/8",25A-10A		80
3/4"	1/2"-1/4",8A	19.1	54		2",1 1/2",50A,40A,32A,		[90]
	5/8",10A		60	2 1/2",65A	[95]		
1"	1/2"-1/4",8A	25.4	60	4"	1/2"-1/4",8A	63.5	98
	3/4",5/8",15A,10A		67		1 1/4"-5/8",25A-10A		105
1 1/4"	1/2"-1/4",8A	38.1	73		2",1 1/2",50A,40A,32A		115
	1",3/4",5/8",20A-10A		80	3",2 1/2",80A,65A	[125]		
1 1/2"	1/2"-1/4",8A	38.1	73	5"	1/2"-1/4",8A	-	-
	1 1/4"-5/8",25A-10A		80		1 1/4"-5/8",25A-10A		-
2"	1/2"-1/4",8A	38.1	73		2",1 1/2",50A,40A,32A		-
	1 1/4"-5/8",25A-10A		80	4",3",2 1/2",100A,80A,65A	-		
	1 1/2",40A,32A		[90]	1/2"-1/4",8A	-		
2 1/2"	1/2"-1/4",8A	38.1	73	6"	1 1/4"-5/8",25A-10A	-	-
	1 1/4"-5/8",25A-10A		80		2",1 1/2",50A,40A,32A		-
	2",1 1/2",50A,40A,32A		[90]		4",3",2 1/2",100A,80A,65A		-
					5",125A		-

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
 "Extrusion process + short pipe-matching TIG welding" technique is applied to branch part and smaller diameter side.

PIPE SIZE

unit=mm

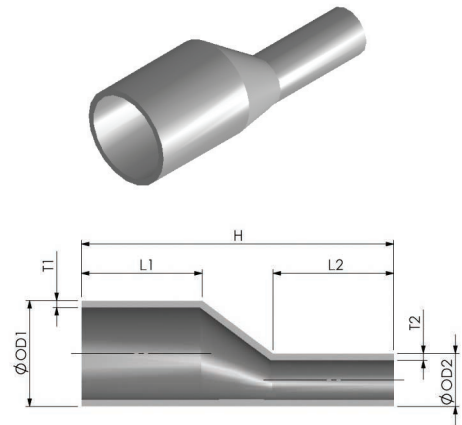
OD1	OD2	S	M	OD1	OD2	S	M
8A	1/2"-1/4"	-	-	80A	1/2"-1/4",8A	50.8	85
10A	1/2"-1/4",8A	-	-		1 1/4"-5/8",25A-10A		92
15A	1/2"-1/4",8A	25.4	60		2",1 1/2",50A,40A,32A		102
	3/4",5/8",10A		[67]	3",2 1/2",65A	[110]		
20A	1/2"-1/4",8A	25.4	60	100A	1/2"-1/4",8A	63.5	98
	1",3/4",5/8",15A,10A		67		1 1/4"-5/8",25A-10A		105
25A	1/2"-1/4",8A	38.1	73		2",1 1/2",50A,40A,32A		115
	1 1/4"-5/8",20A-10A		[80]	4",3",2 1/2",80A,65A	[125]		
32A	1/2"-1/4",8A	38.1	73	125A	1/2"-1/4",8A	76.2	120
	1 1/4"-5/8",25A-10A		80		1 1/4"-5/8",25A-10A		130
40A	1/2"-1/4",8A	38.1	73		2",1 1/2",50A,40A,32A		140
	1 1/4"-5/8",25A-10A		80	4",3",2 1/2",100A,80A,65A	[150]		
	1 1/2",32A		[90]	5"	[160]		
50A	1/2"-1/4",8A	38.1	73	150A	1/2"-1/4",8A	88.9	130
	1 1/4"-5/8",25A-10A		[90]		1 1/4"-5/8",25A-10A		140
	2",1 1/2",40A,32A		[100]		2",1 1/2",50A,40A,32A		150
65A	1/2"-1/4",8A	38.1	73	200A	4",3",2 1/2",100A,80A,65A	101.6	160
	1 1/4"-5/8",25A-10A		80		5",125A		[170]
	2",1 1/2",50A,40A,32A,		[90]		1/2"-1/4",8A		140
	2 1/2"		[100]		1 1/4"-5/8",25A-10A		150
					2",1 1/2",50A,40A,32A		160
			4",3",2 1/2",100A,80A,65A	170			
			6",5",150A,125A	[180]			

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
 "Extrusion process + short pipe-matching TIG welding" technique is applied to branch part and smaller diameter side.

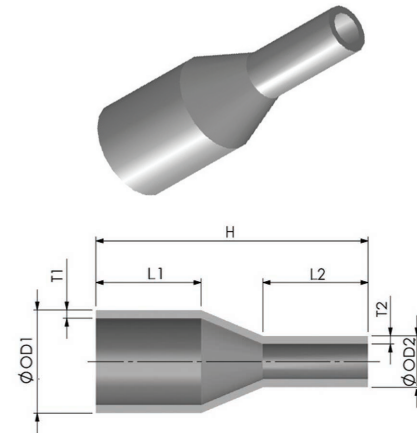


REDUCER

ECC REDUCER



CON REDUCER



TUBE SIZE

unit=mm

OD1	OD2	H	OD1	OD2	H
1/4"		60(70)	1 1/2"	1 1/4"-1/4", 25A-8A	85(125)
3/8"	1/4"	60(70)	2"	1 1/2"-1/4", 40A-8A	95(130)
1/2"	3/8", 1/4"	60(75)	2 1/2"	2"-1/4", 50A-8A	105(140)
5/8"	1/2"-1/4", 8A	70(90)	3"	2 1/2"-1/4", 50A-8A	110(165)
3/4"	5/8"-1/4", 10A, 8A	75(100)	4"	3"-1/4", 80A-8A	130(175)
1"	3/4"-1/4", 15A-8A	75(105)	5"	4"-1/4", 100A-8A	180(230)
1 1/4"	1"-1/4", 20A-8A	75(120)	6"	5"-1/4", 125A-8A	200(250)

PIPE SIZE

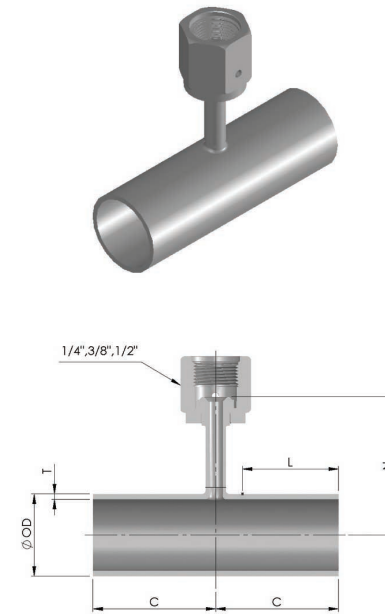
unit=mm

OD1	OD2	H	OD1	OD2	H
8A	1/2"-1/4"	60(80)	50A	2"-1/4", 40A-8A	95(140)
10A	1/2"-1/4", 8A	70(90)	65A	3"-1/4", 50A-8A	105(165)
15A	3/4"-1/4", 10A, 8A	75(100)	80A	3"-1/4", 65A-8A	110(170)
20A	1"-1/4", 15A-8A	75(105)	100A	4"-1/4", 80A-8A	180
25A	1 1/4"-1/4", 20A-8A	75(120)	125A	5"-1/4", 100A-8A	250
32A	1 1/2"-1/4", 25A-8A	85(125)	150A	6"-1/4", 125A-8A	260
40A	1 1/2"-1/4", 32A-8A	95(130)	200A	6"-1/4", 150A-8A	280

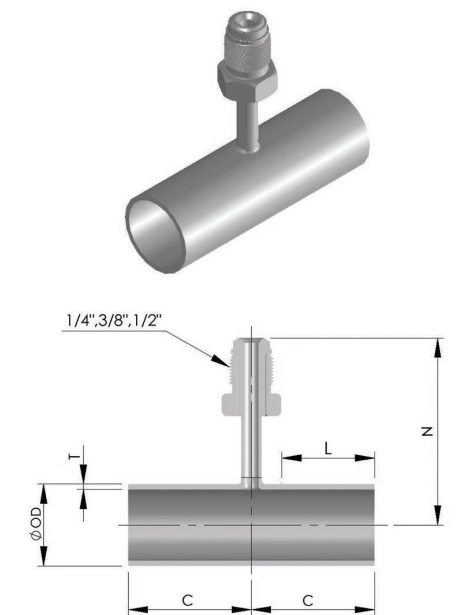
* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
 * For a size "H" in brackets, please contact us.

JOINT-TEE

FEMALE TYPE



MALE TYPE



TUBE SIZE

unit=mm

OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"		
C	43	45	45	52	52	55	59	68	68	72	72	72	90	110		
FEMALE	N	1/4"	32.2	33.8	35.4	36.9	38.5	41.7	44.9	48.1	54.4	60.8	67.1	80.9	94.27	106.97
		3/8"	32.7	34.3	35.9	37.4	39	42.2	45.4	48.6	54.9	61.3	67.6	81.4	94.77	107.47
		1/2"	32.7	34.3	35.9	37.4	39	42.2	45.4	48.6	54.9	61.3	67.6	81.4	94.77	107.47
MALE	N	1/4"	47.4	49	50.6	52.1	53.7	56.9	60.1	63.3	69.6	76	82.3	96.1	109.47	122.17
		3/8"	47.9	51.3	52.9	54.4	56	59.2	62.4	65.6	71.9	78.3	84.6	98.4	111.77	124.47
		1/2"	47.9	51.3	52.9	54.4	56	59.2	62.4	65.6	71.9	78.3	84.6	98.4	111.77	124.47

PIPE SIZE

unit=mm

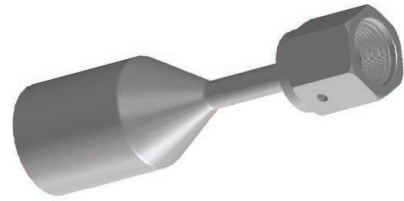
OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A		
C	45	52	52	55	59	68	68	72	72	72	100	100	110	120		
FEMALE	N	1/4"	36.1	38.85	40.5	42.6	46	50.35	53.3	59.25	67.65	74.05	87.25	100.7	113.4	138.95
		3/8"	36.6	39.35	41	43.1	46.5	50.85	53.8	59.75	68.15	74.55	87.75	101.2	113.9	139.45
		1/2"	36.6	39.35	41	43.1	46.5	50.85	53.8	59.75	68.15	74.55	87.75	101.2	113.9	139.45
MALE	N	1/4"	51.3	54.05	55.7	57.8	61.2	65.6	68.5	74.5	82.9	89.3	102.45	115.9	128.6	154.15
		3/8"	53.6	56.35	58	60.1	63.5	67.9	70.8	76.8	85.2	91.6	104.75	118.2	130.9	156.45
		1/2"	53.6	56.35	58	60.1	63.5	67.9	70.8	76.8	85.2	91.6	104.75	118.2	130.9	156.45

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
 * "Extrusion process + joint-matching TIG welding" technique is applied to joint part.
 * There are some cases where N measurements are different from the standard measurements shown here.
 * Please check your requisite measurement with drawings and working plans.

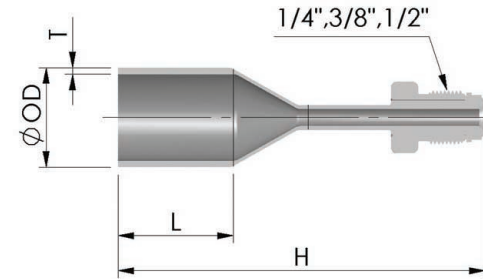
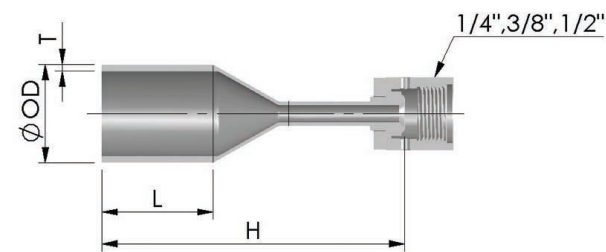
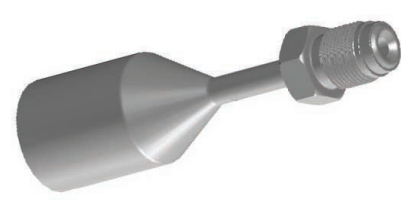


JOINT-REDUCER

FEMALE TYPE

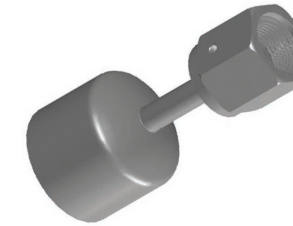


MALE TYPE

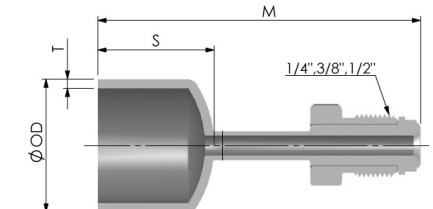
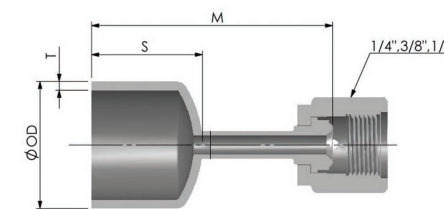


JOINT-CAP REDUCER

FEMALE TYPE



MALE TYPE



TUBE SIZE

unit=mm

OD		1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	
FEMALE	H	1/4"	88[98]	88[98]	88[103]	98[118]	103[128]	103[133]	103[148]	113[153]	123[158]	133[168]	138[193]	158[203]	208[258]	228[278]
		3/8"	88.5[98.5]	88.5[98.5]	88.5[103.5]	98.5[118.5]	103.5[128.5]	103.5[133.5]	103.5[148.5]	113.5[153.5]	123.5[158.5]	133.5[168.5]	138.5[193.5]	158.5[203.5]	208.5[258.5]	228.5[278.5]
		1/2"	88.5[98.5]	88.5[98.5]	88.5[103.5]	98.5[118.5]	103.5[128.5]	103.5[133.5]	103.5[148.5]	113.5[153.5]	123.5[158.5]	133.5[168.5]	138.5[193.5]	158.5[203.5]	208.5[258.5]	228.5[278.5]
MALE	H	1/4"	103.2[113.2]	103.2[113.2]	103.2[118.2]	113.5[133.5]	118.2[143.2]	118.2[148.2]	118.2[163.2]	128.2[168.2]	173.2[198.2]	148.2[183.2]	153.2[208.2]	173.2[218.2]	223.2[273.2]	243.2[293.2]
		3/8"	105.5[115.5]	105.5[115.5]	105.5[120.5]	115.5[135.5]	120.5[145.5]	120.5[150.5]	120.5[165.5]	130.5[170.5]	140.5[175.5]	150.5[185.5]	155.5[210.5]	175.5[220.5]	225.5[275.5]	245.5[295.5]
		1/2"	105.5[115.5]	105.5[115.5]	105.5[120.5]	115.5[135.5]	120.5[145.5]	120.5[150.5]	120.5[165.5]	130.5[170.5]	140.5[175.5]	150.5[185.5]	155.5[210.5]	175.5[220.5]	225.5[275.5]	245.5[295.5]

TUBE SIZE

unit=mm

OD		1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	
S		12.7	12.7	12.7	12.7	19.1	25.4	38.1	38.1	38.1	38.1	63.5	-	-	-	
FEMALE	M	1/4"	40.7	40.7	40.7	40.7	47.6	54.1	66.8	66.9	66.9	67	68.6	91.5	-	-
		3/8"	41.2	41.2	41.2	41.2	47.5	53.7	66.6	66.7	66.8	66.8	68.5	92	-	-
		1/2"	41.2	41.2	41.2	41.2	47.1	53.8	66.7	66.9	66.1	67.2	67.9	92	-	-
MALE	M	1/4"	55.9	55.9	55.9	55.9	62.8	59.3	82	82.1	82.1	82.2	83.8	106.7	-	-
		3/8"	58.2	58.2	58.2	58.2	65	71.2	84.1	84.2	84.3	84.3	86	109	-	-
		1/2"	58.2	58.2	58.2	58.2	64.1	70.8	83.7	83.9	83.1	84.2	84.9	109	-	-

PIPE SIZE

unit=mm

OD		8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	
FEMALE	H	1/4"	88[108]	98[118]	103[128]	103[133]	103[148]	113[153]	123[158]	123[168]	133[193]	138[198]	208	278	288	308
		3/8"	88.5[108.5]	98.5[118.5]	103.5[128.5]	103.5[133.5]	103.5[148.5]	113.5[153.5]	123.5[158.5]	123.5[168.5]	133.5[193.5]	138.5[198.5]	208.5	278.5	288.5	308.5
		1/2"	88.5[108.5]	98.5[118.5]	103.5[128.5]	103.5[133.5]	103.5[148.5]	113.5[153.5]	123.5[158.5]	123.5[168.5]	133.5[193.5]	138.5[198.5]	208.5	278.5	288.5	308.5
MALE	H	1/4"	103.2[123.2]	113.2[133.2]	118.2[143.2]	118.2[148.2]	118.2[163.2]	128.2[168.2]	138.2[173.2]	138.2[183.2]	148.2[208.2]	153.2[213.2]	223.2	293.2	303.2	323.2
		3/8"	105.5[125.5]	115.5[135.5]	120.5[145.5]	120.5[150.5]	120.5[165.5]	130.5[170.5]	140.5[175.5]	140.5[185.5]	150.5[210.5]	155.5[215.5]	225.5	295.5	305.5	325.5
		1/2"	105.5[125.5]	115.5[135.5]	120.5[145.5]	120.5[150.5]	120.5[165.5]	130.5[170.5]	140.5[175.5]	140.5[185.5]	150.5[210.5]	155.5[215.5]	225.5	295.5	305.5	325.5

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.

PIPE SIZE

unit=mm

OD		8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	
S		12.7	19.1	25.4	25.4	38.1	38.1	38.1	38.1	38.1	50.8	63.5	76.2	88.9	101.6	
FEMALE	M	1/4"	40.7	47.1	54	54.1	66.8	66.9	67	67	67.5	80.2	91.5	104.2	116.9	129.6
		3/8"	41.2	47.6	53.6	53.8	66.6	66.7	66.7	66.8	67.3	80.1	92	104.7	117.4	130.1
		1/2"	41.2	47.6	54.3	53.9	66.8	66.9	67	67.1	67.7	80.4	92	104.7	117.4	130.1
MALE	M	1/4"	55.9	62.3	69.2	69.3	82	82.1	82.1	82.2	82.7	95.4	106.7	119.4	132.1	144.8
		3/8"	58.2	64.6	71.1	71.3	84.1	84.2	84.2	84.3	84.8	97.6	109	121.7	134.4	147.1
		1/2"	58.2	64.6	71.3	70.9	83.8	83.9	84	84.1	84.7	97.4	109	121.7	134.4	147.1

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

* "Extrusion process + joint-matching TIG welding" technique is applied to joint part.

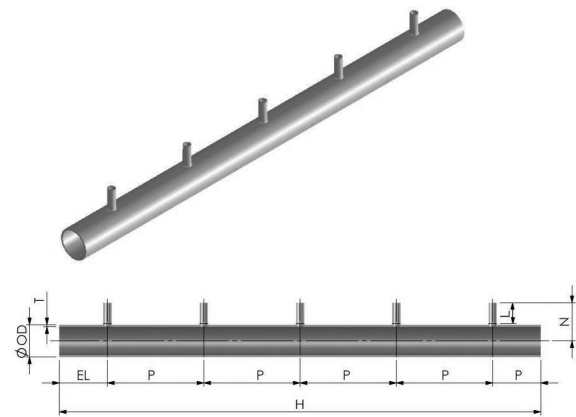
* There are some cases where M measurements are different from the standard measurements shown here.

* Please check your requisite measurement with drawings and working plans.

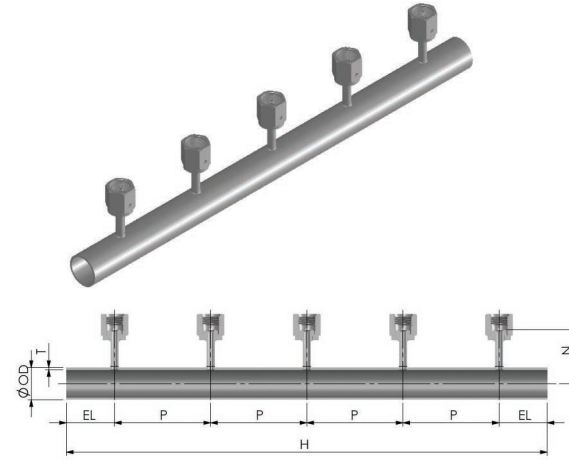


MULTI TEE / J-TEE

MULTI TEE



MULTI J-TEE



TUBE SIZE

unit=mm

OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	
EL	76.2												
P	152.4												
Number of Branch (H)	2	304.8											
	3	457.2											
	4	609.6											
	5	762											
N	TUBE-END	35	37	39	44	44	47	50	54	57	63	71	87
N	FEMALE	31.5	33.5	35	36.5	38	42	45.5	48	55	61.5	68	81

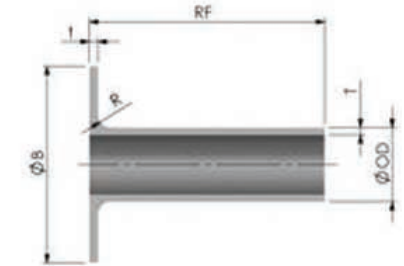
PIPE SIZE

unit=mm

OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	
EL	60										70	
P	125										145	
Number of Branch (H)	2	250									290	
	3	375									435	
	4	500									580	
	5	625									725	
N	TUBE-END	42	44	44	47	50	54	57	63	71	77	90
N	FEMALE	35	37	39.5	42.5	46.5	51	54	60	68	74.5	87

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).
 * "Extrusion process + branch tube-matching TIG welding" technique is applied to branch part.
 * There are some cases where J-TEE N measurements are different from the standard measurements shown here,
 * so please check your requisite measurement with drawings and working plans.

CLEAN LAP



TUBE SIZE

unit=mm

OD	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
RF	55	55	55	70	70	70	75	75	85	90
B	51	56	67	76	81	96	116	136	182	212
t	2	2	2	2	2	2	2	2.5	3	3
R	3	3	3	3	3	4	4	5	5	5

PIPE SIZE

unit=mm

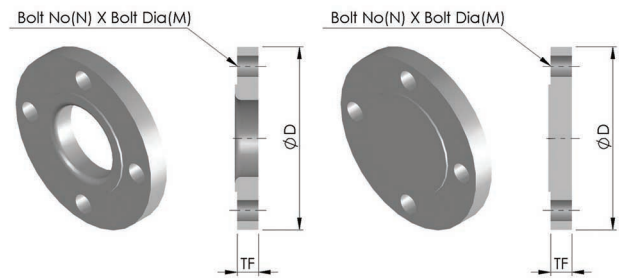
OD	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	
RF	55	55	55	55	70	70	70	75	75	75	85	90	90	
B	JIS 5K	39	44	49	59	70	75	85	110	121	141	176	206	252
	JIS 10K	46	51	56	67	76	81	96	116	126	151	182	212	262
t	2	2	2	2	2	2	2	2.5	2.5	2.5	3	3	3	
R	3	3	3	3	3	3	4	4	5	5	5	5	5	

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

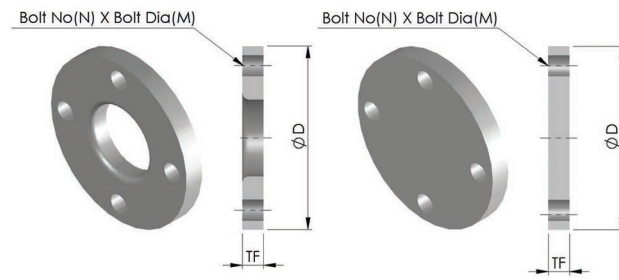


FLANGE / BLIND

RF TYPE



FF TYPE



TUBE SIZE

unit=mm

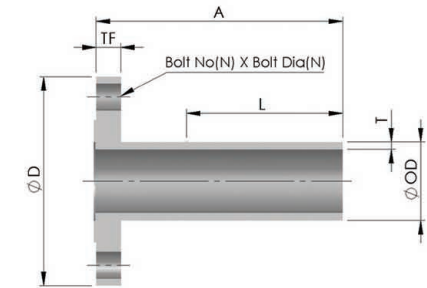
OD	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
D	95	100	125	135	140	155	175	195	250	280
TF	12	14	14	16	16	16	18	18	20	22
N	4	4	4	4	4	4	4	8	8	8
M	M12	M12	M16	M16	M16	M16	M16	M16	M20	M20

PIPE SIZE

unit=mm

OD	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
D	75	80	85	95	115	120	130	155	180	200	235	265	320
TF	9	9	10	10	12	12	14	14	14	16	16	18	20
N	4	4	4	4	4	4	4	4	4	8	8	8	8
M	M10	M10	M10	M10	M12	M12	M12	M12	M16	M16	M16	M16	M20
D	90	95	100	125	135	140	155	175	185	210	250	280	330
TF	12	12	14	14	16	16	16	18	18	18	20	22	22
N	4	4	4	4	4	4	4	4	8	8	8	8	12
M	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	M20	M20

TUBE / PIPE FLANGE



TUBE SIZE

unit=mm

OD	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"
A	100	100	100	100	100	100	100	100	200	200
D	95	100	125	135	140	155	175	195	250	280
N	4	4	4	4	4	4	4	8	8	8
M	M12	M12	M16	M16	M16	M16	M16	M16	M20	M20

PIPE SIZE

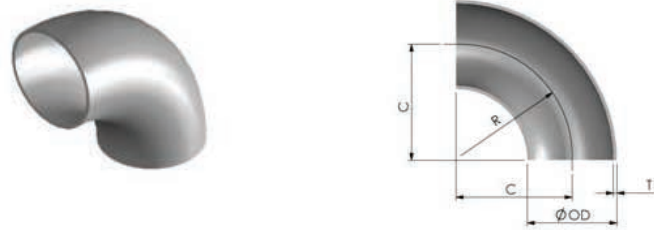
unit=mm

OD	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
A	100	100	100	100	100	100	100	100	100	100	200	200	200
D	90	95	100	125	135	140	155	175	185	210	250	280	330
N	4	4	4	4	4	4	4	4	8	8	8	8	12
M	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	M20	M20

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
 * Pipe flanges and polished flanges are RF type.



90° ELBOW



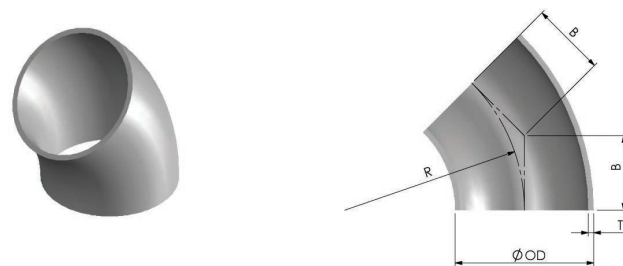
PIPE SIZE

OD	100A	125A	150A	200A	250A	300A
R(C)	152.4	190.5	228.6	304.8	381	457.2

unit=mm

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

45° ELBOW



PIPE SIZE

OD	100A	125A	150A	200A	250A	300A
R	152.4	190.5	228.6	304.8	381	457.2
B	63.1	78.9	94.7	126.3	157.8	189.4

unit=mm

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

CAP



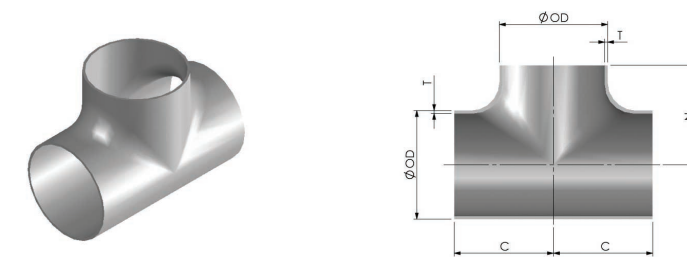
PIPE SIZE

OD	100A	125A	150A	200A	250A	300A
S	63.5	76.2	88.9	101.6	127	152.4

unit=mm

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

EQUAL-TEE



PIPE SIZE

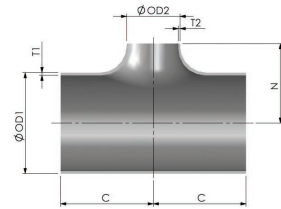
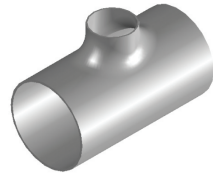
OD	100A	125A	150A	200A	250A	300A
C=N	104.8	123.8	142.9	177.8	215.9	254

unit=mm

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).



REDUCING-TEE



PIPE SIZE

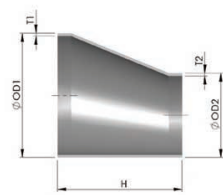
OD1	OD2	C	N	OD1	OD2	C	N
100A	-	-	-	250A	125A	215.9	190.5
125A	100A	123.8	117.5		150A		193.7
150A	125A	142.9	136.5		200A		203.2
200A	125A	177.8	161.9	300A	125A	254	215.9
	150A	177.8	168.3		150A		219.1
					200A		228.6
			250A		241.3		

unit=mm

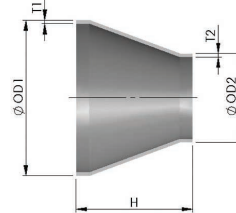
* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

REDUCER

ECC REDUCER



CON REDUCER



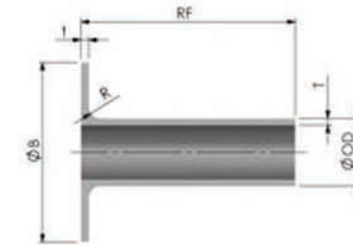
PIPE SIZE

OD1	OD2	H	OD1	OD2	H
100A	-	-	200A	150A,125A	152.4
125A	100A	127	250A	125A,150A,200A	177.8
150A	125A	139.7	300A	125A,150A,200A,250A	203.2

unit=mm

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

CLEAN LAP



PIPE SIZE

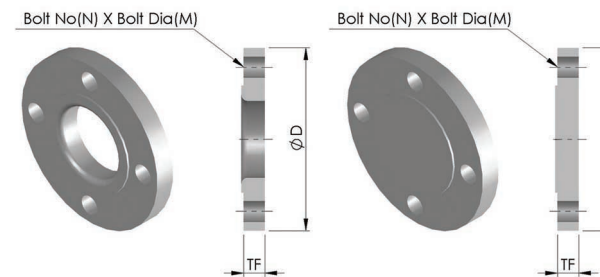
OD	100A	125A	150A	200A	250A	300A
RF	50	50	50	65	65	65
B	JIS 5K	151	182	212	262	324
	JIS 10K	151	182	212	262	324
t	2.5	5	5	7	7	9
R	5	5	5	5	5	5

unit=mm

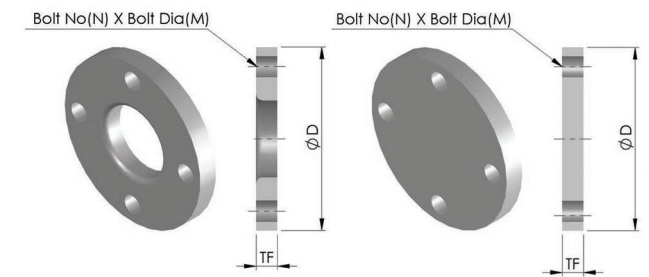
* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

FLANGE / BLIND

RF TYPE



FF TYPE



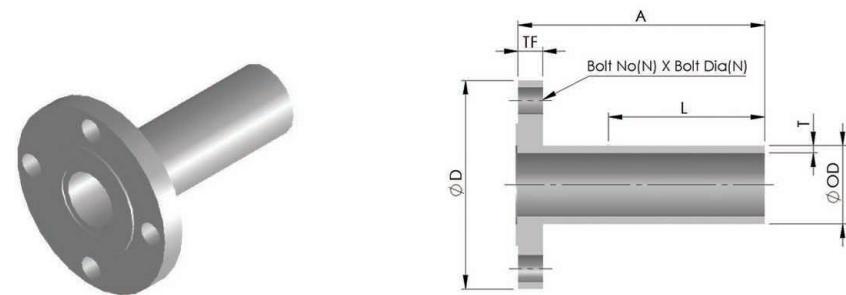
PIPE SIZE

OD	100A	125A	150A	200A	250A	300A
D	200	235	265	320	385	430
TF	JIS 5K	16	16	18	20	22
N		8	8	8	8	12
M		M16	M16	M16	M20	M22
D	JIS 10K	210	250	280	330	440
TF		18	20	22	22	24
N		8	8	8	12	12
M		M16	M20	M20	M20	M22

unit=mm

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T).

TUBE / PIPE FLANGE



PIPE SIZE

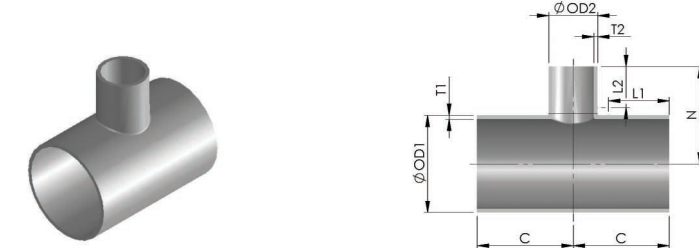
unit=mm

OD	100A	125A	150A	200A	250A	300A
A	200	200	200	200	200	200
D	210	250	280	330	440	445
N	8	8	8	12	12	16
M	M16	M20	M20	M20	M22	M22

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.
* Pipe flanges and polished flanges are RF type.



REDUCING-TEE

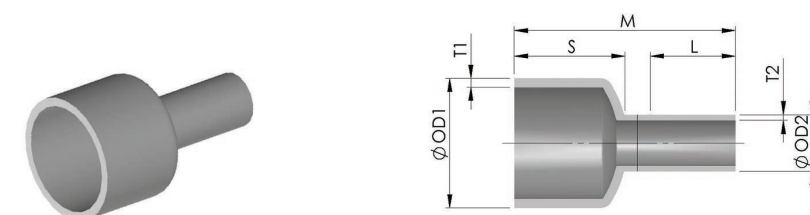


unit=mm

OD1	OD2	C	N	OD1	OD2	C	N
250A	1/2"-1/4",8A	110	180	300A	1/2"-1/4",8A	120	200
	1",3/4",25A-10A	130	190		1",3/4",25A-10A	140	210
	50A,40A,32A	150	200		50A,40A,32A	160	220
	100A,80A,65A	170	210		100A,80A,65A	180	230
	150A,125A	190	220		150A,125A	200	240
	200A	210	240		200A	220	260

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.

CAP REDUCER



unit=mm

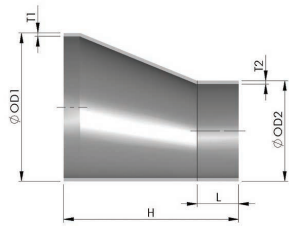
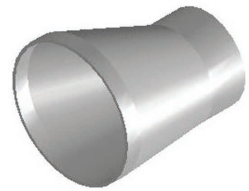
OD1	OD2	S	M	OD1	OD2	S	M
250A	1/2"-1/4",8A	127	170	300A	1/2"-1/4",8A	152.4	200
	1",3/4",25A-10A		180		210		
	50A,40A,32A		190		220		
	100A,80A,65A		200		230		
	150A,125A		210		240		

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.

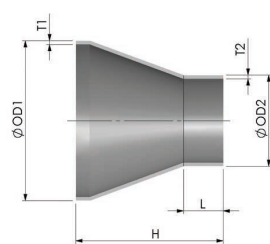


REDUCER

ECC REDUCER



CON REDUCER

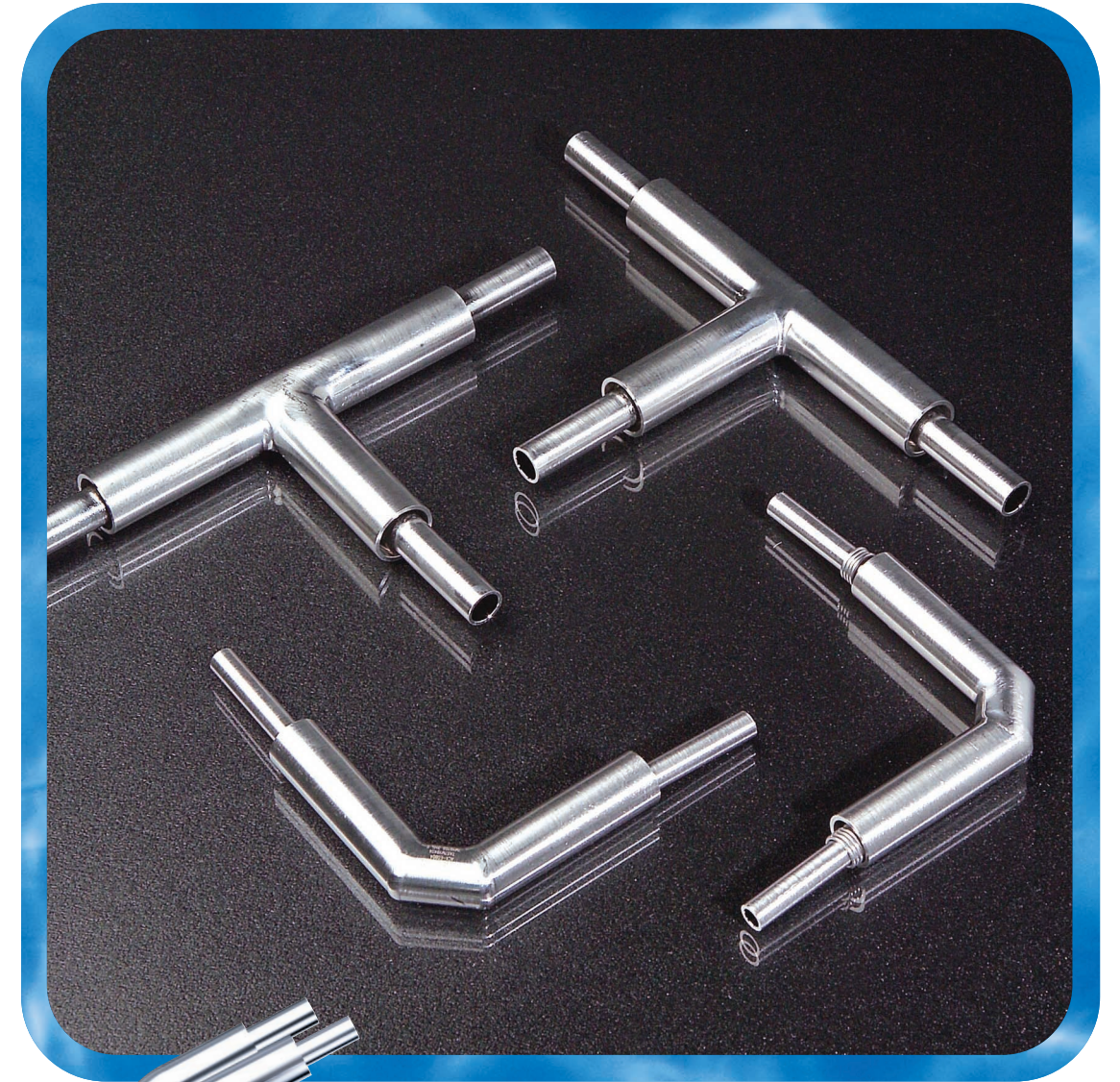


PIPE SIZE

unit=mm

OD1	OD2	H	OD1	OD2	H
100A		-	250A	150A,125A	250
125A	100A,80A,65A,50A	190		200A	270
150A	125A,100A,80A,65A	205	300A	150A,125A	280
200A	150A,125A,100A	220		200A	300

* Please refer to page 02 and 03 for outside diameter(OD), thickness(T) and length(L) of straight end length.

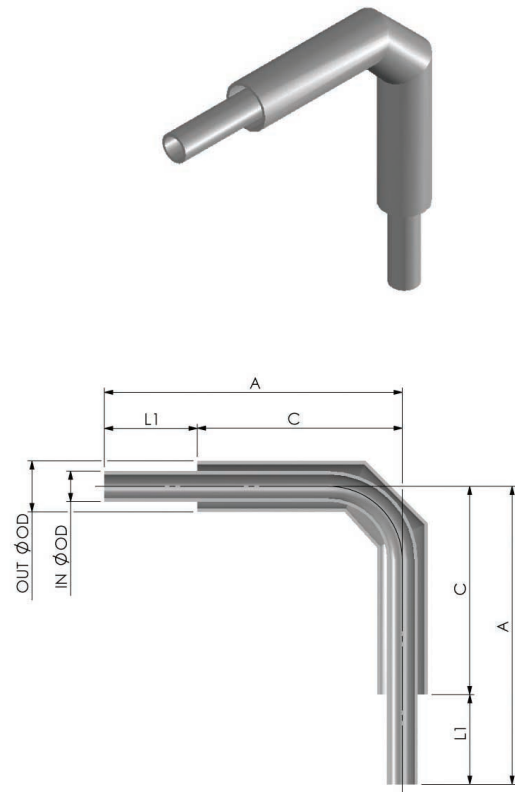


Coaxial fittings

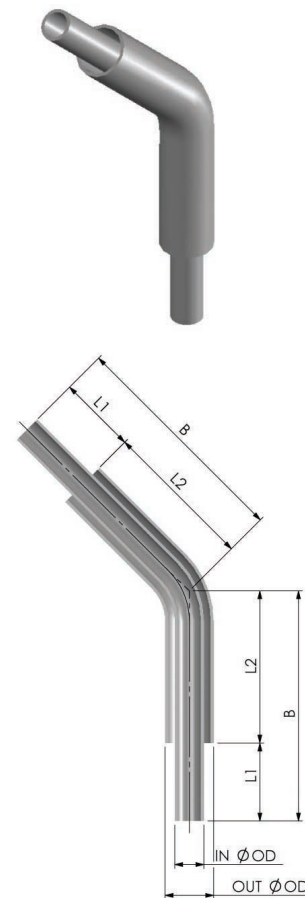


COAXIAL ELBOW (90., 45.)

COAXIAL 90. ELBOW



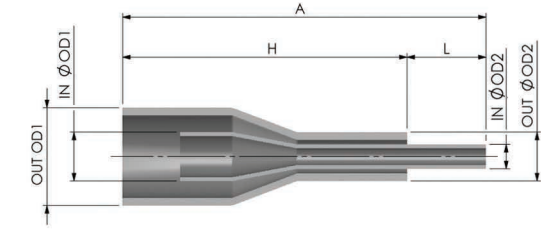
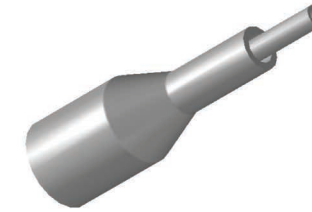
COAXIAL 45. ELBOW



Inner OD	1/4"	3/8"	1/2"	3/4"	1"	1 1/2"	2"	10A	15A	20A	25A	32A
Outer OD	1/2" 8A	3/4" 10A	3/4" 15A	1" 20A	1 1/2" 25A	2" 32A	2 1/2" 40A	20A	25A	32A	40A	50A
L1	29	29	29	36	36	46	46	36	36	36	36	46
C	54	55	66	62	66	75	69	75	107	75	123	147
A	83	84	95	91	95	104	105	111	143	111	169	193
L2	40	40	49	47	49	52	69	52	69	52	78	91
B	69	69	78	76	78	81	105	88	105	88	124	137

unit=mm

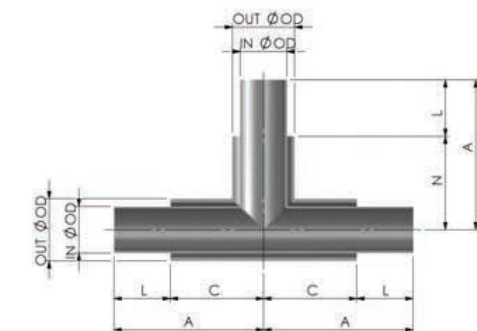
COAXIAL REDUCER



Large End(ID1)	Inner OD		Outer OD		H	A	L
	Small End(ID2)	Large End(OD1)	Small End(OD2)				
3/8"	1/4"	3/4"	1/2", 8A	100	129	29	
		10A	1/2", 8A"	90	119		
1/2"	3/8", 1/4"	3/4"	5/8", 1/2", 10A, 8A	100	129	29	
		15A	5/8", 1/2", 10A, 8A	100	129		
3/4"	1/2", 3/8", 1/4", 10A	20A	15A, 10A, 8A, 3/4", 1/2", 20A	105	141	36	
		1"	3/4", 5/8", 1/2" 15A, 10A, 8A	105	141		
1"	3/4", 1/2", 3/8", 1/4", 15A, 10A	1 1/4"	1", 3/4", 20A, 5/8", ~1/2", 15A-8A	125	161	36	
		25A	25A-8A, 1", 3/4", 1/2"	120	156		
1 1/2"	1", 3/4", 25A, 1/2" ~1/4", 20A-10A	2"	1 1/4", 1", 40A, 3/4", 1/2", 32A-8A	130	176	46	
2"	1 1/2", 1", 3/4" ~1/4", 32A-10A	2 1/2"	2", 1 1/4", 50A, 1" ~1/2", 40A-8A	140	186	46	
10A	1/2", 3/8", 1/4"	20A	15A, 10A, 8A, 3/4", 1/2"	105	141	36	
15A	10A, 3/4", 1/2", 3/8", 1/4"	25A	20A, 15A, 10A, 8A, 1", 3/4", 1/2"	120	156	36	
20A	15A, 10A, 1", 3/4", 1/2", 3/8", 1/4"	32A	25A, 20A, 15A, 1 1/4", 10A, 8A, 1" ~1/2"	125	161	36	
25A	20A, 15A, 10A, 1", 3/4", 1/2", 3/8", 1/4"	40A	32A-15A, 10A, 8A, 1 1/4" ~1/2"	130	166	36	
32A	25A, 20A, 15A, 1 1/2", 10A, 1" ~1/4"	50A	40A, 32A, 25A, 20A, 2", 15A-8A, 1 1/4" ~1/2"	140	186	46	

unit=mm

COAXIAL E-TEE

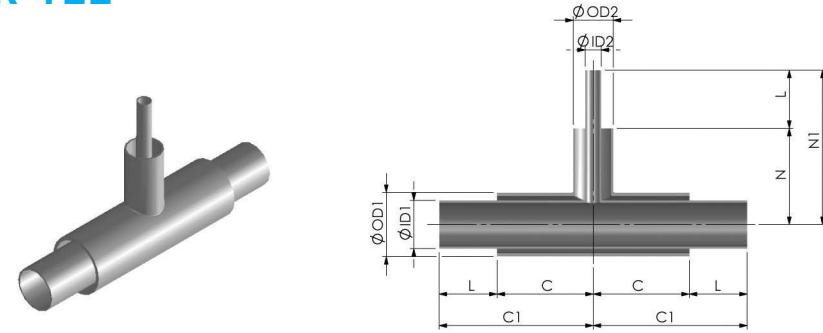


Inner OD	1/4"	3/8"	1/2"	3/4"	1"	1 1/2"	2"	10A	15A	20A	25A	32A
Outer OD	1/2" 8A	3/4" 10A	3/4" 15A	1" 20A	1 1/2" 25A	2" 32A	2 1/2" 40A	20A	25A	32A	40A	50A
C=N	39	42	52	49	52	59	55	65	74	68	77	90
L	29	29	29	36	36	46	46	36	36	36	36	46
A	68	71	81	78	81	88	91	101	110	104	123	136

unit=mm



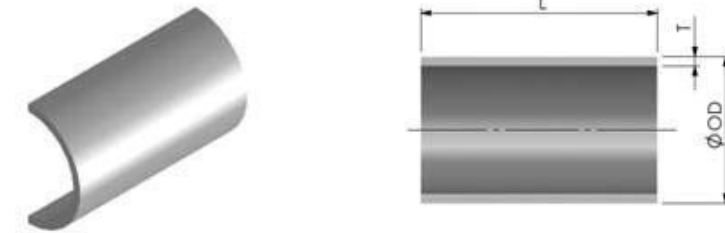
COAXIAL R-TEE



unit=mm

Inner OD		Outer OD		Inner OD		Outer OD		L
Large End(ϕ -ID1)	Small End(ϕ -ID2)	Large End(ϕ -OD1)	Small End(ϕ -OD2)	C1	N1	C	N	
3/8"	1/4"	3/4",10A	1/2",8A	76	73	47	44	29
1/2"	1/4"	3/4",15A	1/2",8A	76	73	47	44	29
	3/8"		5/8",10A					
3/4"	1/4"	20A,1"	8A,1/2"	83	83	47	47	36
	1/2",3/8"		3/4",5/8",15A,10A					
1"	1/4"	1 1/4",25A	8A,1/2"	93	90	57	54	36
	3/4",1/2",3/8",1/4",15A,10A		25A-10A,1",5/8",3/4"	83	86	47	50	36
1 1/2"	1/4"	2"	8A,1/2"	103	103	57	57	46
	1"-3/8",10A,15A		10A,5/8",15A,3/4",20A,1",25A,1 1/4"					
	20A,25A		32A,40A"					
2"	1/4"	2 1/2"	8A,1/2"	103	103	57	57	46
	1"-3/8",10A,15A		25A-10A,1 1/4"-5/8"					
	20A,25A		32A,40A,50A,2"					
	1 1/2",32A		32A,40A,50A,2"					
10A	1/4"	20A	8A,1/2"	83	83	47	47	36
	3/8",1/2"		10A,15A,5/8",3/4"					
15A	1/4"	25A	8A,1/2"	83	86	47	50	36
	10A,3/4",1/2",3/8"		10A,15A,20A,5/8",3/4",1"					
20A	1/4"	32A	8A,1/2"	93	90	57	54	36
	15A,10A,1",3/4",1/2",3/8"		25A-10A,1 1/4"-5/8"					
25A	1/4"	40A	8A,1/2"	93	93	57	57	36
	15A,10A,1",3/4",1/2",3/8"		25A-10A,1 1/4"-5/8"					
	20A		32A					
32A	1/4"	50A	8A,1/2"	103	109	57	63	46
	1"-3/8",10A,15A		25A-10A,1 1/4"-5/8"					
	25A,20A		40A,32A					

SLEEVE (HALF TUBE)

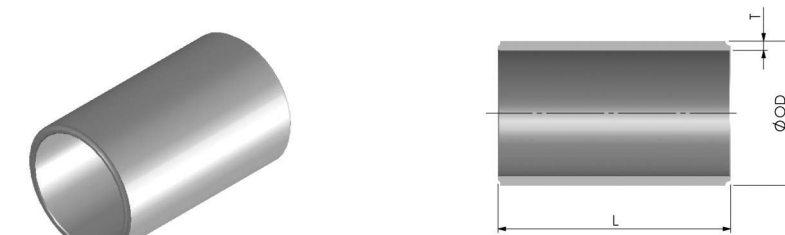


unit=mm

Inner OD	1/4"	3/8"	1/2"	3/4"	1"	1 1/2"	2"	10A	15A	20A	25A	32A					
Outer OD	1/2"	8A	3/4"	10A	3/4"	15A	1"	20A	11/2"	25A	2"	2 1/2"	20A	25A	32A	40A	50A
L	58	58	58	58	58	58	72	72	72	72	92	92	72	72	72	72	92

* Please refer to page 02 and 03 for outer OD, inner OD, thickness(T).

OVER TUBE

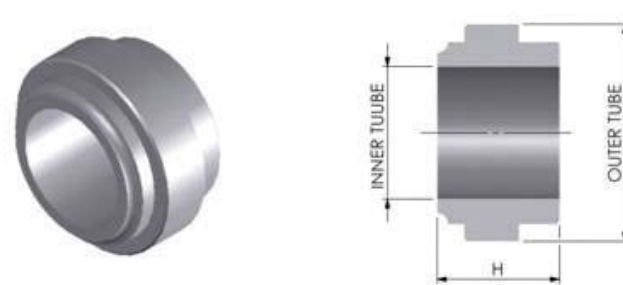


unit=mm

Outer Tube Size	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	8A	10A	15A	20A	25A	32A	40A	50A
OD	15.88	19.05	21.7	27.2	34	42.7	60.5	76.2	15.88	19.05	25.4	31.8	38.1	48.6	50.8	63.5
L	78	78	78	92	92	92	112	112	78	78	92	92	92	92	92	112

* Please refer to page 02 and 03 for thickness(T).

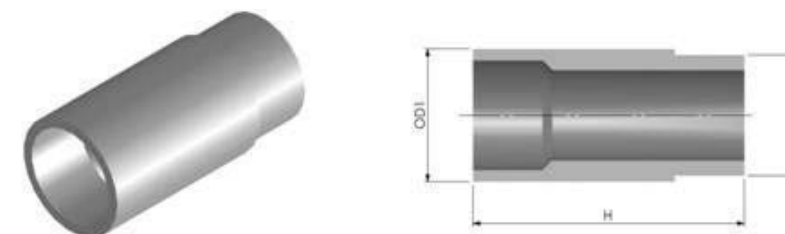
Stop Spacer



unit=mm

Inner OD	1/4"	3/8"	1/2"	3/4"	1"	1 1/2"	2"	10A	15A	20A	25A	32A					
Outer OD	1/2"	8A	3/4"	10A	3/4"	15A	1"	20A	11/2"	25A	2"	2 1/2"	20A	25A	32A	40A	50A
H	9	9	9	9	9	9	12	12	12	12	12	12	12	12	12	12	12

TERMINATOR



unit=mm

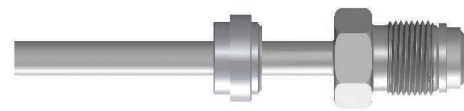
Inner Tube	1/4"	3/8"	1/2"	3/4"	1"	1 1/2"	2"	10A	15A	20A	25A	32A					
Outer Tube	1/2"	8A	3/4"	10A	3/4"	15A	1"	20A	11/2"	25A	2"	2 1/2"	20A	25A	32A	40A	50A
OD1	12.7	13.8	15.88	17.3	19.05	21.7	25.4	27.2	38.1	34	50.8	63.5	27.2	34	42.7	48.6	60.5
OD2	6.6		9.8		13.0		19.3		25.7	38.4	51.1	17.6	22.0	27.5	34.3	43.0	
H	39		39		39		46		46	56	56	46	46	46	46	46	56



COAXIAL OTHERS



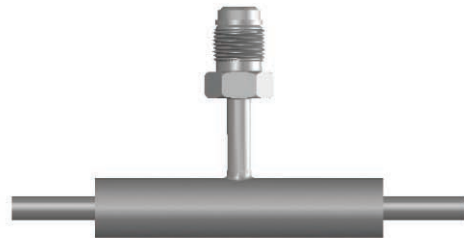
STOP SPACER + GLAND -F



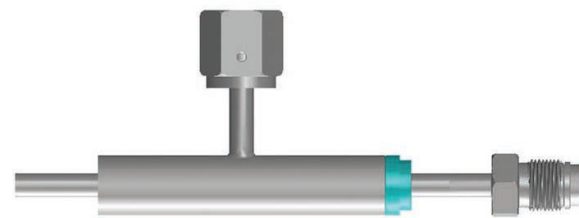
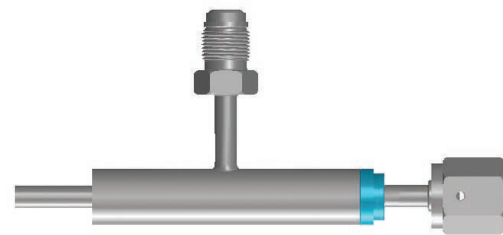
STOP SPACER + GLAND -M



PURGE TEE (FEMALE)

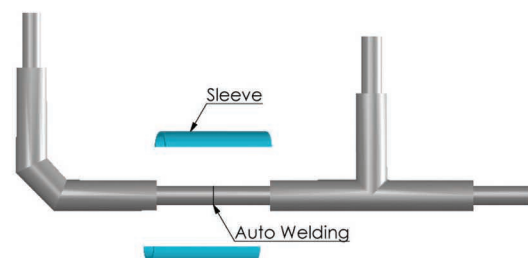


PURGE TEE (MALE)

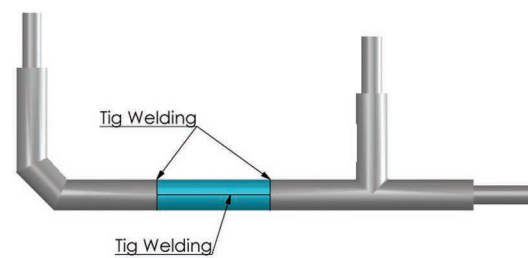


HOW TO USE SLEEVE (HALF TUBE)

step1

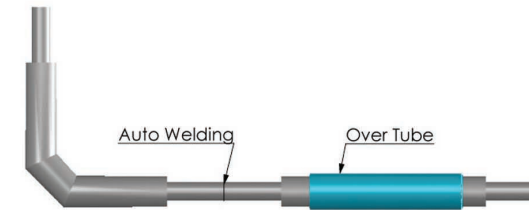


step2

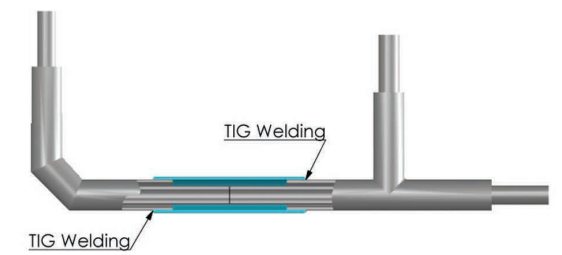


HOW TO USE OVER TUBE

step1

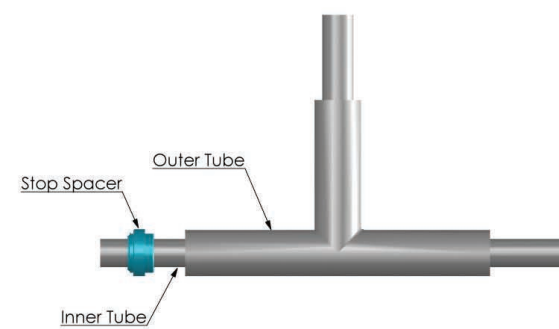


step2

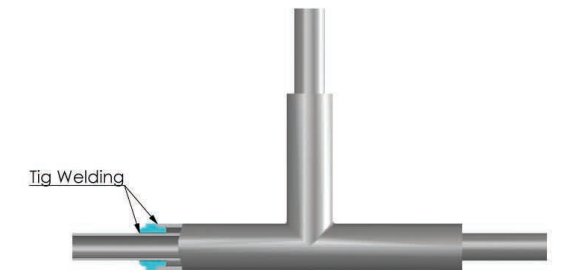


HOW TO USE STOP SPACER

step1

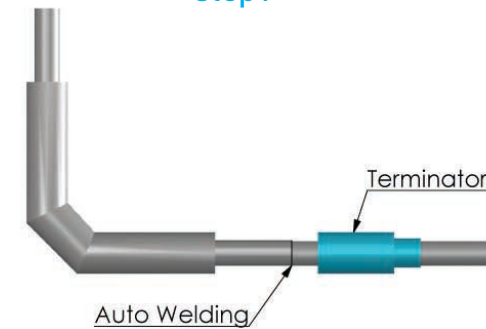


step2



HOW TO USE TERMINATOR

step1



step2

