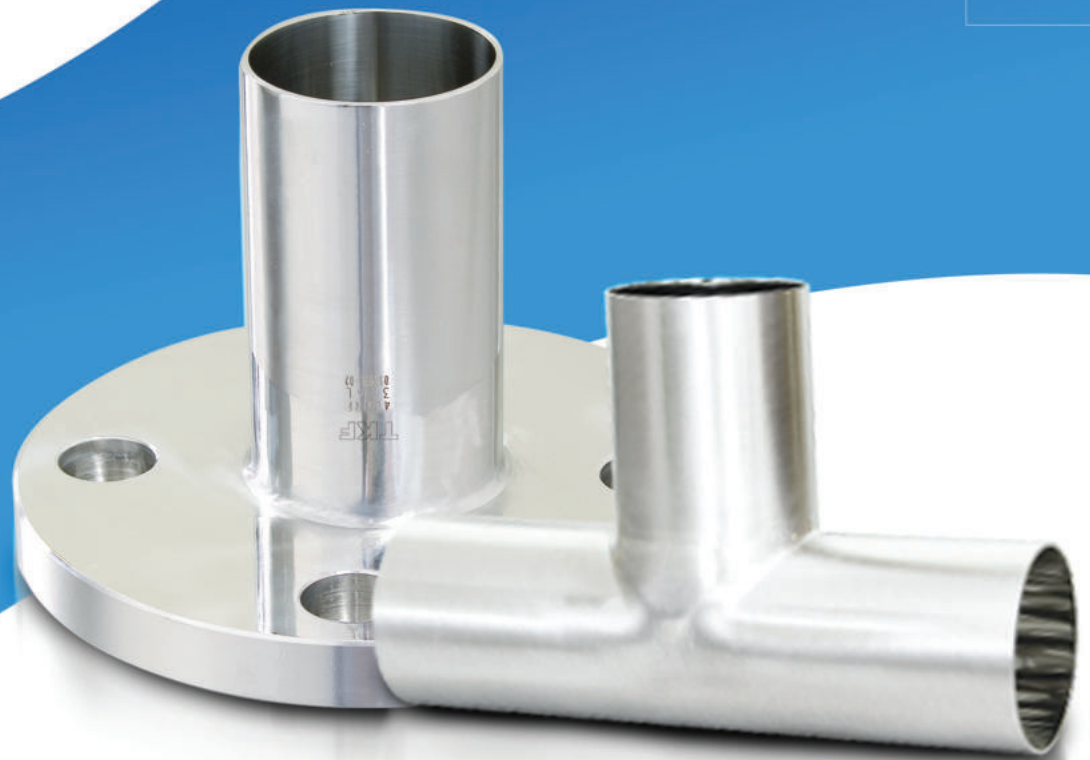


Tube & Pipe Fittings



INDEX

TUBE & PIPE FITTINGS

UHP PRODUCTS / FITTING SERIES

 <p>90° ELBOW Long & Short Radius</p> <p>43p</p>	 <p>MULTI-HEADER TEE</p> <p>51p</p>	 <p>COAXIAL DOUBLE EQUAL TEE</p> <p>58p</p>
 <p>45° ELBOW Long Radius</p> <p>43p</p>	 <p>MULTI-HEADER JOINT TEE</p> <p>52p</p>	 <p>COAXIAL DOUBLE REDUCING TEE</p> <p>58p</p>
 <p>EQUAL TEE Standard & Short Tee</p> <p>44p</p>	 <p>SPECIAL CLEAN SPOOL HEADER ASSEMBLY</p> <p>52p</p>	 <p>COAXIAL DOUBLE CONCENTRIC REDUCER</p> <p>59p</p>
 <p>CAP</p> <p>44p</p>	 <p>LAP JOINT</p> <p>54p</p>	 <p>COAXIAL JOINT TEE (MALE / FEMALE)</p> <p>60p</p>
 <p>REDUCER Concentric Reducer Eccentric Reducer</p> <p>45p</p>	 <p>PIPE FLANGE</p> <p>54p</p>	 <p>COAXIAL DOUBLE JOINT TEE (MALE / FEMALE)</p> <p>60p</p>
 <p>CAP REDUCER Pipe & Tube Size</p> <p>46p</p>	 <p>JIS RF FLANGE / JIS BLIND FLANGE</p> <p>55p</p>	 <p>COAXIAL SLEEVE</p> <p>61p</p>
 <p>REDUCING TEE Pipe & Tube Size</p> <p>48p</p>	 <p>TEFLON GASKET</p> <p>55p</p>	 <p>COAXIAL DOUBLE FACE SEAL WELD GLAND (MALE / FEMALE)</p> <p>61p</p>
 <p>JOINT TEE Female & Male Type</p> <p>50p</p>	 <p>COAXIAL DOUBLE TUBE</p> <p>57p</p>	 <p>COAXIAL TERMINATOR</p> <p>62p</p>
 <p>JOINT CAP Female & Male Type</p> <p>50p</p>	 <p>COAXIAL DOUBLE 90° ELBOW</p> <p>57p</p>	 <p>COAXIAL BULKHEAD FITTING ASSEMBLY</p> <p>62p</p>
 <p>JOINT REDUCER Female & Male Type</p> <p>51p</p>	 <p>COAXIAL DOUBLE 45° ELBOW</p> <p>57p</p>	

MATERIAL GRADE

Our production processes utilize a wide range of materials from single to triple vacuum melted.

STANDARD MATERIAL (SINGLE MELTED MATERIAL)

(Melting method : EF + RH or EF + AOD)

		Chemical Composition (%)							
		C	Si	Mn	P	S	Ni	Cr	Mo
JIS G3459 SUS 304	Standard Value	Max 0.08	Max 1.00	Max 2.00	Max 0.045	Max 0.030	8.00~11.00	18.00~20.00	-
	Typical Example	0.03	0.48	1.04	0.026	0.005	8.57	18.25	-
JIS G3459 SUS 316L	Standard Value	Max 0.030	Max 1.00	Max 2.00	Max 0.045	Max 0.030	12.00~16.00	16.00~18.00	2.00~3.00
	Typical Example	0.016	0.35	0.74	0.024	0.002	12.59	16.71	2.22

		Mechanical Properties			
		Tensile Strength (mm ²)	Yield Strength (mm ²)	Elongation (%)	Hardness (HB)
JIS G3459 SUS 304	Standard Value	Min 520	Min 205	Min 35	-
	Range	≥ 520	≥ 205	≥ 35	-
JIS G3459 SUS 316L	Average	630	320	50	165
	Standard Value	Min 480	Min 175	Min 35	-
	Range	≥ 480	≥ 175	≥ 35	-
	Average	550	220	55	162

SUS304 and SUS316L according to AP and BA specifications and SUS316L according to EP specifications

SUPER CLEAN MATERIAL (DOUBLE VACUUM-MELTED MATERIAL)

We treat the material steel with double vacuum-melting method, keep the oxygen content below 20ppm reduce nonmetallic inclusion which causes particles. At the same time we keep the carbon content and Mn content at a low level and create high corrosion resistance by increasing Mo content.

No of Pieces	Mass (Kg)	Chemical Composition (%)									
		C ×100	Si ×100	Mn ×100	P ×1000	S ×1000	Ni ×100	Cr ×100	Mo ×100	Al ×1000	N ×1000
41	868	1.3	23	20	24	2	1461	1668	236	2	8.1
Max		1.5	40	40	30	5	1500	1700	250	20	-
Min		-	-	-	-	-	1400	1600	220	-	-

No of Pieces	Mass (Kg)	Tensile Test (JIS Z 2201)				
		Y.SN (mm ²)	T.SN (mm ²)	EI (%)	RA (%)	Hardness (HB)
41	868	208	519	64	90	131
Max		-	-	-	-	187
Min		175	480	40	60	-

SINGLE MELT (×200)

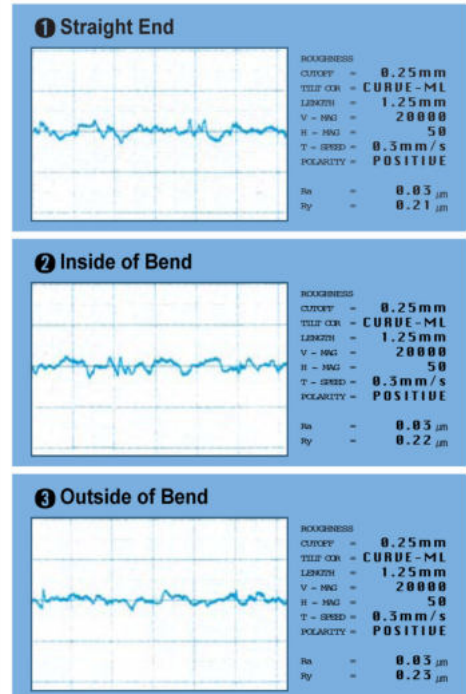


DOUBLE MELT (×200)

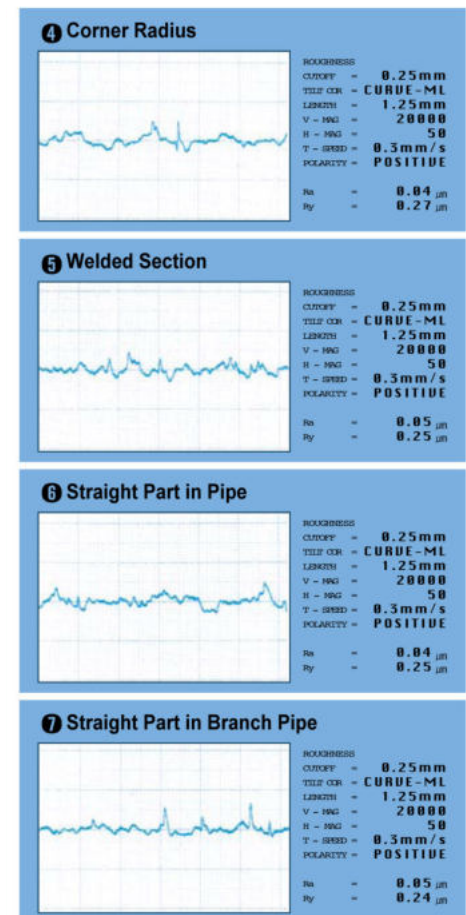


EXAMPLE OF INNER SURFACE ROUGHNESS

TK-FUJIKIN - EP 90° ELBOW SUS 316L 50A×5S



TK-FUJIKIN - EP EQUAL TEE SUS 316L 50A×5S



MATERIAL TRACEABILITY

Finished UHP components are mill and heat traceable, permanently marked to correspond to TK-FUJIKIN corporation. And Mill test report.

The heat code is the reference to the certificate of test results from the raw material supplier, which reports chemical composition analysis and certifies compliance to other requirements asked in TK-FUJIKIN corporation's material specification.

Permanent records of the material certifications are maintained, and a copy of the materials certification for any heat code is available as an option.

The heat code is permanently laser marked on each component so as to be clearly legible as received and after installation.

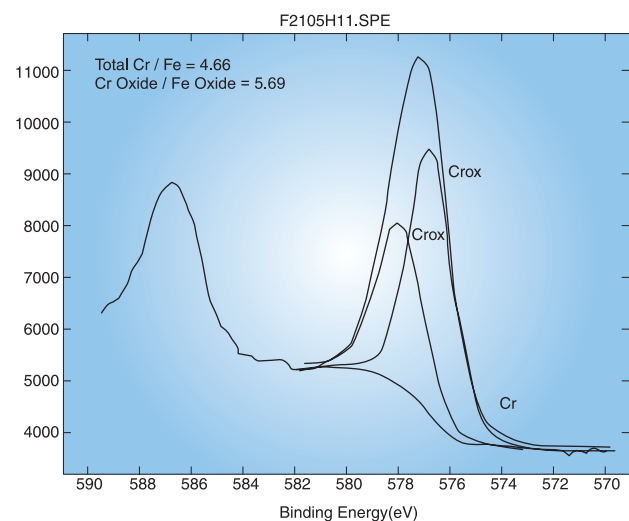
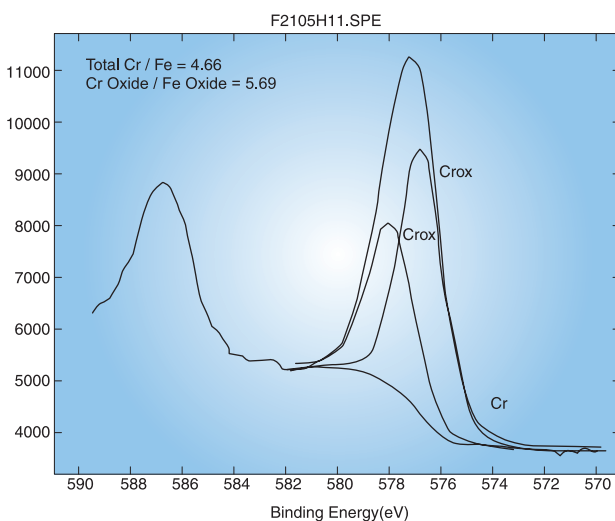
TYPICAL HEAT NUMBER MARKING

TK-FUJIKIN	TK-FUJIKIN corporation
316LV - Px	Product Grade
D063	Raw Material Heat Number
010278	Control Number

TK-FUJIKIN ELECTROPOLISHED UHP FITTING PRODUCTS SURFACE PASSIVE LAYER SPECIFICATION

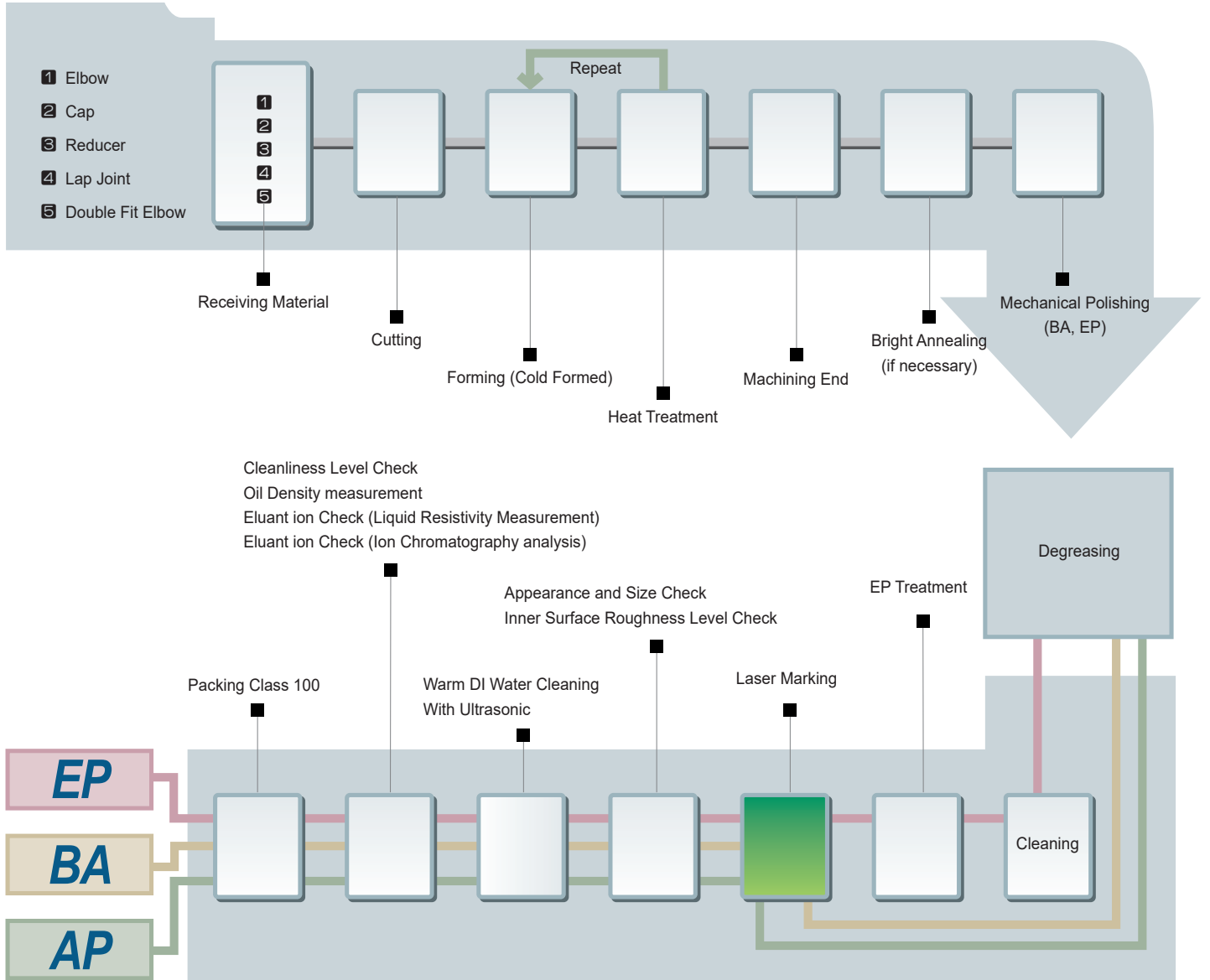
	Analytic Technique	Typical Industry Spec.	TK Typical
Cr / Fe Ratio at 10Ang.	AES Depth Profile	≥ 1.0	2.0
Maximum Cr / Fe Ratio(Depth Ang.)	AES Depth Profile	≥ 1.0	3.0 / 8.5
Oxide Layer Thickness(Ang.)	AES Depth Profile	≥ 20	32.5
Carbon Layer Thickness(Ang.)	AES Depth Profile	≤ 10	3.0
Total Cr / Fe Ratio	ESCA	≥ 1.5	2.0
CrO/FeO Ratio	ESCA	≥ 2.0	3.0

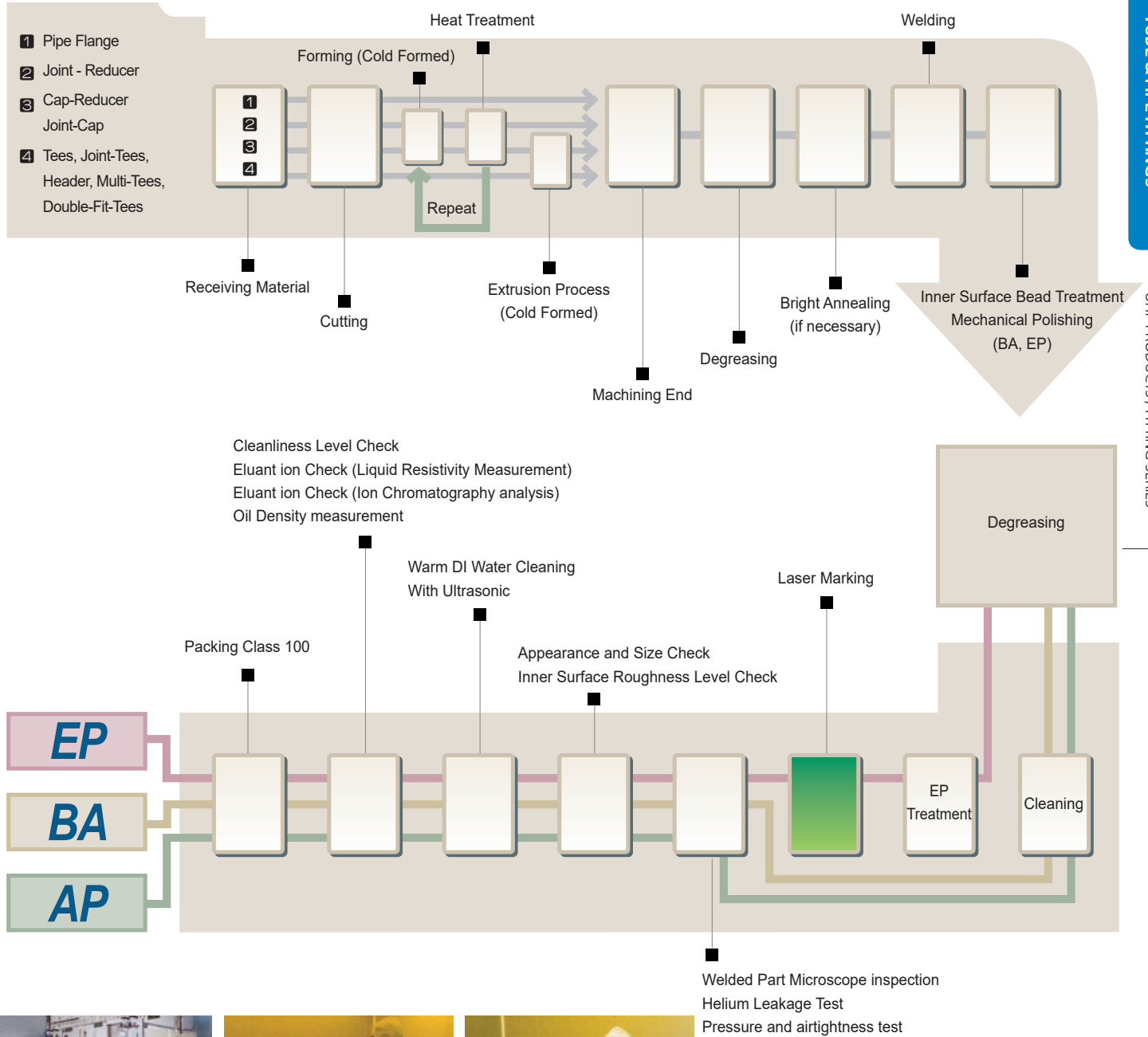
F2105H11.SPE : TK2 - 8 II **CE&A**
02 Feb 28 Al Mono 350.0 W 0.0 35.0° 23.50 eV **1.1330e = 0.04 max** **4.00 min**
(Cr2p/Fu)V1



TEST RESULTS ARE FROM RJ LEE GROUP, INC.

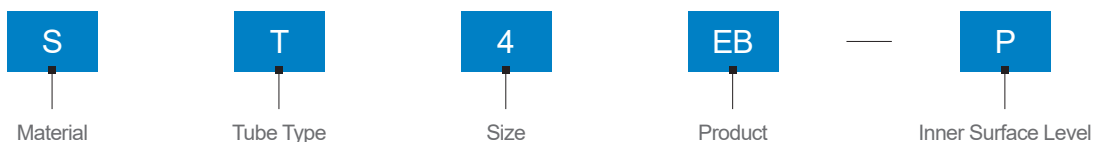
TK-FUJIKIN PRODUCTION PROCESS





ORDERING INFORMATION

BEND FITTING PART



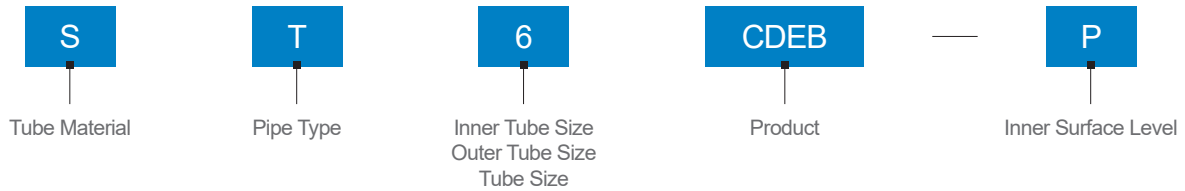
Material		Tube Type		Size		Product		Inner Surface Level	
S	SUS316L	T	TUBE	4	1/4"	EB	90° LONG ELBOW	BLANK	BA
4S	SUS304	BLANK	PIPE	6	3/8"	ESB	90° SHORT ELBOW	P	EP
				8	1/2"	HEB	45° LONG ELBOW	MP	MP
				12	3/4"	TSB	STANDARD TEE	AP	AP
				16	1"	STB	STANDARD SHORT TEE		
				20	1 1/4"	TB	REDUCING TEE		
				24	1 1/2"	RCB	CONCENTRIC REDUCER		
				32	2"	REB	ECCENTRIC REDUCER		
				40	2 1/2"	CPB	CAP		
				48	3"	CRB	CAP REDUCER		
				64	4"	JTM	JOINT TEE (MALE)		
				80	5"	JTF	JOINT TEE (FEMALE)		
				96	6"	JRM	JOINT REDUCER (MALE)		
				xxx	PIPE SIZE	JRF	JOINT REDUCER (FEMALE)		
						JCM	JOINT CAP (MALE)		
						JCF	JOINT CAP (FEMALE)		
						TPK	TEFLON GASKET		
						LJF	LAP JOINT FLANGE		
						RFF	RF FLANGE		
						BLD	BLIND FLANGE		
						LAP	LAP JOINT		
						MHB	MULTI-HEADER TEE		
						JMHB	MULTI-HEADER JOINT TEE		

ORDERING EXAMPLES

	S80EB-P		S80X40TB-AP		ST32XT12REB-P	
Material	S	SUS316L	S	SUS316L	S	SUS316L
Tube Type	-	PIPE	-	PIPE	T	TUBE
Size	80	80A	80 x 40	80A x 40A	T32 x T12	2" x 3/4"
Product	EB	90° LONG ELBOW	TB	REDUCING TEE	REB	ECCENTRIC REDUCER
Inner Surface Level	P	EP	AP	AP	P	EP

ORDERING INFORMATION

COAXIAL DOUBLE FITTING PART



	Tube Material	Pipe Type	Inner Tube Size	Outer Tube Size	Tube Size	
S	SUS316L (Single Melt)	T	TUBE	1/4"	1/2"	4
D	SUS316L (Double Melt)			3/8"	5/8"	6
				1/2"	3/4"	8
				3/4"	1"	12
				1"	1 1/4"	16
				1 1/2"	2"	24

Product		Inner Surface Level	
CDT	COAXIAL DOUBLE TUBE	BLANK	BA
CDEB	COAXIAL DOUBLE 90° ELBOW	P	EP (Single Melt)
CDHEB	COAXIAL DOUBLE 45° ELBOW	PX	EP (Double Melt)
CDTSB	COAXIAL DOUBLE EQUAL TEE		
CDTB	COAXIAL DOUBLE REDUCING TEE		
CDRCB	COAXIAL DOUBLE CONCENTRIC REDUCER		
CJTM (F)	COAXIAL JOINT TEE (MALE / FEMALE)		
CDJTM (F)	CDCOAXIAL DOUBLE JOINT TEE (MALE / FEMALE)		
CSL	COAXIAL SLEEVE		
CDVM (F)	COAXIAL DOUBLE FACE SEAL WELD GLAND (MALE / FEMALE)		
CTM	COAXIAL TERMINATOR		
CBH	COAXIAL BULKHEAD FITTING		

ORDERING EXAMPLES

	ST8CDEB		ST4CDHEB-P		DT4CDTSB-PX	
TUBE MATERIAL	S	SUS316L	S	SUS316L	D	SUS316L
PIPE TYPE	T	TUBE	T	TUBE	T	TUBE
TUBE SIZE	8	1/2" x 3/4"	4	1/4" x 1/2"	4	1/4" x 1/2"
PRODUCT	CDEB	COAXIAL DOUBLE 90° ELBOW	CDHEB	COAXIAL DOUBLE 45° ELBOW	CDTSB	COAXIAL DOUBLE EQUAL TEE
INNER SUREFACE	-	BA	P	EP	PX	EP

PIPE SIZE (A - SIZE)

Unit = mm						
Normal Pipe	Outside Diameter at End	Wall Thickness at End		Straight End Length	Thinning Length	
	OD(OD1, OD2)	T		L	J	
		5S	10S		5S	10S
8A	13.8	1.20	1.65	29	4	7
10A	17.3	1.20	1.65	36	4	7
15A	21.7	1.65	2.10	36	5	7
20A	27.2	1.65	2.10	36	5	7
25A	34.0	1.65	2.80	36	5	7
32A	42.7	1.65	2.80	46	5	7
40A	48.6	1.65	2.80	46	5	7
50A	60.5	1.65	2.80	46	5	7
65A	76.3	2.10	3.00	51	6	11
80A	89.1	2.10	3.00	51	6	11
100A	114.3	2.10	3.00	51	6	11
125A	139.8	2.80	3.40	-	7	-
150A	165.2	2.80	3.40	-	7	-
200A	216.3	2.80	4.00	-	7	-
250A	267.4	3.40	4.00	-	-	-
300A	318.5	4.00	4.50	-	-	-
350A	355.6	4.00	4.80	-	-	-
400A	406.4	4.20	4.80	-	-	-
450A	457.2	4.20	4.80	-	-	-
500A	508.0	4.80	5.50	-	-	-
550A	558.8	4.80	5.50	-	-	-
600A	609.6	5.50	6.40	-	-	-

• Refer to 41page Weld Bevel End Manufacture Form

TUBE SIZE (INCH - SIZE)

Unit = mm				
Normal Tube	Outside Diameter at End	Wall Thickness at End	Straight End Length	Thinning Length
	OD(OD1, OD2)	T(T1, T2)	L	J
1/8"	3.18	0.7	29	7
1/4"	6.35	1.0 (0.89)	29	7
3/8"	9.53	1.0 (0.89)	29	7
1/2"	12.70	1.0, 1.24 (1.65)	29	7
5/8"	15.88	1.0 (1.24)	36	7
3/4"	19.05	1.24, 1.65	36	7
1"	25.40	1.65, 1.24	36	7
1 1/4"	31.80	1.65	36	7
1 1/2"	38.10	1.65	46	7
2"	50.80	1.65	46	7
2 1/2"	63.50	1.65	51	7
3"	76.20	1.65	51	11
4"	101.60	2.11	51	11
5"	127.00	2.77, 3.05	56	11
6"	152.40	2.77, 3.05	56	11

• Refer to 41page Weld Bevel End Manufacture Form

• Dimensions are for reference only and are subject to change.

WELD BEVEL END MANUFACTURE FORM

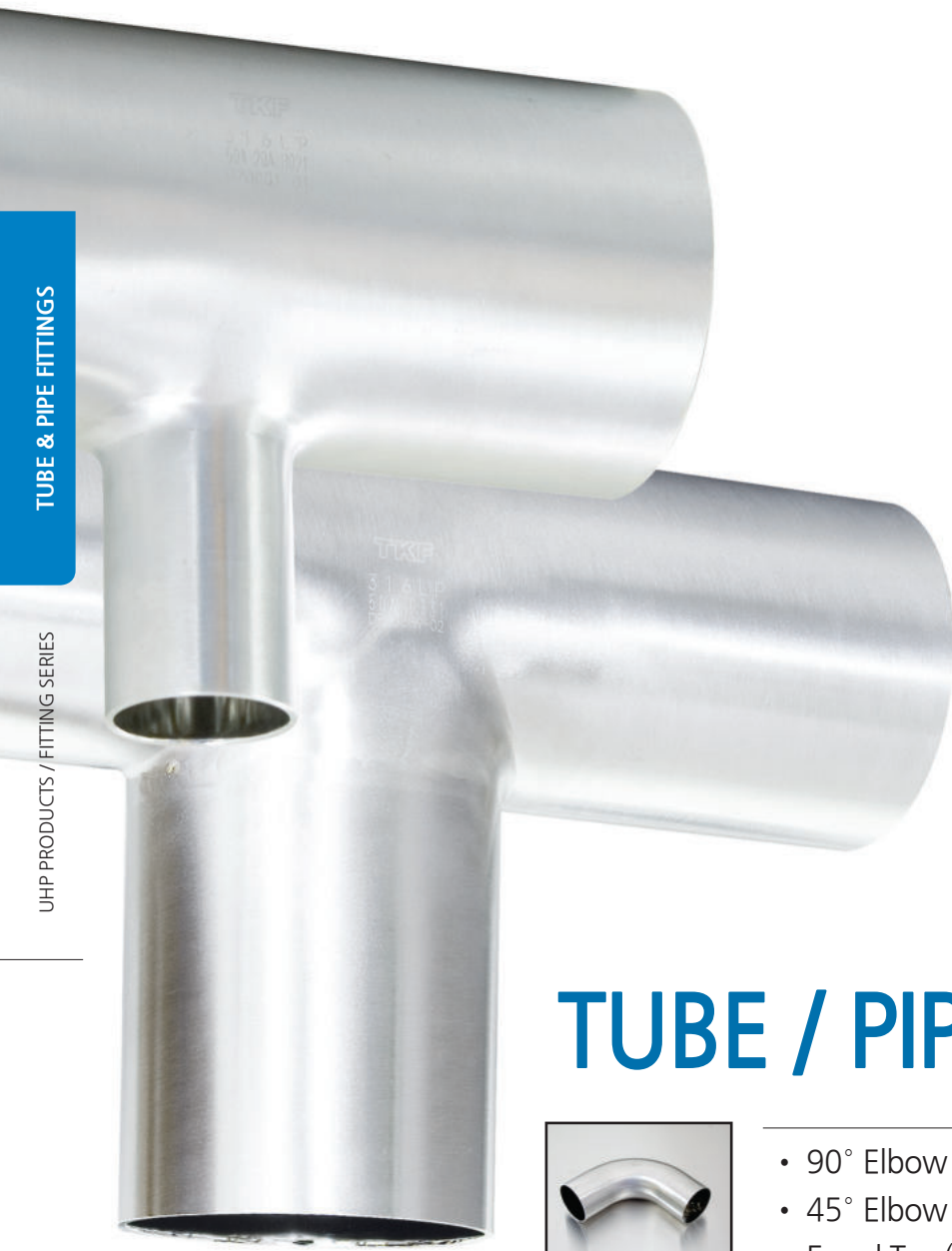
FORM TYPE	AUTOMATIC WELDING		MANUAL WELDING	
ELBOW (LONG/SHORT)	8A ~ 100A	-	125A ~ 600A	-
EQUAL TEE (LONG/SHORT)	8A ~ 65A	80A ~ 100A	125A ~ 600A	-
REDUCING TEE	8A ~ 100A	-	-	125A ~ 600A
CAP	-	15A ~ 100A	125A ~ 600A	-
CAP REDUCER	15A ~ 32A	40A ~ 100A	125A ~ 600A	-
CONCENTRIC REDUCER	15A ~ 100A	-	125A ~ 600A	-
ECCENTRIC REDUCER	15A ~ 100A	-	125A ~ 600A	-

※ WELD BEVEL END MANUFACTURE FORM is described by Standard of mother pipe.

DIMENSIONAL TOLERANCE

Item	Products	Normal Pipe Size				
		Unit = mm				
		1/8" ~ 3/8"	8A ~ 10A 1/2" ~ 3/4"	15A ~ 65A 1" ~ 3"	80A ~ 200A 4" ~ 6"	250A ~ 300A
Pipe Fitting Header Joint-Header Multi-Tee	Outside Diameter at End (OD)	±0.1mm	±1%			
	Wall Thickness at End (T)	Either Bigger ±0.2mm or ±20%				
	Straight End Length (L)	+ Not Specified - 0.4mm				
	Thinning Length (J)	+ Not Specified - 0				
Elbow, D-Elbow	Bend Radius (R)	±0.8mm	±1.6mm	±3.2mm		
Elbow, D-Elbow, Tee, Joint-Tee D-Tee, Header Joint-Header, Multi-Tee	Center to End (A · B · C · M)	±0.8mm	±1.6mm	±3.2mm		
Lap Joint Pipe Flange	Length (FF FP)	±0.8mm	±1.6mm	±3.2mm		
Cap, 180° Return Bend	Back to End (E, BH)	±0.8mm	±3.2mm			
Reducer, Cap Reducer J-Reducer, J-Cap Outside-Diameter-Changeable Fitting Wall-Thickness-Changeable Fitting	Over All Length (H, Q)	±0.8mm	±1.6mm	±3.2mm		
Lap Joint	Thickness of Lap (t)		10A	+1.6mm - 0		
	Diameter of Lap (G)		10A	+0mm - 0.8	+0mm - 1.6	
Header Joint-Header Multi-Tee	Length of End (EL)	±1.6mm				
	Branch Pitch (P)	±1.6mm		±3.2mm		
	Total Length (L)	+5mm - 0				

· Dimensions are for reference only and are subject to change.



TUBE / PIPE FITTINGS



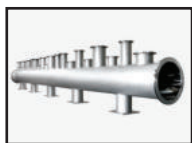
- 90° Elbow (Long Radius / Short Radius)
- 45° Elbow
- Equal Tee (Long Tee / Short Tee)
- Cap
- Reducer (Concentric / Eccentric Reducer)



- Cap Reducer
- Reducing Tee



- Joint Tee (Female / Male)
- Joint Cap (Female / Male)
- Joint Reducer (Female / Male)

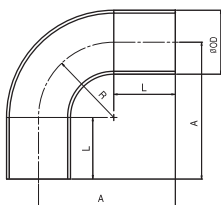


- Multi-Header Tee
- Multi-Header Joint Tee
- Special Clean Spool Header Assembly

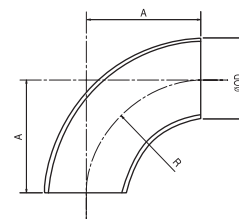
90° ELBOW



AUTO-WELDING 90° ELBOW(8A~100A)



MANUAL-WELDING 90° ELBOW(125A~300A)



LONG RADIUS

unit = mm

PIPE SIZE (A Size)																
OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
R	25.4	25.4	38.1	38.1	38.1	47.6	57.2	76.2	63.5	76.2	101.6	190.5	228.6	304.8	381.0	457.2
A	55.0	62.0	75.0	75.0	75.0	94.0	104.0	123.0	147.0	166.0	204.0					
L	29.0	36.0	36.0	36.0	36.0	46.0	46.0	46.0	51.0	51.0	51.0	-	-	-	-	-

TUBE SIZE (Inch Size)																
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	20.0	23.0	25.0	28.0	30.0	33.0	47.6	57.2	76.2	95.3	95.3	133.4	190.5	228.6		
A	49.0	52.0	54.0	64.0	66.0	69.0	84.0	104.0	123.0	147.0	147.0	185.0	250.0	290.0		
L	29.0	29.0	29.0	36.0	36.0	36.0	36.0	46.0	46.0	51.0	51.0	51.0	56.0	56.0		

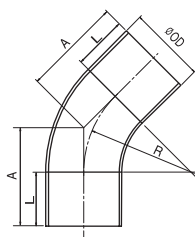
SHORT RADIUS

PIPE SIZE (A Size)																
OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
R	12.7	12.7	12.7	19.1	25.4	31.8	38.1	50.8	63.5	76.2	101.6	127.0	152.4	203.2	254.0	304.8
A	42.0	49.0	49.0	56.0	62.0	78.0	85.0	97.0	115.0	128.0	153.0					
L	29.0	29.0	29.0	36.0	36.0	36.0	36.0	46.0	51.0	51.0	51.0	-	-	-	-	-

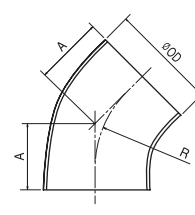
45° ELBOW



AUTO-WELDING 45° ELBOW(8A~100A)



MANUAL-WELDING 45° ELBOW(125A~300A)



LONG RADIUS

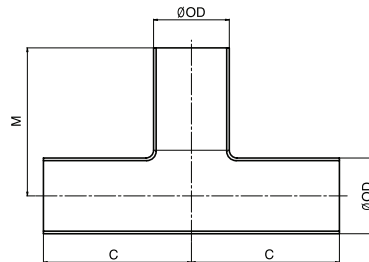
unit = mm

PIPE SIZE (A Size)																
OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
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	381.0	457.2
A	40.0	47.0	52.0	52.0	52.0	66.0	70.0	78.0	91.0	99.0	115.0	78.9	94.7	126.2	157.8	189.4
L	29.0	36.0	36.0	36.0	36.0	46.0	46.0	46.0	51.0	51.0	51.0	-	-	-	-	-

TUBE SIZE (Inch Size)																
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	20.0	23.0	25.0	28.0	30.0	33.0	47.6	57.2	76.2	95.3	95.3	133.4	190.5	228.6		
A	38.0	39.0	40.0	48.0	49.0	50.0	56.0	70.0	78.0	91.0	91.0	107.0	140.0	155.0		
L	29.0	29.0	29.0	36.0	36.0	36.0	36.0	46.0	46.0	51.0	51.0	51.0	56.0	56.0		

· Dimensions are for reference only and are subject to change.

EQUAL TEE



STANDARD TEE

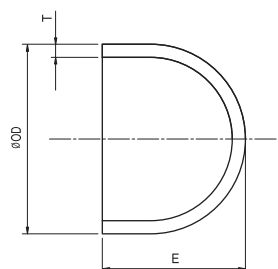
unit = mm

PIPE SIZE (A Size)																
OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
C	42	49	59	65	68	88	95	102	121	130	145	123.8	142.9	177.8	215.9	254.0
M	42	49	59	65	68	88	95	102	121	130	145					
TUBE SIZE (Inch Size)																
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	35	37	39	49	52	55	59	74	77	90	121	132	140	160		
M	35	37	39	49	52	55	59	74	77	90	121	132	140	160		

SHORT TEE

PIPE SIZE (A Size)										
OD	15A	20A	25A	32A	40A	50A	65A	80A	100A	
C	52	55	59	74	77	83	97	103	116	
M	52	55	59	74	77	83	97	103	116	

CAP

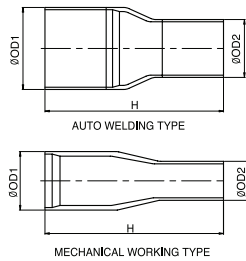


unit = mm

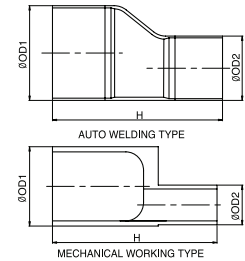
PIPE SIZE (A Size)																
OD	8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
E	12.7	19.1	25.4	25.4	38.1	38.1	38.1	38.1	38.1	50.8	63.5	76.2	88.9	101.6	127.0	152.4
T	1.20	1.20	1.65	1.65	1.65	1.65	1.65	1.65	2.10	2.10	2.10	3.40	3.40	4.00	4.00	4.50
TUBE SIZE (Inch Size)																
OD	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"				
E	12.7	12.7	12.7	12.7	19.1	25.4	38.1	38.1	38.1	38.1	38.1	63.5				
T	1.00	1.00	1.24	1.24	1.65	1.65	1.65	1.65	1.65	1.65	1.65	2.11				

· Dimensions are for reference only and are subject to change.

REDUCER



Auto Welding & Mechanical Working Type
Concentric Reducer [RCB](8A~100A)



Auto-Welding & Mechanical Working Type
Eccentric Reducer [REB] (8A~100A)

AUTO WELDING TYPE CONCENTRIC REDUCER / ECCENTRIC REDUCER

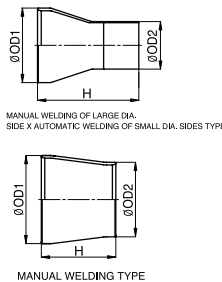
unit = mm

PIPE SIZE (A Size)					
OD1	OD2	H	OD1	OD2	H
20A	15A	105	50A	40A, 32A, 25A	140
25A	20A, 15A	120	65A	50A, 40A, 32A	165
32A	25A, 20A, 15A	125	80A	65A, 50A, 40A	170
40A	32A, 25A, 20A	130	100A	80A, 65A, 50A	180

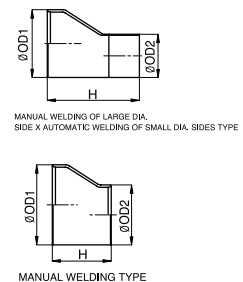
MECHANICAL WORKING TYPE CONCENTRIC REDUCER / ECCENTRIC REDUCER

unit = mm

PIPE SIZE (A Size)					
OD1	OD2	H	OD1	OD2	H
15A	3/4", 1/2"	100	32A	1 1/2", 1 1/4", 1"	125
20A	1", 3/4", 1/2"	105	40A	1 1/2", 1 1/4", 1", 3/4", 1/2", 3/8"	130
25A	1", 3/4", 1/2", 3/8", 1/4"	120	50A	2", 1 1/2", 1 1/4", 1", 3/4"	140



Manual-Welding of Large Dia. Side x Automatic Welding of Small Dia. Sides & Manual-Welding Type Concentric Reducer [RCB] (125A~300A)



Manual-Welding of Large Dia. Side x Automatic Welding of Small Dia. Sides & Manual-Welding Type Eccentric Reducer [REB] (125A~300A)

MANUAL WELDING OF LARGE DIA, SIDE X AUTOMATIC WELDING OF SMALL DIA, SIDES TYPE CONCENTRIC / ECCENTRIC REDUCER

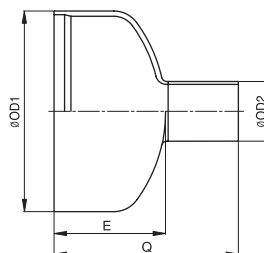
PIPE SIZE (A Size)		
OD1	OD2	H
125A	100A, 80A, 65A, 50A	190
150A	100A, 80A, 65A	205
200A	100A	220

MANUAL WELDING TYPE CONCENTRIC / ECCENTRIC REDUCER

PIPE SIZE (A Size)					
OD1	OD2	H	OD1	OD2	H
150A	125A	139.7	250A	200A, 150A, 125A	177.8
200A	150A, 125A	152.4	300A	250A, 200A, 150A, 125A	203.2

· Dimensions are for reference only and are subject to change.

CAP REDUCER (PIPE SIZE)

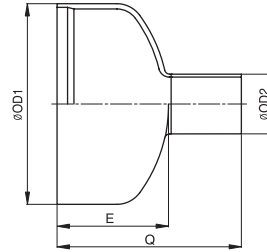


unit = mm

PIPE SIZE (A Size)							
OD1	OD2	E	Q	OD1	OD2	E	Q
15A	8A, 1/2", 3/8", 1/4"	25.4	60	125A	8A, 1/2", 3/8", 1/4"	76.2	120
	10A, 3/4", 5/8"		(67)		25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		130
20A	8A, 1/2", 3/8", 1/4"	25.4	60		50A, 40A, 32A, 2", 1 1/2"		140
	15A, 10A, 1", 3/4", 5/8"		67		100A, 80A, 65A, 4", 3", 2 1/2"		(150)
25A	8A, 1/2", 3/8", 1/4"	38.1	73	150A	8A, 1/2", 3/8", 1/4"	88.9	130
	20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		(80)		25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		140
32A	8A, 1/2", 3/8", 1/4"	38.1	73		50A, 40A, 32A, 2", 1 1/2"		150
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		80		100A, 80A, 65A, 4", 3", 2 1/2"		160
40A	8A, 1/2", 3/8", 1/4"	38.1	73	200A	8A, 1/2", 3/8", 1/4"	101.6	140
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		80		25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		150
	32A, 1 1/2"		(90)		50A, 40A, 32A, 2", 1 1/2"		160
50A	8A, 1/2", 3/8", 1/4"	38.1	73		100A, 80A, 65A, 4", 3", 2 1/2"		170
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		80	250A	8A, 1/2", 3/8", 1/4"	170	
	40A, 32A, 2", 1 1/2"		(90)		25A, 20A, 15A, 10A, 1", 3/4"	180	
65A	8A, 1/2", 3/8", 1/4"	38.1	73		50A, 40A, 32A	190	
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		80	100A, 80A, 65A	200		
	50A, 40A, 32A, 2", 1 1/2"		(90)	300A	8A, 1/2", 3/8", 1/4"	200	
	2 1/2"		(100)		25A, 20A, 15A, 10A, 1", 3/4"	210	
80A	8A, 1/2", 3/8", 1/4"	50.8	85	50A, 40A, 32A	220		
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		92	100A, 80A, 65A	230		
	50A, 40A, 32A, 2", 1 1/2"		102				
	65A, 3", 2 1/2"		(110)				
100A	8A, 1/2", 3/8", 1/4"	63.5	98				
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"		105				
	50A, 40A, 32A, 2", 1 1/2"		115				
	80A, 65A, 4", 3", 2 1/2"		125				

* 125A(100A, 80A, 65A, 50A) / 150A(125A, 100A, 80A, [65A]) / 200A(150A, 125A, 100A) Bevel end at large dia. side.

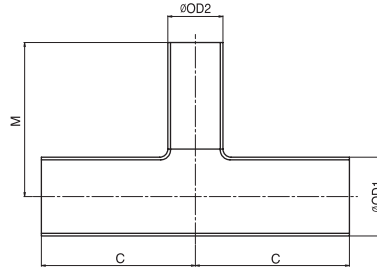
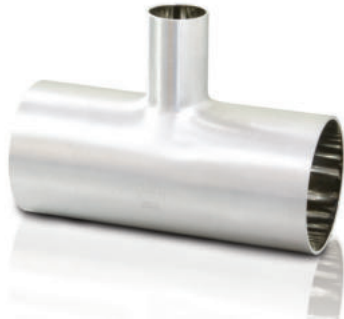
CAP REDUCER (TUBE SIZE)



unit = mm

TUBE SIZE (Inch Size)							
OD1	OD2	E	Q	OD1	OD2	E	Q
3/4"	1/2", 3/8", 1/4", 8A	19.1	54	3"	1/2", 3/8", 1/4", 8A	38.1	73
	5/8", 10A		60		1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A		80
1"	1/2", 3/8", 1/4", 8A	25.4	60		2", 1 1/2", 50A, 40A, 32A		(90)
	3/4", 5/8", 15A, 10A		67		2 1/2"		(95)
1 1/4"	1/2", 3/8", 1/4", 8A	38.1	73	4"	1/2", 3/8", 1/4", 8A	63.5	98
	1", 3/4", 5/8", 20A, 15A, 10A		80		1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A		105
1 1/2"	1/2", 3/8", 1/4", 8A	38.1	73		2", 1 1/2", 50A, 40A, 32A		115
	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A		80		3", 2 1/2", 80A, 65A		(125)
2"	1/2", 3/8", 1/4", 8A	38.1	73				
	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A		80				
	1 1/2", 40A, 32A		(90)				
2 1/2"	1/2", 3/8", 1/4", 8A	38.1	73				
	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A		80				
	2", 1 1/2", 50A, 40A, 32A		(90)				

REDUCING TEE (PIPE SIZE)



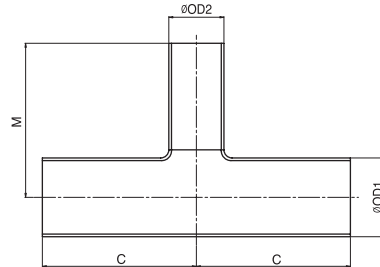
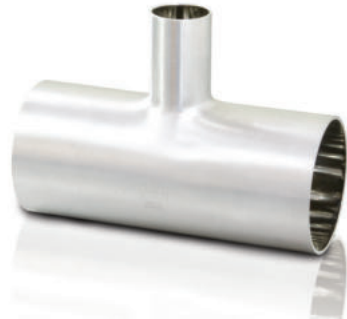
unit = mm

PIPE SIZE (A Size)							
OD1	OD2	C	M	OD1	OD2	C	M
8A	1/2", 3/8", 1/4"	42	42	150A	8A, 1/2", 3/8", 1/4"	90	130
10A	8A, 1/2", 3/8", 1/4"	47	44		25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	110	140
15A	8A, 1/2", 3/8", 1/4"	47	44		50A, 40A, 32A, 2", 1 1/2"	130	150
	10A, 3/4", 5/8"	52	52		100A, 80A, 65A, 4", 3", 2 1/2"	150	160
20A	8A, 1/2", 3/8", 1/4"	47	47	125A, 5"	142.9	136.5	
	15A, 10A, 1", 3/4", 5/8"	55	55	200A	8A, 1/2", 3/8", 1/4"	100	150
25A	8A, 1/2", 3/8", 1/4"	47	50		25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	120	160
	20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	59	59		50A, 40A, 32A, 2", 1 1/2"	140	170
32A	8A, 1/2", 3/8", 1/4"	57	54		100A, 80A, 65A, 4", 3", 2 1/2"	160	180
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	68	62	125A	177.8	161.9	
40A	8A, 1/2", 3/8", 1/4"	57	57	150A	177.8	168.3	
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	68	65	250A	8A, 1/2", 3/8", 1/4"	110	180
32A, 1 1/2"	77	77	25A, 20A, 15A, 10A, 1", 3/4"		130	190	
50A	8A, 1/2", 3/8", 1/4"	57	63		50A, 40A, 32A	150	200
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	68	71		100A, 80A, 65A	170	210
65A	40A, 32A, 2", 1 1/2"	83	83	125A	215.9	190.5	
	8A, 1/2", 3/8", 1/4"	61	71	150A	215.9	193.7	
	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	72	79	200A	215.9	203.2	
	50A, 40A, 32A, 2", 1 1/2"	88	90	300A	8A, 1/2", 3/8", 1/4"	120	200
2 1/2"	97	97	25A, 20A, 15A, 10A, 1", 3/4"		140	210	
8A, 1/2", 3/8", 1/4"	61	77	50A, 40A, 32A		160	220	
25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	72	85	100A, 80A, 65A		180	230	
80A	50A, 40A, 32A, 2", 1 1/2"	88	96	125A	254	215.9	
	65A, 3", 2 1/2"	103	103	150A	254	219.1	
	8A, 1/2", 3/8", 1/4"	61	90	200A	254	228.6	
100A	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	72	98	125A	8A, 1/2", 3/8", 1/4"	80	110
	50A, 40A, 32A, 2", 1 1/2"	88	109		25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	100	120
	80A, 65A, 4", 3", 2 1/2"	116	116		50A, 40A, 32A, 2", 1 1/2"	120	130
8A, 1/2", 3/8", 1/4"	80	110	100A, 80A, 65A, 4", 3", 2 1/2"		140	140	
125A	25A, 20A, 15A, 10A, 1 1/4", 1", 3/4", 5/8"	100	120	5"	160	160	
	50A, 40A, 32A, 2", 1 1/2"	120	130				
	100A, 80A, 65A, 4", 3", 2 1/2"	140	140				

* 125A(100A, 80A, 65A, 50A) / 150A(125A, 100A, 80A, [65A]) / 200A(150A, 125A, 100A) Bevel end at large dia. side.

· Dimensions are for reference only and are subject to change.

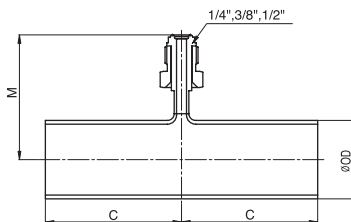
REDUCING TEE (TUBE SIZE)



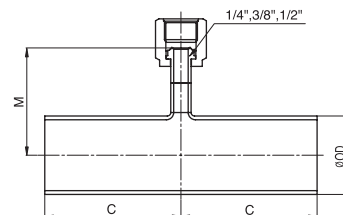
unit = mm

TUBE SIZE (Inch Size)							
OD1	OD2	C	M	OD1	OD2	C	M
3/8"	1/4"	37	37	3"	1/2", 3/8", 1/4", 8A	61	71
1/2"	3/8", 1/4"	39	39		1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72	79
5/8"	1/2", 3/8", 1/4", 8A	47	44		2", 1 1/2", 50A, 40A, 32A	90	90
3/4"	1/2", 3/8", 1/4", 8A	47	44	4"	2 1/2", 65A	97	97
	5/8", 10A	52	52		1/2", 3/8", 1/4", 8A	61	87
1"	1/2", 3/8", 1/4", 8A	47	47		5"	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72
	3/4", 5/8", 15A, 10A	55	55	2", 1 1/2", 50A, 40A, 32A		90	105
1 1/4"	1/2", 3/8", 1/4", 8A	47	50	6"		3", 2 1/2", 80A, 65A	110
	1", 3/4", 5/8", 20A, 15A, 10A	59	59		1/2", 3/8", 1/4", 8A	70	100
1 1/2"	1/2", 3/8", 1/4", 8A	57	54		6"	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	90
	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	68	62	2", 1 1/2", 50A, 40A, 32A		110	120
2"	1/2", 3/8", 1/4", 8A	57	57	6"		4", 3", 2 1/2", 100A, 80A, 65A	140
	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	68	65		1/2", 3/8", 1/4", 8A	80	115
2 1/2"	1 1/2", 40A, 32A	77	77		6"	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	100
	1/2", 3/8", 1/4", 8A	61	63	2", 1 1/2", 50A, 40A, 32A		120	135
	1 1/4", 1", 3/4", 5/8", 25A, 20A, 15A, 10A	72	71	4", 3", 2 1/2", 100A, 80A, 65A		140	145
	2", 1 1/2", 50A, 40A, 32A	90	83		5", 125A	160	160

JOINT TEE



MALE TYPE



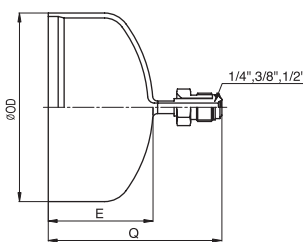
FEMALE TYPE

unit = mm

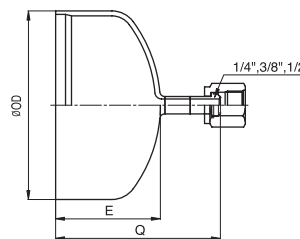
PIPE SIZE (A Size)															
OD		8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
C		45	52	52	55	59	68	68	68	72	72	72	100	110	120
Female	M	35	37	39.5	42.5	46.5	51	54	60	68	74.5	87	100	113	138.5
Male	M	45	47	49.5	52.5	56.5	61	64	70	78	84.5	97	110	123	148.5

TUBE SIZE (Inch Size)															
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	100
Female	M	31.5	33.5	35	36.5	38	42	45.5	48	55	61.5	68	81	94	107
Male	M	41.5	43.5	45	46.5	48	52	55.5	58	65	72.5	78	91	104	117

JOINT CAP



MALE TYPE



FEMALE TYPE

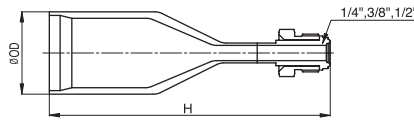
unit = mm

PIPE SIZE (A Size)														
OD		10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A
Cap Length	E	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	Q	48.0	55.0	55.0	68.0	68.0	68.0	68.0	68.0	81.0	94.0	107.0	120.0	133.0
Male	Q	58.0	65.0	65.0	78.0	78.0	78.0	78.0	78.0	91.0	104.0	117.0	130.0	143.0

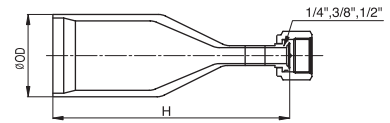
TUBE SIZE (Inch Size)									
OD		3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Cap Length	E	19.1	25.4	38.1	38.1	38.1	38.1	38.1	63.5
Female	Q	48.0	55.0	68.0	68.0	68.0	68.0	68.0	94.0
Male	Q	58.0	65.0	78.0	78.0	78.0	78.0	78.0	104.0

· Dimensions are for reference only and are subject to change.

JOINT REDUCER



MALE TYPE



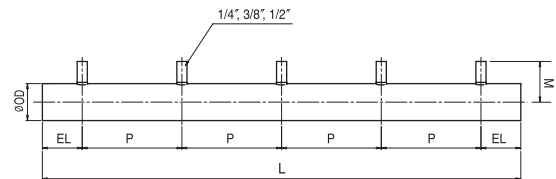
FEMALE TYPE

unit = mm

PIPE SIZE (A Size)						
OD		8A	10A	15A	20A	25A
Female	H	90	100	110	115	130
Male	H	100	110	120	125	140

TUBE SIZE (Inch Size)						
OD		3/8"	1/2"	5/8"	3/4"	1"
Female	H	80	85	100	110	115
Male	H	90	95	110	120	125

MULTI-HEADER TEE



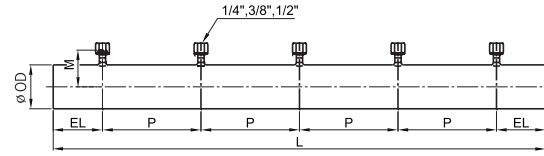
unit = mm

PIPE SIZE (A Size)														
OD		8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A		
Length at End	EL	60										70		
	Pitch	125										145		
Total Length (L)	Number of Branches	2	245										285	
		3	370										430	
		4	495										575	
		5	620										720	
Branch Tube Height	Tube-End (M)	42	44	44	47	50	54	57	63	71	77	90		
	Female (M)	35	37	39.5	42.5	46.5	51	54	60	68	74.5	87		

TUBE SIZE (Inch Size)														
OD		1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	
Length at End	EL	76.2												
	Pitch	152.4												
Total Length (L)	Number of Branches	2	304.8											
		3	457.2											
		4	609.6											
		5	762.0											
Branch Tube Height	Tube-End (M)	35	37	39	44	44	47	50	54	57	63	71	87	
	Female (M)	31.5	33.5	35	36.5	38	42	45.5	48	55	61.5	68	81	

· Dimensions are for reference only and are subject to change.

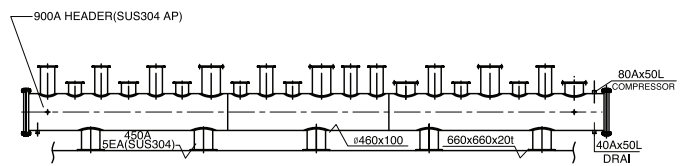
MULTI-HEADER JOINT TEE



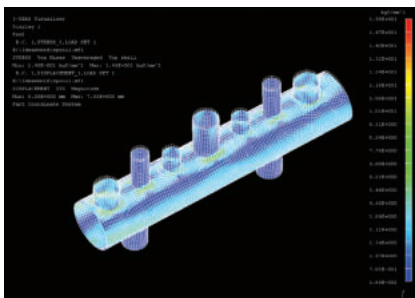
unit = mm

PIPE SIZE (A Size)														
OD		8A	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A		
Length at End	EL	23	29	31	34	42	46	49	60	68	74.5	87		
	Pitch	P										125	145	
Total Length	Number of Branches	2											245	285
		3											370	430
		4											495	575
		5											620	720
Branch Tube Height	Tube-End	42	44	44	47	50	54	57	63	71	77	90		
	Female	35	37	39.5	42.5	46.5	51	54	60	68	74.5	87		
TUBE SIZE (Inch Size)														
OD		1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	
Length at End	EL	21	21	21	27	30	33	40	45	50	65	68	86	
	Pitch	P										154.4		
Total Length	Number of Branches	2											304.8	
		3											457.2	
		4											609.6	
		5											762.0	
Branch Tube Height	Tube-End	35	37	39	44	44	47	50	54	57	63	71	87	
	Female	31.5	33.5	35	36.5	38	42	45.5	48	55	61.5	68	81	

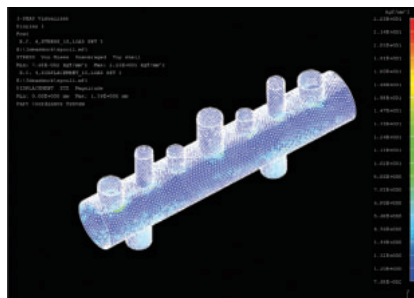
SPECIAL CLEAN SPOOL HEADER ASSEMBLY



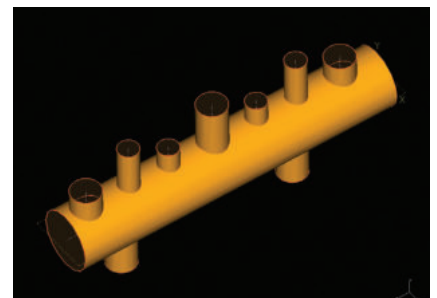
Clean Header Structure Analysis Modelling Display



Spool Visualizer Display 1



Spool Visualizer Display 2



Spool Visualizer Display 3

· Dimensions are for reference only and are subject to change.

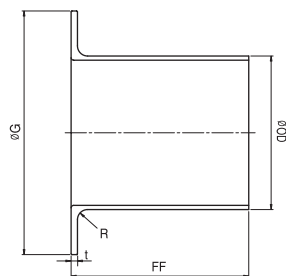
FLANGE CONNECTION



- LAP JOINT
- PIPE FLANGE
- JIS RF FLANGE / JIS BLIND FLANGE
- TEFLON GASKET



LAP JOINT



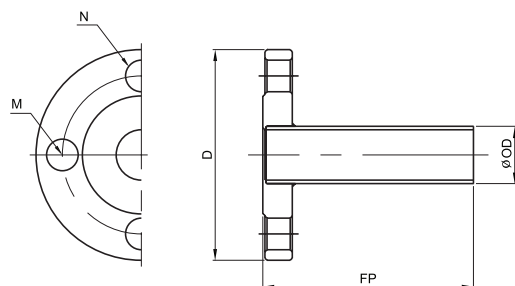
unit = mm

PIPE SIZE (A Size)																
OD	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A	
FF	55	55	55	55	70	70	70	75	75	75	50	50	65	65	65	
G	JIS 10K	46	51	56	67	76	81	96	116	126	151	182	212	262	324	368
	JIS 5K	39	44	49	59	70	75	85	110	121	141	182	212	262	324	368
R	3	3	3	3	3	3	4	4	5	5	5	5	5	5	5	
t	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	5	5	7	7	9	

TUBE SIZE (Inch Size)											
OD	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	
FF	55	55	55	70	70	70	75	75	85	90	
G	51	56	67	76	81	96	116	136	182	212	
R	3	3	3	3	3	4	4	5	5	5	
t	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	3	3	

UHP PRODUCTS / FITTING SERIES

PIPE FLANGE



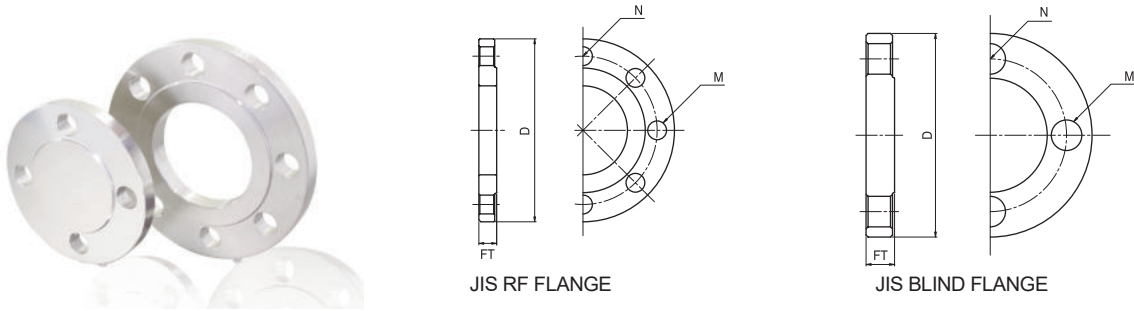
unit = mm

PIPE SIZE (A Size)																
OD	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A	
FP	100	100	100	100	100	100	100	100	100	100	200	200	200	200	200	
D	90	95	100	125	135	140	155	175	185	210	250	280	330	400	445	
N	4	4	4	4	4	4	4	4	8	8	8	8	12	12	16	
M	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	M20	M20	M22	M22	

TUBE SIZE (Inch Size)											
OD	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	
FP	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	

· Dimensions are for reference only and are subject to change.

JIS RF FLANGE / JIS BLIND FLANGE



unit = mm

PIPE SIZE (A Size)															
JIS 10K															
OD	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
D	90	95	100	125	135	140	155	175	185	210	250	280	330	400	445
FT	12	12	14	14	16	16	16	18	18	18	20	22	22	24	24
N	4	4	4	4	4	4	4	4	8	8	8	8	12	12	16
M	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	M20	M20	M22	M22
JIS 5K															
OD	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
D	75	80	85	95	115	120	130	155	180	200	235	265	320	385	430
FT	9	9	10	10	12	12	14	14	14	16	16	18	20	22	22
N	4	4	4	4	4	4	4	4	4	8	8	8	8	12	12
M	M10	M10	M10	M10	M12	M12	M12	M12	M16	M16	M16	M16	M20	M20	M20
TUBE SIZE (Inch Size)															
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					
FT	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					

TEFLON GASKET



Thickness t=2mm, unit = mm

PIPE SIZE (A Size)															
JIS 10K															
D	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
OD	53	58	63	74	84	89	104	124	134	159	190	220	270	333	378
ID	18	22	28	35	43	49	61	77	90	115	141	167	218	270	321
JIS 5K															
D	10A	15A	20A	25A	32A	40A	50A	65A	80A	100A	125A	150A	200A	250A	300A
OD	45	50	55	65	78	83	93	118	129	149	184	214	260	325	370
ID	18	22	28	35	43	49	61	77	90	115	141	167	218	270	321
TUBE SIZE (Inch Size)															
D	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"					
OD	58	63	74	84	89	104	124	144	190	220					
ID	19.5	26	32.5	38.5	51.5	64	77	102.5	128	153.5					

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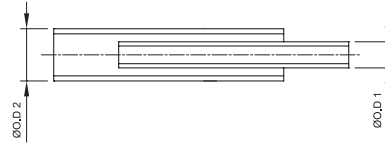


COAXIAL DOUBLE FITTINGS



- COAXIAL DOUBLE TUBE
- COAXIAL DOUBLE 90° ELBOW
- COAXIAL DOUBLE 45° ELBOW
- COAXIAL DOUBLE EQUAL TEE
- COAXIAL DOUBLE REDUCING TEE
- COAXIAL DOUBLE CONCENTRIC REDUCER
- COAXIAL JOINT TEE (MALE/FEMALE)
- COAXIAL DOUBLE JOINT TEE (MALE/FEMALE)
- COAXIAL SLEEVE
- COAXIAL DOUBLE FACE SEAL WELD GLAND (MALE/FEMALE)
- COAXIAL TERMINATOR
- COAXIAL BULKHEAD FITTING ASSEMBLY

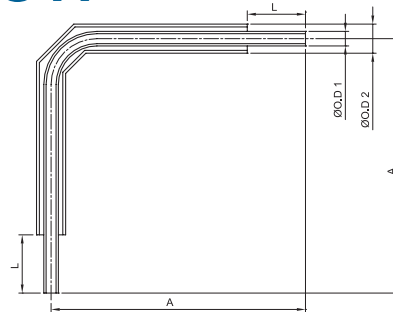
COAXIAL DOUBLE TUBE



unit = mm

TUBE SIZE	Inner Tube Ø.D 1	Outer Tube Ø.O.D 2	Maximum Safe Working Pressure*	
			PSI	Bar
1/4"	1/4" x 0.89t/1t	1/2" x 1.24t	3,136	216
3/8"	3/8" x 0.89t/1t	5/8" x 1.24t	2,477	171
1/2"	1/2" x 1.24t	3/4" x 1.65t	2,759	190
3/4"	3/4" x 1.65t	1" x 1.65t	1,631	112
1"	1" x 1.65t	1 1/4" x 1.65t	1,294	89
1 1/2"	1 1/2" x 1.65t	2" x 1.65t	796	55

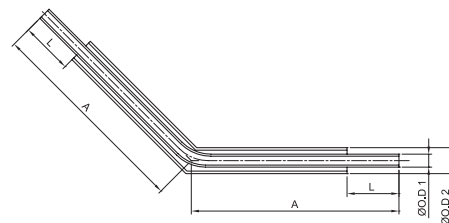
COAXIAL DOUBLE 90° ELBOW



unit = mm

TUBE SIZE	Inner Tube Ø.O.D 1	Ø.O.D 1 Wall Thickness	Outer Tube Ø.O.D 2	Ø.O.D 2 Wall Thickness	L	A
1/4"	1/4"	0.89t/1t	1/2"	1.24t	25.4	111
3/8"	3/8"	0.89t/1t	5/8"	1.24t	25.4	104.6
1/2"	1/2"	1.24t	3/4"	1.65t	25.4	108
3/4"	3/4"	1.65t	1"	1.65t	44.5	171.5
1"	1"	1.65t	1 1/4"	1.65t	44.5	180.8
1 1/2"	1 1/2"	1.65t	2"	1.65t	50.8	212.6

COAXIAL DOUBLE 45° ELBOW



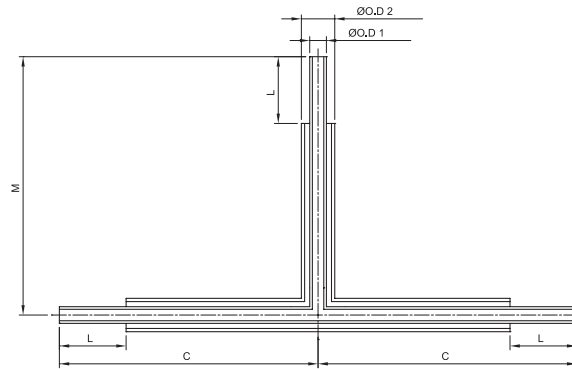
unit = mm

TUBE SIZE	Inner Tube Ø.O.D 1	Ø.O.D 1 Wall Thickness	Outer Tube Ø.O.D 2	Ø.O.D 2 Wall Thickness	L	A
1/4"	1/4"	0.89t/1t	1/2"	1.24t	25.4	101.6
3/8"	3/8"	0.89t/1t	5/8"	1.24t	25.4	98.3
1/2"	1/2"	1.24t	3/4"	1.65t	25.4	98.3
3/4"	3/4"	1.65t	1"	1.65t	44.5	155.4
1"	1"	1.65t	1 1/4"	1.65t	44.5	158.8
1 1/2"	1 1/2"	1.65t	2"	1.65t	50.8	180.8

TUBE & PIPE FITTINGS

UHP PRODUCTS / FITTING SERIES

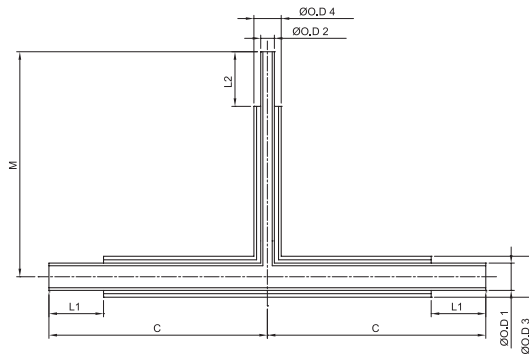
COAXIAL DOUBLE EQUAL TEE



unit = mm

TUBE SIZE	Inner Tube Ø.D 1	Ø.D 1 Wall Thickness	Outer Tube Ø.D 2	Outer Tube Wall Thickness	L	C	M
1/4"	1/4"	0.89t/1t	1/2"	1.24t	25.4	98.4	98.4
3/8"	3/8"	0.89t/1t	5/8"	1.24t	25.4	101.6	101.6
1/2"	1/2"	1.24t	3/4"	1.65t	25.4	101.6	101.6
3/4"	3/4"	1.65t	1"	1.65t	44.5	161.9	161.9
1"	1"	1.65t	1 1/4"	1.65t	44.5	165.1	165.1
1 1/2"	1 1/2"	1.65t	2"	1.65t	50.8	193.7	193.7

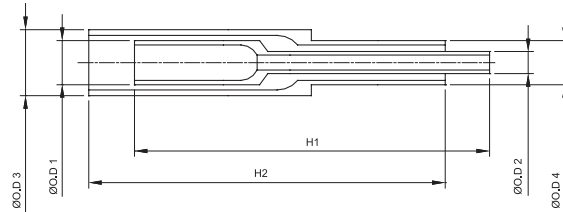
COAXIAL DOUBLE REDUCING TEE



unit = mm

TUBE SIZE	Inner Tube Ø.D 1	Ø.D 1 Wall Thickness	Inner Tube Ø.D 2	Ø.D 2 Wall Thickness	x	Outer Tube Ø.D 3	Ø.D 3 Wall Thickness	Outer Tube Ø.D 4	Ø.D 4 Wall Thickness	L1	C	L2	M
3/8"x1/4"	3/8"	0.89t/1t	1/4"	0.89t/1t	x	5/8"	1.24t	1/2"	1.24t	25.4	98.4	25.4	104.6
1/2"x1/4"	1/2"	1.24t	1/4"	0.89t/1t	x	3/4"	1.65t	1/2"	1.24t	25.4	98.4	25.4	104.6
1/2"x3/8"	1/2"	1.24t	3/8"	0.89t/1t	x	3/4"	1.65t	5/8"	1.24t	25.4	101.6	25.4	104.6
3/4"x1/4"	3/4"	1.65t	1/4"	0.89t/1t	x	1"	1.65t	1/2"	1.24t	44.5	155.6	25.4	108
3/4"x3/8"	3/4"	1.65t	3/8"	0.89t/1t	x	1"	1.65t	5/8"	1.24t	44.5	158.8	25.4	108
3/4"x1/2"	3/4"	1.65t	1/2"	1.24t	x	1"	1.65t	3/4"	1.65t	44.5	158.8	25.4	108
1"x1/4"	1"	1.65t	1/4"	0.89t/1t	x	1 1/4"	1.65t	1/2"	1.24t	44.5	155.6	25.4	111
1"x3/8"	1"	1.65t	3/8"	0.89t/1t	x	1 1/4"	1.65t	5/8"	1.24t	44.5	158.8	25.4	111
1"x1/2"	1"	1.65t	1/2"	1.24t	x	1 1/4"	1.65t	3/4"	1.65t	44.5	158.8	25.4	111
1"x3/4"	1"	1.65t	3/4"	1.65t	x	1 1/4"	1.65t	1"	1.65t	44.5	161.9	44.5	168.2
1 1/2"x3/4"	1 1/2"	1.65t	3/4"	1.65t	x	2"	1.65t	1"	1.65t	50.8	181	44.5	177.8
1 1/2"x1"	1 1/2"	1.65t	1"	1.65t	x	2"	1.65t	1 1/4"	1.65t	50.8	184.2	44.5	177.8

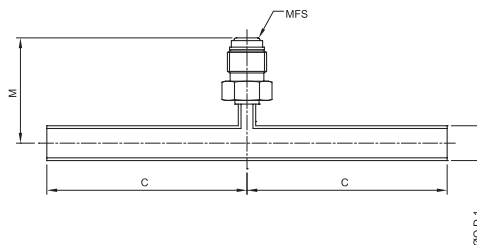
COAXIAL DOUBLE CONCENTRIC REDUCER



unit = mm

TUBE SIZE	Inner Tube ØO.D 1	ØO.D 1 Wall Thickness	Inner Tube ØO.D 2	ØO.D 2 Wall Thickness	x	Outer Tube ØO.D 3	ØO.D 3 Wall Thickness	Outer Tube ØO.D 4	ØO.D 4 Wall Thickness	H1	H2
3/8"X1/4"	3/8"	0.89t	1/4"	0.89t	x	5/8"	1.24t	1/2"	1.24t	101.6	101.6
1/2"X1/4"	1/2"	1.24t	1/4"	0.89t	x	3/4"	1.65t	1/2"	1.24t	101.6	101.6
1/2"X3/8"	1/2"	1.24t	3/8"	0.89t	x	3/4"	1.65t	5/8"	1.24t	101.6	101.6
3/4"X1/4"	3/4"	1.65t	1/4"	0.89t	x	1"	1.65t	1/2"	1.24t	127	146
3/4"X3/8"	3/4"	1.65t	3/8"	0.89t	x	1"	1.65t	5/8"	1.24t	127	146
3/4"X1/2"	3/4"	1.65t	1/2"	1.24t	x	1"	1.65t	3/4"	1.65t	127	146
1"X1/4"	1"	1.65t	1/4"	0.89t	x	1 1/4"	1.65t	1/2"	1.24t	127	146
1"X3/8"	1"	1.65t	3/8"	0.89t	x	1 1/4"	1.65t	5/8"	1.24t	127	146
1"X1/2"	1"	1.65t	1/2"	1.24t	x	1 1/4"	1.65t	3/4"	1.65t	127	146
1"X3/4"	1"	1.65t	3/4"	1.65t	x	1 1/4"	1.65t	1"	1.65t	165.1	165.1
1 1/2"X1/4"	1 1/2"	1.65t	1/4"	0.89t	x	2"	1.65t	1/2"	1.24t	146	171.5
1 1/2"X3/8"	1 1/2"	1.65t	3/8"	0.89t	x	2"	1.65t	5/8"	1.24t	146	171.5
1 1/2"X1/2"	1 1/2"	1.65t	1/2"	1.24t	x	2"	1.65t	3/4"	1.65t	146	171.5
1 1/2"X3/4"	1 1/2"	1.65t	3/4"	1.65t	x	2"	1.65t	1"	1.65t	184.2	190.5
1 1/2"X1"	1 1/2"	1.65t	1"	1.65t	x	2"	1.65t	1 1/4"	1.65t	184.2	190.5

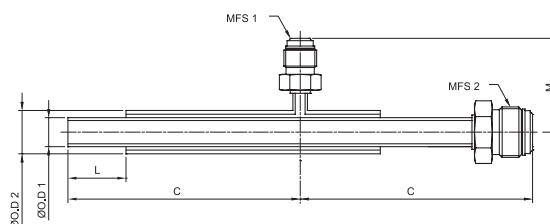
COAXIAL JOINT TEE (MALE/FEMALE)



unit = mm

TUBE SIZE	Ø.D 1	Ø.D 1 Wall Thickness	C	M	MFS
1/4"	1/2"	1.24t	73	38.4	1/4"
3/8"	5/8"	1.24t	76.2	39.9	
1/2"	3/4"	1.65t	76.2	41.2	
3/4"	1"	1.65t	117.5	44.2	
1"	1 1/4"	1.65t	120.6	47.5	
1 1/2"	2"	1.65t	142.9	57.2	

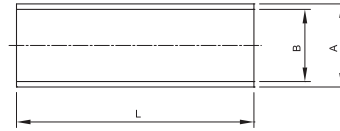
COAXIAL DOUBLE JOINT TEE (MALE/FEMALE)



unit = mm

TUBE SIZE	Ø.D 1	Ø.D 1 Wall Thickness	Ø.D 2	Ø.D 2 Wall Thickness	L	C	M	MFS 1	MFS 2
1/4"	1/4"	0.89t/1t	1/2"	1.24t	25.4	98.4	38.4	1/4"	1/4"
3/8"	3/8"	0.89t/1t	5/8"	1.24t	25.4	101.6	39.9	1/4"	1/2"
1/2"	1/2"	1.24t	3/4"	1.65t	25.4	101.6	41.2	1/4"	1/2"

COAXIAL SLEEVE

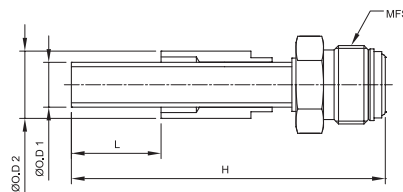


unit = mm

TUBE SIZE	A	B	L	L(E4*)	L(E5*)	L(E6*)
1/4"	5/8"	Ø12.8/Ø12.9	63.5	101.6	127	152.4
3/8"	3/4"	Ø16/Ø16.1	63.5	101.6	127	152.4
1/2"	7/8"	Ø19.2/Ø19.3	63.5	101.6	127	152.4
3/4"	1 1/8"	Ø25.5/Ø25.6	101.6	N/A	127	152.4
1"	1 3/8"	Ø31.9/Ø32	101.6	N/A	N/A	N/A
1 1/2"	2 1/8"	Ø51.3/Ø51.4	114.3	N/A	N/A	N/A

*Extra Length

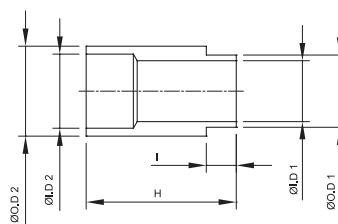
COAXIAL DOUBLE FACE SEAL WELD GLAND (MALE/FEMALE)



unit = mm

TUBE SIZE	ØO.D 1	ØO.D 1 Wall Thickness	ØO.D 2	ØO.D 2 Wall Thickness	L	H	MFS
1/4"	1/4"	0.89t/1t	1/2"	1.24t	25.4	88.9	1/4"
3/8"	3/8"	0.89t/1t	5/8"	1.24t	25.4	88.9	1/2"
1/2"	1/2"	1.24t	3/4"	1.65t	25.4	88.9	1/2"

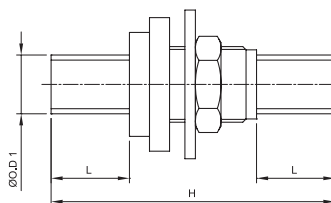
COAXIAL TERMINATOR



unit = mm

TUBE SIZE	Ø.D. 1	Ø.I.D. 1	Ø.O.D. 2	Ø.I.D. 2	I	H
1/4"	Ø8.3	1/4"	1/2"	Ø10.2	6.35	31.8
3/8"	Ø11.4	3/8"	5/8"	Ø13.4	6.35	31.8
1/2"	Ø15.3	1/2"	3/4"	Ø15.7	6.35	31.8
3/4"	Ø22.5	3/4"	1"	Ø22.1	6.35	50.8
1"	Ø28.8	1"	1 1/4"	Ø28.4	6.35	50.8
1 1/2"	Ø41.5	1 1/2"	2"	Ø47.4	6.35	57.2

COAXIAL BULKHEAD FITTING ASSEMBLY



unit = mm

TUBE SIZE	Ø.O.D. 1	Ø.O.D. 1 Wall Thickness	L	H	HEX. NUT
1/4"	1/2"	1.24t	25.4	92	3/4"-16UNF
3/8"	5/8"	1.24t	25.4	92	7/8"-14UNF
1/2"	3/4"	1.65t	25.4	92	1 1/16"-12UN
3/4"	1"	1.65t	44.5	130	1 5/16"-12UN
1"	1 1/2"	1.65t	44.5	130	1 5/8"-12UN