



The logo that you can trust

CSE Sanitary Technology India Pvt Ltd.

CSE Applied Material

HYGIENIC FLUID CONTROL VALVE, FITTING, EQUIPMENT

For: Food, Pharmaceutical, Semi-conductor Industry.



Index

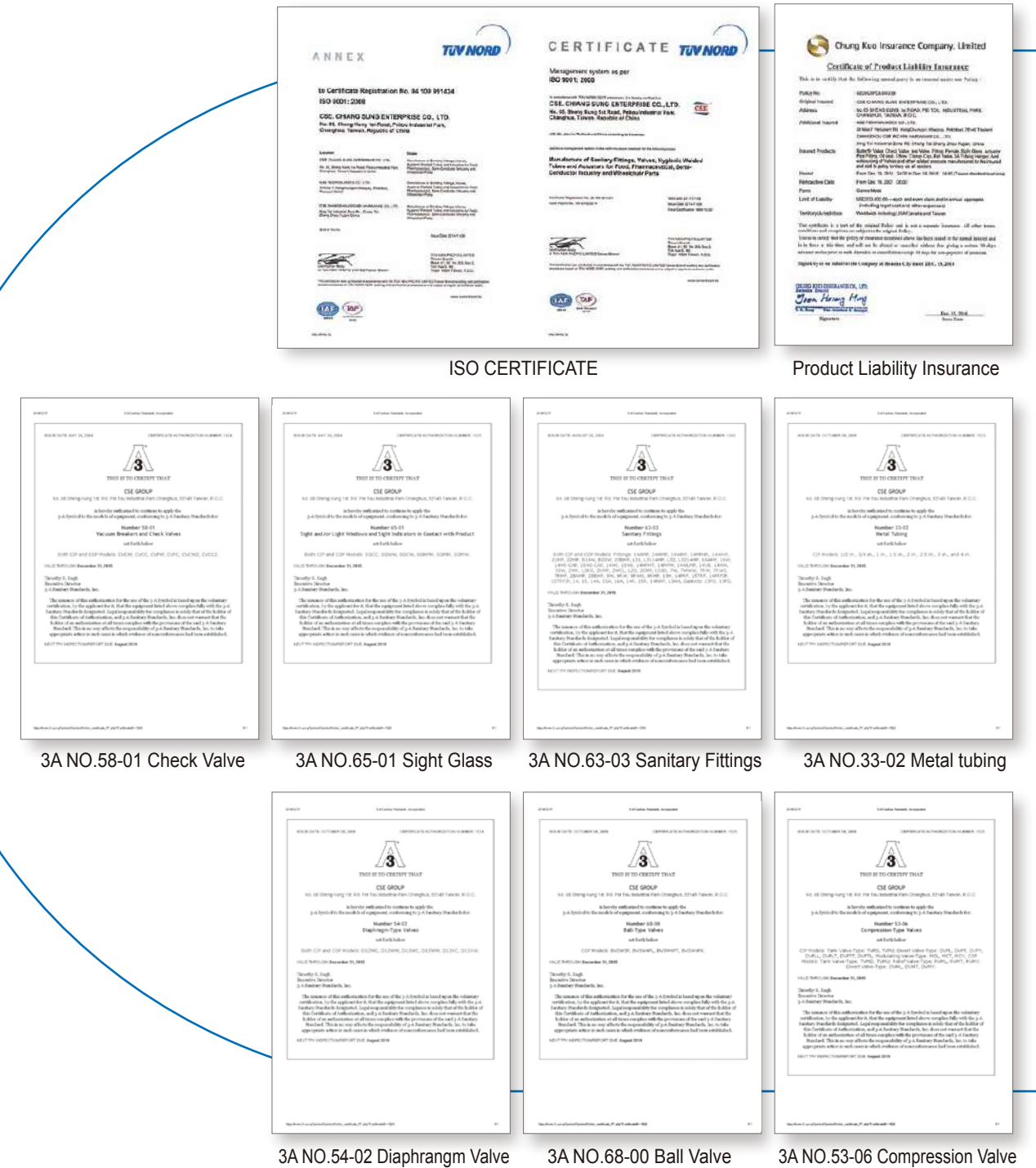
	Page
CSE.Organization / Office	03-10
Products / Project Examples	11-16
Auto Control Valve & Manual Control Valve	17-59
Sanitary Components, Fitting	60-94
3A.SMS.DIN.BS.AS Tube Line. Elbow / Tee / Reducer	75-111
BPE, Pharmaceutical Fitting / Semi-conductor Fitting	112-129



Forward

CSE Chiang Sung Enterprise Co., Ltd. is a Taiwan-based corporation with professional dedication in the manufacture and exporting of sanitary, pharmaceutical, and vacuum fittings business. CSE was founded twenty years ago. Up until now CSE own 3 production sites respectively in Taiwan, China, and Thailand. Our sales offices have expanded to USA, Netherlands, and France besides Asia. Mr. Roger Shi is the great wizard behind the curtain who started from stone and sand since 1993. No matter in technology, quality or even new product, CSE is one of the best. It is the fact that working side by side with suppliers, partners or even competition, CSE will be leading the way and discovering new territory in the purity hygiene business. For decades, CSE enjoy a good reputation among highly numerous customers who believe in CSE's 100% dedication on new product research, modification of old types and even cases of OEM and ODM. With that, we surf from food grade to pharmaceutical world and to the field of semi-conductor business. During this long time, thanks to every valuable customer, CSE could walk across the thunder storm and regardless of the terrible world economy, make it to sales record year after year.

CSE of consistent management, rigorous quality guarantee, and intact responsibility



CSE Produc Technology, Purity, Service, and Fresh under control and stable quality.

C.S.E. certified by 3A and TÜV ISO 9001 with EN10204 3.1 material cert. will be your assurance of outstanding quality & service.

CSE. Organization



Taiwan



CSE OEM Valve / Tank Valve



Innovation Control Valve Range



CSE Width Range Butterfly Valve



Filter



CSE Technical, Orbital Weld Service & Valve Units.



Actuator for Butterfly Valve



Check Valve / Sight Glass



Business Service & Production Control



CNC Milling Center



CNC Maching Section



Packing Lines

MAJOR EQUIPMENT

- Ultrasonic Cleaning System
- Precision CNC Lathes
- CNC Milling Centers
- Hydraulic & Air Test Equipment & Leaking Test Machines
- Weld-Equipment



BPE EP Processing & Inspection



Tube Fabrication



Quality Guarantee



Annealing



Range of Pipe Fittings



Pharmaceutical , Biotechnology,
Semiconductor Fitting



OD/ID Polishing Lines



Long Bend Equipment / Packing Lines



MAJOR EQUIPMENT

- Precision CNC Lathe Machines
- Specialized Machines
- Hydraulic & Air Test Equipment
- Leaking Test Machines
- Auto Bending Machines
- Tee Forming Machines
- Tube OD / ID Auto Polishers
- Polishing Machines
- Precision Press Machines
- Ultrasonic Cleaning System
- Hydraulic Equipment





Lost Wax Casting



CNC Machining Processing



Roughness Test



SMS & DIN Fitting



Fitting Section of Stock



BS, AS NZS Standard RJT & CIP
& IDF Fitting



Clamp & Ferrule



Forging Lines



MAJOR EQUIPMENT

- Ultrasonic Cleaning System
- Precision Lathe Machines
- Precision CNC Lathes
- Plastic Injection Machines
- Milling Machines
- Press Machines
- Hydraulic Machines

Products



Auto Control Divert Valve (Without control Box)



Manual Divert Valve



Pneumatic / Manual Diaphragm Valve / Tank Valve



Actuator for Butterfly Valve



Control Box



CSE Manual for Butterfly Valve



OEM Pneumatic / Manual Valve



Pneumatic / Manual Ball Valve



Position Control



Products



Sight Glass



CSE Tank Valve Pneumatic / Manual



Sample Valve



Check Valve



Plug Cock Valve



Spray Ball / Tank Covers



Pressure Gage / Temperature / Filter



Industrial Ball Valve



Unions 3A, DIN, SMS, RJT, BS, AS...../ Seal



Clamp Unions / Seal / Tubing Hanger



Products



Project examples



CIP Cleaning System / SIP Sterilizing System /
UHT Sterilizing System / Water Flow-Process /
Mixing Tank / Filter / Auto Sterilizing & Cooling Machine /
Centrifuge / Chlorine Water System / High Speed Mixer /
Homogenizer / Hot Water System





Auto Control Valve & Manual Control Valve



CSE Innovation Control Valve Range

CSE Width Range Products:

- Auto Control Divert Valve
- Actuator for Butterfly Valve
- Wide Range Butterfly Valve
- Sight Glass & Non-return Valve
- 3A,BS,AS,NZS,DIN,SMS,RJT,CIP,IDF...etc.
Standard Union & Ferrule & Fitting
- 3A,DIN,SMS...etc. ASTM-A270 Sanitary Tube
- OEM Valve and Sanitary Ball Valve
- OEM/ODM Service



CSE Technical Service for Manual & Control Valve Unit



For Joint any

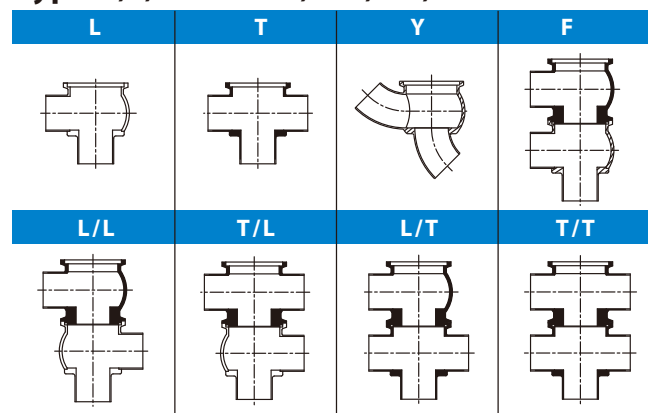
Tube fitting-3A, SMS, DIN, BS,
Elbow, Tee, Reducer
Clamp-Union-Weld/Expanding
Ferrule, Clamp, Valve-Butterfly,
Check, Sight Glass, Ball Valve
with our Orbitol weld Equipment



CSE Auto Control Divert Valve



Type: L, T, Y and L/L, T/L, L/T, T/T



SIZE	1.0"	1.5"	2.0"	2.5"	3.0"	4.0"
ØA	22.1	34.8	47.5	60.2	72.9	97.4
ØB	25.4	38.1	50.8	63.5	76.2	101.6
C	56.7	80	92.4	120	128	150.8
C1	58.5	81.2	85.7	103.1	116.4	114.3
C2	50.6	61	65.4	72.1	79.7	114.3
C3	81.4	—	—	—	—	—
W	59.9	68.5	73	90.4	103.7	98.5
W1	52	57.4	66.8	79.5	96.1	98.5
ØD	60	85	85	133	133	133
L	153.6	290	296.3	365.8	368.9	645.7
L1	17	25	25	32	36	38
Y	96.1	142.3	168.6	211.6	244.7	303.1
Y1	121.5	167.7	194	237	270.1	334.7
(W/W1)+SMS male	19	23	23	27	27	—
(W/W1)+IDF male	21.5	21.5	21.5	21.5	21.5	—
(W/W1)+RJT male	27	27	27	27	27	—

Caution, opening/closing time:

Opening/closing time will be effected by the following

The air supply(air pressure).

The length and dimensions of the air hose.

Number of valves connected to same air hose.

Use of single solenoid valve for serial connected air actuator functions.

Product pressure.

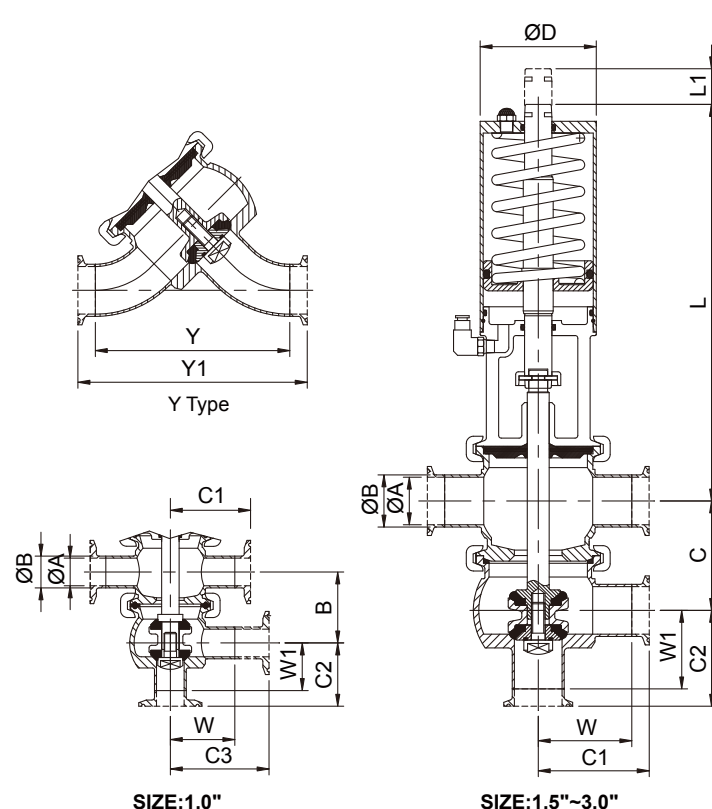
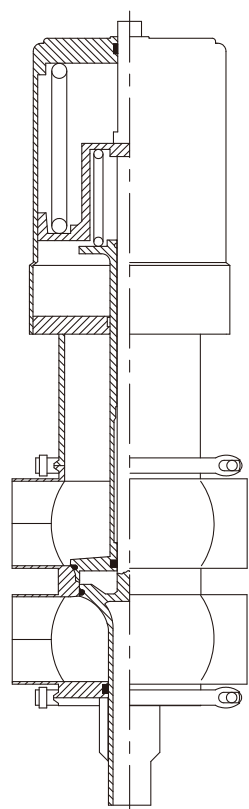
Air connections

Compressed air:

R1/8"(BSP), internal thread.

Technical data

Air pressure:-----5 to 7 bar.



CSE Auto Control Divert Valve

(Drawing A)



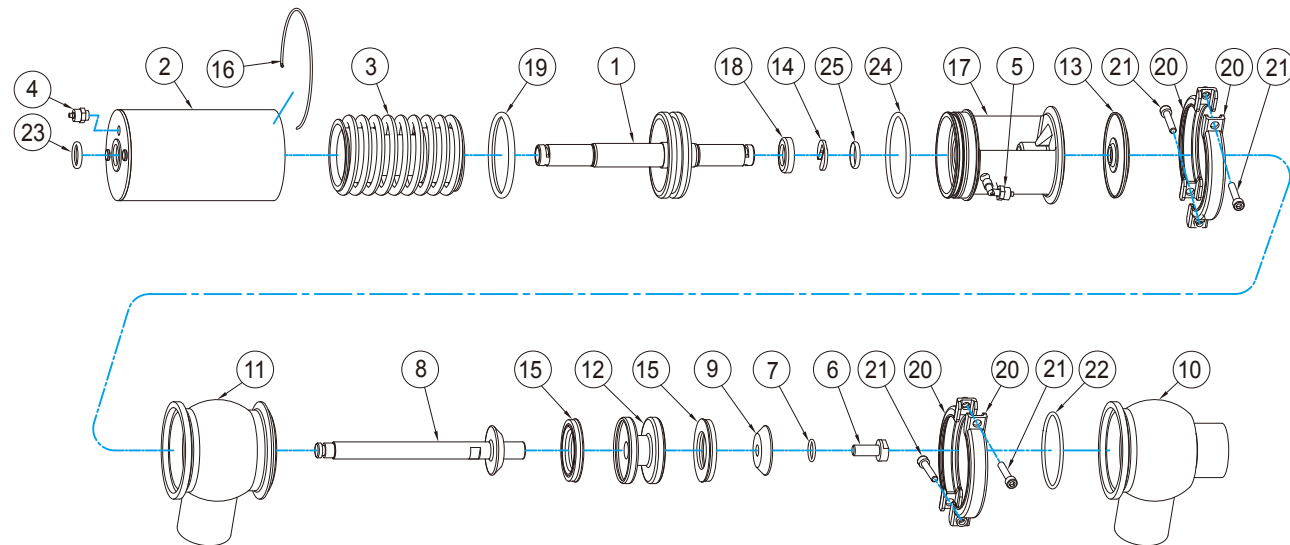
Operation Instruction

- CSE pneumatic valve can be equipped different type of flow design,(as drawing A) to get various flow control.
- Available for SMS, DIN, IDF, RJT, 3A, Ferrule....., Welding; Clamp; Unions.....connect end.
- Material:
 - All parts connect with fluid are made of stainless steel AISI 316/316L(1.4401/1.4404).
 - The other parts in AISI 304 (1.4301).
 - The valve stem is sealed by a special EPDM/ Silicone/ Viton (FKM)/ PTFE seal and according to international standard for use on food or pharmaceutical.
- Operating air pressure: 5bar-8bar compressed air.
- Control ways:
 - Designed different types for controlling control various flow, as type L; T; F...etc.
 - Choose appropriate dimensions and type, as 2".....clamp or welding.
 - Choose appropriate control ways (manual or pneumatic):
 - Manual control valve to be equipped with a rapid pitch screw with protection against unscrewing.
 - Or choose air/spring(simple effect); or air/air (double effect) for pneumatic control.
 - Can use CSE automatic control box to get signal transfer and complete individual valve control.
 - Signal transfer:
 - with 10-30VDC proximity switch connection:1 or 2pcs (PNP OR NPN)
 - Or 3A 125VAC,30VDC micro switch connection: 1 or 2pcs
 - Complete individual valve control:

Choose (a) or (b) +DC24 3.0W electric valve:1pc & air manifold (for complete control box).

CSE Auto Control Divert Valve

F type construction assembly drawing



Parts List			
Item	Parts name	Q'TY	Material
1	Piston	1	St.St 304
2	Cylinder	1	St.St 304
3	Spring assembly	1	St.St 304
4	Air connect	1	Cupler
5	Air connect	1	Cupler
6	Screws	1	St.St. 316
7	O-Ring	1	Rubber,NBR
8	Stem	1	St.St 316
9	Washer	1	St.St 316
10	Valve body-lower	1	St.St 316
11	Valve body-upper	1	St.St 316
12	Middle piece	1	St.St 316
13	Lip seal-EPDM	1	304/EPDM
14	Clip complete	1	St.St 304
15	Seal ring lower	2	EPDM
16	Lock wire clip	1	St.St 304
17	Bracket	1	St.St 304
18	Stop ring	1	Teflon
19	X-ring	1	NBR
20	Clamp	4	St.St 304
21	M6 screws	4	St.St 304
22	Valve body-seal ring	1	EPDM
23	O-ring	1	NBR
24	O-ring	1	NBR
25	O-ring	1	NBR

CSE Auto Control Divert Valve

Operation instruction

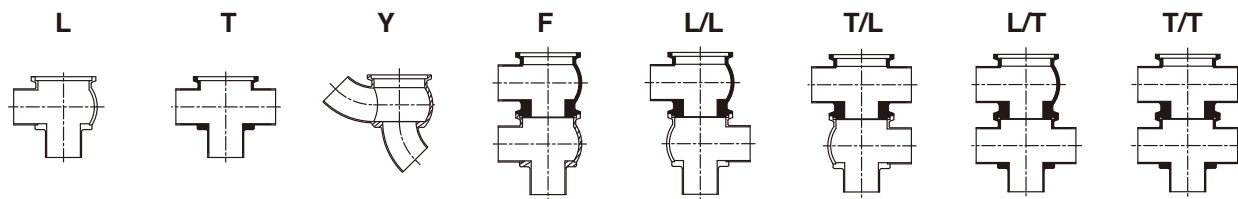
Max. flow tube pressure without leakage of valve seat.
If over table Max. pressure suggestion add proof Mix. valve

(10) SA. Pneumatic downward movement, spring return (NO-lower seat)
Actuator type / function: (20) AS. Pneumatic upward movement, spring return (NC-lower seat)
(30) AA. Pneumatic upward and downward movement (A/A)

NO : Normal open NC : Normal close A/A : Air/Air doubt action Table 1: Stop and change-over valves- Max. pressure without leakage at the valve seat ○ = Max. air input pressure as 8 bar ➔ = Tube-Line flow pressures Actuator/Valve body combination and direction of pressure													
Air pressure (bar)		10 (NO)		5 (NO)		8 (NO)		5 (NC)		20 (NC)		5 (30)	
Actuator Type/Function		10 (NO)		5 (NO)		8 (NO)		5 (NC)		20 (NC)		5 (30)	
Valve size (Max. Pressure)	DN25 (1.0")	9.5	10	10	9.5	10	10	10	10	10	10	10	10
	DN38 (1.5")	4.5	7.0	10	4.5	7.0	9.0	10	10	10	10	10	10
	DN51 (2.0")	4.5	4.0	5.0	4.5	4.0	9.0	10	9.0	10	10	10	10
	DN63.5 (2.5")	3.0	3.0	4.0	3.0	2.5	8.0	9.0	6.0	7.0	10	10	10
	DN76 (3.0")	5.0	4.0	6.0	4.5	5.0	10	10	10	10	10	10	10

CSE Manual Divert valve

Type: L, T, Y and L/L, T/L, L/T, T/T



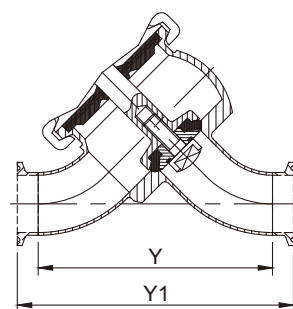
Materials:

- Flow area: AISI 316L
- Other steel parts: AISI 304
- Plug stem: AISI 316L with chromium plated surface
- Gasket for flow area: EPDM/ SILICONE/ Viton (FKM)/ PTFE
- Other seals: NBR and EPDM
- Surface: Mirror/ satin /sand Blaste

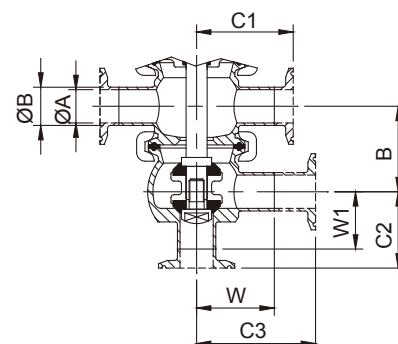
Technical data:

- Max production pressure: 1000kpa(10bar).
- Temperature range: -10°C to +140°C (EPDM).

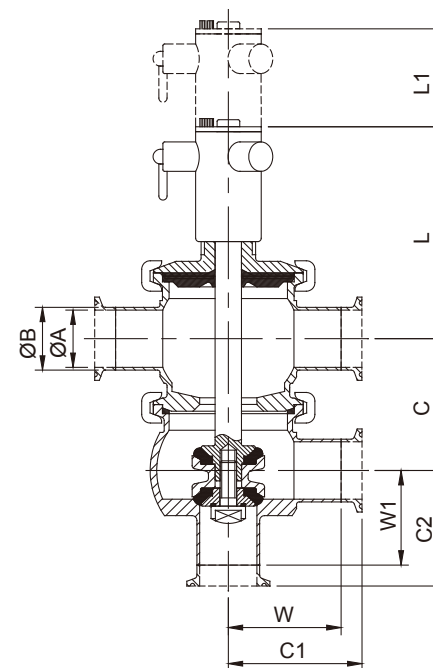
SIZE	1.0"	1.5"	2.0"	2.5"	3.0"	4.0"
ØA	22.1	34.8	47.5	60.2	72.9	97.4
ØB	25.4	38.1	50.8	63.5	76.2	101.6
C	56.7	80	92.4	120	128	150.8
C1	58.5	81.2	85.7	103.1	116.4	114.3
C2	50.6	61	65.4	72.1	79.7	114.3
C3	81.4	—	—	—	—	—
L	101	126	135	167	170	645.7
L1	17	25	25	32	36	38
W	59.9	68.5	73	90.4	103.7	98.5
W1	52	57.4	66.8	79.5	96.1	98.5
Y	96.1	142.3	168.6	211.6	244.7	303.1
Y1	121.5	167.7	194	237	270.1	334.7
(W/W1)+SMS male	19	23	23	27	27	—
(W/W1)+IDF male	21.5	21.5	21.5	21.5	21.5	—
(W/W1)+RTJ male	27	27	27	27	27	—



Y Type



SIZE: 1.0"



SIZE: 1.5"~3.0"

CSE Manual and Auto Control Tank Valve

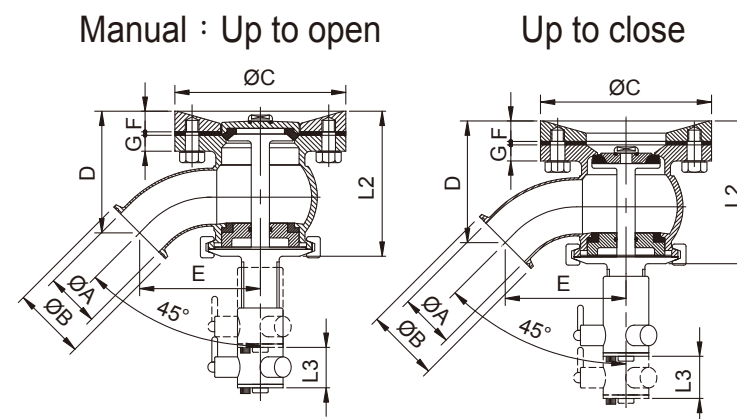
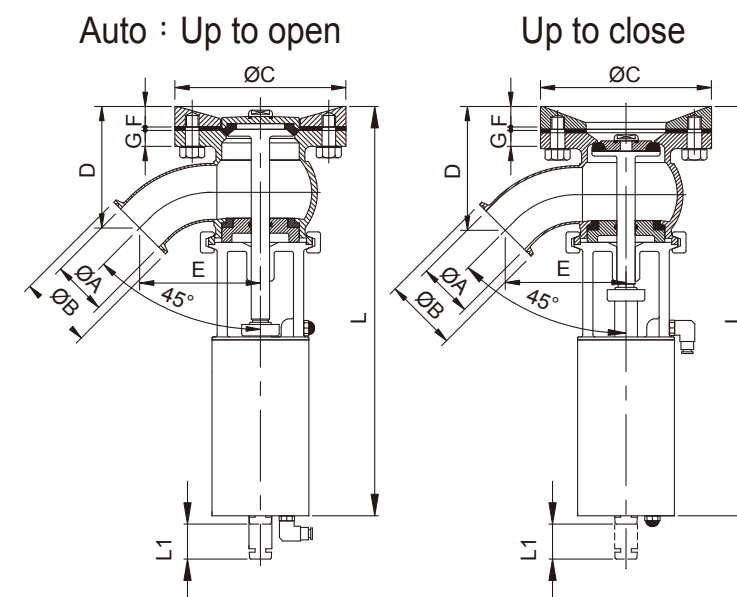
Materials:

- Flow area: AISI 316L
- Other steel parts: AISI 304
- Plug stem: AISI 316L with chromium plated surface
- Gasket for flow area: EPDM/ SILICONE/ Viton (FKM)/ PTFE
- Other seals: NBR and EPDM
- Surface: Mirror/ satin /sand Blasted

Technical data:

- Max production pressure : 1000kpa(10bar).
- Temperature range: -10°C to +140°C (EPDM).

SIZE	1.0"	1.5"	2.0"	2.5"	3.0"
ØA	22.1	34.8	47.5	60.2	72.9
ØB	50.5	50.5	64	77.5	91
ØC	110	140	150	180	200
D	56.8	95.1	106.5	124.7	137.5
E	65.8	93	106	125.5	149.5
F	14	20	20	20	20
G	10	14	14	14	14
L	190	354	360	446	450
L1	22	31	31	39	39
L2	94	122	127	158	164
L3	30	35	35	45	45

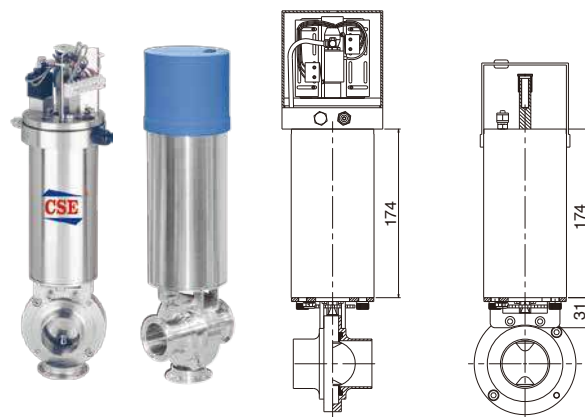


CSE Auto Control Actuator For Butterfly Valve

C2, C3 actuator instruction

1. C2, C3: Shut-Off time: 1.5 second ; Weight: 3.85KGS.
C101: Shut-Off time: 1.7 second ; Weight: 4.7KGS
2. Operating air pressure: 6 kg/cm₂ ; Min. 5bar ; Max. 9bar compress air
3. C2, C3 Air consumption: 0.266 Liter at 5 bar ; C101 Air consumption: 0.550 Liter at 5 bar.
4. Material: stainless steel AISI 304
5. Can be equipped with normal close or open.

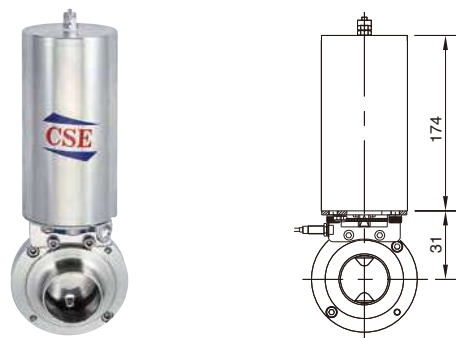
C2



Operation instruction

1. C2 Actuator apply to butterfly valve in size 1"-3" of the disc head DIA. 12mm X 8mm.(other size can be required)
2. Control ways:
 - a. With 10-30VDC proximity switch contact: 1 or 2pcs.
 - b. Or 3A 125VAC. 30VDC microswitch: 2pcs
- 2-2 Individual control: Choice (a) or (b) + DC24 3.0W electric valve: 1pc & Air manifold (for complete control box).
3. Air/Air (double effect) actuator or air/spring (simple effect) actuator are available.
4. Accessories: adapter: 1pcs ; M6 X 35 screw: 2pcs ; washer: 4pcs ; M6 nut: 2pcs ; 1/8PT quick coupler: 1pcs

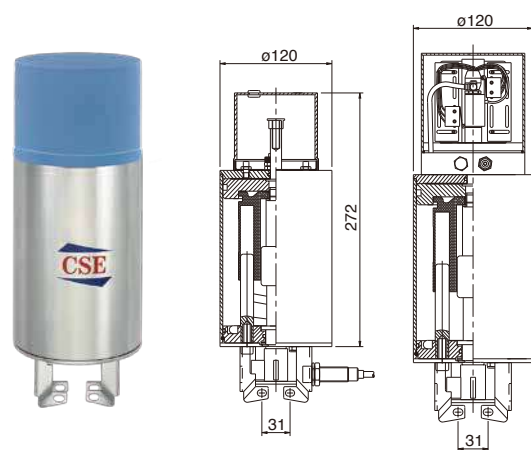
C3



Operation instruction

1. C3 Actuator apply to butterfly valve in size 1"-3" of the disc head DIA. 12mm X 8mm. (other size can be required)
2. Signal transfer: can be connect with M12 screw proximity switch.
3. Air/Air (double effect) actuator or air/spring (simple effect) actuator are available.
4. Accessories: adapter: 1pc ; M6 X 35 screw: 2pcs ; washer: 4pcs ; M6 nut: 2pcs ; 1/8PT quick coupler: 1pc

C101



Operation instruction

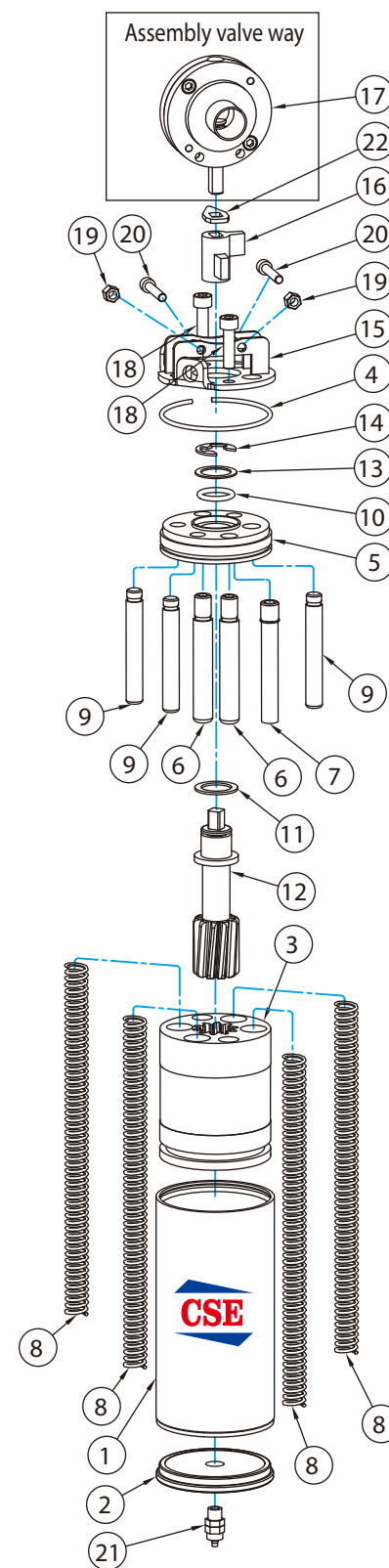
1. C101 Actuator apply to butterfly valve in size 4"-6" of the disc head DIA. 12mm X 12mm.
2. Control ways:
 - a. Can be connect with M18 or M12 screw proximity switch (PNP or NPN) as (1)
 - b. With 10-30 VDC proximity switch contact: 1 or 2pcs (PNP OR NPN)
 - c. Or 3A 125VAC. 30VDC microswitch: 2pcs
- 2-2. Individual control: Choice (a) or (b) or (c) + DC24 3.0W electric valve: 1pc & air manifold (for complete control box).
3. Air/Air (double effect) actuator or air/spring (simple effect) actuator are available.
4. Accessories: adapter: 1pcs ; M6 X 40 screw: 2pcs ; washer: 4pcs ; M6 nut: 2pcs ; 1/8PT quick coupler: 1pcs

CSE Auto Control Actuator for Butterfly Valve (Warn Gear Design)

C2 Type construction assembly drawing & items list

Max. output torque 20N/M on C2 & C3

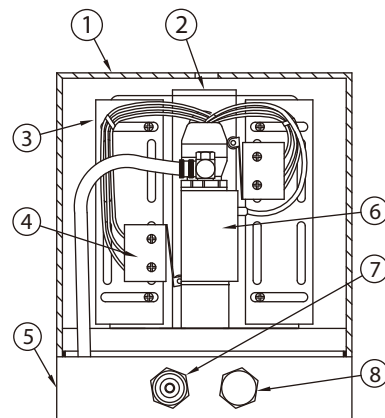
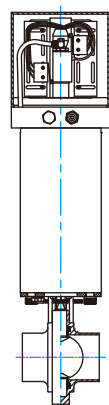
Max. output torque 30N/M on C101



Parts List			
Item	Parts name	Q'TY	Material
1	St.St cylinder	1	St.St 304
2	St.St cylinder cap	1	St.St 304
3	Piston stem	1	Tenac 4010/SH410
4	Lock wire clip	1	St.St 304
5	Lower cylinder end	1	St.St 304
6	Piston guide part	2	St.St 304
7	Piston guide part	1	St.St 304
8	Compress spring	4	St.St 304
9	Piston guide part	3	St.St 304
10	Piston axle O-ring	1	Teflon
11	Teflon gasket	1	Teflon
12	Coupling axle piece	1	St.St 304
13	Contact seal	1	St.St 304
14	Circlip	1	St.St 304
15	Mounting bracket	1	St.St 304
16	Connection piece	1	St.St 304
17	Assembly valve way	1	St.St 304/316(L)
18	M8x12 ST.ST screw	2	St.St 304
19	M6 Nut	2	St.St 304
20	M6x35 ST.ST screw	2	St.St 304
21	Air connection	1	Copper
22	Positioning index	1	St.St 304

CSE Control Box for Auto Actuator and Divert Valve

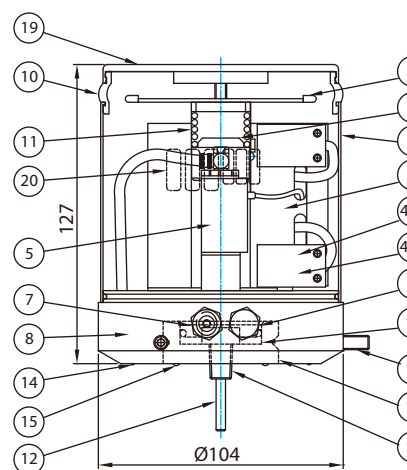
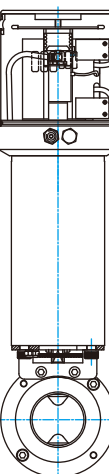
C2 & C101



Control box construction assembly drawing & items list

Parts List			
Item	Parts name	QTY	Material
1	Cover	1	PC or St.St 304
2	Switch plate	1	St.St 304
3	Plastic hanger	2	St.St 304
4	Micro switch	2	3A 125VAC. 30VDC
5	Air manifold	1	P.O.M (Plastic) or St.St 304
6	Electrovalve	1	DC24 3.0W
7	Air connection	1	Cu
8	E/N connect	1	St.St 304

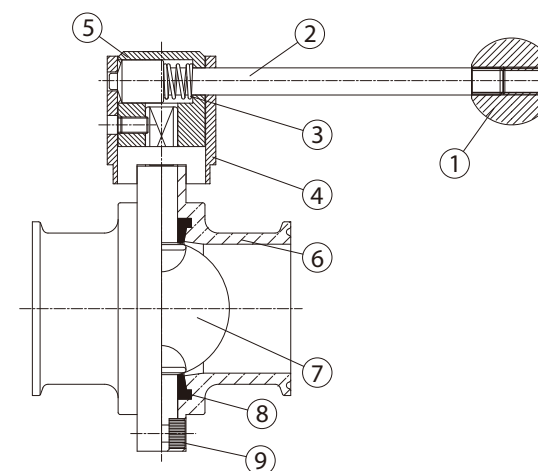
C3 & C101 - CSE



Parts List			
Item	Parts name	QTY	Material
1	Cover	1	St.St 304
2	LED Light	1	
3	Switch bracket	1	St.St 304
4.1	Proximity sensor	2	3A 125VAC. 30VDC
4.2	Micro switch	2	3A 125VAC. 30VDC
5	Electrovalve	1	DC24 3.0W AC110V AC220V
6	E/N connect piece	1	St.St 304
7	Air connection	1	Cu
8	Air manifold	1	P.O.M St.St 304
9	House	1	St.St 304
10	Light screen	1	PC
11	Spring	1	St.St 304
12	Sensor pin	1	St.St 304
13	Plate	1	St.St 304
14	O-Ring	1	NBR
15	O-Ring	1	NBR
16	Adapter (3/8" NPT)	1	St.St 304
17	O-Ring	1	NBR
18	Set screw	3	St.St 304
19	Top cover	1	St.St 304
20	PCB board	6	

CSE Range of Butterfly Valve

3A Clamp End With St.St Pull Handle, 4 Position



NO.	PARTS NAME
1	KNOB
2	STEEL-BAR
3	SPRING ST.ST
4	FIXED PIECE
5	HOLDER
6	BODY
7	DISC
8	EPDM RUBBER SEAT
9	SCREW BOLT

Torque for Full Open/Close

1.0"	< 9.8 N.m
1.5"	< 9.8 N.m
2.0"	13 N.m
2.5"	15 N.m
3.0"	20 N.m
4.0"	30 N.m
6.0"	70 N.m

*1kgf-m = 9.8 N.m = 86.8 lbf-in = 7.23 lbf-ft

Width Range of CSE Butterfly Valve-C & C Type

Body:SUS304、316、316L material made out from precision CNC milling machined.

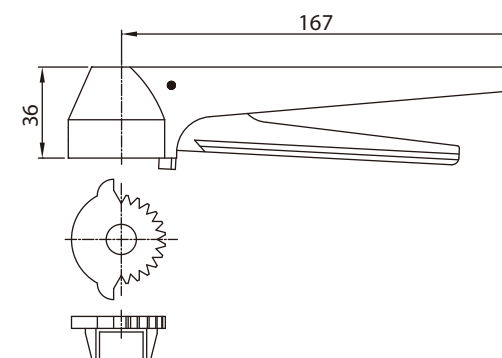
Body can be changeable, and low torque. BS、SMS、DIN、3A Weld end and Male/Male end and Clamp end.

Disk: Made out from full machined, high polished. Ra less than 0.6 um. 9.5mm and 8x12mm, 12x12mm head for USA and Europe required. Electropolished and PTFE coating can be Required.

Handle: Different nylon re-forced and stainless steel handle gripper, pull, Press type.

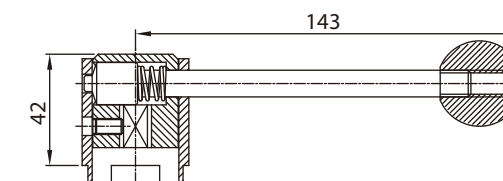
From 2 Position-12 Position, designed for your width range and beautiful choice.

GRIPPER HANDLE 12 POSITION-G12 (NYLON & STAINLESS)



Can fit □9.4x9.4 and □Ø12x8 or □12x12

PULL HANDLE 4 POSITION-P4

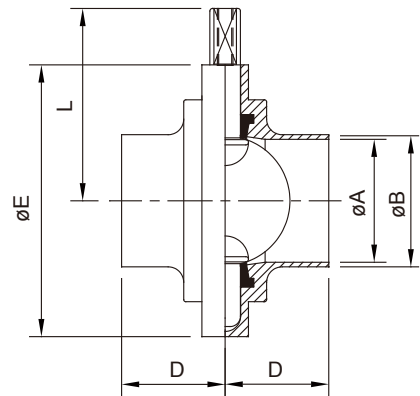


Can fit □9.4x9.4 and □Ø12x8 or □12x12

Other Handle

CSE Full Forged Butterfly Valves

Weld End



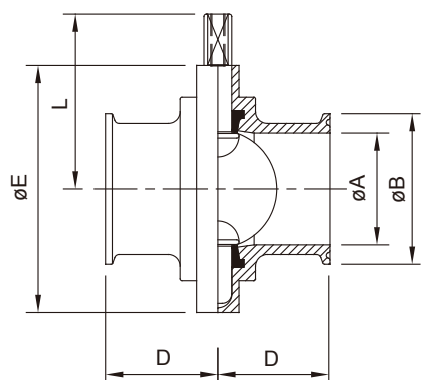
DIN WELD BUTTERFLY VALVE

SIZE	ØA	ØB	D	ØE	L
DN28	25	28	34	79	61
DN34	31	34	38	85	64.3
DN40	37	40	38	90	74.3
DN50	49	52	40	105	77.6
DN65	66	70	41	125	84.8
DN85	81	85	42	137	91.6
DN104	100	104	44	157	101.7

3A/BS/SMS WELD BUTTERFLY VALVE

SIZE	ØA	ØB	SIZE	ØA	ØB	D	ØE	L
1/2"	9.4	12.7	—	—	—	34	79	61
3/4"	15.75	19.05	—	—	—	34	79	61
1.0"	22.1	25.4	DN25	22.5	25	34	79	61
1.5"	34.8	38.1	DN38	35.4	38	38	85	64.3
2.0"	47.5	50.8	DN51	48.0	51	40	105	74.3
2.5"	60.2	63.5	DN63	60.2	63.5	40	112	77.6
3.0"	72.2	76.2	DN76	72.1	76.1	41	125	84.8
4.0"	97.6	101.6	DN104	100	104	44	157	101.7
6.0"	146.8	152.4	—	—	—	70	216.5	138.9

Clamp End

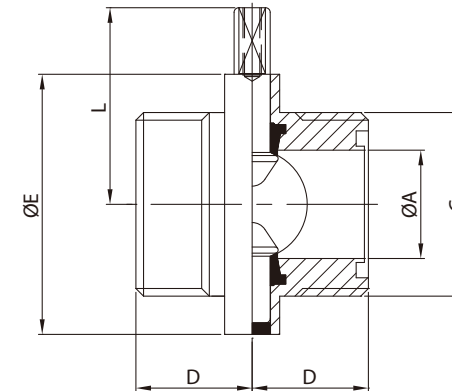


3A CLAMP BUTTERFLY VALVE

SIZE	ØA	ØB	D	ØE	L
1/2"	9.4	25.2	34	79	61
3/4"	15.75	25.2	34	79	61
1.0"	22.1	50.5	33	79	61
1.5"	34.8	50.5	33	85	64.3
2.0"	47.5	64.0	35	105	74.3
2.5"	60.2	77.5	35	112	77.6
3.0"	72.9	91.0	38	125	84.8
4.0"	97.4	119.0	38	157	101.7
6.0"	146.86	166.8	70	216.5	138.9

CSE Full Forged Butterfly Valves

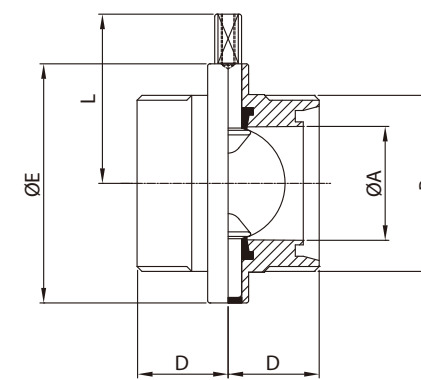
Male End



SMS MALE BUTTERFLY VALVE

SIZE	ØA	C	D	ØE	L
DN25	22.5	RD40x1/6	34	79	61
DN38	35.4	RD60x1/6	38	85	64.3
DN51	48	RD70x1/6	40	105	74.3
DN63	60.2	RD85x1/6	40	112	77.6
DN76	72.1	RD98x1/6	41	125	84.8
DN104	100	RD125x1/4	44	157	101.7

Male End

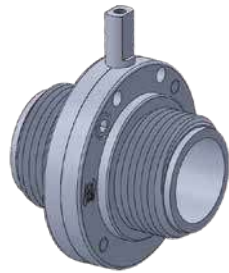
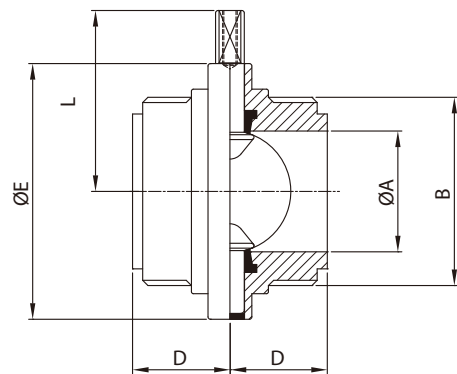


DIN MALE BUTTERFLY VALVE

SIZE	ØA	B	D	ØE	L
DN25	26	RD52*1/6	34	79	61
DN32	32	RD58*1/6	38	85	64.3
DN40	38	RD65*1/6	38	90	74.3
DN50	50	RD78*1/6	40	105	77.6
DN65	66	RD95*1/6	41	125	84.8
DN80	81	RD110*1/4	42	137	91.6
DN101.6	99	RD130*1/4	50	157	101.7
DN104	100	RD130*1/4	50	157	101.7

CSE Range of Butterfly Valve

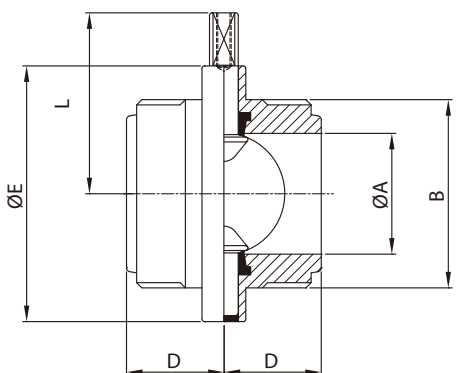
Male End



IDF Male/Male Butterfly Valves

SIZE	ØA	B	D	ØE	L
1.0"	22.4	37.13x8T ACME	34	79	61
1.5"	35.1	50.65x8T ACME	38	85	64.3
2.0"	47.8	64.16x8T ACME	40	105	74.3
2.5"	60.5	77.76x8T ACME	40	112	77.6
3.0"	72	91.19x8T ACME	41	125	84.8
4.0"	97.6	125.9x6T ACME	44	157	101.7

Male End

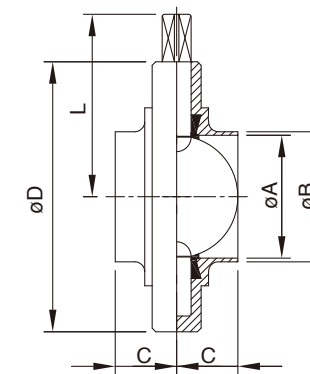


RJT Male/Male Butterfly Valves

SIZE	ØA	B	D	ØE	L
1.0"	22.1	45.72x8T WHIT	34	79	61
1.5"	34.9	58.42x8T WHIT	38	85	64.3
2.0"	47.6	72.72x6T WHIT	40	105	74.3
2.5"	60.3	85.42x6T WHIT	40	112	77.6
3.0"	73	98.12x6T WHIT	41	125	84.8
4.0"	97.6	123.52x6T WHIT	50	157	101.7

CSE Full Forged Butterfly Valve

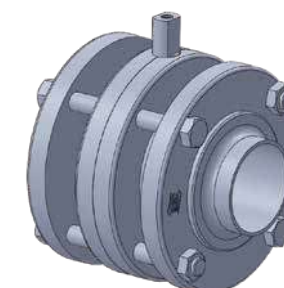
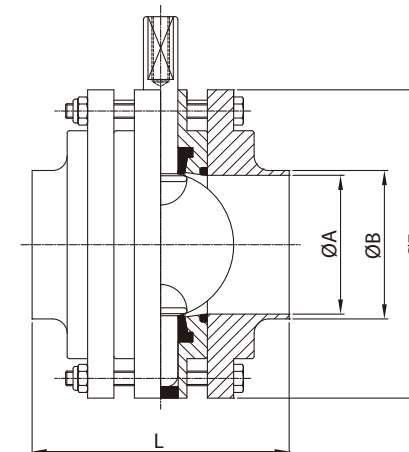
CSE G TYPE



DIN WELD/WELD BUTTERFLY VALVES

SIZE	ØA	ØB	C	ØD	L
DN25	26	29	20	87	61
DN32	32	35	21	92	64.25
DN40	38	41	25	97	66.7
DN50	50	53	25	110	74.3
DN65	66	70	25	127	84.75
DN85	81	85	30	142	91.6
DN100	100	104	32	162	101.75

3 Piece G Type Butterfly Valves

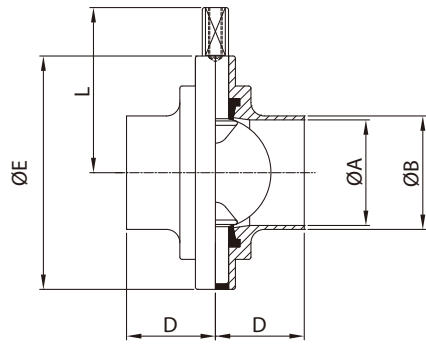


DIN WELD BUTTERFLY VALVE

SIZE	ØA	ØB	ØE	L
DN25	26	29	87	90
DN32	32	35	92	90
DN40	38	41	97	100
DN50	50	53	110	100
DN65	66	70	127	100
DN80	81	85	142	136
DN100	100	104	162	136

CSE Wine Macon Butterfly Valve

Macon Butterfly Valve

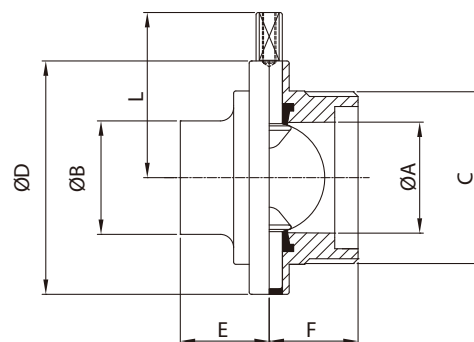


WINE WELD/WELD BUTTERFLY VALVE

SIZE	ØA	ØB	D	ØE	L
DN40/43	40	43	37	90	61
DN50/53	50	53	40	105	64.3
DN60/63	60	63	40	112	74.3
DN70/73	70	73	41	125	77.6
DN80/83	80	83	40	137	84.8
DN100/103	100	103	44	157	101.6



Macon Butterfly Valve



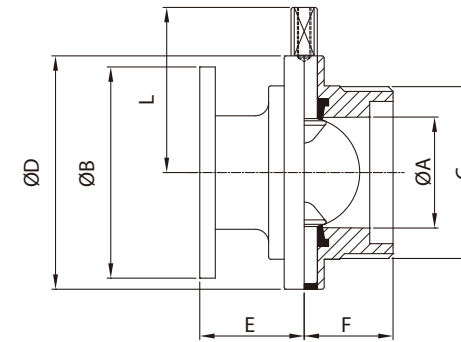
WINE WELD/MALE BUTTERFLY VALVE

SIZE	ØA	ØB	C	ØD	E	F	L
DN40/43	40	43	55x3	90	37	37	61
DN50/53	50	53	67x3	105	40	40	64.3
DN60/63	60	63	79x3.5	112	40	40	74.3
DN70/73	70	73	90x3.5	125	41	41	77.6
DN80/83	80	83	102x4	137	40	40	84.8
DN100/103	100	103	125x4	157	44	45	101.6



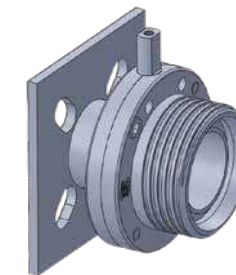
CSE Wine Macon Butterfly Valve

Macon Butterfly Valve

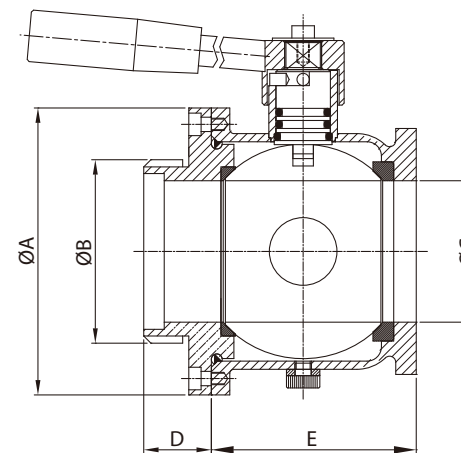


WINE MALE/FLANGE BUTTERFLY VALVE

SIZE	ØA	ØB	C	ØD	E	F	L
DN40/43	40	100	55x3	90	37	37	61
DN50/53	50	100	67x3	105	40	40	64.3
DN60/63	60	120	79x3.5	112	40	40	74.3
DN70/73	70	120	90x3.5	125	41	41	77.6
DN80/83	80	140	102x4	137	50	40	84.3
DN100/103	100	140	125x4	157	55	44	101.6



CSE Wine Ball Valve

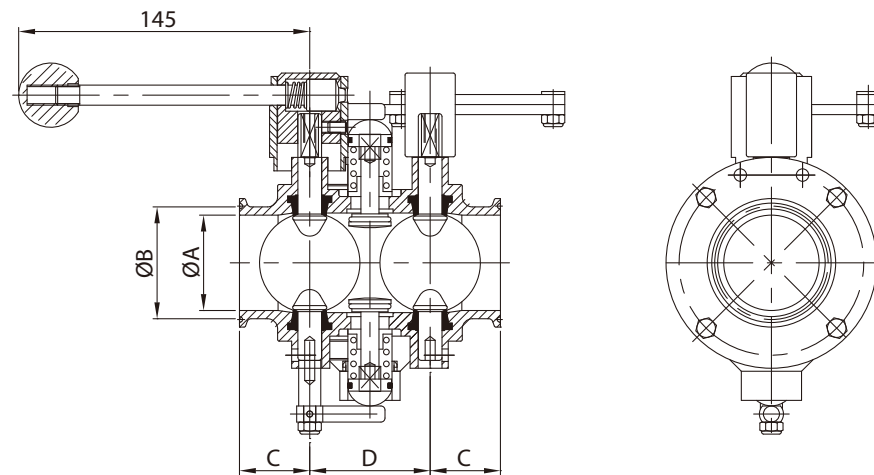
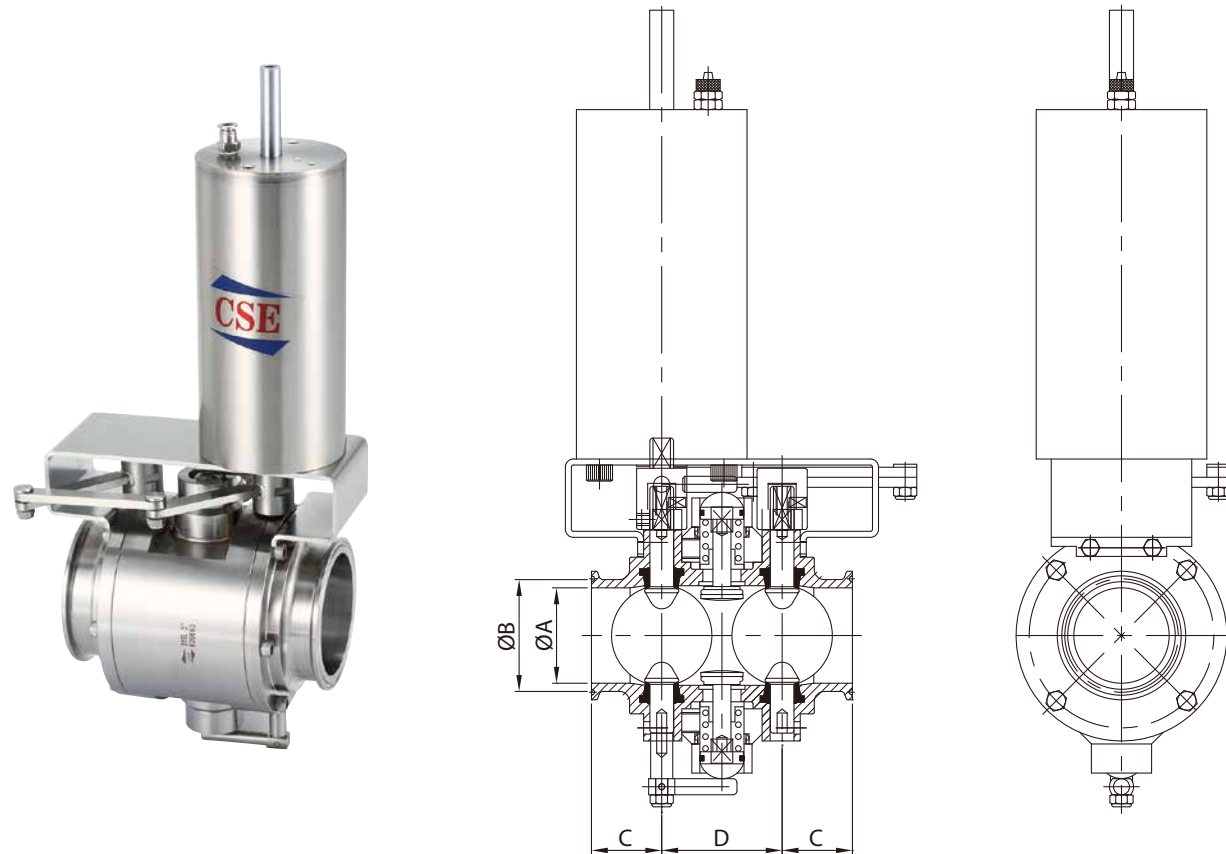


WINE MALE/FLANGE BALL VALVE

SIZE	ØA	ØB	ØC	D	E
DN43	94	54.5	40	32.6	72
DN53	105	66.5	50	33	79
DN73	140	89.5	69	33	100



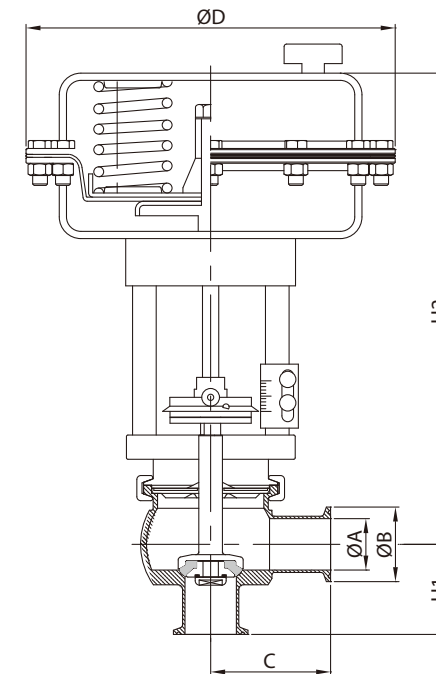
Mix-Proof Butterfly Valve Series



DIN				
SIZE	ØA	ØB	C	D
DN40	37	40	24	65
DN50	49	52	24	70
DN65	66	70	25	80
DN80	81	85	28	90
DN104	100	104	30	110

Inch				
SIZE	ØA	ØB	C	D
1.5"	34.8	38.1	24	65
2.0"	47.5	50.8	24	70
2.5"	60.2	63.5	25	80
3.0"	72.9	76.2	28	90
4.0"	97.4	101.6	30	110

CSE Manual and Auto Control Modulating Valve

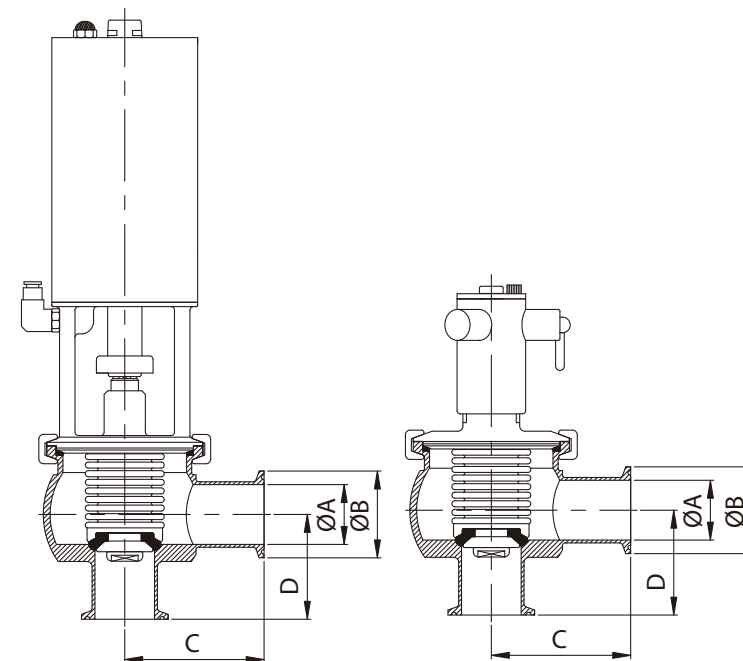


PNEUMATIC MODULATING VALVE L TYPE

SIZE	ØA	ØB	C	ØD	H1	H2
DN25	22.1	50.5	63.5	200	63.5	298.5
DN40	34.8	50.5	69.9	250	69.9	325
DN50	47.5	64	88.9	300	88.9	351.5
DN65	60.2	77.5	88.9	300	88.9	387.5
DN80	72.9	91	95.3	350	95.3	418.6
DN100	97.4	119	114.3	350	114.3	429.4



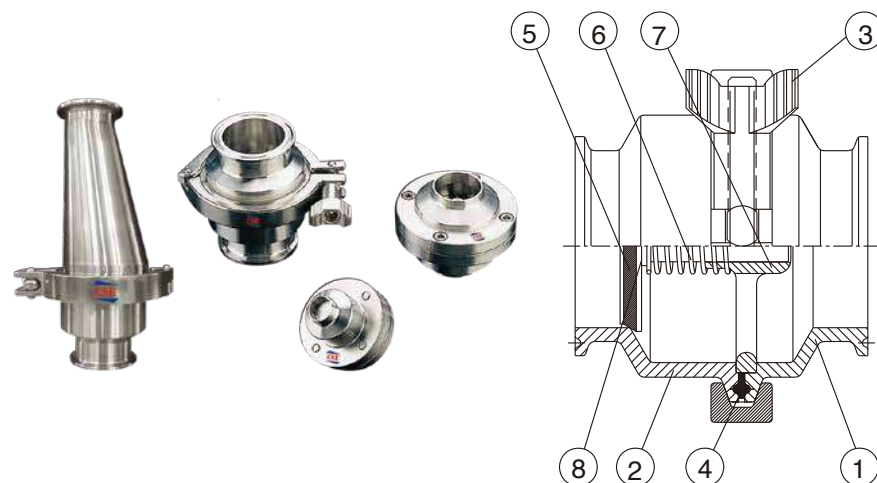
PNEUMATIC and Manual Control Bellow Valves



BELLOW STERILE VALVES

SIZE	ØA	ØB	C	D
1.0"	22.1	50.5	58.5	50.6
1.5"	34.8	50.5	81.2	61
2.0"	47.5	64	85.7	65.4
2.5"	60.2	77.5	103.1	72.1
3.0"	72.9	91	116.4	79.7

CSE Non Return Valve (Check Valve)



NO.	NAME
1	Short Body
2	Long Body
3	Clamp
4	13PG
5	Seal-Ring
6	ST.ST Spring
7	Flow Support Plate
8	Disc

CSE Check Valve :

Materials

Steel parts : Stainless steel SS316(L)

Seal rings : EPDM Rubber or Silicone/Viton (FKM)

Finish : OD ≤ 0.8 , ID ≤ 0.8 or $0.4\mu\text{m}$

Connections

The valve is available with welding ends for tubing according to 3A, SMS, BS, DIN 11851

Technical data

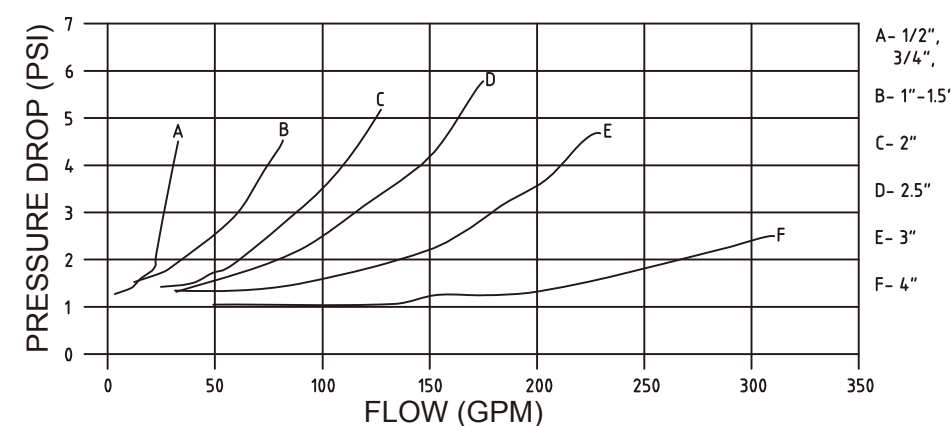
Required different pressure for opening the valve fitted in a vertical pipe, as shown in fig.3, the open pressure Max. product pressure : 1000kpa(10bar)

Material grades

Gasket-Body:EPDM/Silicone/Viton (FKM)/NBR/PTFE

Flow Area-EPDM/Silicone/Viton (FKM)

SPRING CHECK VALVE flow rate (fig 3)



A- 1/2",
3/4",
B- 1"-1.5"
C- 2"
D- 2.5"
E- 3"
F- 4"

Note:
For the diagram the following applies:
Medium : Water(20°C)

Oper pressure (PSI)

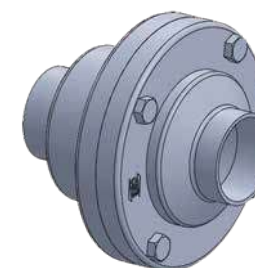
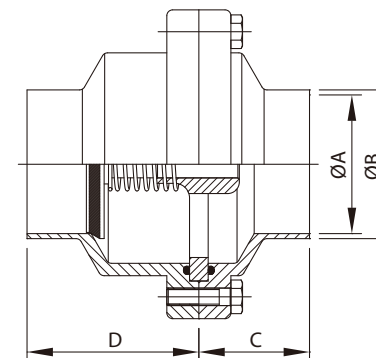
1/2"	3/4"	1"	1 1/2"	2"	2 1/2"	3"	4"
0.5	0.5	3.0	1.6	0.6	1.3	0.8	0.9

Open Pressure (fig.1)

CSE Non-Return Valve

CHECK VALVE MIDDLE FLANGE TYPE/WELD END

3A/BS	ØA	ØB	C	D
1/2"	9.4	12.7	23	34
3/4"	15.8	19.05	23	34
1"	22.1	25.4	34	48
1.5"	34.8	38.1	36	48
2"	47.5	50.8	36	48
2.5"	60.2	63.5	36	48
3"	72.9	76.2	36	48
4"	97.6	101.6	47	54

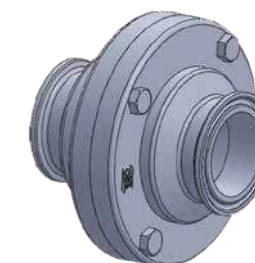
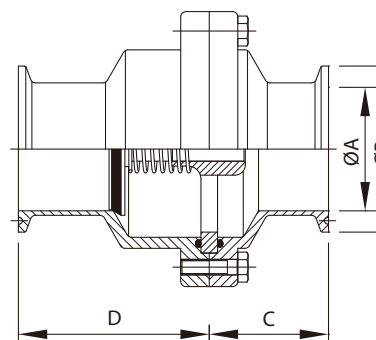


SMS	ØA	ØB	C	D
DN25	22.5	25	34	48
DN38	35.5	38	36	48
DN50	48.5	51	36	48
DN63	60.3	63.5	36	48
DN76	72.1	76.1	36	48
DN100	100	104	47	54

DIN	ØA	ØB	C	D
DN25	25	28	34	48
DN32	31	34	36	48
DN40	37	40	36	48
DN50	49	52	36	48
DN65	66	70	36	48
DN100	100	104	47	54

CHECK VALVE MIDDLE FLANGE TYPE/CLAMP END

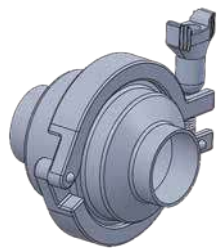
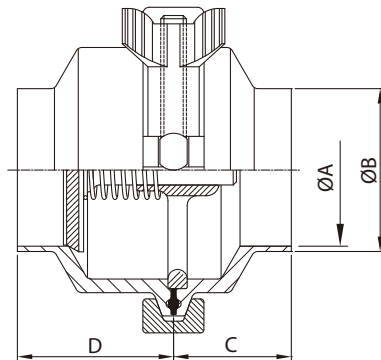
3A/BS	ØA	ØB	C	D
1/2"	9.5	25.2	28.5	39.5
3/4"	15.9	25.2	28.5	39.5
1"	22.1	50.5	34	48
1.5"	34.8	50.5	36	48
2"	47.5	64	36	48
2.5"	60.2	77.5	36	48
3"	72.9	91	36	48
4"	97.6	119	47	54



SMS	ØA	ØB	C	D
DN25	22.5	50.5	34	48
DN38	35.5	50.5	36	48
DN50	48.5	64	36	48
DN63	60.3	77.5	36	48
DN76	72.1	91	36	48
DN100	100	119	47	54

CSE Non-Return Valve

PG TYPE



CHECK VALVE MIDDLE CLAMP TYPE/WELD END

3A/BS	ØA	ØB	C	D
1/2"	9.4	12.7	24	34
3/4"	15.75	19.05	24	34
1"	22.1	25.4	34	48
1.5"	34.8	38.1	36	48
2"	47.5	50.8	36	48
2.5"	60.2	63.5	36	48
3"	72.9	76.2	36	48
4"	97.6	101.6	47	54

DIN	ØA	ØB	SMS	ØA	ØB	C	D
DN25	25	28	DN25	22.5	25	34	48
DN32	31	34	DN38	35.5	38	36	48
DN40	37	40	DN50	48.5	51	36	48
DN50	49	52	DN63	60.3	63.5	36	48
DN65	66	70	DN76	72.1	76.1	36	48
DN100	100	104	DN100	100	104	47	54

CSE Hygienic Sight Glass



CSE Hygienic Sight Glass:

Glass: Clean, High Press Pyrex Glass. Max Work 10 bar.

Can be changeable.

Body: SUS304, 316L Precision Machined Body.

With Width Connection End.3A, DIN, SMS, RJT, IDF
Male/Male.Weld and Female End.

Screw Blot: Full Stainless Steel.

Seal: EPDM, Silicone and Viton.

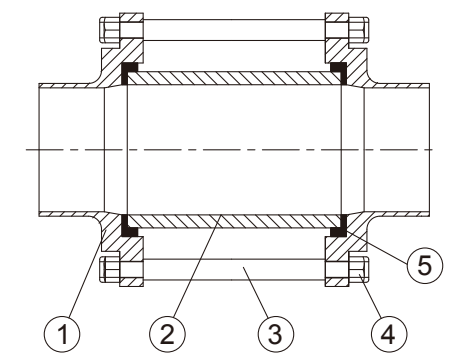
PYREX Glass data:

PYREX Borosilicate Glass Composition

Content	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	B ₂ O ₃	Na ₂ O	K ₂ O
%	80.9	2.3	0.03	12.7	4.0	0.04

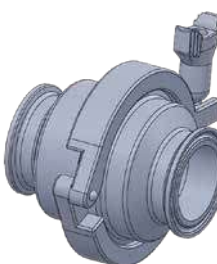
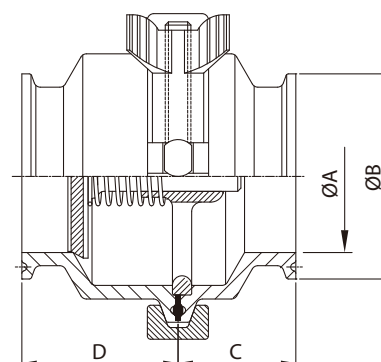
Physical Properties

Young's module	6.4x10 ⁵ kg/cm ³
Poisson's ratio	0.20
Shear modules	2.7x10 ⁵ kg/cm ²
Knoop Hardness (100g)	418KHN
Bending strength	4~7x10 ⁵ kg/cm ²
Design stress (Safety factor)	67 kg/cm ²



NO.	NAME
1	Body
2	High Pressure Clean Glass
3	Screw Blot
4	Nylon Lock Nut
5	Seal

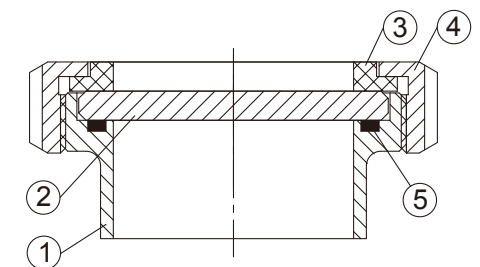
PG TYPE



CHECK VALVE MIDDLE CLAMP TYPE/CLAMP END

3A/BS	ØA	ØB	C	D
1/2"	9.4	25.2	28.5	39.5
3/4"	15.75	25.2	28.5	39.5
1"	22.1	50.5	34	48
1.5"	34.8	50.5	36	48
2"	47.5	64	36	48
2.5"	60.2	77.5	36	48
3"	72.9	91	36	48
4"	97.6	119	47	54

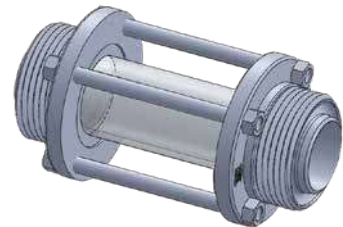
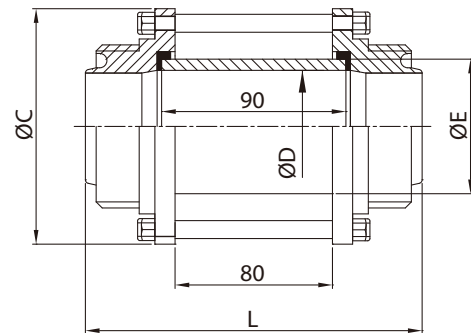
DIN	ØA	ØB	SMS	ØA	ØB	C	D
DN25	25	50.5	DN25	22.5	50.5	34	48
DN32	31	50.5	DN38	35.5	50.5	36	48
DN40	37	50.5	DN50	48.5	64	36	48
DN50	49	64	DN63	60.3	77.5	36	48
DN65	66	91	DN76	72.1	91	36	48
DN100	100	119	DN100	100	119	47	54



NO.	NAME
1	Body
2	High Press Clean Glass
3	Teflon Gasket
4	NUT
5	Seal

With Weld End Only!

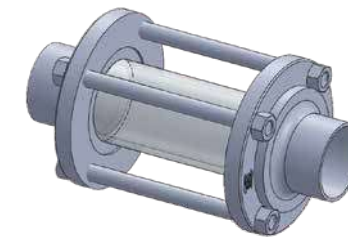
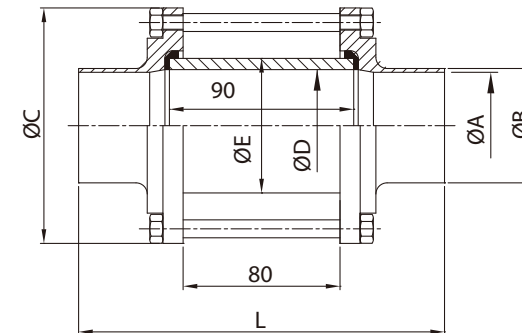
CSE Hygienic Sight Glass



RJT/SMS/DIN/IDF MALE END SIGHT GLASS

SIZE	ØC	ØD	ØE	L
25	79	26	32	148
38	85	34	40	156
51	105	50	60	160
63.5	112	65	75	160
76	125	75.4	85	162
104	157	100	110	168

CSE Hygienic Sight Glass



3A/BS WELD END SIGHT GLASS

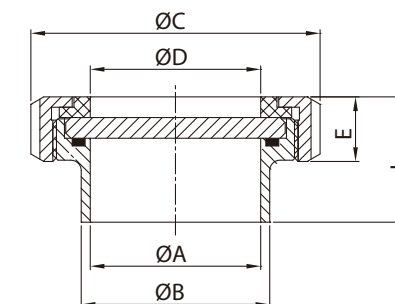
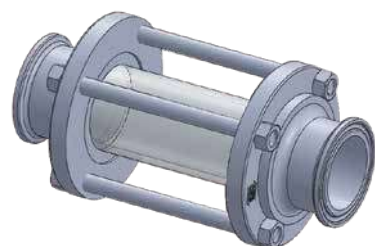
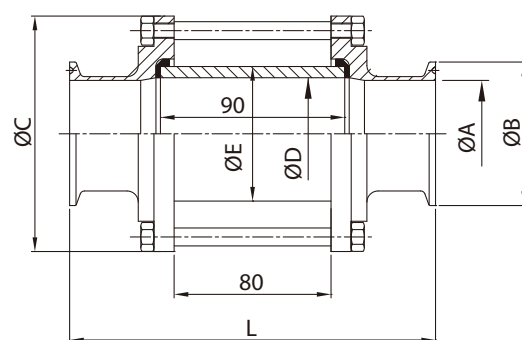
SIZE	ØA	ØB	ØC	ØD	ØE	L
1/2"	9.4	12.7	47	10.2	15	106
3/4"	15.75	19.05	47	17	22	106
1.0"	22.1	25.4	79	26	32	148
1.5"	34.8	38.1	85	34	40	156
2.0"	47.5	50.8	105	50	60	160
2.5"	60.2	63.5	112	65	75	160
3.0"	72.9	76.2	125	75.4	85	162
4.0"	97.6	101.6	157	100	110	167

SMS WELD END SIGHT GLASS

SMS	ØA	ØB	ØC	ØD	ØE	L
DN25	22.5	25	79	26	32	148
DN38	35.4	38	85	34	40	156
DN50	48	51	105	50	60	160
DN63	60.2	63.5	112	65	75	160
DN76	72	76	125	75.4	85	162
DN100	100	104	157	100	110	168

3A/BS CLAMP END SIGHT GLASS

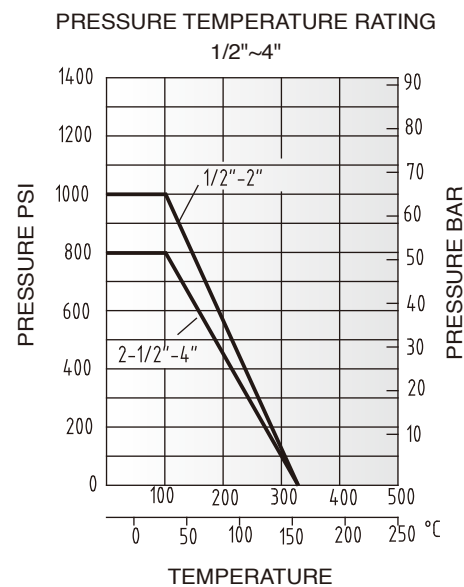
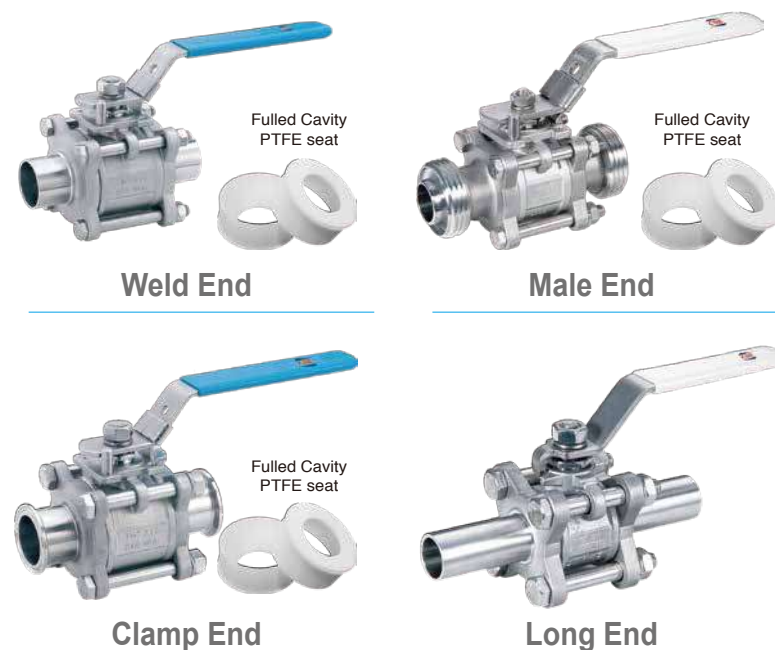
SIZE	ØA	ØB	ØC	ØD	ØE	L
1/2"	9.4	25.2	47	10.2	15	116
3/4"	15.75	25.2	47	17	22	116
1.0"	22.1	50.5	79	26	32	143
1.5"	34.8	50.5	85	34	40	146
2.0"	47.5	64	105	50	60	150
2.5"	60.2	77.5	112	65	75	150
3.0"	72.9	91	125	75.4	85	156
4.0"	97.6	119	157	100	110	156



DIN WELD END SIGHT GLASS

SMS	ØA	ØB	ØC	ØD	E	L
DN25	26	35	63	26	21	37
DN32	32	41	70	32	21	40
DN40	38	48	78	38	21	41
DN50	50	61	92	50	22	42.5
DN65	66	73	112	66	25	48.5
DN80	80	93	127	82	29	52.5
DN100	98	113	148	100	31	61.5

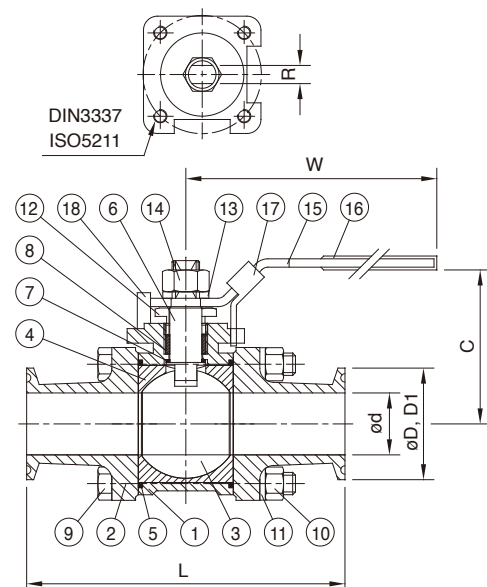
Ball Valve For Food And Bpe Use With ISO Mount Plate Weld/male/clamp End-fulled Cavity Seat



- Lock device can be required.
- 100% air tested under water at 100psi, open and closed positions.
- Hydrostatic test pressure :
Body W.P 1000 PSI Tube End W.P 200 PSI
- Standard End: Weld & Clamp-End
Other SMS. DIN. RJT. IDF
Male/Male can be required.

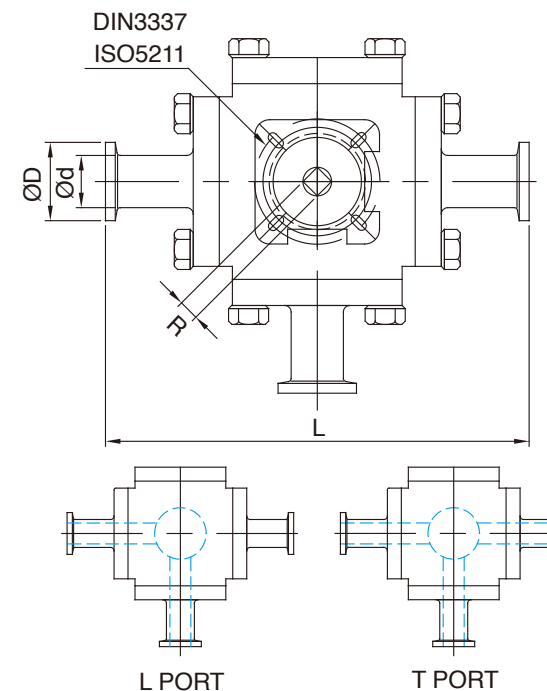
Specifications for Clamp & Weld End

SIZE	1/2"	3/4"	1"	1.5"	2"	2.5"	3"	4"
ISO-5211	DN15	DN20	DN25	DN40	DN50	DN65	DN80	DN100
C	F03	F03	F04	F05	F05	F07	F07	F10
ød	55	60	69	84	92	126.8	136	158.8
øD	9.4	15.75	22.1	34.8	47.5	60.2	72.9	97.4
øD1	25	25	50.4	50.4	63.9	77.4	90.9	118.9
L	12.7	19.05	25.4	38.1	50.8	63.5	76.2	101.6
R	89	101	114	140	156	197	229	242.7
W	5	5	6.5	8.5	8.5	12	12	16
	132	131.5	165	194.3	194.3	252	252	332



NO.	PART NAME	MATERIAL
1	BODY	ASTM-A351-CF8M
2	CAP	ASTM-A351-CF8M
3	BALL	A351-CF8M
4	Seat	PTFE
5	GASKET	PTFE
6	STEM	SUS316
7	THRUST WASHER	PTFE
8	STEM PACKING	PTFE
9	BOLT	SUS304
10	HEX NUT	SUS304
11	BOLT WASHER	SUS304
12	GLAND	SUS304
13	WASHER	SUS304
14	NUT	SUS304
15	HANDLE	SUS304
16	PLASTIC COVER	PLASTIC
17	LOCK DEVICE	SUS304
18	STOP PIN	SUS304

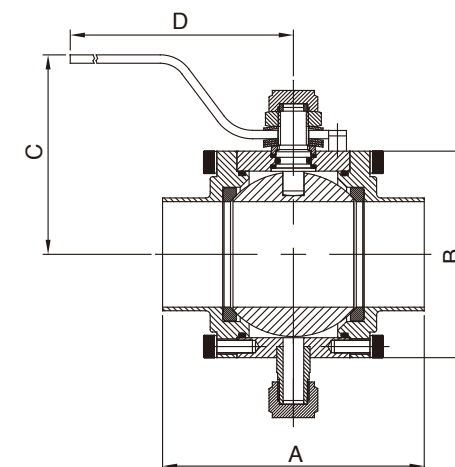
Sanitary-Ball Valve For Food Chemical, and Vacuum use. With Iso Mount Plate Weld/Male End



3 Way

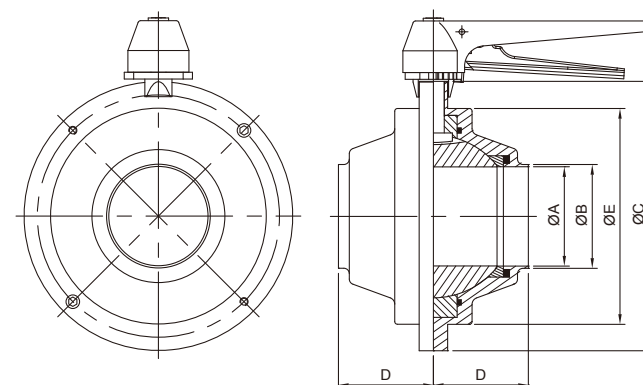
SIZE	DN	ISO-5211	L	ød	øD	R
1/2"	15	F03	118	9.5	25.4	9
3/4"	20	F03	127	15.8	25.4	9
1"	25	F04	152.6	22.2	50.4	11
1-1/2"	40	F05	175	35	50.4	14
2"	50	F05	190	47.6	63.9	14
2-1/2"	65	F07	228	60.3	77.5	17
3"	80	F10	260.6	73	90.9	22
4"	100	F10	290	97.4	118.9	22

HIGH PURITY BALL VALVE - Filled Cavity PTFE Seat, or Half Cavity Seat



SIZE	A	B	C	D
1"	95.3	58.7	60.3	163.5
1.5"	108	77.8	71.4	163.5
2"	119	93.7	79.4	163.5
2.5"	135	106.4	85.7	163.5
3"	165.1	125.4	95.3	163.5

Vacuum BFV type purity Ball Valve



SIZE	ØA	ØB	ØC	D	ØE
1.0"	22.1	25.4	100	35	72
1.5"	34.8	38.1	119	40	91
2.0"	47.5	50.8	139	50	111
2.5"	60.2	63.5	160	60	121
3.0"	72.9	76.2	198	70	159
4.0"	97.4	101.6	230	80	190

Sanitary-ball Valve For Food And Chemical Use With Iso Mount Plate Weld/male End



LIMIT SWITCH BOX-ALS10

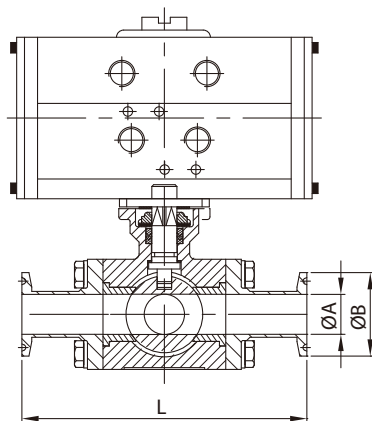
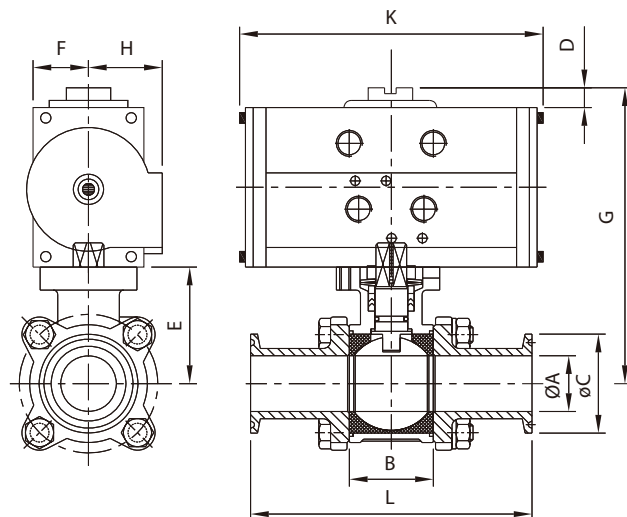


SOLENOID VALVE-SN3101 Series



Actuator can be installed on CSE 2 way or 3 way low & high ISO 5211 mount plate.
(An additional bracket is needed in cases of low plate ball valves)

Material: ASTM-CF8M A351 (316)
Seat: PTFE / PTFE+15% Glass Fiber.



HIGH MOUNT PLATE DESIGN

VDA/VS	DN	D	F	G	H	K
C-125	15	20	28.5	121	33.7	120
C-125	20	20	28.5	131	33.7	120
C-250	25	20	33.6	156.2	47.8	144.3
C-450	40	20	43.5	196.2	51.5	149.2
C-1000	50	20	54.5	227.2	64.5	183
C-1000	65	20	54.5	250.2	64.5	183
C-2250	80	20	65	278.7	75.5	259.6
C-2250	100	30	65	302.2	75.5	259.6

BALL VALVE / SERIES 26								
SIZE	DN	ISO-5211	øA	øC	B	L	E	TORQUE LBS / INCH
1/2"	15	F03/F04	9.5	25.4	37	89	37.0	90
3/4"	20	F03/F04	15.9	25.4	37	101	47.0	100
1"	25	F04/F05	22.2	50.4	42	114	57.2	140
1-1/2"	40	F05/F07	35	50.4	50	140	78.2	240
2"	50	F05/F07	47.6	63.8	50	156	86.2	480
2-1/2"	65	F07/F10	60.3	77.6	72	197	109.2	650
3"	80	F07/F10	73	91	72	229	117.7	1150
4"	100	F10/F12	97.4	119	95	241	141.2	1400

VDA/VS	DN	D	F	G	H	VDA	VS
C-125	15	20	28.5	121	33.7	120	
C-125	20	20	28.5	131	33.7	120	
C-250	25	20	33.6	156.2	47.8	144.3	194.6
C-450	40	20	43.5	196.2	51.5	149.2	205.6
C-1000	50	20	54.5	227.2	64.5	183	250
C-1000	65	20	54.5	250.2	64.5	183	250
C-2250	80	20	65	278.7	75.5	259.6	355
C-2250	100	30	65	302.2	75.5	259.6	355

3WAY BALL VALVE / SERIES 26							
SIZE	DN	ISO-5211	øA	B	L	TORQUE LBS / INCH	
1/2"	15	F03	9.5	37	118	79	
3/4"	20	F03	15.9	37	127	85	
1"	25	F04	22.2	42	152.6	110	
1.5"	40	F05	35	50	175	290	
2"	50	F05	47.6	50	190	425	
2.5"	65	F07	60.3	72	228	1085	
3"	80	F10	73	72	260.6	1597	
4"	100	F10	97.4	95	290	1780	

CSE CHEMICAL Ball VALVE & CHEMICAL UNIONS



Ball Valve

- 1PC- 800WOG Ball valve NPT, PF, BSPT thread end, PTFE/PTFE+15% Glass fiber seat.
- 2PC- full port reduction port WOG 1,000psi Ball valve, with lock design and ISO 5211 mount plate can be specified.
Flange end: PN 10/16 , JIS 5/10 K
Seat: PTFE/PTFE+15% G.F
- 3PC- full port-WOG 1,000psi with lock design and ISO5211 mount plate can be specified.
Flange end: PN 10/16 , JIS 5/10 K
Seat: PTFE/PTFE+15% G.F

Design tested to C 97/23/EC ART 3 § 3 ≤ DN25, And Table 6 D1 Standard.

ISO5211 Mount plate and special design can be specified.



Chemical Unions

CSE makes a full range of lost wax cast 150psi, screw fittings.

We also offer high class chemical screw fittings, unions and nipples....with solid bar, hex bar, pipe and precision CNC finished surface.

Welcome: OEM, ODM, services.



Ball for Valve

Joint CSE Taiwan the abilities of the casting, CNC machining, welded, hydraulically, polishing, multi-surface finished,CSE offer not only OEM parts, but also for parts of products, such as the BALL for ball valve.

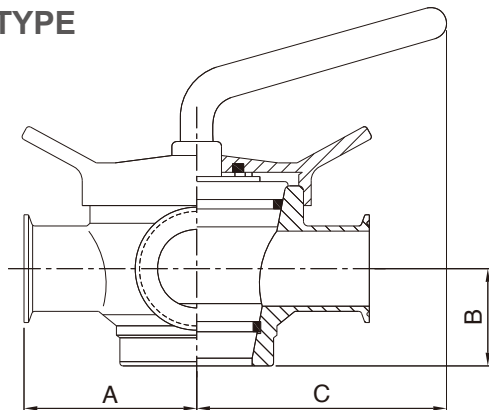
Material: Stainless steel 304 / 316 / 316L

2WAY & 3WAY Plug Valves



Plug Cock Valve are excellent hygienic design. Base on Tape and not any gasket in flow port. So, big popular use on the Milk industry. CSE Plug Cock are joint Europe and USA design use the purity material and excellent machined technical. Material Plug- SS304 or SS316L with hard / thick chrome coating for long use circle and easy clean maintenance. Connect - Weld, Clamp and Male End. Max Work pressure - 3 Bars~10 Bars.

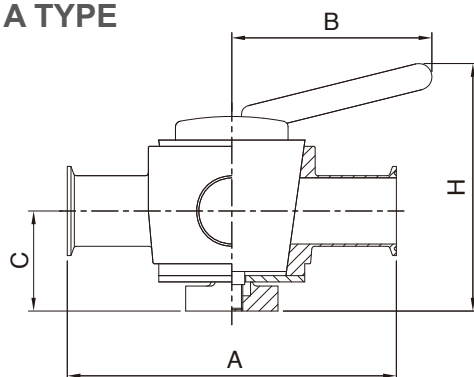
E TYPE



2WAY & 3WAY-PLUG VALVE for Weld/- Male/Female/Clamp

SIZE (Tube O.D)	Weld A	Male A	Clamp A	B	C
DN25 - 1"	66.3	95.3	94.9	26	139.19
DN40 - 1.5"	85.1	118.1	113.7	35	139.19
DN50 - 2"	114.2	149.2	142.8	45	143.01
DN65 - 2.5"	132.0	172.0	160.6	55	143.69
DN80 - 3"	168.6	213.6	197.2	70	143.81
DN100 - 4"	206.3	260.3	234.9	75	174.21

A TYPE

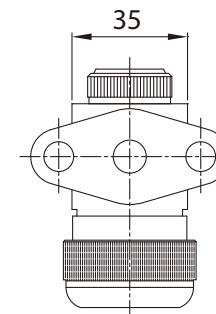
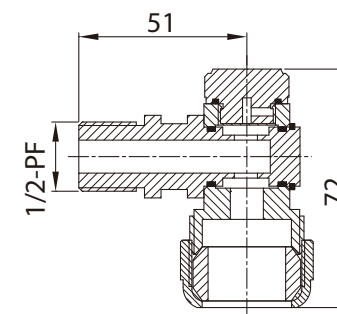


2WAY & 3WAY-PLUG VALVE for Weld/- Male/Female/Clamp

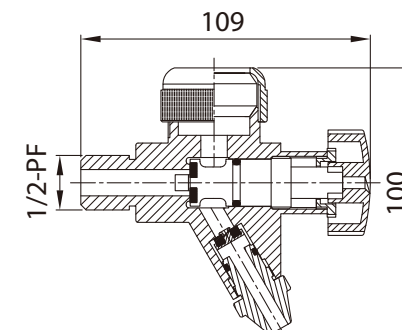
SIZE (Tube O.D)	Weld A	Clamp A	B	C	H
1"	184.2	115.9	117.0	58.3	128.4
1.5"	198.4	147.6	142.7	61.0	164.4
2"	223.8	173.0	144.2	72.4	178.0
2.5"	260.4	209.6	150.6	86.2	223.4
3"	290.5	239.7	180.7	90.6	241.4

CSE Sample Cock Valve

Upper Valve

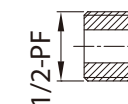


Level Valve

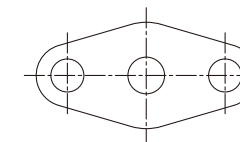


Connecting End

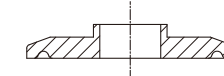
(1) PF Thread End



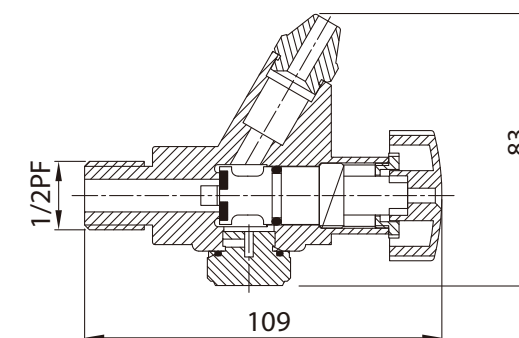
(2) Welding Flange End



(2) Welding Ferrule End

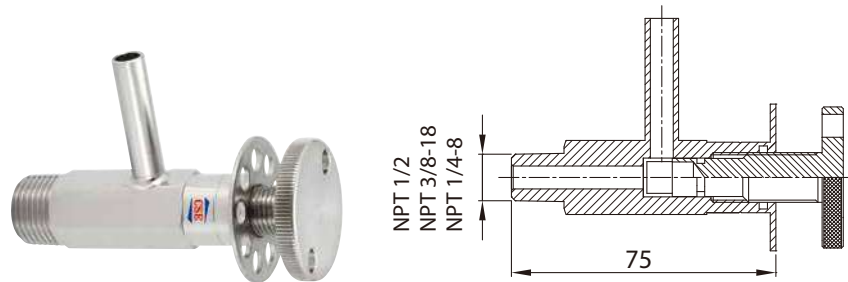


Test Valve



CSE Sample Cock Valve

A Type

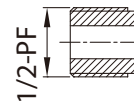


NPT 1/2
NPT 3/8-18
NPT 1/4-8

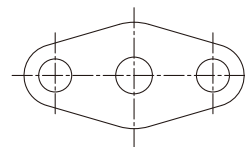
75

Connecting End

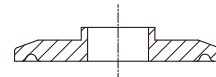
(1) PF Thread End



(2) Welding Flange End



(2) Welding Ferrule End



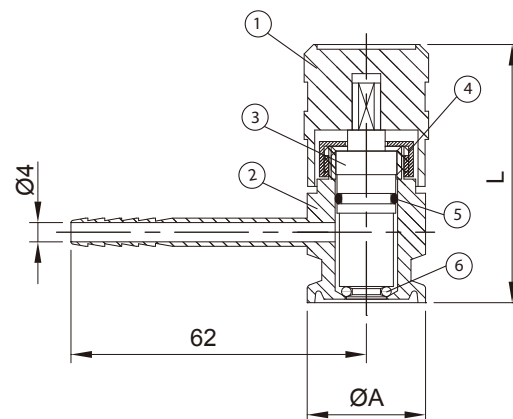
B Type



NPT 1/2
NPT 3/8-18
NPT 1/4-8

75

C Type

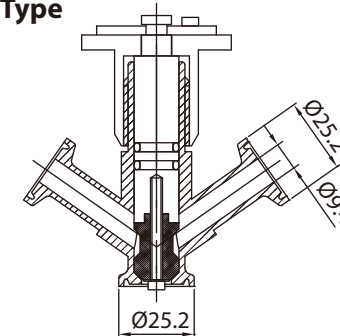


Item	PART NAME	Q'TY	MATERIAL
1	Rotating Nut	1	POM
2	Body	1	SUS304/316(L)
3	Flow support	1	SUS304/316(L)
4	Locknut	1	SUS304/316(L)
5	O-Ring	1	EPDM
6	O-Ring	1	EPDM

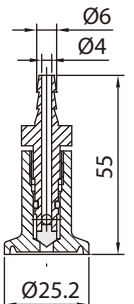
SIZE	ØA	L
1/2"	25.2	70
1"	50.5	70

CSE Sample Cock Valve

D Type



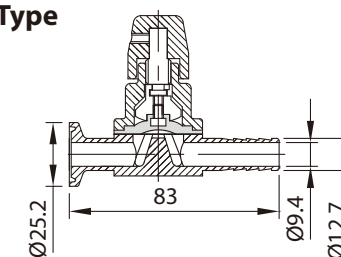
F Type



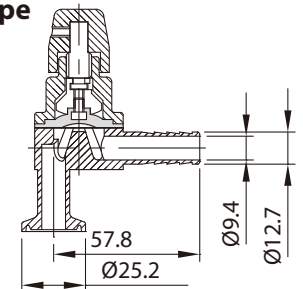
CSE Diaphragm Sample valve



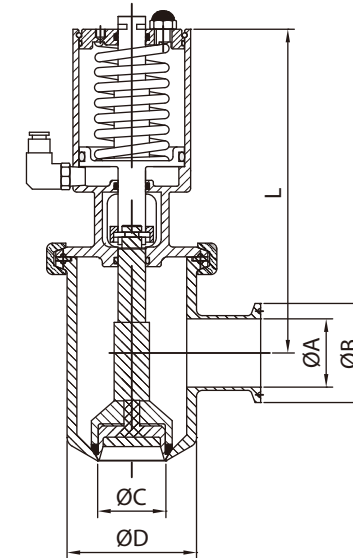
I Type



L Type

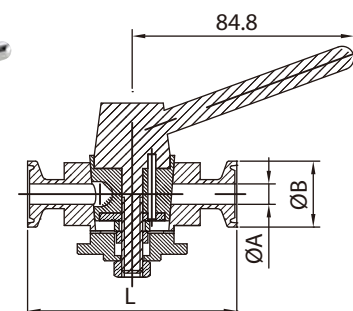


CSE Filling valve



SIZE	ØA	ØB	ØC	ØD	L
1"x1"	22.1	50.5	22.1	55	165
1"x1.5"	34.8	50.5	22.1	55	165
1"x2"	47.5	64	22.1	66	165
1.5"x1.5"	34.8	50.8	34.8	66	165
1.5"x2"	47.5	64	34.8	66	165

CSE Four-way valve



SIZE	ØA	ØB	L
3/8"	7.8	25.2	80
1/2"	9.4	25.2	80
3/4"	15.8	25.2	80

CSE Hygienic Sample Valve for BPE

DA Type



DB Type

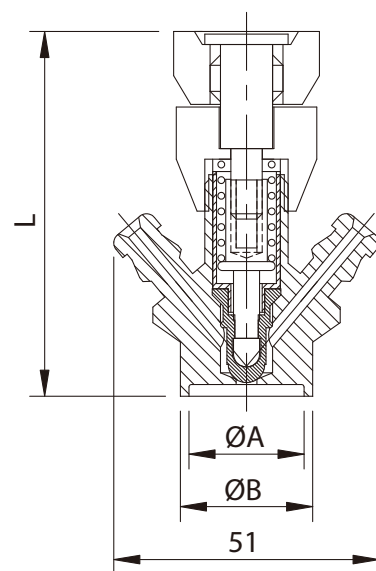
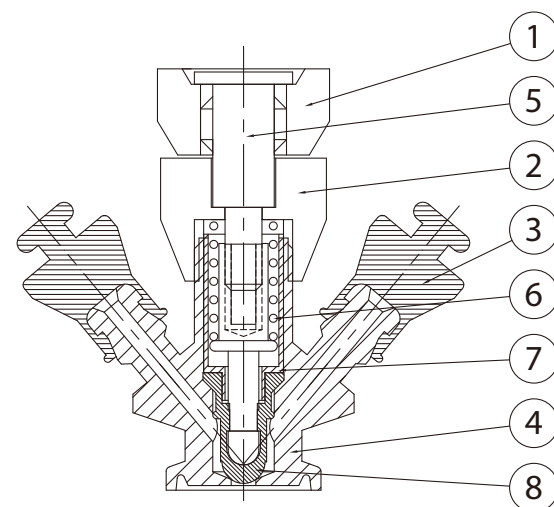


Materials:

- Flow area: AISI 316L
- Other steel parts: AISI 316
- Plug stem: AISI 316L
- Gasket for flow area: EPDM/ Silicon/ Viton (FKM)

Technical data:

- Temperature range: Full vacuum. -10°C to +140°C(EPDM).

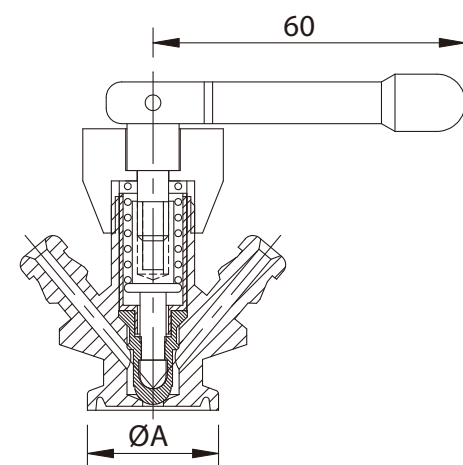


Weld

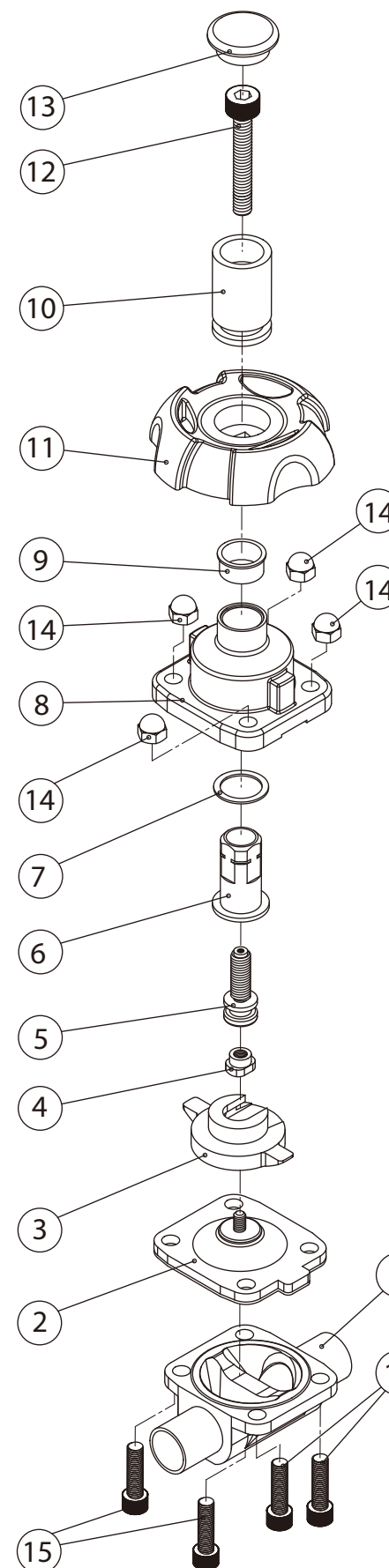
SIZE	ØA	ØB	L
1/2"	9.4	12.7	71.5
3/4"	15.75	19.05	71.5
1.0"	22.1	25.4	71.5

Clamp

SIZE	ØA	L
A37	34	70
1/2"	25.2	70
3/4"	25.2	70
1.0"	50.5	70



Pneumatic/Manual Diaphragm Valve 2WAY/Tank Bottom Valve



Construction Assembly & Parts List

Parts List			
Item	Parts name	Q'TY	Material
1	BODY	1	ST.ST 316L
2	SEAL	1	EPDM+PTFE
3	Seat	1	ST.ST 304
4	Screw	1	ST.ST 304
5	Bonnet	1	POBOM/CASTING
6	Handwheel	1	NYLON 66+30% GF
7	Cover	1	NYLON 66+30% GF
8	M6 SCREW BOLT	1	ST.ST304

Specifications

Material:

- Body: Forged/316L
- Diaphragm: EPDM+PTFE/NC or NO: EPDM+PTFE

Connection:

- Clamp End/Weld End

Body Type:

- Direct Connection (Two Way)/Equal T/Reducing T/U-Point...

Operation:

- Normal Open/Normal Close

Work Temp.:

- Diaphragm: EPDM+PTFE(-10°C~150°C)

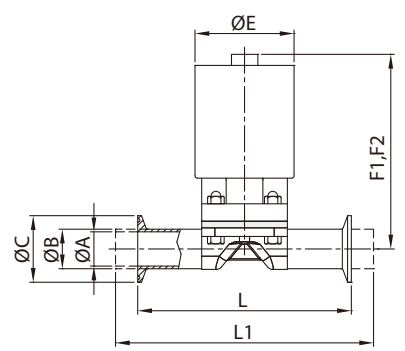
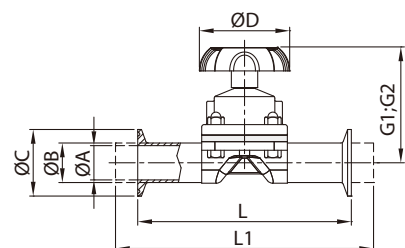
Work Pressure:

- Max: 10 Bar

Surface:

- SF1: ID Polished to $Ra \leq 0.5\mu m$ /
SF4: EP Finished to $Ra \leq 0.38\mu m$
- ID/OD Mirror Polished & ID $Ra \leq 0.5\mu m$ /OD Sand Blasted...

Pneumatic/Manual Diaphragm Valve 2WAY



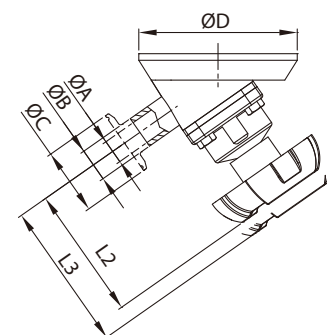
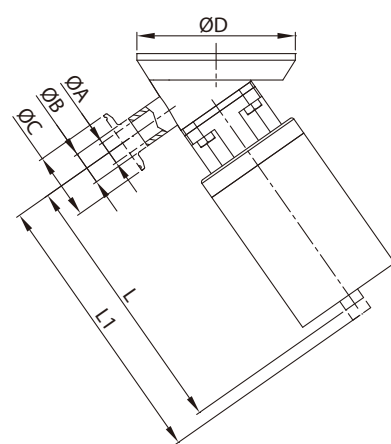
3A/BPE

3A	1/2"	3/4"	1"	1.5"	2"
ØA	9.4	15.75	22.1	34.8	47.5
ØB	12.7	19.05	25.4	38.1	50.8
ØC	25.2	25.2	50.5	50.5	64
BPE	1/2"	3/4"	1"	1.5"	2"
ØA	9.4	15.75	22.1	34.8	47.5
ØB	12.7	19.05	25.4	38.1	50.8
ØC	25	25	25/50.4	50.4	63.9
ØD	60	60	95	95	118
ØE	60	60	85	85	133
F1	122	122	212	217	315
F2	131	131	225	232	333
G1	74	74	100	119	135
G2	83	83	113	134	153
L	88.9	101.6	114.3	139.7	158.8
L1	124	135	141.2	168.4	190.5

DIN

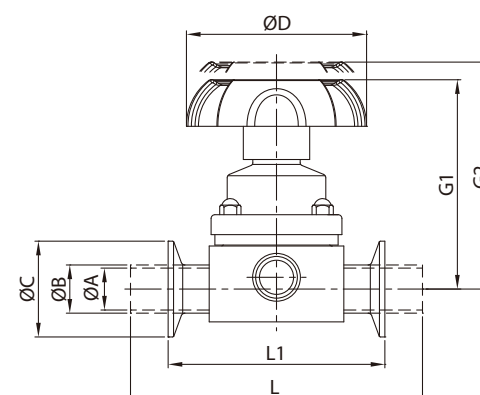
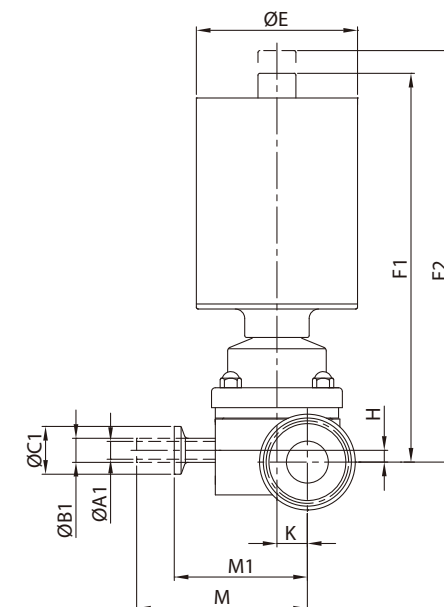
DIN	DN10	DN20	DN25	DN32	DN40	DN50
ØA	10	20	26	32	38	50
ØB	13	23	29	35	41	53
ØC	34	34	50.5	50.5	50.5	64
ØD	—	60	60	95	95	118
ØE	60	85	85	85	85	133
F1	122	212	212	217	217	315
F2	131	225	225	232	232	333
G1	74	100	100	119	119	135
G2	83	113	113	134	134	153
L	88.9	101.6	114.3	139.7	139.7	158.8
L1	124	135	141.2	168.4	168.4	190.5

Tank Bottom Valve



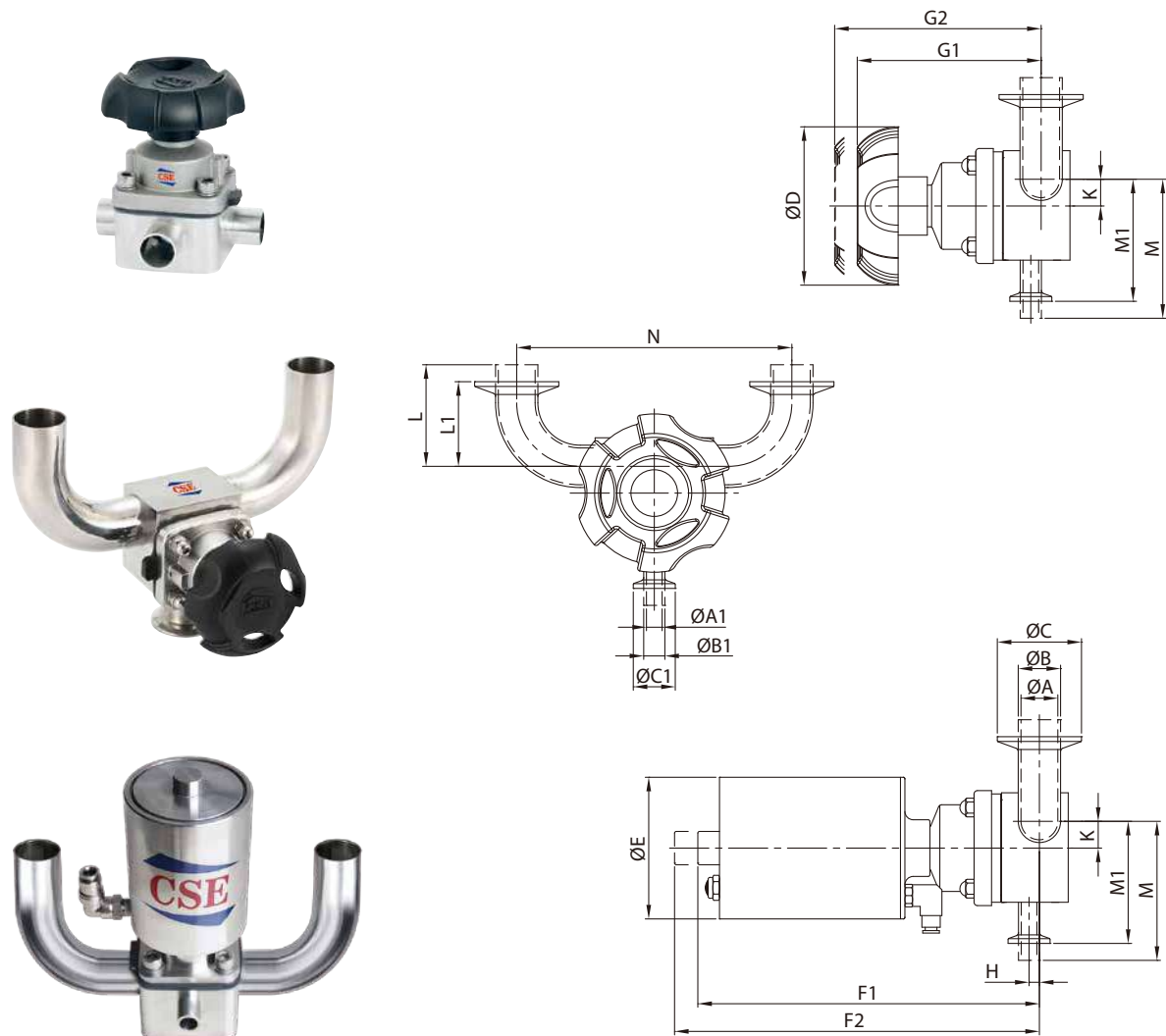
SIZE	1/2"	3/4"	1"	1.5"	2"
ØA	9.4	15.75	22.1	34.8	47.5
ØB	12.7	19.05	25.4	38.1	50.8
ØC	25.2	25.2	50.5	50.5	64
ØD	100	100	120	160	160
L	122	122	212	217	315
L1	131	131	225	232	333
L2	74	74	100	119	135
L3	83	83	113	134	153

Pneumatic/Manual Diaphragm Valve 3WAY



SIZE	1/2"x1/2"	1/2"x3/4"	1/2"x1"	1/2"x1.5"	1/2"x2"	3/4"x3/4"	3/4"x1"	3/4"x1.5"	3/4"x2"	1"x1"	1"x1.5"	1"x2"	1 1/2"x1.5"	1.5"x2"	2"x2"
ØA	9.4	15.75	22.1	34.8	47.5	15.75	22.1	34.8	47.5	22.1	34.8	47.5	34.8	47.5	47.5
ØB	12.7	19.05	25.4	38.1	50.8	19.05	25.4	38.1	50.8	25.4	38.1	50.8	38.1	50.8	50.8
ØC	25.2	25.2	50.5	50.5	64	25.2	50.5	50.5	64	50.5	50.5	64	50.5	64	64
ØA1	9.4	9.4	9.4	9.4	9.4	15.75	15.75	15.75	15.75	22.1	22.1	22.1	34.8	34.8	47.5
ØB1	12.7	19.05	25.4	38.1	50.8	19.05	25.4	38.1	50.8	25.4	38.1	50.8	38.1	50.8	50.8
ØC1	25.2	25.2	50.5	50.5	64	25.2	50.5	50.5	64	50.5	50.5	64	50.5	64	64
ØD	60	60	60	60	60	60	60	60	60	95	95	95	95	95	118
ØE	60	60	60	60	60	60	60	60	60	85	85	85	85	85	133
F1	122	122	122	122	122	122	122	122	122	212	212	212	217	217	315
F2	131	131	131	131	131	131	131	131	131	225	225	225	232	232	333
G1	74	74	74	74	74	74	74	74	74	100	100	100	119	119	135
G2	83	83	83	83	83	83	83	83	83	113	113	113	134	134	153
H	—	6.18	13.2	19.5	19.5	4.5	10.7	17.5	17.5	6.2	14.5	18.4	6.2	13.7	—
K	6.8	9.98	13.15	19.5	25.85	9.98	13.15	19.5	25.85	16.05	22.4	28.75	22.4	28.75	28.75
L	139.7	139.7	154	153.6	153.6	139.7	153.6	153.6	153.6	172.6	172.6	172.6	197.6	197.6	211.6
L1	88.9	88.9	114.3	114.3	114.3	88.9	114.3	114.3	114.3	114.3	114.3	114.3	139.7	139.7	158.8
M	69.4	72.58	75.75	82.1	88.45	72.58	75.75	82.1	88.45	86.65	93	99.35	105	111.35	123.75
M1	51	54.18	57.35	63.7	70.05	54.18	57.35	63.7	70.05	70.6	74.6	80.95	86.6	92.95	98.95

Pneumatic/Manual Diaphragm Valve 3WAY/U-Bend Valve

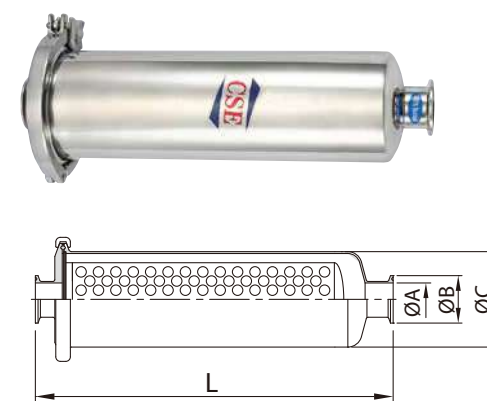


SIZE	1/2"x1/2"	1/2"x3/4"	1/2"x1"	1/2"x1.5"	1/2"x2"	3/4"x3/4"	3/4"x1"	3/4"x1.5"	3/4"x2"	1"x1"	1"x1.5"	1"x2"	1 1/2"x1.5"	1.5"x2"	2"x2"
ØA	9.4	15.75	22.1	34.8	47.5	15.75	22.1	34.8	47.5	22.1	34.8	47.5	34.8	47.5	47.5
ØB	12.7	19.05	25.4	38.1	50.8	19.05	25.4	38.1	50.8	25.4	38.1	50.8	38.1	50.8	50.8
ØC	25.2	25.2	50.5	50.5	64	25.2	50.5	50.5	64	50.5	50.5	64	50.5	64	64
ØA1	9.4	9.4	9.4	9.4	9.4	15.75	15.75	15.75	15.75	22.1	22.1	22.1	34.8	34.8	47.5
ØB1	12.7	12.7	12.7	12.7	12.7	19.05	19.05	19.05	19.05	25.4	25.4	25.4	38.1	38.1	50.8
ØC1	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2	50.5	50.5	50.5	50.5	64	64
ØD	60	60	60	60	60	60	60	60	60	95	95	95	95	95	118
ØE	60	60	60	60	60	60	60	60	60	85	85	85	85	85	133
F1	122	122	122	122	122	122	122	122	122	212	212	212	217	217	315
F2	131	131	131	131	131	131	131	131	131	225	225	225	232	232	333
G1	74	74	74	74	74	74	74	74	74	100	100	100	119	119	135
G2	83	83	83	83	83	83	83	83	83	113	113	113	134	134	153
H	—	6.18	13.44	19.5	19.5	4.5	10.7	17.5	17.5	6.2	14.5	18.4	6.2	13.7	—
K	6.8	9.98	13.15	19.5	25.85	9.98	13.15	19.5	25.85	16.05	22.4	28.75	22.4	28.75	28.75
L	57.15	66.68	76.2	95.3	120.7	66.68	76.2	95.3	120.7	76.2	95.3	120.7	95.3	120.7	120.7
L1	31.75	41.25	50.8	69.9	88.9	41.28	50.8	69.9	88.9	50.8	69.9	88.9	69.9	88.9	88.9
M	69.4	72.85	75.75	82.1	88.45	72.58	72.75	82.1	88.45	70.6	93	99.35	105	111.35	123.75
M1	51	54.18	57.35	63.7	70.05	54.18	57.35	63.7	70.05	68.25	74.6	80.95	86.6	92.95	98.95

CSE S-TRAINERS

- Material: SUS304/SUS316L
- Mesh: 20~400
- Aperture Size: 1~10(mm)
- P.D.Press(MPa): 0.05~0.2
- Types: Weld end/ Clamp end/ Male end/ Female end

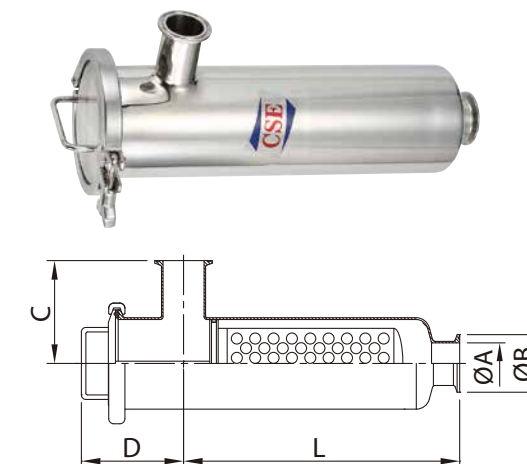
INLINE STRAINER I TYPE



STRAINER INLINE TYPE (I)

SIZE	ØA	ØB	ØC	L
1.0"	22.2	50.5	101.6	380
1.5"	34.8	50.5	101.6	380
2.0"	47.5	64	101.6	380
2.5"	60.2	77.5	101.6	450
3.0"	72.9	91	101.6	550

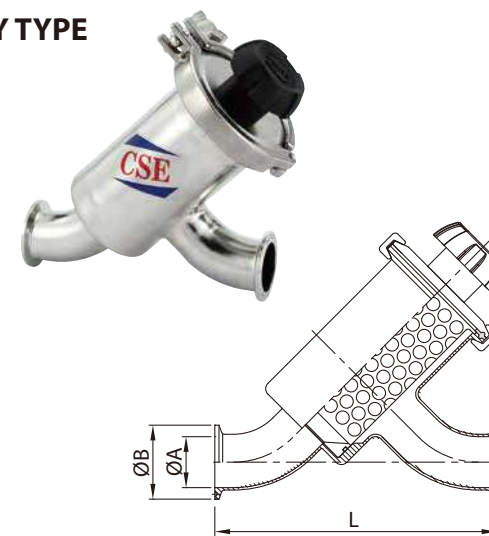
SIDE OUTLET STRAINER L TYPE



STRAINER SIDE OUTLET TYPE (L)

SIZE	ØA	ØB	C	D	L
1"	22.1	50.5	104.8	110	310
1.5"	34.8	50.5	104.8	110	310
2"	47.5	64	114.3	110	310
2.5"	60.2	77.5	108	110	410
3"	72.9	91	108	110	490

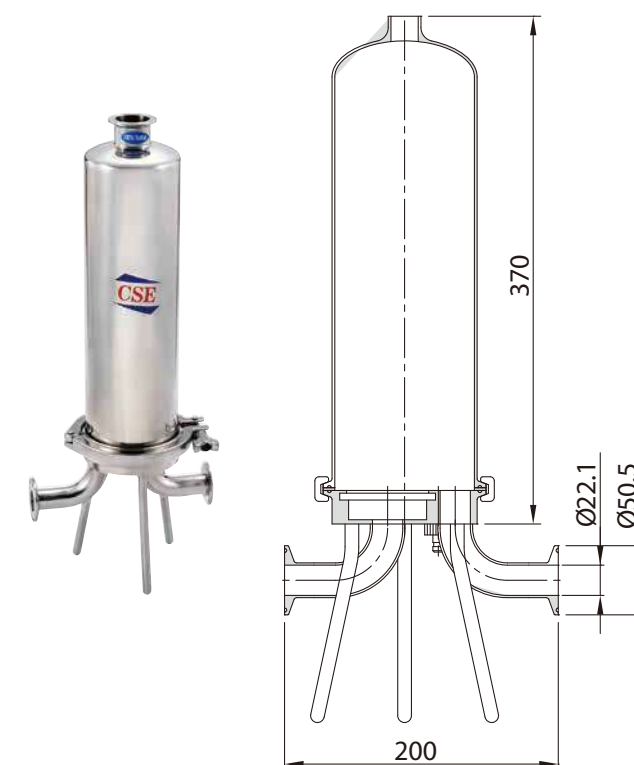
Y TYPE



STRAINER Y TYPE

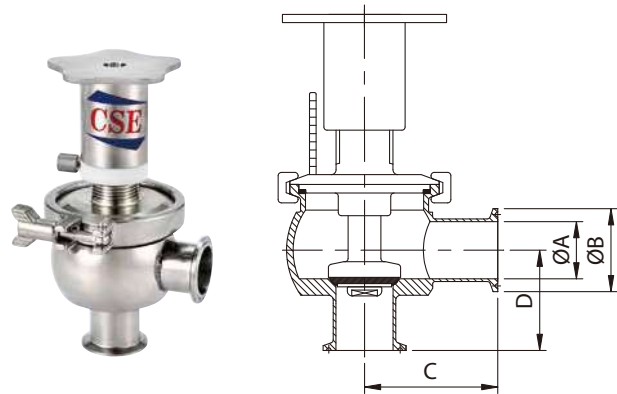
SIZE	ØA	ØB	L
1.0"	22.1	50.5	155
1.5"	34.8	50.5	192
2.0"	47.5	64	208
2.5"	60.2	77.5	252
3.0"	72.9	91	300

S TYPE



CSE Kinds of Special Valve

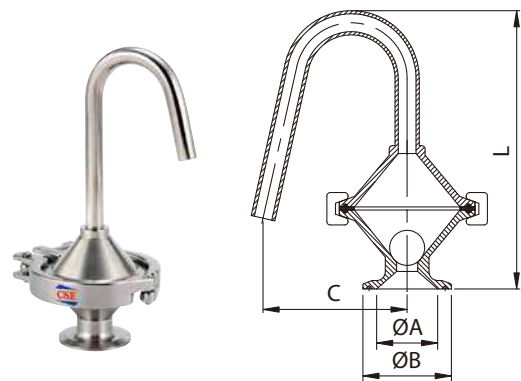
- Material: SUS304 or SUS316L.
Forged or Solid Bar Body.
- Surface: Polished, Electric Polished.
ID Ra<0.8um. or 0.4um.
- Can be made by your requirement design.



For your safety relief poessure.
(Working pressure-0.1~7kgs/cm².)

Relief Valve

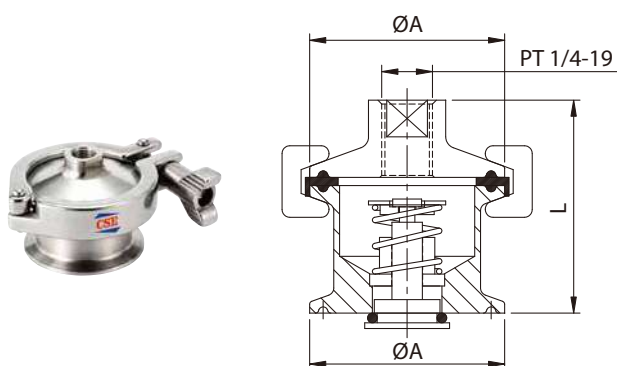
SIZE	ØA	ØB	C	D
1.0"	22.2	50.5	58.5	50.6
1.5"	34.9	50.5	81.2	61
2.0"	47.6	64	86.1	65.4
2.5"	60.3	77.5	103.1	78.6
3.0"	60.3	91	116.4	79.7



Relief out over-load Air pressure
on your Tank or Pipe Line.

Air Release Valve

SIZE	ØA	ØB	C	L
1.0"	22.2	50.5	82	158
1.5"	34.9	50.5	82	158
2.0"	47.6	64	82	158



For Air Clean out fhe pipe Line.

SIZE	ØA	L
1.0"	50.5	55
1.5"	50.5	55
2.0"	34.8	55

CSE OEM Serious Valve



(Mf) Membrane Filter

Mini-filter

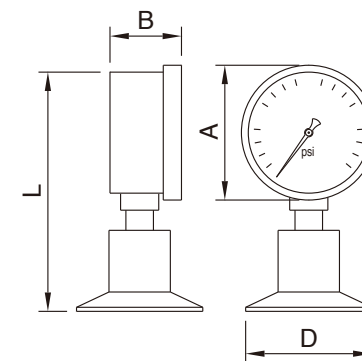
Filling Valve

Steam Trap

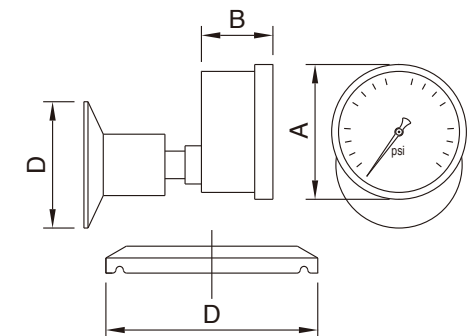
Sanitary Standard Pressure Gauge

Note:

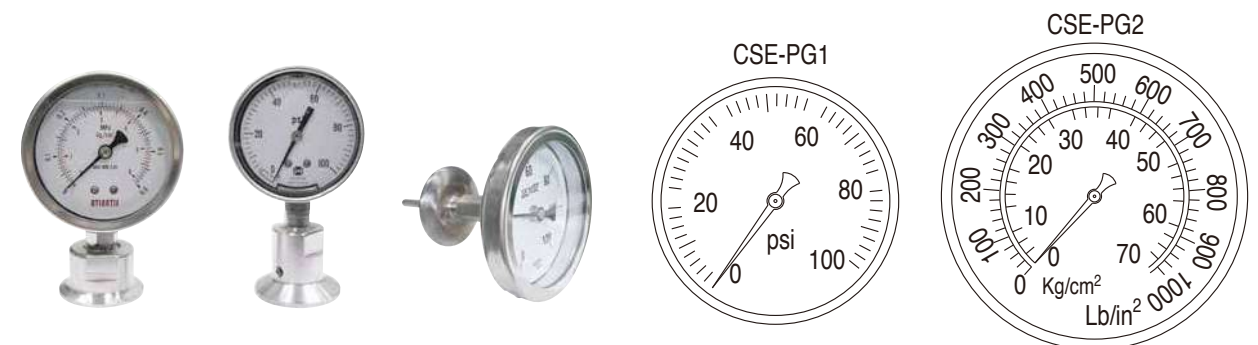
Sanitary pressure gauges are stainless steel products specifically designed to meet the demanding sanitary requirements for food dairy, beverage, pharmaceutical and biotech applications. Complies with 3A sanitary standard, water-proof, shock resistant, and closed structures are durable durable and accurate, good for long time running. All series are liquid-filled, special materials movement and bourdon tube have lasting durability. It is applicable to the places of both strong fluctuation and non-corrosive fluid, such as air, water and oil.



SIZE	A	B	L
Ø50	56	30	100
Ø63	69	30	122
Ø80	89	30	140
Ø100	112	47	166
Ø160	160	50	224

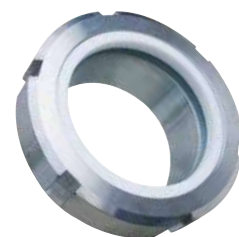


SIZE	D (Tri-clamp)
1.0"	50.5
1.5"	50.5
2.0"	64
2.5"	77.5
3.0"	91
4.0"	119

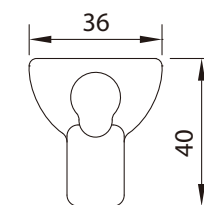


- Process connection : 1-1/2" , 2.0" , 2-1/2" Quick-release clamp piping system
- Suitable Pressure Ranges : 15psi to 600psi
- Instrument Connection : 1/4"NPT /BSPT or 1/2"NPT /BSPT
- Case & Movement Material : SS304
- Connection Material : SS316
- Diaphragm Material : SS316
- Fill Fluid : Glycerined (Vegetable oil)
- Bourdon Tube Material : SUS316
- Ferrule Material : SUS304/SUS316
- Lens : Safety Glass
- Max temperature : tandard-120°C , special-150°C

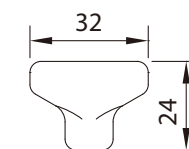
Sanitary Components, Fitting..



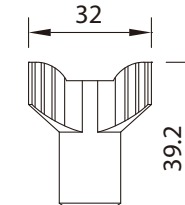
Heavy Duty Clamp-Ring



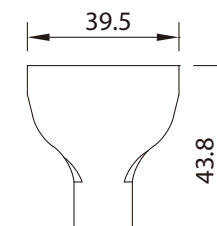
13MHH-8



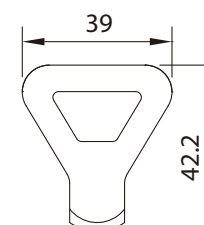
13MHH-10



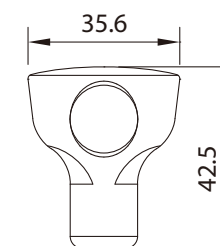
13MHH-11



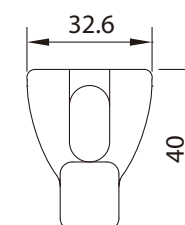
13MHH-12



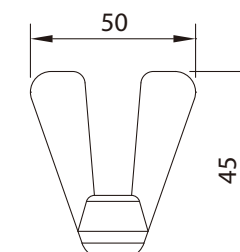
13MHH-13



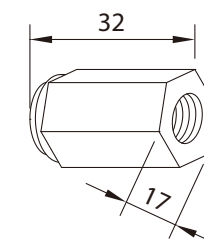
13MHH-14



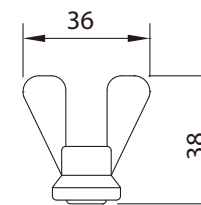
13SP-2



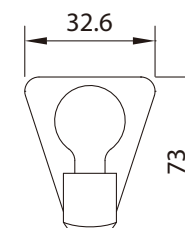
F2



H17



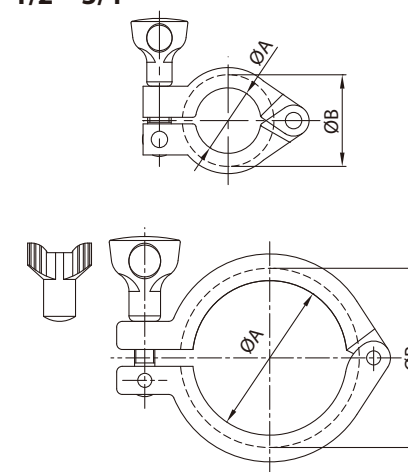
T1



G1-M10



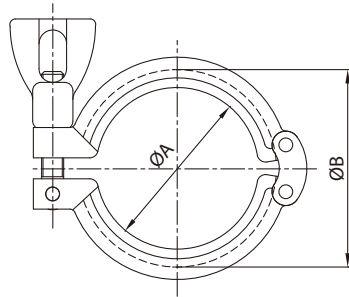
1/2"~3/4"



13MHH HEAVY DUTY SINGLE PIN CLAMP

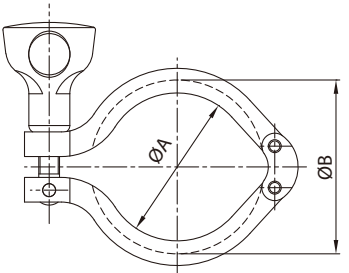
SIZE	ØA	ØB
1/2"~3/4"	20	28.2
A37	27.8	37
1"~1.5"	44.4	53.6
2"	57.8	67
2.5"	71.4	80.6
3"	84	94
3.5"	99	109.2
4"	110	122
4.5"	123	133.2
6"	155.4	170.4
8"	205	220

Heavy Duty Clamp-Ring



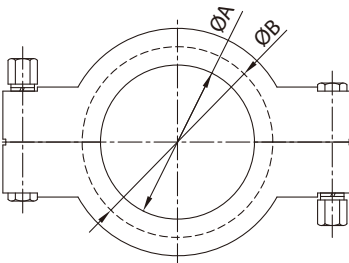
13SF HEAVY DUTY DOUBLE PIN CLAMP

SIZE	ØA	ØB
1/2"~3/4"	20	28
A37	27.5	42.9
1"~1.5"	45	53.6
2"	59	72
2.5"	67	84
3"	85	98
4"	114	127



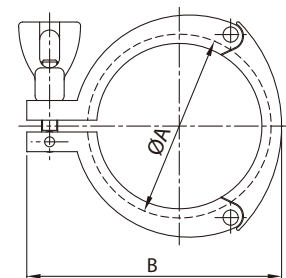
13MHM DOUBLE PIN CLAMP

SIZE	ØA	ØB
1/2"~3/4"	20	28
1"~1.5"	43.6	53.6
2"	57	67
2.5"	70.6	80.6
3"	84	94
4"	112	122
6"	155	170
8"	205	220.8



**13MHP
HIGH PRESSURE BOLTED CLAMP**

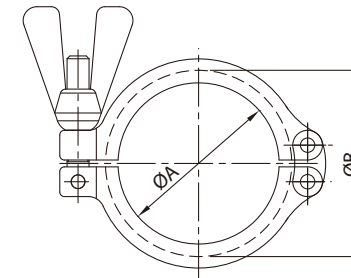
SIZE	ØA	ØB
1/2"~3/4"	20	28
1"~1.5"	43.3	52
2"	56.4	65.5
2.5"	69.5	79
3"	77.6	92.5
4"	108.8	120.5
6"	158	170
6.5"	173	186.2
8"	222.5	237.5
10"	258.2	272.8
12"	309	327.6



**13MHHS
3 PIECE CLAMP**

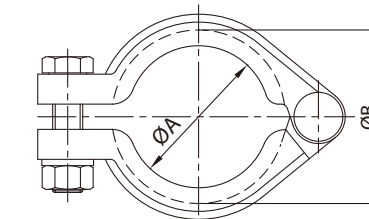
SIZE	ØA	B
1"~1.5"	54	80
2"	67.5	94
2.5"	80.9	109
3"	94	126
4"	122.4	154
12"	323.4	369

Heavy Duty Clamp-Ring



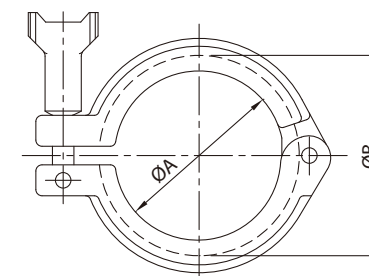
13CS DOUBLE PIN CLAMP

SIZE	ØA	ØB
1/2"~3/4"	20.6	28.3
DN10-20	27.2	37
1.5"	41.02	53.5
DN25-40	44.5	54.5
2.0"	54.5	67
DN50	57	68
2.5"	68	80.5
3.0"	81.5	94
DN65	84	95
DN80	99	110
4.0"	109.5	122
DN100	112	123
DN115	123	134
DN125	144	159
6.0"	157.6	175.1
DN150	172	187
8.0"	207.4	225.9
DN200	222.5	237.5
DN250	257	272
DN300	308	323



13IU BOLTED CLAMP

SIZE	ØA	ØB
1"~1.5"	45	55
2.0"	63	73
2.5"	74	89
3.0"	88	102
4.0"	111	128



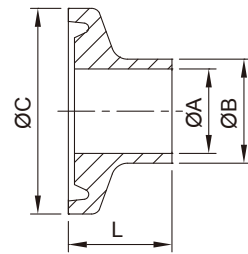
13IS I-LINE CLAMP

SIZE	ØA	ØB
1.0"~1.5"	44.4	53.4
2.0"	57.8	72.2
2.5"	71.4	88.1
3.0"	84	102.4
4.0"	110	127.8
6.0"	155.4	195.3

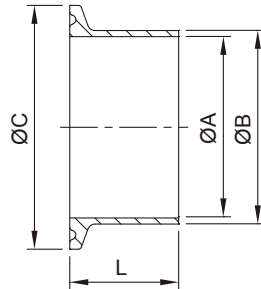
Ferrule Adapter



1/2"~3/4"

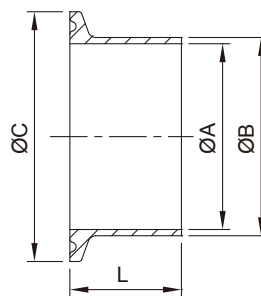


1.0"~12"



3A/SMS Welding Ferrule

SIZE	ØA	ØB	ØC	14WMP 14MMP 14AMP		
				L	L	L
1/4"	3.9	6.35	25	12.7	21.5	28.6
1/2"	9.4	12.7	25	12.7	21.5	28.6
DN15	9.7	12.7	25.4	12.7	21.5	28.6
3/4"	15.75	19.05	25	12.7	21.5	28.6
DN20	15.95	19.05	25.4	12.7	21.5	28.6
1"	22.1	25.4	50.5	12.7	21.5	28.6
DN25	22.5	25	50.5	—	21.5	28.6
1.25"	28.45	31.75	50.5	12.7	21.5	28.6
1.5"	34.8	38.1	50.5	12.7	21.5	28.6
DN38	35.5	38.1	50.5	—	21.5	28.6
2.0"	47.5	50.8	64	12.7	21.5	28.6
DN51	48.5	51	64	—	21.5	28.6
2.5"	60.2	63.5	77.5	12.7	21.5	28.6
DN63.5	60.5	63.5	77.5	—	21.5	28.6
DN76	72.9	76.1	91	—	21.5	28.6
3.0"	72.9	76.2	91	12.7	21.5	28.6
DN104	100	104	119	—	21.5	28.6
4.0"	97.4	101.6	119	15.8	21.5	28.6
6.0"	146.86	152.5	166.87	—	21.5	28.6 or 38.1
8.0"	197.66	203.3	217.67	—	21.5	28.6 or 38.1
10"	247.2	254	268.47	—	21.5	28.6 or 38.1
12"	298	304.8	319.27	—	21.5	28.6 or 38.1

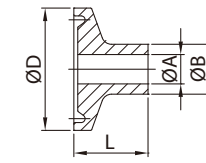


DIN Ferrule

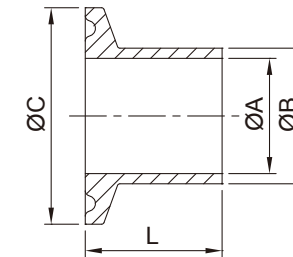
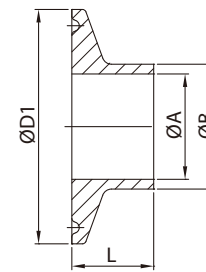
SIZE	DA		DB		ØC	L
	ØA	ØB	ØA	ØB		
DN6	6	8	—	—	34	12.7
DN8	8	10	—	—	34	12.7
DN10	10	13	9	12	34	18
DN15	16	19	15	18	34	18
DN20	20	23	19	22	34	18
DN25	26	29	25	28	50.5	21.5
DN32	32	35	31	34	50.5	21.5
DN40	38	41	37	40	50.5	21.5
DN50	50	53	49	52	64	21.5
DN65	66	70	66	70	91	28
DN80	81	85	81	85	106	28
DN101.6	—	—	97.6	101.6	119	28
DN100	100	104	100	104	119	28
DN125	125	129	125	129	155	28
DN150	150	154	150	154	183	28
DN200	200	204	200	204	233.5	28

Ferrule Adapter

DN6~DN10 (DIN32676)



DN15~DN200 (DIN32676)
DN8~DN200



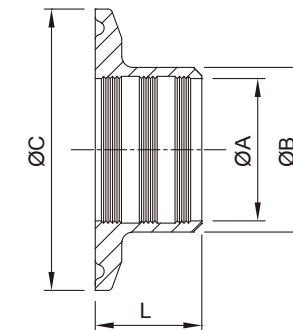
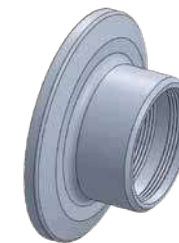
ISO Ferrule

SIZE	ØA	ØB	ØD	ØD1	L
DN6	7	10.2	25	—	12.7
DN8	10.3	13.5	25	34	12.7
DN10	14	17.2	25	34	12.7
DN15	18.1	21.3	50.5	34	21.5
DN20	23.7	26.9	50.5	50.5	21.5
DN25	30.5	33.7	50.5	50.5	21.5
DN32	39.2	42.4	50.5	50.5	21.5
DN40	45.1	48.3	64	64	21.5
DN50	56.3	60.3	77.5	77.5	28
DN65	72.1	76.1	91	91	28
DN80	84.9	88.9	106	106	28
DN100	109.1	114.3	130	130	28
DN125	133.7	139.7	155	155	28
DN150	162.3	168.3	183	183	28
DN200	211.1	219.1	233.5	233.5	28

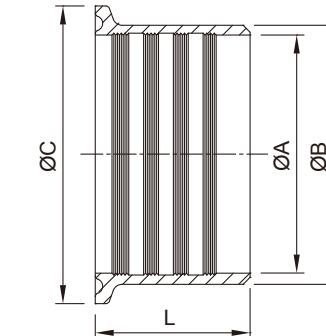
14MPW Heavy Tank Ferrule

SIZE	ØA	ØB	ØC	L
1/2"	8.15	12.75	25.2	54
3/4"	14.6	19.05	25.2	54
1.0"	22.1	29.5	50.5	41.3
1.5"	34.8	42.6	50.5	41.3
2.0"	47.5	55.7	64	44.5
2.5"	60.2	68.8	77.5	44.5
3.0"	72.9	81.9	91	46.1
4.0"	97.4	108.1	119	54
6.0"	146.25	157.3	166.87	63.5
8.0"	197.05	208.1	217.67	63.5

1.0"



1.25"~4.0"

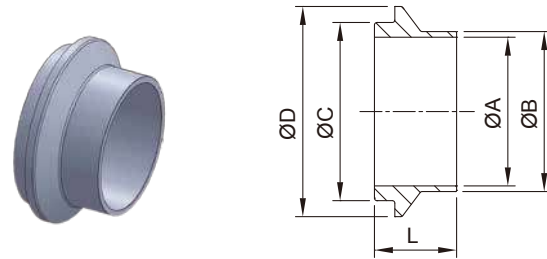


14RMP

3A Roll-on Ferrule

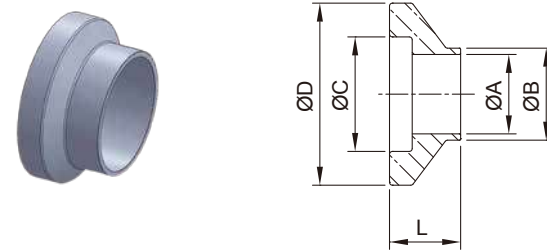
SIZE	ØA	ØB	ØC	L
1.0"	25.5	29.5	50.5	19.1
1.25"	31.9	36.3	50.5	21.5
1.5"	38.2	42.6	50.5	28.6
2.0"	50.9	55.7	64	33.3
2.5"	63.6	68.8	77.5	34.9
3.0"	76.3	81.9	91	36.5
4.0"	101.7	108.1	119	38.1

I-Line Ferrule Adapter



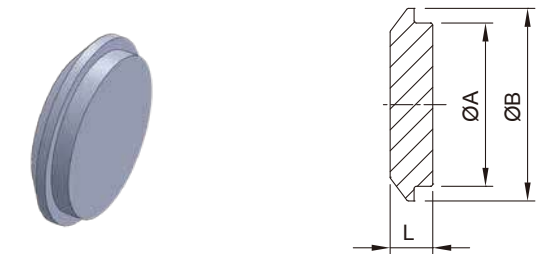
14WI I-Line Ferrule Male

SIZE	ØA	ØB	ØC	ØD	L
1.0"	22.1	25.65	31.5	50.67	19.84
1.5"	34.8	38.35	44.2	50.67	23.8
2.0"	47.5	51.05	56.9	67.05	26.19
2.5"	60.2	63.75	69.6	84	29.36
3.0"	72.89	76.45	83.82	98.3	30.94
4.0"	97.38	101.85	109.14	123.7	34.11



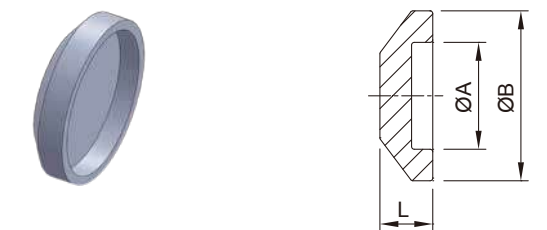
15WI I-Line Ferrule Female

SIZE	ØA	ØB	ØC	ØD	L
1.0"	22.1	25.65	31.88	50.67	19.84
1.5"	34.8	38.35	44.58	50.67	23.8
2.0"	47.5	51.05	57.28	67.05	26.19
2.5"	60.2	63.75	69.98	84	29.36
3.0"	72.89	76.45	84.2	98.3	30.94
4.0"	97.38	101.85	109.6	123.7	34.11



16AI-14I Male I-Line End Cap

SIZE	ØA	ØB	L
1.0"	31.5	50.67	12.37
1.5"	44.2	50.67	12.37
2.0"	56.9	67.05	14.11
2.5"	69.6	84	18.72
3.0"	83.82	98.3	19.32
4.0"	109.14	123.7	19.32



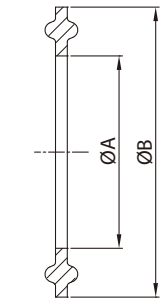
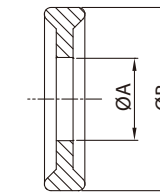
16AI-15I Female I-Line End Cap

SIZE	ØA	ØB	L
1.0"	31.88	50.67	12.75
1.5"	44.58	50.67	12.75
2.0"	57.28	67.05	17.66
2.5"	69.98	84	18.77
3.0"	84.2	98.3	19.37
4.0"	109.6	123.7	19.37

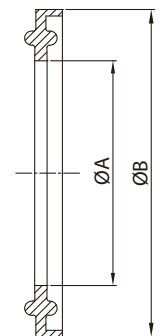
Ferrule Seal

13PG

1/2"-3/4"



13FG



Ferrule Gasket

(EPDM, SILICONE, Viton(FKM), PTFE)

PLAIN TYPE 13PG

SIZE	ØA	ØB
1/2"	9.9	21.8
3/4"	16.3	21.8
A37	15.5	33
1"	22.7	50
1.25"	29.5	50.5
1.5"	35.9	50
2"	48.6	63.5
2.5"	61.3	76.2
3"	74	88.9
3.5"	86	97
4"	98.6	118
4.5"	110.5	122
5"	134.7	146
6"	147.8	165
8"	196.6	216

(PTFE)

ISO TYPE 13PG

SIZE	ØA	ØB
DN8	11.1	33.2
DN12	14.8	33.2
DN15	18.9	33.2
DN20	24.5	49.7
DN25	31.3	49.7
DN32	40	49.7
DN40	45.9	63.2
DN50	57.1	76.7
DN65	72.9	90.2
DN80	85.7	105.2
DN100	109.9	129.2
DN125	134.5	154.2
DN150	163.1	182.2
DN200	211.9	232.7

(EPDM)

DIN TYPE 13PG

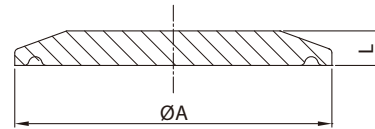
SIZE	ØA	ØB
DN10	9.8	33.2
DN15	15.8	33.2
DN20	19.8	33.2
DN28	25.8	49.7
DN34	31.8	49.7
DN40	37.8	49.7
DN52	49.8	63.2
DN70	66.8	90.2
DN85	81.8	105.2
DN101.6	98.4	118.2
DN104	100.8	118.2
DN125	125.8	154.2
DN150	150.8	182.2
DN200	200.8	232.7

Flanged type 13FG

SIZE	ØA	ØB
1.0"	22.8	52.7
1.5"	35.8	52.7
2.0"	48.8	66.2
2.5"	60.5	79.7
3.0"	73.1	93.2
4.0"	97.8	121.2
6.0"	148	169.1
10"	249	270.7
12"	300	321.5

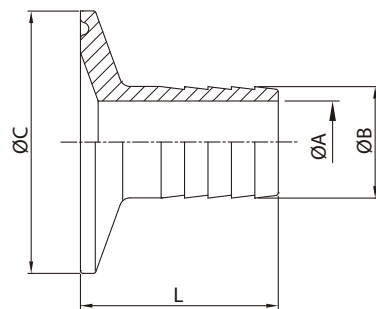
Ferrule Adapter

BLANK CAP 16AMP



3A	1/2"-3/4"	A37			1"	1.5"	2"	2.5"	3"	4"		6"		8"		10"	12"				
DIN	—	—	DN10	DN15	DN20	DN25	DN32	DN40	DN50	—	DN65	DN80	DN100	—	DN125	—	DN150	—	DN200	—	—
ISO	—	—	DN8	DN12	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	—	DN100	DN125	—	DN150	—	DN200	—	—
øA	25	34	34	34	34	50.5	50.5	50.5	64	77.5	91	106	119	130	155	166.8	183	217.7	233.5	268.5	319.3
L	6	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	7.9	7.9	7.9	11.1	11.1	11.1	11.1	11.1	11.1

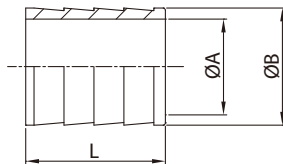
14MPHR



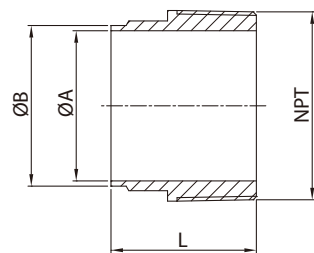
14MPHR/14WHR HOSE ADAPTER

SIZE	ØA	ØB	ØC	L	L1
1/2"x1/2"	9.5	13.7	25.2	38	25.3
3/4"x3/4"	15.8	21.4	25.2	38	25.3
1"x1/2"	9.5	13.7	50.5	38	25.3
1"x3/4"	15.8	21.4	50.5	38	25.3
1"x1"	20.6	25.4	50.5	43	30.3
1.5"x1/2"	9.5	13.7	50.5	38	25.3
1.5"x3/4"	15.8	21.4	50.5	38	25.3
1.5"x1.0"	20.6	25.4	50.5	43	25.3
1.5"x1.5"	33.2	38.1	50.5	43	30.3
2"x1.5"	33.2	38.1	64	43	30.3
2"x2"	46	50.8	64	58.7	46
2.5"x2.5"	58.7	63.5	77.5	59.5	46.8
3"x3"	72	76.2	91	78.6	65.9
4"x4"	97.6	101.6	119	85.5	72.8

14WHR

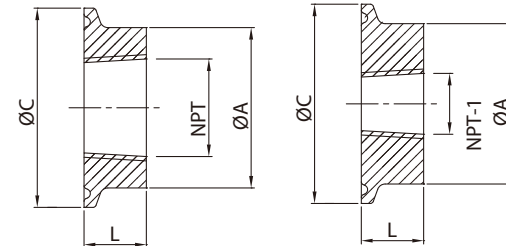


B19W



SIZE	ØA±0.12	ØB±0.12	(H) NPT	L
1/2"	9.4	12.7	1/2"-14T NPT	41.3
3/4"	15.75	19.05	3/4"-14T NPT	41.3
1.0"	22.1	25.4	1.0"-11.5T NPT	44.5
1.5"	34.8	38.1	1.5"-11.5T NPT	44.5
2.0"	47.5	50.8	2.0"-11.5T NPT	46
2.5"	60.2	63.5	2.5"-8T NPT	58.7
3.0"	72.9	76.2	3.0"-8T NPT	63.5
4.0"	97.4	101.6	4.0"-8T NPT	65.1
6.0"	146.9	152.4	6.0"-8T NPT	76.2

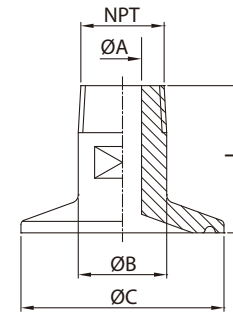
23BMP



SIZE	ØA ^{+0.13} ₋₀	ØC±0.07	ØL	NPT	NPT-1
1.0"	25.4	50.5	15.8	1.0"-11.5T NPT	1/2"-14T NPT
1.5"	38.1	50.5	15.8	1.5"-11.5T NPT	3/4"-14T NPT
2.0"	50.8	64	15.8	2.0"-11.5T NPT	3/4"-14T NPT
2.5"	63.5	77.5	15.8	2.5"-8T NPT	3/4"-14T NPT
3.0"	76.2	91	15.8	3.0"-8T NPT	3/4"-14T NPT
4.0"	101.6	119	15.8	4.0"-8T NPT	3/4"-14T NPT
6.0"	101.6	166.8	15.8	6.0"-8T NPT	3/4"-14T NPT

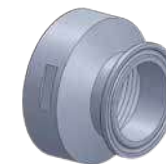
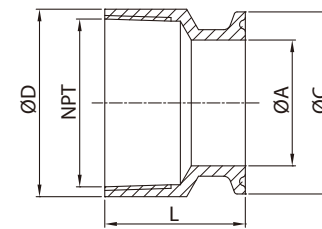
Ferrule Adapter

21MP



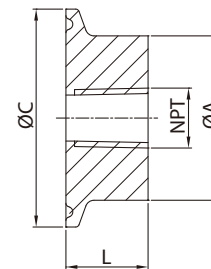
SIZE	ØA	ØB	ØC	L	NPT	SIZE	ØA	ØB	ØC	L	NPT
1/2"x1/2"	9.4	12.7	25.2	45	1/2"-18T	2"x4"	97.6	50.8	64	75	4"-8T
3/4"x1/2"	15.75	19.05	25.2	45	1/2"-18T	2.5"x1"	22.1	63.5	77.5	50	1"-11.5T
3/4"x3/4"	15.75	19.05	25.2	45	3/4"-18T	2.5"x1.5"	34.8	63.5	77.5	50	1.5"-11.5T
1"x1.5"x1/4"	3.18	14	50.5	40	1/4"-18T	2.5"x2"	47.6	63.5	77.5	55	2"-11.5T
1"x1.5"x3/8"	6.35	18	50.5	40	3/8"-18T	2.5"x2.5"	60.2	63.5	77.5	60	2.5"-8T
1"x1.5"x1/2"	9.7	22	50.5	40	1/2"-14T	2.5"x3"	72.9	63.5	77.5	70	3"-8T
1"x1.5"x3/4"	15.75	27	50.5	45	3/4"-14T	2.5"x4"	97.6	63.5	77.5	75	4"-8T
1"x1.5"x1"	22.1	34	50.5	50	1"-11.5T	3"x1"	22.1	76.2	91	55	1"-11.5T
1"x1.5"x1.25"	28.6	38.1	50.5	50	1.2"-11.5T	3"x1.5"	34.8	76.2	91	55	1.5"-11.5T
1"x1.5"x1.5"	34.8	38.1	50.5	50	1.5"-11.5T	3"x2"	47.5	76.2	91	55	2"-11.5T
1"x1.5"x2"	47.5	38.1	50.5	55	2"-11.5T	3"x2.5"	60.2	76.2	91	60	2.5"-8T
2"x1/4"	3.18	50.8	64	40	1/4"-18T	3"x3"	72.9	76.2	91	70	3"-8T
2"x3/8"	6.35	50.8	64	40	3/8"-18T	3"x4"	97.6	76.2	91	75	4"-8T
2"x1/2"	9.4	50.8	64	40	1/2"-14T	4"x1"	22.1	101.6	119	55	1"-11.5T
2"x3/4"	15.75	50.8	64	50	3/4"-14T	4"x1.5"	34.8	101.6	119	55	1.5"-11.5T
2"x1"	22.1	50.8	64	50	1"-11.5T	4"x2"	47.5	101.6	119	55	2"-11.5T
2"x1.5"	34.8	50.8	64	50	1.5"-11.5T	4"x2.5"	60.2	101.6	119	60	2.5"-8T
2"x2"	47.5	50.8	64	55	2"-11.5T	4"x3"	72.9	101.6	119	70	3"-8T
2"x2.5"	60.2	50.8	64	60	2.5"-8T	4"x4"	97.6	101.6	119	75	4"-8T
2"x3"	72.9	50.8	64	70	3"-8T						

22MP



SIZE	1.0" ØA	1.5" ØA	ØC	ØD	NPT	L
1/2"x1/2"	9.5			30	1/2" NPT	33
3/4"x3/4"	15.8			30	3/4" NPT	33
1.0"x1.5"x1.2"	22.2	34.9	50.5	52	1.2" NPT	39
1.0"x1.5"x1.5"	22.2	34.9	50.5	52	1.5" NPT	39
1.0"x1.5"x2.0"	22.2	34.9	50.5	65	2.0" NPT	39
2.0"x2.0"	47.6		64	65	2.0" NPT	39
2.5"x2.5"	60.3		77.5	80	2.5" NPT	50
3.0"x2.5"	73		91	95	2.5" NPT	50
3.0"x3.0"	73		91	95	3.0" NPT	52
4.0"x4.0"	97.6		119	120	4.0" NPT	54

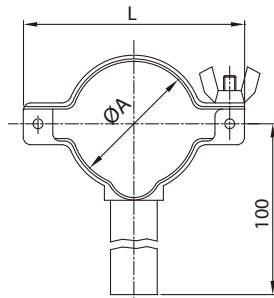
22MP



SIZE	ØA	ØC	L	NPT	SIZE	ØA	ØC	L	NPT
1.0"x1.5"x1/4"	38.1	50.5	19	1/4" NPT	2.5"x1.0"	63.5	77.5	35	1.0" NPT
1.0"x1.5"x3/8"	38.1	50.5	19	3/8" NPT	2.5"x1.5"	63.5	77.5	35	1.5" NPT
1.0"x1.5"x1/2"	38.1	50.5	19	1/2" NPT	2.5"x2.0"	63.5	77.5	35	2.0" NPT
1.0"x1.5"x3/4"	38.1	50.5	19	3/4" NPT	3.0"x1.0"	76.2	91	35	1.0" NPT
1.0"x1.5"x1.0"	38.1	50.5	19	1.0" NPT	3.0"x1.5"	76.2	91	35	1.5" NPT
2.0"x1/4"	50.8	64	19	1/4" NPT	3.0"x2.0"	76.2	91	35	2.0" NPT
2.0"x3/8"	50.8	64	19	3/8" NPT	4.0"x1.0"	101.6	119	35	1.0" NPT
2.0"x1/2"	50.8	64	19	1/2" NPT	4.0"x1.5"	101.6	119	35	1.5" NPT
2.0"x3/4"	50.8	64	19	3/4" NPT	4.0"x2.0"	101.6	119	35	2.0" NPT
2.0"x1.0"	50.8	64	19	1.0" NPT	4.0"x2.5"	101.6	119	35	2.5" NPT
2.0"x1.5"	50.8	64	19	1.5" NPT	4.0"x3.0"	101.6	119	35	3.0" NPT

Tubing Hanger

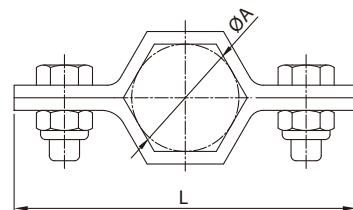
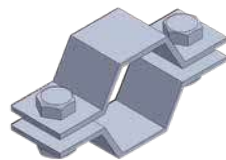
TH-1



TH-1

SIZE	ØA	L
1"	25.4	66
1.5"	38.1	76
2"	50.8	90
2.5"	63.5	105
3"	76.2	120
4"	101.6/104	146

TH-2

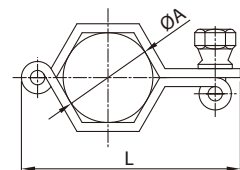


TH-2

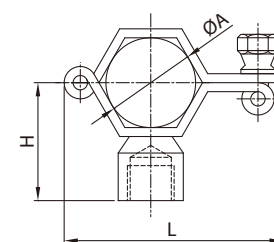
ISO	ØA	L	SMS	ØA	L
ISO-21.3	21.3	68	DN25	25	74
ISO-26.9	26.9	74	DN38	38	87
ISO-33.7	33.7	82	DN50	51	105
ISO-42.4	42.4	93	DN63	63.5	117
ISO-48.3	48.3	101	DN76	76.1	133
ISO-60.3	60.3	114	DN104	104	165
ISO-88.9	88.9	149			
ISO-114.3	114.3	177			

TH-3

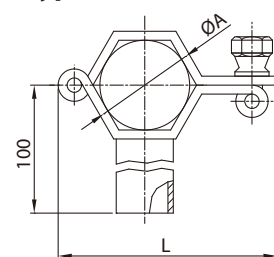
Type A



Type B



Type C



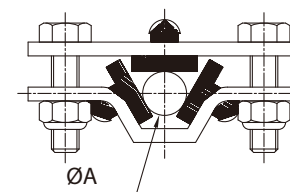
TH-3

DIN	ØA	H	L	SMS	ØA	L
DN25	28	46.5	64	DN25	25	61
DN32	34	49.5	64	—	—	—
DN40	40	52.5	78	DN38	38	76
DN50	52	58.5	90	DN50	51	90
DN65	70	67.5	111	DN63	63.5	106
DN80	85	75	129	DN76	76.1	120
DN100	101.6	83	150	DN100	104	154

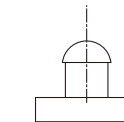
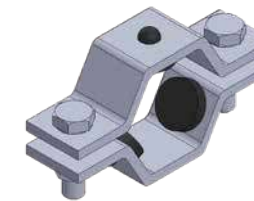
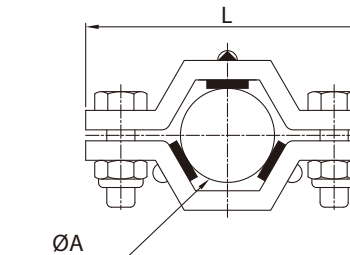
Tubing Hanger

TH-4 Type A

1/2"



3/4"~6.0"



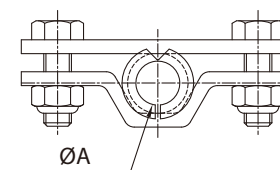
Rubber Grommets

TH-4

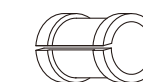
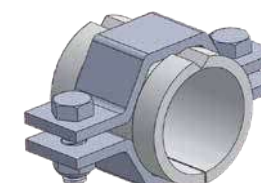
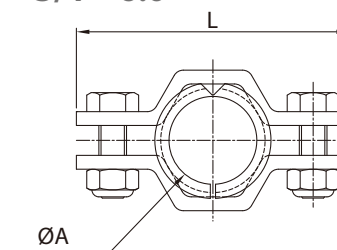
SIZE	ØA	L
1/2"	12.7	79
3/4"	19.05	79
1"	25.4	79
1.5"	38.1	95
2"	50.8	117.9
2.5"	63.5	120
3"	76.2	135.1
4"	101.6/104	168.4
6"	152.4	225

TH-4 Type B

1/2"



3/4"~6.0"



PP Sleeve

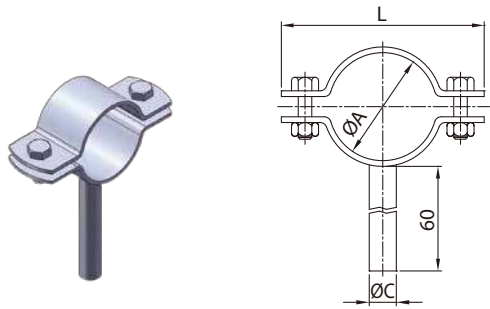
TH-4

SIZE	ØA	L
1/2"	12.7	79
3/4"	19.05	79
1"	25.4	79
1.5"	38.1	95
2"	50.8	117.9
2.5"	63.5	120
3"	76.2	135.1
4"	101.6/104	168.4
6"	152.4	225

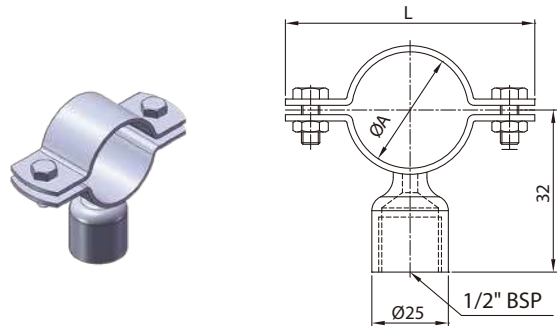
Options: Bodies with holes or without

Tubing Hanger

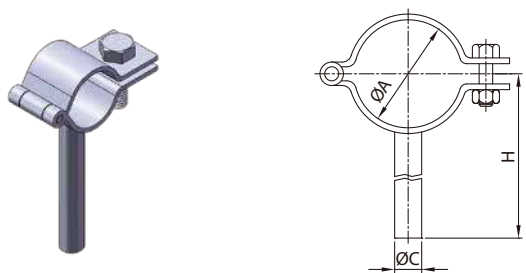
Type A



Type C



Type B



TH-5 (TYPE A、TYPE C)

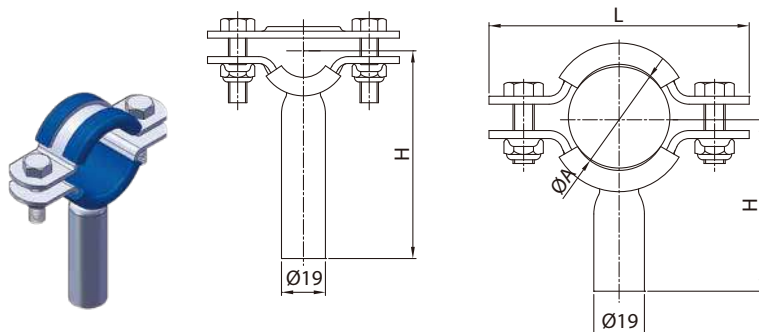
3A	ØA	DIN	ØA	ØC	L
1/2"	12.7	DN10	12/13	6	58
3/4"	19.05	DN15	18/19	8	65
—	—	DN20	22/23	8	68
1"	25.4	DN25	28/29	8	73
1.25"	31.75	DN32	34/35	10	79
1.5"	38.1	DN40	40/41	10	85
2"	50.5	DN50	52/53	12	97
2.5"	63.5	DN65	70	12	125
3"	76.2	DN80	85	15	144
4"	101.6	DN100	104	15	158
5"	127	DN125	129	18	207
6"	152.4	DN150	154	18	232

TH-5 (TYPE B)

SIZE	ØA	ØC	H
NW20	22	10	61
NW25	28	10	64
NW32	34	10	67
NW40	40	10	70
NW50	52	10	76
NW65	70	10	85
NW80	85	10	92.5
NW100	104	10	102
NW125	129	12	114.5
NW150	154	12	127
NW200	204	12	152

1/2"~3/4"

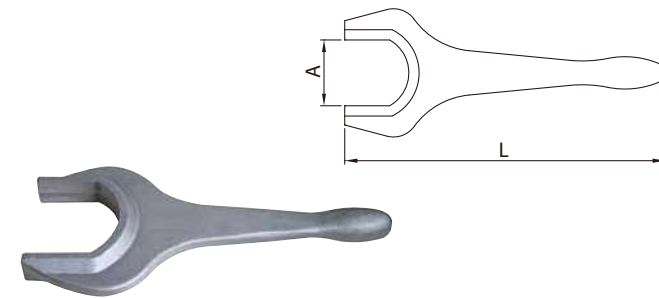
1.0"~6.0"



TH-6

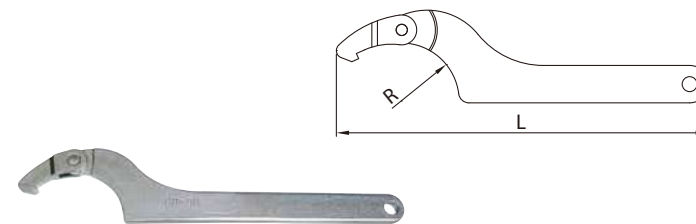
SIZE	ØA	H	L
1/2"	12.7	90	183
3/4"	19.05	90	183
1"	25.4	90	183
1.5"	38.1	90	97.7
2"	50.8	90	117.7
2.5"	63.5	90	124
3"	76.2	90	140.5
4"	101.6	90	162
6"	152.4	145	217

Kinds of Parts



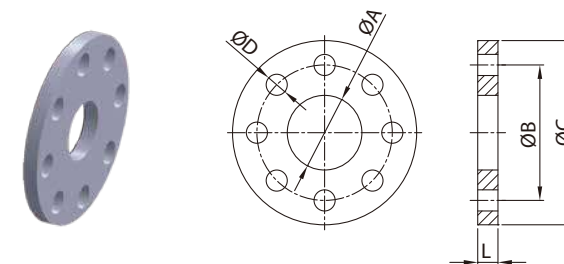
HEXAGONAL SPANNER

SIZE	ØA	L
1"	51.8	240
1.5"	66	288
2"	80.4	300
2.5"	93.2	326
3"	106.3	440
4"	121.5	448



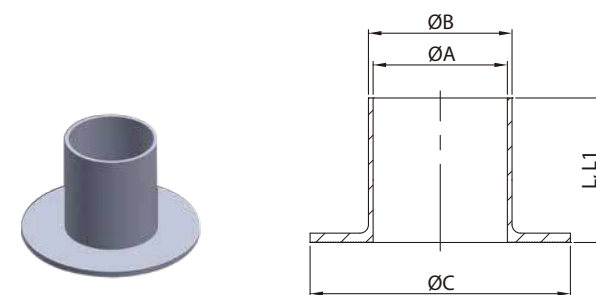
DIN SPANNER

SIZE	ØA	L
DN10~DN20	22	175
DN25~DN40	31	247
DN50~DN100	49	290
DN125~DN150	82.5	515



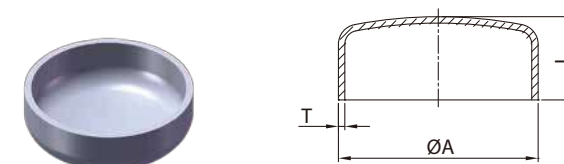
BACK-UP FLANGE

SIZE	ØA	ØB	ØC	ØD	L
1"	27	79.4	108	4-15.9	9.5
1.5"	39.7	98.4	127	4-15.9	9.5
2"	52.4	120.7	152.4	4-19.05	11.1
2.5"	65.1	139.7	177.8	4-19.05	11.1
3"	77.8	152.4	190.5	4-19.05	12.7
4"	103.2	190.5	228.6	8-19.05	12.7
6"	154	241.3	279.4	8-22.2	14.3



14VB STUB END

SIZE	ØA	ØB	ØC	L	L1
1"	22.1	25.4	50.8	6.5	41.3
1.5"	34.8	38.1	73	6.5	44.5
2"	47.5	50.8	92.1	6.5	38.1
2.5"	60.2	63.5	104.8	6.5	50.8
3"	72.9	76.2	127	7.4	57.2
4"	97.4	101.6	157.2	7.4	66.7
6"	146.86	152.4	215.9	8.8	76.2

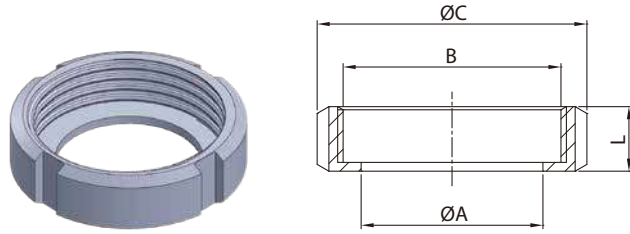


16W CAP

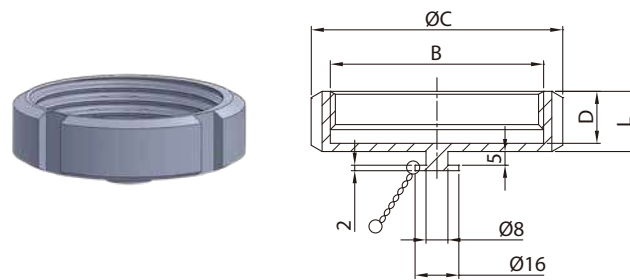
SIZE	ØA	T	L
1/2"	12.7	1.65	6.4
3/4"	19.05	1.65	7.9
1"	25.4	1.65	19.1
1.5"	38.1	1.65	14.2
2"	50.8	1.65	19.1
2.5"	63.5	1.65	25.4
3"	76.2	1.65	31.8
4"	101.6	2.1	38.1
6"	152.4	2.77	57.2

DIN II85I Unions

DIN-13R



DIN-13RBN



DIN-13 ROUND NUT

SIZE	ØA	B	ØC	D	L	SLOTS
10	19	RD 28*1/8	38	15	18	4
15	25	RD 34*1/8	44	15	18	4
20	31	RD 44*1/6	54	17	20	4
25	36	RD 52*1/6	63	18	21	4
32	42	RD 58*1/6	70	18	21	4
40	49	RD 65*1/6	78	18	21	4
50	62	RD 78*1/6	92	19	22	4
65	80	RD 95*1/6	112	21	25	6
80	94	RD 110*1/4	127	25	29	6
90	104	RD 120*1/4	138	26	30	6
100	115	RD 130*1/4	148	26	31	6
125	138	RD 160*1/4	178	30	35	6
150	164	RD 190*1/4	210	34	40	6

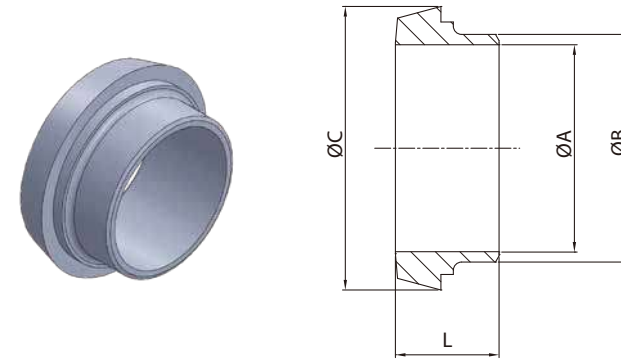
DIN-14DA/DB WELDING LINER

SIZE	DA		DB		ØC	L
	ØA	ØB	ØA	ØB		
10	10	13	9	12	22.5	17
15	16	19	15	18	28.5	17
20	20	23	19	22	36.5	18
25	26	29	25	28	44	22
32	32	35	31	34	50	25
40	38	41	37	40	56	26
50	50	53	49	52	68.5	28
60	57	61	57	61	76	30
65	66	70	66	70	86	32
80	81	85	81	85	100	37
100	100	104	100	104	121	44
125	125	129	125	129	150	34
150	150	154	150	154	176	37

DIN-15DA/DB WELDING MALE

SIZE	DA		DB		C	L
	ØA	ØB	ØA	ØB		
10	10	13	9	12	RD 28*1/8	21
15	16	19	15	18	RD 34*1/8	21
20	20	23	19	22	RD 44*1/6	24
25	26	29	25	28	RD 52*1/6	29
32	32	35	31	34	RD 58*1/6	32
40	38	41	37	40	RD 65*1/6	33
50	50	53	49	52	RD 78*1/6	35
60	57	61	57	61	RD 85*1/6	36
65	66	70	66	70	RD 95*1/6	40
80	81	85	81	85	RD 110*1/4	45
90	89	93	89	93	RD 120*1/4	54
100	100	104	100	104	RD 130*1/4	54
125	125	129	125	129	RD 160*1/4	46
150	150	154	150	154	RD 190*1/4	50

DIN II85I Unions



DIN-14 WELDING LINER

SIZE	ØA	ØB	ØC	L
10	10	15	22	17
15	16	21	28	17
20	20	25	36	18
25	26	31	44	22
32	32	37	50	25
40	38	43	56	26
50	50	55	68	28
60	57	63	76	30
65	66	72	86	32
80	81	87	100	37
100	99	104	121	44
125	125	132	150	34
150	150	157	176	37

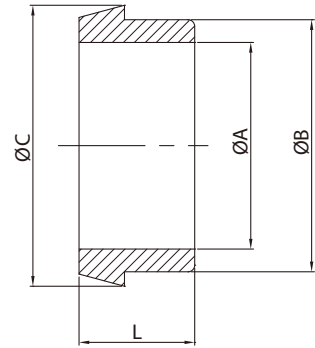
DIN-15 WELDING MALE

SIZE	ØA	ØB	C	L
10	10	15	RD 28*1/8	21
15	16	21	RD 34*1/8	21
20	20	25	RD 44*1/6	24
25	26	31	RD 52*1/6	29
32	32	37	RD 58*1/6	32
40	38	43	RD 65*1/6	33
50	50	55	RD 78*1/6	35
60	57	63	RD 85*1/6	36
65	66	72	RD 95*1/6	40
80	81	87	RD 110*1/4	45
100	99	104	RD 130*1/4	54
125	125	132	RD 160*1/4	46
150	150	157	RD 190*1/4	50

DIN SEAL RING
(EPDM、SILICONE、Viton (FKM))

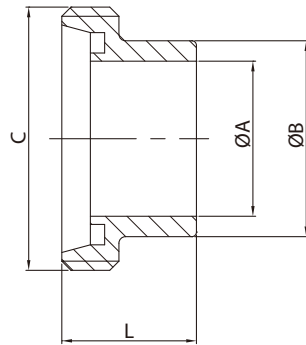
SIZE	ØA	ØB	L
10	12	20	9
15	18	26	9
20	23	33	11
25	30	40	13
32	36	46	13
40	42	52	13
50	54	64	14
65	71	81	16
80	85	95	16
100	104	114	20
125	130	142	22
150	155	167	24

DIN 11851 Unions



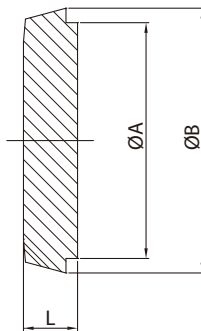
DIN-14T WELDING LINER

SIZE	ØA	ØB	ØC	L
10	10	18	22	17
15	16	24	28	17
20	20	30	36	18
25	26	35	44	22
32	32	41	50	25
40	38	48	56	26
50	50	61	68	28
65	66	79	86	32
80	81	93	100	37
100	99	112	121	44
	100	114	121	44



DIN-15T WELDING MALE

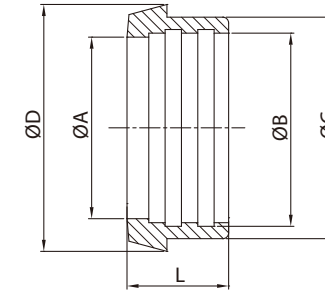
SIZE	ØA	ØB	C	L
10	10	18	RD 28*1/8	21
15	16	24	RD 34*1/8	21
20	20	30	RD 44*1/6	24
25	26	35	RD 52*1/6	29
32	32	41	RD 58*1/6	32
40	38	48	RD 65*1/6	33
50	50	61	RD 78*1/6	35
65	66	79	RD 95*1/6	40
80	81	93	RD 110*1/4	45
100	99	112	RD 130*1/4	54
	100	114	RD 130*1/4	54



DIN-14B END CAP

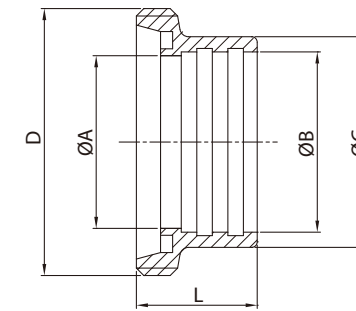
SIZE	ØA	ØB	L
10	18	22.5	9
15	24	28.5	9
20	30	36.5	11
25	35	44	13
32	41	50	13
40	48	56	13
50	61	68.5	14
65	79	86	16
80	93	100	16
100	114	121	20
125	137	150	22
150	163	176	24

DIN 11851 Expanding/Imperial Unions



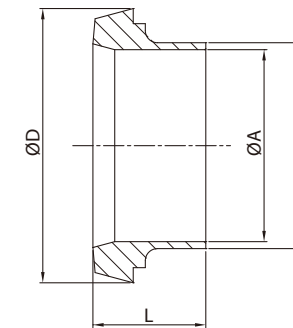
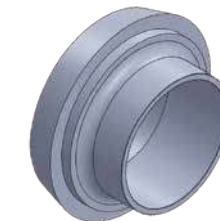
DIN-14R EXPANDING LINER

SIZE	ØA	ØB	ØC	ØD	L
10	10	12.2	18	22	17
15	16	18.2	24	28	17
20	20	22.2	30	36	18
25	26	28.2	35	44	22
32	32	34.2	41	50	25
40	38	40.2	48	56	26
50	50	52.2	61	68	28
65	66	70.3	79	86	32
80	81	85.3	93	100	37
100	100	104.3	114	121	44
125	125	129.3	137	150	34
150	150	154.3	163	176	37



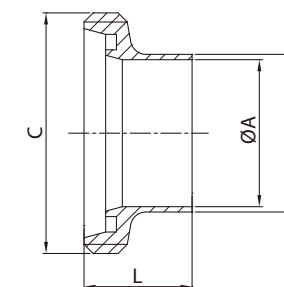
DIN-15R EXPANDING MALE

SIZE	ØA	ØB	ØC	D	L
10	10	12.2	18	RD 28*1/8	21
15	16	18.2	24	RD 34*1/8	21
20	20	22.2	30	RD 44*1/6	24
25	26	28.2	35	RD 52*1/6	29
32	32	34.2	41	RD 58*1/6	32
40	38	40.2	48	RD 65*1/6	33
50	50	52.2	61	RD 78*1/6	35
65	66	70.3	79	RD 95*1/6	40
80	81	85.3	93	RD 110*1/4	45
100	100	104.3	114	RD 130*1/4	54
125	125	129.3	137	RD 160*1/4	46
150	150	154.3	163	RD 190*1/4	50



DIN-14I IMPERIAL WELDING LINER

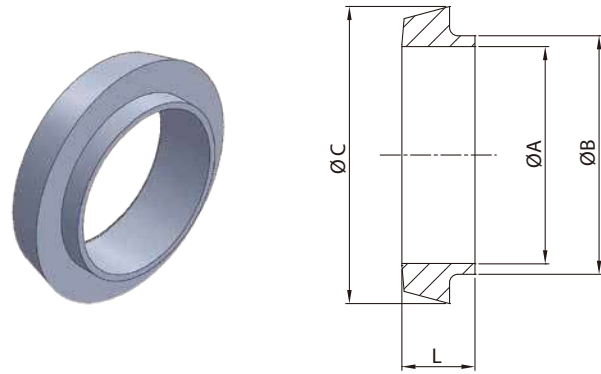
SIZE	ØA	ØB	ØD	L
1/2"	9.4	12.7	22	17
3/4"	15.75	19.05	36	18
1"	22.1	25.4	44	22
1 1/2"	34.8	38.1	56	26
2"	47.5	50.8	68	28
2 1/2"	60.2	63.5	86	32
3"	72.9	76.2	100	37
4"	97.6	101.6	121	44



DIN-15I IMPERIAL WELDING MALE

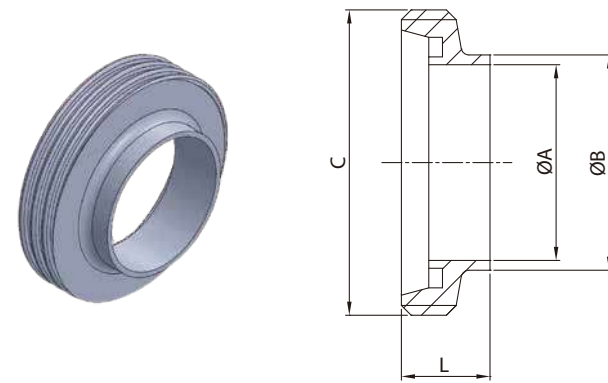
SIZE	ØA	ØB	C	L
1/2"	9.4	12.7	RD 28*1/8	21
3/4"	15.75	19.05	RD 44*1/6	24
1"	22.1	25.4	RD 52*1/6	29
1 1/2"	34.8	38.1	RD 65*1/6	33
2"	47.5	50.8	RD 78*1/6	35
2 1/2"	60.2	63.5	RD 95*1/6	40
3"	72.9	76.2	RD 110*1/4	45
4"	97.6	101.6	RD 130*1/4	54

DIN 11851 Expanding/Imperial Unions



DIN-14E SHORT WELDING LINER

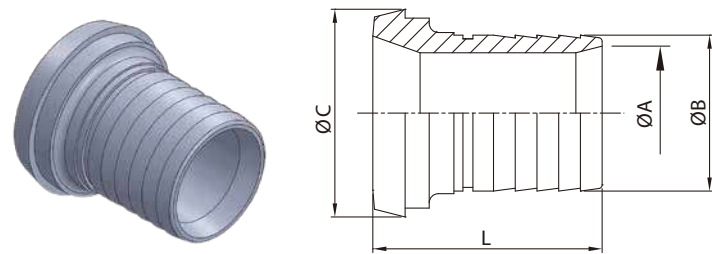
SIZE	ØA	ØB	ØC	L
10	9	12	22.5	13
15	15	18	28.5	13
20	19	22	36.5	13
25	25	28	44	15
32	31	34	50	15
40	37	40	56	15
50	49	52	68.5	16
65	66	70	86	17
80	81	85	100	17
100	100	104	121	20
125	125	129	150	23.5
150	150	154	176	



DIN-15E SHORT WELDING MALE

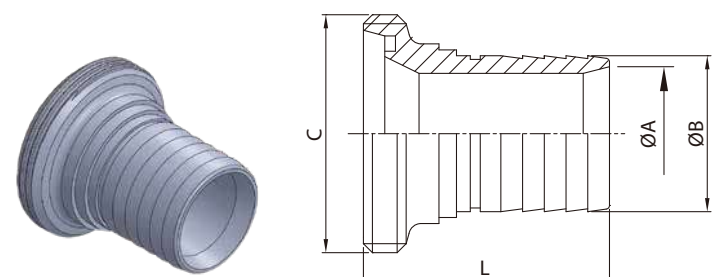
SIZE	ØA	ØB	C	L
10	9	12	RD 28*1/8	17
15	15	18	RD 34*1/8	17
20	19	22	RD 44*1/6	19
25	25	28	RD 52*1/6	22
32	31	34	RD 58*1/6	22
40	37	40	RD 65*1/6	22
50	49	52	RD 78*1/6	23
65	66	70	RD 95*1/6	25
80	81	85	RD 110*1/4	25
100	100	104	RD 130*1/4	30
125	125	129	RD 160*1/4	35.5
150	150	154	RD 190*1/4	40

DIN 11851 HOSE ADAPTER



DIN-14AHR HOSE ADAPTER

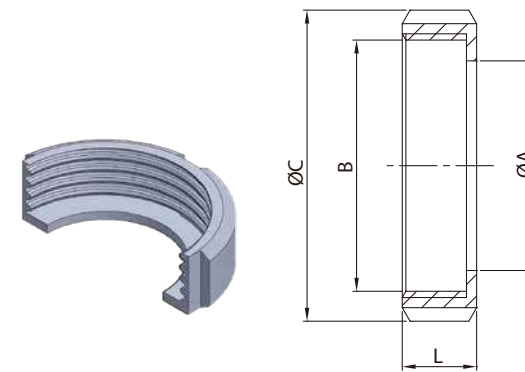
SIZE	ØA	ØB	ØC	L
25	22.2	25	44	67
32	28.7	32.2	50	71
40	34	38	56	78
50	47	50.5	68	89
65	59	63.2	86	100
80	71.5	75.5	100	108
100	95	100.8	121	120



DIN-15AHR HOSE ADAPTER

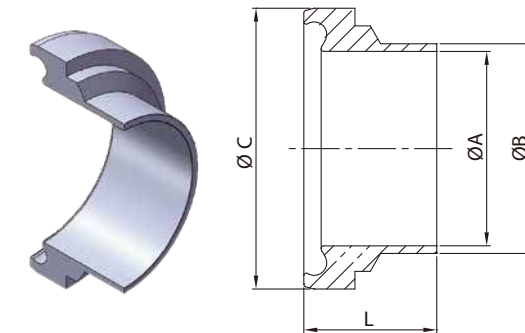
SIZE	ØA	ØB	C	L
25	22.2	25	RD 52*1/6	69
32	28.7	32.2	RD 58*1/6	73
40	34	38	RD 65*1/6	80
50	47	50.5	RD 78*1/6	90
65	59	63.2	RD 95*1/6	108
80	71.5	75.5	RD 110*1/4	116
100	95	100.8	RD 130*1/4	128

DIN 11853-I Unions Form A



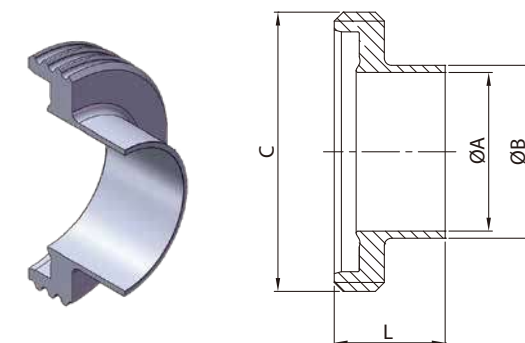
DIN-13R ROUND NUT

SIZE	ØA	B	ØC	L	SLOTS
10	19	RD 28*1/8	38	18	4
15	25	RD 34*1/8	44	18	4
20	31	RD 44*1/6	54	20	4
25	36	RD 52*1/6	63	21	4
32	42	RD 58*1/6	70	21	4
40	49	RD 65*1/6	78	21	4
50	62	RD 78*1/6	92	22	4
65	80	RD 95*1/6	112	25	6
80	94	RD 110*1/4	127	29	6
90	104	RD 120*1/4	138	30	6
100	115	RD 130*1/4	148	31	6
125	138	RD 160*1/4	178	35	6
150	164	RD 190*1/4	210	40	6



LINER PARTS

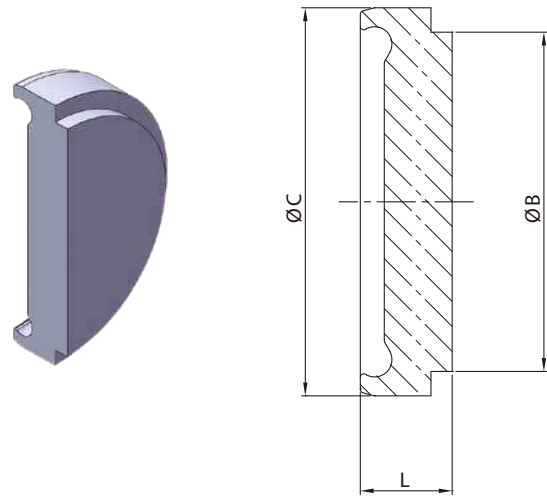
DIN	ØA	ØB	ISO	ØA	ØB	INCH	ØA	ØB	ØC	L
DN10	10	13	DN8	10.3	13.5	1/2"	9.4	12.7	21.9	17
DN15	16	19	DN10	14	17.2	3/4"	15.75	19.5	27.9	17
DN20	20	23	DN15	18.1	21.3	—	—	—	42.9	18
DN25	26	29	DN20	23.7	26.9	1"	22.1	25.4	48.9	22
DN32	32	35	DN25	29.7	33.7	—	—	—	54.9	25
DN40	38	41	DN32	38.4	42.4	1.5"	34.8	38.1	66.9	26
DN50	50	53	DN40	44.3	48.3	2"	47.5	50.8	66.9	30
DN65	66	70	DN50	56.3	60.3	2.5"	60.2	63.5	84.9	34
DN80	81	85	DN65	72.1	76.1	3"	72.9	76.2	98.9	38
DN100	100	104	DN80	84.3	88.9	4"	97.4	101.6	118.9	46



MALE PARTS

DIN	ØA	ØB	ISO	ØA	ØB	INCH	ØA	ØB	C	L
DN10	10	13	DN8	10.3	13.5	1/2"	9.4	12.7	RD28*1/8	19
DN15	16	19	DN10	14	17.2	3/4"	15.75	19.5	RD34*1/8	19
DN20	20	23	DN15	18.1	21.3	—	—	—	RD44*1/6	21
DN25	26	29	DN20	23.7	26.9	1"	22.1	25.4	RD52*1/6	26
DN32	32	35	DN25	29.7	33.7	—	—	—	RD58*1/6	30
DN40	38	41	DN32	38.4	42.4	1.5"	34.8	38.1	RD65*1/6	31
DN50	50	53	DN40	44.3	48.3	2"	47.5	50.8	RD78*1/6	31
DN65	66	70	DN50	56.3	60.3	2.5"	60.2	63.5	RD95*1/6	36
DN80	81	85	DN65	72.1	76.1	3"	72.9	76.2	RD110*1/4	42
DN100	100	104	DN80	84.3	88.9	4"	97.4	101.6	RD130*1/4	50

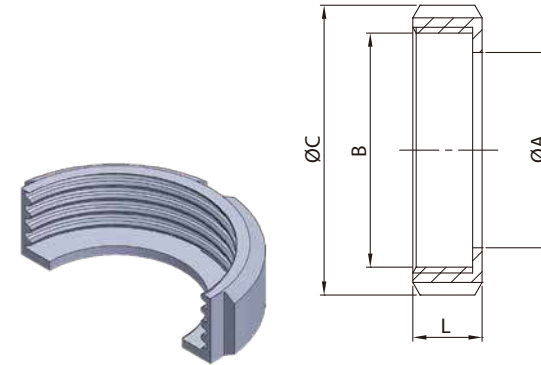
DIN II853-I & II864-I Unions Form A



DIN/ISO/IMPERIAL- LINER BLANK CAP

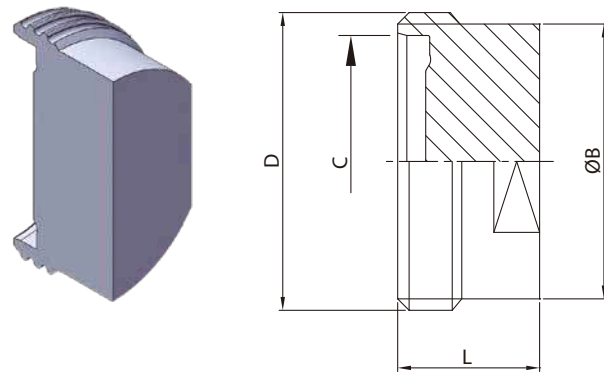
SIZE	ØB	ØC	L
DN10 1/2"	18	21.9	9
DN15 3/4"	24	27.9	9
DN20	30	35.9	10
DN25 1"	35	42.9	12
DN32	41	48.9	13
DN40 1.5"	48	54.9	13
DN50 2"	61	66.9	14
DN65 2.5"	79	84.9	16
DN80 3"	93	98.9	16
DN100 4"	114	118.9	20

DIN II864-I Unions Form A



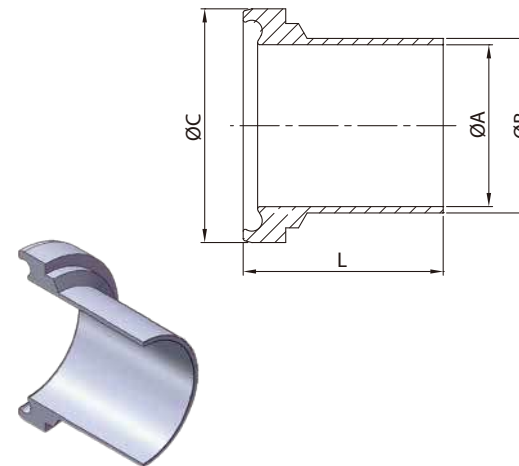
DIN-13R ROUND NUT

SIZE	ØA	B	ØC	L	SLOTS
10	19	RD 28*1/8	38	18	4
15	25	RD 34*1/8	44	18	4
20	31	RD 44*1/6	54	20	4
25	36	RD 52*1/6	63	21	4
32	42	RD 58*1/6	70	21	4
40	49	RD 65*1/6	78	21	4
50	62	RD 78*1/6	92	22	4
65	80	RD 95*1/6	112	25	6
80	94	RD110*1/4	127	29	6
90	104	RD120*1/4	138	30	6
100	115	RD130*1/4	148	31	6
125	138	RD160*1/4	178	35	6
150	164	RD190*1/4	210	40	6



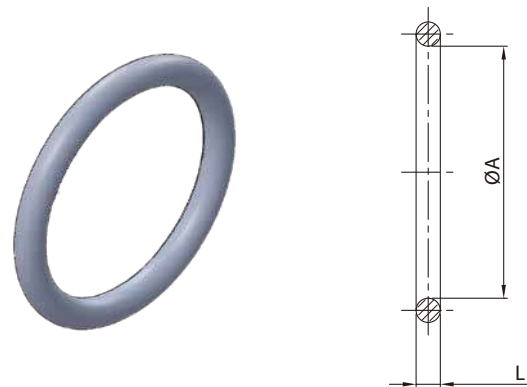
DIN/ISO/IMPERIAL- MALE BLANK CAP

SIZE	ØB	ØC	D	L
DN10 1/2"	23	22	RD28*1/8	24
DN15 3/4"	28	28	RD34*1/8	24
DN20	34	36	RD44*1/6	24
DN25 1"	44	43	RD52*1/6	24
DN32	53	49	RD58*1/6	24
DN40 1.5"	60	55	RD65*1/6	24
DN50 2"	72	67	RD78*1/6	24
DN65 2.5"	87	85	RD95*1/6	28
DN80 3"	100	99	RD110*1/4	28
DN100 4"	120	119	RD130*1/4	30



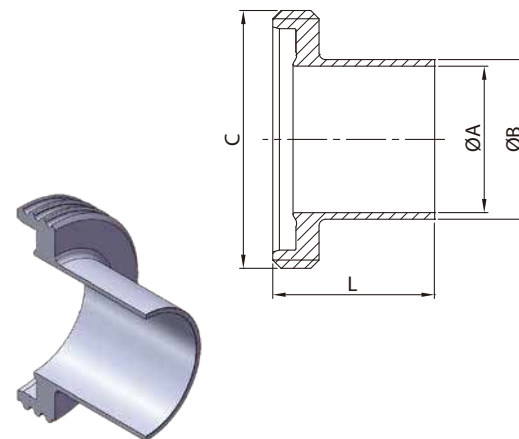
LINER PARTS

DIN	ØA	ØB	L	ISO	ØA	ØB	L	ØC	INCH	ØA	ØB	L	ØC
DN10	10	13	39	DN8	10.3	13.5	39	21.9	1/2"	9.4	12.7	39	21.9
DN15	16	19	39	DN10	14	17.2	39	27.9	3/4"	15.75	19.5	39	27.9
DN20	20	23	38	DN15	18.1	21.3	40	42.9	—	—	—	—	35.9
DN25	26	29	40	DN20	23.7	26.9	41	48.9	1"	22.1	25.4	41	42.9
DN32	32	35	47	DN25	29.7	33.7	47	54.9	—	—	—	—	48.9
DN40	38	41	47	DN32	38.4	42.4	47	66.9	1.5"	34.8	38.1	47	54.9
DN50	50	53	48	DN40	44.3	48.3	48	66.9	2"	47.5	50.8	48	66.9
DN65	66	70	61	DN50	56.3	60.3	62	84.9	2.5"	60.2	63.5	62	84.9
DN80	81	85	61	DN65	72.1	76.1	61	98.9	3"	72.9	76.2	61	98.9
DN100	100	104	66	DN80	84.3	88.9	68	118.9	4"	97.4	101.6	68	118.9



SEAL

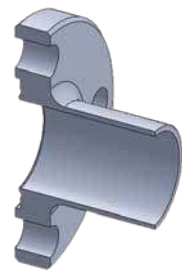
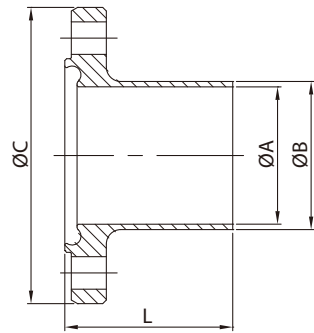
DIN	ØA	ISO	ØA	INCH	ØA	L
DN10	12	DN8	12	1/2"	12	3.5
DN15	18	DN10	16	3/4"	18	3.5
DN20	22	DN15	20	—	—	3.5
DN25	28	DN20	26	1"	24	3.5
DN32	34	DN25	32	—	—	5
DN40	40	DN32	40.5	1.5"	37	5
DN50	52	DN40	46.5	2"	50	5
DN65	68	DN50	58.5	2.5"	62	5
DN80	83	DN65	73.5	3"	75	5
DN100	102	DN80	86.5	4"	100	5



MALE PARTS

DIN	ØA	ØB	L	ISO	ØA	ØB	L	C	INCH	ØA	ØB	L
DN10	10	13	41	DN8	10.3	13.5	41	RD28*1/8	1/2"	9.4	12.7	41
DN15	16	19	41	DN10	14	17.2	41	RD34*1/8	3/4"	15.75	19.5	41
DN20	20	23	43	DN15	18.1	21.3	43	RD44*1/6	—	—	—	—
DN25	26	29	43	DN20	23.7	26.9	43	RD52*1/6	1"	22.1	25.4	43
DN32	32	35	48	DN25	29.7	33.7	48	RD58*1/6	—	—	—	—
DN40	38	41	48	DN32	38.4	42.4	48	RD65*1/6	1.5"	34.8	38.1	48.5
DN50	50	53	48	DN40	44.3	48.3	49	RD78*1/6	2"	47.5	50.8	48.5
DN65	66	70	60	DN50	56.3	60.3	60	RD95*1/6	2.5"	60.2	63.5	60
DN80	81	85	64	DN65	72.1	76.1	64	RD110*1/4	3"	72.9	76.2	64
DN100	100	104	64	DN80	84.3	88.9	64	RD130*1/4	4"	97.4	101.6	64

DIN II864-2 Unions Form A

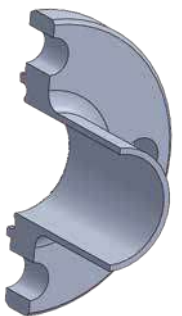
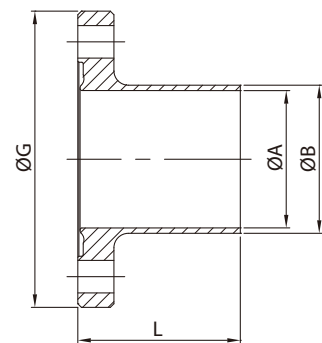


DIN Nutflansch (NF)

SIZE	ØA	ØB	ØC	L
DN10	10	13	54	41.5
DN15	16	19	59	41.5
DN20	20	23	64	41.5
DN25	26	29	70	41.5
DN32	32	35	76	46.5
DN40	38	41	82	46.5
DN50	50	53	94	46.5
DN65	66	70	113	55.5
DN80	81	85	133	59.5
DN100	100	104	159	59.5
DN125	125	129	183	61.5
DN150	150	154	213	61.5

IMPERIAL Nutflansch (NF)

SIZE	ØA	ØB	ØC	L
1/2"	9.4	12.7	54	41.5
3/4"	15.75	19.05	59	41.5
1"	22.1	25.4	66	41.5
1.5"	34.8	38.1	79	46.5
2"	47.5	50.8	92	46.5
2.5"	60.2	63.5	107	55.5
3"	72.9	76.2	125	57.5
4"	97.38	101.6	157	59.5



DIN Bundflansch (BF)

SIZE	ØA	ØB	ØC	L
DN10	10	13	54	40
DN15	16	19	59	40
DN20	20	23	64	40
DN25	26	29	70	40
DN32	32	35	76	45
DN40	38	41	82	45
DN50	50	53	94	45
DN65	66	70	113	54
DN80	81	85	133	58
DN100	100	104	159	58
DN125	125	129	183	60
DN150	150	154	213	60

IMPERIAL Bundflansch (BF)

SIZE	ØA	ØB	ØC	L
1/2"	9.4	12.7	54	40
3/4"	15.75	19.05	59	40
1"	22.1	25.4	66	40
1.5"	34.8	38.1	79	45
2"	47.5	50.8	92	45
2.5"	60.2	63.5	107	54
3"	72.9	76.2	125	56
4"	97.38	101.6	157	58

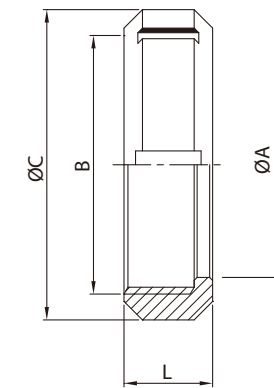
ISO Nutflansch (NF)

SIZE	ØA	ØB	ØC	L
13.5	10.3	13.5	54	41.5
17.2	14	17.2	59	41.5
21.3	18.1	21.3	62	41.5
26.9	23.7	26.9	69	41.5
33.7	29.7	33.7	74	46.5
42.4	38.4	42.4	82	46.5
48.3	44.3	48.3	88	46.5
60.3	56.3	60.3	103	55.5
76.1	72.1	76.1	125	57.5
88.9	84.3	88.9	137	59.5
114.3	109.7	114.3	168	59.5

ISO Bundflansch (BF)

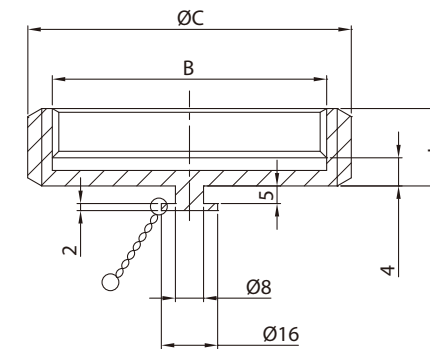
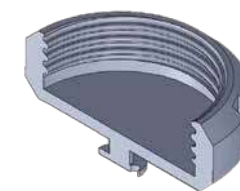
SIZE	ØA	ØB	ØC	L
13.5	10.3	13.5	54	41.5
17.2	14	17.2	59	41.5
21.3	18.1	21.3	62	41.5
26.9	23.7	26.9	69	41.5
33.7	29.7	33.7	74	46.5
42.4	38.4	42.4	82	46.5
48.3	44.3	48.3	88	46.5
60.3	56.3	60.3	103	55.5
76.1	72.1	76.1	125	57.5
88.9	84.3	88.9	137	59.5
114.3	109.7	114.3	168	59.5

SMS Unions



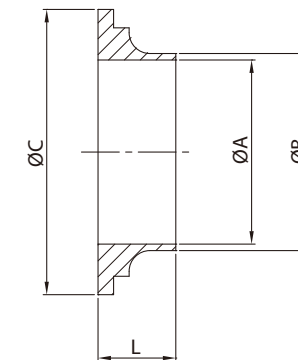
SMS-13R NUT 6 SLOTS

SIZE	ØA	B	ØC	L
25	32	RD 40*1/6	51	19
32	40	RD 48*1/6	60	22
38	48	RD 60*1/6	74	23
50	60.5	RD 70*1/6	84	24
63	74	RD 85*1/6	100	28
76	87	RD 98*1/6	114	30
101.6	113	RD125*1/4	138	31
104	113	RD125*1/4	138	31
101.6-B	117	RD132*1/6	150	31



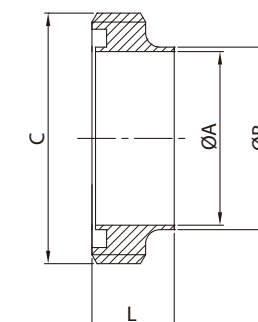
SMS-13RBN ROUND BLANK NUT

SIZE	B	ØC	L
25	RD 40*1/6	51	19
32	RD 48*1/6	60	22
38	RD 60*1/6	74	23
50	RD 70*1/6	84	24
63	RD 85*1/6	100	28
76	RD 98*1/6	114	30
104	RD125*1/4	138	31



SMS-14 LONG WELDING LINER

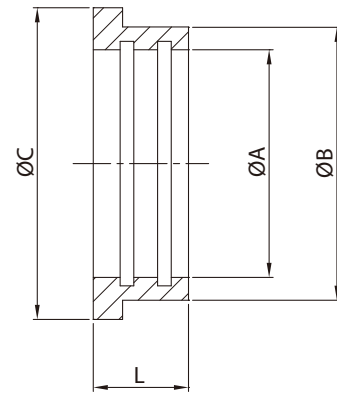
SIZE	ØA	ØB	ØC	L
25	22.5	25	35.5	15.5
38	35.5	38	55	16
50	48.5	51	65	17
63	60.5	63.5	80	17
76	72.9	76.1	93	19
101.6	97.6	101.6	118	19
104	100	104	118	19
104-B	98.5	102.5	127	19



SMS-15 LONG WELDING MALE

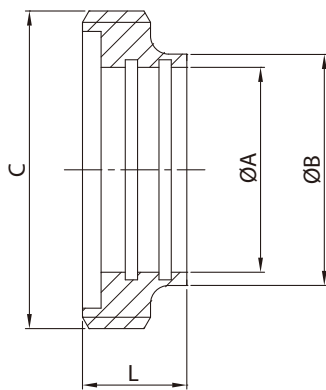
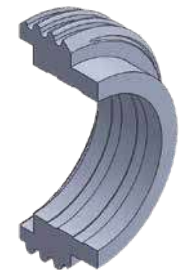
SIZE	ØA	ØB	ØC	L
25	22.5	25	RD 40*1/6	19
38	35.5	38	RD 60*1/6	23
50	48.5	51	RD 70*1/6	23
63	60.5	63.5	RD 85*1/6	27
76	72.9	76.1	RD 98*1/6	27
101.6	97.6	101.6	RD125*1/4	30
104	100	104	RD125*1/4	30
104-B	98.5	102.5	RD132*1/6	35

SMS Unions



SMS-14R EXPANDING LINER

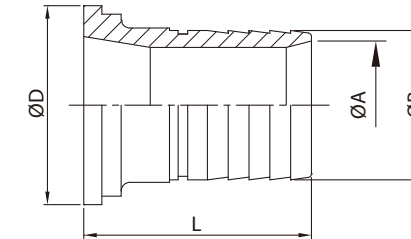
SIZE	ØA	ØB	ØC	L
25	25	32	35.5	17
32	32	40	43.5	17
38	38	47.9	55	20
40	40	48	55	20
50	51	60.4	65	20
63	63.5	73.5	80	25
76	76.1	86.5	93	30
101.6	101.6	112.5	118	27
104	104	112.5	118	27



SMS-15R EXPANDING MALE

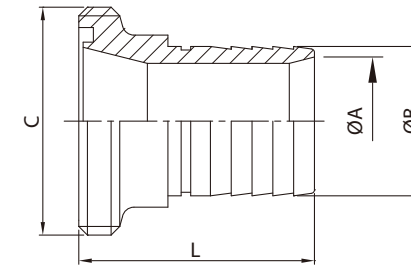
SIZE	ØA	ØB	C	L
25	25	32	RD 40*1/6	20
32	32	40	RD 48*1/6	20
38	38	47.9	RD 60*1/6	23
40	40	48	RD 60*1/6	23
50	51	60.4	RD 70*1/6	25
63	63.5	73.5	RD 85*1/6	30
76	76.1	86.5	RD 98*1/6	35
101.6	101.6	112.5	RD125*1/4	30
104	104	112.5	RD125*1/4	30

SUS Unions Range



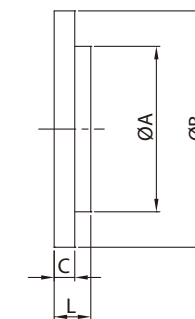
SMS-14AHR HOSE ADAPTER

SIZE	ØA	ØB	ØD	L
25	22.2	25	35.5	60.5
38	34	38	55	72
50	47	50.5	65	82
63	59	63.2	80	95
76	71.5	75.5	93	97
104	95	100.8	118	109



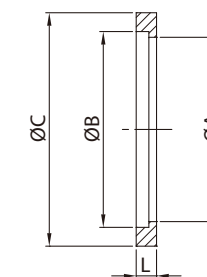
SMS-15AHR HOSE ADAPTER

SIZE	ØA	ØB	C	L
25	22.2	25	RD 40*1/6	64
38	34	38	RD 60*1/6	79
50	47	50.5	RD 70*1/6	89
63	59	63.2	RD 85*1/6	102
76	71.5	75.5	RD 98*1/6	105
104	95	100.8	RD125*1/4	120



SMS-14B BLANK END CAP

SIZE	ØA	ØB	C	L
25	32	35.5	3.5	7.5
38	48	55	5	9
50	60	65	5	10
63	73.5	80	5	10
76	86	93	5	11
104	118	118	6	11
104-B	128	128	6	11

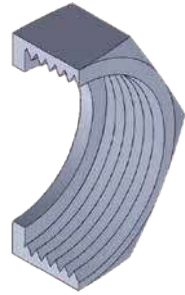


SEAL RING L TYPE (EPDM, SILICONE, VITON (FKM))

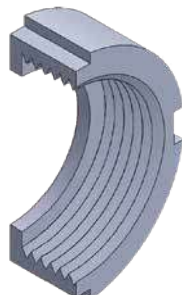
SIZE	ØA	ØB	C	L
25	22.8	25.1	31.8	5.3
38	35.8	38.1	47.8	5.3
50	48.8	51.5	60.8	5.3
63	61	63.6	73.3	5.3
76	73.4	76.1	85.8	5.3
104	100.5	104	115.7	5.3

RJT (BS) Unions

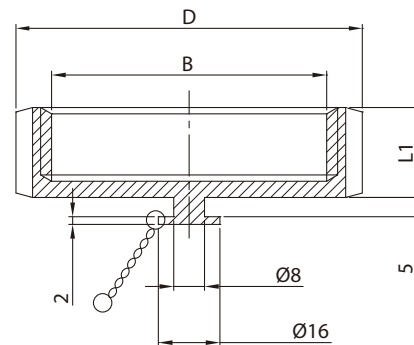
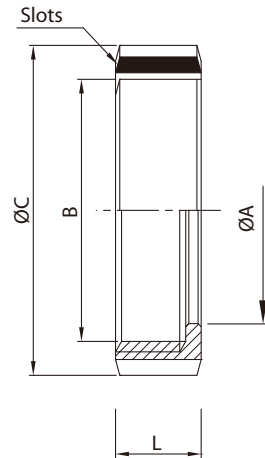
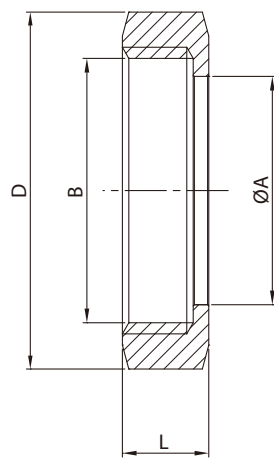
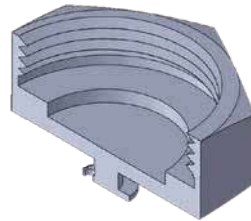
RJT-13H



RJT-13R



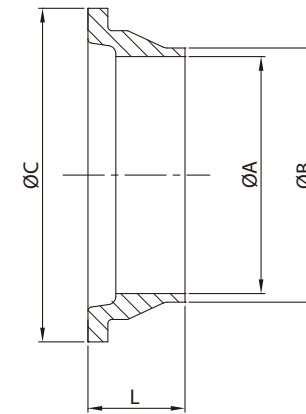
RJT-13HBN



RJT-13 NUT

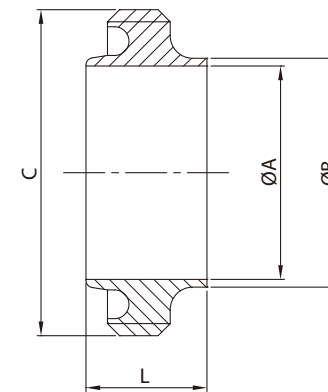
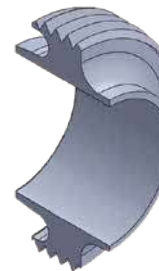
SIZE	ØA	B	ØC	D	L	L1	SLOTS
1/2"	14.5	19.6 *10TP WHIT	—	28.5	16	—	—
3/4"	21	26.2 *10TP WHIT	—	33	16	—	—
1"	33.45	42.266*8TP WHIT	58.5	50.8	22.2	23.5	4
1.5"	46	54.966*8TP WHIT	74	65	22.2	23.5	4
2"	58.67	67.92 *6TP WHIT	85.5	79.4	22.2	23.5	6
2.5"	71.4	80.62 *6TP WHIT	98.5	92	22.2	23.5	6
3"	84.1	93.32 *6TP WHIT	111.6	104.8	22.2	23.5	8
4"	109.7	118.72*6TP WHIT	138	130	22.2	23.5	8
6"	163	169.52*6TP WHIT	197	184	24	—	10

RJT (BS) Unions



RJT-14 WELDING LINER

SIZE	ØA	ØB	ØC	L
1/2"	9.6	14	18	11.4
3/4"	16	20	23.1	11.4
1"	22.1	25.4	41.3	19.5
1.5"	34.8	38.1	54	19.5
2"	47.5	50.8	66.7	19.5
2.5"	60.2	63.5	79.4	19.5
3"	72.9	76.2	92.1	19.5
4"	97.6	101.6	117.5	19.5
6"	146.86	152.4	169.1	23.5



RJT-15 WELDING MALE

SIZE	ØA	ØB	C	L
1/2"	9.6	13.7	21.2 *10TP WHIT	16.5
3/4"	16	20	27.6 *10TP WHIT	16.5
1"	22.1	25.4	45.72 *8TP WHIT	27
1.5"	34.8	38.1	58.42 *8TP WHIT	27
2"	47.5	50.8	72.72 *6TP WHIT	27
2.5"	60.2	63.5	85.42 *6TP WHIT	27
3"	72.9	76.2	98.12 *6TP WHIT	27
4"	97.6	101.6	123.52*6TP WHIT	27
104	100	104	123.52*6TP WHIT	27
6"	146.86	152.4	174.32*6TP WHIT	24

O-Ring

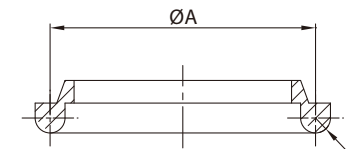
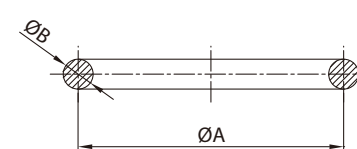


U Type

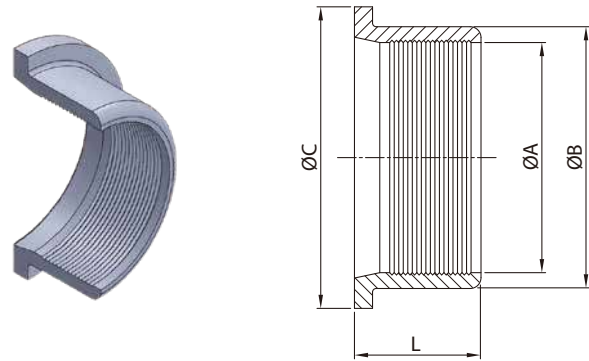


RJT-SEAL RING (EPDM/SILICON VITON(FKM))

SIZE	ØA	ØB	ØC
1"	33.3	6.6	R 3.2
1.5"	46	6.6	R 3.2
2"	58.7	6.6	R 3.2
2.5"	71.4	6.6	R 3.2
3"	84.1	6.6	R 3.2
4"	109.5	6.6	R 3.2
6"	162.6	6.6	R 3.2

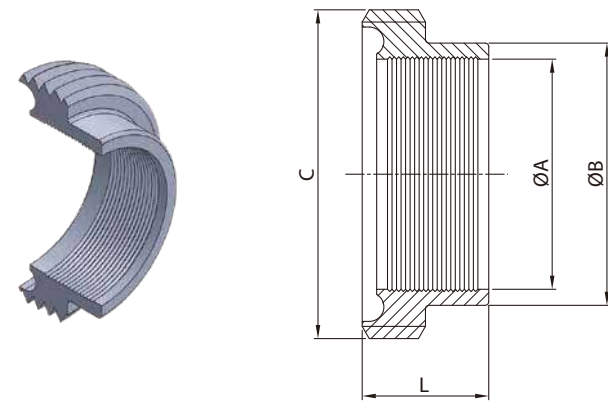


RJT (BS) Unions



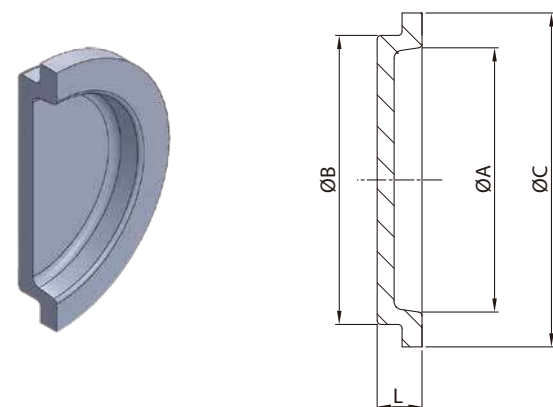
RJT-14R EXPANDING LINER

SIZE	ØA	ØB	ØC	L
1"	22.5	32.5	41.3	20
1.5"	38.2	45.2	54	24
2"	50.9	57.9	66.7	28
2.5"	63.6	70.6	79.4	32
3"	76.3	83.3	92.1	32
4"	101.7	108.7	117.5	32



RJT-15R EXPANDING MALE

SIZE	ØA	ØB	C	L
1"	22.5	32.5	45.72 *8TP WHIT	20
1.5"	38.2	45.2	58.42 *8TP WHIT	24
2"	50.9	57.9	72.72 *6TP WHIT	28
2.5"	63.6	70.6	85.42 *6TP WHIT	32
3"	76.3	83.3	98.12 *6TP WHIT	32
4"	101.7	108.7	123.52*6TP WHIT	32

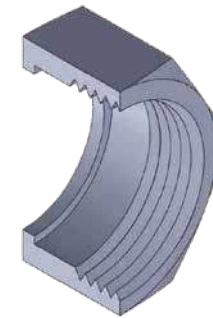


RJT-14B BLANK END CAP

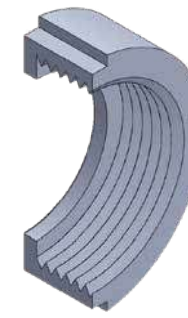
SIZE	ØA	ØB	ØC	L
1"	37.8	32.5	41.3	9
1.5"	40.5	45.2	54	9
2"	53.2	57.9	66.7	9
2.5"	65.9	70.6	79.4	9
3"	78.2	83.3	92.1	9
4"/104	104	108.7	117.5	9

IDF/JIS G3447 Unions

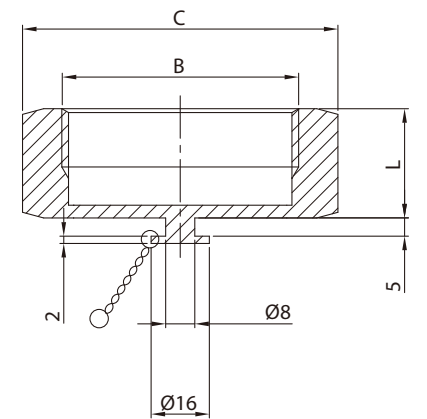
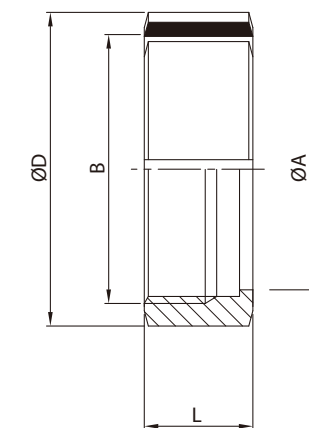
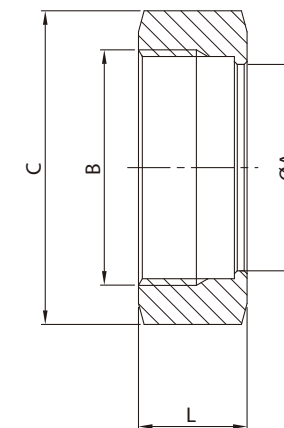
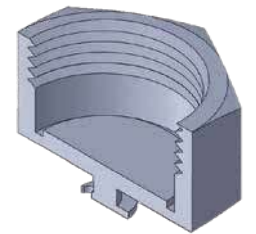
IDF-13H



IDF-13R



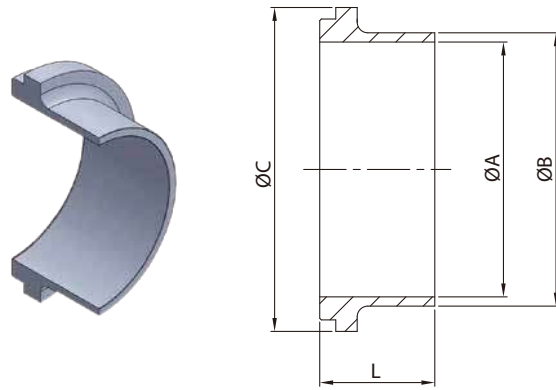
IDF-13HBN



IDF-13 NUT

	SIZE	ØA	B	C	ØD	L
	1"	30.5	34.34*8T ACME	46	48	30
	1.5"	43.5	47.86*8T ACME	60	64	30
	2"	57	61.37*8T ACME	75	77	30
	2.5"	70.7	74.88*8T ACME	90	91	30
R	3"	83.3	84.4 *8T ACME	106	106	30
H	3"	83.3	84.4 *8T ACME	105	105	30
R	4"	112	115.41*8T ACME	135	135	34.9
H	4"	112	122.05*6T ACME	133	133	34.9

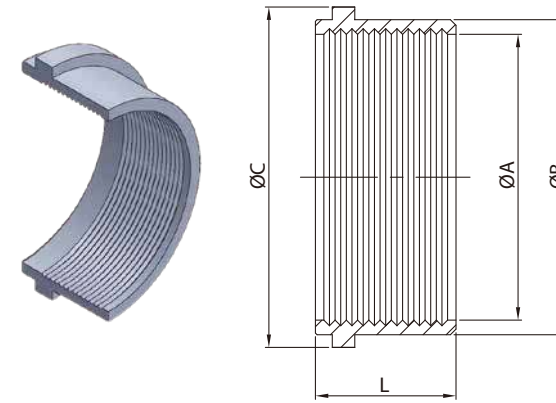
IDF/JIS G3447 Unions



IDF-14 WELDING LINER

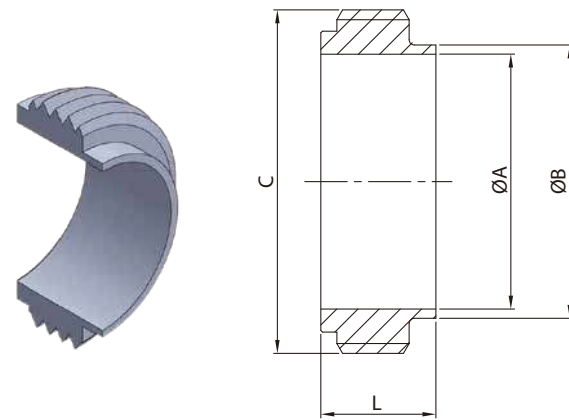
SIZE	IDF		JIS		ØC	L
	ØA	ØB	ØA	ØB		
1"	22.6	25.6	23	25.4	33.8	21.5
1.5"	35.6	38.6	35.7	38.1	47	21.5
2"	48.6	51.6	47.8	50.8	60.5	21.5
2.5"	60.3	64.1	59.5	63.5	74	21.5
3"	72.9	76.7	72.3	76.3	87.5	21.5
R 4"	97.6	101.6	—	—	114.1	30
H 4"	97.6	102.5	97.6	101.6	120.6	30

IDF/JIS G3447 Unions



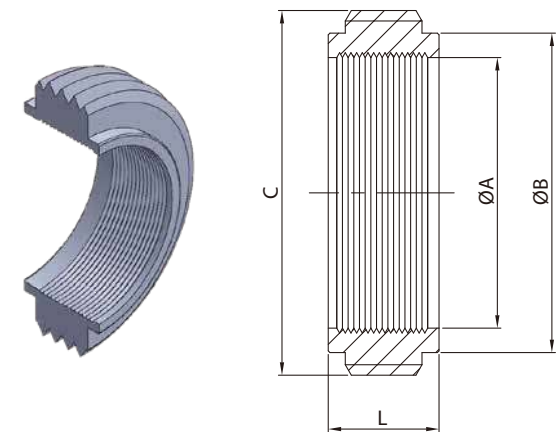
IDF-14R RESEALABLE LINER

SIZE	ØA	ØB	ØC	L
1"	25.5	29.2	33.8	20
1.5"	38.2	42.7	47	20
2"	50.9	56.2	60.5	25
2.5"	63.6	69.9	74	30
3"	76.3	82.6	87.5	30
R 4"	101.7	108.4	114.1	30
H 4"	101.7	111.1	120.6	30



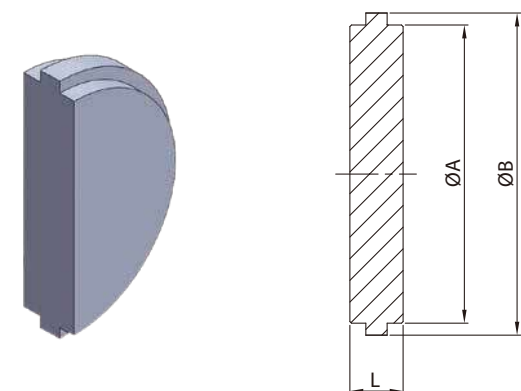
IDF-15 WELDING MALE

SIZE	IDF		JIS		C	L
	ØA	ØB	ØA	ØB		
1"	22.1	25.4	23	25.4	37.13*8T ACME	21.5
1.5"	34.8	38.1	35.7	38.1	50.65*8T ACME	21.5
2"	47.5	50.8	47.8	50.8	64.16*8T ACME	21.5
2.5"	60.2	63.5	59.5	63.5	77.76*8T ACME	21.5
3"	72.9	76.2	72.3	76.3	91.19*8T ACME	21.5
R 4"	97.6	101.6	—	—	118.2*8T ACME	30
H 4"	97.6	102.5	97.6	101.6	125.9*6T ACME	30



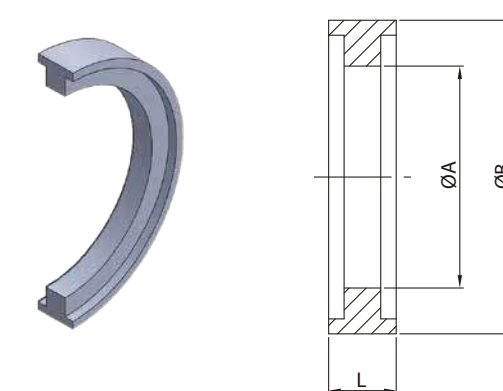
IDF-15R RESEALABLE MALE

SIZE	ØA	ØB	C	L
1"	25.5	29.2	37.13*8T ACME	19.5
1.5"	38.2	42.7	50.65*8T ACME	19.5
2"	50.9	56.2	64.16*8T ACME	19.5
2.5"	63.6	69.9	77.76*8T ACME	25
3"	76.3	82.6	91.19*8T ACME	30
R 4"	101.7	108.4	118.2*8T ACME	35
H 4"	101.7	111.1	125.9*6T ACME	35



IDF-14B BLANK END CAP

SIZE	ØA	ØB	L
1"	29.2	33.8	10.5
1.5"	42.7	47	10.5
2"	56.2	60.5	10.5
2.5"	69.9	74	10.5
3"	82.6	87.5	10.5
R 4"	111.1	114.1	12.6
H 4"	111.1	120.6	12.6

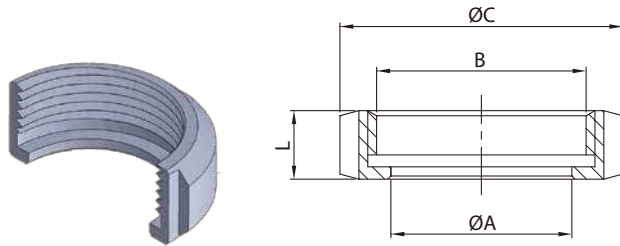


IDF SEAL RING

SIZE	ØA	ØB	L
1"	23	32.5	7
1.5"	36	46	7
2"	49	59.5	7
2.5"	60.7	73.2	7
3"	73.2	86.5	7
R 4"	98	113	7
H 4"	98	119.6	7

Wine Unions

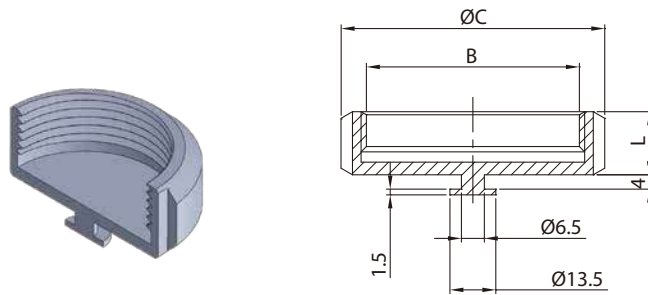
13R



MACON NUT 4 SLOTS M-13R

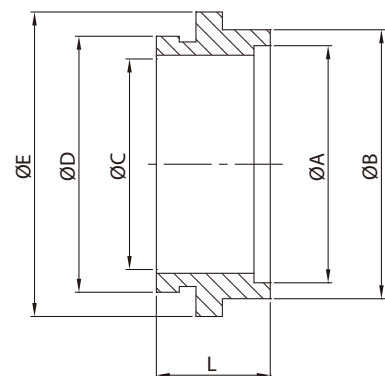
SIZE	ØA	B	ØC	L
DN33	37	39*11TPI WHIT	50	25
DN43	47	M55*P3.0	70	25
DN53	57	M67*P3.0	80	25
DN63	67	M79*P3.5	95	25
DN73	77	M90*P3.5	106	25
DN83	90	M102*P4.0	118	25
DN103	112	M125*P4.0	139	25
DN103	112	M125*P4.0	139	26

13RBN

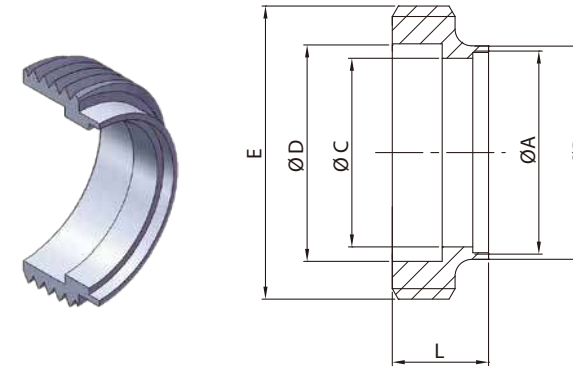


MACON LINER M-14

SIZE	ØA	ØB	ØC	ØD	ØE	L
DN33	33.3	36	28	31.5	38	22
DN38	38.2	46	35.9	44.5	50	29
DN40/43	43.3	46.3	40	44.5	50	22
DN51	51.2	56	48.5	54.5	62.5	29
DN50/53	53.3	56.3	50	54.5	62.5	22
DN60/63	63.3	66.3	60	64.5	73.5	22
DN70/73	73.3	76.3	70	74.5	85	22
DN76	72	76	70	74.5	85	22
DN80/83	83.3	86.3	80	84.5	96	22
DN103	104.2	108	100	104.5	119	22

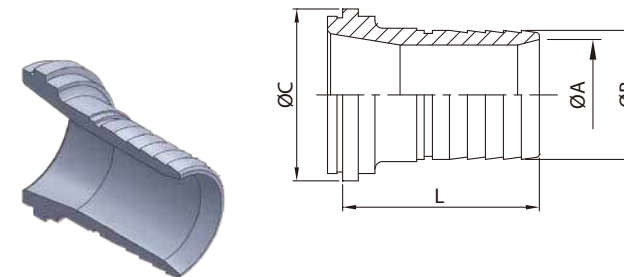


Wine Unions



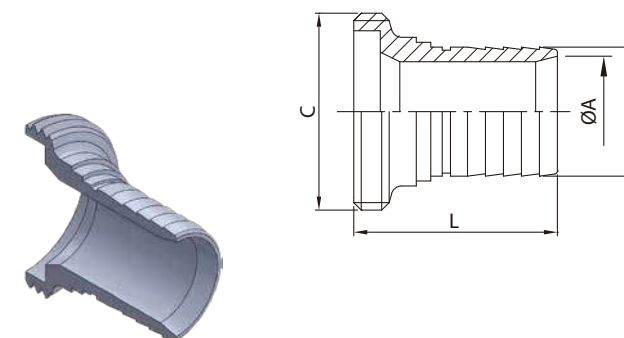
MACON MALE M-15

SIZE	ØA	ØB	ØC	ØD	E	L
DN33	33.3	36.3	30	32	40.5*11TPI WHIT	22
DN38	38.2	46	35.9	45	M55*P3.0	30
DN43	43.3	46.3	40	45	M55*P3.0	22
DN51	51.2	56	48.5	55	M67*P3.0	30
DN53	53.3	56.3	50	55	M67*P3.0	22
DN60/63	63.3	66.3	60	66	M79*P3.5	22
DN70/73	73.3	76.3	70	76	M90*P3.5	22
DN76	72	76	70	76	M90*P3.5	22
DN80/83	83.3	86.3	80	86	M102*P4.0	22
DN103	104.2	108	100	106	M125*P4.0	22



M-14AHR MACON LINER HOSE ADAPTER

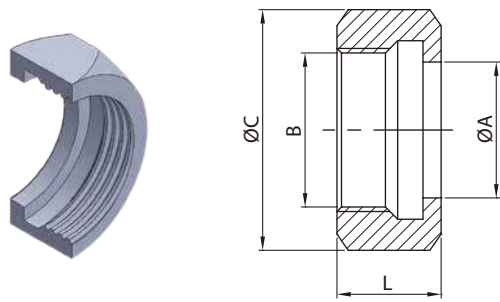
SIZE	ØA	ØB	ØC	L
DN40/43	34/36.5	40	50.8	82
DN50/53	47	50.5	63	92
DN60/63	59	53.2	75	102
DN70/73	66.3	70	85	104
DN80/83	71.5	75.5	97	110



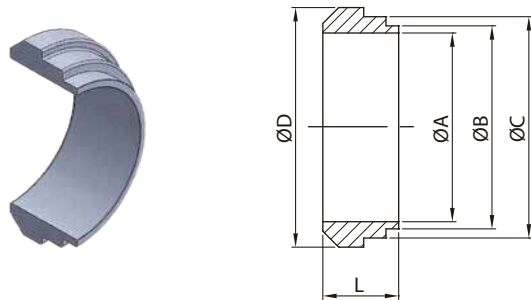
M-15AHR MACON MALE HOSE ADAPTER

SIZE	ØA	ØB	C	L
DN40/43	34/36.5	40	M55*P3.0	84
DN50/53	47	50.5	M67*P3.0	94
DN60/63	59	53.2	M79*P3.5	104
DN70/73	66.3	70	M90*P3.5	106
DN80/83	71.5	75.5	M102*P4.0	112

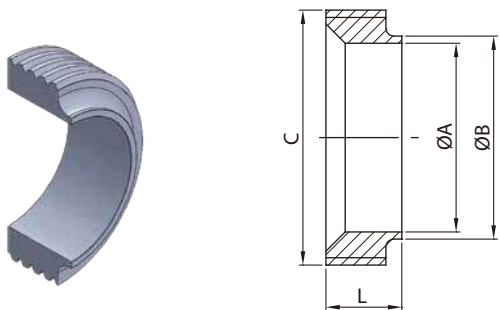
3A Unions


3A-13H HEXAGONAL NUT

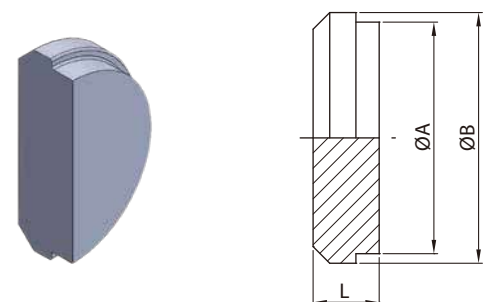
SIZE	ØA	B	ØC	L
1"	30.3	38.02 ACME 8TPI	46	23
1.5"	43.4	51.54 ACME 8TPI	61.1	24.6
2"	56.5	65.05 ACME 8TPI	76.2	27
2.5"	69.6	78.56 ACME 8TPI	91.3	29.6
3"	82.7	92.08 ACME 8TPI	106.4	32.5
4"	108.9	120.14 ACME 6TPI	137.6	38.1


3A-14PRF SHORT BEVEL SEAT WELD LINER

SIZE	ØA	ØB	ØC	ØD	L
1"	22.1	25.4	29.5	33.3	18.3
1.5"	34.8	38.1	42.6	46.8	18.3
2"	47.5	50.8	55.7	60.3	19.1
2.5"	60.2	63.5	68.8	73.8	22.3
3"	72.9	76.2	91.9	87.3	23.1
4"	97.6	101.6	108.1	114.3	26.2

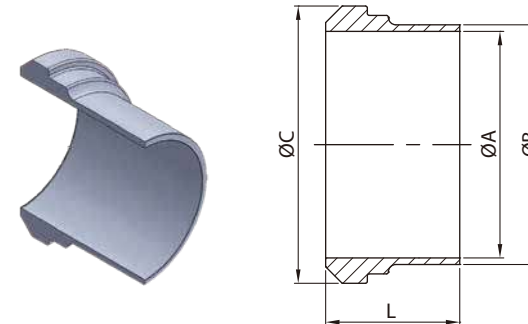

3A-15TRF SHORT BEVEL SEAT WELD MALE

SIZE	ØA	ØB	C	L
1"	22.1	25.4	37.13 ACME 8TPI	18.3
1.5"	34.8	38.1	50.65 ACME 8TPI	18.3
2"	47.5	50.8	64.17 ACME 8TPI	19.1
2.5"	60.2	63.5	77.67 ACME 8TPI	22.2
3"	72.9	76.2	91.19 ACME 8TPI	23.1
4"	97.6	101.6	119.25 ACME 6TPI	26.2

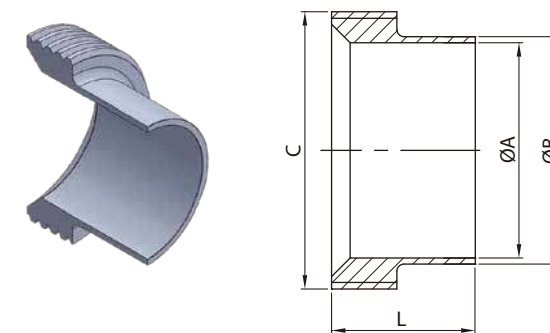

3A-16A BLANK END CAP

SIZE	ØA	ØB	L
1"	29.5	33.3	11.9
1.5"	42.6	46.8	14.3
2"	55.7	60.3	15.9
2.5"	68.8	73.8	16.7
3"	81.9	87.3	18.3
4"	108.1	114.3	20.6

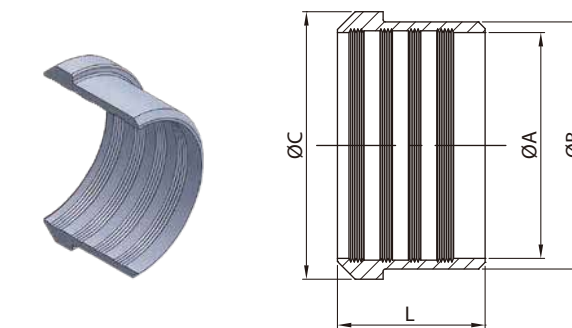
3A Unions


3A-14A LONG WELD LINER

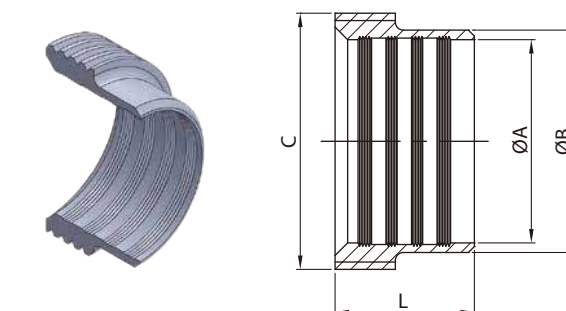
SIZE	ØA	ØB	ØC	L
1"	22.1	25.4	33.3	34.9
1.5"	34.8	38.1	46.8	38.1
2"	47.5	50.8	60.3	38.1
2.5"	60.2	63.5	73.8	44.5
3"	72.9	76.2	87.3	44.5
4"	97.6	101.6	114.3	44.5


3A-15A LONG WELD MALE

SIZE	ØA	ØB	C	L
1"	22.1	25.4	37.13 ACME 8TPI	34.9
1.5"	34.8	38.1	50.65 ACME 8TPI	38.1
2"	47.5	50.8	64.17 ACME 8TPI	38.1
2.5"	60.2	63.5	77.67 ACME 8TPI	44.5
3"	72.9	76.2	91.19 ACME 8TPI	44.5
4"	97.6	101.6	119.25 ACME 6TPI	44.5


3A-14R RECESSLESS LINER

SIZE	ØA	ØB	ØC	L
1"	22.5	29.5	33.3	19.1
1.5"	38.2	42.6	46.8	28.6
2"	50.9	55.7	60.3	33.3
2.5"	63.6	68.8	73.8	34.9
3"	76.3	81.9	87.3	36.5
4"	101.7	108.1	114.3	38.1


3A-15R RECESSLESS MALE

SIZE	ØA	ØB	C	L
1"	22.5	29.5	37.13 ACME 8TPI	20.6
1.5"	38.2	42.6	50.65 ACME 8TPI	28.6
2"	50.9	55.7	64.17 ACME 8TPI	34.9
2.5"	63.6	68.8	77.67 ACME 8TPI	38.1
3"	76.3	81.9	91.19 ACME 8TPI	41.3
4"	101.7	108.1	119.25 ACME 6TPI	41.3

3A. SMS. DIN. BS. AS

Tube Line, Elbow / Tee / Reducer

CSE Wide Range Tube Line

CSE tube fittings can be used for sanitary, pharmaceutical, vacuum...etc purposes.



It can be equipped with different types or connection ends, as 45°/90° elbow, tee, concentric/ eccentric reducer....weld, clamp, unions....

Standard type: 3A, SMS, DIN, BS, BPE...etc.

Material: ASTM 304, 316, 316L

Surface: 1) ID/OD polishing .

2) Only ID polishing .

3) Only OD polishing .

4) unpolished.

Roughness: #400, #320, #240, #180....

Ra≤0.8μm, 0.6μm, 0.5μm, 0.4μm.....

(Other surface finished can be ordered).

CSE Sanitary Tubes For Biochemistry, Pharmaceutical, Food...etc.

BPE STANDARD			SMS STANDARD			IDF STANDARD			3A SANITARY STANDARD			DIN 11850		
SIZE	O.D	T	SIZE	O.D	T	SIZE	O.D	T	SIZE	O.D	T	SIZE	O.D	T
1/2"	12.7	1.65							1/2"	12.7	1.65			
3/4"	19.05	1.65							3/4"	19.05	1.65			
1"	25.4	1.65	DN25	25	1.25	1"	25.4	1.2	1"	25.4	1.65	DN25	25	1
														1.5
			DN32	32	1.25	1.25"	31.75	1.2				DN32	32	1
														1.5
1.5"	38.1	1.65	DN38	38	1.25	1.5"	38.1	1.2	1.5"	38.1	1.65	DN40	40	1
														1.5
2"	50.8	1.65	DN50	51	1.25	2"	50.8	1.5	2"	50.8	1.65	DN50	52	1
														1.5
2.5"	63.5	1.65	DN63	63.5	1.5	2.5"	63.5	2	2.5"	63.5	1.65	DN65	70	2
3"	76.2	1.65	DN76	76.3	1.6	3"	76.2	2	3"	76.2	1.65	DN80	76.3	2
4"	101.6	2.1	DN100	104	2	4"	101.6	2	4"	101.6	1.65	DN100	104	2
											2.1			

CSE Sanitary for food, and pharmaceutical industry

Material: ASTM 304, 304L, 316L

Spec: ASTM A269, A270.

Surface & Roughness:

1. OD/ID Pickle (Ra≤1.0μm)

2. Polished:

(1) ID Polished to 180Grit (Ra≤0.8μm).

(2) ID Polished to 240Grit (Ra≤0.6μm).

(3) ID Polished to 320Grit (Ra≤0.5μm).

(4) ID Polished to 420Grit (Ra≤0.4μm).

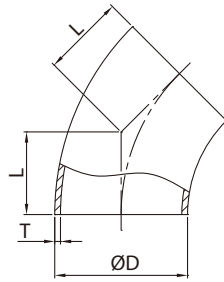
(5) Electro polished:

(5-1). ID Electro polished Ra≤0.5μm).

(5-2). ID Electro polished Ra≤0.38μm).

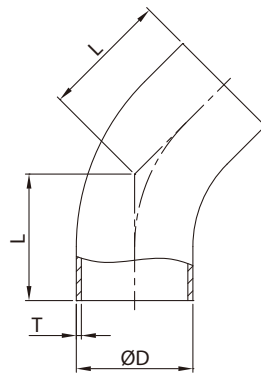


3A Tubular Items



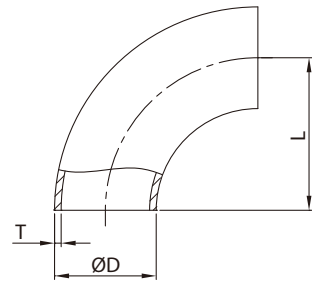
2WK SHORT 45° ELBOW

SIZE	ØD	L	T
1/2"	12.7	13.16	1.65
3/4"	19.05	23.8	1.65
1"	25.4	15.8	1.65
1.5"	38.1	23.8	1.65
2"	50.8	31.75	1.65
2.5"	63.5	39.6	1.65
3"	76.2	47.6	1.65
4"	101.6	63.5	2.1
6"	152.4	95.25	2.77



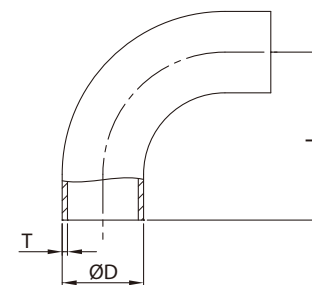
L2KS LONG 45° ELBOW

SIZE	ØD	L	T
1/2"	12.7	30.2	1.65
3/4"	19.05	30.2	1.65
1"	25.4	30.2	1.65
1.5"	38.1	41.3	1.65
2"	50.8	58.7	1.65
2.5"	63.5	76.2	1.65
3"	76.2	93.7	1.65
4"	101.6	122.2	2.1
6"	152.4	158.2	2.77



2WCL SHORT WELD 90° ELBOW

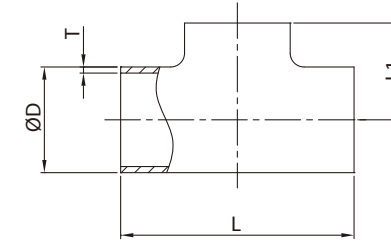
SIZE	ØD	L	T
1/2"	12.7	19.05	1.65
3/4"	19.05	28.58	1.65
1"	25.4	38.1	1.65
1.5"	38.1	57.2	1.65
2"	50.8	76.2	1.65
2.5"	63.5	95.25	1.65
3"	76.2	114.3	1.65
4"	101.6	152.4	2.1
6"	152.4	228.6	2.77
8"	203.2	304.8	2.77



L2S LONG WELD 90° ELBOW

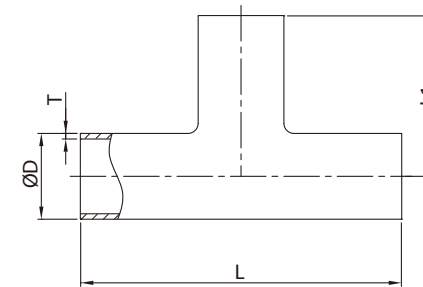
SIZE	ØD	L	T
1/2"	12.7	45	1.65
3/4"	19.05	60	1.65
1"	25.4	52.4	1.65
1.5"	38.1	74.6	1.65
2"	50.8	103.2	1.65
2.5"	63.5	131.8	1.65
3"	76.2	160.3	1.65
4"	101.6	211.1	2.1
6"	152.4	292.1	2.77

3A Tubular Items



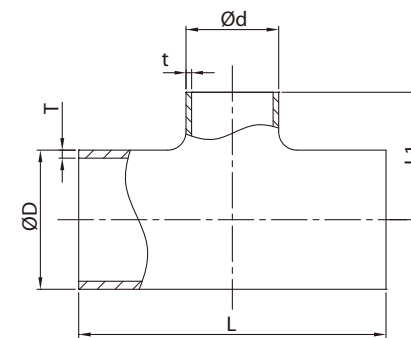
7WWW SHORT EQUAL WELD TEE

SIZE	ØD	L	L1	T
1/2"	12.7	38.1	19.05	1.65
3/4"	19.05	57.2	28.6	1.65
1"	25.4	57.2	28.6	1.65
1.5"	38.1	84.2	42.1	1.65
2"	50.8	104.8	52.4	1.65
2.5"	63.5	119	59.5	1.65
3"	76.2	131.8	65.9	1.65
4"	101.6	174.6	87.3	2.1
6"	152.4	254	127	2.77



7W LONG EQUAL WELD TEE

SIZE	ØD	L	L1	T
1/2"	12.7	95.2	47.6	1.65
3/4"	19.05	95.2	47.6	1.65
1"	25.4	95.2	47.6	1.65
1.5"	38.1	114.4	57.2	1.65
2"	50.8	152.4	76.2	1.65
2.5"	63.5	152.4	76.2	1.65
3"	76.2	165.2	82.6	1.65
4"	101.6	196.8	98.4	2.1
6"	152.4	285.8	142.9	2.77

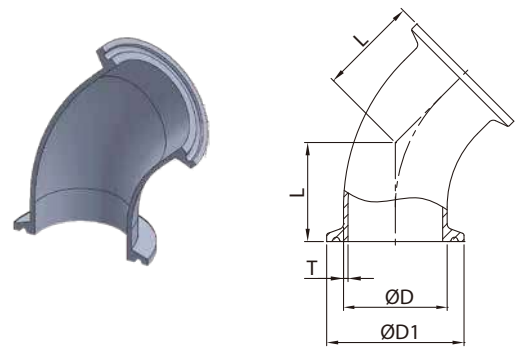


7RW LONG REDUCING WELD TEE

SIZE	ØD	Ød	L	L1	T	t
1"×1/2"	25.4	12.7	95.5	25.4	1.65	1.65
1"×3/4"	25.4	19.05	95.5	28.45	1.65	1.65
1.5"×1/2"	38.1	12.7	114.3	31.75	1.65	1.65
1.5"×3/4"	38.1	19.05	114.3	35.05	1.65	1.65
1.5"×1"	38.1	25.4	114.3	54	1.65	1.65
2"×1/2"	50.8	12.7	152.4	38.1	1.65	1.65
2"×3/4"	50.8	19.05	152.4	41.4	1.65	1.65
2"×1"	50.8	25.4	152.4	60.3	1.65	1.65
2"×1.5"	50.8	38.1	152.4	63.5	1.65	1.65
2.5"×1"	63.5	25.4	152.4	69.85	1.65	1.65
2.5"×1.5"	63.5	38.1	152.4	69.85	1.65	1.65
2.5"×2"	63.5	50.8	152.4	82.55	1.65	1.65
3"×1"	76.2	25.4	165.1	79.38	1.65	1.65
3"×1.5"	76.2	38.1	165.1	76.2	1.65	1.65
3"×2"	76.2	50.8	165.1	88.9	1.65	1.65
3"×2.5"	76.2	63.5	165.1	82.55	1.65	1.65
4"×1"	101.6	25.4	196.8	92.08	2.1	1.65
4"×1.5"	101.6	38.1	196.8	92.08	2.1	1.65
4"×2"	101.6	50.8	196.8	101.6	2.1	1.65
4"×2.5"	101.6	63.5	196.8	95.25	2.1	1.65
4"×3"	101.6	76.2	196.8	95.25	2.1	1.65
6"×2"	152.4	50.8	285.8	120.65	2.77	1.65
6"×3"	152.4	76.2	285.8	120.65	2.77	1.65
6"×4"	152.4	101.6	285.8	123.8	2.77	2.1

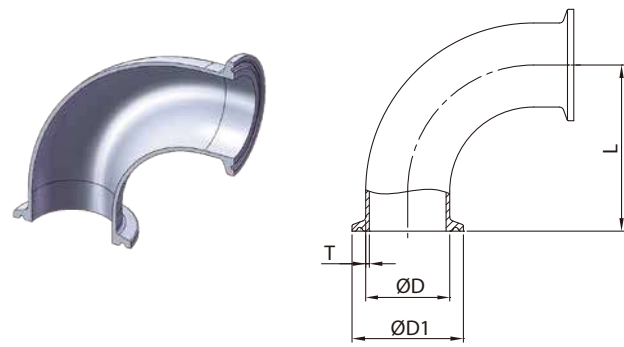


3A Tubular Items



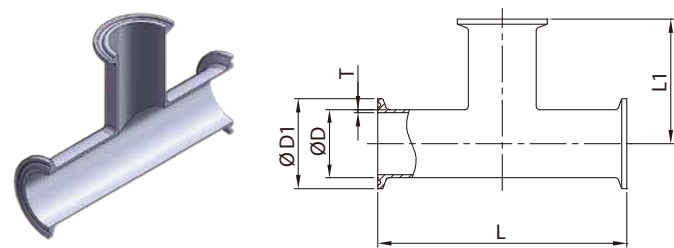
2KMP TRI-CLAMP 45° ELBOW

SIZE	ØD	ØD1	L	T
1/2"	12.7	25.2	19.8	1.65
3/4"	19.05	25.2	24.6	1.65
1"	25.4	50.5	28.5	1.65
1.5"	38.1	50.5	36.5	1.65
2"	50.8	64	44.45	1.65
2.5"	63.5	77.5	52.3	1.65
3"	76.2	91	60.3	1.65
4"	101.6	119	76.2	2.1
6"	152.4	166.87	117.5	2.77



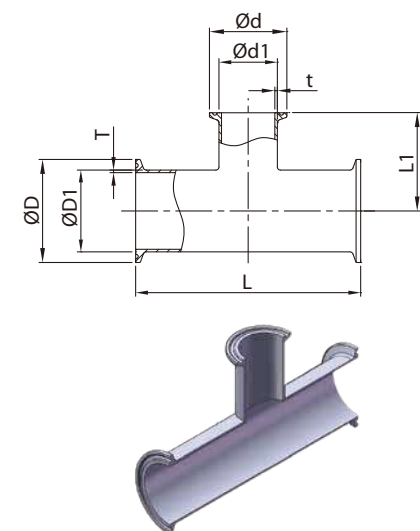
2CMP TRI-CLAMP 90° ELBOW

SIZE	ØD	ØD1	L	T
1/2"	12.7	25.2	41.3	1.65
3/4"	19.05	25.2	41.3	1.65
1"	25.4	50.5	50.8	1.65
1.5"	38.1	50.5	69.9	1.65
2"	50.8	64	88.9	1.65
2.5"	63.5	77.5	107.95	1.65
3"	76.2	91	127	1.65
4"	101.6	119	168.2	2.1
6"	152.4	166.87	250.8	2.77



7MP TRI-CLAMP EQUAL TEE

SIZE	ØD	ØD1	L	L1	T
1/2"	12.7	25.2	63.5	31.75	1.65
3/4"	19.05	25.2	120.6	60.3	1.65
1"	25.4	50.5	120.6	60.3	1.65
1.5"	38.1	50.5	139.8	69.9	1.65
2"	50.8	64	177.8	88.9	1.65
2.5"	63.5	77.5	177.8	88.9	1.65
3"	76.2	91	190.6	95.3	1.65
4"	101.6	119	228.4	114.2	2.1
6"	152.4	166.87	330.2	165.1	2.77



7RMP TRI-CLAMP REDUCING TEE

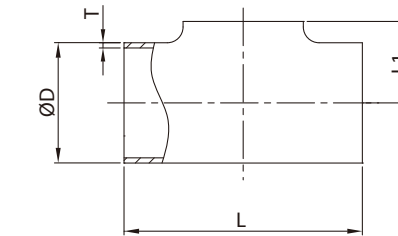
SIZE	ØD	ØD1	Ød	Ød1	L	L1	T	t
1.5"×1"	50.5	38.1	50.5	25.4	139.7	66.68	1.65	1.65
2"×1"	64	50.8	50.5	25.4	177.8	73	1.65	1.65
2"×1.5"	64	50.8	50.5	38.1	177.8	76.2	1.65	1.65
2.5"×1.5"	77.5	63.5	50.5	38.1	177.8	82.55	1.65	1.65
2.5"×2"	77.5	63.5	64	50.8	177.8	95.25	1.65	1.65
3"×1.5"	91	76.2	50.5	38.1	190.5	88.9	1.65	1.65
3"×2"	91	76.2	64	50.8	190.5	101.6	1.65	1.65
3"×2.5"	91	76.2	77.5	63.5	190.5	95.25	1.65	1.65
4"×2"	119	101.6	64	50.8	228.4	114.3	2.1	1.65
4"×2.5"	119	101.6	77.5	63.5	228.4	107.95	2.1	1.65
4"×3"	119	101.6	91	76.2	228.4	107.95	2.1	1.65

3A Tubular Items



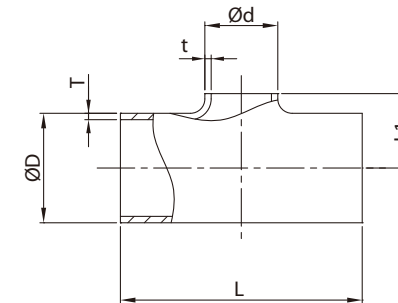
7WO Pull TEE WITHOUT STRAIGHT END

SIZE	ØD	L	L1	T
1"	25.4	57.2	16	1.65
1.5"	38.1	84.2	22	1.65
2"	50.8	104.8	29	1.65
2.5"	63.5	119	35	1.65
3"	76.2	131.8	41	1.65
4"	101.6	174.6	54	2.1



7RWS REDUCING TEE WITHOUT STRAIGHT END

SIZE	ØD	Ød	L	L1	T	t
1.5"×1"	38.1	25.4	84.2	22	1.65	1.65
2"×1.5"	50.8	38.1	104.8	29	1.65	1.65
2.5"×2"	63.5	50.8	119	35	1.65	1.65
3"×2"	76.2	50.8	131.8	41	1.65	1.65
3"×2.5"	76.2	63.5	131.8	41	1.65	1.65
4"×2"	101.6	50.8	235	54	2.1	1.65
4"×2.5"	101.6	63.5	235	54	2.1	1.65
4"×3"	101.6	76.2	235	54	2.1	1.65



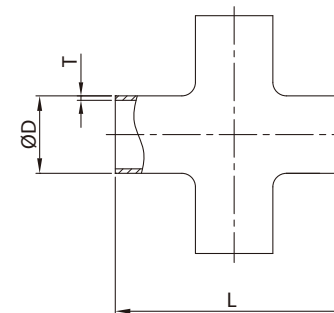
9WWW SHORT EQUAL WELD CROSS

SIZE	ØD	L	T
1"	25.4	57.2	1.65
1.5"	38.1	84.2	1.65
2"	50.8	104.8	1.65
2.5"	63.5	119	1.65
3"	76.2	131.8	1.65
4"	101.6	174.6	2.1



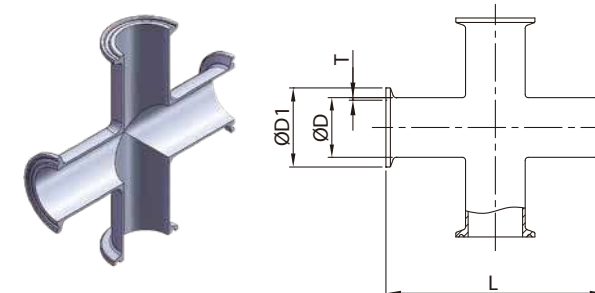
9W LONG EQUAL WELD CROSS

SIZE	ØD	L	T
1/2"	12.7	38.1	1.65
3/4"	19.05	95.25	1.65
1"	25.4	95.2	1.65
1.5"	38.1	114.4	1.65
2"	50.8	152.4	1.65
2.5"	63.5	152.4	1.65
3"	76.2	165.2	1.65
4"	101.6	196.8	2.1



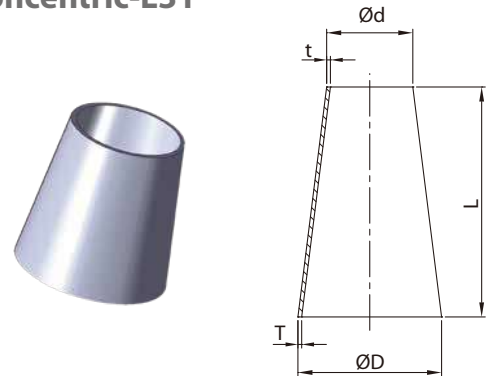
9MP CLAMP LONG CROSS

SIZE	ØD	ØD1	L	T
1"	25.4	50.5	120.6	1.65
1.5"	38.1	50.5	139.8	1.65
2"	50.8	64	177.8	1.65
2.5"	63.5	77.5	177.8	1.65
3"	76.2	91	190.6	1.65
4"	101.6	119	228.4	2.1

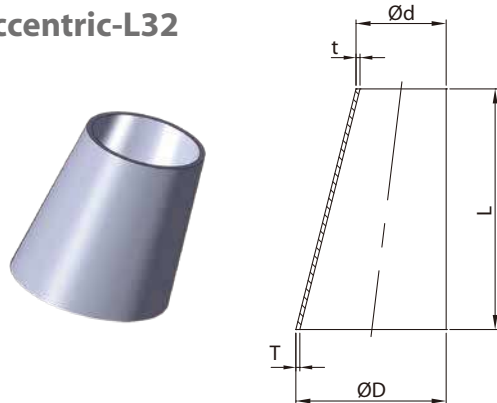


3A Tubular Items

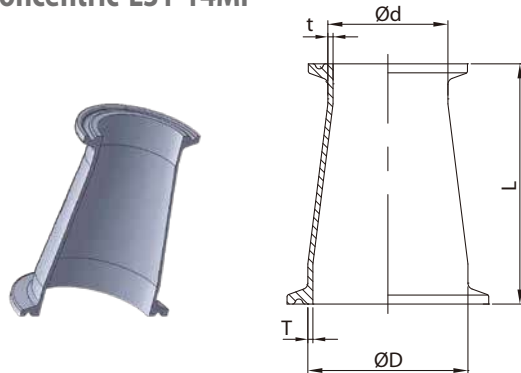
Concentric-L31



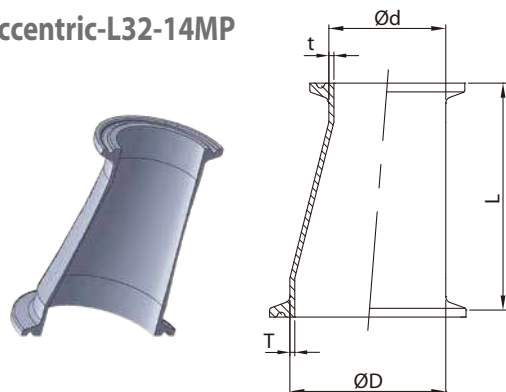
Eccentric-L32



Concentric-L31-14MP



Eccentric-L32-14MP



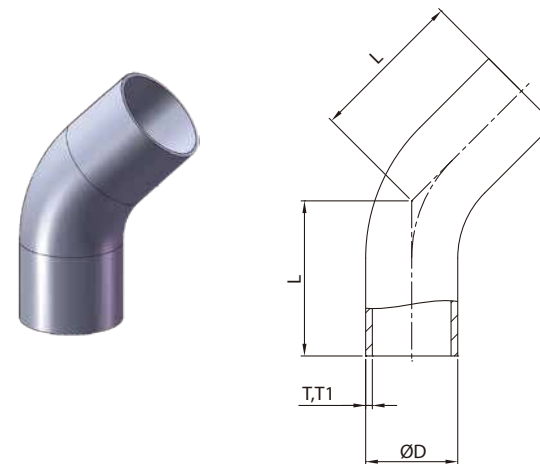
WELD REDUCERS

SIZE	ØD	Ød	L	T	t
3/4"×1/2"	19.05	12.7	25.4	1.65	1.65
1"×1/2"	25.4	12.7	50.8	1.65	1.65
1"×3/4"	25.4	19.05	25.4	1.65	1.65
1.5"×1/2"	38.1	12.7	101.6	1.65	1.65
1.5"×3/4"	38.1	19.05	76.2	1.65	1.65
1.5"×1"	38.1	25.4	50.8	1.65	1.65
2"×1/2"	50.8	12.7	152.4	1.65	1.65
2"×3/4"	50.8	19.05	127	1.65	1.65
2"×1"	50.8	25.4	101.6	1.65	1.65
2"×1.5"	50.8	38.1	50.8	1.65	1.65
2.5"×1"	63.5	25.4	152.4	1.65	1.65
2.5"×1.5"	63.5	38.1	101.6	1.65	1.65
2.5"×2"	63.5	50.8	50.8	1.65	1.65
3"×1"	76.2	25.4	203.2	1.65	1.65
3"×1.5"	76.2	38.1	152.4	1.65	1.65
3"×2"	76.2	50.8	101.6	1.65	1.65
3"×2.5"	76.2	63.5	50.8	1.65	1.65
4"×1"	101.6	25.4	304.8	2.1	1.65
4"×1.5"	101.6	38.1	254	2.1	1.65
4"×2"	101.6	50.8	203.2	2.1	1.65
4"×2.5"	101.6	63.5	152.4	2.1	1.65
4"×3"	101.6	76.2	101.6	2.1	1.65
6"×2"	152.4	50.8	139.7	2.77	1.65
6"×3"	152.4	76.2	139.7	2.77	1.65
6"×4"	152.4	101.6	139.7	2.77	2.1

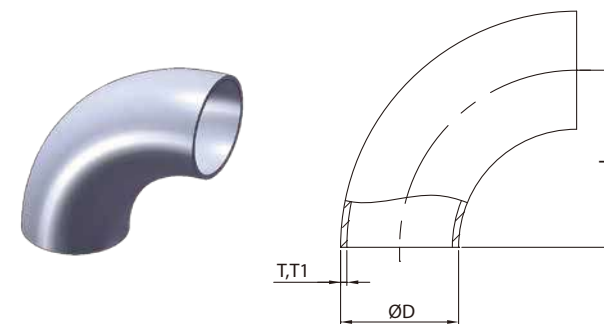
TRI-CLAMP REDUCERS

SIZE	ØD	Ød	L	T	t
3/4"×1/2"	19.05	12.7	50.8	1.65	1.65
1"×1/2"	25.4	12.7	76.2	1.65	1.65
1"×3/4"	25.4	19.05	50.8	1.65	1.65
1.5"×1/2"	38.1	12.7	127	1.65	1.65
1.5"×3/4"	38.1	19.05	101.6	1.65	1.65
1.5"×1"	38.1	25.4	76.2	1.65	1.65
2"×1/2"	50.8	12.7	177.8	1.65	1.65
2"×3/4"	50.8	19.05	152.4	1.65	1.65
2"×1"	50.8	25.4	127	1.65	1.65
2"×1.5"	50.8	38.1	76.2	1.65	1.65
2.5"×1.5"	63.5	38.1	127	1.65	1.65
2.5"×2"	63.5	50.8	76.2	1.65	1.65
3"×1"	76.2	25.4	228.6	1.65	1.65
3"×1.5"	76.2	38.1	177.8	1.65	1.65
3"×2"	76.2	50.8	127	1.65	1.65
3"×2.5"	76.2	63.5	76.2	1.65	1.65
4"×1.5"	101.6	38.1	282.5	2.1	1.65
4"×2"	101.6	50.8	231.7	2.1	1.65
4"×2.5"	101.6	63.5	180.9	2.1	1.65
4"×3"	101.6	76.2	130.1	2.1	1.65
6"×3"	152.4	76.2	165.1	2.77	1.65
6"×4"	152.4	101.6	165.1	2.77	2.1

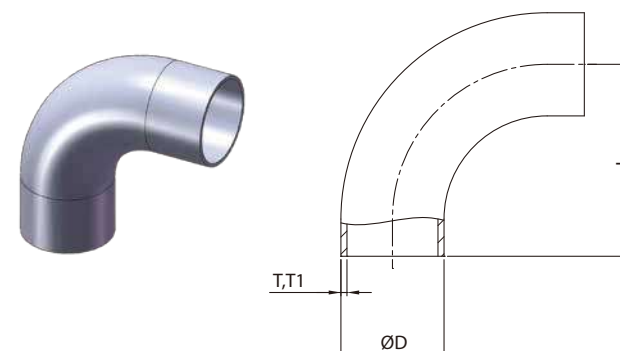
SMS Tubular Items

L2KS1D
LONG 45° ELBOW

SIZE	ØD	L	T	T1
DN25	25	42.33	1.25	1.5
DN38	38	48.72	1.25	1.5
DN50	51	58.15	1.25	1.5
DN63	63.5	75.3	1.5	1.5
DN76	76.1	79.37	1.6	2
DN100	104	85.54	2	2

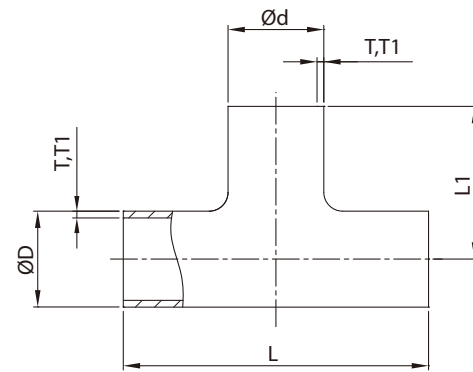
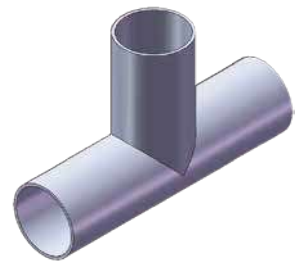
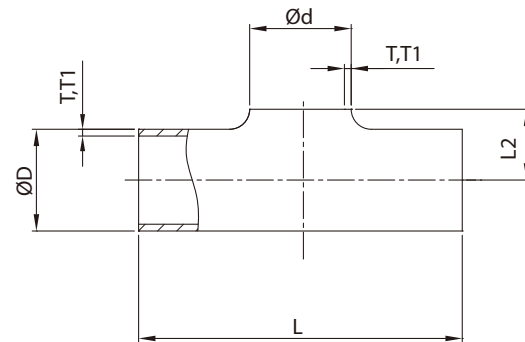
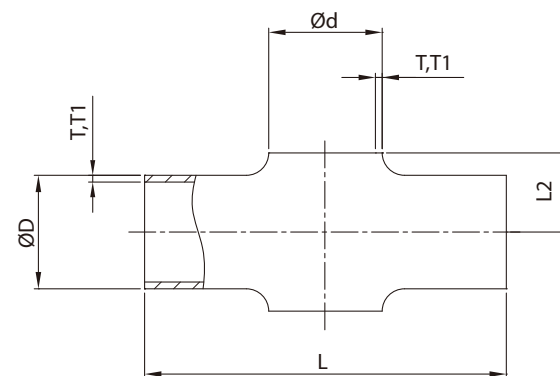
2WCL
SHORT 90° ELBOW

SIZE	ØD	L	T	T1
DN25	25	37.5	1.25	1.5
DN38	38	57	1.25	1.5
DN50	51	76.5	1.25	1.5
DN63	63.5	95.25	1.5	1.5
DN76	76.1	114.15	1.6	2
DN100	104	152.1	2	2

L2S1D
LONG 90° ELBOW

SIZE	ØD	L	T	T1
DN25	25	55	1.25	1.5
DN38	38	70	1.25	1.5
DN50	51	82	1.25	1.5
DN63	63.5	105	1.5	1.5
DN76	76.1	110	1.6	2
DN100	101.6	150	2	2
	104	150	2	2

SMS Tubular Items

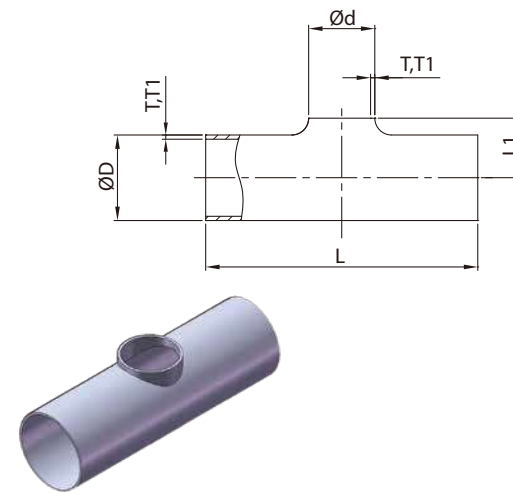
SMS 7W
Tee With Stright-EndSMS 7WO
TEE Without Straight-EndSMS 9WO
Welding Cross Without Straight-End

SIZE	ØD	ψ d	L	L1	L2	T	T1
DN25	25	25	110	55	14	1.25	1.5
DN38	38	38	140	70	21	1.25	1.5
DN50	51	51	164	82	28.5	1.25	1.5
DN63	63.5	63.5	210	105	36	1.5	1.5
DN76	76.1	76.1	220	110	43	1.6	2
DN100	104	104	300	150	58	2	2

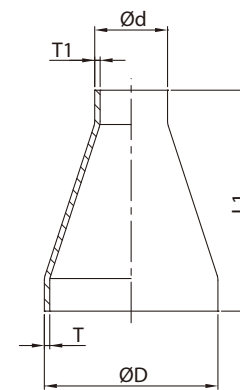
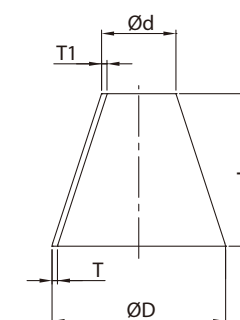
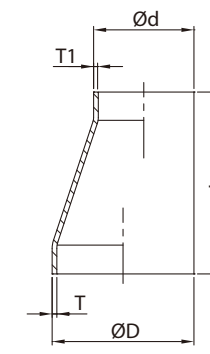
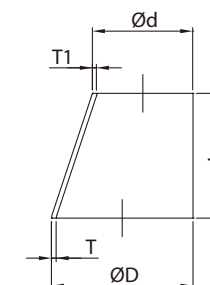
SMS Tubular Items

7WO

WELDING REDUCING TEE WITHOUT STRAIGHT-END



SIZE	ØD	Ød	L	L1	T	T1
38*25	38	25	140	21	1.25	1.5
50*25	51	25	164	29	1.25	1.5
50*38	51	38	164	29	1.25	1.5
63*25	63.5	25	210	34.5	1.5	1.5
63*38	63.5	38	210	35	1.5	1.5
63*50	63.5	51	210	36	1.5	1.5
76*25	76.1	25	220	41	1.6	2
76*38	76.1	38	220	42	1.6	2
76*50	76.1	51	220	43	1.6	2
76*63	76.1	63.5	220	43	1.6	2
100*25	104	25	300	56	2	2
100*38	104	38	300	56	2	2
100*50	104	51	300	57	2	2
100*63	104	63.5	300	58	2	2
100*76	104	76.1	300	58	2	2

SMS L31SE
Concentric ReducerSMS L31
Concentric ReducerSMS L32SE
Eccentric ReducerSMS L32
Eccentric Reducer

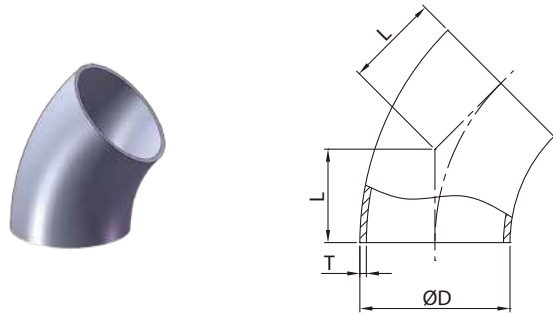
WELD REDUCER

SIZE	ØD	Ød	L	L1	T	T1
38*25	38	25	39	46	1.25	1.25
50*25	51	25	57	68	1.25	1.25
50*38	51	38	39	47	1.25	1.25
63*25	63.5	25	74	92	1.5	1.25
63*38	63.5	38	57	70	1.5	1.25
63*50	63.5	51	39	44	1.5	1.25
76*25	76.1	25	92	—	1.6	1.25
76*38	76.1	38	74	92	1.6	1.25
76*50	76.1	51	57	68	1.6	1.25
76*63	76.1	63.5	39	47	1.6	1.5
100*50	104	51	95	117	2	1.25
100*63	104	63.5	78	94	2	1.5
100*76	104	76.1	60	74	2	1.6

W/O STRAIGHT END REDUCER

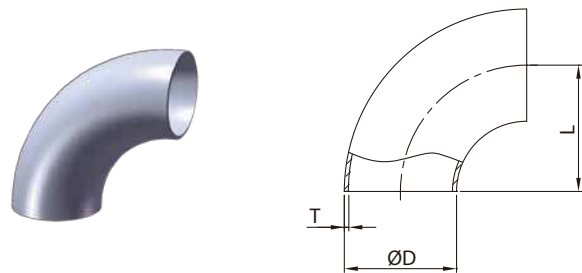
SIZE	ØD	Ød	L1	T	T1
38*25	38	25	39	1.25	1.25
50*25	51	25	78	1.25	1.25
50*38	51	38	39	1.25	1.25
63*25	63.5	25	116	1.5	1.25
63*38	63.5	38	76	1.5	1.25
63*50	63.5	51	38	1.5	1.25
76*25	76.1	25	153	1.6	1.25
76*38	76.1	38	114	1.6	1.25
76*50	76.1	51	75	1.6	1.25
76*63	76.1	63.5	38	1.6	1.5
100*38	104	38	198	2	1.25
100*50	104	51	159	2	1.25
100*63	104	63.5	122	2	1.5
100*76	104	76.1	84	2	1.6

DIN Tubular Items



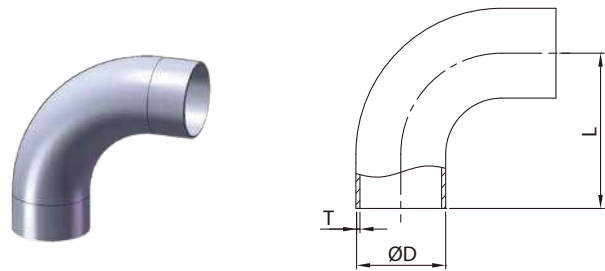
2WK SHORT 45° ELBOW

SIZE	ØD	L	T
DN20	22/23	16.6	1.5
DN25	28/29	20.7	1.5
DN32	34/35	22.8	1.5
DN40	40/41	24.9	1.5
DN50	52/53	29	1.5
DN65	70	33.1	2
DN80	85	37.3	2
DN100	104	41.4	2



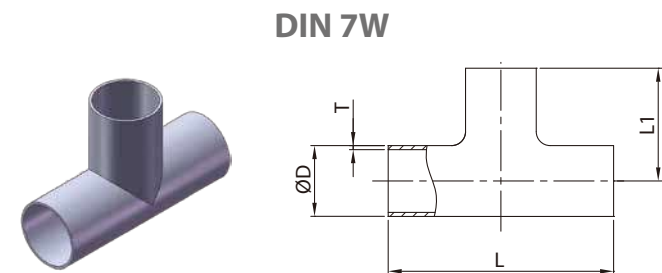
2WCL SHORT 90° ELBOW

SIZE	ØD	L	T
DN10	12/13	26	1.5
DN15	18/19	35	1.5
DN20	22/23	40	1.5
DN25	28/29	50	1.5
DN32	34/35	55	1.5
DN40	40/41	60	1.5
DN50	52/53	70	1.5
DN65	70	80	2
DN80	85	90	2
DN100	101.6 104	152.4 100	2 2

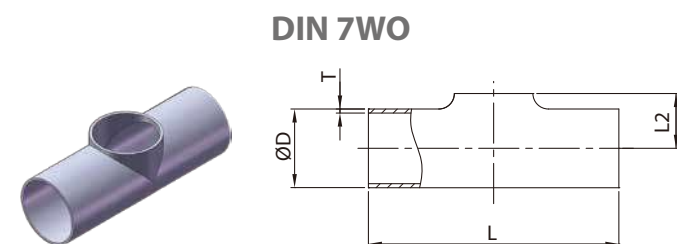


L2S LONG 90° ELBOW

SIZE	ØD	L	T
DN20	22/23	52	1.5
DN25	28/29	65	1.5
DN32	34/35	73	1.5
DN40	40/41	80	1.5
DN50	52/53	92	1.5
DN65	70	105	2
DN80	85	119	2
DN100	101.6 104	175 140	2 2



DIN 7W

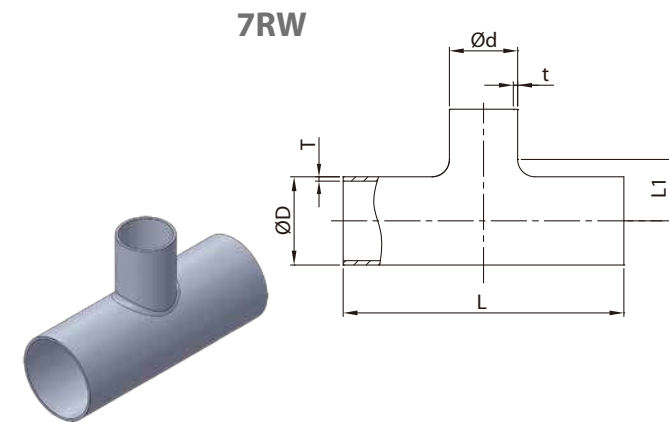


DIN 7WO

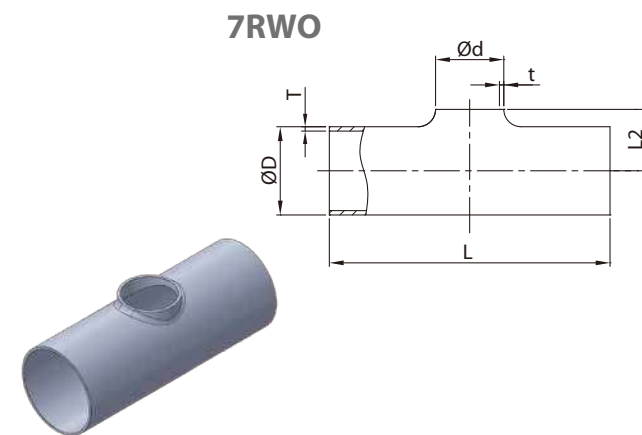
TEE & PULL TEE

SIZE	ØD	L	L1	L2	T
DN10	12/13	52	26	11	1.5
DN15	18/19	70	35	11	1.5
DN20	22/23	80	40	13	1.5
DN25	28/29	100	50	16	1.5
DN32	34/35	110	55	19.5	1.5
DN40	40/41	120	60	23	1.5
DN50	52/53	140	70	30	1.5
DN65	70	160	80	40	2
DN80	85	180	90	47.5	2
DN100	101.6 104	300 200	150 100	56 58	2 2
DN125	129	375	187.5	74	2
DN150	154	450	225	90	2
DN200	204	600	300	115	2

DIN Tubular Items



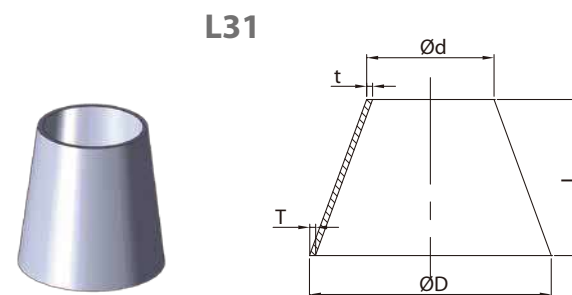
7RW



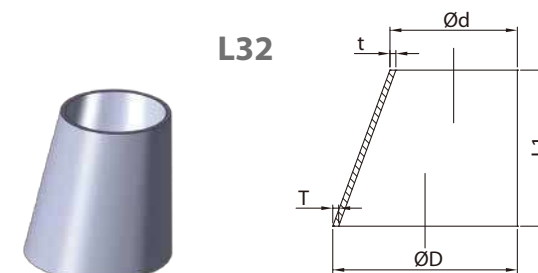
7RWO

REDUCING TEE & REDUCING PULL TEE

SIZE	ØD	Ød	L	L1	L2	T	t
15*10	18/19	12/13	70	29	10.5	1.5	1.5
20*10	22/23	12/13	80	31	12.5	1.5	1.5
20*15	22/23	18/19	80	37	13	1.5	1.5
25*15	28/29	18/19	100	40	16	1.5	1.5
25*20	28/29	22/23	100	43	16	1.5	1.5
32*15	34/35	18/19	110	43	19.5	1.5	1.5
32*20	34/35	22/23	110	46	19.5	1.5	1.5
32*25	34/35	28/29	110	53	19.5	1.5	1.5
40*20	40/41	22/23	120	49	22	1.5	1.5
40*25	40/41	28/29	120	56	22.5	1.5	1.5
40*32	40/41	34/35	120	58	22	1.5	1.5
50*25	52/53	28/29	140	62	28	1.5	1.5
50*32	52/53	34/35	140	64	28.5	1.5	1.5
50*40	52/53	40/41	140	66	29	1.5	1.5
65*32	70	34/35	160	72.5	37	2	1.5
65*40	70	40/41	160	74.5	37	2	1.5
65*50	70	52/53	160	78.5	38.5	2	1.5
80*40	85	40/41	180	82	45	2	1.5
80*50	85	52/53	180	86	46	2	1.5
80*65	85	70	180	87.5	47.5	2	2
100*50	104	52/53	200	95.5	55.5	2	1.5
100*65	104	70	200	97	57	2	2
100*80	104	85	200	99.5	57	2	2
125*65	129	70	375	109.5	69.5	2	2
125*80	129	85	375	112	69.5	2	2
125*100	129	104	375	112.5	70	2	2
150*80	154	85	450	124.5	82	2	2
150*100	154	104	450	125	83	2	2
150*125	154	129	450	200	86.5	2	2
200*100	204	104	600	150	108	2	2
200*125	204	129	600	225	111.5	2	2
200*150	204	154	600	250	115	2	2



L31

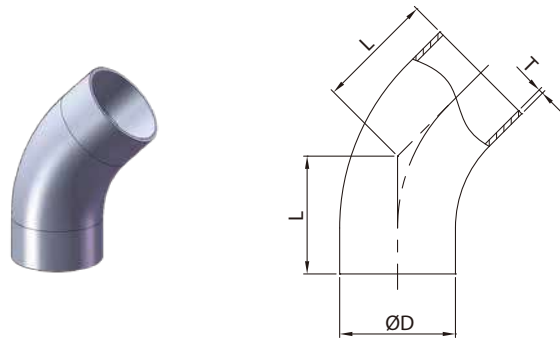


L32

CONCENTRIC REDUCER/ECCENTRIC REDUCER

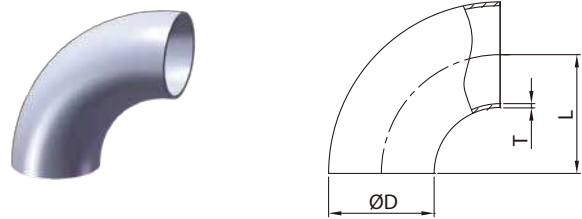
SIZE	ØD	Ød	L	L1	T	t
32*25	34/35	28/29	25	16.5	1.5	1.5
40*25	40/41	28/29	23	33	1.5	1.5
40*32	40/41	34/35	23	16.5	1.5	1.5
50*25	52/53	28/29	27	66	1.5	1.5
50*32	52/53	34/35	28	49.5	1.5	1.5
50*40	52/53	40/41	27	33	1.5	1.5
65*25	70	28/29	35	75	2	1.5
65*40	70	40/41	39	77	2	1.5
65*50	70	52/53	29	44	2	1.5
80*50	85	52/53	45	85	2	1.5
80*65	85	70	33	41.2	2	2
100*50	104	52/53	50	137.5	2	1.5
100*65	104	70	44	93.5	2	2
100*80	104	85	60	52.4	2	2

BS Tubular Items



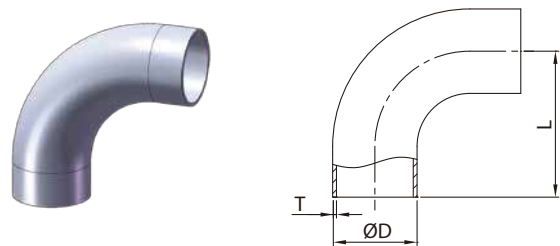
L2KS LONG 45° ELBOW

SIZE	ØD	L	T
1"	25.4	30.2	1.65
1.5"	38.1	41.3	1.65
2"	50.8	58.7	1.65
2.5"	63.5	76.2	1.65
3"	76.2	93.7	1.65
4"	101.6	122.2	2.1



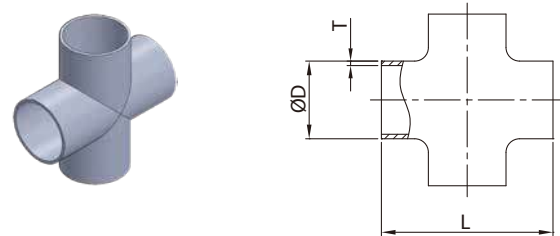
2WCL SHORT WELD 90° ELBOW

SIZE	ØD	L	T
1"	25.4	43.5	1.65
1.5"	38.1	63.5	1.65
2"	50.8	88.5	1.65
2.5"	63.5	113.5	1.65
3"	76.2	133.5	1.65
4"	101.6	173.5	2.1



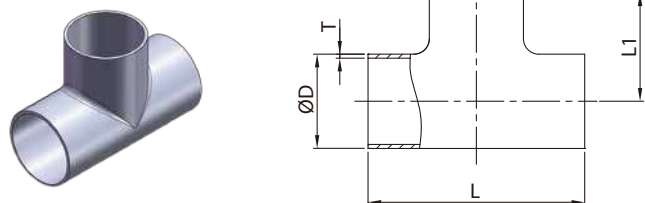
L2S LONG WELD 90° ELBOW

SIZE	ØD	L	T
1/2"	12.7	45	1.65
3/4"	19.05	60	1.65
1"	25.4	65	1.65
1.5"	38.1	85	1.65
2"	50.8	110	1.65
2.5"	63.5	135	1.65
3"	76.2	155	1.65
4"	101.6	195	2.1



9W CROSS

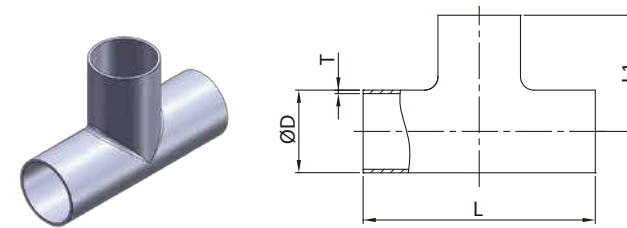
SIZE	ØD	L	T
1"	25.4	130	1.65
1.5"	38.1	170	1.65
2"	50.8	220	1.65
2.5"	63.5	270	1.65
3"	76.2	310	1.65
4"	101.6	390	2.1



7WWW SHORT TEE

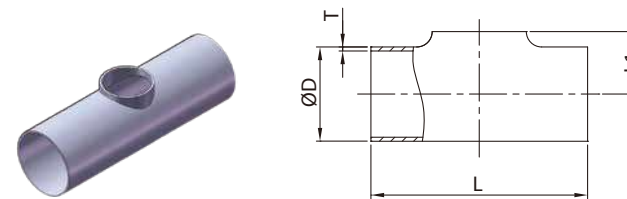
SIZE	ØD	L	L1	T
1"	25.4	87	43.5	1.65
1.5"	38.1	127	63.5	1.65
2"	50.8	177	88.5	1.65
2.5"	63.5	227	113.5	1.65
3"	76.2	267	133.5	1.65
4"	101.6	347	173.5	2.1

BS Tubular Items



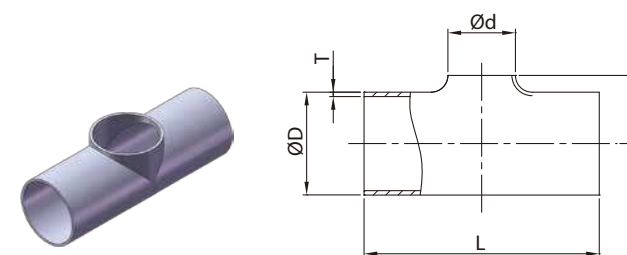
7W LONG TEE

SIZE	ØD	L	L1	T
1"	25.4	130	65	1.65
1.5"	38.1	170	85	1.65
2"	50.8	220	110	1.65
2.5"	63.5	270	135	1.65
3"	76.2	310	155	1.65
4"	101.6	390	195	2.1



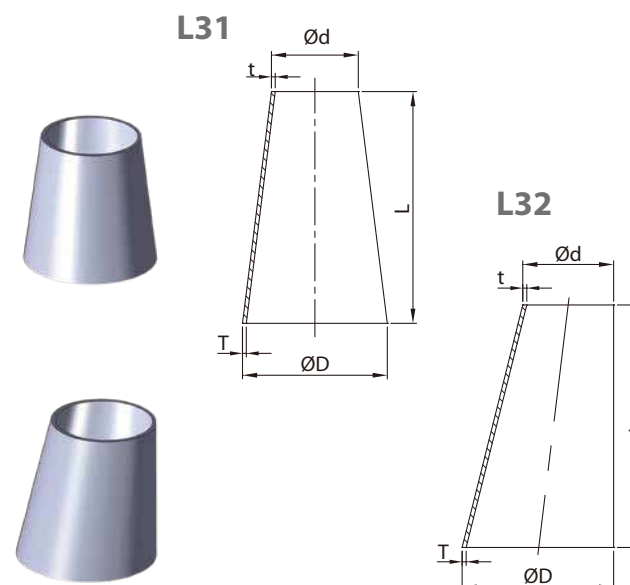
7WO PULL TEE

SIZE	ØD	L	L1	T
1"	25.4	87	13.8	1.65
1.5"	38.1	127	19.9	1.65
2"	50.8	177	27.6	1.65
2.5"	63.5	227	34.9	1.65
3"	76.2	267	40.9	1.65
4"	101.6	347	54.7	2.1



7RWO REDUCING PULL TEE

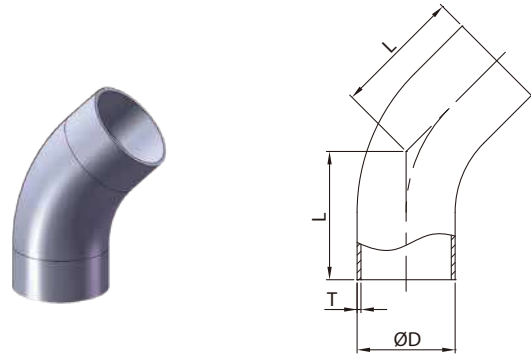
SIZE	ØD	Ød	L	L1	T
1.5"×1"	38.1	25.4	127	22	1.65
2"×1"	50.8	25.4	177	29	1.65
2"×1.5"	50.8	38.1	177	29	1.65
2.5"×1"	63.5	25.4	227	35	1.65
2.5"×1.5"	63.5	38.1	227	35	1.65
2.5"×2"	63.5	50.8	227	35	1.65
3"×1"	76.2	25.4	267	41	1.65
3"×1.5"	76.2	38.1	267	41	1.65
3"×2"	76.2	50.8	267	41	1.65
3"×2.5"	76.2	63.5	267	41	1.65
4"×2"	101.6	50.8	347	55	2.1
4"×2.5"	101.6	63.5	347	55	2.1
4"×3"	101.6	76.2	347	55	2.1



WELD REDUCERS

SIZE	ØD	Ød	L	L1	T	t
1.5"×1"	38.1	25.4	29	35	1.65	1.65
2"×1"	50.8	25.4	53	54	1.65	1.65
2"×1.5"	50.8	38.1	41	36	1.65	1.65
2.5"×1"	63.5	25.4	82	76	1.65	1.65
2.5"×1.5"	63.5	38.1	64	66	1.65	1.65
2.5"×2"	63.5	50.8	40	35	1.65	1.65
3"×1"	76.2	25.4	110	112	1.65	1.65
3"×1.5"	76.2	38.1	81	78	1.65	1.65
3"×2"	76.2	50.8	55	66	1.65	1.65
3"×2.5"	76.2	63.5	41	44	1.65	1.65
4"×1.5"	101.6	38.1	135	122	2.1	1.65
4"×2"	101.6	50.8	106	97	2.1	1.65
4"×2.5"	101.6	63.5	76	73	2.1	1.65
4"×3"	101.6	76.2	53	77	2.1	1.65

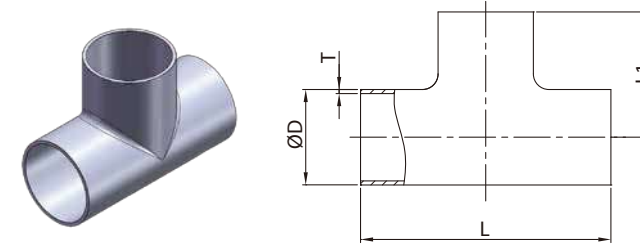
AS Tubular Items



L2KS LONG 45° ELBOW

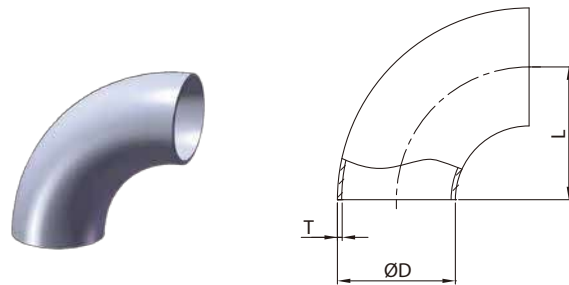
SIZE	ØD	L	T
1/2"	12.7	37.91	1.6
3/4"	19.1	41.85	1.6
1"	25.4	45.78	1.6/2
1.25"	31.8	45.78	1.6/2
1.5"	38.1	53.61	1.6/2
2"	50.8	61.56	1.6/2
2.5"	63.5	69.35	1.6/2
3"	76.2	77.3	1.6/2
4"	101.6	93.13	1.6/2

AS Tubular Items



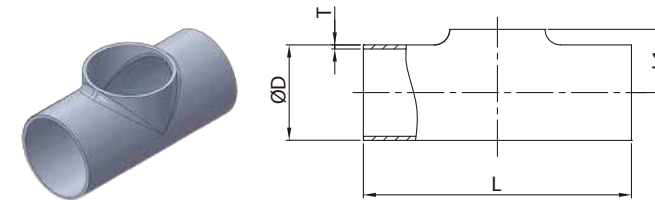
7WWW SHORT EQUAL WELD TEE

SIZE	ØD	L	L1	T
1/2"	12.7	38.2	19.1	1.6/2
3/4"	19.1	57.2	28.6	1.6/2
1"	25.4	76.2	38.1	1.6/2
1.25"	31.8	95.4	47.7	1.6/2
1.5"	38.1	114	57	1.6/2
2"	50.8	152.4	76.2	1.6/2
2.5"	63.5	190	95	1.6/2
3"	76.2	228.4	144.2	1.6/2
4"	101.6	304.8	152.4	1.6/2



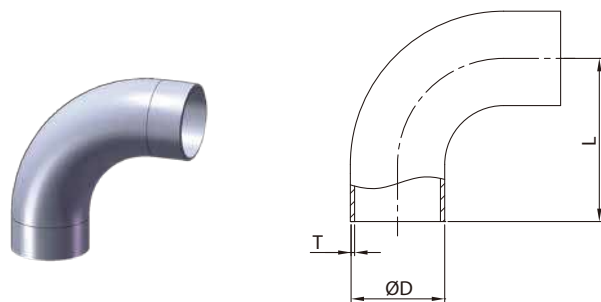
2WCL SHORT WELD 90° ELBOW

SIZE	ØD	L	T
1/2"	12.7	19.1	1.6
3/4"	19.1	28.6	1.6
1"	25.4	38.1	1.6/2
1.25"	31.8	47.7	1.6/2
1.5"	38.1	57	1.6/2
2"	50.8	76.2	1.6/2
2.5"	63.5	95	1.6/2
3"	76.2	114.2	1.6/2
4"	101.6	152.4	1.6/2



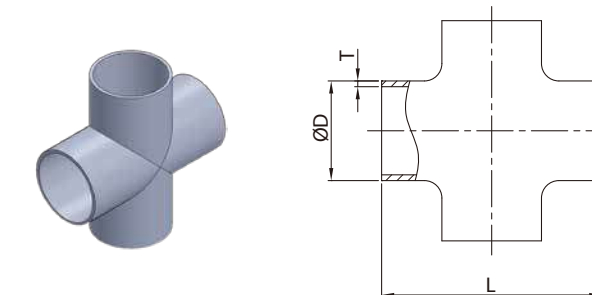
7WO EQUAL TEE W/O STRAIGHT END

SIZE	ØD	L	L1	T
1/2"	12.7	38.2	9.35	1.6/2
3/4"	19.1	57.2	12.55	1.6/2
1"	25.4	76.2	15.7	1.6/2
1.25"	31.8	95.4	18.9	1.6/2
1.5"	38.1	114	22.05	1.6/2
2"	50.8	152.4	28.4	1.6/2
2.5"	63.5	190	34.75	1.6/2
3"	76.2	228.4	41.1	1.6/2
4"	101.6	304.8	53.8	1.6/2



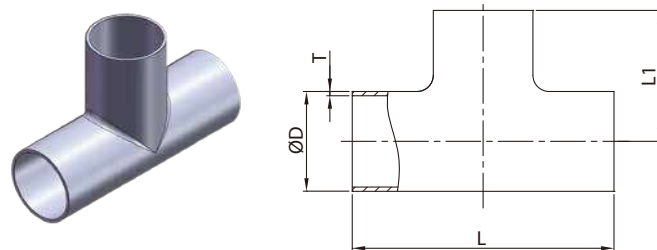
L2S LONG WELD 90° ELBOW

SIZE	ØD	L	T
1/2"	12.7	49.1	1.6/2
3/4"	19.1	58.6	1.6/2
1"	25.4	68.1	1.6/2
1.25"	31.8	77.7	1.6/2
1.5"	38.1	87	1.6/2
2"	50.8	106.2	1.6/2
2.5"	63.5	125	1.6/2
3"	76.2	144.2	1.6/2
4"	101.6	182.4	1.6/2



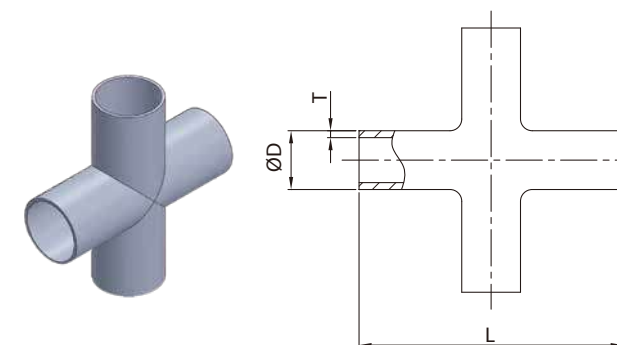
9WWW SHORT CROSS WELD END

SIZE	ØD	L	T
1/2"	12.7	38.2	1.6/2
3/4"	19.1	57.2	1.6/2
1"	25.4	76.2	1.6/2
1.25"	31.8	95.4	1.6/2
1.5"	38.1	114	1.6/2
2"	50.8	152.4	1.6/2
2.5"	63.5	190	1.6/2
3"	76.2	228.4	1.6/2
4"	101.6	304.8	1.6/2



7W LONG EQUAL WELD TEE

SIZE	ØD	L	L1	T
1/2"	12.7	98.2	49.1	1.6/2
3/4"	19.1	117.2	58.6	1.6/2
1"	25.4	136.2	68.1	1.6/2
1.25"	31.8	155.4	77.7	1.6/2
1.5"	38.1	174	87	1.6/2
2"	50.8	212.4	106.2	1.6/2
2.5"	63.5	250	125	1.6/2
3"	76.2	288.4	144.2	1.6/2
4"	101.6	364.8	182.4	1.6/2

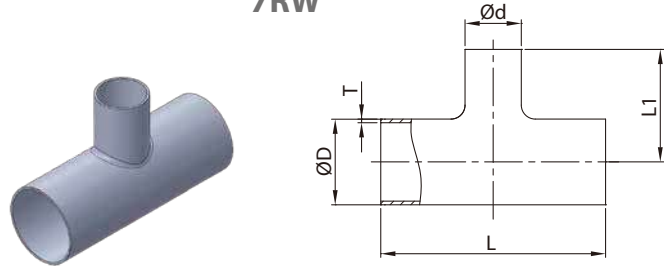


9W LONG CROSS WELD END

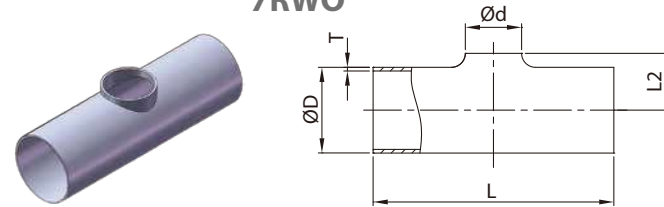
SIZE	ØD	L	T
1/2"	12.7	98.2	1.6/2
3/4"	19.1	117.2	1.6/2
1"	25.4	136.2	1.6/2
1.25"	31.8	155.4	1.6/2
1.5"	38.1	174	1.6/2
2"	50.8	212.4	1.6/2
2.5"	63.5	250	1.6/2
3"	76.2	288.4	1.6/2
4"	101.6	364.8	1.6/2

AS Tubular Items

7RW



7RWO



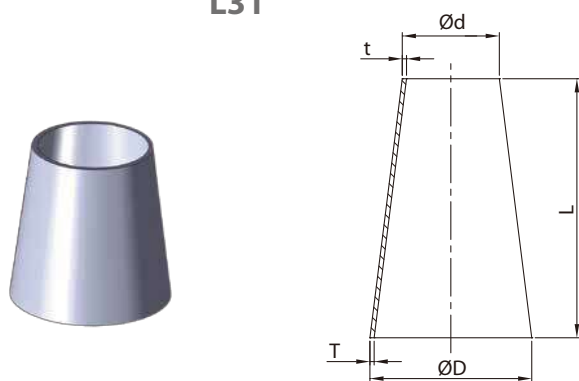
REDUCING TEE/REDUCING TEE

SIZE	ØD	Ød	L	L1	L2	T
1.5"×1"	38.1	25.4	160	80	22.05	1.6/2
2"×1"	50.8	25.4	160	80	28.4	1.6/2
2"×1.5"	50.8	38.1	160	80	28.4	1.6/2
2.5"×1.5"	63.5	38.1	160	80	34.75	1.6/2
2.5"×2"	63.5	50.8	160	80	37.75	1.6/2
3"×1.5"	76.2	38.1	160	80	41.1	1.6/2
3"×2"	76.2	50.8	160	80	41.1	1.6/2
3"×2.5"	76.2	63.5	190.5	95.3	41.1	1.6/2
4"×2"	101.6	50.8	160	80	53.8	1.6/2
4"×2.5"	101.6	63.5	190.5	95.3	53.8	1.6/2
4"×3"	101.6	76.2	228.6	114.3	53.8	1.6/2

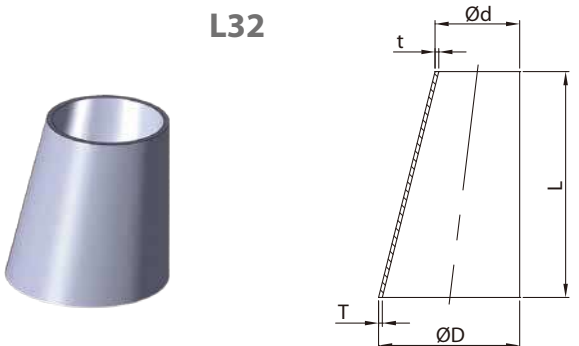
CONCENTRIC REDUCER/ECCENTRIC REDUCER

SIZE	ØD	Ød	L	T	t
3/4"×1/2"	19.1	12.7	19.1	1.6/2	1.6
1×1/2"	25.4	12.7	25.4	1.6/2	1.6
1"×3/4"	25.4	19.1	25.4	1.6/2	1.6
1.25"×3/4"	31.8	19.1	31.8	1.6/2	1.6
1.25"×1"	31.8	25.4	31.8	1.6/2	1.6/2
1.5"×3/4"	38.1	19.1	38.1	1.6/2	1.6
1.5"×1"	38.1	25.4	38.1	1.6/2	1.6/2
1.5"×1.25"	38.1	31.8	38.1	1.6/2	1.6/2
2"×1/2"	50.8	12.7	50.8	1.6/2	1.6
2"×3/4"	50.8	19.1	50.8	1.6/2	1.6
2"×1"	50.8	25.4	50.8	1.6/2	1.6/2
2"×1.25"	50.8	31.8	50.8	1.6/2	1.6/2
2"×1.5"	50.8	38.1	50.8	1.6/2	1.6/2
2.5"×1"	63.5	25.4	63.5	1.6/2	1.6/2
2.5"×1.25"	63.5	31.8	63.5	1.6/2	1.6/2
2.5"×1.5"	63.5	38.1	63.5	1.6/2	1.6/2
2.5"×2"	63.5	50.8	63.5	1.6/2	1.6/2
3"×1"	76.2	25.4	76.2	1.6/2	1.6/2
3"×1.25"	76.2	31.8	76.2	1.6/2	1.6/2
3"×1.5"	76.2	38.1	76.2	1.6/2	1.6/2
3"×2"	76.2	50.8	76.2	1.6/2	1.6/2
3"×2.5"	76.2	63.5	76.2	1.6/2	1.6/2
4"×1"	101.6	25.4	101.6	1.6/2	1.6/2
4"×1.25"	101.6	31.8	101.6	1.6/2	1.6/2
4"×1.5"	101.6	38.1	101.6	1.6/2	1.6/2
4"×2"	101.6	50.8	101.6	1.6/2	1.6/2
4"×2.5"	101.6	63.5	101.6	1.6/2	1.6/2
4"×3"	101.6	76.2	101.6	1.6/2	1.6/2
5"×2"	127	50.8	127	1.6/2	1.6/2
5"×3"	127	76.2	127	1.6/2	1.6/2
5"×4"	127	101.6	127	1.6/2	1.6/2
6"×2"	152.4	50.8	152.4	1.6/2	1.6/2
6"×2.5"	152.4	63.5	152.4	1.6/2	1.6/2
6"×3"	152.4	76.2	152.4	1.6/2	1.6/2
6"×4"	152.4	101.6	152.4	1.6/2	1.6/2
6"×5"	152.4	127	152.4	1.6/2	1.6/2

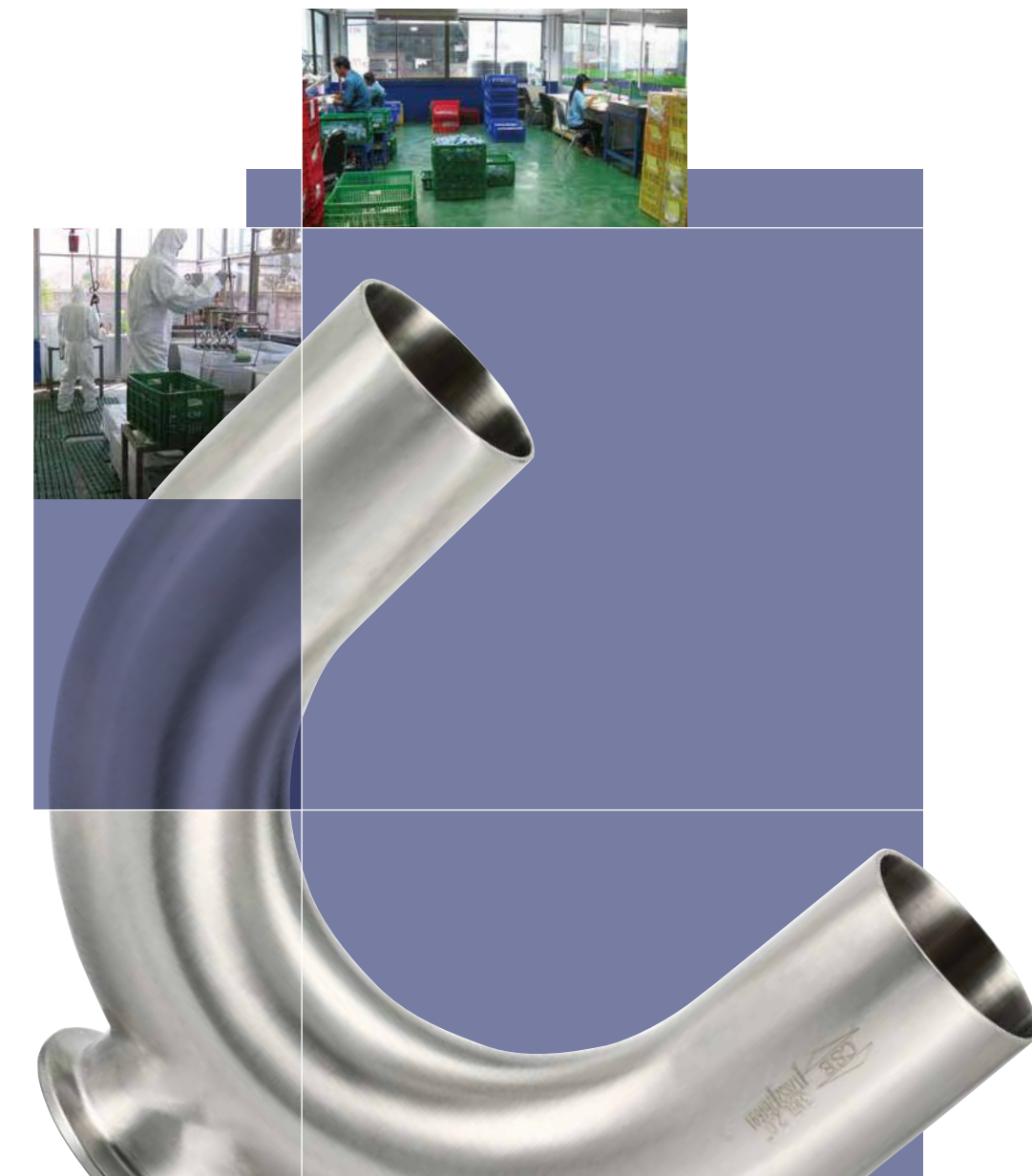
L31



L32



BPE, Pharmaceutical Fitting Semi-Conductor Fitting



CSE HIGH PURITY TUBE & FITTING VALVE (ASME BPE STANDARD)

Pharmaceutical/Biotechnology fitting. CSE have over 15 years hygienic fitting experiences for developing out the ASME bioprocessing equipment (BPE) standard tube, fitting, valve components for high purity application such as water for injection, pharmaceutical, Cosmetics use. Material: low sulphur ASTM SS316L, S: $\leq 0.005\% \sim 0.017\%$,



MTR certificate will be offered.
Surface options:

Ra Reading for Tubing					
As drawing and / or mechanically polished			Mechanically Polished and Electropolished or Electropolished		
Surface Designation	Ra Average		Surface Designation	Ra Average	
	μ-in	μ-m		μ-in	μ-m
SF1	20	0.5	SF4	15	0.38
SF2	25	0.63	SF5	20	0.5
SF3	30	0.76	SF6	25	0.63

Ra Reading for Fitting					
Mechanically polished			Mechanically Polished and Electropolished		
Surface Designation	Ra Average		Surface Designation	Ra Average	
	μ-in	μ-m		μ-in	μ-m
SF1	20	0.5	SF4	15	0.38
SF2	25	0.63	SF5	20	0.5
SF3	30	0.76	SF6	25	0.63

Outer surface: Tubes and fittings $Ra \leq 32 \mu\text{in}$ ($0.8 \mu\text{m}$)

CSE SEMI-CONDUCTOR/MICRO-ELECTRONICS

CSE developed our semiconductor, vacuum pipe fitting and components step by step by means of good produce techniques experience of sanitary pipe fitting and valve.

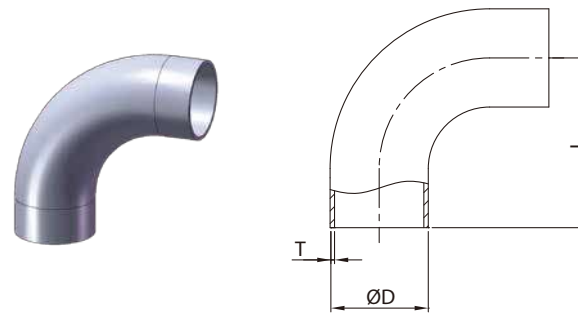


Our Vacuum and semiconductor fitting include: Clamp-Aluminum and Stainless steel and claw clamp are available. Flange-KF, ISO specification. Reducer-Blank flange and all of Elbow, Tee, Reducer. $Ra \leq 0.4 \mu\text{m}$ by machine and polished can be provided on request.

We also can offer Electro-polished and blasted surfaces.

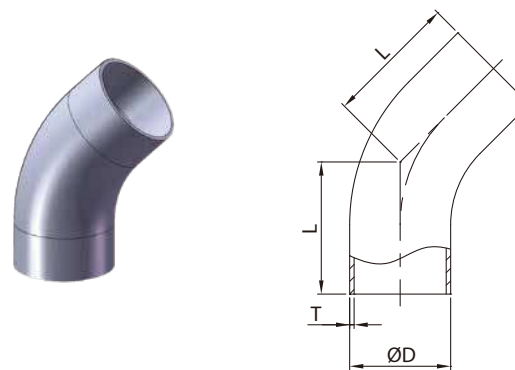
So far our products have been successfully promoted to Germany, U.K, Japan and local building projects based on our flexible production ability and strict quality control.

BPE Fittings



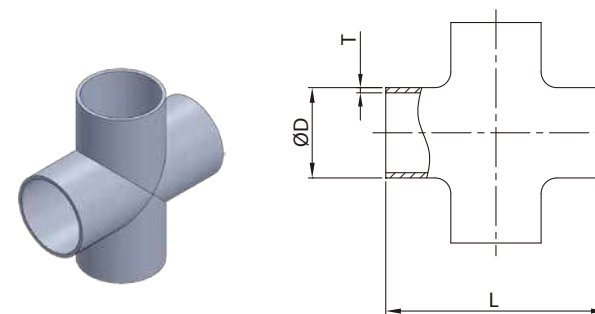
DT-4.1.1-1 LONG WELD 90° ELBOW (DT-7)

SIZE	ØD	L	T
1/2"	12.7	76.2	1.65
3/4"	19.05	76.2	1.65
1"	25.4	76.2	1.65
1.5"	38.1	95.25	1.65
2"	50.8	120.65	1.65
2.5"	63.5	139.7	1.65
3"	76.2	158.75	1.65
4"	101.6	203.2	2.1



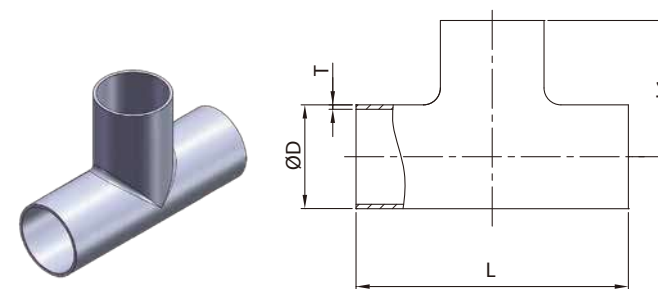
DT-4.1.1-4 LONG 45° ELBOW (DT-8)

SIZE	ØD	L	T
1/2"	12.7	57.15	1.65
3/4"	19.05	57.15	1.65
1"	25.4	57.15	1.65
1.5"	38.1	63.5	1.65
2"	50.8	76.2	1.65
2.5"	63.5	85.6	1.65
3"	76.2	91.95	1.65
4"	101.6	114.3	2.1



DT-4.1.2-1C CROSS (DT-9)

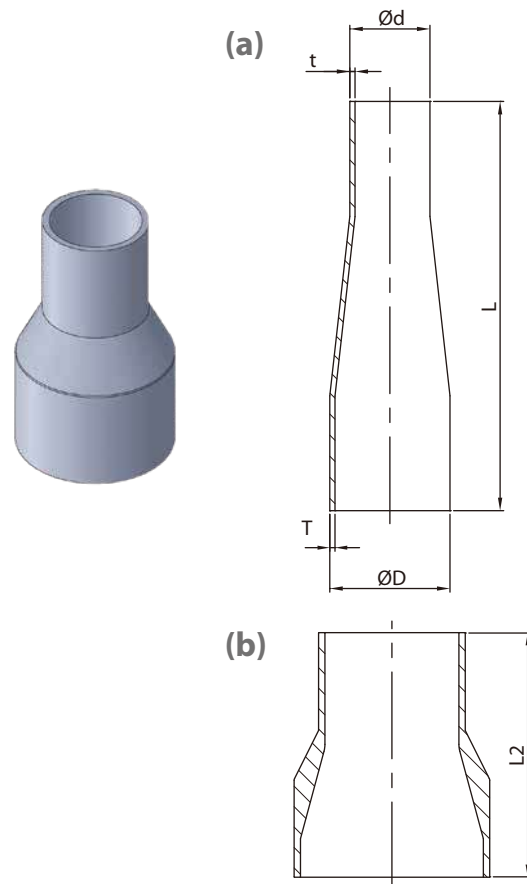
SIZE	ØD	L	T
1/2"	12.7	95.2	1.65
3/4"	19.05	101.6	1.65
1"	25.4	108	1.65
1.5"	38.1	120.6	1.65
2"	50.8	146	1.65
2.5"	63.5	158.8	1.65
3"	76.2	171.4	1.65
4"	101.6	209.6	2.1



DT-4.1.2-1T TEE (DT-9)

SIZE	ØD	L	L1	T
1/2"	12.7	95.2	47.5	1.65
3/4"	19.05	101.6	50.8	1.65
1"	25.4	108	53.85	1.65
1.5"	38.1	120.6	60.2	1.65
2"	50.8	146	73	1.65
2.5"	63.5	158.8	79.25	1.65
3"	76.2	171.4	85.6	1.65
4"	101.6	209.6	104.65	2.1

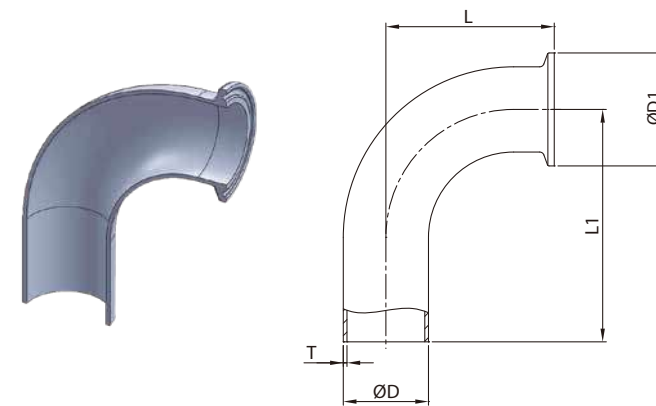
BPE Fittings



DT-4.1.3-1 CONCENTRIC REDUCER (DT-11)

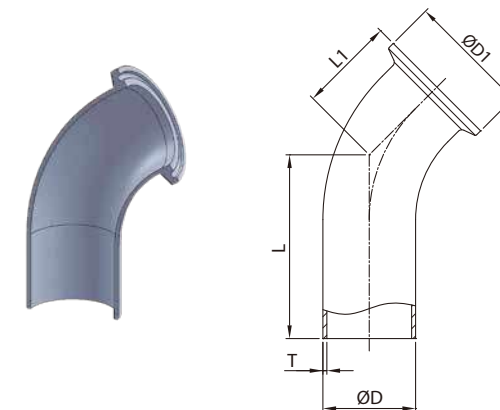
SIZE	ØD	Ød	L	T	t	L2
3/4"×1/2"	19.05	12.7	101.6	1.65	1.65	54
1"×1/2"	25.4	12.7	114.3	1.65	1.65	63.5
1"×3/4"	25.4	19.05	101.6	1.65	1.65	54
1.5"×1/2"	38.1	12.7	139.7	1.65	1.65	—
1.5"×3/4"	38.1	19.05	127	1.65	1.65	76.2
1.5"×1"	38.1	25.4	127	1.65	1.65	63.5
2"×1/2"	50.8	12.7	196.9	1.65	1.65	—
2"×3/4"	50.8	19.05	184.2	1.65	1.65	—
2"×1"	50.8	25.4	184.2	1.65	1.65	85.7
2"×1.5"	50.8	38.1	133.4	1.65	1.65	63.5
2.5"×1.5"	63.5	38.1	184.2	1.65	1.65	85.7
2.5"×2"	63.5	50.8	139.7	1.65	1.65	63.5
3"×1.5"	76.2	38.1	235	1.65	1.65	108
3"×2"	76.2	50.8	190.5	1.65	1.65	85.7
3"×2.5"	76.2	63.5	139.7	1.65	1.65	66.7
4"×1.5"	101.6	38.1	342.9	2.1	1.65	—
4"×2"	101.6	50.8	298.5	2.1	1.65	130.2
4"×2.5"	101.6	63.5	247.7	2.1	1.65	108
4"×3"	101.6	76.2	196.9	2.1	2.1	98.4

BPE Fittings



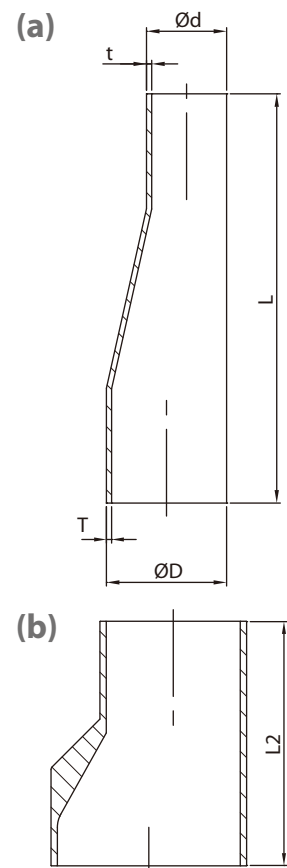
DT-4.1.1-2 90° CLAMP/WELD ELBOW (DT-12)

SIZE	ØD	ØD1	L	L1	T
1/2"	12.7	25	41.3	76.2	1.65
3/4"	19.05	25	41.3	76.2	1.65
1"	25.4	50.4	50.8	76.2	1.65
1.5"	38.1	50.4	69.9	95.3	1.65
2"	50.8	63.9	88.9	120.7	1.65
2.5"	63.5	77.4	108	139.7	1.65
3"	76.2	90.9	127	158.8	1.65
4"	101.6	118.9	168.3	203.2	2.1
6"	152.4	166.9	266.7	292.1	2.77



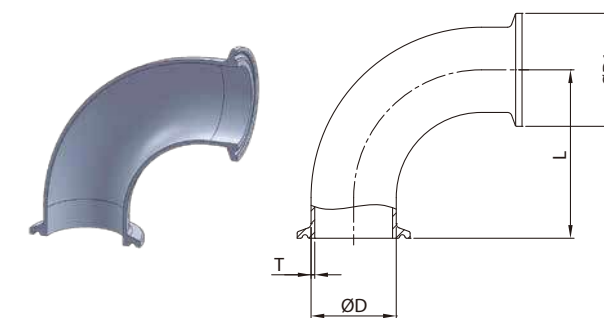
DT-4.1.1-5 45° CLAMP/WELD ELBOW (DT-13)

SIZE	ØD	ØD1	L	L1	T
1/2"	12.7	25	57.2	25.4	1.65
3/4"	19.05	25	57.2	25.4	1.65
1"	25.4	50.4	57.2	28.6	1.65
1.5"	38.1	50.4	63.5	36.5	1.65
2"	50.8	63.9	76.2	44.5	1.65
2.5"	63.5	77.4	85.7	52.4	1.65
3"	76.2	90.9	92.1	60.3	1.65
4"	101.6	118.9	114.3	79.4	2.1
6"	152.4	166.9	158.8	133.4	2.77



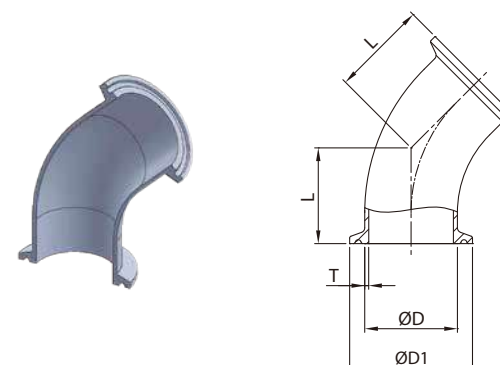
DT-4.1.3-1 ECCENTRIC REDUCER (DT-11)

SIZE	ØD	Ød	L	T	t	L2
3/4"×1/2"	19.05	12.7	101.6	1.65	1.65	54
1"×1/2"	25.4	12.7	114.3	1.65	1.65	63.5
1"×3/4"	25.4	19.05	101.6	1.65	1.65	54
1.5"×1/2"	38.1	12.7	139.7	1.65	1.65	—
1.5"×3/4"	38.1	19.05	127	1.65	1.65	76.2
1.5"×1"	38.1	25.4	127	1.65	1.65	63.5
2"×1/2"	50.8	12.7	196.9	1.65	1.65	—
2"×3/4"	50.8	19.05	184.2	1.65	1.65	—
2"×1"	50.8	25.4	184.2	1.65	1.65	85.7
2"×1.5"	50.8	38.1	133.4	1.65	1.65	63.5
2.5"×1.5"	63.5	38.1	184.2	1.65	1.65	85.7
2.5"×2"	63.5	50.8	139.7	1.65	1.65	63.5
3"×1.5"	76.2	38.1	235	1.65	1.65	108
3"×2"	76.2	50.8	190.5	1.65	1.65	85.7
3"×2.5"	76.2	63.5	139.7	1.65	1.65	66.7
4"×1.5"	101.6	38.1	342.9	2.1	1.65	—
4"×2"	101.6	50.8	298.5	2.1	1.65	130.2
4"×2.5"	101.6	63.5	247.7	2.1	1.65	108
4"×3"	101.6	76.2	196.9	2.1	2.1	98.4



DT-4.1.1-3 90° CLAMP ELBOW (DT-16)

SIZE	ØD	ØD1	L	T
1/2"	12.7	25	41.3	1.65
3/4"	19.05	25	41.3	1.65
1"	25.4	50.4	50.8	1.65
1.5"	38.1	50.4	69.9	1.65
2"	50.8	63.9	88.9	1.65
2.5"	63.5	77.4	108	1.65
3"	76.2	90.9	127	1.65
4"	101.6	118.9	168.3	2.1
6"	152.4	166.9	266.7	2.77



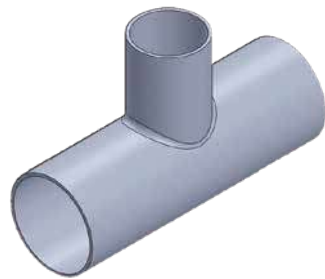
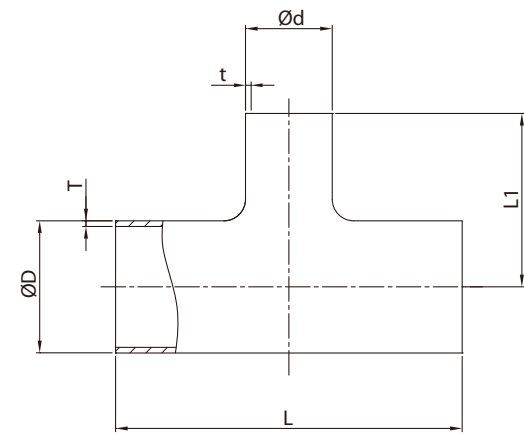
DT-4.1.1-6 45° CLAMP ELBOW (DT-17)

SIZE	ØD	ØD1	L	T
1/2"	12.7	25	25.4	1.65
3/4"	19.05	25	25.4	1.65
1"	25.4	50.4	28.6	1.65
1.5"	38.1	50.4	36.5	1.65
2"	50.8	63.9	44.5	1.65
2.5"	63.5	77.4	52.4	1.65
3"	76.2	90.9	60.3	1.65
4"	101.6	118.9	79.4	2.1
6"	152.4	146.86	133.4	2.77

BPE Fittings

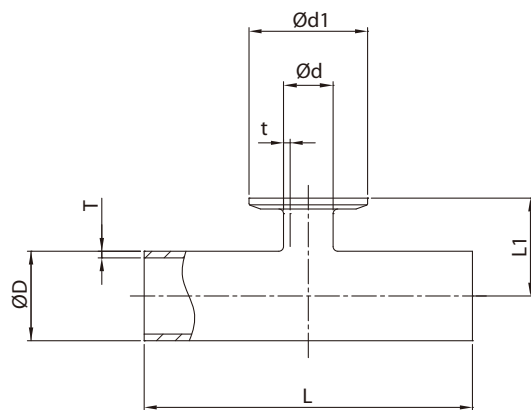
DT-4.1.2-6 REDUCING TEE (DT-10)

SIZE	ØD	Ød	L	L1	T	t
3/4"×1/2"	19.05	12.7	101.6	50.8	1.65	1.65
1"×1/2"	25.4	12.7	108	54	1.65	1.65
1"×3/4"	25.4	19.05	108	54	1.65	1.65
1.5"×1/2"	38.1	12.7	120.6	60.3	1.65	1.65
1.5"×3/4"	38.1	19.05	120.6	60.3	1.65	1.65
1.5"×1"	38.1	25.4	120.6	60.3	1.65	1.65
2"×1/2"	50.8	12.7	145.8	66.7	1.65	1.65
2"×3/4"	50.8	19.05	145.8	66.7	1.65	1.65
2"×1"	50.8	25.4	145.8	66.7	1.65	1.65
2"×1.5"	50.8	38.1	158.8	73	1.65	1.65
2.5"×1/2"	63.5	12.7	158.8	73	1.65	1.65
2.5"×3/4"	63.5	19.05	158.8	73	1.65	1.65
2.5"×1"	63.5	25.4	158.8	73	1.65	1.65
2.5"×1.5"	63.5	38.1	158.8	73	1.65	1.65
2.5"×2"	63.5	50.8	158.8	73	1.65	1.65
3"×1/2"	76.2	12.7	171.2	79.4	1.65	1.65
3"×3/4"	76.2	19.05	171.2	79.4	1.65	1.65
3"×1"	76.2	25.4	171.2	79.4	1.65	1.65
3"×1.5"	76.2	38.1	171.2	79.4	1.65	1.65
3"×2"	76.2	50.8	171.2	79.4	1.65	1.65
3"×2.5"	76.2	63.5	171.2	79.4	1.65	1.65
4"×1"	101.6	25.4	209.3	92.1	2.1	1.65
4"×1.5"	101.6	38.1	209.3	92.1	2.1	1.65
4"×2"	101.6	50.8	209.3	98.4	2.1	1.65
4"×2.5"	101.6	63.5	209.3	98.4	2.1	1.65
4"×3"	101.6	76.2	209.3	98.4	2.1	1.65



DT-4.1.2-7 SHORT OUTLET W/C REDUCING TEE (DT-14)

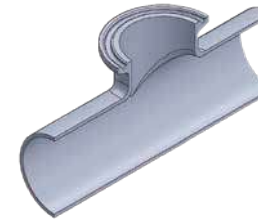
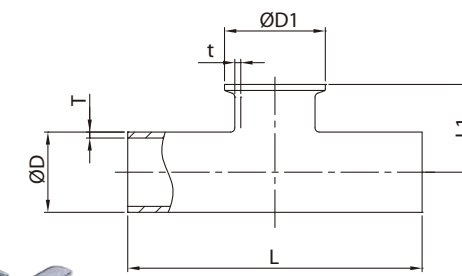
SIZE	ØD	Ød	Ød1	L	L1	T	t
3/4"×1/2"	19.05	12.7	25	101.6	25.4	1.65	1.65
1"×1/2"	25.4	12.7	25	108	28.6	1.65	1.65
1"×3/4"	25.4	19.05	25	108	28.6	1.65	1.65
1.5"×1/2"	38.1	12.7	25	120.6	34.9	1.65	1.65
1.5"×3/4"	38.1	19.05	25	120.6	34.9	1.65	1.65
1.5"×1"	38.1	25.4	50.4	120.6	34.9	1.65	1.65
2"×1/2"	50.8	12.7	25	146	41.3	1.65	1.65
2"×3/4"	50.8	19.05	25	146	41.3	1.65	1.65
2"×1"	50.8	25.4	50.4	146	41.3	1.65	1.65
2"×1.5"	50.8	38.1	50.4	146	41.3	1.65	1.65
2.5"×1/2"	63.5	12.7	25	158.8	47.6	1.65	1.65
2.5"×3/4"	63.5	19.05	25	158.8	47.6	1.65	1.65
2.5"×1"	63.5	25.4	50.4	158.8	47.6	1.65	1.65
2.5"×1.5"	63.5	38.1	50.4	158.8	47.6	1.65	1.65
2.5"×2"	63.5	50.8	63.9	158.8	47.6	1.65	1.65
3"×1/2"	76.2	12.7	25	171.2	54	1.65	1.65
3"×3/4"	76.2	19.05	25	171.2	54	1.65	1.65
3"×1"	76.2	25.4	50.4	171.2	54	1.65	1.65
3"×1.5"	76.2	38.1	50.4	171.2	54	1.65	1.65
3"×2"	76.2	50.8	63.9	171.2	54	1.65	1.65
3"×2.5"	76.2	63.5	77.4	171.2	54	1.65	1.65
4"×1"	101.6	25.4	50.4	209.3	66.7	2.1	1.65
4"×1.5"	101.6	38.1	50.4	209.3	66.7	2.1	1.65
4"×2"	101.6	50.8	63.9	209.3	66.7	2.1	1.65
4"×2.5"	101.6	63.5	77.4	209.3	66.7	2.1	1.65
4"×3"	101.6	76.2	90.9	209.3	66.7	2.1	1.65



BPE Fittings

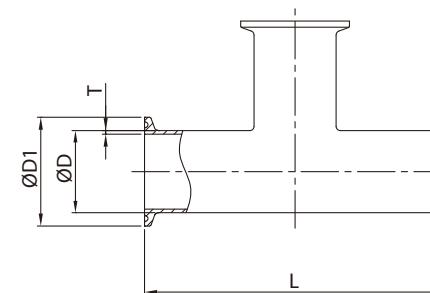
DT-4.1.2-2 EQUAL OUTLET WELD/CLAMP TEE (DT-15)

SIZE	ØD	ØD1	L	L1	T
1/2"	12.7	25	95.2	25.4	1.65
3/4"	19.05	25	101.6	28.6	1.65
1"	25.4	50.4	108	28.6	1.65
1.5"	38.1	50.4	120.6	34.9	1.65
2"	50.8	63.9	146	41.3	1.65
2.5"	63.5	77.4	158.8	47.6	1.65
3"	76.2	90.9	171.4	54	1.65
4"	101.6	118.9	209.6	69.9	2.1



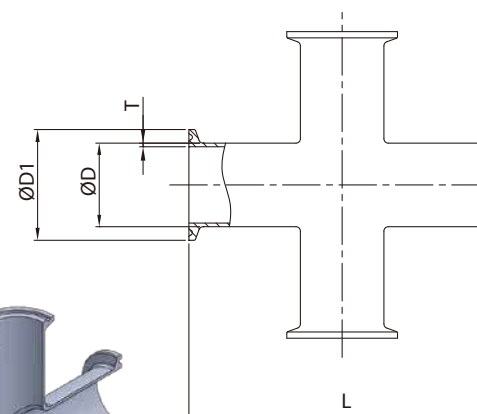
DT-4.1.2-4T CLAMP TEE (DT-18)

SIZE	ØD	ØD1	L	T
1/2"	12.7	25	114.4	1.65
3/4"	19.05	25	120.6	1.65
1"	25.4	50.4	133.4	1.65
1.5"	38.1	50.4	146	1.65
2"	50.8	63.9	171.4	1.65
2.5"	63.5	77.4	182.2	1.65
3"	76.2	90.9	196.8	1.65
4"	101.6	118.9	241.4	2.1

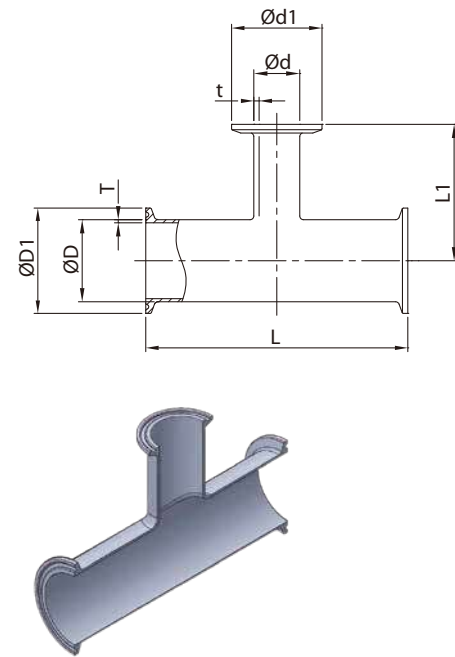


DT-4.1.2-4C CLAMP CROSS (DT-18)

SIZE	ØD	ØD1	L	T
1/2"	12.7	25	114.4	1.65
3/4"	19.05	25	120.6	1.65
1"	25.4	50.4	133.4	1.65
1.5"	38.1	50.4	146	1.65
2"	50.8	63.9	171.4	1.65
2.5"	63.5	77.4	182.2	1.65
3"	76.2	90.9	196.8	1.65
4"	101.6	118.9	241.4	2.1



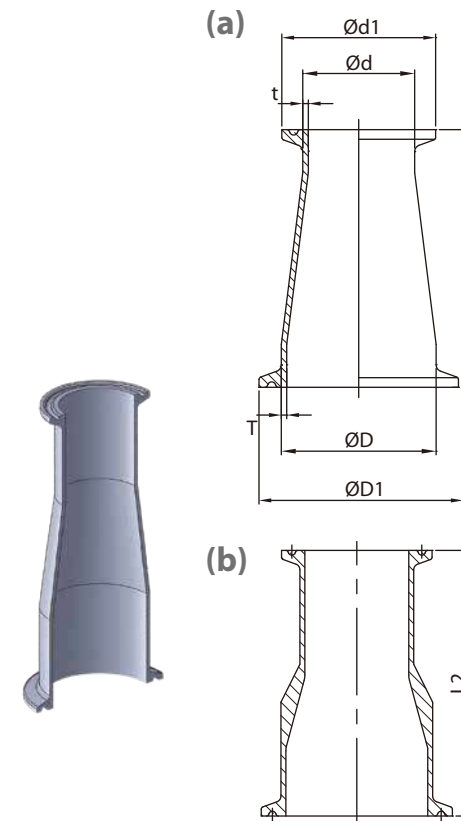
BPE Fittings



DT-4.1.2-8 REDUCING TEE CLAMP END (DT-19)

SIZE	ØD	ØD1	Ød	Ød1	L	L1	T	t
3/4"×1/2"	19.05	25	12.7	25	127	63.5	1.65	1.65
1"×1/2"	25.4	50.4	12.7	25	133.4	66.7	1.65	1.65
1"×3/4"	25.4	50.4	19.05	25	133.4	66.7	1.65	1.65
1.5"×1/2"	38.1	50.4	12.7	25	146	73	1.65	1.65
1.5"×3/4"	38.1	50.4	19.05	25	146	73	1.65	1.65
1.5"×1"	38.1	50.4	25.4	50.4	146	73	1.65	1.65
2"×1"	50.8	63.9	25.4	50.4	171.4	79.4	1.65	1.65
2"×1.5"	50.8	63.9	38.1	50.4	171.4	79.4	1.65	1.65
2.5"×1"	63.5	77.4	25.4	50.4	184.2	85.7	1.65	1.65
2.5"×1.5"	63.5	77.4	38.1	50.4	184.2	85.7	1.65	1.65
2.5"×2"	63.5	77.4	50.8	63.9	184.2	85.7	1.65	1.65
3"×1"	76.2	90.9	25.4	50.4	196.8	92.1	1.65	1.65
3"×1.5"	76.2	90.9	38.1	50.4	196.8	92.1	1.65	1.65
3"×2"	76.2	90.9	50.8	63.9	196.8	92.1	1.65	1.65
3"×2.5"	76.2	90.9	63.5	77.4	196.8	92.1	1.65	1.65
4"×1"	101.6	118.9	25.4	50.4	241.4	104.8	2.1	1.65
4"×1.5"	101.6	118.9	38.1	50.4	241.4	104.8	2.1	1.65
4"×2"	101.6	118.9	50.8	63.9	241.4	111.1	2.1	1.65
4"×2.5"	101.6	118.9	63.5	77.4	241.4	111.1	2.1	1.65
4"×3"	101.6	118.9	76.2	90.9	241.4	111.1	2.1	1.65

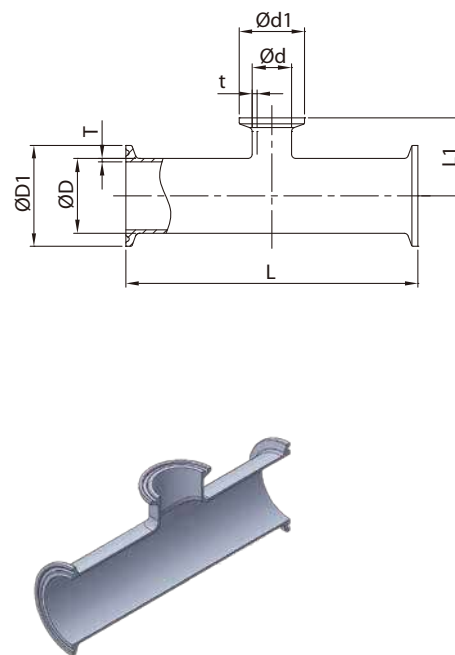
BPE Fittings



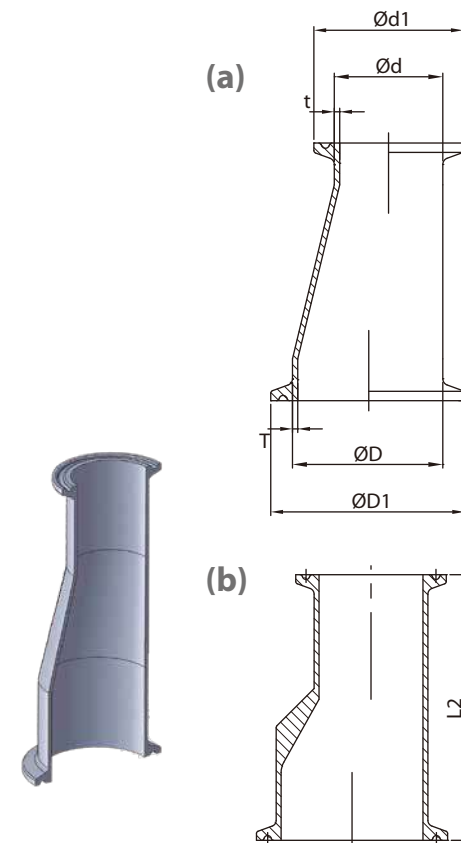
DT-4.1.3-3 CLAMP CONCENTRIC REDUCER (DT-21)

SIZE	ØD	ØD1	Ød	Ød1	L	T	t	L2
3/4"×1/2"	19.05	25	12.7	25	50.8	1.65	1.65	79.4
1"×1/2"	25.4	50.4	12.7	25	63.5	1.65	1.65	88.9
1"×3/4"	25.4	50.4	19.05	25	50.8	1.65	1.65	79.4
1.5"×1/2"	38.1	50.4	12.7	25	88.9	1.65	1.65	
1.5"×3/4"	38.1	50.4	19.05	25	76.2	1.65	1.65	101.6
1.5"×1"	38.1	50.4	25.4	50.4	76.2	1.65	1.65	88.9
2"×1/2"	50.8	63.9	12.7	25	139.7	1.65	1.65	
2"×3/4"	50.8	63.9	19.05	25	127	1.65	1.65	
2"×1"	50.8	63.9	25.4	50.4	127	1.65	1.65	111.1
2"×1.5"	50.8	63.9	38.1	50.4	76.2	1.65	1.65	88.9
2.5"×1.5"	63.5	77.4	38.1	50.4	127	1.65	1.65	111.1
2.5"×2"	63.5	77.4	50.8	63.9	76.2	1.65	1.65	88.9
3"×1.5"	76.2	90.9	38.1	50.4	117.8	1.65	1.65	133.4
3"×2"	76.2	90.9	50.8	63.9	127	1.65	1.65	111.1
3"×2.5"	76.2	90.9	63.5	77.4	76.2	1.65	1.65	92.1
4"×1.5"	101.6	118.9	38.1	50.4	282.6	2.1	1.65	
4"×2"	101.6	118.9	50.8	63.9	231.8	2.1	1.65	158.8
4"×2.5"	101.6	118.9	63.5	77.4	181	2.1	1.65	136.5
4"×3"	101.6	118.9	76.2	90.9	130.2	2.1	2.1	127

DT-4.1.2-9 7RMP REDUCING TEE CLAMP END (DT-20)



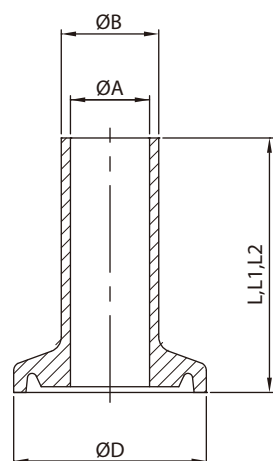
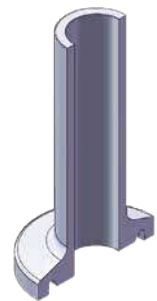
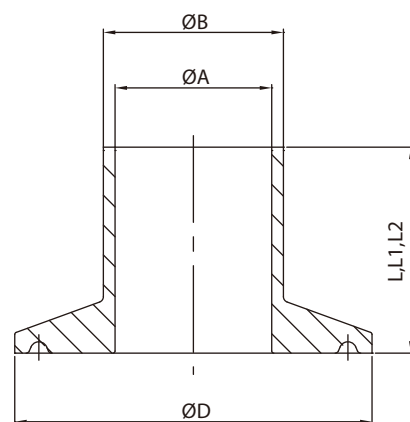
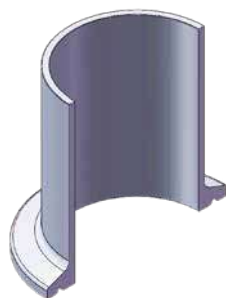
SIZE	ØD	ØD1	Ød	Ød1	L	L1	T	t
3/4"×1/2"	19.05	25	12.7	25	127	25.4	1.65	1.65
1"×1/2"	25.4	50.4	12.7	25	133.4	28.6	1.65	1.65
1"×3/4"	25.4	50.4	19.05	25	133.4	28.6	1.65	1.65
1.5"×1/2"	38.1	50.4	12.7	25	146	34.9	1.65	1.65
1.5"×3/4"	38.1	50.4	19.05	25	146	34.9	1.65	1.65
1.5"×1"	38.1	50.4	25.4	50.4	146	34.9	1.65	1.65
2"×1"	50.8	63.9	25.4	50.4	171.4	41.3	1.65	1.65
2"×1.5"	50.8	63.9	38.1	50.4	171.4	41.3	1.65	1.65
2.5"×1"	63.5	77.4	25.4	50.4	184.2	47.6	1.65	1.65
2.5"×1.5"	63.5	77.4	38.1	50.4	184.2	47.6	1.65	1.65
2.5"×2"	63.5	77.4	50.8	63.9	184.2	47.6	1.65	1.65
3"×1"	76.2	90.9	25.4	50.4	196.8	54	1.65	1.65
3"×1.5"	76.2	90.9	38.1	50.4	196.8	54	1.65	1.65
3"×2"	76.2	90.9	50.8	63.9	196.8	54	1.65	1.65
3"×2.5"	76.2	90.9	63.5	77.4	196.8	54	1.65	1.65
4"×1"	101.6	118.9	25.4	50.4	241.4	66.7	2.1	1.65
4"×1.5"	101.6	118.9	38.1	50.4	241.4	66.7	2.1	1.65
4"×2"	101.6	118.9	50.8	63.9	241.4	66.7	2.1	1.65
4"×2.5"	101.6	118.9	63.5	77.4	241.4	66.7	2.1	1.65
4"×3"	101.6	118.9	76.2	90.9	241.4	66.7	2.1	1.65



DT-4.1.3-3 CLAMP ECCENTRIC REDUCER (DT-21)

SIZE	ØD	ØD1	Ød	Ød1	L	T	t	L2
3/4"×1/2"	19.05	25	12.7	25	50.8	1.65	1.65	79.4
1"×1/2"	25.4	50.4	12.7	25	63.5	1.65	1.65	88.9
1"×3/4"	25.4	50.4	19.05	25	50.8	1.65	1.65	79.4
1.5"×1/2"	38.1	50.4	12.7	25	88.9	1.65	1.65	
1.5"×3/4"	38.1	50.4	19.05	25	76.2	1.65	1.65	101.6
1.5"×1"	38.1	50.4	25.4	50.4	76.2	1.65	1.65	88.9
2"×1/2"	50.8	63.9	12.7	25	139.7	1.65	1.65	
2"×3/4"	50.8	63.9	19.05	25	127	1.65	1.65	
2"×1"	50.8	63.9	25.4	50.4	127	1.65	1.65	111.1
2"×1.5"	50.8	63.9	38.1	50.4	76.2	1.65	1.65	88.9
2.5"×1.5"	63.5	77.4	38.1	50.4	127	1.65	1.65	111.1
2.5"×2"	63.5	77.4	50.8	63.9	76.2	1.65	1.65	88.9
3"×1.5"	76.2	90.9	38.1	50.4	117.8	1.65	1.65	133.4
3"×2"	76.2	90.9	50.8	63.9	127	1.65	1.65	111.1
3"×2.5"	76.2	90.9	63.5	77.4	76.2	1.65	1.65	92.1
4"×1.5"	101.6	118.9	38.1	50.4	282.6	2.1	1.65	
4"×2"	101.6	118.9	50.8	63.9	231.8	2.1	1.65	158.8
4"×2.5"	101.6	118.9	63.5	77.4	181	2.1	1.65	136.5
4"×3"	101.6	118.9	76.2	90.9	130.2	2.1	2.1	127

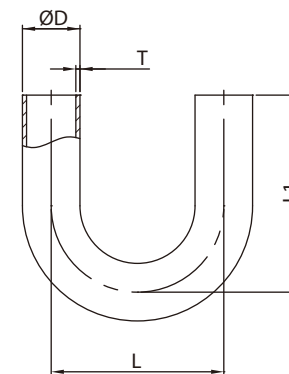
BPE Fittings

(Type A)
1/2"~1"(Type B)
1"~6"

DT-4.1.4-1WELD FERRULE (DT-22)

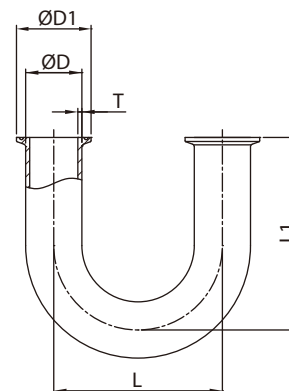
TYPE	SIZE	ØA	ØB	ØD	L	L1	L2
A	1/4"	4.6	6.35	25	12.7	28.7	44.5
	3/8"	7.75	9.53	25	12.7	28.7	44.5
	1/2"	9.4	12.7	25	12.7	28.7	44.5
	3/4"	15.75	19.05	25	12.7	28.7	44.5
	1.0"	22.1	25.4	34	12.7	28.7	44.5
B	1.0"	22.1	25.4	50.4	12.7	28.7	44.5
	1.5"	34.8	38.1	50.4	12.7	28.7	44.5
	2.0"	47.5	50.8	63.9	12.7	28.7	57.2
	2.5"	60.2	63.5	77.4	12.7	28.7	57.2
	3.0"	72.9	76.2	90.9	12.7	28.7	57.2
	4.0"	97.4	101.6	118.9	15.9	28.7	57.2
	6.0"	146.9	152.4	166.9	19.1	38.1	76.2

BPE Fittings



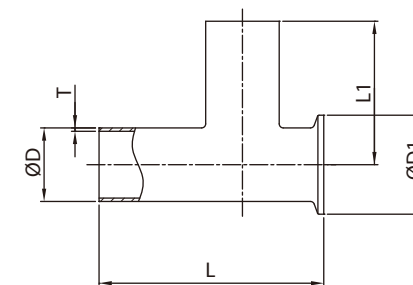
DT-4.1.1-7 180° WELD ELBOW (DT-23)

SIZE	ØD	L	L1	T
1/2"	12.7	114.3	76.2	1.65
3/4"	19.05	144.3	76.2	1.65
1"	25.4	76.2	76.2	1.65
1.5"	38.1	76.2	114.3	1.65
2"	50.8	152.4	127	1.65
2.5"	63.5	190.5	146.1	1.65
3"	76.2	228.6	165.1	1.65
4"	101.6	304.8	215.9	2.1
6"	152.4	457.2	292.1	2.77



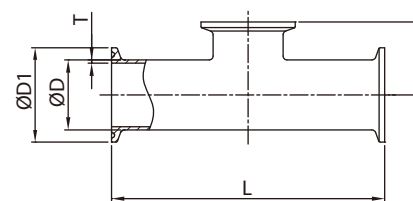
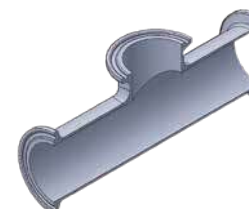
DT-4.1.1-8 180° CLAMP ELBOW (DT-24)

SIZE	ØD	ØD1	L	L1	T
1/2"	12.7	25	114.3	88.9	1.65
3/4"	19.05	25	144.3	88.9	1.65
1"	25.4	50.4	76.2	88.9	1.65
1.5"	38.1	50.4	76.2	127	1.65
2"	50.8	63.9	152.4	139.7	1.65
2.5"	63.5	77.4	190.5	158.8	1.65
3"	76.2	90.9	228.6	177.8	1.65
4"	101.6	118.9	304.8	231.8	2.1
6"	152.4	166.9	457.2	330.2	2.77



DT-4.1.1-3 SHORT OUTLET RUN WELD/CLAMP TEE (DT-25)

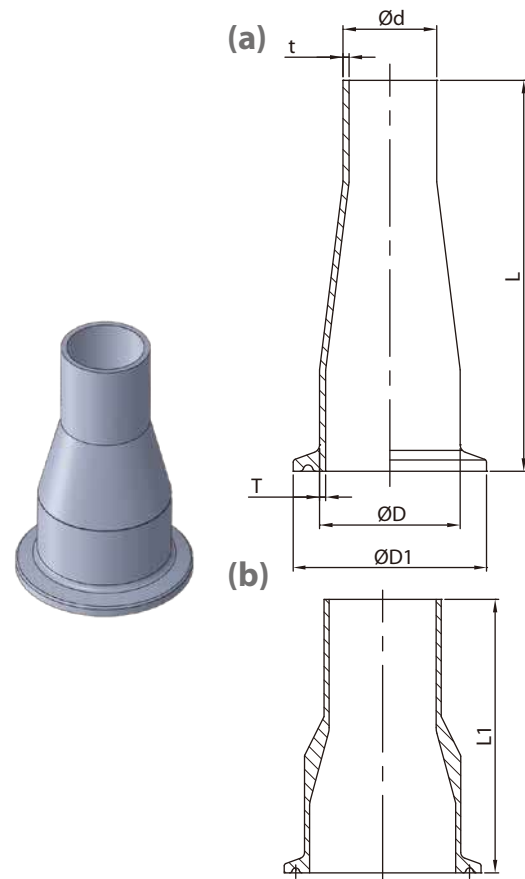
SIZE	ØD	ØD1	L	L1	T
1/2"	12.7	25	47.6	22.2	1.65
3/4"	19.05	25	50.8	25.4	1.65
1"	25.4	50.4	54	28.6	1.65
1.5"	38.1	50.4	60.3	34.9	1.65
2"	50.8	63.9	73	41.3	1.65
2.5"	63.5	77.4	79.4	47.6	1.65
3"	76.2	90.9	85.7	54	1.65
4"	101.6	118.9	104.8	69.9	2.1
6"	152.4	166.9	142.9	117.5	2.77



DT-4.1.2-5 SHORT OUTLET TEE CLAMP END (DT-27)

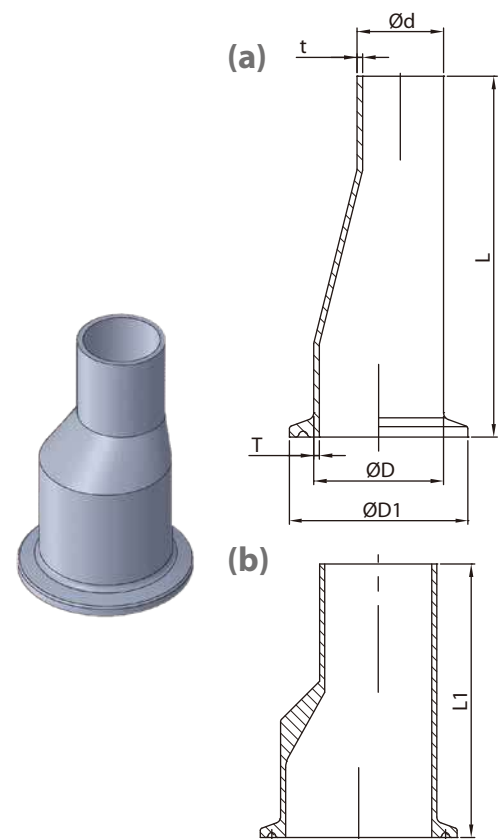
SIZE	ØD	ØD1	L	L1	T
1/2"	12.7	25	114.4	25.4	1.65
3/4"	19.05	25	120.6	28.6	1.65
1"	25.4	50.4	133.4	28.6	1.65
1.5"	38.1	50.4	146	34.9	1.65
2"	50.8	63.9	171.4	41.3	1.65
2.5"	63.5	77.4	184.2	47.6	1.65
3"	76.2	90.9	196.8	54	1.65
4"	101.6	118.9	241.4	69.9	2.1
6"	152.4	166.87	362	117.5	2.77

BPE Fittings



DT-4.1.3-2AC CONCENTRIC REDUCER (DT-26)

SIZE	ØD	ØD1	Ød	T	t	L	L1
3/4"×1/2"	19.05	25	12.7	1.65	1.65	76.2	66.7
1"×1/2"	25.4	50.4	12.7	1.65	1.65	88.9	76.2
1"×3/4"	25.4	50.4	19.05	1.65	1.65	76.2	66.7
1.5"×1/2"	38.1	50.4	12.7	1.65	1.65	114.3	
1.5"×3/4"	38.1	50.4	19.05	1.65	1.65	101.6	88.9
1.5"×1"	38.1	50.4	25.4	1.65	1.65	101.6	76.2
2"×1/2"	50.8	63.9	12.7	1.65	1.65	165.1	
2"×3/4"	50.8	63.9	19.05	1.65	1.65	152.4	
2"×1"	50.8	63.9	25.4	1.65	1.65	152.4	98.4
2"×1.5"	50.8	63.9	38.1	1.65	1.65	101.6	76.2
2.5"×1.5"	63.5	77.4	38.1	1.65	1.65	152.4	98.4
2.5"×2"	63.5	77.4	50.8	1.65	1.65	107.9	76.2
3"×1.5"	76.2	90.9	38.1	1.65	1.65	203.2	120.7
3"×2"	76.2	90.9	50.8	1.65	1.65	158.8	98.4
3"×2.5"	76.2	90.9	63.5	1.65	1.65	108	79.4
4"×1.5"	101.6	118.9	38.1	2.1	1.65	308	
4"×2"	101.6	118.9	50.8	2.1	1.65	263.5	146.1
4"×2.5"	101.6	118.9	63.5	2.1	1.65	212.7	123.8
4"×3"	101.6	118.9	76.2	2.1	2.1	161.9	114.3

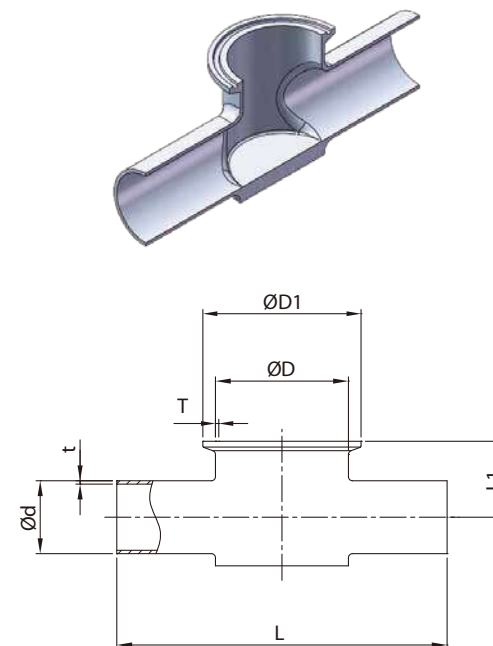


DT-4.1.3-2AE ECCENTRIC REDUCER (DT-26)

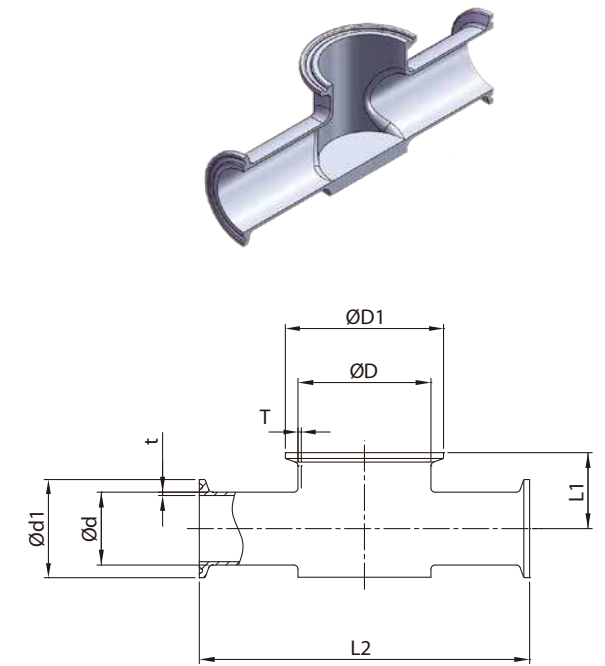
SIZE	ØD	ØD1	Ød	T	t	L	L1
3/4"×1/2"	19.05	25	12.7	1.65	1.65	76.2	66.7
1"×1/2"	25.4	50.4	12.7	1.65	1.65	88.9	76.2
1"×3/4"	25.4	50.4	19.05	1.65	1.65	76.2	66.7
1.5"×1/2"	38.1	50.4	12.7	1.65	1.65	114.3	
1.5"×3/4"	38.1	50.4	19.05	1.65	1.65	101.6	88.9
1.5"×1"	38.1	50.4	25.4	1.65	1.65	101.6	76.2
2"×1/2"	50.8	63.9	12.7	1.65	1.65	165.1	
2"×3/4"	50.8	63.9	19.05	1.65	1.65	152.4	
2"×1"	50.8	63.9	25.4	1.65	1.65	152.4	98.4
2"×1.5"	50.8	63.9	38.1	1.65	1.65	101.6	76.2
2.5"×1.5"	63.5	77.4	38.1	1.65	1.65	152.4	98.4
2.5"×2"	63.5	77.4	50.8	1.65	1.65	107.9	76.2
3"×1.5"	76.2	90.9	38.1	1.65	1.65	203.2	120.7
3"×2"	76.2	90.9	50.8	1.65	1.65	158.8	98.4
3"×2.5"	76.2	90.9	63.5	1.65	1.65	108	79.4
4"×1.5"	101.6	118.9	38.1	2.1	1.65	308	
4"×2"	101.6	118.9	50.8	2.1	1.65	263.5	146.1
4"×2.5"	101.6	118.9	63.5	2.1	1.65	212.7	123.8
4"×3"	101.6	118.9	76.2	2.1	2.1	161.9	114.3

BPE Fittings

DT-4.1.2-10 (DT-28)



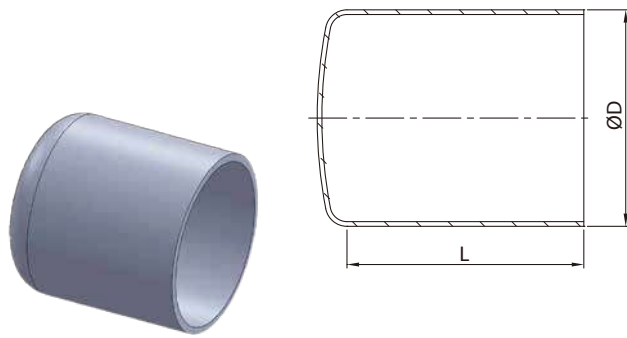
DT-4.1.2-11 (DT-29)



INSTRUMENT TEE WELD/CLAMP END

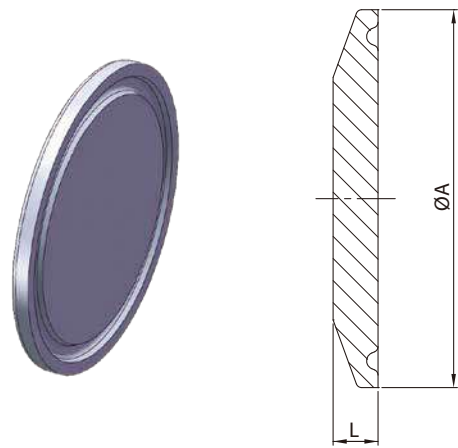
SIZE	ØD	ØD1	Ød	Ød1	L	L1	T	t
1"×1/2"	25.4	50.4	12.7	25	127	22.2	1.65	1.65
1"×3/4"	25.4	50.4	19.05	25	127	25.4	1.65	1.65
1.5"×1/2"	38.1	50.4	12.7	25	127	22.2	1.65	1.65
1.5"×3/4"	38.1	50.4	19.05	25	127	25.4	1.65	1.65
1.5"×1"	38.1	50.4	25.4	50.4	127	28.6	1.65	1.65
2"×1/2"	50.8	63.9	12.7	25	139.8	25.4	1.65	1.65
2"×3/4"	50.8	63.9	19.05	25	139.8	28.6	1.65	1.65
2"×1"	50.8	63.9	25.4	50.4	139.8	31.8	1.65	1.65
2"×1.5"	50.8	63.9	38.1	50.4	139.8	38.1	1.65	1.65
2.5"×1/2"	63.5	77.4	12.7	25	170	35	1.65	1.65
2.5"×3/4"	63.5	77.4	19.05	25	170	38.1	1.65	1.65
2.5"×1"	63.5	77.4	25.4	50.4	170	41.3	1.65	1.65
2.5"×1.5"	63.5	77.4	38.1	50.4	170	44.5	1.65	1.65
2.5"×2"	63.5	77.4	50.8	63.9	170	48	1.65	1.65
3"×1/2"	76.2	90.9	12.7	25	180	38.1	1.65	1.65
3"×3/4"	76.2	90.9	19.05	25	180	41.3	1.65	1.65
3"×1"	76.2	90.9	25.4	50.4	180	44.5	1.65	1.65
3"×1.5"	76.2	90.9	38.1	50.4	180	48	1.65	1.65
3"×2"	76.2	90.9	50.8	63.9	180	50.8	1.65	1.65
3"×2.5"	76.2	90.9	63.5	77.4	180	54	1.65	1.65
4"×1/2"	101.6	118.9	12.7	25	220	79.4	1.65	1.65
4"×3/4"	101.6	118.9	19.05	25	220	82.6	1.65	1.65
4"×1"	101.6	118.9	25.4	50.4	220	85.7	2.1	1.65
4"×1.5"	101.6	118.9	38.1	50.4	220	88.9	2.1	1.65
4"×2"	101.6	118.9	50.8	63.9	220	95.2	2.1	1.65
4"×2.5"	101.6	118.9	63.5	77.4	220	98.4	2.1	1.65
4"×3"	101.6	118.9	76.2	90.9	220	101.6	2.1	1.65

BPE Fittings



DT-4.1.5-1 AUTOMATIC TUBE WELD CAP (DT-30)

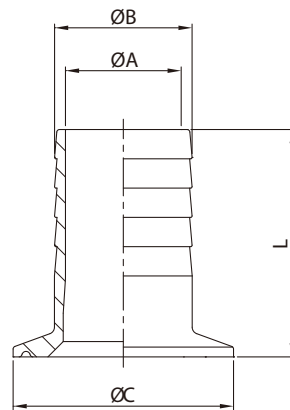
SIZE	ØD	L
1/2"	12.7	38.1
3/4"	19.05	38.1
1"	25.4	38.1
1.5"	38.1	38.1
2"	50.8	38.1
2.5"	63.5	38.1
3"	76.2	44.5
4"	101.6	50.8
6"	152.4	63.5



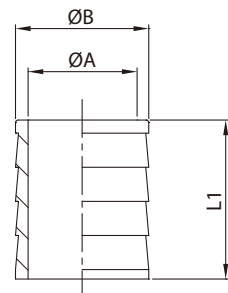
DT-4.1.5-2 SOLID END CAP HYGIENIC CLAMP JOINE (DT-31)

SIZE	ØD	L
1/2"	25	4.7
3/4"	25	4.7
1"	50.4	6.4
1.5"	50.4	6.4
2"	63.9	6.4
2.5"	77.4	6.4
3"	90.9	6.4
4"	118.9	7.9
6"	166.9	11.1

14MPHR



14WHR

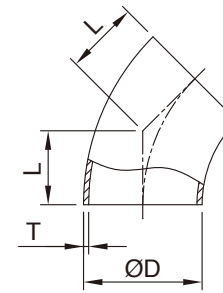


14MPHR/14WHR HOSE ADAPTER

SIZE	ØA	ØB	ØC	L	L1
1/2"x1/2"	9.5	13.7	25.2	38	25.3
3/4"x3/4"	15.8	21.4	25.2	38	25.3
1"x1/2"	9.5	13.7	50.5	38	25.3
1"x3/4"	15.8	21.4	50.5	38	25.3
1"x1"	20.6	25.4	50.5	43	30.3
1.5"x1/2"	9.5	13.7	50.5	38	25.3
1.5"x3/4"	15.8	21.4	50.5	38	25.3
1.5"x1.5"	20.6	25.4	50.5	43	25.3
1.5"x1.5"	33.2	38.1	50.5	43	30.3
2"x1.5"	33.2	38.1	64	43	30.3
2"x2"	46	50.8	64	58.7	46
2.5"x2.5"	58.7	63.5	77.5	59.5	46.8
3"x3"	72	76.2	91	78.6	65.9
4"x4"	97.6	101.6	119	85.5	72.8

Vacuum Components

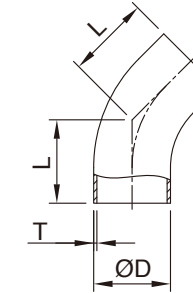
45° Short Elbow



45° Elbow

SIZE	ØD	L	T
1.0"	25.4	15.8	1.65
1.5"	38.1	23.8	1.65
2.0"	50.8	31.75	1.65
2.5"	63.5	39.6	1.65
3.0"	76.2	47.6	1.65
4.0"	101.6	63.5	2.1

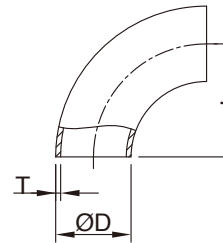
45° Long Elbow



45° Elbow

SIZE	ØD	L	T
1.0"	25.4	30.2	1.65
1.5"	38.1	41.3	1.65
2.0"	50.8	58.7	1.65
2.5"	63.5	76.2	1.65
3.0"	76.2	93.7	1.65
4.0"	101.6	122.2	2.1

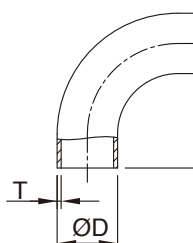
90° Short Elbow



90° Bend

SIZE	ØD	L	T
1.0"	25.4	38.1	1.65
1.5"	38.1	57.2	1.65
2.0"	50.8	76.2	1.65
2.5"	63.5	95.25	1.65
3.0"	76.2	114.3	1.65
4.0"	101.6	152.4	2.1

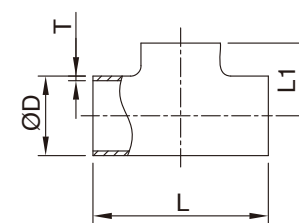
90° Long Elbow



90° Bend

SIZE	ØD	L	T
1.0"	25.4	52.4	1.65
1.5"	38.1	74.6	1.65
2.0"	50.8	103.2	1.65
2.5"	63.5	131.8	1.65
3.0"	76.2	160.3	1.65
4.0"	101.6	211.1	2.1

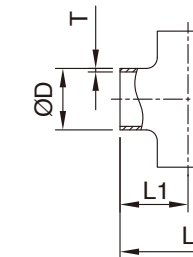
Welding Tee



Tee

SIZE	ØD	L	L1	T
1.0"	25.4	95.2	47.6	1.65
1.5"	38.1	114.4	57.2	1.65
2.0"	50.8	152.4	76.2	1.65
2.5"	63.5	152.4	76.2	1.65
3.0"	76.2	165.2	82.6	1.65
4.0"	101.6	196.8	98.4	2.1

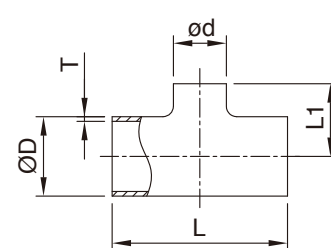
Cross



Cross

SIZE	ØD	L	L1	T
1.0"	25.4	95.2	47.6	1.65
1.5"	38.1	114.4	57.2	1.65
2.0"	50.8	152.4	76.2	1.65
2.5"	63.5	152.4	76.2	1.65
3.0"	76.2	165.2	82.6	1.65
4.0"	101.6	196.8	98.4	2.1

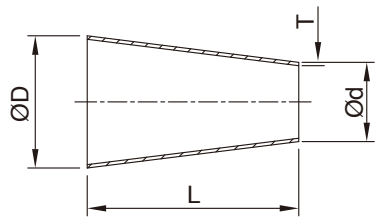
Reducing Tee



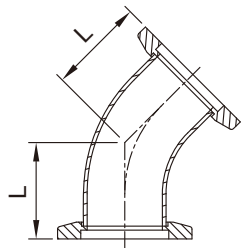
Reducing Tee

SIZE	ØD	Ød	L	L1	T
1.5"x1.0"	38.1	25.4	114.3	53.98	1.65
2.0"x1.0"	50.8	25.4	152.4	60.3	1.65
2.0"x1.5"	50.8	38.1	152.4	63.5	1.65
2.5"x1.5"	63.5	38.1	152.4	69.85	1.65
2.5"x2.0"	63.5	50.8	152.4	82.55	1.65
3.0"x1.5"	76.2	38.1	165.1	76.2	1.65
3.0"x2.0"	76.2	50.8	165.1	88.90	1.65
3.0"x2.5"	76.2	63.5	165.1	82.55	1.65
4.0"x2.0"	101.6	50.8	196.8	101.6	2.1
4.0"x2.5"	101.6	63.5	196.8	95.25	2.1
4.0"x3.0"	101.6	76.2	196.8	95.25	2.1

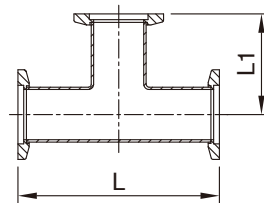
Vacuum Components

Concentric Reducer**Concentric Reducer**

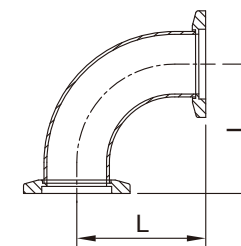
SIZE	ØD	Ød	L	T
1.5"x1.0"	38.1	25.4	50.8	1.65
2.0"x1.5"	50.8	38.1	50.8	1.65
2.5"x1.5"	63.5	38.1	101.6	1.65
2.5"x2.0"	63.5	50.8	50.8	1.65
3.0"x1.5"	76.2	38.1	152.4	1.65
3.0"x2.0"	76.2	50.8	101.6	1.65
3.0"x2.5"	76.2	63.5	50.8	1.65
4.0"x1.5"	101.6	38.1	254	2.1
4.0"x2.0"	101.6	50.8	203.2	2.1
4.0"x2.5"	101.6	63.5	152.4	2.1
4.0"x3.0"	101.6	76.2	101.6	2.1

45° Elbow Flange

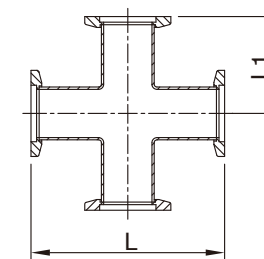
SIZE	O.D	L
KF25	1.0"	28.44
KF40	1.5"	42.67
KF50	2.0"	50.54

Tee Flange

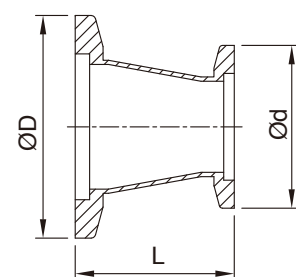
SIZE	O.D	L	L1
KF25	1.0"	100.07	50.03
KF40	1.5"	130.04	65.02
KF50	2.0"	139.95	70.01

90° Elbow Flange

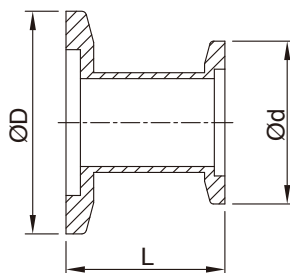
SIZE	O.D	L
KF25	1.0"	51.6
KF40	1.5"	61.0
KF50	2.0"	80.0

4-Way Cross Flange

SIZE	O.D	L	L1
KF25	1.0"	103.2	51.6
KF40	1.5"	122.0	61.0
KF50	2.0"	160.0	80.0

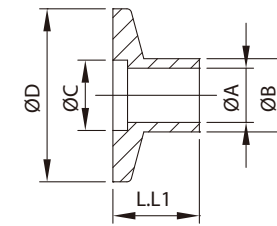
Conical Reducer

ØD	Ød	L
KF25	KF16	39.9
KF40	KF16	39.9
KF40	KF25	39.9
KF50	KF16	39.9
KF50	KF25	39.9
KF50	KF40	39.9

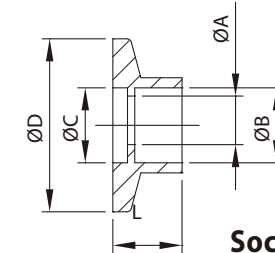
Straight Reducer

ØD	Ød	L
KF25	KF16	39.9
KF40	KF16	39.9
KF40	KF25	39.9
KF50	KF16	39.9
KF50	KF25	39.9
KF50	KF40	39.9

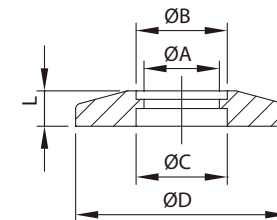
Vacuum Components

Weld Flange**Weld Flange**

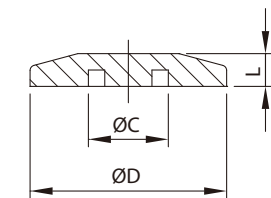
SIZE	ØA	ØB	ØC	ØD	L	L1
KF-10	9.4	12.7	12.2	30	12.7	40
KF-16	15.7	19.05	17.3	30	12.7	40
KF-25	22.1	25.4	26.2	40	12.7	40
KF-40	38	38.1	41.1	55	19.1	40
KF-50	46.5	50.8	52.3	75	19.1	40

Socket Weld Flange**Socket Weld Flange**

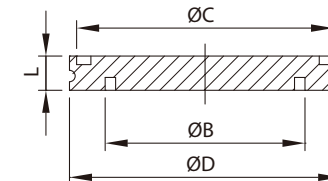
SIZE	ØA	ØB	ØC	ØD	L
KF-10	9.4	13.0	12.2	30.0	12.7
KF-16	15.7	19.3	17.3	30.0	12.7
KF-25	22.1	25.7	26.2	40.0	12.7
KF-40	34.8	38.4	41.1	55.0	12.7
KF-50	47.5	51.1	52.3	75.0	12.7

Bored Flange**Bored Flange**

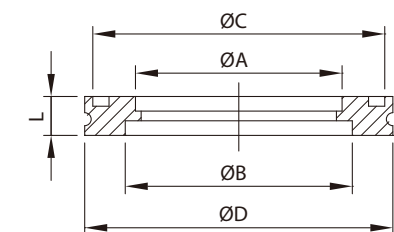
SIZE	ØA	ØB	ØC	ØD	L
KF-10	11.17	12.95	12.2	30	5
KF-16	17.27	19.3	17.3	30	5
KF-25	22.6	25.9	26.2	40	5
KF-40	35.3	38.6	41.1	55	5
KF-50	48	51.1	52.3	75	5

Blank Flange**Blank Flange**

SIZE	ØC	ØD	L
KF-10	12.2	30	5.1
KF-16	17.3	30	5.1
KF-25	26.2	40	5.1
KF-40	41.1	55	5.1
KF-50	52.3	75	5.1

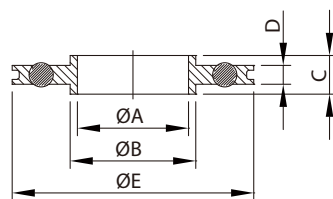
ISO-Blank Flange**Blank Flange**

SIZE	ØB	ØC	ØD	L
ISO-63	70	90	95	12
ISO-80	83	105	110	12
ISO-100	102	125	130	12
ISO-160	153	175	180	12

ISO-Bored Flange**Weld Flange**

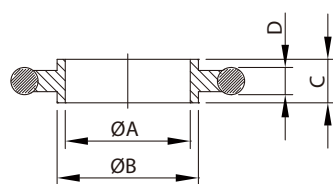
SIZE	ØA	ØB	ØC	ØD	L
ISO-63	63.7	70	90	95	12
ISO-80	76.4	83	105	110	12
ISO-100	101.8	102	125	130	12
ISO-160	152.9	153	175	180	12

Centreing Ring (SS304 & Alu Material) with O-Ring (VITON (FKM))



ISO-Type

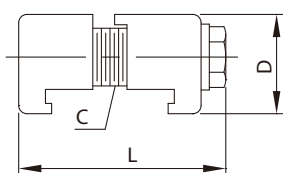
SIZE	ØA	ØB	C	D	ØE
ISO-63-V-U	66.8	69.6	8	3.81	91
ISO-80-V-U	79.75	82.6	8	3.81	104
ISO-100-V-U	98.8	101.6	8	3.81	123
ISO-160-V-U	149.86	152.6	8	3.81	170
ISO-200-V-U	207.8	212.6	8	3.81	234
ISO-250-V-U	257.5	260.4	8	3.81	285
ISO-320-V-U	312	317.3	12	5.58	340
ISO-400-V-U	394	399.2	12	5.58	416
ISO-500-V-U	494	500.2	12	5.6	555



KF-Type

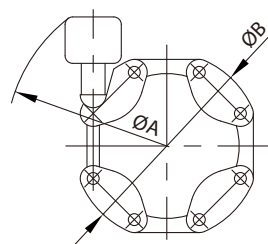
SIZE	ØA	ØB	C	D
KF-10	10	12	8	3.9
KF-16	16	17	8	3.9
KF-25	25	26	8	3.9
KF-40	40	41	8	3.9
KF-50	50	52	8	3.9

ISO-Double Claw Clamp



Double Claw Clamp

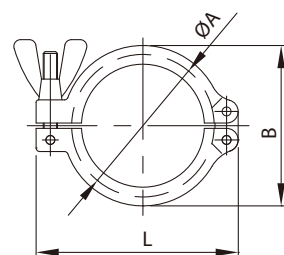
SIZE	C	D	L
ISO-63	M8	24.1	50.3
ISO-80	M8	24.1	50.3
ISO-100	M8	24.1	50.3
ISO-160	M10	27.9	50



Chain Clamp (Alu, Plastic & SS304 material Link Steel)

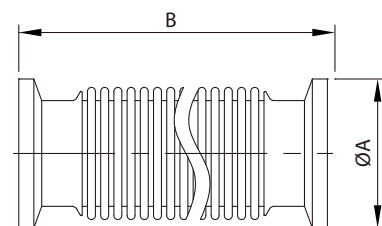
SIZE	ØA	ØB
ISO-KF NW10/16	115.1	59.9
ISO-KF NW20/25	1.9	52.1
ISO-KF NW32/40	34.1	5.1
ISO-KF NW50	151.9	104.9

KF-Clamps-Aluminum



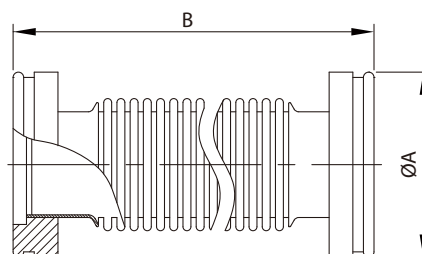
KF-Clamps-Aluminum

SIZE	ØA	ØB	L
10/16	35	45	62
20/25	45	55	73
32/40	60	70	86.1
50	80	96	123



NW FLEXIBLE HOSES

SIZE	ØA	B
KF-16-250	30	250
KF-16-500	30	500
KF-16-750	30	750
KF-16-1000	30	1000
KF-25-250	40	250
KF-25-500	40	500
KF-25-750	40	750
KF-25-1000	40	1000



ISO FLEXIBLE HOSES

SIZE	ØA	ØB
ISO-63-250	95	250
ISO-63-500	95	500
ISO-63-750	95	750
ISO-63-1000	95	1000
ISO-80-250	110	250
ISO-80-500	110	500
ISO-80-750	110	750
ISO-80-1000	110	1000