



FLOW CONTROL

▶ www.buenoeco.com





Company Profile

Bueno Technology Co., Ltd. was established in 1969 and is a manufacturer of various high-performance flow control products. Equipped with a Class 1000 clean room, we produce high-purity, oil-free, and water-free valves, fittings, and parts to serve customers with high process demands, such as those in the pharmaceutical, biotech, semiconductor, optoelectronics, electronic chemicals, and petrochemical industries. Bueno's product range includes PFA-lined valves and fittings, PFA tubings and pipes, PTFE components, stainless ball valves, valve accessories, low wax castings, plastic injection products, high-temperature graphite, spiral wound gaskets, rubber products, and more. Our top priorities are safety, long service life, and low maintenance costs.

Each Bueno's product is made from the highest quality materials and advanced production technologies; each process is executed and monitored by highly professional

personnel. Our strict process requirements, rigorous testing, and comprehensive after-sales service ensure we provide customers with high-quality products at reasonable prices.

Bueno firmly believes that continuous self-improvement is the key to maintaining a leading market position and the only way to remain competitive in high-standard international markets. Bueno persists in striving to secure an important position in the industry and earn the trust and support of business partners from Japan, the United States, Europe, Canada, Australia, Singapore, and domestically.

In these changing times, the only constant is our commitment to innovation, environmental protection, competitiveness, optimism, pursuing reasonableness, sustainable development, and sharing prosperity as the foundation of Bueno's business philosophy.





Company Milestones

- 1969 Bueno Technology Co., Ltd. was established in Tainan, focusing on the production of PTFE components.
- 1976 Began production of plastic injection products.
- 1994 Established a low wax foundry in Taiwan.
- 1998 Began production of PFA-lined valves, PFA lined pipes and fittings. ISO 9001 certified.
- 2001 Established the Shanghai plant.
- 2003 Installation of clean rooms and began production of clean valves.
- 2005 Began production of PFA tubings.
- 2007 CE and ISO 14001 certified. Established Vietnam plant. Began production of PFA fittings.
- 2010 Shanghai plant obtained a manufacturing license for pressure piping components.
- 2015 Vietnam plant passed Directive 2014/68/EU and AD2000-W0/TRD certifications.
- 2018 Passed ISO 9001 & ISO 14001: 2015 edition international certification.
- 2021 Added a production line for pneumatic PFA diaphragm valves.
- 2022 Celebrated the 50th anniversary of Bueno Technology Co., Ltd.
- 2025 Established the Thailand plant.

Quality Policy

Meeting Customer Needs :

Emphasize pollution prevention and fulfill social responsibility.



Full Participation; Overall Quality Enhancement :

Improving and maintaining quality relies on everyone's involvement.



Maintaining Continuous Improvement :

Always exceed the current situation, create profits, and ensure sustainable operations.



Environmental Policy



Pollution Prevention :

Emphasize pollution prevention and fulfill social responsibility.

Efficient Resource Utilization :

Encourage full participation to enhance the company's image.



Environmental Protection:

Comply with environmental regulations and protect the natural environment.

Continuous Improvement:

Commit to continuous improvement to ensure sustainable operations.



Certifications

Bueno successfully passed the ISO 9001 and ISO 14001:2015 international quality management system certifications in 2018. This achievement is the result of the collective efforts of every colleague in the company. Therefore, we will implement ISO-compliant plant management, balancing quality and delivery time, to comprehensively enhance customer satisfaction and jointly create a bright future.



In 2022, Bueno passed the new version of the EU Pressure Equipment Directive PED 2014/68/EU (CE0035). The Pressure Equipment Directive (PED) applies to the design, manufacture, and conformity assessment of pressure equipment and components with a maximum allowable pressure greater than 0.5 bar gauge pressure, including vessels, piping, safety components, and pressure accessories.

1
EU PED Certification
Cert 01 202 TWN/Q-07 0147



2
EU PED Certification
Cert 01 202 TWN/Q-14 2080



3
ISO 9001 : 2015



4
ISO14001 : 2015



Building on the ISO 9000 series quality certifications, Bueno meets the basic safety requirements of the PED and has successfully become a qualified manufacturer. This means that all pressure equipment we sell within the EU adheres to universal safety standards.

5
ISO 15848-1
PFA Lined Ball Valve VOC
Emission Testing



6
ISO 15848-1
2 PC Stainless Flange Ball Valve
VOC Emission Testing



7
ISO 15848-1
2 PC Stainless Flange Ball Valve
VOC Emission Testing



8
Fire Testing
API 607



Global Locations

▶ Taiwan Headquarters

Facility Size:

Land 16,528 m²

Building 14,883.39 m²

Number of Employees: 250

Production Items:

- › PTFE Valves and Components
- › Cast and Machined Parts
- › Valve Balls & Stems
- › PFA/PTFE Lined Fittings and Valves
- › Plastic Injection Parts
- › Fittings and Valves
- › PFA Fittings, Tubings, and pipings

▶ Shanghai Plant

Facility Size:

Land 30,153 m²

Building 7,582.1 m²

Number of Employees: 95

Production Items:

- › PTFE Valves and Components
- › Cast and Machined Parts
- › Valve Balls & Stems
- › PFA/PTFE Lined Fittings and Valves
- › Fittings and Valves

▶ Vietnam Plant

Facility Size:

Land & Building 68,053 m²

Number of Employees: 240

Production Items:

- › PTFE Valves and Components
- › Cast and Machined Parts
- › Valve Balls & Stems
- › Fittings and Valves

▶ Thailand Plant:

Facility Size:

Land 50,824 m²

Building 33,497.5 m²

Number of Employees: 240

Production Items:

- › PTFE Valves and Components
- › Cast and Machined Parts
- › Valve Balls & Stems
- › Fittings and Valves

▶ Indonesia Office

Facility Size:

1000 square meters

Number of Employees: 20

Production Items:

- › PTFE Valves and Components
- › Cast and Machined Parts
- › Valve Balls & Stems
- › Fittings and Valves



hardware equipment

▶ Clean Rooms: Class 1000, Class 10000, Class 100000

These clean rooms are utilized for the production of our PFA products to ensure high quality standards.

Clean Room Production:

Bueno manufactures PFA products within these clean rooms to maintain stringent quality control measures.

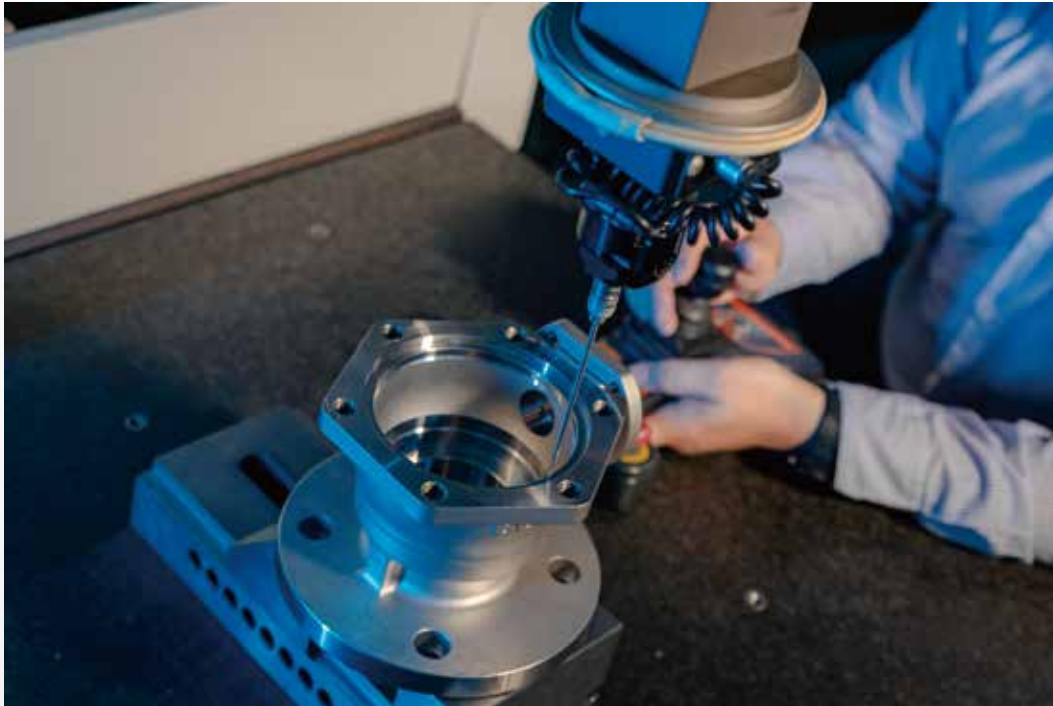




Testing Equipment

Bueno possesses a wide range of precision testing and inspection instruments, dedicated to providing customers with the highest standards of testing quality.

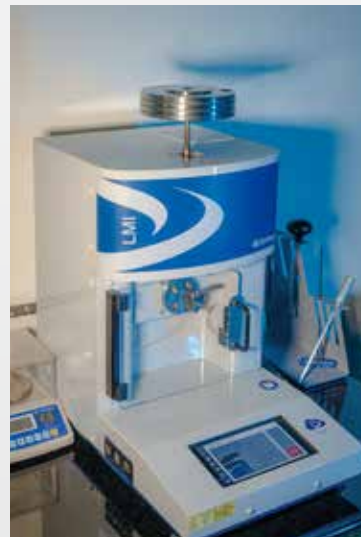
Coordinate Measuring Machine (CMM)



▲ Tensile Testing Machine



▲ Life Testing Machine



▲ Melt Flow Indexer



Testing Equipment

▼ Vision Measurement System (Automatic CNC Type)



▲ Vacuum Helium Leak Tester

▲ Spark Tester

Also equipped with:

- ▶ Spectrometer
- ▶ Metallographic Tester
- ▶ Surface Roughness Tester
- ▶ Roundness Tester



Product List

Product Types	Name	Material	Pressure	Model	Size	Page
PFA Lined Ball Valve Introduction						Pg. 1 Pg. 2
Valve Accessories						Pg. 3
PFA Lined valve	2-PC Flange Ball Valve	CF8	150 LB	PB12	1/2"~6"	Pg. 3
		DUCTILE IRON	150 LB	PB12D	1/2"~6"	Pg. 3
		1.4308	PN16	PB31	DN15~DN100	Pg. 3
		EN-JS1040	PN16	PB31D	1/2"~4"	Pg. 3
		SCS13A	JIS10K	PB16	15A~100A	Pg. 4
	Check Valve	CF8	150 LB	PC-11	1/2"~4"	Pg. 4
		WCB	150 LB	PC-11W	1/2"~4"	Pg. 4
		1.4308	PN16	PC-31	DN15~DN100	Pg. 4
		1.0619	PN16	PC-31W	DN15~DN100	Pg. 4
		SCS13A	JIS10K	PC-51	15A~100A	Pg. 4
		SCW410	JIS10K	PC-51W	15A~100A	Pg. 5
	Diaphragm Valve	CF8	150 LB	PD-11	1/2"~4"	Pg. 5
		WCB	150 LB	PD-11W	1/2"~4"	Pg. 5
		1.4308	PN16	PD-31	DN15~DN100	Pg. 5
		1.0619	PN16	PD-31W	DN15~DN100	Pg. 5
		SCS13A	JIS10K	PD-51	15A~100A	Pg. 5
		SCW410	JIS10K	PD-51W	15A~100A	Pg. 6
	Plug Valve	FCD	150 LB	PP-11D	1/2"~3"	Pg. 7
PFA Lined Pipe & Fitting	PFA Lined Pipe & Fitting Introduction					Pg. 8
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	PFA Lined Equal Tee					Pg. 9
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	PFA Lined 45° Elbow					Pg. 11
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	PFA Lined Blind Flange					Pg. 12
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	Solid Spacer					

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	RU, RUE	Pg. 24
	PMU, UF, UA	Pg. 25
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Product Type	Model	Page
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	RA, EA, TA	Pg. 30
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FIT-ONE For Quartz Tube	RU-Q, RUE-Q	Pg. 34
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Special Flaring Tool		Pg. 36
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	MC, ME	Pg. 41
	U, UE, UT	Pg. 42
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PFA ON-OFF VALVE		Pg. 45
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PTFE Check Valve	Flare (FIT-ONE) Type	Pg. 48
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PFA Diaphragm Valve	PW100	Pg. 55
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Product Type	Name	Material	Pressure	Model	Size	Page
Investment Casting Valves	1-PC Ball Valve	CF8M / CF8	1000PSI	BB-101	1/4"~2"	Pg. 58
	2-PC Ball Valve	CF8M / CF8	1000PSI	BB-201	1/4"~3"	Pg. 58
	3-PC Ball Valve Heavy Duty	CF8M / WCB	1000PSI	BB-301	1/4"~2 1/2"	Pg. 58
	3-PC Ball Valve Threaded Ends	CF8M	1000PSI	BB-311	1/2"~4"	Pg. 59
	3-PC Ball Valve Short BW Ends	CF8M	1000PSI	BB-311S	1/2"~4"	Pg. 59
	3-PC Ball Valve Socket Weld Ends	CF8M	1000PSI	BB-311K	1/2"~4"	Pg. 59
	3-PC Ball Valve Butt Weld Ends	CF8M	1000PSI	BB-311L	1/2"~4"	Pg. 60
		CF8M	1000PSI	BB-311TC	1/2"~4"	Pg. 60
	3-PC Ball Valve T-Clamp Ends	CF8M	1000PSI	BB-312TC	1/2"~4"	Pg. 61
	3-PC Ball Valve Clean Valve	CF8M	1000PSI	BB-312L	1/2"~12"	Pg. 61
	3-PC Threaded Ends	CF8M	1000PSI	BB-312TH	1/2"~4"	Pg. 62
	S.S Hygienic Butterfly Valve	F316L	145 PSI	SBU-71	1"~6"	Pg. 62
	2-PC Flange Ball Valve	CF8 / CF8M / WCB	150 LB	F601	1/2"~10"	Pg. 63
		SCS13A / SCS14A / SCW410	JIS 10K	F602	15A~250A	Pg. 63
		FCD 450	JIS 10K	F602D	15A~150A	Pg. 64
		1.4308 / 1.4408 / 1.0619	PN16	F603	DN15~DN250	Pg. 64
		SCS13A / SCS14A / SCPH2	JIS 20K	F604	15A~100A	Pg. 65
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		CAST IRON	200 PSI	F605D	2"~10"	Pg. 66
	3-Way Flange Ball Valve	FCD 450	JIS10K	BBW602	40A / 65A	Pg. 66

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Valve Accessories	Plastic Injection Parts	Pg. 67
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Actuator		Pg. 69

Note: If you encounter any issues during use, please contact Bueno. Do not attempt to disassemble or repair the finished product yourself to avoid losing the warranty.

▶ PFA Lined Ball Valve Introduction

ISO 5211 standard platform, suitable for installing automation actuators or accessories.

The inner side of the valve body adopts a dovetail groove design, ensuring a tight connection between PFA and the valve body, capable of withstanding a vacuum pressure of up to 0.1 MPa.

Full port structure with high-efficiency flow coefficient, lined with transfer molded material that is not prone to peeling off. Uses semiconductor-grade PFA material for a long service life.

The disc is highly resistant to tension, the NBR screws are not easily loosened, preventing leakage at the middle port, and passing VOC emission leakage tests.

blow-out proof design with floating ball valve, providing lighter operating torque.

The valve seat material utilizes enhanced PTFE, known for its exceptional recovery post-compression, dense structure resistant to fouling, and ability to withstand low-temperature moisture permeation.

Two-stage valve body sealing design, effectively preventing external leakage.

Two-stage sealing design

The first stage uses a soft seal, and the second stage uses a metal hard seal, preventing valve body loosening and external leakage due to PFA aging or deterioration. Additionally, the metal-to-metal hard seal enhances the structural solidity and ensures precise positioning of the flange spacing.

Excellent Chemical Resistance

The valve body's wetted parts are lined with PFA, making them resistant to chemical corrosion.

Superior Heat Resistance

PFA is extremely stable under heat and will not crack even when exposed to high temperatures for extended periods. Suitable for temperatures ranging from -30°C to 160°C.

Prevention of Fluid Contamination

PFA does not contain harmful additives or pigments, and its chemical properties are highly stable, preventing the leaching of organic substances and metal ions.

Good Mechanical Properties

PFA is flexible and maintains its elasticity and extensibility even at high temperatures, exhibiting better mechanical properties compared to FEP.

Cost Savings

Due to its superior corrosion resistance and wear resistance, the valve's service life is extended, improving pipeline efficiency and reducing maintenance and downtime, ultimately saving costs.

Anti-stick Properties

Suitable for high-viscosity liquids and pipeline systems requiring high purity.

▶ Valve Accessories

Standard device: Lever



Oval Handle

For comfort and more precision during use. Available sizes : 1/2" DN15 ~ 2" DN50



Automated Valve

Optional Pneumatic or Electric Actuator, Limit Switch, Solenoid Valve, Air Filters/Regulators.



V-Port ball for flow control

Currently available in 4 sizes, 1/2", 1", 1-1/2", and 2". 60° and other angles available as per requested.



Locking Device

Key lock plate to temporarily lock off the valve for safety purpose



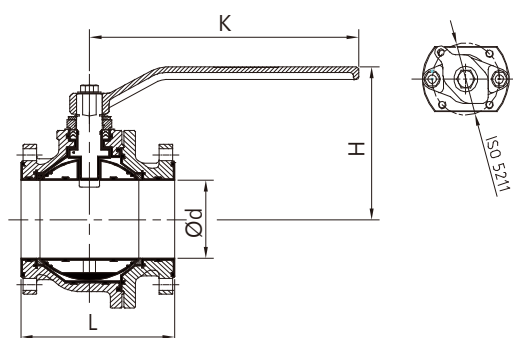
Gear Box

Strongly recommended for size up to 6" DN150



PFA LINED BALL VALVE

unit: mm



JIS-10K

Size	L	H	K	Ød	ISO 5211	CV (US.gal/min)
MM INCH						
15 1/2"	140	81	145	15	F04	19
20 3/4"	152	83	145	20	F04	45
25 1"	165	98	165	25	F05	88
40 1-1/2"	191	124	225	40	F07	257
50 2"	216	132	225	50	F07	425
65 2-1/2"	240	164	350	65	F07	783
80 3"	250	173	350	80	F07	1056
100 4"	280	229	400	100	F10	2130

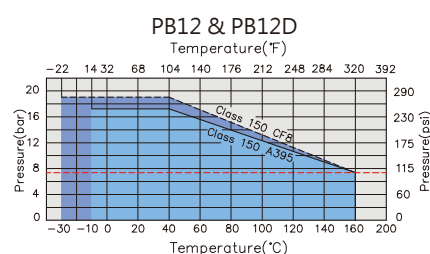
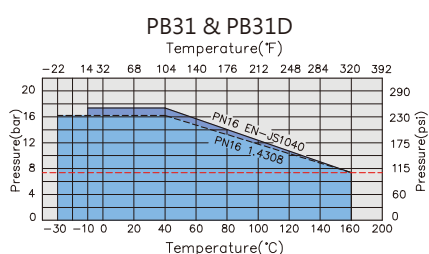
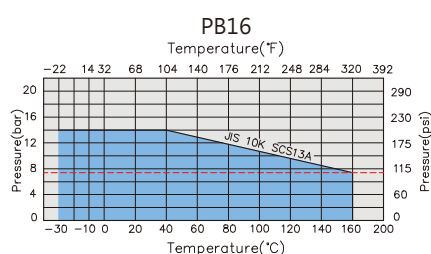
DIN-PN16

Size	L	H	K	Ød	ISO 5211	CV (US.gal/min)
MM INCH						
15 1/2"	130	81	145	15	F04	19
20 3/4"	150	83	145	20	F04	45
25 1"	160	98	165	25	F05	88
40 1-1/2"	200	124	225	40	F07	257
50 2"	230	132	225	50	F07	425
65 2-1/2"	290	164	350	65	F07	783
80 3"	310	173	350	80	F07	1056
100 4"	350	229	400	100	F10	2130

CLASS 150LB

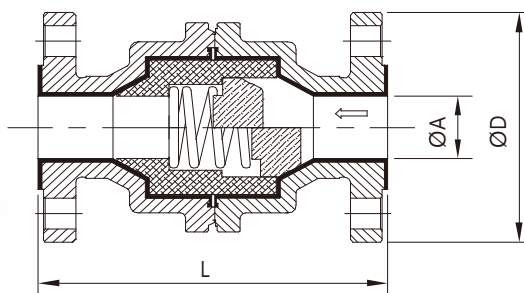
Size	L	H	K	Ød	ISO 5211	CV (US.gal/min)
MM INCH						
15 1/2"	108	83	145	15	F04	19
20 3/4"	117	84	145	20	F04	45
25 1"	127	101	165	25	F05	88
40 1-1/2"	165	128	225	40	F07	257
50 2"	178	136	225	50	F07	425
65 2-1/2"	190	168	350	65	F07	783
80 3"	203	177	350	80	F07	1053
100 4"	229	233	400	100	F10	2130
145 6"	267	282	466.5	145	F12	3918

temperature-pressure chart



Model	PB12	PB12D	PB31	PB31D	PB16
Size Range	1/2"~6"		1/2"~4"		15A~100A
Pressure Rating	CLASS 150LB		PN16		JIS-10K
Oper. Temp.	-30 °C~160 °C	-10 °C~160 °C	-30 °C~160 °C	-10 °C~160 °C	-30 °C~160 °C
Max. Oper. Press.	275 psi	250 psi	236 psi	250 psi	1.37 Mpa
Valve Body Design	ASME B16.34	ASME B16.42&EN12516	ASME B16.34&EN12516	ASME B16.42&EN12516	ASME B16.34
Flange	ASME B16.5 CLASS 150RF		EN1092-1		JIS B2220-10K RF
Face-to-Face	ASME B16.10		EN558		BUENO STANDARD
Test Standard	API 598		BS EN12266-1		JIS B2003
Body	ASTM A351-CF8 +PFA Lined	ASTM A395-FCD +PFA Lined	EN10213-4/1.4308 +PFA Lined	EN1563/EN-JS1040 +PFA Lined	JIS G5121-SCS13A +PFA Lined
Cap	ASTM A351-CF8 +PFA Lined	ASTM A395-FCD +PFA Lined	EN10213-4/1.4308 +PFA Lined	EN1563/EN-JS1040 +PFA Lined	JIS G5121-SCS13A +PFA Lined
Stem	ASTM A276-304+PFA Lined		ASTM A276-304+PFA Lined		ASTM A276-304+PFA Lined
Ball	ASTM A276-304+PFA Lined		ASTM A276-304+PFA Lined		ASTM A276-304+PFA Lined
	ASTM A351-CF8+PFA Lined		ASTM A351-CF8+PFA Lined		ASTM A351-CF8+PFA Lined
	ASTM A395-FCD+PFA Lined (6")				
Handle	ASTM A351-CF8	ASTM A216-WCB	ASTM A351-CF8	ASTM A216-WCB	ASTM A351-CF8
Seat	NEW PTFE		NEW PTFE		

▶ PFA LINED CHECK VALVE



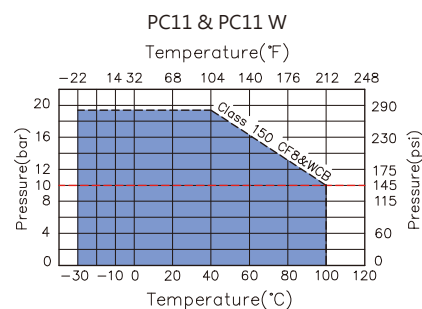
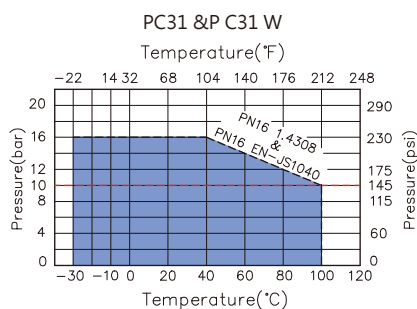
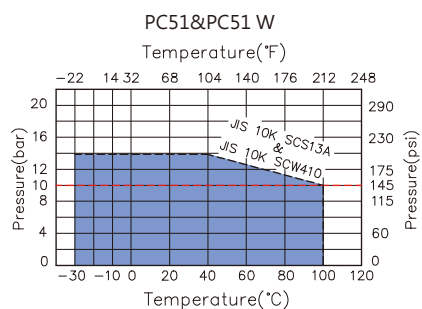
unit: mm

JIS-10K				
Size	ØD	ØA	L	
MM INCH				
15 1/2"	95	15	130	
20 3/4"	100	20	150	
25 1"	125	25	160	
40 1-1/2"	140	38.5	200	
50 2"	155	51	230	
65 2-1/2"	175	65	290	
80 3"	185	76	310	
100 4"	210	102	350	

DIN PN16				
Size	ØD	ØA	L	
MM INCH				
15 1/2"	95	15	130	
20 3/4"	105	20	150	
25 1"	115	25	160	
40 1-1/2"	150	38.5	200	
50 2"	165	51	230	
65 2-1/2"	185	65	290	
80 3"	200	76	310	
100 4"	220	102	350	

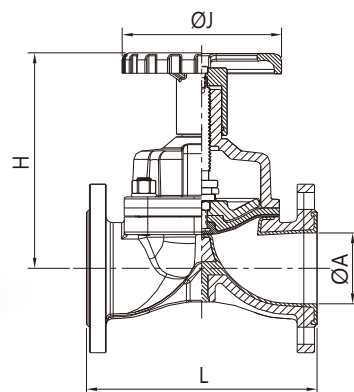
CLASS 150LB				
Size	ØD	ØA	L	
MM INCH				
15 1/2"	89	15	130	
20 3/4"	98.6	20	150	
25 1"	108	25	160	
40 1-1/2"	127	38.5	200	
50 2"	152	51	230	
65 2-1/2"	178	65	290	
80 3"	190.5	76	310	
100 4"	228.6	102	350	

▶ temperature-pressure chart



Model		PC-11	PC-11W	PC-31	PC-31W	PC-51	PC-51W
Working Condition	Size Range	1/2"~4"		DN15~DN100		15A~100A	
	Pressure Rating	CLASS 150LB		PN16		JIS-10K	
	Oper. Temp.	-30 °C~100 °C		-30 °C~100 °C		-30 °C~100 °C	
	Max. Oper. Press.	275 psi		232 psi		200 psi	
Specifications	check capability	150 psi		150 psi		150 psi	
	Valve Body Design	ASME B16.34	ASME B16.42	ASME B16.34&EN12516	ASME B16.42&EN12516	ASME B16.34	
	Flange	ASME B16.5 Class 150RF		EN1092-1		JIS B2220-10K RF	
	Face-to-Face	ISO 5752		ISO 5752		ISO 5752	
Materials	Test Standard	ASME B16.34		EN12266-1		JIS B2003	
	Body	ASTM A351-CF8	ASTM A216-WCB	EN10213-4/1.4308	EN10213/1.0619	JIS G5121-SCS13A	JIS G5102-SCW410
	Cap	+PFA Lined	+PFA Lined	+PFA Lined	+PFA Lined	+PFA Lined	+PFA Lined
	Sleeve	PTFE		PTFE		PTFE	
	Disc	PTFE		PTFE		PTFE	
	Spring	SUS304*WPA+PFA		SUS304*WPA+PFA		SUS304*WPA+PFA	
	Washer	PTFE		PTFE		PTFE	

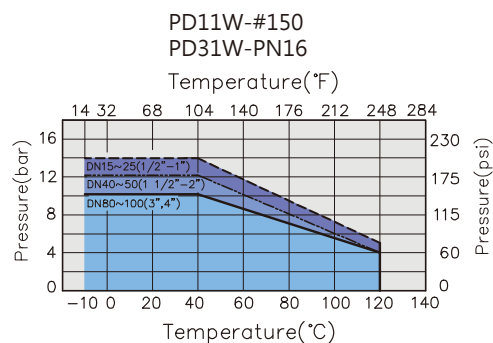
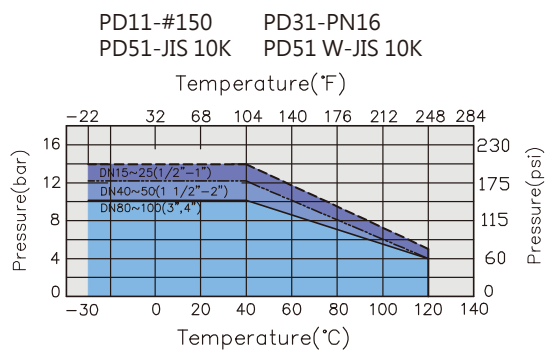
▶ PFA LINED DIAPHRAGM VALVE



unit: mm

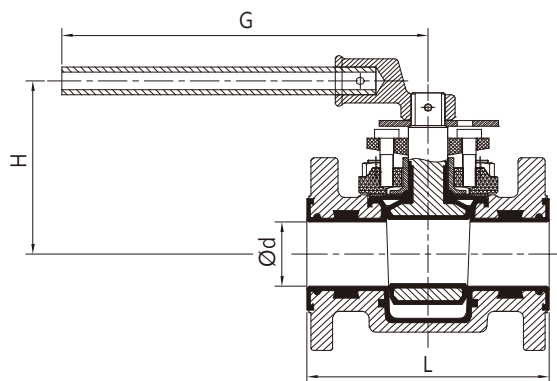
JIS-10K						DIN PN16						CLASS 150 LB					
Size		L	ØA	ØJ	H	Size		L	ØA	ØJ	H	Size		L	ØA	ØJ	H
MM	INCH					MM	INCH					MM	INCH				
15	1/2"	114	15	100	100	15	1/2"	130	15	100	100	15	1/2"	108	15	100	100
20	3/4"	123	19	100	103	20	3/4"	150	19	100	103	20	3/4"	146	19	100	103
25	1"	133	25	100	108	25	1"	160	25	100	108	25	1"	146	25	100	108
40	1-1/2"	165	40	120	153	40	1-1/2"	200	40	120	153	40	1-1/2"	175	40	120	153
50	2"	195	50	120	168	50	2"	230	50	120	168	50	2"	200	50	120	168
65	2-1/2"	222	65	180	226	65	2-1/2"	290	65	180	226	65	2-1/2"	226	65	180	226
80	3"	260	80	180	237	80	3"	310	80	180	237	80	3"	260	80	180	237
100	4"	313	100	230	320	100	4"	350	100	230	320	100	4"	327	100	230	320

▶ temperature-pressure chart



Model		PD-11	PD-11W	PD-31	PD-31W	PD-51	PD-51W
Working Condition	Size Range	1/2"~4"		DN15~DN100		15A~100A	
	Pressure Rating	CLASS 150LB		PN16		JIS-10K	
	Oper. Temp.	-30 °C~120 °C		-30 °C~120 °C		-30 °C~120 °C	
	Max. Oper. Press.	1/2"~1" : 200 psi 1-1/2"~2" : 175 psi 2-1/2"~4" : 150 psi		DN15~DN25 : 200 psi DN40~DN50 : 175 psi DN65~DN100 : 150 psi		15A~25A : 200 psi 40A~50A : 175 psi 65A~100A : 150 psi	
Specifications	Valve Body Design	ASME B16.34		EN12516		ASME B16.34	
	Flange	ASME B16.5 Class 150RF		EN1092-1		JIS B2220 10K RF	
	Face-to-Face	MSS SP-88		EN-558-1		ISO 5752	
Materials	Body	ASTM A351-CF8 +PFA Lined	ASTM A216-WCB +PFA Lined	EN10213-4/1.4308 +PFA Lined	EN10213/1.0619 +PFA Lined	JIS G5121-SCS13A +PFA Lined	JIS G5102-SCW410 +PFA Lined
	Bonnet	ASTM A351-CF8		EN10213/1.4308		JIS G5121-SCS13A	
	Handle	ASTM A216-WCB		EN10213/1.0619		JIS G5102-SCW410	
	Stem	ASTM A276-304		ASTM A276-304		ASTM A276-304	
Diaphragm		PTFE		PTFE		PTFE	

▶ PFA LINED PLUG VALVE

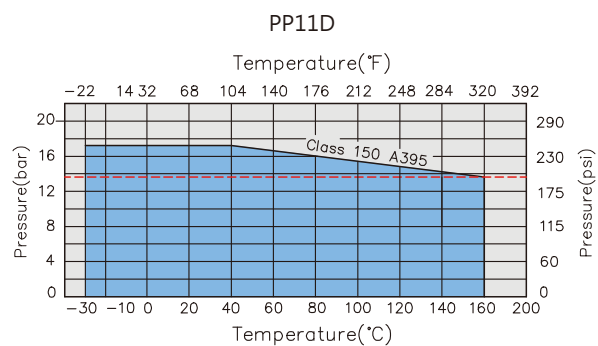


unit: mm

CLASS 150LB

Size		L	H	G	Ød
MM	INCH				
15	1/2"	108	90	174.5	20
20	3/4"	117	90	174.5	20
25	1"	127	105	226.5	25.4
40	1-1/2"	165	130	298.5	38.1
50	2"	178	136	298.5	50.8
80	3"	203	215	498.5	76.2

▶ temperature-pressure chart



Model		PP-11D
Working Condition	Size Range	1/2"~3"
	Pressure Rating	CLASS 150LB
	Operating Temperature	-30 °C~160 °C
	Maximum Operating Pressure	200 psi
Specifications	Valve Body Design	ASME B16.42
	Face-to-Face	ISO 5752 / ASME B16.10
Materials	Body	ASTM A395-FCD+PFA Lined
	Plug	
	Handle	ASTM A53 SCH40 pipe Carbon Steel B7
	Diaphragm	PTFE

PFA LINED PIPES AND FITTINGS

► Design

PIPES AND FITTINGS

Our metal pipes and fittings are either manufactured via casting or through welding seamless pipes. The available dimensions are 1/2"-4", the thickness of pipes and fittings are in accordance with Schedule 40.

The default materials used are as follow, if unspecified:

MATERIALS LIST

	Designation	Carbon Steel	Stainless Steel
Fittings	Seamless Pipe	ASTM A234grade WPB	ASTM A403
	Cast Steel	ASTM A216 grade WCB	ASTM A351
Pipe	Welded Pipe	ASTM A587 or ASTM A53 grade B	ASTM A312

SPECIFICATIONS

Fittings	ASTM B16.5 CLASS 150
Pipes	ASTM B36.10

FLANGE

The standard materials used (unspecified) are as follows:

MATERIALS LIST

According to ASTM A105 forged steel (If fittings are made of cast steel, flanges will also be made of cast steel.).

In accordance with ASTM A182

SPECIFICATIONS

ASTM B16.5 CLASS 150
JIS-10K
DIN (Available upon request)

► Exhaust Hole

Each pipe and fittings has at least one 2mm diameter exhaust hole in order to release the gas trapped between the liner and the metal part. If the pipe exceeds 500mm in length, it will contain at least two exhaust holes. Reducing flanges do not have exhaust holes.

► Coating

- The standard application of coating contains two layers: 1) Base paint 2) Surface paint. The thickness is approximately 110 μ m.
- Special requirements for coating are available upon request.

► Packaging and Storage

The exhaust holes are sealed before packaging.

- The ends of normal pipes and flanges are sealed with plastic plates to prevent damage to the liner.
- For water- and oil-free lined pipes and fittings, the two ends are sealed with adhesive-free tapes (alternatively, the flanges can be sealed by plastic bags), and covered with end caps to prevent damage to the liner. Before storage and shipping, the products are labeled, numbered, and sorted according to order number, charge number, and content. After being properly ordered, they are collectively stored or shipped. The products are packaged with wooden crates when shipped; in addition, the interior of the crate contains a large plastic seal to prevent water and vapor permeation.

► Welding

In accordance with ASME Boiler and meets the requirements of Pressure Vessel Code, clause nine.

► Liner Thickness

PFA		
	Size	Thickness
Pipes	1/2"~4"	1/2"~2" : 2~2.5mm
		2-1/2"~6" : 3~4mm
Fittings	1/2"~4"	1/2"~2" approx. 3mm
		2-1/2"~6" approx. 4mm

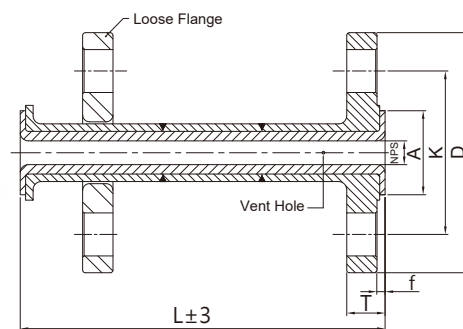
► Test

We uphold a full inspection policy that requires all finished lined pipe and fitting to pass the following tests before shipment. Other methods of testing can be done upon customer's demand.

- Pressure Test : Applies max operating pressure*1.5Air
- Spark Test: 15~20KVDC
- Oil- and Water-Free Test :
Cleaned according to the standard of 1.0mg/ft (MAX)
We can also provide notarization from authorities upon request.
- Coating : We pick products on random for testing with paint thickness tester.
- Appearance :
A. Each piece is checked for bubbles, pinholes, or other impairing defects before the lining process. Minor blemishes are processed during the coating step.
B. Blistering and paint peeling are not allowed after coating.



▶ PFA Lined Pipe



unit: mm

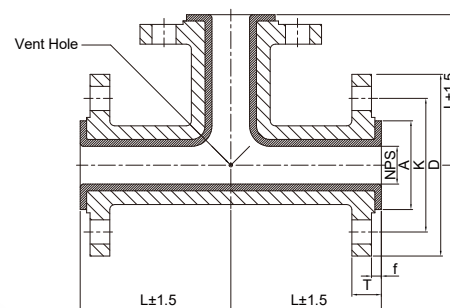
Mat'l List ANSI B16.5 Class 150		
Parts	Carbon Steel	S.S
Flange	ASTM A105	ASTM A182
Spec.	ASTM A587 or ASTM A53 grade B	ASTM A312
Wall Thk.	According to SCH 40	
Std.	One fixed flange, one loose flange	
Liner	PFA	

Mat'l List JIS-10K		
Parts	Carbon Steel	S.S
Flange	ASTM A105	ASTM A182
Spec.	ASTM A53 grade B	ASTM A312
Wall Thk.	According to SCH 40	
Std.	One fixed flange, one loose flange	
Liner	PFA	

NPS INCH	L/min.	L/max.	ANSI B16.5 Class 150					
			ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	100	6000	32	60.5	89	4x16	14.2	3.0
3/4"	100	6000	40	69.9	98.6	4x16	14.2	3.0
1"	100	6000	48	79.2	108	4x16	14.2	3.0
1-1/2"	100	6000	69	98.6	127	4x16	17.3	3.0
2"	150	6000	87.9	120.7	152.4	4x19	18.8	3.0
2-1/2"	150	6000	100.6	139.7	177.8	4x19	21.7	4.1
3"	150	6000	127	152.4	190.5	4x19	23.2	4.1
4"	150	6000	153.2	190.5	228.6	8x19	28.0	4.1
6"	150	6000	212.7	241	279	8x22	29.4	4.1

NPS INCH	L/min.	L/max.	JIS-10K					
			ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	100	6000	42	70	95	4x15	15	3
3/4"	100	6000	47	75	100	4x15	17	3
1"	100	6000	63	90	125	4x19	17	3
1-1/2"	100	6000	77	105	140	4x19	19	3
2"	150	6000	92	120	155	4x19	19	3
2-1/2"	150	6000	112	140	175	4x19	22.1	4.1
3"	150	6000	123	150	185	8x19	22.1	4.1
4"	150	6000	147	175	210	8x19	22.1	4.1
6"	150	6000	211	240	280	8x23	26.6	4.1
8"	150	6000	259	290	330	12x23	26.6	4.6

▶ PFA Lined Equal Tee



unit: mm

Mat'l List ANSI B16.5 Class 150		
Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

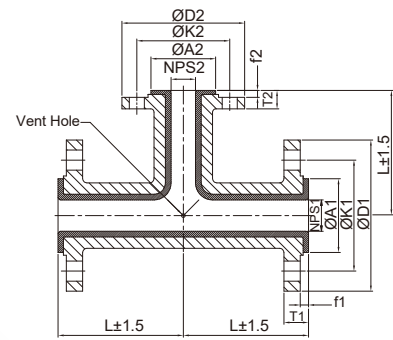
Mat'l List JIS-10K		
Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

NPS INCH	L	ANSI B16.5 Class 150					
		ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	70	32	60.5	89	4x16	14.2	3.0
3/4"	80	40	69.9	98.6	4x16	14.2	3.0
1"	89	48	79.2	108	4x16	14.2	3.0
1-1/2"	102	69	98.6	127	4x16	17.3	3.0
2"	114	87.9	120.7	152.4	4x19	18.8	3.0
2-1/2"	127	100.6	139.7	177.8	4x19	21.7	4.1
3"	140	127	152.4	190.5	4x19	23.2	4.1
4"	165	153.2	190.5	228.6	8x19	28.0	4.1
6"	203	212.7	241	279	8x22	29.4	4.1

NPS INCH	L	JIS-10K					
		ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	70	42	70	95	4x15	15	3
3/4"	80	47	75	100	4x15	17	3
1"	89	63	90	125	4x19	17	3
1-1/2"	102	77	105	140	4x19	19	3
2"	114	92	120	155	4x19	19	3
2-1/2"	127	112	140	175	4x19	22.1	4.1
3"	140	123	150	185	8x19	22.1	4.1
4"	165	147	175	210	8x19	22.1	4.1
6"	203	211	240	280	8x23	26.6	4.1
8"	229	259	290	330	12x23	26.6	4.6



PFA Lined Reducing Tee



unit: mm

Mat'l List ANSI B16.5 Class 150

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

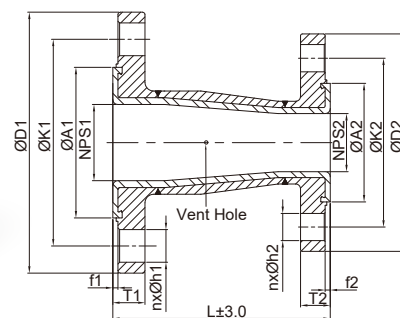
Mat'l List JIS-10K

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

NPS INCH	L	NPS1 / ANSI B16.5 Class 150					NPS2 / ANSI B16.5 Class 150					f1 PFA	f2 PFA
		ØA1	ØK1	ØD1	nxØh1	T1	ØA2	ØK2	ØD2	nxØh2	T2		
3/4"x1/2"	80	40	69.9	98.6	4x16	14.2	32	60.5	89	4x16	14.2	3.0	3.0
1"x1/2"	89	48	79.2	108	4x16	14.2	32	60.5	89	4x16	14.2	3.0	3.0
1"x3/4"	89	48	79.2	108	4x16	14.2	40	69.9	98.6	4x16	14.2	3.0	3.0
1-1/2"x1/2"	102	69	98.6	127	4x16	17.3	32	60.5	89	4x16	14.2	3.0	3.0
1-1/2"x3/4"	102	69	98.6	127	4x16	17.3	40	69.9	98.6	4x16	14.2	3.0	3.0
1-1/2"x1"	102	69	98.6	127	4x19	17.3	48	79.2	108	4x16	14.2	3.0	3.0
2"x1/2"	114	87.9	120.7	152.4	4x19	18.8	32	60.5	89	4x16	14.2	3.0	3.0
2"x3/4"	114	87.9	120.7	152.4	4x19	18.8	40	69.9	98.6	4x16	14.2	3.0	3.0
2"x1"	114	87.9	120.7	152.4	4x19	18.8	48	79.2	108	4x16	14.2	3.0	3.0
2"x1-1/2"	114	87.9	120.7	152.4	4x19	18.8	69	98.6	127	4x16	17.3	3.0	3.0
2"-1/2"x1"	127	100.6	139.7	177.8	4x19	21.7	48	79.2	108	4x16	14.2	4.1	3.0
2-1/2"x1-1/2"	127	100.6	139.7	177.8	4x19	21.7	69	98.6	127	4x16	17.3	4.1	3.0
2"-1/2"x2"	127	100.6	139.7	177.8	4x19	21.7	87.9	120.7	152.4	4x19	18.8	4.1	3.0
3"x1/2"	140	127	152.4	190.5	4x19	23.2	32	60.5	89	4x16	14.2	4.1	3.0
3"x1"	140	127	152.4	190.5	4x19	23.2	48	79.2	108	4x16	14.2	4.1	3.0
3"x1-1/2"	140	127	152.4	190.5	4x19	23.2	69	98.6	127	4x16	17.3	4.1	3.0
3"x2"	140	127	152.4	190.5	4x19	23.2	87.9	120.7	152.4	4x19	18.8	4.1	3.0
4"x1"	165	153.2	190.5	228.6	8x19	28.0	48	79.2	108	4x19	14.2	4.1	3.0
4"x1-1/2"	165	153.2	190.5	228.6	8x19	28.0	69	98.6	127	4x16	17.3	4.1	3.0
4"x2"	165	153.2	190.5	228.6	8x19	28.0	87.9	120.7	152.4	4x16	18.8	4.1	3.0
4"x3"	165	153.2	190.5	228.6	8x19	28.0	127	152.4	190.5	4x19	23.2	4.1	4.1
6"x2"	203	212.7	241	279	8x22	29.7	87.9	120.7	152.4	4x19	18.8	4.1	3.0
6"x3"	203	212.7	241	279	8x22	29.7	127	152.4	190.5	4x19	23.2	4.1	4.1
6"x4"	203	212.7	241	279	8x22	29.7	153.2	190.5	228.6	8x19	28.0	4.1	4.1

NPS INCH	L	NPS1 / JIS-10K					NPS2 / JIS-10K					f1 PFA	f2 PFA
		ØA1	ØK1	ØD1	nxØh1	T1	ØA2	ØK2	ØD2	nxØh2	T2		
3/4"x1/2"	80	47	75	100	4x15	17	42	70	95	4x15	15	3.0	3.0
1"x1/2"	89	63	90	125	4x19	17	42	70	95	4x15	15	3.0	3.0
1"x3/4"	89	63	90	125	4x19	17	47	75	100	4x15	17	3.0	3.0
1-1/2"x1/2"	102	77	105	140	4x19	19	42	70	95	4x15	15	3.0	3.0
1-1/2"x3/4"	102	77	105	140	4x19	19	47	75	100	4x15	17	3.0	3.0
1-1/2"x1"	102	77	105	140	4x19	19	63	90	125	4x19	17	3.0	3.0
2" x1/2"	114	92	120	155	4x19	19	42	70	95	4x15	15	3.0	3.0
2"x3/4"	114	92	120	155	4x19	19	47	75	100	4x15	17	3.0	3.0
2"x1"	114	92	120	155	4x19	19	63	90	125	4x19	17	3.0	3.0
2"x1-1/2"	114	92	120	155	4x19	19	77	105	140	4x19	19	4.1	3.0
2-1/2"x1"	127	112	140	175	4x19	22.1	63	90	125	4x19	17	4.1	3.0
2-1/2"x1-1/2"	127	112	140	175	4x19	22.1	77	105	140	4x19	19	4.1	3.0
2-1/2"x2"	127	112	140	175	4x19	22.1	92	120	155	4x19	19	4.1	3.0
3"x1/2"	140	123	150	185	8x19	22.1	42	70	95	4x15	15	4.1	3.0
3"x1"	140	123	150	185	8x19	22.1	63	90	125	4x19	17	4.1	3.0
3"x1-1/2"	140	123	150	185	8x19	22.1	77	105	140	4x19	19	4.1	3.0
3"x2"	140	123	150	185	8x19	22.1	92	120	155	4x19	19	4.1	3.0
4"x1"	165	147	175	210	8x19	22.1	63	90	125	4x19	17	4.1	3.0
4"x1-1/2"	165	147	175	210	8x19	22.1	77	105	140	4x19	19	4.1	3.0
4"x2"	165	147	175	210	8x19	22.1	92	120	155	4x19	19	4.1	3.0
4"x3"	165	147	175	210	8x19	22.1	123	150	185	8x19	22.1	4.1	4.1
6"x2"	203	211	240	280	8x23	26.6	92	120	155	4x19	19	4.1	3.0
6"x3"	203	211	240	280	8x23	26.6	123	150	185	8x19	22.1	4.1	4.1
6"x4"	203	211	240	280	8x23	26.6	147	175	210	8x19	22.1	4.1	4.1
8"x2"	229	259	290	330	12x23	26.6	92	120	155	4x19	19	4.6	3.0
8"x3"	229	259	290	330	12x23	26.6	123	150	185	8x19	22.1	4.6	4.1
8"x4"	229	259	290	330	12x23	26.6	147	175	210	8x19	22.1	4.6	4.1

▶ PFA Lined Concentric Reducer



unit: mm

Mat'l List ANSI B16.5 Class 150

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

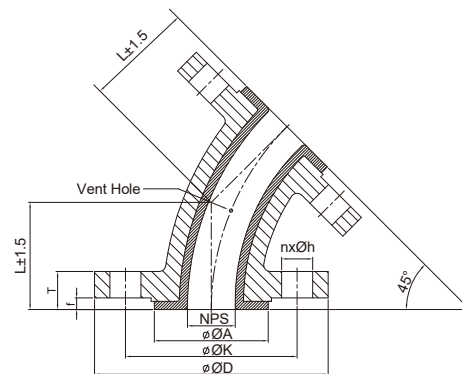
Mat'l List JIS-10K

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

NPS INCH	L	NPS1/ANSI B16.5 Class 150						NPS2/ANSI B16.5 Class 150						f1	f2
		ØA1	ØK1	ØD1	nxØh1	T1		ØA2	ØK2	ØD2	nxØh2	T2		PFA	PFA
1"x1/2"	114	48	79.2	108	4x16	14.2		32	60.5	89	4x16	14.2		3.0	3.0
1"x3/4"	114	48	79.2	108	4x16	14.2		40	69.9	98.6	4x16	14.2		3.0	3.0
1-1/2"x3/4"	114	69	98.6	127	4x16	17.3		40	69.9	98.6	4x16	14.2		3.0	3.0
1-1/2"x1"	114	69	98.6	127	4x16	17.3		48	79.2	108	4x16	14.2		3.0	3.0
2"x1/2"	127	87.9	120.7	152.4	4x19	18.8		32	60.5	89	4x16	14.2		3.0	3.0
2"x3/4"	127	87.9	120.7	152.4	4x19	18.8		40	69.9	98.6	4x16	14.2		3.0	3.0
2"x1"	127	87.9	120.7	152.4	4x19	18.8		48	79.2	108	4x16	14.2		3.0	3.0
2"x1-1/2"	127	87.9	120.7	152.4	4x19	18.8		69	98.6	127	4x16	17.3		3.0	3.0
2"-1/2"x1"	140	100.6	139.7	177.8	4x19	21.7		48	79.2	108	4x16	14.2		3.0	3.0
2-1/2"x1-1/2"	140	100.6	139.7	177.8	4x19	21.7		69	98.6	127	4x16	17.3		3.0	3.0
2"-1/2"x2"	140	100.6	139.7	177.8	4x19	21.7		87.9	120.7	152.4	4x19	18.8		3.0	3.0
3"x1"	152	127	152.4	190.5	4x19	23.2		48	79.2	108	4x16	14.2		3.0	3.0
3"x1-1/2"	152	127	152.4	190.5	4x19	23.2		69	98.6	127	4x16	17.3		3.0	3.0
3"x2"	152	127	152.4	190.5	4x19	23.2		87.9	120.7	152.4	4x19	18.8		3.0	3.0
3"x2-1/2"	152	127	152.4	190.5	4x19	23.2		100.6	139.7	177.8	4x19	21.7		3.0	4.1
4"x1"	178	153.2	190.5	228.6	8x19	28.0		48	79.2	108	4x16	14.2		3.0	3.0
4"x1-1/2"	178	153.2	190.5	228.6	8x19	28.0		69	98.6	127	4x16	17.3		3.0	3.0
4"x2"	178	153.2	190.5	228.6	8x19	28.0		87.9	120.7	152.4	4x19	18.8		3.0	3.0
4"x3"	178	153.2	190.5	228.6	8x19	28.0		127	152.4	190.5	4x19	23.2		4.1	4.1
6"x2"	229	212.7	241	279	8x22	29.4		87.9	120.7	152.4	4x19	18.8		4.1	3.0
6"x3"	229	212.7	241	279	8x22	29.4		127	152.4	190.5	4x19	23.2		4.1	4.1
6"x4"	229	212.7	241	279	8x22	29.4		153.2	190.5	228.6	8x19	28.0		4.1	4.1

NPS INCH	L	NPS1 / JIS-10K						NPS2 / JIS-10K						f1	f2
		ØA1	ØK1	ØD1	nxØh1	T1		ØA2	ØK2	ØD2	nxØh2	T2		PFA	PFA
1"x1/2"	114	63	90	125	4x19	17		42	70	95	4x15	15		3.0	3.0
1"x3/4"	114	63	90	125	4x19	17		47	75	100	4x15	17		3.0	3.0
1-1/2"x3/4"	114	77	105	140	4x19	19		47	75	100	4x15	17		3.0	3.0
1-1/2"x1"	114	77	105	140	4x19	19		63	90	125	4x19	17		3.0	3.0
2"x1/2"	127	92	120	155	4x19	19		42	70	95	4x15	15		3.0	3.0
2"x3/4"	127	92	120	155	4x19	19		47	75	100	4x15	17		3.0	3.0
2"x1"	127	92	120	155	4x19	19		63	90	125	4x19	17		3.0	3.0
2"x1-1/2"	127	92	120	155	4x19	19		77	105	140	4x19	19		3.0	3.0
2-1/2"x1"	140	112	140	175	4x19	22.1		63	90	125	4x19	17		3.0	3.0
2-1/2"x1-1/2"	140	112	140	175	4x19	22.1		77	105	140	4x19	19		3.0	3.0
2-1/2"x2"	140	112	140	175	4x19	22.1		92	120	155	4x19	19		3.0	3.0
3"x1"	152	123	150	185	8x19	22.1		63	90	125	4x19	17		3.0	3.0
3"x1-1/2"	152	123	150	185	8x19	22.1		77	105	140	4x19	19		3.0	3.0
3"x2"	152	123	150	185	8x19	22.1		92	120	155	4x19	19		3.0	3.0
3"x2-1/2"	152	123	150	185	8x19	22.1		112	140	175	4x19	22.1		3.0	4.1
4"x1"	178	147	175	210	8x19	22.1		63	90	125	4x19	17		3.0	3.0
4"x1-1/2"	178	147	175	210	8x19	22.1		77	105	140	4x19	19		3.0	3.0
4"x2"	178	147	175	210	8x19	22.1		92	120	155	4x19	19		3.0	3.0
4"x3"	178	147	175	210	8x19	22.1		123	150	185	8x19	22.1		4.1	4.1
6"x2"	229	211	240	280	8x23	26.6		92	120	155	4x19	19		4.1	3.0
6"x3"	229	211	240	280	8x23	26.6		123	150	185	8x19	22.1		4.1	4.1
6"x4"	229	211	240	280	8x23	26.6		147	175	210	8x19	22.1		4.1	4.1
8"x2"	279	259	290	330	12x23	26.6		92	120	155	4x19	19		4.6	3.0
8"x3"	279	259	290	330	12x23	26.6		123	150	185	8x19	22.1		4.6	4.1
8"x4"	279	259	290	330	12x23	26.6		147	175	210	8x19	22.1		4.6	4.1

▶ PFA Lined 45° Elbow



unit: mm

Mat'l List ANSI B16.5 Class 150

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

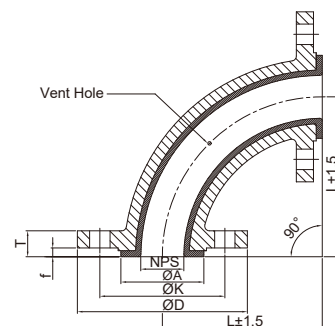
Mat'l List JIS-10K

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

NPS INCH	L	ANSI B16.5 Class 150					
		ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	45	32	60.5	89	4x16	14.2	3.0
3/4"	45	40	69.9	98.6	4x16	14.2	3.0
1"	44	48	79.2	108	4x16	14.2	3.0
1-1/2"	57	69	98.6	127	4x16	17.3	3.0
2"	64	87.9	120.7	152.4	4x19	18.8	3.0
2-1/2"	76	100.6	139.7	177.8	4x19	21.7	4.1
3"	76	127	152.4	190.5	4x19	23.2	4.1
4"	102	153.2	190.5	228.6	8x19	28.0	4.1
6"	127	212.7	241	279	8x22	29.4	4.1

NPS INCH	L	JIS-10K					
		ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	45	42	70	95	4x15	15	3.0
3/4"	45	47	75	100	4x15	17	3.0
1"	44	63	90	125	4x19	17	3.0
1-1/2"	58	77	105	140	4x19	19	3.0
2"	64	92	120	155	4x19	19	3.0
2-1/2"	76	112	140	175	4x19	22.1	4.1
3"	76	123	150	185	8x19	22.1	4.1
4"	102	147	175	210	8x19	22.1	4.1
6"	127	211	240	280	8x23	26.6	4.1
8"	139.7	259	290	330	12x23	26.6	4.6

▶ PFA Lined 90° Elbow



unit: mm

Mat'l List ANSI B16.5 Class 150

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB or ASTM A216 WCB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

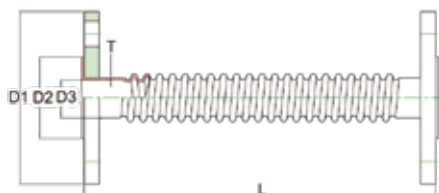
Mat'l List JIS-10K

Parts	Carbon Steel	S.S
Flange	ASTM A105 or ASTM A216 WCB	ASTM A182 or ASTM A351
Spec.	ASTM A234 grade WPB	ASTM A403 or ASTM A351
Wall Thk.	According to SCH 40	
Std.	Two Fixed Flanges	
Liner	PFA	

NPS INCH	L	ANSI B16.5 Class 150					
		ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	70	32	60.5	89	4x16	14.2	3.0
3/4"	80	40	69.9	98.6	4x16	14.2	3.0
1"	89	48	79.2	108	4x16	14.2	3.0
1-1/2"	102	69	98.6	127	4x16	17.3	3.0
2"	114	87.9	120.7	152.4	4x19	18.8	3.0
2-1/2"	127	100.6	139.7	177.8	4x19	21.7	4.1
3"	140	127	152.4	190.5	4x19	23.2	4.1
4"	165	153.2	190.5	228.6	8x19	28.0	4.1
6"	203	212.7	241	279	8x22	29.4	4.1

NPS INCH	L	JIS-10K					
		ØA	ØK	ØD	nxØh	T	f/PFA
1/2"	70	42	70	95	4x15	15	3.0
3/4"	80	47	75	100	4x15	17	3.0
1"	89	63	90	125	4x19	17	3.0
1-1/2"	102	77	105	140	4x19	19	3.0
2"	114	92	120	155	4x19	19	3.0
2-1/2"	127	112	140	175	4x19	22.1	4.1
3"	140	123	150	185	8x19	22.1	4.1
4"	165	147	175	210	8x19	22.1	4.1
6"	203	211	240	280	8x23	26.6	4.1
8"	229	259	290	330	12x23	26.6	4.6

▶ PFA Spiral Tube: MCT & CT Type



unit: mm

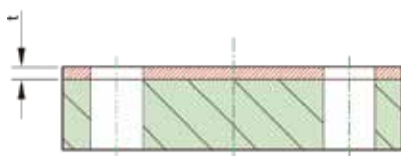
Flange : ANSI Class 150

Nominal Size	15 1/2"	20 3/4"	25 1"	32 1-1/4"	40 1-1/2"	50 2"
D1	89.9	98.4	108	117.3	127	152
D2	34.9	42.9	50.8	63.5	73	92
D3	9.52	15.87	22.2	27.94	33.73	45.64
T	1.59	1.59	1.59	1.905	2.19	2.58

Flange : JIS 10K

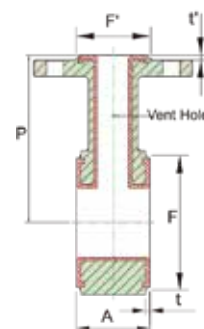
Nominal Size	15 1/2"	20 3/4"	25 1"	32 1-1/4"	40 1-1/2"	50 2"
D1	95	100	125	135	140	155
D2	52	58	70	80	85	96
D3	9.52	15.87	22.2	27.94	33.73	45.64
T	1.5	1.5	1.5	1.9	2.19	2.58

▶ PFA Lined Blind Flange



Nominal INCH	Size mm	t
1/2"	15	3.0
3/4"	20	3.0
1"	25	3.0
1-1/2"	40	3.0
2"	50	3.0
3"	80	3.0
4"	100	3.0
6"	150	3.0

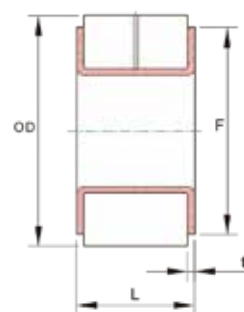
▶ PFA Lined Instrument Connection



unit: mm

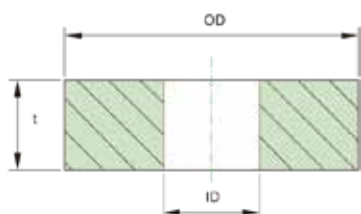
Nominal INCH	Size mm	F	F'	A	P	t	t'
1"x1"	25x25	50.8	50.8	50	90	3	3
1-1/2"x1"	40x25	73.2	50.8	50	100	3	3
2"x1"	50x25	91.9	50.8	50	114	3	3
2-1/2"x1"	65x25	104.6	50.8	50	127	4.1	3
3"x1"	80x25	124	50.8	50	140	4.1	3
4"x1"	100x25	157.2	50.8	50	165	4.1	3
6"x1"	150x25	212.7	50.8	50	200	4.1	3

▶ Armored Spacer



Nominal INCH	Size mm	OD	ID	t	L
1"	25	66.3	46.8	2	30~90
1-1/2"	40	85.3	69.2	2	30~90
2"	50	105.1	87.9	2	30~90
3"	80	136.1	123	2.5	30~90
4"	100	175.1	153.2	2.5	30~90
6"	150	224.4	212.7	3.0	30~90

▶ Solid Spacer



JIS 10K Mat'l : PTFE/ NEW PTFE

Nominal JIS	Size mm	OD	ID	t
10K	15	57.3	8.8	3~30
10K	20	62.3	13.93	3~30
10K	25	74.1	19.64	3~30
10K	40	89.1	33.9	3~30
10K	50	104.1	44.51	3~30
10K	65	124.1	54.71	3~30
10K	80	134.1	69.92	3~30
10K	100	159.1	93.25	3~30
10K	150	224	145	3~30

ANSI 150 Mat'l : PTFE/ NEW PTFE

Nominal INCH	Size mm	OD	ID	t
1/2"	15	46.5	15.0	3~30
3/4"	20	57.2	13.93	3~30
1"	25	66.3	19.64	3~30
1-1/2"	40	85.3	33.9	3~30
2"	50	105.1	44.51	3~30
3"	80	136.1	69.92	3~30
4"	100	175.1	93.25	3~30
6"	150	224.4	145	3~30

PFA Tube

Features

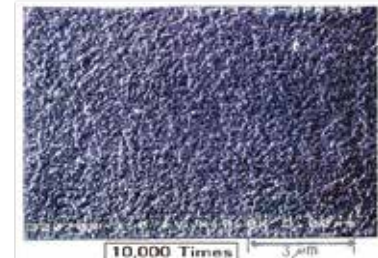
- **Excellent Chemical Resistance:** PFA is highly inert and resistant to nearly all chemicals and solvents.
- **Wide Temperature Range:** PFA remains stable up to 260°C and is effective down to -60°C.
- **Non-Stick:** It has low friction, low adhesion, and high repellency to water and oil, enhancing material reliability.
- **Superb Weather Resistance:** It withstands exposure to sunlight, rain, and exhaust without deterioration.
- **Great Insulator:** It has a very low dielectric constant and dissipation factor.
- **Long Service Life:** PFA's low friction coefficient ensures excellent wear resistance, reducing costs.



PFA Physical Properties

Item	Test Method	Unit	Standard Value
Density	JIS K 6890-5.2	-	2.12~2.17
Melting Point	JIS K 6890-5.3	°C	295~310
Tensile Strength		Mpa (kgf/cm ²)	15.7(160)up
Elongation	JIS K 6890-5.4	%	150 up
MFR Value		g/10min	1~3

Surface Roughness



Application

Due to its corrosion resistance, PFA is widely used in various industries, including petrochemical, refining, semiconductor, optoelectronic, electronics, chemical, pharmaceutical, biotechnology, food, paper, coatings, and cosmetics.

Material

PFA

	Size	O.D.	I.D.	Wall Thk.	Tolerance	
					O.D.	Wall Thk.
mm size	3	3	2	0.5	±0.1	±0.05
	4	4	3	0.5	±0.1	±0.05
	6	6	4	1	±0.1	±0.06
	8	8	6	1	±0.12	±0.06
	10	10	8	1	±0.12	±0.06
	12	12	10	1	±0.12	±0.06
	19	19	15.8	1.6	±0.12	±0.10
	25	25	22	1.5	±0.2	±0.10
Inch size	1/8	3.18	2.18	0.5	±0.10	±0.05
	1/4	6.35	3.95	1.2	±0.10	±0.10
	3/8	9.53	6.35	1.6	±0.12	±0.10
			7.53	1	±0.12	±0.06
	1/2	12.7	9.53	1.6	±0.12	±0.10
	3/4	19.05	15.8	1.6	±0.12	±0.10
	1	25.4	22.2	1.6	±0.2	±0.10
	1 1/4	31.8	28	1.9	±0.25	±0.15
	1 1/2	38.1	33.7	2.2	±0.25	±0.15
	2	50.8	45.64	2.58	±0.25	±0.2

- Notes: 1. Length and Tolerance: The length of the pipe is indicated in meters (M), with a tolerance of 0~±2%. For other specifications, the length tolerance is also 0~±2%.
2. Other dimensions can be made to order.
3. Surface roughness is per SEMI F57-0622 standards, with a baseline Ra of 0.25µm (10 µin).
4. Metal leaching is according to SEMI F57-0622 standards.

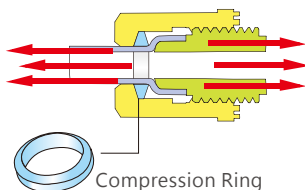
Compression Ring Type Fittings

▶ Fluoropolymer Fitting FIT-ONE

FIT-ONE offers an easy-to-install solution with a simple design that prevents pipe disconnections. It successfully overcomes the common weakness of flared fittings' insufficient tensile strength. This simple design ensures enhanced safety and reliability. The features of the FIT-ONE fitting are as follows:

Resistant to greater tensile forces and excellent sealing capability

FIT-ONE compression ring design is a perfect solution to the shortcoming of general flare type fitting.

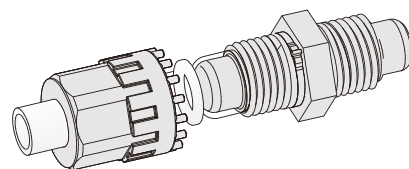
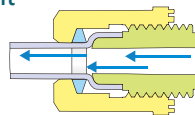


The ring's inner diameter fits the tube closely, allowing it to securely grip the flared section and resist strong tensile forces.

When the nut is tightened, it compresses the ring, ensuring a tight seal between the tube and the body.

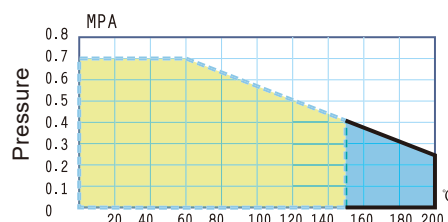
Minimal pressure loss and superior fluid displacement

Due to its low torque requirement and resistance to strong fluid forces, it enhances fluid displacement, increasing flow rates, minimizing pressure loss, and reducing residual liquid.



Specifications

Maximum Operating Temperature: 200°C (Ring material: PPS)
Maximum Operating Pressure: 0.7 MPa
Compatible Fluids: Suitable for liquids only
Compatible Pipe Materials: PFA or PTFE pipes
Product Materials: Nut (PFA)
Body: PFA or PTFE



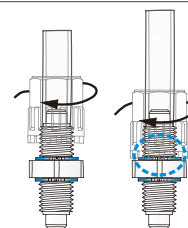
Yellow: Operating range for Ring material PVDF
Blue: Operating range for RING PPS

Click gauge tightening indicator

The click gauge indicates the optimal tightening position, allowing the fitting to operate at maximum efficiency without damaging it.

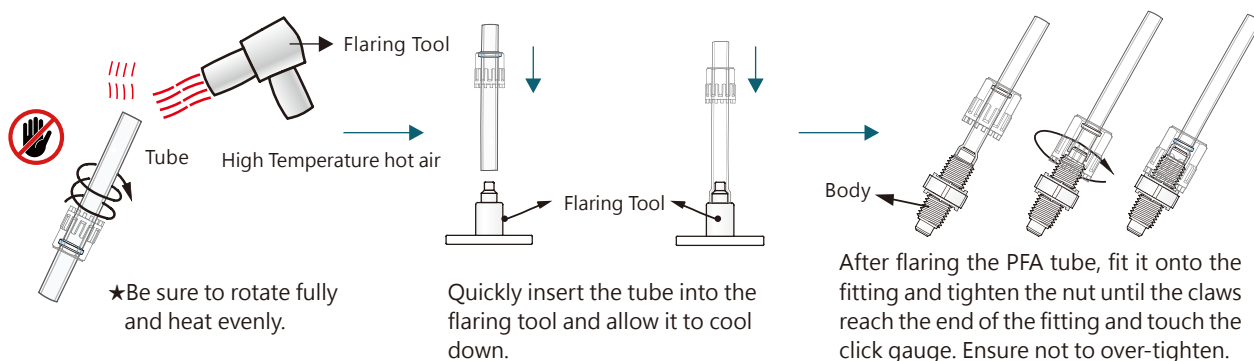
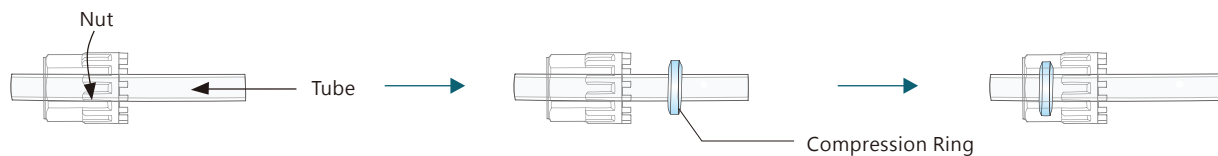
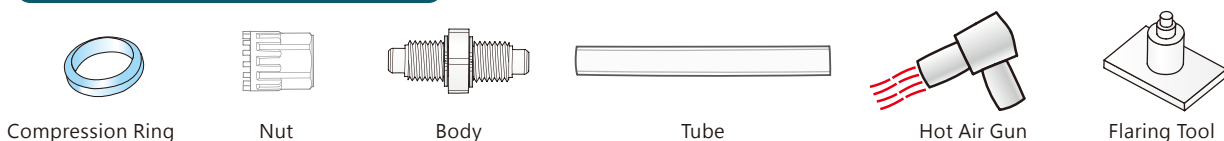
Click Gauge

When the nut is fastened to the optimal location of the body, the gauge will notify the operator either through vibration or sound.



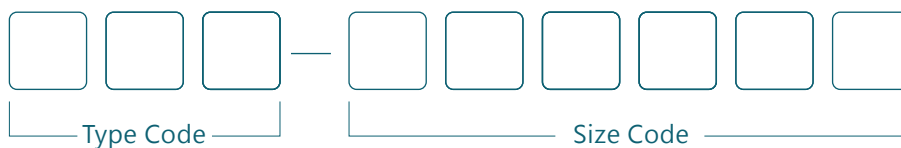
▶ Assembly Method

Components and assembly tools



PFA Fittings

Product Coding Rules



Type codes indicate the shape of the fitting (e.g., MC connectors).

Type Code	
CODE	TYPE
MC	MALE CONNECTOR
ME	MALE ELBOW
MBT	MALE BRANCE TEE
FC	FEMALE CONNECTOR
FE	FEMALE ELBOW
UT	UNION TEE
U	UNION
UE	UNION ELBOW
RUT	REDUCING UNION TEE
RU	REDUCING UNION
RUE	REDUCING UNION ELBOW
PMU	PANEL MOUNT UNION
UF	UNION FLANGE
UA	UNION ADAPTOR
RUA	REDUCING UNION ADAPTOR
UEA	UNION ELBOW ADAPTOR
RUEA	REDUCING UNION ELBOW ADAPTOR
RA	REDUCING ADAPTOR
EA	ELBOW ADAPTOR
TA	TEE ADAPTOR
RTA	REDUCING TEE ADAPTOR
RUTA	REDUCING UNION TEE ADAPTOR
UTA	UNION TEE ADAPTOR
MCT	MALE CONNECTOR THROUGH
CP	CAP
E	FITTING END
UN	UNION NUT
HN	HALF NUT
RI	RING

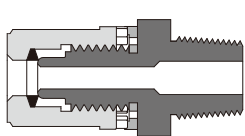
Type Code		
Series	Spec.	Code
Inch Size	1/8"	H1
	1/4"	H2
	3/8"	H3
	1/2"	H4
	3/4"	H6
	1"	H8
	1 1/4"	H10
	1 1/2"	H12

Metric Tube Size		
Series	Spec.	Code
mm Size	3	M3
	4	M4
	6	M6
	8	M8
	10	M10
	12	M12
	19	M19
	25	M25

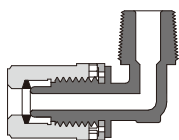
Taper Thread Size		
Series	Applicable Code	
	NPT	PT
1/8"	N1	R1
1/4"	N2	R2
3/8"	N3	R3
1/2"	N4	R4
3/4"	N6	R6
1"	N8	R8
1 1/4"	N10	R10
1 1/2"	N12	R12

For example, to order a RUT series tee fitting in sizes 3/4", 1/2", and 3/4" (imperial), the code is RUT-H6-H4-H6

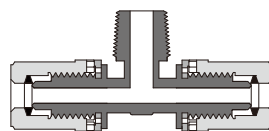
▶ Fitting List



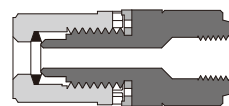
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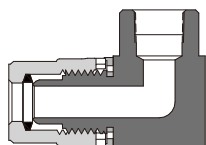
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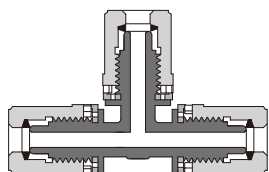
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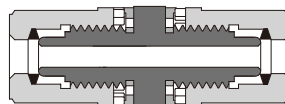
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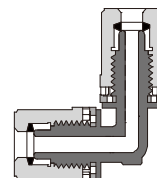
FE



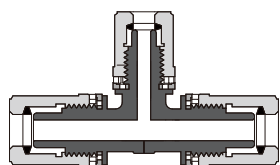
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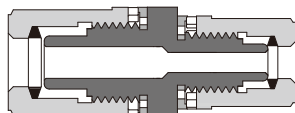
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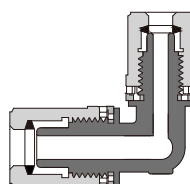
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RUT



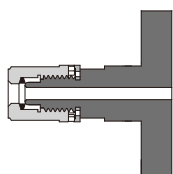
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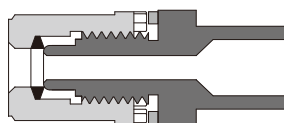
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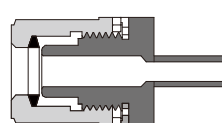
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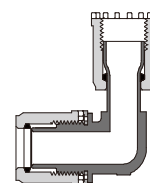
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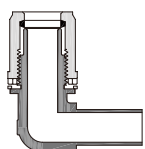
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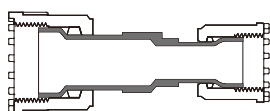
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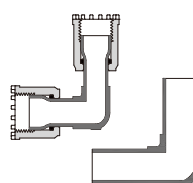
UEA



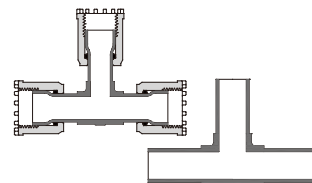
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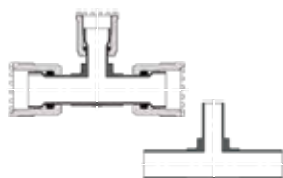
RA



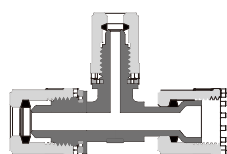
EA



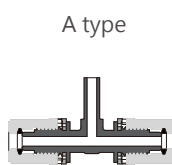
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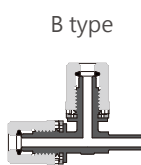
RTA



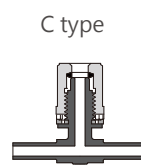
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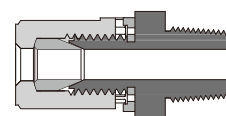
A type



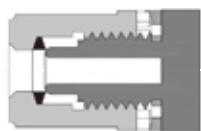
B type



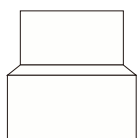
C type



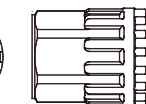
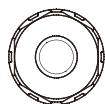
MCT



CP



E



UN



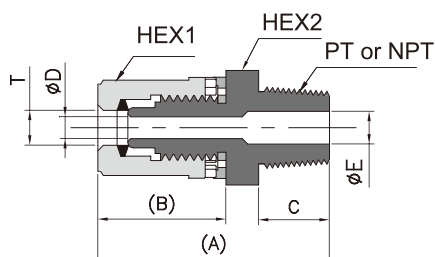
HN



RI

Unit: mm

MC_Male Connector



INCH+NPT TYPE

	T	NPT	HEX1	HEX2	(A)	(B)	C	ØD	ØE
MC-H1-N1	3.18X2.18	1/8"	11	13	32.3	17.3	9	2	3
MC-H1-N2	"	1/4"	"	"	36.3	"	13	"	6
MC-H2-N1	6.35X3.95	1/8"	16	20	38.2	23.2	9	4	3
MC-H2-N2	"	1/4"	"	"	42.2	"	13	"	6
MC-H2-N3	"	3/8"	"	"	"	"	"	"	10
MC-H3-N2	9.53X6.35	1/4"	19	23	46.4	27.4	"	6.3	6.3
MC-H3-N3	"	3/8"	"	"	"	"	"	"	10
MC-H3-N4	"	1/2"	"	"	50.2	"	16.8	"	12
MC-H4-N2	12.7X9.53	1/4"	24	29	53.3	33	13	10	6
MC-H4-N3	"	3/8"	"	"	"	"	"	"	10
MC-H4-N4	"	1/2"	"	"	57.1	"	16.8	"	12
MC-H4-N6	"	3/4"	"	"	57.4	"	17.1	"	16
MC-H6-N4	19.05X15.8	1/2"	32	38	64.6	40.5	16.8	16	12
MC-H6-N6	"	3/4"	"	"	64.9	"	17.1	"	16
MC-H6-N8	"	1"	"	"	69.2	"	21.4	"	22
MC-H8-N6	25.4X22.2	3/4"	41	49	71.9	47.5	17.1	22	16
MC-H8-N8	"	1"	"	"	76.2	"	21.4	"	22
MC-H10-N10	31.8x28	1 1/4"	50	60	100.7	63.7	25	28	28
MC-H12-N12	38.1x33.7	1 1/2"	60	70	111.0	71	28	33.7	33.7

INCH+PT TYPE

	T	PT	HEX1	HEX2	(A)	(B)	C	ØD	ØE
MC-H1-R1	3.18X2.18	1/8"	11	13	32.3	17.3	9	2	3
MC-H1-R2	"	1/4"	"	"	36.3	"	13	"	6
MC-H2-R1	6.35X3.95	1/8"	16	20	38.2	23.2	9	4	3
MC-H2-R2	"	1/4"	"	"	42.2	"	13	"	6
MC-H2-R3	"	3/8"	"	"	"	"	"	"	10
MC-H3-R2	9.53X6.35	1/4"	19	23	46.4	27.4	"	6.3	6.3
MC-H3-R3	"	3/8"	"	"	"	"	"	"	10
MC-H3-R4	"	1/2"	"	"	50.2	"	16.8	"	12
MC-H4-R2	12.7X9.53	1/4"	24	29	53.3	33	13	10	6
MC-H4-R3	"	3/8"	"	"	"	"	"	"	10
MC-H4-R4	"	1/2"	"	"	57.1	"	16.8	"	12
MC-H4-R6	"	3/4"	"	"	57.4	"	17.1	"	16
MC-H6-R4	19.05X15.8	1/2"	32	38	64.6	40.5	16.8	16	12
MC-H6-R6	"	3/4"	"	"	64.9	"	17.1	"	16
MC-H6-R8	"	1"	"	"	69.2	"	21.4	"	22
MC-H8-R6	25.4X22.2	3/4"	41	49	71.9	47.5	17.1	22	16
MC-H8-R8	"	1"	"	"	76.2	"	21.4	"	22

MM+PT TYPE

	T	PT	HEX1	HEX2	(A)	(B)	C	ØD	ØE
MC-M3-R1	3X2	1/8"	11	13	32.3	17.3	9	2	3
MC-M3-R2	"	1/4"	"	"	36.3	"	13	"	6
MC-M4-R1	4X3	1/8"	11	13	32.3	17.3	9	3	3
MC-M4-R2	"	1/4"	"	"	36.3	"	13	"	6
MC-M6-R1	6X4	1/8"	16	20	38.2	23.2	9	4	3
MC-M6-R2	"	1/4"	"	"	42.2	"	13	"	6
MC-M6-R3	"	3/8"	"	"	"	"	"	"	10
MC-M8-R1	8X6	1/8"	19	23	42.4	27.4	9	6.3	3
MC-M8-R2	"	1/4"	"	"	46.4	"	13	"	6.3
MC-M8-R3	"	3/8"	"	"	"	"	"	"	10
MC-M8-R4	"	1/2"	"	"	50.2	"	16.8	"	12
MC-M10-R2	10X8	1/4"	"	"	46.4	"	13	8	6
MC-M10-R3	"	3/8"	"	"	"	"	"	"	10
MC-M10-R4	"	1/2"	"	"	50.2	"	16.8	"	12
MC-M12-R2	12X10	1/4"	24	29	53.3	33	13	10	6
MC-M12-R3	"	3/8"	"	"	"	"	"	"	10
MC-M12-R4	"	1/2"	"	"	57.1	"	16.8	"	12
MC-M12-R6	"	3/4"	"	"	57.4	"	17.1	"	16
MC-M19-R4	19X15.8	1/2"	32	38	64.6	40.5	16.8	16	12
MC-M19-R6	"	3/4"	"	"	64.9	"	17.1	"	16
MC-M19-R8	"	1"	"	"	69.2	"	21.4	"	22
MC-M25-R6	25X22	3/4"	41	49	71.9	47.5	17.1	22	16
MC-M25-R8	"	1"	"	"	76.2	"	21.4	"	22

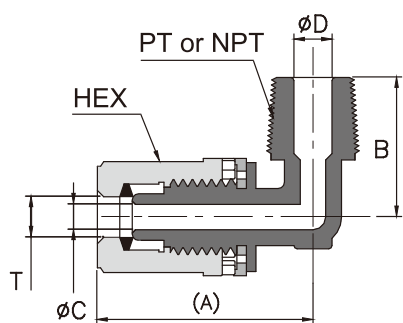
All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

Special products can be customized upon request.

Unit: mm

ME_Male Elbow



INCH+NPT TYPE

	T	NPT	HEX	(A)	B	ØC	ØD	W
ME-H1-N1	3.18X2.18	1/8"	11	24.8	17.5	2	3	7.6
ME-H1-N2	"	1/4"	"	"	21.5	"	6	"
ME-H2-N1	6.35X3.95	1/8"	16	33.7	18.0	4	3	10
ME-H2-N2	"	1/4"	"	"	22.0	"	6	"
ME-H2-N3	"	3/8"	"	"	"	"	10	"
ME-H2-N4	"	1/2"	"	36.5	27.8	"	12	14
ME-H3-N2	9.53X6.35	1/4"	19	39.9	24.0	6.3	6	"
ME-H3-N3	"	3/8"	"	"	"	"	10	"
ME-H3-N4	"	1/2"	"	"	27.8	"	12	"
ME-H4-N2	12.7X9.53	1/4"	24	48.5	26.5	10	6	18
ME-H4-N3	"	3/8"	"	"	"	"	10	"
ME-H4-N4	"	1/2"	"	"	30.3	"	12	"
ME-H4-N6	"	3/4"	"	"	30.6	"	16	"
ME-H6-N3	19.05X15.8	3/8"	32	61.0	31.0	16	10	27
ME-H6-N4	"	1/2"	"	"	34.8	"	12	"
ME-H6-N6	"	3/4"	"	"	37.1	"	16	"
ME-H6-N8	"	1"	"	66.0	46.4	"	22	34
ME-H8-N4	25.4X22.2	1/2"	41	73.0	39.8	22	12	24
ME-H8-N6	"	3/4"	"	"	42.1	"	16	34
ME-H8-N8	"	1"	"	"	46.4	"	22	"

INCH+PT TYPE

	T	PT	HEX	(A)	B	ØC	ØD	W
ME-H1-R1	3.18X2.18	1/8"	11	24.8	17.5	2	3	7.6
ME-H1-R2	"	1/4"	"	"	21.5	"	6	"
ME-H2-R1	6.35X3.95	1/8"	16	33.7	18.0	4	3	10
ME-H2-R2	"	1/4"	"	"	22.0	"	6	"
ME-H2-R3	"	3/8"	"	"	"	"	10	"
ME-H3-R2	9.53X6.35	1/4"	19	39.9	24.0	6.3	6	14
ME-H3-R3	"	3/8"	"	"	"	"	10	"
ME-H3-R4	"	1/2"	"	"	27.8	"	12	"
ME-H4-R2	12.7X9.53	1/4"	24	48.5	26.5	10	6	18
ME-H4-R3	"	3/8"	"	"	"	"	10	"
ME-H4-R4	"	1/2"	"	"	30.3	"	12	"
ME-H4-R6	"	3/4"	"	"	30.6	"	16	"
ME-H6-R4	19.05X15.8	1/2"	32	61.0	34.8	16	12	27
ME-H6-R6	"	3/4"	"	"	37.1	"	16	"
ME-H8-R6	25.4X22.2	"	41	73.0	42.1	22	"	34
ME-H8-R8	"	1"	"	"	46.4	"	22	"

MM+PT TYPE

	T	PT	HEX	(A)	B	ØC	ØD	W
ME-M3-R1	3X2	1/8"	11	24.8	17.5	2	3	7.6
ME-M3-R2	"	1/4"	"	"	21.5	"	6	"
ME-M4-R1	4X3	1/8"	"	"	17.5	3	3	"
ME-M4-R2	"	1/4"	"	"	21.5	"	6	"
ME-M4-R3	"	3/8"	11	26.3	21	3	8	18
ME-M6-R1	6x4	1/8"	16	33.7	18	4	3	10
ME-M6-R2	"	1/4"	"	"	22	"	6	"
ME-M6-R3	"	3/8"	"	"	"	"	10	"
ME-M6-R4	"	1/2"	16	34.7	29	4	10	23
ME-M6-R6	"	3/4"	"	23.2	19	"	16	28
ME-M8-R1	8x6	1/8"	19	39.9	20	6.3	3	14
ME-M8-R2	"	1/4"	"	"	24	"	6	"
ME-M8-R3	"	3/8"	"	"	"	"	10	"
ME-M8-R4	"	1/2"	"	"	27.8	"	12	"
ME-M8-R6	"	3/4"	"	41.4	30.6	"	16	28
ME-M10-R1	10x8	1/8"	"	39.9	20	8	3	14
ME-M10-R2	"	1/4"	"	"	24	8	6	"
ME-M10-R3	"	3/8"	"	"	"	"	10	"
ME-M10-R4	"	1/2"	"	"	27.8	"	12	"
ME-M12-R2	12x10	1/4"	24	48.5	26.5	10	6	18
ME-M12-R3	"	3/8"	"	"	"	"	10	"
ME-M12-R4	"	1/2"	"	"	30.3	"	12	"
ME-M12-R6	"	3/4"	"	"	30.6	"	16	"
ME-M19-R3	19X15.8	3/8"	32	61	31	16	10	27
ME-M19-R4	"	1/2"	"	"	34.8	"	12	"
ME-M19-R6	"	3/4"	"	"	37.1	"	16	"
ME-M25-R4	25x22	1/2"	41	73	39.8	22	12	34
ME-M25-R6	"	3/4"	"	"	42.1	"	16	"
ME-M25-R8	"	1"	"	"	46.4	"	22	"

All dimensions are for reference only.

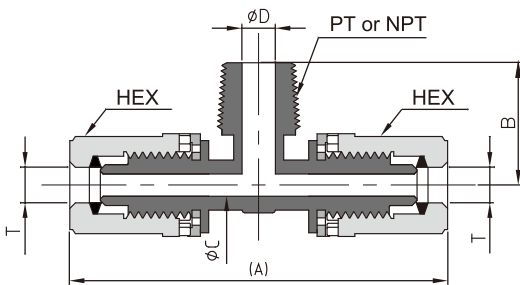
"T" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

Special products can be customized upon request.

Unit: mm

▶ MBT_Male Branch Tee



All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

Special products can be customized upon request.

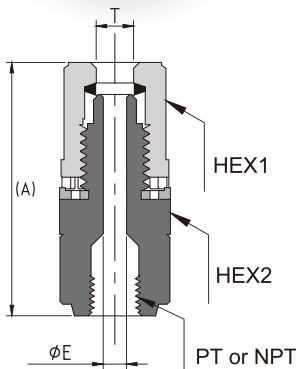
INCH TYPE

	T	NPT	HEX	(A)	B	ØC	ØD	W
MBT-H2-N1	6.35X3.95	1/8"	16	67.4	18.0	4	3	10
MBT-H2-N2	"	1/4"	"	"	22.0	"	6	"
MBT-H2-N3	"	3/8"	"	"	"	"	10	"
MBT-H3-N2	9.53X6.35	1/4"	19	79.7	24.0	6.3	6	14
MBT-H3-N3	"	3/8"	"	"	"	"	10	"
MBT-H3-N4	"	1/2"	"	"	27.8	"	12	"
MBT-H4-N2	12.7X9.53	1/4"	24	97	26.5	10	6	18
MBT-H4-N3	"	3/8"	"	"	26.5	"	10	"
MBT-H4-N4	"	1/2"	"	"	30.3	"	12	"
MBT-H6-N4	19.05X15.8	"	32	122	34.8	16	"	27
MBT-H6-N6	"	3/4"	"	"	37.1	"	16	"
MBT-H8-N6	25.4X22.2	"	41	146	42.1	22	"	34
MBT-H8-N8	"	1"	"	"	46.4	"	22	"

MM TYPE

	T	PT	HEX	(A)	B	ØC	ØD	W
MBT-M6-R1	6X4	1/8"	16	67.4	18.0	4	3	10
MBT-M6-R2	"	1/4"	"	"	22.0	"	6	"
MBT-M6-R3	"	3/8"	"	"	"	"	10	"
MBT-M8-R1	8X6	1/8"	19	79.7	20.0	6.3	3	14
MBT-M8-R2	"	1/4"	"	"	24.0	"	6	"
MBT-M8-R3	"	3/8"	"	"	"	"	10	"
MBT-M10-R2	10X8	1/4"	"	"	"	8	6	"
MBT-M10-R3	"	3/8"	"	"	"	"	10	"
MBT-M10-R4	"	1/2"	"	"	27.8	"	12	"
MBT-M12-R2	12X10	1/4"	24	97	26.5	10	6	18
MBT-M12-R3	"	3/8"	"	"	"	"	10	"
MBT-M12-R4	"	1/2"	"	"	30.3	"	12	"
MBT-M19-R4	19X15.8	"	32	122	34.8	16	"	27
MBT-M19-R6	"	3/4"	"	"	37.1	"	16	"
MBT-M25-R6	25X22	"	41	146	42.1	22	"	34
MBT-M25-R8	"	1"	"	"	46.4	"	22	"

▶ FC_Female Connector



All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

Special products can be customized upon request.

INCH TYPE

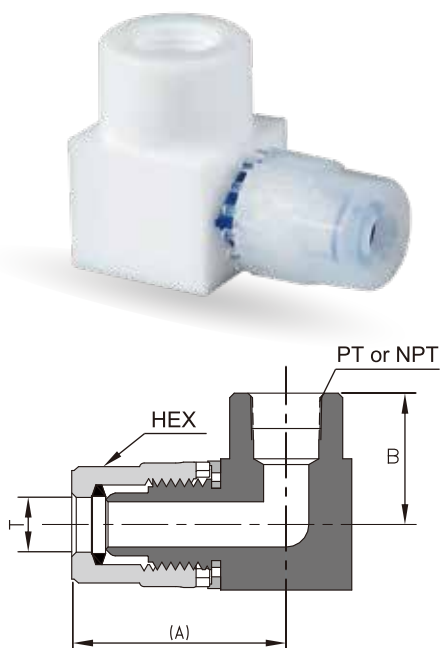
	T	NPT	HEX1	HEX2	(A)	ØE
FC-H2-N1	6.35X3.95	1/8"	16	20	40.2	4
FC-H2-N2	"	1/4"	"	"	43.2	"
FC-H2-N3	"	3/8"	"	23	43.7	"
FC-H3-N2	9.53X6.35	1/4"	19	"	47.4	6.3
FC-H3-N3	"	3/8"	"	"	47.9	"
FC-H3-N4	"	1/2"	"	29	51.9	"
FC-H4-N2	12.7X9.53	1/4"	24	"	54.3	10
FC-H4-N3	"	3/8"	"	"	54.8	"
FC-H4-N4	"	1/2"	"	"	58.8	"
FC-H6-N4	19.05X15.8	1/2"	32	38	66.3	16
FC-H6-N6	"	3/4"	"	"	66.8	"
FC-H8-N6	25.4X22.2	"	41	49	73.8	22
FC-H8-N8	"	1"	"	"	77.8	"

MM TYPE

	T	PT	HEX1	HEX2	(A)	W
FC-M6-R1	6X4	1/8"	16	20	40.2	4
FC-M6-R2	"	1/4"	"	"	43.2	"
FC-M6-R3	"	3/8"	"	23	43.7	"
FC-M8-R1	8X6	1/8"	19	"	44.4	6.3
FC-M8-R2	"	1/4"	"	"	47.4	"
FC-M8-R3	"	3/8"	"	"	47.9	"
FC-M10-R2	10X8	1/4"	"	"	47.4	8
FC-M10-R3	"	3/8"	"	"	47.9	"
FC-M10-R4	"	1/2"	"	29	51.9	"
FC-M12-R2	12X10	1/4"	24	"	54.3	10
FC-M12-R3	"	3/8"	"	"	54.8	"
FC-M12-R4	"	1/2"	"	"	58.8	"
FC-M19-R4	19X15.8	"	32	38	66.3	16
FC-M19-R6	"	3/4"	"	"	66.8	"
FC-M25-R6	25X22	"	41	49	73.8	22
FC-M25-R8	"	1"	"	"	77.8	"

FE_Female Elbow

Unit: mm



All dimensions are for reference only.

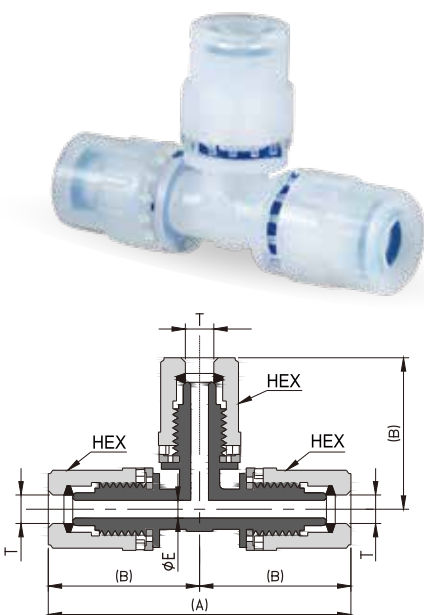
"T" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

INCH TYPE						
	T	NPT	HEX	(A)	B	W
FE-H2-N1	6.35X3.95	1/8"	16	33.2	21	20
FE-H2-N2	"	1/4"	"	34.7	24	23
FE-H2-N3	"	3/8"	"	36.2	24.5	26
FE-H3-N2	9.53X6.35	1/4"	19	38.9	25.5	23
FE-H3-N3	"	3/8"	"	40.4	26	26
FE-H3-N4	"	1/2"	"	43.6	30	32.5
FE-H4-N2	12.7X9.53	1/4"	24	47.5	28.5	29
FE-H4-N3	"	3/8"	"	"	29	"
FE-H4-N4	"	1/2"	"	49.3	33	32.5
FE-H6-N4	19.05X15.8	"	32	59.5	37.5	38
FE-H6-N6	"	3/4"	"	61.5	38	42
FE-H8-N6	25.4X22.2	"	41	72	43.5	49
FE-H8-N8	"	1"	"	74.5	47.5	54

MM TYPE						
	T	PT	HEX	(A)	B	W
FE-M6-R1	6X4	1/8"	16	33.2	21	20
FE-M6-R2	"	1/4"	"	34.7	24	23
FE-M6-R3	"	3/8"	"	36.2	24.5	26
FE-M8-R1	8X6	1/8"	19	38.9	21	20
FE-M8-R2	"	1/4"	"	40.4	25.5	23
FE-M8-R3	"	3/8"	"	43.6	26	26
FE-M10-R2	10X8	1/4"	"	38.9	25.5	23
FE-M10-R3	"	3/8"	"	40.4	26	26
FE-M10-R4	"	1/2"	"	43.6	30	32.5
FE-M12-R2	12X10	1/4"	24	47.5	28.5	29
FE-M12-R3	"	3/8"	"	"	29	"
FE-M12-R4	"	1/2"	"	49.3	33	32.5
FE-M19-R4	19X15.8	1/2"	32	59.5	37.5	38
FE-M19-R6	"	3/4"	"	61.5	38	42
FE-M25-R6	25X22	3/4"	41	72	43.5	49
FE-M25-R8	"	1"	"	74.5	47.5	54

UT_Union Tee



All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

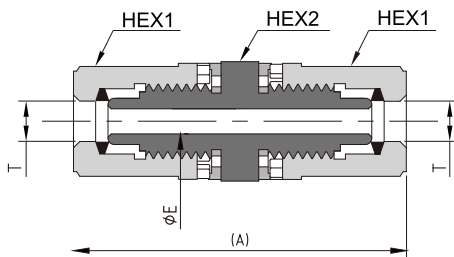
Special products can be customized upon request.

INCH TYPE						
	T	HEX	ØE	(A)	(B)	W
UT-H1	3.18X2.18	11	2	49.5	24.8	7.6
UT-H2	6.35X3.95	16	4	67.4	33.7	10
UT-H3	9.53X6.35	19	6.3	79.7	39.9	14
UT-H4	12.7X9.53	24	10	97.0	48.5	18
UT-H6	19.05X15.8	32	16	122	61	27
UT-H8	25.4X22.2	41	22	146	73	34
UT-H10	31.8X28	50	28	191.4	95.7	42
UT-H12	38.1X33.7	60	33.7	215.8	107.9	50

MM TYPE						
	T	HEX	ØE	(A)	(B)	W
UT-M3	3X2	11	2	49.5	24.8	7.6
UT-M4	4X3	"	3	"	"	"
UT-M6	6X4	16	4	67.4	33.7	10
UT-M8	8X6	19	6.3	79.7	39.9	14
UT-M10	10X8	"	8	"	"	"
UT-M12	12X10	24	10	97.0	48.5	18
UT-M19	19X15.8	32	16	122.0	61	27
UT-M25	25X22	41	22	146.0	73	34

U_Union

Unit: mm



INCH TYPE

	T	HEX1	HEX2	(A)	ØE
U-H1	3.18X2.18	11	13	40.7	2
U-H2	6.35X3.95	16	20	52.4	4
U-H3	9.53X6.35	19	23	60.7	6.3
U-H4	12.7X9.53	24	29	73.3	10
U-H6	19.05X15.8	32	38	88.3	16
U-H8	25.4X22.2	41	49	102.3	22
U-H10	31.8X28	50	60	139.4	28
U-H12	38.1X33.7	60	70	154.1	33.7

MM TYPE

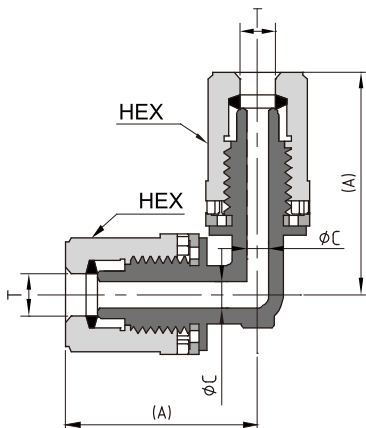
	T	HEX1	HEX2	(A)	ØE
U-M3	3X2	11	13	40.7	2
U-M4	4X3	"	"	"	3
U-M6	6x4	16	20	52.4	4
U-M8	8x6	19	23	60.7	6.3
U-M10	10x8	"	"	"	8
U-M12	12X10	24	29	73.3	10
U-M19	19x15.8	32	38	88.3	16
U-M25	25x22	41	49	102.3	22

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

Special products can be customized upon request.

UE_Union Elbow



INCH TYPE

	T	HEX	(A)	ØC	W
UE-H1	3.18X2.18	11	24.8	2	7.6
UE-H2	6.35X3.95	16	33.7	4	10
UE-H3	9.53X6.35	19	39.9	6.3	14
UE-H4	12.7X9.53	24	48.5	10	18
UE-H6	19.05X15.8	32	61	16	27
UE-H8	25.4X22.2	41	73	22	34
UE-H10	31.8X28	50	95.7	28	42
UE-H12	38.1X33.7	60	107.9	33.7	50

MM TYPE

	T	HEX	(A)	ØC	W
UE-M3	3X2	11	24.8	2	7.6
UE-M4	4X3	"	"	3	"
UE-M6	6X4	16	33.7	4	10
UE-M8	8X6	19	39.9	6.3	14
UE-M10	10X8	"	"	8	"
UE-M12	12X10	24	48.5	10	18
UE-M19	19X15.8	32	61	16	27
UE-M25	25X22	41	73	22	34

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

Special products can be customized upon request.

RUT_Reducing Union Tee

Unit: mm

INCH TYPE														
	T1	T2	T3	HEX1	HEX2	HEX3	ØE1	ØE2	ØE3	(A)	(B)	(C)	(D)	W
RUT-H1-H2-H1	3.18X2.18	6.35X3.95	3.18X2.18	11	16	11	2	4	2	49.5	24.8	24.8	31.2	7.6
RUT-H1-H4-H1	"	12.7X9.53	"	"	24	"	"	10	"	63.5	31.8	31.8	39.5	29
RUT-H2-H1-H2	6.35X3.95	3.18X2.18	6.35x3.95	16	11	16	4	2	4	67.4	33.7	33.7	27.3	10
RUT-H2-H3-H2	"	9.53X6.35	"	"	19	"	"	6.3	"	"	"	"	37.9	"
RUT-H2-H4-H2	"	12.7X9.53	"	"	24	"	"	10	"	85.4	42.7	42.7	49.5	18
RUT-H2-H8-H2	"	25.4X22.2	"	"	41	"	"	22	"	95.4	47.7	47.7	57.5	49
RUT-H3-H1-H3	9.53X6.35	3.18X2.18	9.53X6.35	19	11	19	6.3	2	6.3	67.7	33.9	33.9	28.8	23
RUT-H3-H2-H2	"	6.35X3.95	6.35X3.95	"	16	16	"	4	4	75.6	39.9	35.7	35.7	14
RUT-H3-H2-H3	"	"	9.53X6.35	"	"	19	"	"	6.3	79.7	"	39.9	"	"
RUT-H3-H3-H2	"	9.53X6.35	6.35x3.95	"	19	16	"	6.3	4	75.6	"	35.7	39.9	"
RUT-H3-H4-H3	"	12.7X9.53	9.53X6.35	"	24	19	"	10	6.3	79.7	"	39.9	48	"
RUT-H3-H6-H3	"	19.05X15.8	"	"	32	"	"	16	"	93.7	46.9	46.9	63.4	27
RUT-H4-H2-H2	12.7X9.53	6.35X3.95	6.35x3.95	24	16	16	10	4	4	86.7	48.5	38.2	38.2	18
RUT-H4-H2-H4	"	"	12.7X9.53	"	"	24	"	"	10	97	"	48.5	"	"
RUT-H4-H3-H2	"	9.53X6.35	6.35x3.95	"	19	16	"	6.3	4	79.5	44.5	35	42.2	29
RUT-H4-H3-H3	"	"	9.53X6.35	"	"	19	"	"	6.3	90.9	48.5	42.4	42.4	18
RUT-H4-H3-H4	"	"	12.7X9.53	"	"	24	"	"	10	97	"	48.5	"	"
RUT-H4-H4-H2	"	12.7X9.53	6.35x3.95	"	24	16	"	10	4	86.7	"	38.2	48.5	"
RUT-H4-H4-H3	"	"	9.53X6.35	"	"	19	"	"	6.3	90.9	"	42.4	"	"
RUT-H4-H6-H3	"	19.05X15.8	"	"	32	"	"	16	"	98.4	52	46.4	55	38
RUT-H4-H6-H4	"	"	12.7X9.53	"	"	24	"	"	10	97	48.5	48.5	58.5	18
RUT-H4-H8-H4	"	25.4X22.2	"	"	41	"	"	22	"	115	57.5	57.5	61.9	49
RUT-H6-H1-H6	19.05X15.8	3.18X2.18	19.05X15.8	32	11	32	16	2	16	94	47	47	36.3	38
RUT-H6-H2-H4	"	6.35x3.95	12.7x9.53	"	16	24	"	4	10	93.5	50.5	43	42.2	"
RUT-H6-H2-H6	"	"	19.05X15.8	"	"	32	"	"	16	122	61	61	42.7	27
RUT-H6-H3-H2	"	9.53X6.35	6.35x3.95	"	19	16	"	6.3	4	86.7	52	34.7	46.4	38
RUT-H6-H3-H3	"	"	9.53X6.35	"	"	19	"	"	6.3	90.8	"	38.9	"	"
RUT-H6-H3-H6	"	"	19.05X15.8	"	"	32	"	"	16	122	61	61	46.9	27
RUT-H6-H4-H3	"	12.7X9.53	9.53X6.35	"	24	19	"	10	6.3	96.8	55	41.9	52	38
RUT-H6-H4-H4	"	"	12.7X9.53	"	"	24	"	"	10	114	61	53	53	27
RUT-H6-H4-H6	"	"	19.05X15.8	"	"	32	"	"	16	122	"	61	"	"
RUT-H6-H6-H2	"	19.05X15.8	6.35x3.95	"	32	16	"	16	4	103.7	"	42.7	61	"
RUT-H6-H6-H3	"	"	9.53X6.35	"	"	19	"	"	6.3	107.8	"	46.9	"	"
RUT-H6-H6-H4	"	"	12.7X9.53	"	"	24	"	"	10	114	"	53	"	"
RUT-H6-H8-H3	"	25.4X22.2	9.53X6.35	"	41	19	"	22	6.3	116.8	65	51.9	66.5	49
RUT-H6-H8-H4	"	"	12.7X9.53	"	"	24	"	"	10	122.5	"	57.5	"	49
RUT-H6-H8-H6	"	"	19.05X15.8	"	"	32	"	"	16	122	61	61	70	27
RUT-H8-H2-H8	25.4X22.2	6.35X3.95	25.4X22.2	41	16	41	22	4	22	146	73	73	47.7	34
RUT-H8-H3-H8	"	9.53X6.35	"	"	19	"	"	6.3	"	"	"	"	51.9	"
RUT-H8-H4-H4	"	12.7X9.53	12.7X9.53	"	24	24	"	10	10	109.5	62	47.5	57.5	49
RUT-H8-H4-H6	"	"	19.05X15.8	"	"	32	"	"	16	117	"	55	57.5	"
RUT-H8-H4-H8	"	"	25.4X22.2	"	"	41	"	"	22	146	73	73	58	34
RUT-H8-H6-H2	"	19.05X15.8	6.35x3.95	"	32	16	"	16	4	108.7	66.5	42.2	65	49
RUT-H8-H6-H3	"	"	9.53X6.35	"	"	19	"	"	6.3	112.9	"	46.4	65	"
RUT-H8-H6-H4	"	"	12.7x9.53	"	"	24	"	"	10	118.5	"	52	65	"
RUT-H8-H6-H6	"	"	19.05X15.8	"	"	32	"	"	16	139	73	66	66	34
RUT-H8-H6-H8	"	"	25.4X22.2	"	"	41	"	"	22	146	"	73	"	"
RUT-H8-H8-H2	"	25.4X22.2	6.35x3.95	"	41	16	"	22	4	119.7	72	47.7	72	49
RUT-H8-H8-H3	"	"	9.53X6.35	"	"	19	"	"	6.3	123.9	"	51.9	"	"
RUT-H8-H8-H4	"	"	12.7X9.53	"	"	24	"	22	10	131	73	58	73	34
RUT-H8-H8-H6	"	"	19.05X15.8	"	"	32	"	"	16	139	"	66	"	"
RUT-H8-H12-H8	"	38.1X33.7	25.4X22.2	"	60	41	"	33.7	22	164	82	82	93.3	65.6
RUT-H10-H4-H10	31.8X28	12.7X9.53	31.8X28	50	24	50	28	10	28	156	78	78	62.5	59
RUT-H10-H6-H10	"	19.05X15.8	"	"	32	"	"	16	"	191.4	95.7	95.7	72	41.6
RUT-H10-H8-H10	"	25.4X22.2	"	"	41	"	"	22	"	"	"	"	79	"
RUT-H12-H4-H12	38.1X33.7	12.7X9.53	38.1X33.7	60	24	60	33.7	67.5	33.7	167.7	83.8	83.8	68	65.6
RUT-H12-H6-H12	"	19.05X15.8	"	"	32	"	"	16	"	215.8	107.9	107.9	76.8	49.6
RUT-H12-H8-H12	"	25.4X22.2	"	"	41	"	"	22	"	"	"	"	83.9	"
RUT-H12-H10-H12	"	31.8X28	"	"	50	"	"	28	"	"	"	"	100.5	"
RUT-H12-H12-H8	"	38.1X33.7	25.4X22.2	"	60	41	"	33.7	22	185.8	105.5	80.3	105.5	65.6

All dimensions are for reference only.

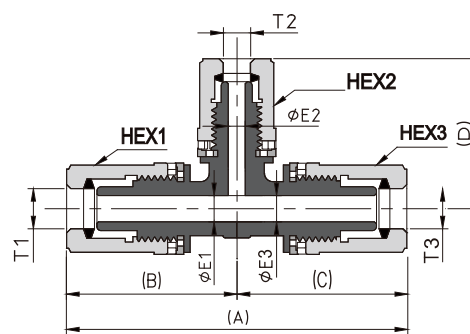
"T1" "T2" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

RUT Reducing Union Tee



Unit: mm

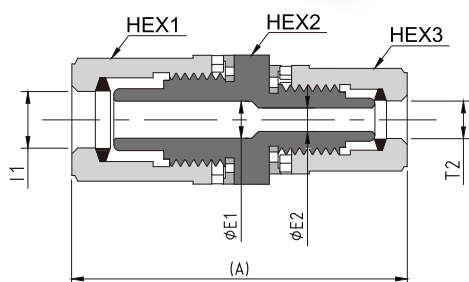


MM TYPE

	T1	T2	T3	HEX1	HEX2	HEX3	ØE1	ØE2	ØE3	(A)	(B)	(C)	(D)	W
RUT-M3-M6-M3	3X2	6X4	3X2	11	16	11	2	4	2	49.5	24.8	24.8	31.2	7.6
RUT-M3-M12-M3	"	12X10	"	"	24	"	"	10	"	63.5	31.8	31.8	39.5	29
RUT-M6-M3-M6	6X4	3X2	6X4	16	11	16	4	2	4	67.4	33.7	33.7	27.3	10
RUT-M6-M4-M6	"	4X3	"	"	"	"	"	3	"	"	"	"	"	"
RUT-M6-M8-M6	"	8X6	"	"	19	"	"	6.3	"	"	"	"	37.9	"
RUT-M6-M12-M6	"	12x10	"	"	24	"	"	10	"	85.4	42.7	42.7	49.5	18
RUT-M6-M25-M6	"	25x22	"	"	41	"	"	22	"	95.4	47.7	47.7	57.5	49
RUT-M8-M3-M8	8x6	3x2	8x6	19	11	19	6.3	2	6.3	67.7	33.9	33.9	28.8	23
RUT-M8-M6-M6	"	6X4	6x4	"	16	16	"	4	4	75.6	39.9	35.7	35.7	14
RUT-M8-M6-M8	"	"	8X6	"	"	19	"	"	6.3	79.7	"	39.9	"	"
RUT-M8-M8-M6	"	8X6	6X4	"	19	16	"	6.3	4	75.6	"	35.7	39.9	"
RUT-M8-M12-M8	"	12X10	8x6	"	24	19	"	10	6.3	79.7	"	39.9	48	"
RUT-M8-M19-M8	"	19X15.8	"	"	32	"	"	16	"	93.7	46.9	46.9	63.4	27
RUT-M10-M6-M10	10X8	6X4	10X8	"	16	"	8	4	8	79.7	39.9	39.9	35.7	14
RUT-M10-M8-M10	"	8X6	"	"	19	"	"	6.3	"	"	"	"	39.9	"
RUT-M12-M6-M6	12X10	6X4	6X4	24	16	16	10	4	4	86.7	48.5	38.2	38.2	18
RUT-M12-M6-M12	"	"	12X10	"	"	24	"	"	10	97	"	48.5	"	"
RUT-M12-M8-M6	"	8X6	6X4	"	19	16	"	6.3	4	79.5	44.5	35	42.2	29
RUT-M12-M8-M8	"	"	8X6	"	"	19	"	"	6.3	90.9	48.5	42.4	42.4	18
RUT-M12-M8-M12	"	"	12X10	"	"	24	"	"	10	97	"	48.5	"	"
RUT-M12-M10-M12	"	10X8	"	"	"	"	"	8	"	"	"	"	"	"
RUT-M12-M12-M6	"	12X10	6X4	"	24	16	"	10	4	86.7	"	38.2	48.5	"
RUT-M12-M12-M8	"	"	8X6	"	"	19	"	"	6.3	90.9	"	42.4	"	"
RUT-M12-M19-M8	"	19X15.8	"	"	32	"	"	16	"	98.4	52	46.4	55	38
RUT-M12-M19-M12	"	"	12X10	"	"	24	"	"	10	97	48.5	48.5	58.5	18
RUT-M12-M25-M12	"	25x22	"	"	41	"	"	22	"	115	57.5	57.5	61.9	49
RUT-M19-M3-M19	19X15.8	3x2	19X15.8	32	11	32	16	2	16	94	47	47	36.3	38
RUT-M19-M6-M12	"	6x4	12X10	"	16	24	"	4	10	93.5	50.5	43	42.2	"
RUT-M19-M6-M19	"	"	19X15.8	"	"	32	"	4	16	122	61	61	42.7	27
RUT-M19-M8-M6	"	8x6	6x4	"	19	16	"	6.3	4	86.7	52	34.7	46.4	38
RUT-M19-M8-M8	"	"	8x6	"	"	19	"	"	6.3	90.8	"	38.9	46.4	"
RUT-M19-M10-M19	"	10X8	19X15.8	"	"	32	"	8	16	122	61	61	46.9	27
RUT-M19-M12-M8	"	12x10	8x6	"	24	19	"	10	6.3	96.8	55	41.9	52	38
RUT-M19-M12-M12	"	"	12X10	"	"	24	"	"	10	114	61	53	53	27
RUT-M19-M12-M19	"	"	19X15.8	"	"	32	"	"	16	122	"	61	"	"
RUT-M19-M19-M6	"	19X15.8	6X4	"	32	16	"	16	4	103.7	"	42.7	61	"
RUT-M19-M19-M8	"	"	8X6	"	"	19	"	"	6.3	107.8	"	46.9	"	"
RUT-M19-M19-M10	"	"	10X8	"	"	"	"	"	8	"	"	"	"	"
RUT-M19-M19-M12	"	"	12X10	"	"	24	"	"	10	114	"	53	"	"
RUT-M19-M25-M8	"	25x22	8x6	"	41	19	"	22	6.3	116.8	65	51.9	66.5	49
RUT-M19-M25-M12	"	"	12X10	"	"	24	"	"	10	122.5	"	57.5	"	"
RUT-M19-M25-M19	"	"	19X15.8	"	"	32	"	"	16	122	61	61	70	27
RUT-M25-M6-M25	25X22	6X4	25X22	41	16	41	22	4	22	146	73	73	47.7	34
RUT-M25-M8-M25	"	8X6	"	"	19	"	"	6.3	"	"	"	"	51.9	"
RUT-M25-M12-M12	"	12X10	12X10	"	24	24	"	10	10	109.5	62	47.5	57.5	49
RUT-M25-M12-M19	"	"	19x15.8	"	"	32	"	"	16	117	"	55	"	"
RUT-M25-M12-M25	"	"	25x22	"	"	41	"	"	22	146	73	73	58	34
RUT-M25-M19-M6	"	19X15.8	6x4	"	32	16	"	16	4	108.7	66.5	42.2	65	49
RUT-M25-M19-M8	"	"	8x6	"	"	19	"	"	6.3	112.9	"	46.4	"	"
RUT-M25-M19-M12	"	"	12X10	"	"	24	"	"	10	118.5	"	52	"	"
RUT-M25-M19-M19	"	"	19X15.8	"	"	32	"	"	16	139	73	66	66	34
RUT-M25-M19-M25	"	"	25X22	"	"	41	"	"	22	146	"	73	"	"
RUT-M25-M25-M6	"	25x22	6x4	"	41	16	"	22	4	119.7	72	47.7	72	49
RUT-M25-M25-M8	"	"	8x6	"	"	19	"	"	6.3	123.9	"	51.9	"	"
RUT-M25-M25-M12	"	"	12X10	"	"	24	"	"	10	131	73	58	73	34
RUT-M25-M25-M19	"	"	19X15.8	"	"	32	"	"	16	139	"	66	"	"

Unit: mm

RU Reducing Union



All dimensions are for reference only.

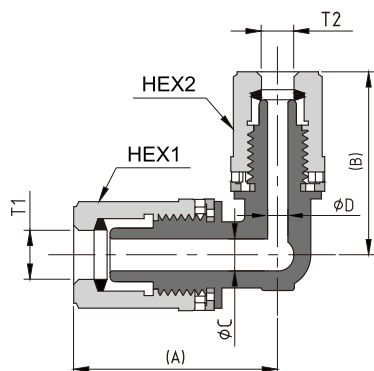
"T1" "T2" indicates the O.D and I.D of the applicable tube.

Special products can be customized upon request.

INCH TYPE								
	T1	T2	HEX1	HEX2	HEX3	(A)	ØE1	ØE2
RU-H2-H1	6.35X3.95	3.18X2.18	16	20	11	46.5	4	2
RU-H3-H2	9.53X6.35	6.35X3.95	19	23	16	56.6	6.3	4
RU-H4-H2	12.7X9.53	"	24	29	"	63.5	10	"
RU-H4-H3	"	9.53X6.35	"	"	19	67.7	"	6.3
RU-H6-H2	19.05X15.8	6.35X3.95	32	38	16	71	16	4
RU-H6-H3	"	9.53X6.35	"	"	19	75.1	"	6.3
RU-H6-H4	"	12.7X9.53	"	"	24	80.8	"	10
RU-H8-H2	25.4X22.2	6.35X3.95	41	49	16	78.0	22	4
RU-H8-H4	"	"	"	"	24	87.8	"	10
RU-H8-H6	"	19.05X15.8	"	"	32	95.3	"	16
RU-H10-H6	31.8X28	19.05X15.8	50	60	"	116.2	28	"
RU-H10-H8	"	25.4X22.2	"	"	41	123.2	"	22
RU-H12-H6	38.1X33.7	19.05X15.8	60	70	32	123.5	33.7	16
RU-H12-H8	"	25.4X22.2	"	"	41	130.5	"	22
RU-H12-H10	"	31.8X28	"	"	50	146.7	"	28

MM TYPE								
	T1	T2	HEX1	HEX2	HEX3	(A)	ØE1	ØE2
RU-M6-M3	6x4	3X2	16	20	11	46.5	4	2
RU-M6-M4	"	4X3	"	"	"	"	"	3
RU-M8-M6	8x6	6x4	19	23	16	56.6	6.3	4
RU-M10-M6	10x8	"	"	"	"	"	8	"
RU-M10-M8	"	8x6	"	"	19	60.7	"	6.3
RU-M12-M6	12x10	6x4	24	29	16	63.5	10	4
RU-M12-M8	"	8x6	"	"	19	67.7	"	6.3
RU-M12-M10	"	10x8	"	"	"	"	"	8
RU-M19-M6	19x15.8	6X4	32	38	16	71	16	4
RU-M19-M10	"	10x8	"	"	19	75.1	"	8
RU-M19-M12	"	12x10	"	"	24	80.8	"	10
RU-M25-M12	25x22	"	41	49	"	87.8	22	"
RU-M25-M19	"	19x15.8	"	"	32	95.3	"	16

RUE Reducing Union Elbow



All dimensions are for reference only.

"T1" "T2" indicates the O.D and I.D of the applicable tube.

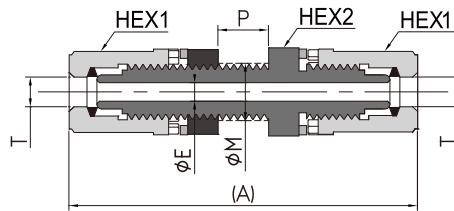
"W" indicates the width between both sides of the fitting body.

Special products can be customized upon request.

INCH TYPE									
	T1	T2	HEX1	HEX2	(A)	(B)	ØC	ØD	W
RUE-H2-H1	6.35X3.95	3.18X2.18	16	11	33.7	27.3	4	2	10
RUE-H3-H2	9.53X6.35	6.35X3.95	19	16	39.9	35.7	6.3	4	14
RUE-H4-H2	12.7X9.53	"	24	"	48.5	38.2	10	"	18
RUE-H4-H3	"	9.53X6.35	"	19	"	42.4	"	6.3	"
RUE-H6-H3	19.05X15.8	"	32	"	61	46.9	16	"	27
RUE-H6-H4	"	12.7X9.5	"	24	"	53	"	10	"
RUE-H8-H4	25.4X22.2	"	41	"	73	58	22	"	34
RUE-H8-H6	"	19.05X15.8	"	32	"	66	"	16	"
RUE-H10-H6	31.8X28	"	50	"	95.7	72	28	"	41.6
RUE-H10-H8	"	25.4X22.2	"	41	"	79	"	22	"
RUE-H12-H6	38.1X33.7	19.05X15.8	60	32	107.9	76.8	33.7	16	49.6
RUE-H12-H8	"	25.4X22.2	"	41	"	83.9	"	22	"
RUE-H12-H10	"	31.8X28	"	50	"	100.5	"	28	"

MM TYPE									
	T1	T2	HEX1	HEX2	(A)	(B)	ØC	ØD	W
RUE-M6-M3	6X4	3X2	16	11	33.7	27.3	4	2	10
RUE-M6-M4	"	4X3	"	"	"	"	"	3	"
RUE-M8-M6	8X6	6X4	19	16	39.9	35.7	6.3	4	14
RUE-M10-M6	10X8	"	"	"	"	"	8	"	"
RUE-M10-M8	"	8X6	"	19	"	39.9	"	6.3	"
RUE-M12-M6	12X10	6X4	24	16	48.5	38.2	10	4	18
RUE-M12-M8	"	8X6	"	19	"	42.4	"	6.3	"
RUE-M12-M10	"	10X8	"	"	"	"	"	8	"
RUE-M19-M10	19X15.8	"	32	"	61	46.9	16	"	27
RUE-M19-M12	"	12X10	"	24	"	53	"	10	"
RUE-M25-M12	25X22	"	41	"	73	58	22	"	34
RUE-M25-M19	"	19X15.8	"	32	"	66	"	16	"

PMU Panel Mount Union



All dimensions are for reference only.

"P" Indicates the maximum thickness of the panel.

"M" indicates the diameter of the panel mount hole.

"T" indicates the O.D and I.D of the applicable tube.

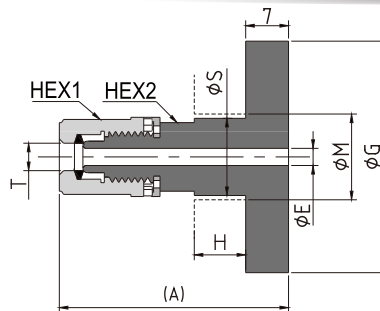
Special products can be customized upon request.

Unit: mm

INCH TYPE							
	T	ØM	P	HEX1	HEX2	(A)	ØE
PMU-H1	3.18X2.18	8.5	10	11	13	55.5	2
PMU-H2	6.35X3.95	12.5	"	16	20	68.4	4
PMU-H3	9.53X6.35	18.5	"	19	23	76.7	6.3
PMU-H4	12.7X9.53	22.5	"	24	29	90.6	10
PMU-H6	19.05X15.8	31	"	32	38	105.6	16
PMU-H8	25.4X22.2	41	"	41	49	119.6	22

MM TYPE							
	T	M	P	HEX1	HEX2	(A)	ØE
PMU-M3	3X2	8.5	10	11	13	55.5	2
PMU-M4	4X3	"	"	"	"	"	3
PMU-M6	6X4	12.5	"	16	20	68.4	4
PMU-M8	8X6	18.5	"	19	23	76.7	6.3
PMU-M10	10X8	"	"	"	"	"	8
PMU-M12	12X10	22.5	"	24	29	90.6	10
PMU-M19	19X15.8	31	"	32	38	105.6	16
PMU-M25	25X22	41	"	41	49	119.6	22

UF_Union Flange



INCH TYPE											
	T	Flange	HEX1	HEX2	H	(A)	ØE	ØG	ØS	ØM	
UF-H2-15/20A	6.35X3.95	10K-15/20A	16	20	14	50.2	4	54	22	23	
UF-H3-15/20A	9.53X6.35	"	19	23	"	54.4	6.3	"	25	26	
UF-H3-25/32A	"	10K-25/32A	"	"	"	"	"	70	"	"	
UF-H4-15/20A	12.7X9.53	10K-15/20A	24	29	"	61.3	10	54	31.5	32.5	
UF-H4-25/32A	"	10K-25/32A	"	"	"	"	"	70	"	"	
UF-H6-15/20A	19.05X15.8	10K-15/20A	32	38	16	70.8	16	54	41	42	
UF-H6-25/32A	"	10K-25/32A	"	"	"	"	"	70	"	"	
UF-H8-25/32A	25.4X22.2	10K-25/32A	41	49	"	77.8	22	"	53	54	
UF-H10-40/50A	31.8X28	10K-40/50A	50	60	"	101.7	28	85	65	66	
UF-H12-40/50A	38.1X33.7	"	60	64	"	109	33.7	"	68	69	

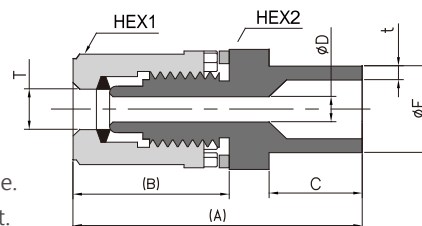
MM TYPE											
	T	Flange	HEX1	HEX2	H	(A)	ØE	ØG	ØS	ØM	
UF-M6-15/20A	6X4	10K-15/20A	16	20	14	50.2	4	54	22	23	
UF-M8-15/20A	8X6	10K-15/20A	19	23	"	54.4	6.3	"	25	26	
UF-M8-25/32A	"	10K-25/32A	"	"	"	"	"	70	"	"	
UF-M10-15/20A	10X8	10K-15/20A	"	"	"	"	8	54	"	"	
UF-M10-25/32A	"	10K-25/32A	"	"	"	"	"	70	"	"	
UF-M12-15/20A	12X10	10K-15/20A	24	29	"	61.3	10	54	31.5	32.5	
UF-M12-25/32A	"	10K-25/32A	"	"	"	"	"	70	"	"	
UF-M19-15/20A	19X15.8	10K-15/20A	32	38	16	70.8	16	54	41	42	
UF-M19-25/32A	"	10K-25/32A	"	"	"	"	"	70	"	"	
UF-M25-25/32A	25X22	10K-25/32A	41	49	"	77.8	22	"	53	54	

UA (Pipe welding type) Union Adaptor

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

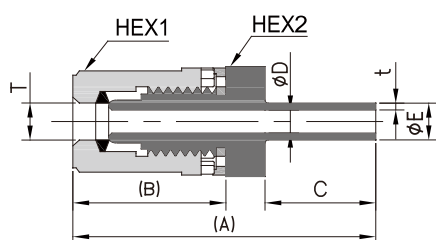
Special products can be customized upon request.



INCH TYPE									
	T	HEX1	HEX2	(A)	(B)	C	ØD	ØE	t
UA-H2-B2	6.35X3.95	16	20	43.2	23.2	14	4	13.7	2.2
UA-H2-B4	"	"	"	68.2	"	39	"	21.3	2.8
UA-H3-B2	9.53X6.35	19	23	47.4	27.4	14	6.3	13.7	2.2
UA-H3-B4	"	"	"	72.4	"	39	"	21.3	2.8
UA-H3-B6	"	"	"	"	"	"	"	26.7	2.9
UA-H4-B2	12.7X9.53	24	29	54.3	33	14	10	13.7	2.2
UA-H4-B4	"	"	"	79.3	"	39	"	21.3	2.8
UA-H4-B6	"	"	"	"	"	"	"	26.7	2.9
UA-H4-B8	"	"	"	"	"	"	"	33.4	3.4
UA-H6-B4	19.05X15.8	32	38	86.8	40.5	"	16	21.3	2.8
UA-H6-B6	"	"	"	"	"	"	"	26.7	2.9
UA-H6-B8	"	"	"	"	"	"	"	33.4	3.4
UA-H8-B6	25.4X22.2	41	49	93.8	47.5	"	22	26.7	2.9
UA-H8-B8	"	"	"	"	"	"	"	33.4	3.4

MM TYPE									
	T	HEX1	HEX2	(A)	(B)	C	ØD	ØE	t
UA-M6-B2	6X4	16	20	43.2	23.2	14	4	13.7	2.2
UA-M6-B4	"	"	"	68.2	"	39	"	21.3	2.8
UA-M10-B2	10X8	19	23	47.4	27.4	14	8	13.7	2.2
UA-M10-B4	"	"	"	72.4	"	39	"	21.3	2.8
UA-M10-B6	"	"	"	"	"	"	"	26.7	2.9
UA-M12-B2	12X10	24	29	54.3	33	14	10	13.7	2.2
UA-M12-B4	"	"	"	79.3	"	39	"	21.3	2.8
UA-M12-B6	"	"	"	"	"	"	"	26.7	2.9
UA-M12-B8	"	"	"	"	"	"	"	33.4	3.4
UA-M19-B4	19X15.8	32	38	86.8	40.5	"	16	21.3	2.8
UA-M19-B6	"	"	"	"	"	"	"	26.7	2.9
UA-M19-B8	"	"	"	"	"	"	"	33.4	3.4
UA-M25-B6	25X22	41	49	93.8	47.5	"	22	26.7	2.9
UA-M25-B8	"	"	"	"	"	"	"	33.4	3.4

UA_Union Adaptor



T type

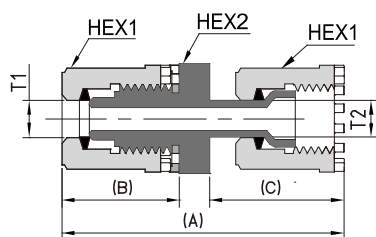
Unit: mm

INCH TYPE									
	T	HEX1	HEX2	(A)	(B)	C	ØD	ØE	t
UA-H2-TH2	6.35X3.95	16	20	46.2	23.2	17	4	6.35	1.2
UA-H3-TH3	9.53X6.35	19	23	54.4	27.4	21	6.3	9.53	1.6
UA-H4-TH4	12.7X9.53	24	29	65.3	33	25	10	12.7	1.6
UA-H6-TH6	19.05X15.8	32	38	78.8	40.5	31	16	19.05	1.6
UA-H8-TH8	25.4X22.2	41	49	92.8	47.5	38	22	25.4	1.6

MM TYPE									
	T	HEX1	HEX2	(A)	(B)	C	ØD	ØE	t
UA-M6-TH2	6x4	16	20	46.2	23.2	17	4	6.35	1.2
UA-M8-TH3	8x6	19	23	54.4	27.4	21	6.3	9.53	1.6
UA-M12-TH4	12X10	24	29	65.3	33	25	10	12.7	1.6
UA-M19-TH6	19X15.8	32	38	78.8	40.5	31	16	19.05	1.6
UA-M25-TH8	25X22	41	49	92.8	47.5	38	22	25.4	1.6

All dimensions are for reference only.

"T1" "T2" indicates the O.D and I.D of the applicable tube.



S type

INCH TYPE							
	T1	T2	HEX1	HEX2	(A)	(B)	(C)
UA-H2-TH2S	6.35X3.95	M6,H2	16	20	57.6	23.2	28.4
UA-H3-TH3S	9.53X6.35	M8,H3	19	23	64.6	27.4	31.2
UA-H4-TH4S	12.7X9.53	M12,H4	24	29	79.3	33	39
UA-H6-TH6S	19.05X15.8	M19,H6	32	38	94.8	40.5	47
UA-H8-TH8S	25.4X22	M25,H8	41	49	115.5	47.5	60.7

MM TYPE							
	T1	T2	HEX1	HEX2	(A)	(B)	(C)
UA-M6-TH2S	6x4	M6,H2	16	20	57.6	23.2	28.4
UA-M8-TH3S	8x6	M8,H3	19	23	64.6	27.4	31.2
UA-M12-TH4S	12X10	M12,H4	24	29	79.3	33	39
UA-M19-TH6S	19X15.8	M19,H6	32	38	94.8	40.5	47
UA-M25-TH8S	25X22	M25,H8	41	49	115.5	47.5	60.7

All dimensions are for reference only.

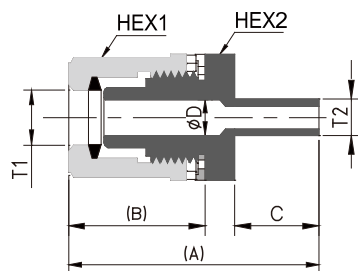
"T" indicates the O.D and I.D of the applicable tube.

Special products can be customized upon request.



RUA Reducing Union Adaptor T type

Unit: mm



INCH TYPE

	T1	T2	HEX1	HEX2	(A)	(B)	C	ØD
RUA-H2-TH3	6.35x3.95	9.53X6.35	16	20	50.2	23.2	21	4
RUA-H2-TH4	"	12.7X9.53	"	"	54.2	"	25	"
RUA-H2-TH6	"	19.05X15.8	"	"	60.2	"	31	"
RUA-H3-TH2	9.53X6.35	6.35X3.95	19	23	50.4	27.4	17	6.3
RUA-H3-TH4	"	12.7X9.53	"	"	58.4	"	25	"
RUA-H3-TH6	"	19.05X15.8	"	"	64.4	"	31	"
RUA-H4-TH3	12.7X9.53	9.53X6.35	24	29	61.3	33	21	10
RUA-H4-TH6	"	19.05X15.8	"	"	71.3	"	31	"
RUA-H4-TH8	"	25.4X22.2	"	"	78.3	"	38	"
RUA-H6-TH3	19.05X15.8	9.53X6.35	32	38	68.8	40.5	21	16
RUA-H6-TH4	"	12.7X9.53	"	"	72.8	"	25	"
RUA-H6-TH8	"	25.4X22.2	"	"	85.8	"	38	"
RUA-H8-TH6	25.4X22.2	19.05X15.8	41	49	85.8	47.5	31	22

MM TYPE

	T1	T2	HEX1	HEX2	(A)	(B)	C	ØD
RUA-M6-TH3	6X4	9.53X6.35	16	20	50.2	23.2	21	4
RUA-M6-TH4	"	12.7X9.53	"	"	54.2	"	25	"
RUA-M6-TH6	"	19.05X15.8	"	"	60.2	"	31	"
RUA-M8-TH2	8X6	6.35X3.95	19	23	50.4	27.4	17	6.3
RUA-M8-TH4	"	12.7X9.53	"	"	58.4	"	25	"
RUA-M8-TH6	"	19.05X15.8	"	"	64.4	"	31	"
RUA-M10-TH2	10x8	6.35X3.95	"	"	50.4	"	17.0	8
RUA-M10-TH4	"	12.7X9.53	"	"	58.4	"	25.0	"
RUA-M12-TH3	12X10	9.53X6.35	24	29	61.3	33	21	10
RUA-M12-TH6	"	19.05X15.8	"	"	71.3	"	31	"
RUA-M12-TH8	"	25.4X22.2	"	"	78.3	"	38	"
RUA-M19-TH3	19X15.8	9.53X6.35	32	38	68.8	40.5	21	16
RUA-M19-TH4	"	12.7X9.53	"	"	72.8	"	25	"
RUA-M19-TH8	"	25.4X22.2	"	"	85.8	"	38	"
RUA-M25-TH6	25X22	19.05X15.8	41	49	85.8	47.5	31	22

S type

INCH TYPE

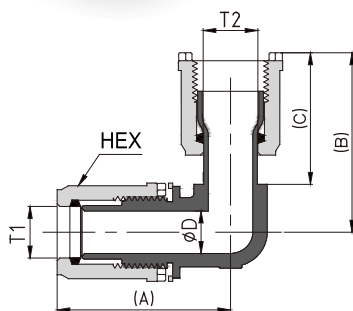
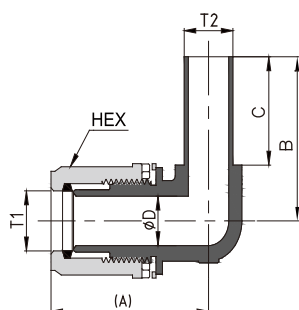
	T1	T2	HEX1	HEX2	HEX3	(A)	(B)	(C)	ØD
RUA-H2-TH3S	6.35x3.95	M8,H3	16	20	19	60.4	23.2	31.2	4
RUA-H2-TH4S	"	M12,H4	"	"	24	68.2	"	39	"
RUA-H2-TH6S	"	M19,H6	"	"	32	76.2	"	47	"
RUA-H3-TH2S	9.53X6.35	M6,H2	19	23	16	61.8	27.4	28.4	6.3
RUA-H3-TH4S	"	M12,H4	"	"	24	72.4	"	39	"
RUA-H3-TH6S	"	M19,H6	"	"	32	80.4	"	47	"
RUA-H4-TH3S	12.7X9.53	M8,H3	24	29	19	71.5	33	31.2	10
RUA-H4-TH6S	"	M19,H6	"	"	32	87.3	"	47	"
RUA-H4-TH8S	"	M25,H8	"	"	41	101	"	60.7	"
RUA-H6-TH3S	19.05X15.8	M8,H3	32	38	19	79	40.5	31.2	16
RUA-H6-TH4S	"	M12,H4	"	"	24	86.8	"	39	"
RUA-H6-TH8S	"	M25,H8	"	"	41	108.5	"	60.7	"
RUA-H8-TH6S	25.4X22.2	M19,H6	41	49	32	101.8	47.5	47	22

MM TYPE

	T1	T2	HEX1	HEX2	HEX3	(A)	(B)	(C)	ØD
RUA-M6-TH3S	6X4	M8,H3	16	20	19	60.4	23.2	31.2	4
RUA-M6-TH4S	"	M12,H4	"	"	24	68.2	"	39	"
RUA-M6-TH6S	"	M19,H6	"	"	32	76.2	"	47	"
RUA-M8-TH2S	8X6	M6,H2	19	23	16	61.8	27.4	28.4	6.3
RUA-M8-TH4S	"	M12,H4	"	"	24	72.4	"	39	"
RUA-M8-TH6S	"	M19,H6	"	"	32	80.4	"	47	"
RUA-M10-TH2S	10x8	M6,H2	"	"	16	61.8	"	28.4	8
RUA-M10-TH4S	"	M12,H4	"	"	24	72.4	"	39	"
RUA-M12-TH3S	12X10	M8,H3	24	29	19	71.5	33	31.2	10
RUA-M12-TH6S	"	M19,H6	"	"	32	87.3	"	47	"
RUA-M12-TH8S	"	M25,H8	"	"	41	101	"	60.7	"
RUA-M19-TH3S	19X15.8	M8,H3	32	38	19	79	40.5	31.2	16
RUA-M19-TH4S	"	M12,H4	"	"	24	86.8	"	39	"
RUA-M19-TH8S	"	M25,H8	"	"	41	108.5	"	60.7	"
RUA-M25-TH6S	25X22	M19,H6	41	49	32	101.8	47.5	47	22

All dimensions are for reference only.
"T1" "T2" indicates the O.D and I.D of the applicable tube.

UEA_Union Elbow Aadtpr



T type

Unit: mm

INCH TYPE								
	T1	T2	HEX	(A)	B	C	ØD	W
UEA-H2-TH2	6.35X3.95	6.35X3.95	16	33.7	26	17	4	10
UEA-H3-TH3	9.53X6.35	9.53X6.35	19	39.9	32	21	6.3	14
UEA-H4-TH4	12.7X9.53	12.7X9.53	24	48.5	38.5	25	10	18
UEA-H6-TH6	19.05X15.8	19.05X15.8	32	61	49	31	16	27
UEA-H8-TH8	25.4X22.2	25.4X22.2	41	73	61	38	22	34

MM TYPE								
	T1	T2	HEX	(A)	B	C	ØD	W
UEA-M6-TH2	6X4	6.35X3.95	16	33.7	26	17	4	10
UEA-M8-TH3	8X6	9.53X6.35	19	39.9	32	21	6.3	14
UEA-M10-TH3	10X8	"	"	"	"	"	8	"
UEA-M12-TH4	12X10	12.7X9.5	24	48.5	38.5	25	10	18
UEA-M19-TH6	19X15.8	19X15.8	32	61	49	31	16	27
UEA-M25-TH8	25X22	25.4X22.2	41	73	61	38	22	34

All dimensions are for reference only.

"T1" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

Special products can be customized upon request.

S type

INCH TYPE								
	T1	T2	HEX	(A)	(B)	(C)	ØD	W
UEA-H2-TH2S	6.35X3.95	M6 · H2	16	33.7	37.4	28.4	4	10
UEA-H3-TH3S	9.53X6.35	M8 · H3	19	39.9	42.2	31.2	6.3	14
UEA-H4-TH4S	12.7X9.53	M12 · H4	24	48.5	52.5	39	10	18
UEA-H6-TH6S	19.05X15.8	M19 · H6	32	61	65	47	16	27
UEA-H8-TH8S	25.4X22.2	M25 · H8	41	73	83.7	60.7	22	34

MM TYPE								
	T1	T2	HEX	(A)	(B)	(C)	ØD	W
UEA-M6-TH2S	6X4	M6 · H2	16	33.7	37.4	28.4	4	10
UEA-M8-TH3S	8X6	M8 · H3	19	39.9	42.2	31.2	6.3	14
UEA-M10-TH3S	10X8	"	"	"	"	"	8	"
UEA-M12-TH4S	12X10	M12 · H4	24	48.5	52.5	39	10	18
UEA-M19-TH6S	19X15.8	M19 · H6	32	61	65	47	16	27
UEA-M25-TH8S	25X22	M25 · H8	41	73	83.7	60.7	22	34

All dimensions are for reference only.

"T1" indicates the O.D and I.D of the applicable tube.

"T2" indicates the specifications of the fitting body.

"W" indicates the width between both sides of the fitting body.

Special products can be customized upon request.

"B" and "C" are for reference only due to the flare design.

RUEA_Reducing Union Elbow Adaptor

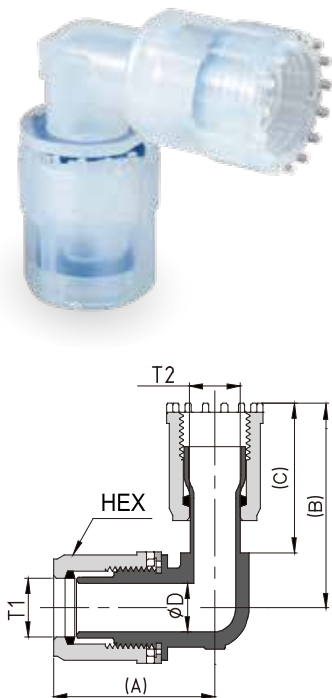


T type

Unit: mm

INCH TYPE								
	T1	T2	HEX	(A)	B	C	ØD	W
RUEA-H2-TH4	6.35X3.95	12.7X9.53	16	38.2	38.5	25	4	18
RUEA-H3-TH2	9.53X6.35	6.35X3.95	19	39.9	28	17	6.3	14
RUEA-H3-TH4	"	12.7X9.53	"	42.4	38.5	25	"	18
RUEA-H4-TH6	12.7X9.53	19.05X15.8	24	53.0	49	31	10	27
RUEA-H4-TH8	"	25.4X22.2	"	58.0	61	38	"	34
RUEA-H6-TH4	19.05X15.8	12.7X9.53	32	61.0	43	25	16	27
RUEA-H6-TH8	"	25.4X22.2	"	66	61	38	"	34
RUEA-H8-TH6	25.4X22.2	19.05X15.8	41	73	54	31	22	"

MM TYPE								
	T1	T2	HEX	(A)	B	C	ØD	W
RUEA-M6-TH4	6X4	12.7X9.53	16	38.2	38.5	25	4	18
RUEA-M8-TH2	8x6	6.35X3.95	19	39.9	28	17	6.3	14
RUEA-M8-TH4	"	12.7X9.53	"	42.4	38.5	25	"	18
RUEA-M12-TH6	12x10	19.05X15.8	24	53.0	49	31	10	27
RUEA-M12-TH8	"	25.4X22.2	"	58.0	61	38	"	34
RUEA-M19-TH4	19X15.8	12.7X9.53	32	61.0	43	25	16	27
RUEA-M19-TH8	"	25.4X22.2	"	66	61	38	"	34
RUEA-M25-TH6	25X22	19.05X15.8	41	73	54	31	22	"



S type

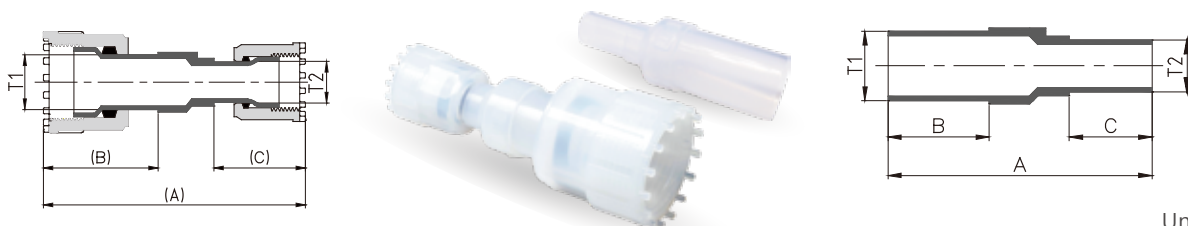
INCH TYPE								
	T1	T2	HEX	(A)	(B)	(C)	ØD	W
RUEA-H2-TH4S	6.35X3.95	M12 · H4	16	38.2	52.5	39	4	18
RUEA-H3-TH2S	9.53X6.35	M6 · H2	19	39.9	39.4	28.4	6.3	14
RUEA-H3-TH4S	"	M12 · H4	"	42.4	52.5	39	"	18
RUEA-H4-TH6S	12.7X9.53	M19 · H6	24	53.0	65	47	10	27
RUEA-H4-TH8S	"	M25 · H8	"	58.0	83.7	60.7	"	34
RUEA-H6-TH4S	19.05X15.8	M12 · H4	32	61.0	57	39	16	27
RUEA-H6-TH8S	"	M25 · H8	"	66	83.7	60.7	"	34
RUEA-H8-TH6S	25.4X22.2	M19 · H6	41	73	70	47	22	"

MM TYPE								
	T1	T2	HEX	(A)	(B)	(C)	ØD	W
RUEA-M6-TH4S	6X4	M12 · H4	16	38.2	52.5	39	4	18
RUEA-M8-TH2S	8x6	M6 · H2	19	39.9	39.4	28.4	6.3	14
RUEA-M8-TH4S	"	M12 · H4	"	42.4	52.5	39	"	18
RUEA-M12-TH6S	12x10	M19 · H6	24	53.0	65	47	10	27
RUEA-M12-TH8S	"	M25 · H8	"	58.0	83.7	60.7	"	34
RUEA-M19-TH4S	19X15.8	M12 · H4	32	61.0	57	39	16	27
RUEA-M19-TH8S	"	M25 · H8	"	66	83.7	60.7	"	34
RUEA-M25-TH6S	25X22	M19 · H6	41	73	70	47	22	"

All dimensions are for reference only.

"T1""T2" indicates the O.D and I.D of the applicable tube.

▶ RA_Reducing Adaptor



Unit: mm

INCH TYPE (Flare type)

	T1	T2	(A)	(B)	(C)
RA-TH10S-TH6S	H10	M19,H6	152.5	75.4	47
RA-TH10S-TH8S	"	M25,H8	166.2	"	60.7
RA-TH12S-TH6S	H12	M19,H6	164.5	87.4	47
RA-TH12S-TH8S	"	M25,H8	178.2	"	60.7
RA-TH12S-TH10S	"	H10	192.9	"	75.4

INCH TYPE (Weld type)

	T1	T2	A	B	C
RA-TH10-TH6	31.8X28	19.05X15.8	111.1	50	31
RA-TH10-TH8	"	25.4X22.2	118.1	"	38
RA-TH12-TH6	38.1X33.7	19.05X15.8	119.1	58	31
RA-TH12-TH8	"	25.4X22.2	126.1	"	38
RA-TH12-TH10	"	31.8X28	138.1	"	50

▶ EA_Elbow Adaptor



INCH TYPE (Flare type)

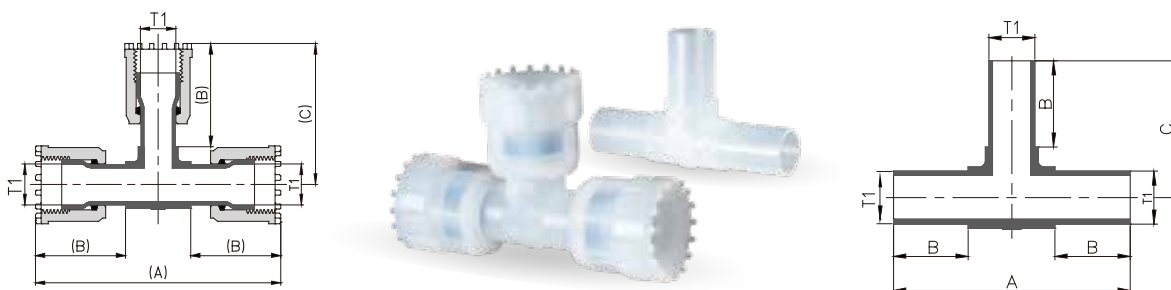
	T1	(A)	(B)	W
EA-TH2S	M6,H2	37.4	28.4	10
EA-TH3S	M8,H3	42.2	31.2	13
EA-TH4S	M12,H4	52.5	39	16.5
EA-TH6S	M19,H6	65	47	23
EA-TH8S	M25,H8	83.7	60.7	29
EA-TH10S	H10	104.4	75.4	36.6
EA-TH12S	H12	121.3	87.5	42.6

INCH TYPE (Weld type)

	T1	A	B	W
EA-TH2	6.35x3.95	26	17	10
EA-TH3	9.53x6.35	32	21	13
EA-TH4	12.7x9.53	38.5	25	16.5
EA-TH6	19.05X15.8	49	31	23
EA-TH8	25.4X22.2	61	38	29
EA-TH10	31.8X28	79	50	36.6
EA-TH12	38.1X33.7	91.9	58	42.6

All dimensions are for reference only. "T1" indicate the O.D and I.D of the applicable tube.
"W" indicates the width between both sides of the fitting body.

▶ TA_Tee Adaptor



INCH TYPE (Flare type)

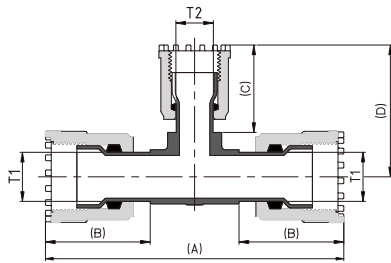
	T1	(A)	(B)	(C)	W
TA-TH2S	M6,H2	73.8	28.4	28.4	17
TA-TH3S	M8,H3	84.4	31.2	42.2	13
TA-TH4S	M12,H4	10.5	39	52.5	16.5
TA-TH6S	M19,H6	130	47	65	23
TA-TH8S	M25,H8	167.4	60.7	83.7	29
TA-TH10S	H10	208.8	75.4	104.4	36.6
TA-TH12S	H12	242.6	87.5	121.3	42.6

INCH TYPE (Weld type)

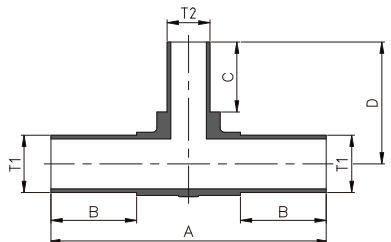
	T1	A	B	C	W
TA-TH2	6.35x3.95	51	17	24.5	17
TA-TH3	9.53x6.35	64	21	32	13
TA-TH4	12.7x9.53	77	25	38.5	16.5
TA-TH6	19.05X15.8	98	31	49	23
TA-TH8	25.4X22.2	122	38	61	29
TA-TH10	31.8X28	158	50	79	36.6
TA-TH12	38.1X33.7	183.7	58	91.9	42.6

All dimensions are for reference only. "T1" indicate the O.D and I.D of the applicable tube.
"W" indicates the width between both sides of the fitting body.

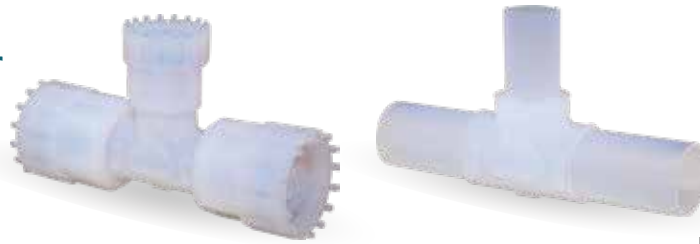
RTA_Reducing Tee Adaptor



Flare type



Weld type



Unit: mm

INCH TYPE (Flare type)

	T1	T2	(A)	(B)	(C)	(D)	W
RTA-TH8S-TH6S-TH8S	M25,H8	M19,H6	167.4	60.7	47	70	29
RTA-TH10S-TH8S-TH10S	H10	M25,H8	208.8	75.4	60.7	89.7	36.6
RTA-TH12S-TH8S-TH12S	H12	"	242.6	87.5	"	94.6	42.6

INCH TYPE (Weld type)

	T1	T2	A	B	C	D	W
RTA-TH8-TH6-TH8	25.4x22.2	19.05x15.8	122	38	31	54	29
RTA-TH10-TH8-TH10	31.8x28	25.4x22.2	158	50	38	67	36.6
RTA-TH12-TH8-TH12	38.1x33.7	"	183.7	58	"	71.9	42.6

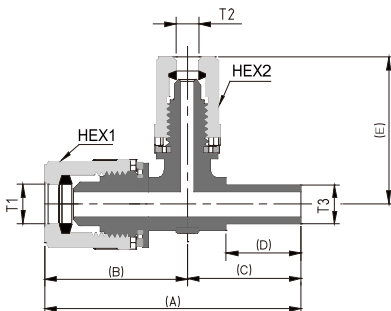
All dimensions are for reference only.

"T1" indicates the O.D and I.D of the applicable tube.

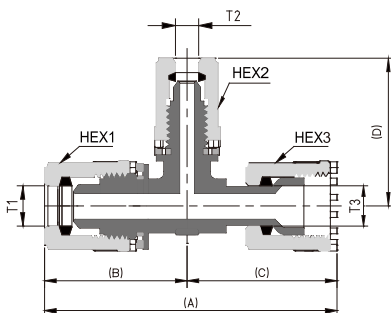
"T2" indicates the specifications of the fitting body.

"W" indicates the width between both sides of the fitting body.

RUTA Reducing Union Tee Adaptor



T type



S type



INCH TYPE (T type)

	T1	T2	T3	HEX1	HEX2	(A)	(B)	(C)	(D)	(E)
RUTA-H3-H4-TH4	9.53X6.35	12.7X9.53	12.7X9.53	19	24	80.9	42.4	38.5	25	48.5
RUTA-H3-H2-TH3	9.53X6.35	6.35X3.95	9.53X6.35	19	16	71.9	39.9	32	21	35.7

MM TYPE (T type)

	T1	T2	T3	HEX1	HEX2	(A)	(B)	(C)	(D)	(E)
RUTA-M8-M12-TH4	8x6	12x10	12.7X9.53	19	24	80.9	42.4	38.5	25	48.5
RUTA-M8-M6-TH3	8x6	6x4	9.53X6.35	19	16	71.9	39.9	32	21	35.7

INCH TYPE (S type)

	T1	T2	T3	HEX1	HEX2	HEX3	(A)	(B)	(C)	(D)
RUTA-H3-H4-TH4S	9.53X6.35	12.7X9.53	M12,H4	19	24	24	94.9	42.4	52.5	48.5
RUTA-H3-H2-TH3S	9.53X6.35	6.35X3.95	M8,H3	19	16	19	82.1	39.9	42.2	35.7

MM TYPE (S type)

	T1	T2	T3	HEX1	HEX2	HEX3	(A)	(B)	(C)	(D)
RUTA-M8-M12-TH4S	8x6	12x10	M12,H4	19	24	24	94.9	42.4	52.5	48.5
RUTA-M8-M6-TH3S	8x6	6x4	M8,H3	19	16	19	82.1	39.9	42.2	35.7

All dimensions are for reference only.

"T1" "T2" indicates the O.D and I.D of the applicable tube.

Special products can be customized upon request.

▶ UTA (T type)_Union Tee Adaptor

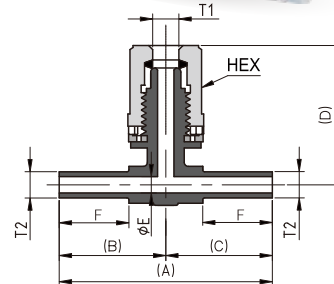
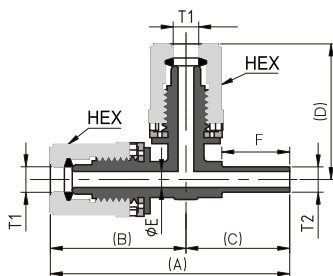
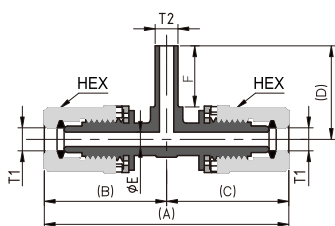
A type



B type



C type



Unit: mm

INCH TYPE

	Type	T1	T2	HEX	(A)	(B)	(C)	(D)	ØE	F	w
UTA-H2-TH2-H2	A	6.35X3.95	6.35X3.95	16	67.4	33.7	33.7	26	4	17	10
UTA-TH2-H2-TH2	C	"	"	"	52	26	26	33.7	"	"	"
UTA-H3-TH3-H3	A	9.53X6.35	9.53X6.35	19	79.7	39.9	39.9	32	6.3	21	14
UTA-H4-TH4-H4	A	12.7x9.53	12.7x9.53	24	97.0	48.5	48.5	39	10	25	18
UTA-H6-TH6-H6	A	19.05X15.8	19.05X15.8	32	122	61	61	49	16	31	27
UTA-H6-H6-TH6	B	"	"	"	110	"	49	61	"	"	"

MM TYPE

	Type	T1	T2	HEX	(A)	(B)	(C)	(D)	ØE	F	w
UTA-M6-TH2-M6	A	6X4	6.35X3.95	16	67.4	33.7	33.7	26	4	17	10
UTA-TH2-M6-TH2	C	"	"	"	52	26	26	33.7	"	"	"
UTA-M8-TH3-M8	A	8X6	9.53X6.35	19	79.7	39.9	39.9	32	6.3	21	14
UTA-M12-TH4-M12	A	12x10	12.7x9.53	24	97.0	48.5	48.5	38.5	10	25	18
UTA-M19-TH6-M19	A	19X15.8	19.05X15.8	32	122	61	61	49	16	31	27
UTA-M19-M19-TH6	B	"	"	"	110	"	49	61	"	"	"

▶ UTA (T type)_Union Tee Adaptor

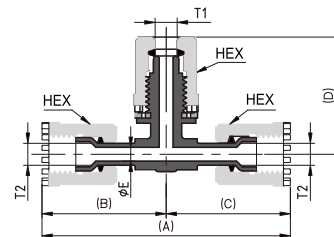
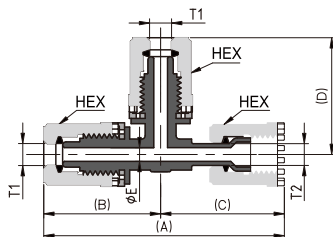
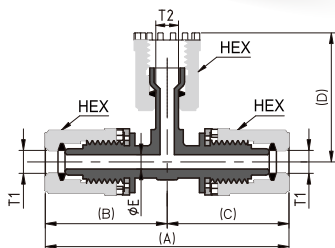
A type



B type



C type



INCH TYPE

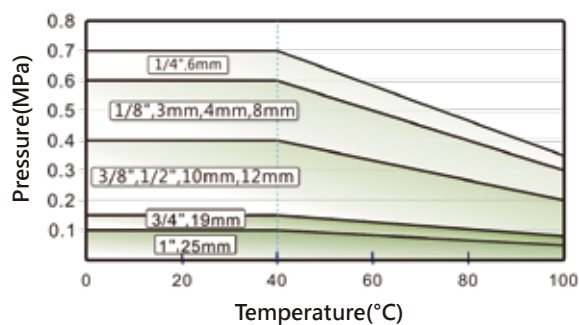
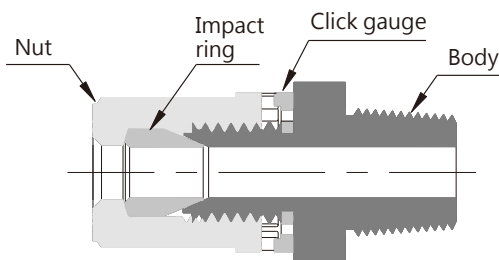
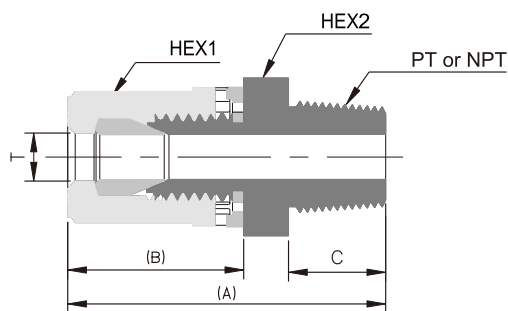
Type	T1	T2	HEX	(A)	(B)	(C)	(D)	ØE	F	w
UTA-H2-TH2S-H2	A	6.35X3.95	M6,H2	16	67.4	33.7	33.7	37.4	4	10
UTA-TH2S-H2-TH2S	C	"	"	74.8	37.4	37.4	33.7	"	"	"
UTA-H3-TH3S-H3	A	9.53X6.35	M8,H3	19	79.7	39.9	39.9	42.2	6.3	14
UTA-H4-TH4S-H4	A	12.7x9.53	M12,H4	24	97.0	48.5	48.5	52.5	10	18
UTA-H6-TH6S-H6	A	19.05X15.8	M19,H6	32	122	61	61	65	16	27
UTA-H6-H6-TH6S	B	"	"	126	"	65	61	"	"	"

MM TYPE

Type	T1	T2	HEX	(A)	(B)	(C)	(D)	ØE	F	w
UTA-M6-TH2-M6	A	6X4	M6,H2	16	67.4	33.7	33.7	37.4	4	10
UTA-TH2-M6-TH2	C	"	"	74.8	26	37.4	33.7	"	"	"
UTA-M8-TH3-M8	A	8X6	M8,H3	19	79.7	39.9	39.9	42.2	6.3	14
UTA-M12-TH4-M12	A	12x10	M12,H4	24	97.0	48.5	48.5	52.5	10	18
UTA-M19-TH6-M19	A	19X15.8	M19,H6	32	122	61	61	65	16	27
UTA-M19-M19-TH6	B	"	"	126	"	65	61	"	"	"

MCT_Male Connector Through

Unit: mm



Instructions for use:

1. Insert the tube in the sequence of nut, washer, and body.
2. Tighten until the nut's protrusion contacts the click gauge and produces a sound, indicating completion.

INCH+NPT TYPE

	T	NPT	HEX1	HEX2	(A)	(B)	C
MCT-H1-N1	3.18X2.18	1/8"	11	13	32.3	17.3	9
MCT-H2-N1	6.35X3.95	"	16	20	38.2	23.2	"
MCT-H2-N2	"	1/4"	"	"	42.2	"	13
MCT-H2-N3	"	3/8"	"	"	"	"	"
MCT-H3-N3	9.53X6.35	"	19	23	46.4	27.4	"
MCT-H3-N4	"	1/2"	"	"	50.2	"	16.8
MCT-H4-N4	12.7X9.53	"	24	29	57.1	33.0	"
MCT-H4-N6	"	3/4"	"	"	57.4	"	17.1
MCT-H6-N6	19.05X15.8	"	32	38	64.9	40.5	"
MCT-H6-N8	"	1"	"	"	69.2	40.5	21.4
MCT-H8-N8	25.4X22.2	"	41	49	76.2	47.5	"

INCH+PT TYPE

	T	PT	HEX1	HEX2	(A)	(B)	C
MCT-H1-R1	3.18X2.18	1/8"	11	13	32.3	17.3	9
MCT-H2-R1	6.35X3.95	"	16	20	38.2	23.2	"
MCT-H2-R2	"	1/4"	"	"	42.2	"	13
MCT-H2-R3	"	3/8"	"	"	"	"	"
MCT-H3-R3	9.53X6.35	"	19	23	46.4	27.4	"
MCT-H3-R4	"	1/2"	"	"	50.2	"	16.8
MCT-H4-R4	12.7X9.53	"	24	29	57.1	33.0	"
MCT-H4-R6	"	3/4"	"	"	57.4	"	17.1
MCT-H6-R6	19.05X15.8	"	32	38	64.9	40.5	"
MCT-H6-R8	"	1"	"	"	69.2	"	21.4
MCT-H8-R8	25.4X22.2	"	41	49	76.2	47.5	"

MM+PT TYPE

	T	PT	HEX1	HEX2	(A)	(B)	C
MCT-M3-R1	3X2	1/8"	11	13	32.3	17.3	9
MCT-M4-R1	4X3	"	"	"	"	"	"
MCT-M4-R2	"	1/4"	"	"	36.3	"	13
MCT-M6-R1	6X4	1/8"	16	20	38.2	23.2	9
MCT-M6-R2	"	1/4"	"	"	42.2	"	13
MCT-M6-R3	"	3/8"	"	"	"	"	"
MCT-M8-R2	8X6	1/4"	19	23	46.4	27.4	13
MCT-M8-R3	"	3/8"	"	"	"	"	"
MCT-M8-R4	"	1/2"	"	"	50.2	"	16.8
MCT-M10-R3	10x8	3/8"	"	"	46.4	"	13
MCT-M10-R4	"	1/2"	"	"	50.2	"	16.8
MCT-M12-R4	12x10	"	24	29	57.1	33.0	"
MCT-M12-R6	"	3/4"	"	"	57.4	"	17.1
MCT-M19-R6	19X15.8	"	32	38	64.9	40.5	"
MCT-M19-R8	"	1"	"	"	69.2	"	21.4
MCT-M25-R8	25X22	"	41	49	76.2	47.5	"

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

Special products can be customized upon request.

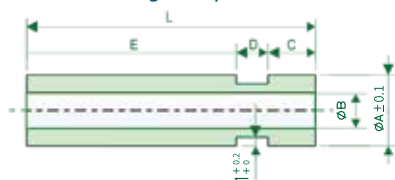
Unit: mm

▶ Fitting For Quartz Tube



Applicable to quartz tube

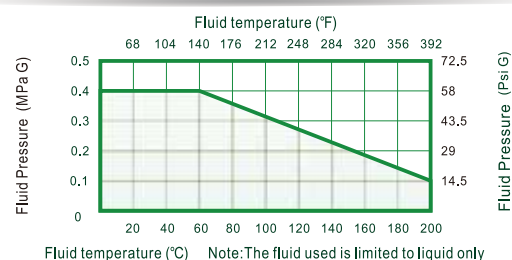
Min. Length of quartz tube



quartz tube size	ΦA	ΦB	C	D	E	L
Φ8×Φ4	8	4	6	4	31	41
Φ10×Φ6	10	6	9	4.5	26.5	40
Φ12×Φ8	12	8	11	5	32.6	48.6
Φ16×Φ12	16	12	13	6	42.4	61.4
Φ19×Φ15	19	15	13.5	6.5	41.6	61.6
Φ20×Φ16	20	16	13.5	6.5	42.5	62.5
Φ25×Φ20	25	20	23	8	43.75	74.75

Function Chart

Temp.	°C	0~60	61~100	100~200
Pressure	MpaG	0.4	0.2	0.1

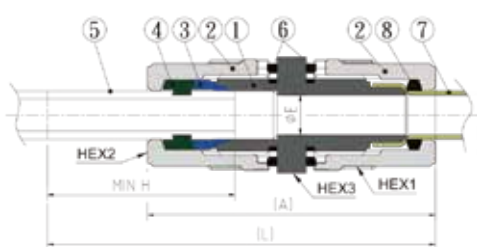


Cross-sectional diagram

No.	Item	Material
1	Body	PFA
2	Nut	PFA
3	Ferrule	PTFE
4	Stopper	PFA
5	Quartz Glass Tube	Quartz
6	Click Gauge	ETFE
7	PFA Tube	PFA
8	Compression Ring	PVDF/PPS

PFA Fittings

RU-Q



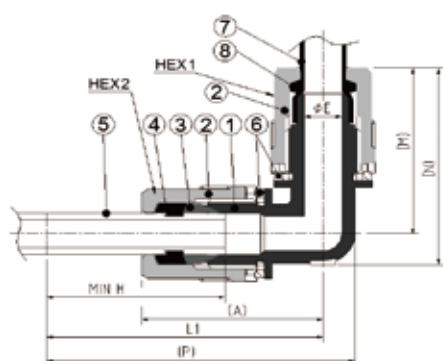
INCH TYPE

	quartz tube		PFA Tube		HEX1	HEX2	HEX3	(L)	(A)	H	ØE
	O.D	I.D	O.D	I.D							
RU-QM8-H3	8	4	9.53	6.35	19	19	23	83	60.7	41	6.3
RU-QM12-H4	12	8	12.7	9.53	24	24	29	99.9	73.3	48.6	10
RU-QM16-H6	16	12	19.05	15.8	32	32	38	122.7	88.3	61.4	16
RU-QM19-H6	19	15	19.05	15.8	"	"	"	122.9	"	61.6	"
RU-QM20-H6	20	16	19.05	15.8	"	"	"	122.8	"	62.5	"
RU-QM25-H8	25	20	25.4	22.2	41	41	49	142.3	102.3	74.8	22

MM TYPE

	quartz tube		PFA Tube		HEX1	HEX2	HEX3	(L)	(A)	H	ØE
	O.D	I.D	O.D	I.D							
RU-QM8-M8	8	4	8	6	19	19	23	83	60.7	41	6.3
RU-QM10-M10	10	6	10	8	"	"	"	82.5	"	40	8
RU-QM12-M12	12	8	12	10	24	24	29	99.9	73.3	48.6	10
RU-QM16-M19	16	12	19	15.8	32	32	38	122.7	88.3	61.4	16
RU-QM19-M19	19	15	19	15.8	"	"	"	122.9	"	61.6	"
RU-QM20-M19	20	16	19	15.8	"	"	"	122.8	"	62.5	"
RU-QM25-M25	25	20	25	22	41	41	49	142.3	102.3	74.8	22

RUE-Q



INCH TYPE

	quartz tube		PFA Tube		HEX1	HEX2	(P)	(A)	H	L1	(M)	(N)	ØE
	O.D	I.D	O.D	I.D									
RUE-QM8-H3	8	4	9.53	6.35	19	19	68.9	39.9	41	61.9	39.9	46.9	6.3
RUE-QM12-H4	12	8	12.7	9.53	24	24	84.1	48.5	48.6	75.1	48.5	57.5	10
RUE-QM16-H6	16	12	19.05	15.8	32	32	107.4	61	61.4	94.4	61	74.5	16
RUE-QM19-H6	19	15	19.05	15.8	"	"	107.6	"	61.6	94.6	"	"	"
RUE-QM20-H6	20	16	19.05	15.8	"	"	108.5	"	62.5	95	"	"	"
RUE-QM25-H8	25	20	25.4	22.2	41	41	129.5	73	74.8	112.5	73	90	22

MM TYPE

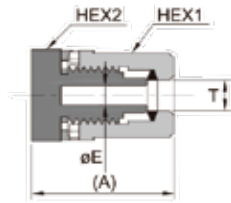
	quartz tube		PFA Tube		HEX1	HEX2	(P)	(A)	H	L1	(M)	(N)	ØE
	O.D	I.D	O.D	I.D									
RUE-QM8-M8	8	4	8	6	19	19	68.9	39.9	41	61.9	39.9	46.9	6.3
RUE-QM10-M10	10	6	10	8	"	"	"	"	40	"	"	"	8
RUE-QM12-M12	12	8	12	10	24	24	84.1	48.5	48.6	75.1	48.5	57.5	10
RUE-QM16-M19	16	12	19	15.8	32	32	107.4	61	61.4	94.4	61	74.5	16
RUE-QM19-M19	19	15	19	15.8	"	"	107.6	"	61.6	94.6	"	"	"
RUE-QM20-M19	20	16	19	15.8	"	"	108.52	"	62.5	95	"	"	"
RUE-QM25-M25	25	20	25	22	41	41	129.5	73	74.8	112.5	73	90	22

All dimensions are for reference only.

Special products can be customized upon request.

CP Cap

Unit: mm



INCH TYPE					
	T	HEX1	HEX2	(A)	ØE
CP-H2	6.35X3.95	16	20	29.2	4
CP-H3	9.53X6.35	19	23	33.4	6.3
CP-H4	12.7X9.53	24	29	40.3	10
CP-H6	19.05X15.8	32	38	47.8	16
CP-H8	25.4X22.2	41	49	54.8	22
CP-H10	31.8X28	50	60	75.7	28
CP-H12	38.1X33.7	60	70	83	33.7

MM TYPE					
	T	HEX1	HEX2	(A)	ØE
CP-M6	6X4	16	20	29.2	4
CP-M8	8X6	19	23	33.4	6.3
CP-M10	10X8	"	"	"	8
CP-M12	12X10	24	29	40.3	10
CP-M19	19X15.8	32	38	47.8	16
CP-M25	25X22	41	49	54.8	22

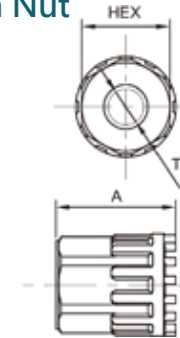
E Fitting End



INCH TYPE		
	T	C
E-H1X10	3.18X2.18	7
E-H2X10	6.35X3.95	9.4
E-H3X10	9.53X6.35	13.7
E-H4X10	12.7X9.53	15.8
E-H6X10	19.05X15.8	17.6
E-H8X10	25.4X22.2	22.5
E-H10X10	31.8X28	30.5
E-H12X10	38.1X33.7	34

MM TYPE		
	T	C
E-M3X10	3X2	7
E-M4X10	4X3	"
E-M6X10	6X4	9.4
E-M8X10	8X6	13.7
E-M10X10	10X8	12
E-M12X10	12X10	15.8
E-M19X10	19X15.8	17.6
E-M25X10	25X22	22.5

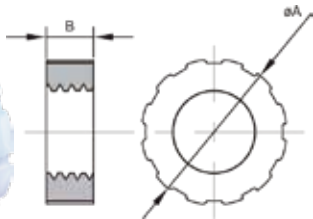
UN Union Nut



INCH TYPE			
	T	A	HEX
UN-H1X10	3.18X2.18	16.3	11
UN-H2X10	6.35X3.95	21.7	16
UN-H3X10	9.53X6.35	25.9	19
UN-H4X10	12.7X9.53	31	24
UN-H6X10	19.05X15.8	38.5	32
UN-H8X5	25.4X22.2	45.5	41
UN-H10	31.8X28	60.7	50
UN-H12	38.1X33.7	68	60

MM TYPE			
	T	A	HEX
UN-M3X10	3X2	16.3	11
UN-M4X10	4X3	"	"
UN-M6X10	6X4	21.7	16
UN-M8X10	8X6	25.9	19
UN-M10X10	10X8	25.9	"
UN-M12X10	12X10	31	24
UN-M19X10	19X15.8	38.5	32
UN-M25X5	25X22	45.5	41

HN Half Nnt



INCH TYPE			
	T	ØA	B
HN-H1	3.18X2.18	12.5	5
HN-H2	6.35X3.95	18.5	6
HN-H3	9.53X6.35	22	"
HN-H4	12.7X9.53	27.7	7.3
HN-H6	19.05X15.8	37	"
HN-H8	25.4X22.27	50.1	"

MM TYPE			
	T	ØA	B
HN-M3X10	3X2	12.5	5
HN-M4X10	4X3	"	"
HN-M6X10	6X4	18.5	6
HN-M8/M10X10	8X6/10X8	22	"
HN-M12X10	12X10	27.7	7.3
HN-M19X10	19X15.8	37	"
HN-M25X10	25X22	50.1	"

RI Ring



Mat'l: PVDF			
INCH TYPE		MM TYPE	
	T		T
RI-H1VX10	3.18X2.18	RI-M3VX10	3x2
RI-H2VX10	6.35X3.95	RI-M4VX10	4x3
RI-H3VX10	9.53X6.35	RI-M6VX10	6x4
RI-H4VX10	12.7X9.53	RI-M8VX10	8x6
RI-H6VX10	19.05X15.8	RI-M10VX10	10x8
RI-H8VX10	25.4X22.2	RI-M12VX10	12x10
RI-H10VX10	31.8X28	RI-M19VX10	19x15.8
RI-H12VX10	38.1X33.7	RI-M25VX10	25x22

Mat'l: PVDF			
INCH TYPE		MM TYPE	
	T		T
RI-H1SX10	3.18X2.18	RI-M6SX10	6X4
RI-H2SX10	6.35X3.95	RI-M8SX10	8X6
RI-H3SX10	9.53X6.35	RI-M10SX10	10X8
RI-H4SX10	12.7X9.53	RI-M12SX10	12X10
RI-H6SX10	19.05X15.8	RI-M19SX10	19X15.8
RI-H8SX10	25.4X22.2	RI-M25SX10	25X22
RI-H10SX10	31.8X28		
RI-H12SX10	38.1X33.7		

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

Special Flaring Tools

Hot Flaring Tools



▲ JA

▲ BA

Please ensure to use our special wrench for cold flaring. While hot flaring is standard, cold flaring is also possible. (1 1/4", 1 1/2" are only hot flaring, 1/8", 3mm, 4mm are only cold flaring.) Follow the operational instructions for the fitting connection method.

Tube Size		Applicable Tools	
Inch Series	mm Series	Tool No.	Tool base No.
1/4" (6.35x3.95)	6x4	JA-H2/M6	BA-1
3/8" (9.53x6.35)	8x6	JA-H3/M8	
--	10x8	JA-M10	
1/2" (12.7x9.53)	12x10	JA-H4/M12	BA-2
3/4" (19.05x15.8)	19x15.8	JA-H6/M19	
1" (25.4x22.2)	25x22	JA-H8/M25	
1 1/4" (31.8x28)	--	JA-H10	Not require
1 1/2" (38.1x33.7)	--	JA-H12	

Cold Flaring Tools



▲ JC

▲ JC-AP

Tube Size		Applicable Tools	
Inch Series	mm Series	Tool No.	Note.
1/8" (3.18x2.18)	3x2	JC-H1/M3	JC-AP, Notes: Whether JC-AP is required depends on the specific form.
--	4x3	JC-M4	
1/4" (6.35x3.95)	6x4	JC-H2/M6	
3/8" (9.53x6.35)	--	JC-H3	
--	8x6	JC-M8	
--	10x8	JC-M10	
1/2" (12.7x9.53)	12x10	JC-H4/M12	
3/4" (19.05x15.8)	19x15.8	JC-H6/M19	
1" (25.4x22.2)	25x22	JC-H8/M25	

Notes: Whether JC-AP is required depends on the specific form.

If there is a need for JC-AP, please contact us.

FIT-ONE Special Wrench For FIT-ONE



▲ SPA

▲ SP

Tube Size			Tube Size		
Inch Series	mm Series	Wrench No.	Inch Series	mm Series	Wrench No.
1/4" (6.35x3.95)	6x4	SP-H2/M6	1/4" (6.35x3.95)	6x4	SPA-H2/M6
3/8" (9.53x6.35)	8x6,10x8	SP-H3/M8/M10	3/8" (9.53x6.35)	8x6,10x8	SPA-H3/M8/M10
1/2" (12.7x9.53)	12x10	SP-H4/M12	1/2" (12.7x9.53)	12x10	SPA-H4/M12
3/4" (19.05x15.8)	19x15.8	SP-H6/M19	3/4" (19.05x15.8)	19x15.8	SPA-H6/M19
1" (25.4x22.2)	25 x22	SP-H8/M25	1" (25.4x22.2)	25 x22	SPA-H8/M25
1 1/4" (31.8x28)	-	SP-H10	1 1/4" (31.8x28)	-	SPA-H10
1 1/2" (38.1x33.7)	-	SP-H12	1 1/2" (38.1x33.7)	-	SPA-H12

Portable Tube Flaring Heating Machine



- Portable and suitable for cleanrooms
- Safety overheat prevention device
- Quick heating within 20 seconds, suitable for various pipe temperature control systems
- Size range: 1/4"~1" (M6~M25)
- Product Specifications:
 - Voltage: 110V, 300W
 - Fuse 4A-500V
 - Maximum operating temperature 350°C
 - Dimensions 240 × 150 × 150mm, weight 6kg

PFA Fitting FIT-ONE PLUS

▶ Compression Ring Flare Type Fitting



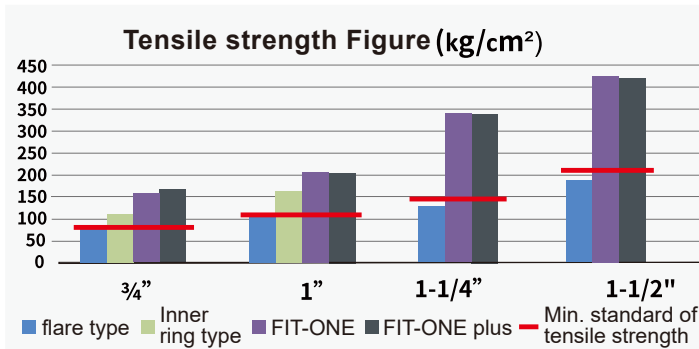
- ▶
 - Address the issue of rotary cutting for PFA tubes.
 - Overcome the problem of insufficient pulling force, significantly enhancing safety and making it the best fitting in the industry.

- ▶
 - Address the issue of liquid residue or particle contamination in the insertion type.
 - Address the problem of non-reusability of the insertion type.

Features

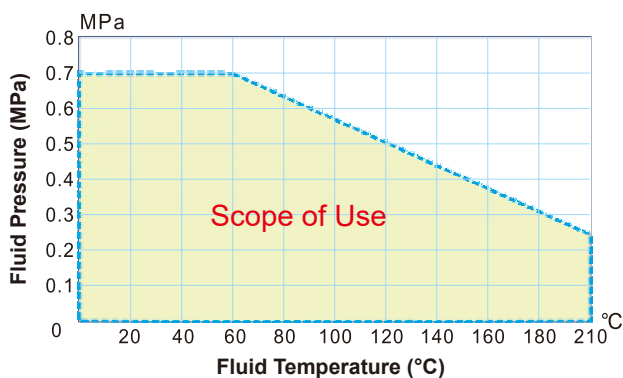
Pulling force resistant to pulsating pressure

It is currently the best PFA fitting on the market, with a pulling force exceeding the standard value by more than 150%, and it elongates the tube by more than twice its length during the tensile test.



Suitable for high-temperature and corrosive chemicals

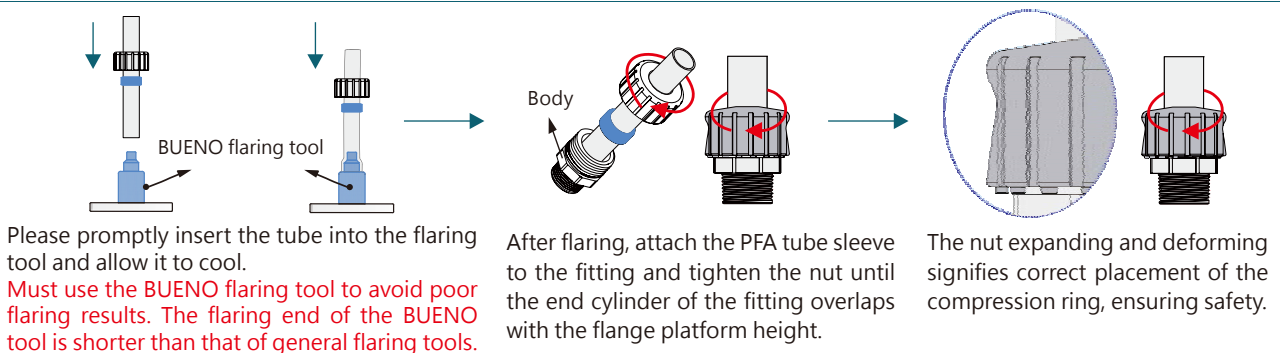
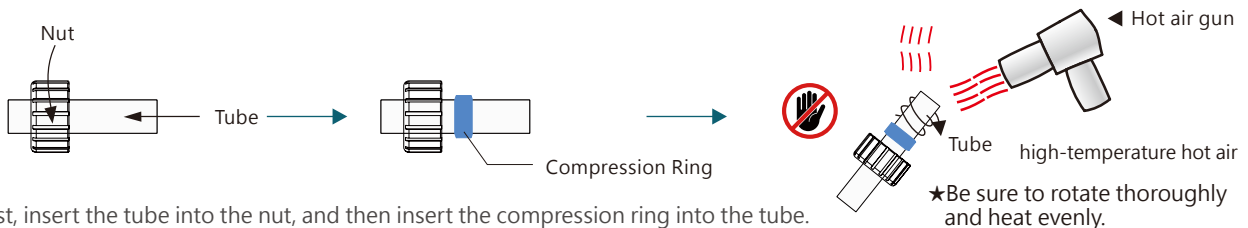
FIT-ONE PLUS O-ring material is PFA, which can be used up to 210°C.



Success rate of flaring

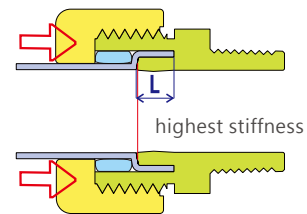
During the concentric compression ring tightening process, high roundness sealing surfaces do not require the use of special flaring tool, achieving a success rate of over 90%.

Assembly Method



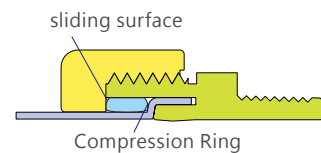
Low contamination

Concentric compression rings provide higher pressing pressure, ensuring high roundness on the forced surface and preventing liquid residue.



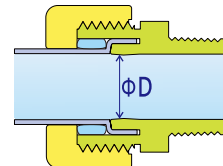
Reusability

The fitting body supports concentric compression rings, preventing rotary cutting on the clamping surface, suitable for long-term repeated use.

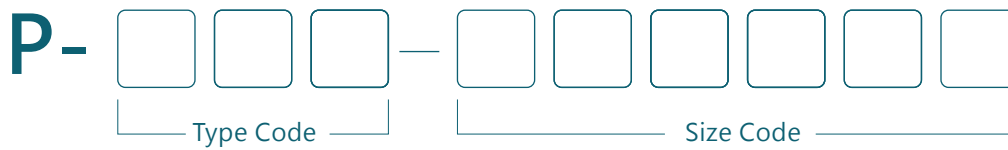


Full Flow

The connector body supports the concentric compression ring, causing uniform and slight deformation of the sealing surface and inner diameter.



Product Coding Rule



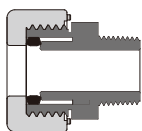
Type codes indicate the shape of the fitting (e.g., MC connectors).
Size codes indicate the specifications and thread type of the fitting.

Type Code	
Code	Type
MC	MALE CONNECTOR
ME	MALE ELBOW
U	UNION
UE	UNION ELBOW
UT	UNION TEE
SUE	SWEEP ELBOW
UN	UNION NUT
RI	RING

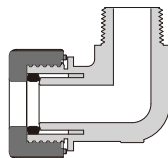
Inch Tube Size		
Series	Spec.	Code
Inch Size	3/8"	H3
	1/2"	H4
	3/4"	H6
	1"	H8
	1 1/4"	H10
	1 1/2"	H12
	2"	H16

Metric Tube Size		
Spec.	Applicable Tube	
	NPT	PT
1/4"	N2	R2
3/8"	N3	R3
1/2"	N4	R4
3/4"	N6	R6
1"	N8	R8
1 1/4"	N10	R10
1 1/2"	N12	R12
2"	N16	R16

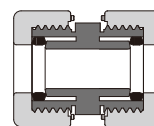
Fitting List



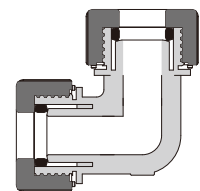
MC



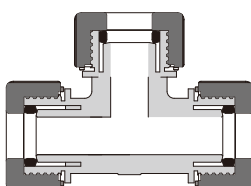
ME



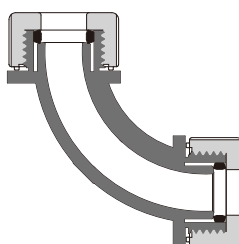
U



UE



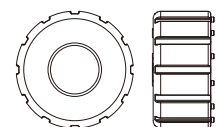
UT



SUE

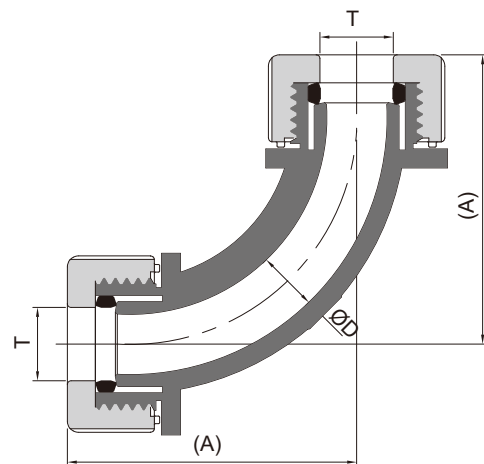


RI



UN

SUE_Sweep Union Elbow



Unit: mm

- Reduce pressure flow loss:
→ The curved R-type flow path reduces resistance in the flow pipeline.
- Save space in piping:
→ The curved design shortens vertical distances.
- Compared to the original 90-degree L-type design, it reduces bends and enhances flow through smooth curves, improving flow rates while reducing issues with micro-bubbles and residue.

INCH TYPE				
	T	ØD	(A)	W
SUE-H3	9.53X6.35	6.3	49.6	17
SUE-H4	12.7X9.53	10	54.6	22.7
SUE-H6	19.05X15.8	16	76.5	27.6
SUE-H8	25.4X22.2	22	98.9	40.6
SUE-H12	38.1X33.7	33.7	134.5	51

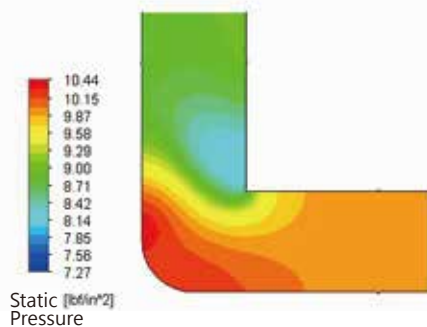
All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

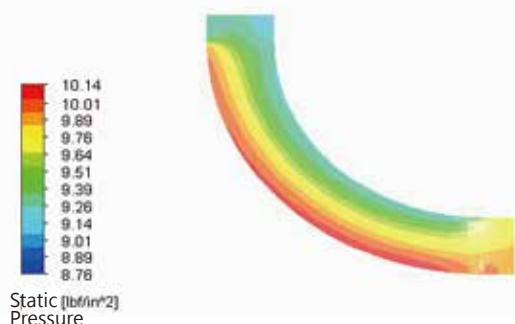
"W" indicates the width between both sides of the fitting body.

Pressure Distribution

Union elbow

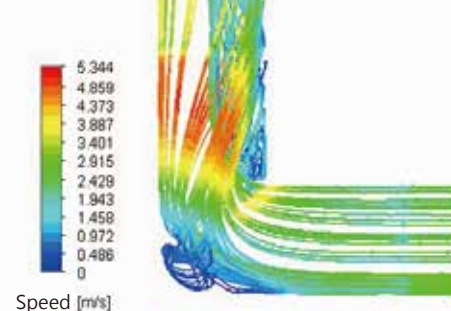


Sweep elbow

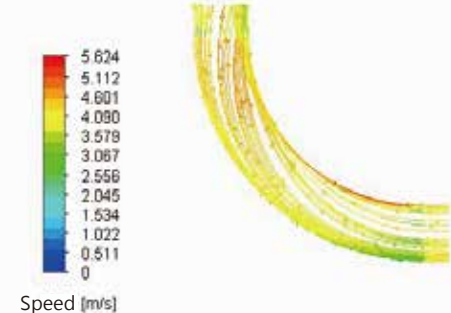


low Line

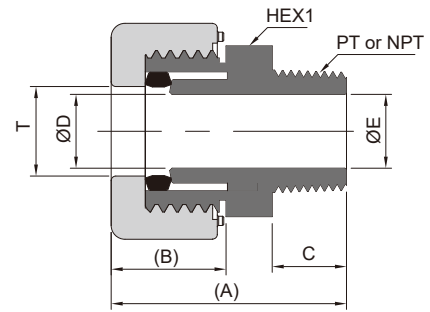
Union elbow



Sweep elbow



MC_Male Connector



Unit: mm

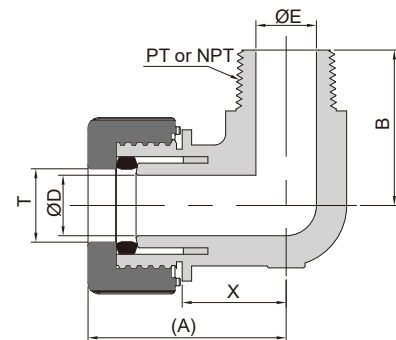
INCH+NPT TYPE								
	T	NPT	HEX1	(A)	(B)	C	ØD	ØE
MC-H2-N1	6.35X3.95	1/8"	18	33.5	18.5	9	4	3
MC-H2-N2	"	1/4"	"	37.5	"	13	"	6
MC-H2-N3	"	3/8"	"	"	"	"	"	10
MC-H3-N2	9.53X6.35	1/4"	24	46	23.5	12.5	6.3	6.3
MC-H3-N3	"	3/8"	"	"	"	"	"	10
MC-H3-N4	"	1/2"	"	50.3	"	16.8	"	12
MC-H4-N2	12.7X9.53	1/4"	29	46	23.5	12.5	10	6.3
MC-H4-N3	"	3/8"	"	"	"	"	"	10
MC-H4-N4	"	1/2"	"	50.3	"	16.8	"	12
MC-H4-N6	"	3/4"	"	50.6	"	17.1	"	16
MC-H6-N4	19.05X15.8	1/2"	37	51.7	24.9	16.8	16	12
MC-H6-N6	"	3/4"	"	52	"	17.1	"	16
MC-H6-N8	"	1"	"	56.3	"	21.4	"	22
MC-H8-N6	25.4X22.2	3/4"	44	56.5	29.4	17.1	22	16
MC-H8-N8	"	1"	"	59.8	"	21.4	"	22
MC-H10-N10	31.8x28	1 1/4"	54	69.4	36.4	23	28	28
MC-H12-N12	38.1x33.7	1 1/2"	65	74.4	38.4	26	33.7	33.7

INCH+PT TYPE								
	T	NPT	HEX1	(A)	(B)	C	ØD	ØE
MC-H2-N1	6.35X3.95	1/8"	18	33.5	18.5	9	4	3
MC-H2-N2	"	1/4"	"	37.5	"	13	"	6
MC-H2-N3	"	3/8"	"	"	"	"	"	10
MC-H3-R2	9.53X6.35	1/4"	24	46	23.5	12.5	6.3	6.3
MC-H3-R3	"	3/8"	"	"	"	"	"	10
MC-H3-R4	"	1/2"	"	50.3	"	16.8	"	12
MC-H4-R2	12.7X9.53	1/4"	29	46	23.5	12.5	10	6
MC-H4-R3	"	3/8"	"	"	"	"	"	10
MC-H4-R4	"	1/2"	"	50.3	"	16.8	"	12
MC-H4-R6	"	3/4"	"	50.6	"	17.1	"	16
MC-H6-R4	19.05X15.8	1/2"	37	51.7	24.9	16.8	16	12
MC-H6-R6	"	3/4"	"	52	"	17.1	"	16
MC-H6-R8	"	1"	"	56.3	"	21.4	"	22
MC-H8-R6	25.4X22.2	3/4"	44	56.5	29.4	17.1	22	16
MC-H8-R8	"	1"	"	60.8	"	21.4	"	22

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

ME_Male Elbow



Unit: mm

INCH+NPT TYPE							
	T	NPT	(A)	(B)	ØD	ØE	W
ME-H2-N2	6.35X3.95	1/4"	32	24	3.95	6	14.5
ME-H2-N3	"	3/8"	"	25	"	10	"
ME-H2-N4	"	1/2"	"	30.8	"	12	"
ME-H3-N2	9.53X6.35	1/4"	44.5	31.5	6.3	6.3	23
ME-H3-N3	"	3/8"	"	"	"	10	"
ME-H3-N4	"	1/2"	"	35.8	"	12	"
ME-H4-N2	12.7X9.53	1/4"	47	34	10	6.3	27
ME-H4-N3	"	3/8"	"	"	"	10	"
ME-H4-N4	"	1/2"	"	38.3	"	12	"
ME-H4-N6	"	3/4"	"	38.6	"	16	"
ME-H6-N4	19.05X15.8	1/2"	52.4	41.8	16	12	33
ME-H6-N6	"	3/4"	"	42.1	"	16	"
ME-H8-N6	25.4X22.2	"	58.9	44.1	22	"	41
ME-H8-N8	"	1"	"	48.4	"	22	"

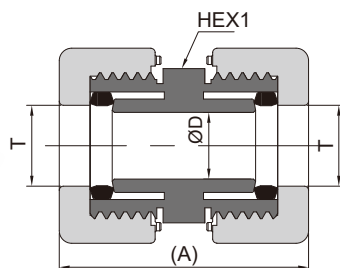
INCH+PT TYPE							
	T	PT	(A)	(B)	ØD	ØE	W
ME-H2-R1	9.53X6.35	1/4"	32	24	3.95	6	14.5
ME-H2-R2	"	3/8"	"	25	"	10	"
ME-H2-R3	"	1/2"	"	30.8	"	12	"
ME-H3-R2	9.53X6.35	1/4"	44.5	31.5	6.3	6.3	23
ME-H3-R3	"	3/8"	"	"	"	10	"
ME-H3-R4	"	1/2"	"	35.8	"	12	"
ME-H4-R2	12.7X9.53	1/4"	47	34	10	6.3	27
ME-H4-R3	"	3/8"	"	"	"	10	"
ME-H4-R4	"	1/2"	"	38.3	"	12	"
ME-H4-R6	"	3/4"	"	38.6	"	16	"
ME-H6-R4	19.05X15.8	1/2"	52.4	41.8	16	12	33
ME-H6-R6	"	3/4"	"	42.1	"	16	"
ME-H8-R6	25.4X22.2	"	58.9	44.1	22	"	41
ME-H8-R8	"	1"	"	48.4	"	22	"

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

"W" indicates the width between both sides of the fitting body.

U_Union

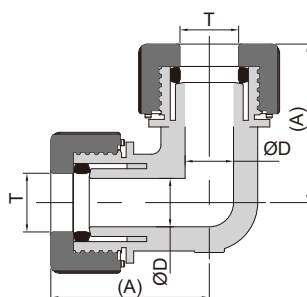


Unit: mm

INCH TYPE				
	T	HEX1	(A)	ØD
U-H2	6.35X3.95	18	43	4
U-H3	9.53X6.35	24	57	6.3
U-H4	12.7X9.53	29	57	10
U-H6	19.05X15.8	37	59.8	16
U-H8	25.4X22.2	44	68.8	22
U-H10	31.8X28	54	82.8	28
U-H12	38.1X33.7	65	86.8	33.7

All dimensions are for reference only.
"T" indicates the O.D and I.D of the applicable tube.

UE_Union Elbow

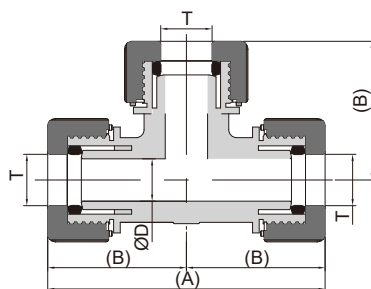


Unit: mm

INCH TYPE				
	T	(A)	ØD	W
UE-H2	6.35X3.95	32	3.95	14.5
UE-H3	9.53X6.35	44.5	6.35	23
UE-H4	12.7X9.53	47	10	27
UE-H6	19.05X15.8	52.4	16	33
UE-H8	25.4X22.2	58.9	22	41
UE-H10	31.8X28	75.4	28	49
UE-H12	38.1X33.7	82.4	33.7	57

All dimensions are for reference only.
"T" indicates the O.D and I.D of the applicable tube.
"W" indicates the width between both sides of the fitting body.

UT_Union Tee

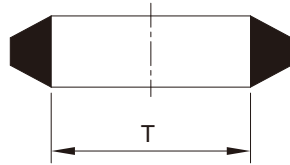


Unit: mm

INCH TYPE					
	T	ØD	(A)	(B)	W
UT-H2	6.35X3.95	4	64	32	14.5
UT-H3	9.53X6.35	6.3	89	44.5	23
UT-H4	12.7X9.53	10	94	47	27
UT-H6	19.05X15.8	16	104.8	52.4	33
UT-H8	25.4X22.2	22	117.8	58.9	41
UT-H10	31.8X28	28	150.8	75.4	49
UT-H12	38.1X33.7	33.7	164.8	82.4	57

All dimensions are for reference only.
"T" indicates the O.D and I.D of the applicable tube.
"W" indicates the width between both sides of the fitting body.

▶ RI_Ring



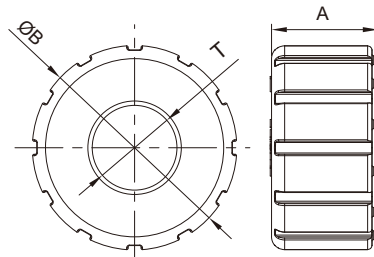
Unit: mm

MAT" L : PFA	INCH TYPE
T	
RI-H2VX10	6.35X3.95
RI-H3VX10	9.53X6.35
RI-H4VX10	12.7X9.53
RI-H6VX10	19.05X15.8
RI-H8VX10	25.4X22.2
RI-H10V	31.8X28
RI-H12V	38.1X33.7

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

▶ UN_Union Nut



Unit: mm

INCH TYPE			
	T	A	ØB
UN-H2X10	6.35X3.95	18	22.8
UN-H3X10	9.53X6.35	22.9	32.8
UN-H4X10	12.7X9.53	22.9	38.3
UN-H6X10	19.05X15.8	24.4	46.8
UN-H8X5	25.4X22.2	28.9	54.6
UN-H10	31.8X28	35.9	64.4
UN-H12	38.1X33.7	37.9	74.7

All dimensions are for reference only.

"T" indicates the O.D and I.D of the applicable tube.

▶ Hot flaring Tools



Tube Size	Tool Base No.	
INCH Series	Tool No.	Tool Base No.
1/4" (6.35X3.95)	JA2-H2	BA-1
3/8" (9.53X6.35)	JA2-H3	
1/2" (12.7X9.53)	JA2-H4	BA-2
3/4" (19.05X15.8)	JA2-H6	
1" (25.4X22.2)	JA2-H8	
1 1/4" (31.8X28)	JA2-H10	Not require
1 1/2" (38.1X33.7)	JA2-H12	

The addition of grooves to the cylinder distinguishes it from the FIT-ONE hot flaring tool.

▶ Special Wrench For FIT-ONE PLUS



Tube Size	Tool Base No.
INCH Series	
1/4" (6.35X3.95)	SP2-H2
3/8" (9.53X6.35)	SP2-H3
1/2" (12.7X9.53)	SP2-H4
3/4" (19.05X15.8)	SP2-H6
1" (25.4X22.2)	SP2-H8
1 1/4" (31.8X28)	SP2-H10
1 1/2" (38.1X33.7)	SP2-H12

▶ The difference between FIT-ONE and FIT-ONE PLUS

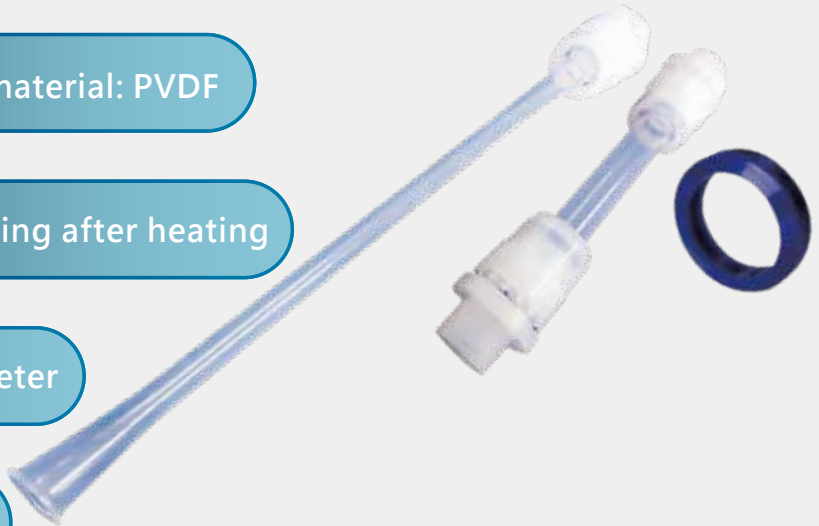
- Temperature resistant up to 150°C

- Compression ring material: PVDF

- Requires re-tightening after heating

- Smaller outer diameter

- With a Click Gauge



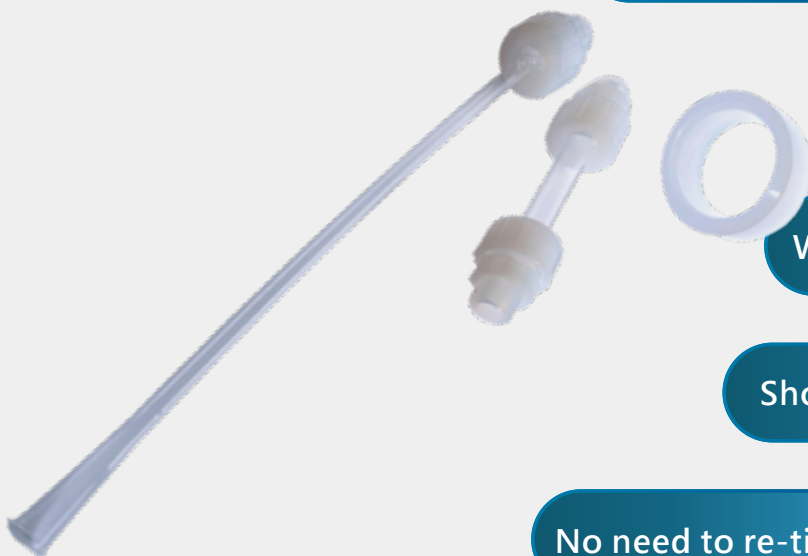
- Temperature resistant up to 200°C

- Compression ring material: PFA

- Without a Click Gauge

- Shorter in overall length

- No need to re-tighten after assembly



PFA ON-OFF VALVE



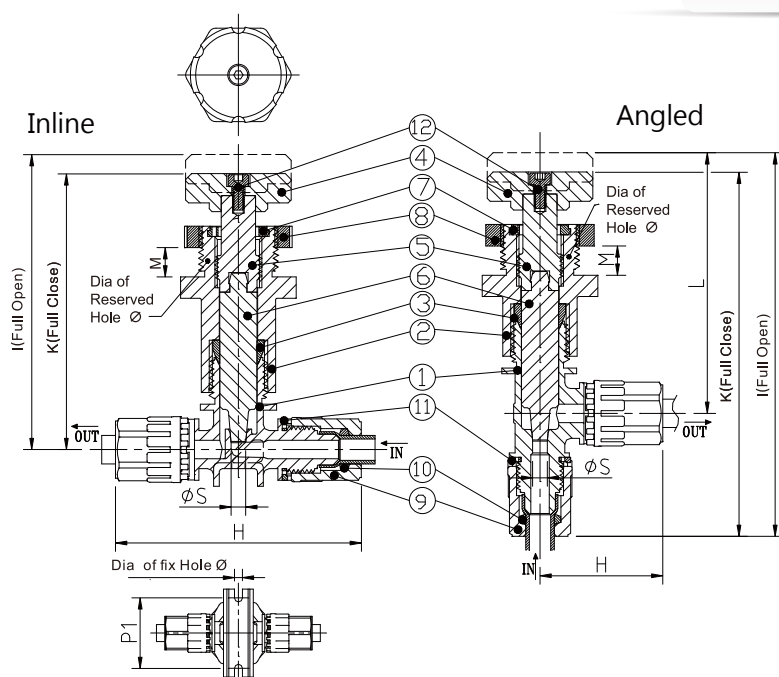
Item No.	Description	Material	Q'ty
01	Body	PFA	1
02	Nut	PP	1
03	Ferrule	PTFE	1
04	Stem (Handle)	PP	1
05	Stem (Middle)	PP	1
06	Stem (Needle)	PFA	1
07	Stopper	PP	1
08	Lock Nut	PFA	1
09	Nut (Tube End)	PFA	2
10	Compression Ring	PVDF	2
11	Lock Ring	ETFE	2
12	Hex. Socket Bolt	PPS	1

Function Chart

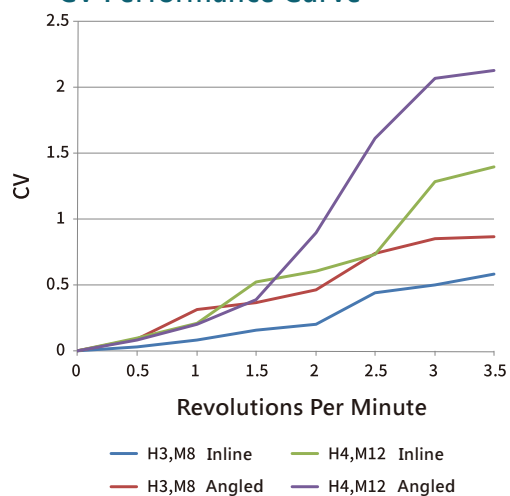
Operating Method	Manual
Connection	FIT-ONE
Max. Operating Press.	0.7MPa
Max. Operating Temp.	100°C
Environment Temp.	60°C

Test Condition

Fluid	Clean Water
Inlet Press.	0.12MPa
Temp.	25°C
Flow Passage Dia.	ØS



CV Performance Curve



※This performance curve is for reference only and not a specification standard value.

Unit: mm

NO.	SIZE	ØS	I (Ref.)	K (Ref.)	J	H	L	P1	Dia. of Fix Hole Ø	Dia. of Reserved Hole Ø	M	INLET/OUTLET	Hex. Socket Bolt
JHAW-M12	M12	8	114.5	107.3	/	106	/	48	7	38	Max. 10	12x10	M6xP1x10L
JHAW-H4	1/2"	8	114.5	107.3	/	106	/	48	7	38	Max. 10	12.7x9.53	M6xP1x10L
JHAW-M8	M8	5	100.8	94.3	/	84.7	/	40	4.5	29	Max. 10	8x6	M4xP0.7x8L
JHAW-H3	3/8"	5	100.8	94.3	/	84.7	/	40	4.5	29	Max. 10	9.53x6.35	M4xP0.7x8L
JHA-M12	M12	8	152.9	145.7	27	53	99.9	/	/	38	Max. 10	12x10	M6xP1x10L
JHA-H4	1/2"	8	152.9	145.7	27	53	99.9	/	/	38	Max. 10	12.7x9.53	M6xP1x10L
JHA-M8	M8	5	131.4	124.8	18	42.4	89.0	/	/	29	Max. 10	8x6	M4xP0.7x8L
JHA-H3	3/8"	5	131.4	124.8	18	42.4	89.0	/	/	29	Max. 10	9.53x6.35	M4xP0.7x8L

"J" indicates the width across the body on both sides.

PFA Needle Valve



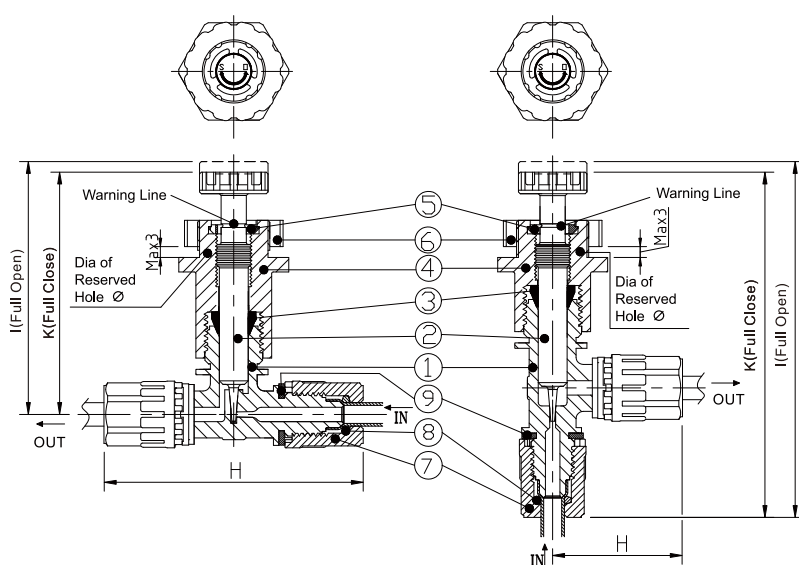
部品No.	Description	Material	Q'ty
01	Body	PFA	1
02	Nut	PP	1
03	Ferrule	PTFE	1
04	Stem	PP	1
05	Stopper	PP	1
06	Lock Nut	PFA	1
07	Nut (Tube End)	PFA	2
08	Compression Ring	PVDF	2
09	Lock Ring	ETFE	2

Function Chart	
Operating Method	Manual
Connection	FIT-ONE
Max. Operating Press.	0.7MPa
Max. Operating Temp.	100°C
Environment Temp.	60°C

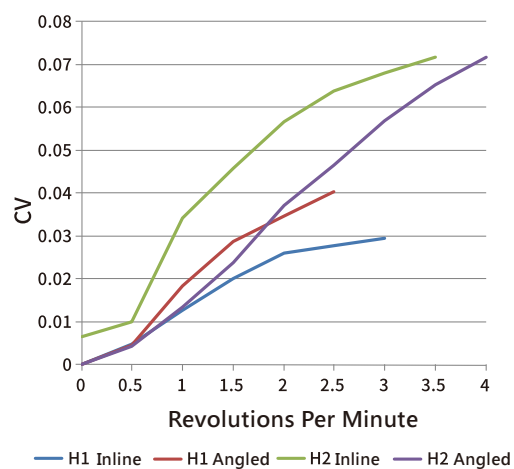
Test Condition	
Fluid	Clean Water
Inlet Press.	0.12MPa
Temp.	25°C
Flow Passage Dia.	Ø1.6mm

Inline

Angled



CV Performance Curve



※This performance curve is for reference only and not a specification standard value.

Unit: mm

	NO.	SIZE	ØS	I (Ref.)	K (Ref.)	J	M	H	Dia. of Reserved Hole Ø	INLET/OUTLET
Inline	JHAW-M6	M6	1.6	70.1	67.2	14	Max. 3	71.4	22	6x4
	JHAW-H2	H2	1.6	70.1	67.2	14	Max. 3	71.4	22	6.35x3.95
	JHAW-M3	M3	1.6	70.1	67.2	14	Max. 3	58.6	22	3x2
	JHAW-H1	H1	1.6	70.1	67.2	14	Max. 3	58.6	22	3.18x2.18
Angled	JHA-M6	M6	1.6	98.5	95.6	14	Max. 3	35.7	22	6x4
	JHA-H2	H2	1.6	98.5	95.6	14	Max. 3	35.7	22	6.35x3.95
	JHA-M3	M3	1.6	92.1	89.1	14	Max. 3	29.3	22	3x2
	JHA-H1	H1	1.6	92.1	89.1	14	Max. 3	29.3	22	3.18x2.18

"J" indicates the width across the body on both sides.

▶ PFA Needle Valve (Segmented Stem Type)



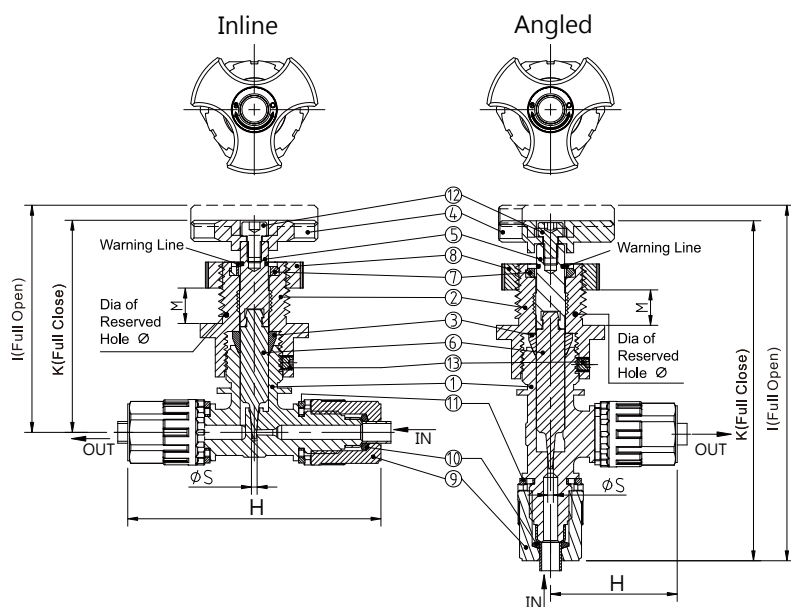
部品No.	Description	Material	Q'ty
01	Body	PFA	1
02	Nut	PP	1
03	Ferrule	PTFE	1
04	Stem (Handle)	PP	1
05	Stem (Middle)	PP	1
06	Stem (Needle)	PFA	1
07	Stopper	PP	1
08	Lock Nut	PFA	1
09	Nut (Tube End)	PFA	2
10	Compression Ring	PVDF	2
11	Lock Ring	ETFE	2
12	Hex. Socket Bolt	PPS	1
13	Set Screw	PPS	1

Function Chart

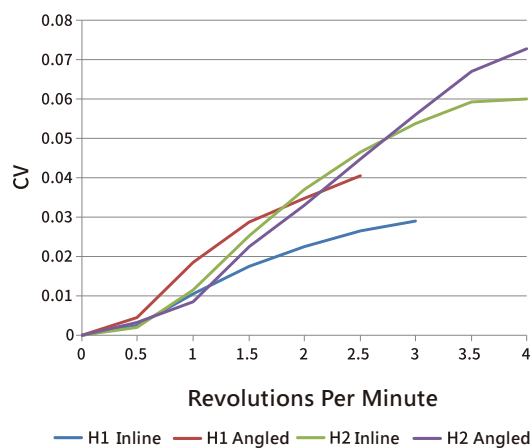
Operating Method	Manual
Connection	FIT-ONE
Max. Operating Press.	0.7MPa
Max. Operating Temp.	100°C
Environment Temp.	60°C

Test Condition

Fluid	Clean Water
Inlet Press.	0.12MPa
Temp.	25°C
Flow Passage Dia.	Ø1.6mm



CV Performance Curve



※This performance curve is for reference only and not a specification standard value.

Unit: mm

	NO.	SIZE	ØS	I (Ref.)	K (Ref.)	J	H	L	Dia. of Reserved Hole Ø	M	INLET/OUTLET	Set Screw
Inline	JHAW-S-M6	M6	1.6	64	59.8	14	71.4	/	22	Max.10	6x4	M4xP0.7x6L
	JHAW-S-H2	H2	1.6	64	59.8	14	71.4	/	22	Max.10	6.35x3.95	M4xP0.7x6L
	JHAW-S-M3	M3	1.6	64	59.8	14	58.6	/	22	Max.10	3x2	M4xP0.7x6L
	JHAW-S-H1	H1	1.6	64	59.8	14	58.6	/	22	Max.10	3.18x2.18	M4xP0.7x6L
Angled	JHAS-M6	M6	1.6	98.5	91.7	14	35.7	62.8	22	Max.10	6x4	M4xP0.7x6L
	JHAS-H2	H2	1.6	98.5	91.7	14	35.7	62.8	22	Max.10	6.35x3.95	M4xP0.7x6L
	JHAS-M3	M3	1.6	93.7	85.4	14	29.3	58	22	Max.10	3x2	M4xP0.7x6L
	JHAS-H1	H1	1.6	93.7	85.4	14	29.3	58	22	Max.10	3.18x2.18	M4xP0.7x6L

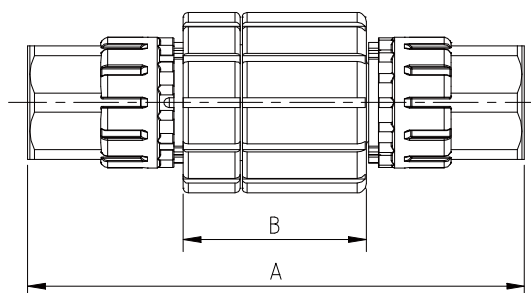
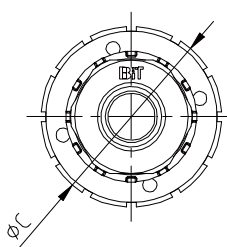
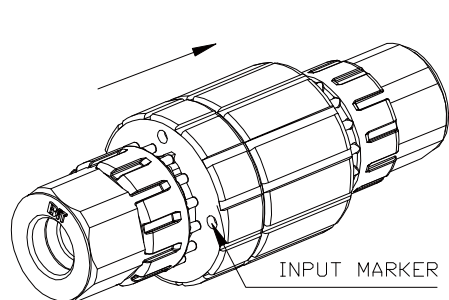
"J" indicates the width across the body on both sides.

PTFE Check valve

▶ FLARE (FIT-ONE) TYPE

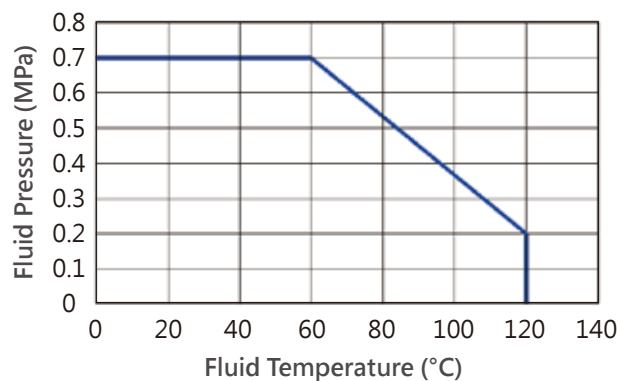


Min. Opening Press.	0.002 Mpa
Min. Back Press.	0.05 Mpa
Operating Press.	0.7 Mpa
Max. Fluid Operating Temp.	120°C
Fluid	Chemical Solutions, Deionized Water



Features

- The connection end features high-tensile strength FIT-ONE or FIT-ONE Plus (flare type fittings with compression rings), ensuring superior sealing performance.
- Design without metal or O-ring, reducing contamination risks.
- Designed to minimize liquid residue.
- Easy installation without specific vertical orientation required.
- Wetted parts made of PFA and PTFE materials.



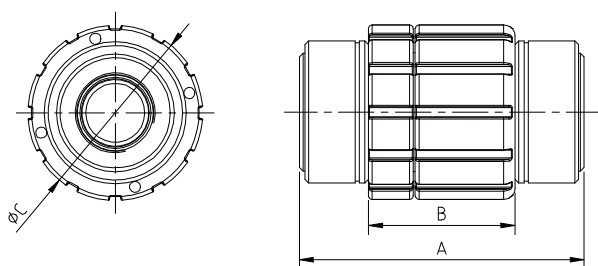
Unit: mm

	NO.	SIZE	(A)	B	C	INLET/ OUTLET	CV
INCH	CV-1H2-1H2	H2	85.7	38.8	38.3	6.35*3.95	0.33
	CV-1H3-1H3	H3	94	38.8	38.3	9.53*6.35	1.15
	CV-1H4-1H4	H4	105.3	38.8	38.3	12.7*9.53	2.2
	CV-1H6-1H6	H6	120.7	39.2	46.8	19.05*15.8	4.2
	CV-1H8-1H8	H8	151.5	55.5	64.4	25.4*22.2	13
MM	CV-1M6-1M6	M6	85.7	38.8	38.3	6*4	0.33
	CV-1M8-1M8	M8	94	38.8	38.3	8*6	1.15
	CV-1M12-1M12	M12	105.3	38.8	38.3	12*10	2.2
	CV-1M19-1M19	M19	120.7	39.2	46.8	19*16	4.2
	CV-1M25-1M25	M25	151.5	55.5	64.4	25*22	13

▶ THREADED END TYPE

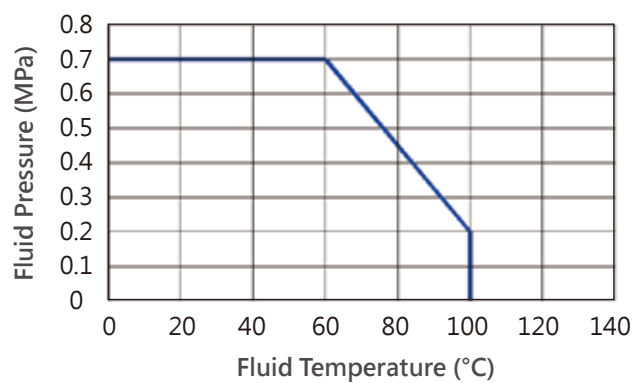
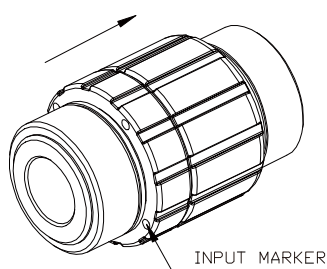


Min. Opening Press.	0.002 Mpa
Min. Back Press.	0.05 Mpa
Operating Press.	0.7 Mpa
Max. Fluid Operating Temp.	100°C
Fluid	Chemical Solutions, Deionized Water



Features

- Design without metal or O-ring, reducing contamination risks.
- Designed to minimize liquid residue.
- Easy installation without specific vertical orientation required.
- Wetted parts made of PFA and PTFE materials.



Unit: mm

NO.	SIZE	(A)	B	C	INLET/OUTLET	CV
CV-FN4-FN4	1/2"	77.2	39.2	46.8	NPT ½	4.2
CV-FR4-FR4	1/2"	77.2	39.2	46.8	Rc ½	4.2

*Custom orders available upon request.

PFA Diaphragm Valve

▶ KH ・ PW metal-free series

PFA Diaphragm Valve with No Risk of Metal Contamination

Exclusive Technology: High-Temperature Heat Source Isolation

High Stability

High Temperature Resistance

Low Risk of Metal Leaching

Features

BUENO, following the success of the FIT-ONE fittings, once again revolutionizes the perception of PFA diaphragm chemical valves. The innovative structural design allows BUENO's chemical valves to be used stably in high-temperature chemical liquids, enhancing durability while isolating the risk of metal contamination and reducing particle generation and leakage.



▶ PFA Diaphragm Valve - Pneumatic Normally Closed



Forced Cooling Device (Optional)

When the fluid temperature exceeds 150°C, it is recommended to use forced cooling for better results.

Cooling gas is discharged through the axial hole of the hollow shaft rod, which transfers the heat from the high-temperature liquid to the diaphragm.

A gas source can be added to the body's leak detection hole (square hole) for forced cooling. Both intermittent and continuous blowing, as well as vacuum extraction, are possible.

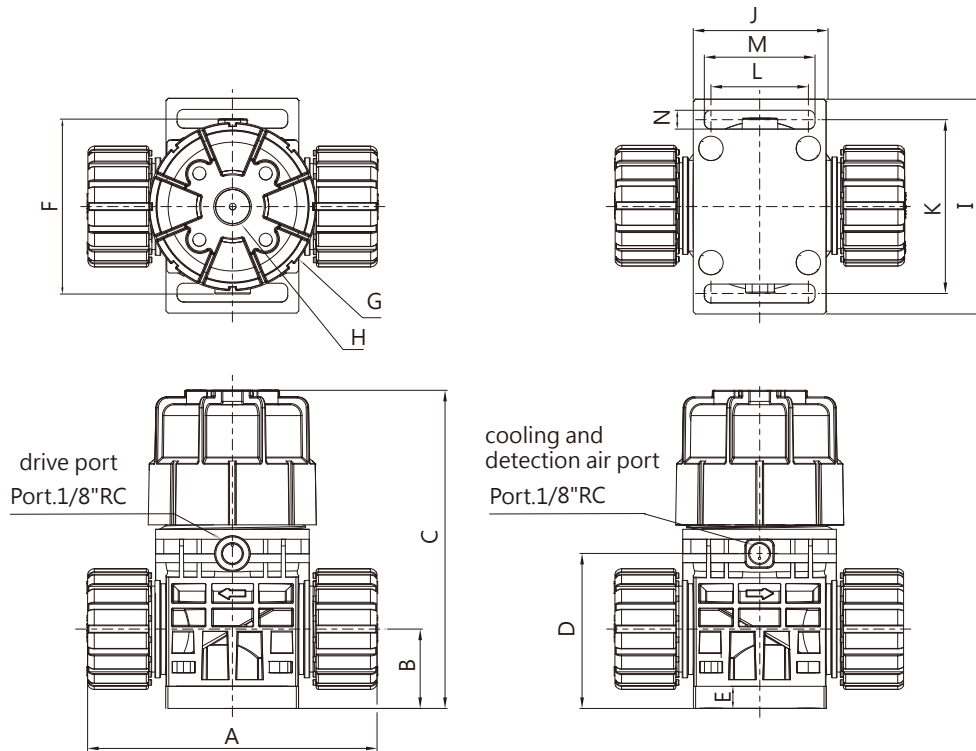
Buffer Device (Optional)

The buffer is installed at the diaphragm valve's actuator air hole (round hole) to slow down the opening and closing speed of the valve, reducing the pressure impact from water hammer and preventing damage to the valve and piping, thus increasing durability.

Buffer Device



PFA Diaphragm Valve - Pneumatic Normally Closed



Pneumatic Accessories Illustration

Switch Indicator
(Optional Code: O)



Open



Close

Signal Device
(Optional Code: : L)



Open



Close

Flow Regulator
(Optional Code: : R)



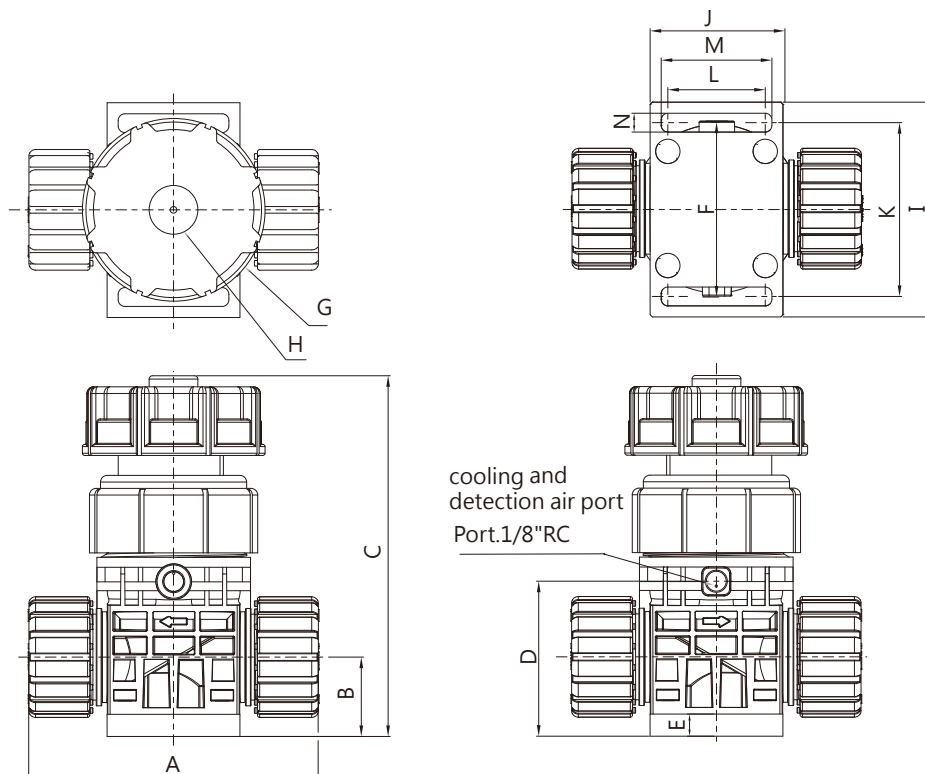
Half Open



Fully Open



Fully Close



Flow Adjustment Indicator
(Baffle is an optional part)



Half Open



Fully Open



Fully Close

Product Coding Rules

PW100- P- - -

Size	Actuation Method	Accessories	pressure relief vent Note 2	O-ring Mat'l
1/4" 6	C Pneumatic Normally Closed	O Indicator	0 non-venting	F FKM
3/8" 10	Note 1 O Pneumatic Normally Open	L Signal Device	1 pressure relief vent	
1/2" 12	Note 1 D Double-Acting	R Regulator		
3/4" 19	M Manual			
1" 25				
1 1/2" 40				

KH150- P- - -

Size	Actuation Method	Accessories	pressure relief vent Note 2	O-ring Mat'l
1/4" 6	C Pneumatic Normally Closed	O Indicator	0 non-venting	F FKM
3/8" 10	Note 1 O Pneumatic Normally Open	L Signal Device	1 pressure relief vent	
1/2" 12	Note 1 D Double-Acting	R Regulator		
3/4" 19	M Manual			
1" 25				
1 1/2" 40				

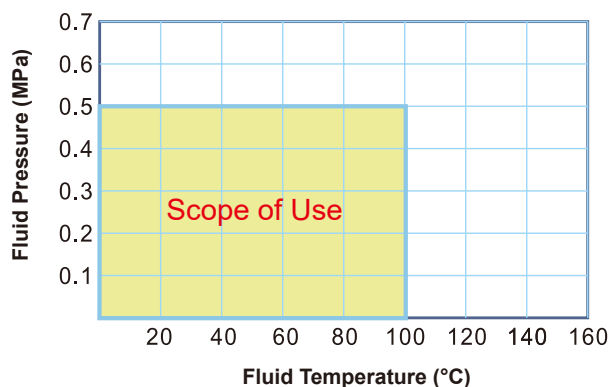
KH200- P- - -

Size	Actuation Method	Accessories	pressure relief vent Note 2	O-ring Mat'l	Pressure spec.	buffer
1/4" 6	C Pneumatic Normally Closed	O Indicator	0 non-venting	F FKM	S Standard	0 None
3/8" 10	Note 1 O Pneumatic Normally Open	L Signal Device	1 pressure relief vent		H High-Press.	1 Present
1/2" 12	Note 1 D Double-Acting	R Regulator				
3/4" 19	M Manual					
1" 25						
1 1/2" 40						

[Note 1]: When selecting O for normally open pneumatic or D for double-acting, the last two digits must be filled in as O1.
 [Note 2]: When the optional accessory is an O indicator, indicate 1 for vented; all other optional accessories and standard items indicate 0 for non-venting.

PW100 Specifications

Model	PW100-6P	PW100-10P	PW100-12P	PW100-19P	PW100-25P	PW100-40P
Pipe Fitting	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus
	1/4"	3/8"	1/2"	3/4"	1"	1 1/2 "
Inner Dia.	Ø4	Ø6.3	Ø10	Ø16	Ø22	Ø33.7
CV Value	0.3	0.9	1.8	5.2	9.1	20.9
Fluid Temp.	room temp.~100°C					
Press. Rating	1 MPa (10bar)					
Working Press. (Positive Press. / Back Press.)	0-0.5 MPa (0-5bar)					
Operating Press.	0.3-0.5 MPa (3-5bar)			0.25-0.4 MPa (2.5-4bar)		
Ambient Temp.	0~60°C					
Operating Port	Rc 1/8"					



Material list

Part Name	Mat'l
Diaphragm	PTFE
Piston Shaft	PP
Valve Body	PFA
Mounting Plate	PP
Outer Nut	PP

Unit: mm

Pneumatic Type Dimension Table

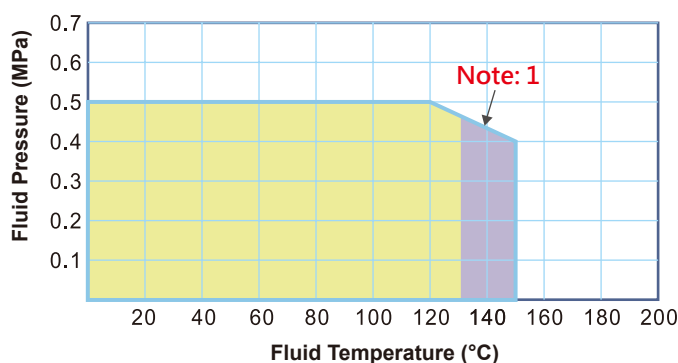
Model	(A)	(B)	(C)	(D)	E	F	(G)	(H)	I	J	K	L	M	N
PW100-6PC	82	22	85	39	10	46	Ø40	Ø10.5	65	36	50	22	29	7
PW100-10PC	100	26	90	44	10	46	Ø40	Ø10.5	65	36	50	22	29	7
PW100-12PC	100	26	90	44	10	46	Ø40	Ø10.5	65	36	50	22	29	7
PW100-19PC	112	32	128	61	10	69	Ø62	Ø16.7	87	50	68.5	34	40	8.5
PW100-25PC	131	36	144	70	10	79	Ø76	Ø16.7	97	60	79	44	50	8.5
PW100-40PC	176	53	175	98	15	102	Ø100	Ø23	120	82	100	56.5	65	8.5

Manual Type Dimension Table

Model	(A)	(B)	(C)	(D)	E	F	(G)	(H)	I	J	K	L	M	N
PW100-6PM	82	22	95	39	10	46	Ø57	Ø16	65	36	50	22	29	7
PW100-10PM	100	26	100	44	10	46	Ø57	Ø16	65	36	50	22	29	7
PW100-12PM	100	26	100	44	10	46	Ø57	Ø16	65	36	50	22	29	7
PW100-19PM	112	32	145	61	10	69	Ø77	Ø22	87	50	68.5	34	40	8.5
PW100-25PM	131	36	163	70	10	79	Ø82.5	Ø22	97	60	79	44	50	8.5
PW100-40PM	176	53	199	98	15	102	Ø100	Ø24	120	82	100	56.5	65	8.5

KH150 Specifications

Model	KH150-6P	KH150-10P	KH150-12P	KH150-19P	KH150-25P	KH150-40P
Pipe Fitting	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus
	1/4"	3/8"	1/2"	3/4"	1"	1 1/2 "
Inner Dia.	Ø4	Ø6.3	Ø10	Ø16	Ø22	Ø33.7
CV Value	0.3	0.9	1.8	5.2	9.1	20.9
Fluid Temp.	room temp.~130°C At 130~150°C, a forced radiator source needs to be installed at the leak detection hole (square hole) (Note: 1)					
Press. Rating	1 MPa (10bar)					
Working Press. (Positive Press. / Back Press.)	0-0.5 MPa (0-5bar)					
Operating Press.	0.3-0.5 MPa (3-5bar)			0.25-0.4 MPa (2.5-4bar)		
Ambient Temp.	0~60°C					
Operating Port	Rc 1/8"					



Material list

Part Name	Mat'l
Diaphragm	PTFE
Piston Shaft	PVDF
Valve Body	PFA
Mounting Plate	PP
Outer Nut	PP

Note 1: For fluids in the range of 130°C-150°C, install forced air cooling on the body's leakage test hole (square hole). Intermittent blowing, continuous blowing, or negative pressure extraction are all viable methods.

Unit: mm

Pneumatic Type Dimension Table

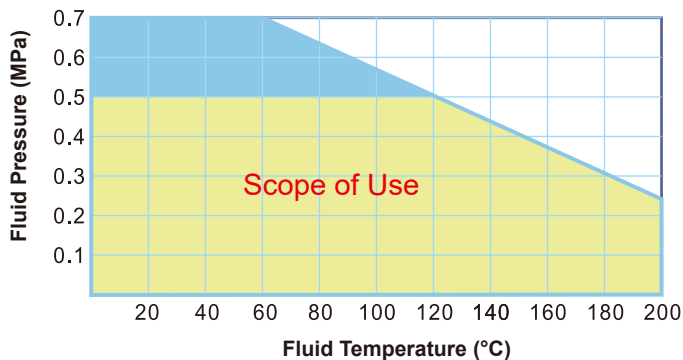
Model	(A)	(B)	(C)	(D)	E	F	(G)	H	I	J	K	L	M	N
KH150-6PC	82	22	85	39	10	46	Ø40	Ø10.5	65	36	50	22	29	7
KH150-10PC	100	26	90	44	10	46	Ø40	Ø10.5	65	36	50	22	29	7
KH150-12PC	100	26	90	44	10	46	Ø40	Ø10.5	65	36	50	22	29	7
KH150-19PC	112	32	128	61	10	69	Ø62	Ø16.7	87	50	68.5	34	40	8.5
KH150-25PC	131	36	144	70	10	79	Ø76	Ø16.7	97	60	79	44	50	8.5
KH150-40PC	176	53	175	98	15	102	Ø100	Ø23	120	82	100	56.5	65	8.5

Manual Type Dimension Table

Model	(A)	(B)	(C)	(D)	E	F	(G)	H	I	J	K	L	M	N
KH150-6PM	82	22	95	39	10	46	Ø57	Ø16	65	36	50	22	29	7
KH150-10PM	100	26	100	44	10	46	Ø57	Ø16	65	36	50	22	29	7
KH150-12PM	100	26	100	44	10	46	Ø57	Ø16	65	36	50	22	29	7
KH150-19PM	112	32	145	61	10	69	Ø77	Ø22	87	50	68.5	34	40	8.5
KH150-25PM	131	36	163	70	10	79	Ø82.5	Ø22	97	60	79	44	50	8.5
KH150-40PM	176	53	199	98	15	102	Ø100	Ø24	120	82	100	56.5	65	8.5

KH200 Specifications

Model		KH200-6P	KH200-10P	KH200-12P	KH200-19P	KH200-25P	KH200-40P
Pipe Fitting		FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus	FIT-ONE Plus
		1/4"	3/8"	1/2"	3/4"	1"	1 1/2 "
Inner Dia.		Ø4	Ø6.3	Ø10	Ø16	Ø22	Ø33.7
CV Value		0.3	0.9	1.8	5.2	9.1	20.9
Fluid Temp.		room temp.~180℃					
Press. Rating		1 MPa (10bar)					
Working Press. (Positive Press. / Back Press.)	Standard	0-0.5 MPa (0-5bar)					
	High-Press.	0.3~0.5 MPa (3~5bar)				0~0.7 MPa (0-7bar)	0.3~0.5 MPa (3-5bar)
Operating Press.	Standard					0.25-0.4 MPa (2.5-4bar)	
	High-Press.					0.3-0.5 MPa (3-5bar)	
Ambient Temperature		0~60℃					
Operating Port		Rc 1/8"					



Material list

Part Name	Mat'l
Diaphragm	PTFE
Piston Shaft	PVDF
Valve Body	PFA
Mounting Plate	PP
Outer Nut	PVDF

Unit: mm

Pneumatic Type Dimension Table

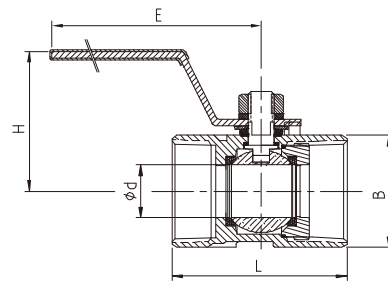
Model	(A)	(B)	(C)	(D)	E	F	(G)	H	I	J	K	L	M	N
KH200-6PC	82	22	85	39	10	46	Ø40	Ø10.5	65	36	50	22	29	7
KH200-10PC	100	26	90	44	10	46	Ø40	Ø10.5	65	36	50	22	29	7
KH200-12PC	100	26	90	44	10	46	Ø40	Ø10.5	65	36	50	22	29	7
KH200-19PC	112	32	128	61	10	69	Ø62	Ø16.7	87	50	68.5	34	40	8.5
KH200-25PC	131	36	144	70	10	79	Ø76	Ø16.7	97	60	79	44	50	8.5
KH200-40PC	176	53	175	98	15	102	Ø100	Ø23	120	82	100	56.5	65	8.5

Manual Type Dimension Table

Model	(A)	(B)	(C)	(D)	E	F	(G)	H	I	J	K	L	M	N
KH200-6PM	82	22	95	39	10	46	Ø57	Ø16	65	36	50	22	29	7
KH200-10PM	100	26	100	44	10	46	Ø57	Ø16	65	36	50	22	29	7
KH200-12PM	100	26	100	44	10	46	Ø57	Ø16	65	36	50	22	29	7
KH200-19PM	112	32	145	61	10	69	Ø77	Ø22	87	50	68.5	34	40	8.5
KH200-25PM	131	36	163	70	10	79	Ø82.5	Ø22	97	60	79	44	50	8.5
KH200-40PM	176	53	199	98	15	102	Ø100	Ø24	120	82	100	56.5	65	8.5

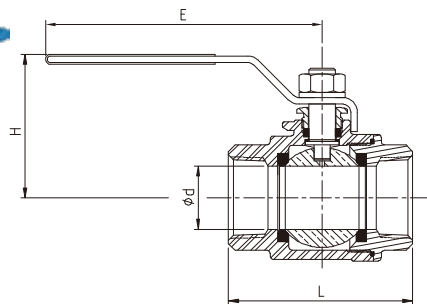
Stainless Steel Ball Valves

Unit: mm



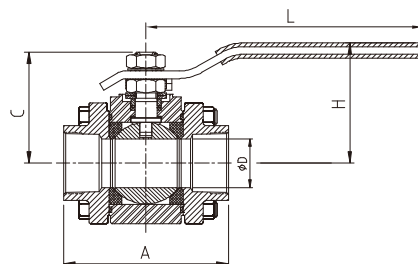
BB-101

Size		Ød	L	B	H	E
MM	INCH					
8A	1/4"	5	39.4	16.5	31	57.8
10A	3/8"	7	44.2	20.5	37	69
15A	1/2"	9.2	56.6	24.5	43	89
20A	3/4"	12.5	59	31.5	47	89
25A	1"	15	70.7	37.5	50	104
32A	1-1/4"	20	77	47	55	104
40A	1-1/2"	25	83	53	69	123
50A	2"	32	100	64.5	75	123



BB-201

Size		Ød	E	H	L
MM	INCH				
8A	1/4"	11.6	100	50	53.8
10A	3/8"	12.5	100	50	53.8
15A	1/2"	15	125	56	59.7
20A	3/4"	20	125	58	71
25A	1"	25	148	73	82.8
32A	1-1/4"	32	148	75	92.1
40A	1-1/2"	38	164	85	111
50A	2"	50	164	94	124.3
65A	2-1/2"	65	248	135	162
80A	3"	80	248	144	176



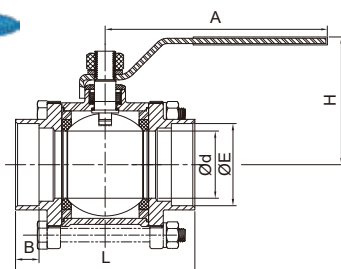
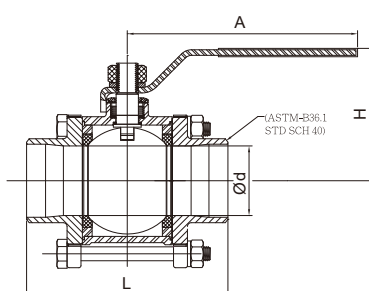
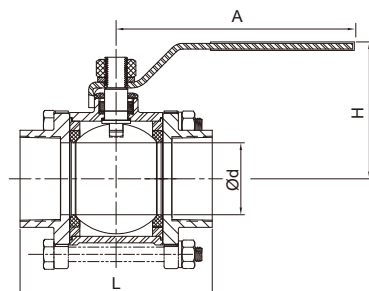
BB-301

Size		A	C	ØD	H	L
MM	INCH					
8A	1/4"	66	38.1	11.2	45.2	119.4
10A	3/8"	66	38.1	11.2	45.2	119.4
15A	1/2"	66	38.1	11.2	45.2	119.4
20A	3/4"	71.1	40.4	14.2	47.5	119.4
25A	1"	94	55.9	20.6	62	147.1
32A	1-1/4"	108	60.7	25.4	65.5	147.1
40A	1-1/2"	116.1	73.2	31.8	78.7	182.1
50A	2"	128	78.2	38.1	83.6	182.1
65A	2-1/2"	151.4	88.4	50.8	93.2	267

Model		BB-101	BB-201	BB-301 Heavy Duty	
Size Range		1/4"~2"	1/4"~3"	1/4"~2-1/2"	
Working Cond.	Working Press.	1000 psi CWP	1/4"~2" 1000 psi CWP 2-1/2"~3" 800 psi CWP	1000 psi CWP	
	Working Temp.	-20~450 °F	-20~450 °F	-20~450 °F	
Mat'l	Body	ASTM A351 GR.CF8M/CF8	ASTM A351 GR.CF8M/CF8	ASTM A351 GR.CF8M	ASTM A216 GR.WCB
	Cap		ASTM A351 GR.CF8M/CF8	ASTM A351 GR.CF3M	ASTM A216 GR.WCB
	Ball	ASTM A351 GR.CF8M/CF8	ASTM A351 GR.CF8M/CF8	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M
		ASTM A276 TYPE 316/304	ASTM A276 TYPE 316/304	ASTM A276 TYPE 316	ASTM A276 TYPE 316
	Stem	ASTM A276 TYPE 316/304	ASTM A276 TYPE 316/304	ASTM A276 TYPE 316	ASTM A276 TYPE 316
	Packing	PTFE			
	Seat	PTFE	PTFE	NEW PTFE	NEW PTFE
Handle		ASTM A276 TYPE 304	ASTM A276 TYPE 304	ASTM A276 TYPE 304	ASTM A276 TYPE 304
		- For Chemical and Industrial Applications - Blow-out proof stem design 100% tested in gas and water at 80 psi for open and closed positions	- For Chemical and Industrial Applications - Blow-out proof stem design - Adjustable stem packing - Optional locking device - Design for easy actuator installation 100% tested in gas and water at 80 psi for open and closed positions	- For Chemical / Food / Oil / Gas applications - Blow-out proof stem design / reduced port - ISO 5211 mounting pad 100% tested in gas and water at 80 psi for open and closed positions	

Three-Piece Ball Valves

Unit: mm



BB-311 Threaded Ends

Size		A	L	Ød	H
MM	INCH				
8A	1/4"	100	60	9.5	51
10A	3/8"	100	60	9.5	51
15A	1/2"	120	65.4	15	49.1
20A	3/4"	120	79	20	52.7
25A	1"	148	86	25	72.7
32A	1-1/4"	148	105	32	77.1
40A	1-1/2"	164	119.5	38	85.1
50A	2"	164	133.4	50	93.2
65A	2-1/2"	248	162.8	65	134
80A	3"	248	183	80	143.5
100A	4"	246	227.2	100	177

BB-311S Short BW Ends

Size		A	L	Ød	H
MM	INCH				
15A	1/2"	120	75	15	49.1
20A	3/4"	120	90	20	52.7
25A	1"	148	100	25	72.7
32A	1-1/4"	148	110	32	77.1
40A	1-1/2"	164	125	38	85.1
50A	2"	164	150	50	93.2
65A	2-1/2"	248	175	65	134
80A	3"	248	210	80	143.5
100A	4"	246	260	100	177

BB-311K Socket Weld Ends

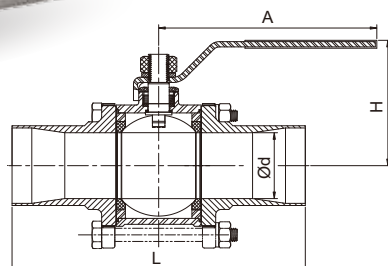
Size		L	B	Ød	ØE	H	A
MM	INCH						
15A	1/2"	65.4	16	15	22	49.1	120
20A	3/4"	79	18	20	27.4	52.7	120
25A	1"	86	19	25	34.1	72.7	148
32A	1-1/4"	105	22	32	42.9	77.1	148
40A	1-1/2"	119.5	22	38	49	85.1	164
50A	2"	133.4	25	50	61.5	93.2	164
65A	2-1/2"	162.8	28	65	74.2	134	248
80A	3"	183	30	80	90	143.5	248
100A	4"	227.2	35	100	115.5	177	246

Model		BB-311 Threaded Ends	BB-311S Short BW Ends	BB-311K Socket Weld Ends
Size Range		1/4"~4"	1/2"~4"	1/2"~4"
Working Cond.	Working Press.	1/4"~2" 1000 psi CWP	1/2"~2" 1000 psi CWP	1/2"~2" 1000 psi CWP
		2 1/2"~3" 800 psi CWP	2 1/2"~3" 800 psi CWP	2 1/2"~3" 800 psi CWP
	Working Temp.	4" 600psi CWP	4" 600 psi CWP	4" 600 psi CWP
Mat'l	Body	-20~450 °F	-20~450 °F	-20~450 °F
	Cap	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M
	Ball	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M
	Stem	ASTM A276 TYPE 316	ASTM A276 TYPE 316	ASTM A276 TYPE 316
	Seat	ASTM A276 TYPE 316	ASTM A276 TYPE 316	ASTM A276 TYPE 316
	Handle	PTFE	PTFE	PTFE
		ASTM A276 TYPE 304	ASTM A276 TYPE 304	ASTM A276 TYPE 304
		- Adjustable stem packing - Blow-out proof stem design/ Full port - Optional locking device - In-line repairable 100% tested in gas and water at 80 psi for open and closed positions	- Adjustable stem packing - Blow-out proof stem design/ Full port - Optional locking device - In-line repairable 100% tested in gas and water at 80 psi for open and closed positions	- For chemical and industrial applications - Blow-out proof stem design/ Full port - Adjustable stem packing - Optional locking device - In-line repairable 100% tested in gas and water at 80 psi for open and closed positions

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1. Seats can be provided in materials such as PEEK, PCTFE, DELRIN, UHWWPE, etc., as required. In addition to the usual stainless steel material, special materials such as DUPLEX, HASTELLOY C, MONEL, etc., can also be provided.
 2. BA or EP polish for flow channel is available on request.

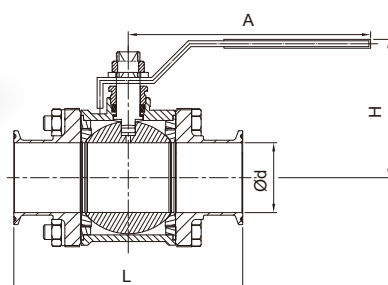
▶ Three-Piece Ball Valves

Unit: mm



BB-311L Butt Weld Ends

Size		L	Ød	H	A
MM	INCH				
15A	1/2"	179.4	15	49.1	120
20A	3/4"	184	20	52.7	120
25A	1"	190	25	72.7	148
32A	1-1/4"	198.2	32	77.1	148
40A	1-1/2"	211.4	38	85.1	164
50A	2"	222.4	50	93.2	164
65A	2-1/2"	244.8	65	134	248
80A	3"	257	80	143.5	248
100A	4"	280.2	100	177	246



BB-311TC T-Clamp Ends

Size		L	Ød	H	A
MM	INCH				
15A	1/2"	89	9.5	51	120
20A	3/4"	101	15.75	58.7	120
25A	1"	114	22.1	72.7	148
40A	1-1/2"	140	34.8	85.1	164
50A	2"	156	47.5	93.2	164
65A	2-1/2"	197	60.2	134	248
80A	3"	229	72.9	143.5	248
100A	4"	243	97.6	177	246

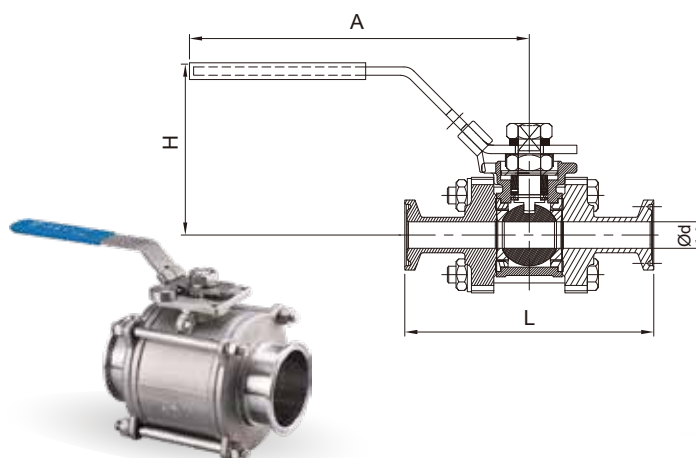
Three-Piece Ball Valves

Model		BB-311L Butt Weld Ends	BB-311TC T-Clamp Ends
Size Range		1/2"~4"	1/2"~4"
Working Cond.	Working Press.	1/2"~2" 1000 psi CWP	1/2"~2" 1000 psi CWP
		2 1/2"~3" 800 psi CWP	2 1/2"~3" 800 psi CWP
	Working Temp.	4" 600 psi CWP -20~450 °F	4" 600 psi CWP -20~450 °F
Mat'l	Body	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M
	Cap	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M
	Ball	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M
		ASTM A276 TYPE 316	ASTM A276 TYPE 316. CW12MW/H.C
	Stem	ASTM A276 TYPE 316	ASTM A276 TYPE 316
	Seat	PTFE	PTFE
Handle		ASTM A276 TYPE 304	ASTM A276 TYPE 304
		- Adjustable stem packing - Blow-out proof stem design/ Full port - Optional locking device - In-line repairable 100% tested in gas and water at 80 psi for open and closed positions	- Adjustable stem packing - Blow-out proof stem design/ Full port - Optional locking device - In-line repairable 100% tested in gas and water at 80 psi for open and closed positions

1. Seats can be provided in materials such as PEEK, PCTFE, DELRIN, UHWWPE, etc., as required. In addition to the usual stainless steel material, special materials such as DUPLEX, HASTELLOY C, MONEL, etc., can also be provided.
2. BA or EP polish for flow channel is available on request.

▶ Three-Piece Ball Valves

Unit: mm



BB-312TC T-Clamp Ends

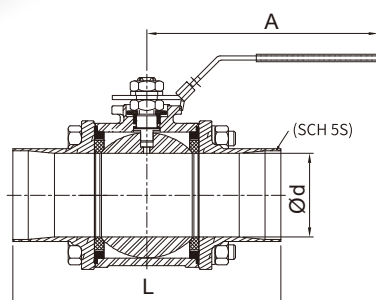
Size		A	Ød	L	H
MM	INCH				
15A	1/2"	120	9.5	89	59.6
20A	3/4"	120	15.75	101	68.4
25A	1"	147	22.1	114	77.4
40A	1-1/2"	164	34.8	140	94.4
50A	2"	164	47.5	156	103.4
65A	2-1/2"	222	60.2	197	125.7
80A	3"	222	72.9	229	133.4
100A	4"	298	97.6	243	163.3



DIMENSIONS(1/2"~4")



DIMENSIONS(5"~12")



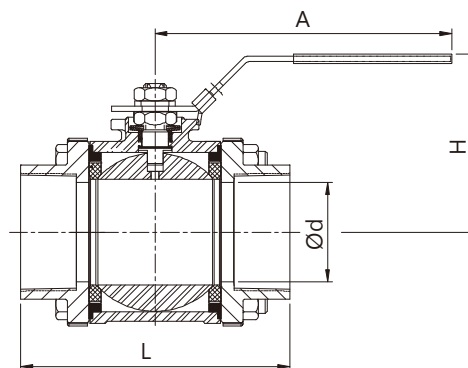
BB-312L Clean Valve

Size		A	Ød	L
MM	INCH			
15	1/2"	120	15	179.4
20	3/4"	120	20	184
25	1"	147	25	190
32	1-1/4"	147	32	198.2
40	1-1/2"	164	38	211.4
50	2"	164	50	222.4
65	2-1/2"	222	65	244.8
80	3"	222	80	257
100	4"	298	100	280.2
125	5"	N/A	114	493
150	6"	N/A	150	515
200	8"	N/A	200	560
250	10"	N/A	250	620
300	12"	N/A	300	676

Model		BB-312TC T-Clamp Ends	BB-312L Clean Valve
Size Range		1/2"~4"	1/2"~12"
Working Cond.	Working Press.	1000 psi CWP	1000 psi CWP
	Working Temp.	-20~450 °F	-60~160 °C
Mat'l	Body	ASTM A351 GR.CF8M	ASTM A351 GR.CF8M
	Cap	ASTM A351 GR.CF8M	ASTM A351 GR.CF3M
	Stem	ASTM A351 GR.CF8M	ASTM A276 TYPE 316
	Ball	ASTM A276 TYPE 316.	ASTM A351 GR.CF8M
		ASTM A276 TYPE 316	ASTM A276 TYPE 316
	Seat	PTFE	PTFE
	Handle	ASTM A276 TYPE 304	ASTM A276 TYPE 304
		- Blow-out proof stem design/ Full port - Optional locking device - Adjustable stem packing - ISO 5211 mounting pad - In-line repairable 100% tested in gas and water at 80 psi for open and closed positions	- Polished to 180 Grit/10-16min (0.25 to 0.40min) - Optional pneumatic or electric actuators - Clean room class 1000 assembly and test - Pipe end 5S, 10S - Up and down steam purge ports - AP, MP, MP+EP grade process

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1. Seats can be provided in materials such as PEEK, PCTFE, DELRIN, UHWWPE, etc., as required. In addition to the usual stainless steel material, special materials such as DUPLEX, HASTELLOY C, MONEL, etc., can also be provided.
 2. BA or EP polish for flow channel is available on request.

▶ Three-Piece Ball Valves



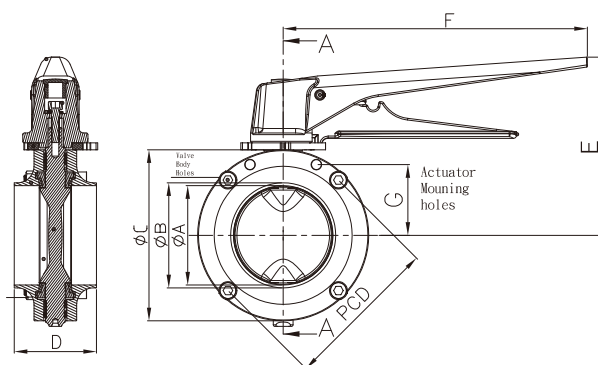
Unit: mm

Model		BB-312TH Threaded Ends
Size Range		1/2"~4"
Working Cond.	Working Press.	1/4"~2" 1000 psi CWP
		2 1/2"~3" 800 psi CWP
		4" 600psi CWP
Mat'l	Body	ASTM A351 GR.CF8M
	Cap	ASTM A351 GR.CF8M
	Stem	ASTM A276 TYPE 316
	Ball	ASTM A351 GR.CF8M
		ASTM A276 TYPE 316
	Seat	PTFE
	Handle	ASTM A276 TYPE 304
▪ Blow-out proof stem design/ Full port ▪ Optional locking device ▪ Adjustable stem packing ▪ In-line repairable ▪ ISO 5211 mounting pad		

BB-312TH Threaded Ends					
Size		A	Ød	L	H
MM	INCH				
15A	1/2"	120	15	65.4	65.2
20A	3/4"	120	20	79	68.4
25A	1"	147	25	86	77.4
32A	1-1/4"	147	32	105	82.4
40A	1-1/2"	164	38	119.4	94.4
50A	2"	164	50	133.4	103.4
65A	2-1/2"	222	65	162.8	125.7
80A	3"	222	80	183	133.4
100A	4"	298	100	227	163.3

1. Seats can be provided in materials such as PEEK, PCTFE, DELRIN, UHWWPE, etc., as required. In addition to the usual stainless steel material, special materials such as DUPLEX, HASTELLOY C, MONEL, etc., can also be provided.
2. BA or EP polish for flow channel is available on request.

S.S Hygienic Butterfly Valve

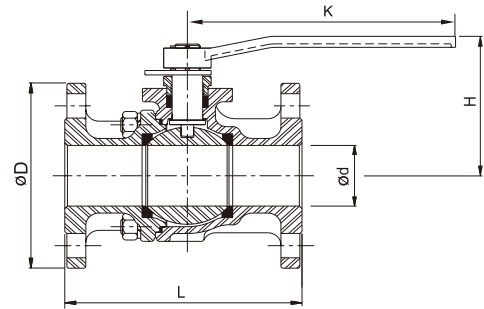


Unit: mm

Model		SBU-71
Size Range		1"~6"
Working Cond.	Max. Press.	10 Bar (at 20°C)
	Rec. Press.	6 Bar (at 20°C)
	Gen. Temp. Range	-10°C~+95°C
Mat'l	Body	ASTM A182-F316L
	Disc Stem	ASTM A351 GR.CF8M
	Seat	SILICON WHITE FDA
	Handle	ASTM A351 GR.CF8M
	Notch Plate	ASTM A351 GR.CF8M
▪ End Connections: Butt weld (standard) ; imperial tubing (outer diameter tube)		

SBU-71									
Size		ØA	ØB	ØC	D	E	F	G	PCD
MM	INCH								
25	1"	22.3	25.8	69	50	83.5	154.2	26.5	59
40	1-1/2"	35	38.5	79	50	88.5	154.2	31.5	69
50	2"	47.7	51.2	94	50	96	154.2	38	84
65	2-1/2"	60.4	63.9	104	50	101	154.2	43	95
80	3"	73.1	76.6	124	60	112	185	50	111
100	4"	98.5	102	151	70	125.5	185	63.5	139
150	6"	148.4	153	223	80	183.5	266	98.5	207

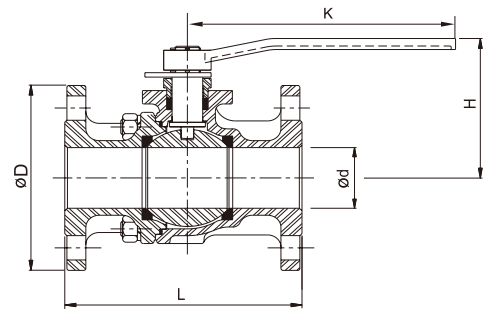
Flange Ball Valve



Unit: mm

Model		F601
Size Range		1/2"~10"
Working Cond.	Working Temp.	-20~450 °F
	Press. Gr.	CLASS 150LB
Spec.	Flange	ASME B16.5
	Body	ASME B16.34
	Face-to-Face	ASME B16.10
Mat'l	Body&Cap	ASTM A351 GR.CF8/CF8M/CF3M
		ASTM A216 GR.WCB
	Stem	ASTM A276 TYPE 304/316/316L
	Ball	ASTM 351 GR.CF8/CF8M/CF3M
		ASTM A276 TYPE 304/316
	Handle	ASTM A351 GR.CF8
		ASTM A216 GR.WCB
		WPB SCH40-1" PIPE
	Seat	NEW PTFE
- ISO 5211 mounting pad - Blow-out proof stem design		Anti-static standard design

F601						
Size		Ød	K	H	L	ØD
MM	INCH					
15	1/2"	15	145	73	108	88.9
20	3/4"	20	145	79	117	98.6
25	1"	25	165	91	127	108
32	1-1/4"	32	165	94	140	117.3
40	1-1/2"	38	230	113	165	127
50	2"	50	230	122	178	152.4
65	2-1/2"	65	230	144	190	177.8
80	3"	80	320	151	203	190.5
100	4"	100	320	165	229	228.6
125	5"	125	514	207.5	356	254
150	6"	150	514	225	394	279.4
200	8"	200	1000	290.4	457	343
250	10"	250	1000	347	533	405

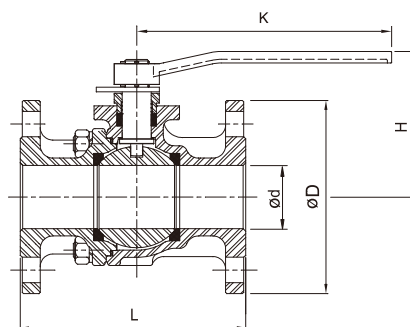


Unit: mm

Model		F602
Size Range		15A~250A
Working Cond.	Press. Gr.	JIS 10K
	Working Temp.	-29 °C~232 °C
Spec.	Flange	JIS B 2220
	Body	ASME B16.34
	Face-to-Face	JIS B 2002 (1/2"~5") Bueno Std (6"以上)
Mat'l	Body&Cap	JIS G5121-SCS13A/SCS14A/SCS16A
		JIS G5102-SCW410
	Stem	ASTM A276 TYPE 304/316/316L
	Ball	ASTM 351 GR.CF8/CF8M/CF3M
		JIS G5121-SCS16A / ASTM A276 TYPE 304/316
	Handle	ASTM A351 GR.CF8
		ASTM A216 GR.WCB
		WPB SCH40-1" PIPE
	Seat	NEW PTFE
- ISO 5211 mounting pad - Blow-out proof stem design/ Full port		Anti-static standard design

F602						
Size		Ød	K	H	L	ØD
MM	INCH					
15	1/2"	15	145	73	108	95
20	3/4"	20	145	79	117	100
25	1"	25	165	91	127	125
32	1-1/4"	32	165	94	140	135
40	1-1/2"	38	230	113	165	140
50	2"	50	230	122	178	155
65	2-1/2"	65	230	144	190	175
80	3"	80	320	151	203	185
100	4"	100	320	165	229	210
125	5"	125	514	207.5	356	250
150	6"	150	514	225	340	280
200	8"	200	1000	290.4	450	330
250	10"	250	1000	347	533	400

▶ Flange Ball Valve

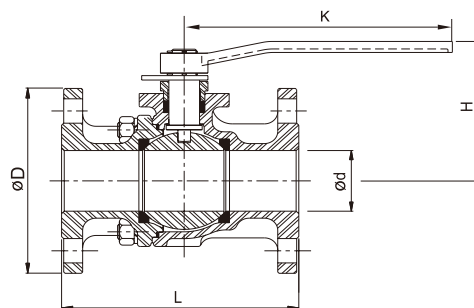


Unit: mm

Model		F602D
Size Range		15A~150A
Working Cond.	Press. Gr.	JIS 10K
	Working Temp.	-29 °C~232 °C
Spec.	Flange	JIS B 2239
	Body	ASME B16.42
	Face-to-Face	JIS B 2002
Mat'l	Body&Cap	JIS G5502-FCD 450
	Stem	ASTM A276 TYPE 304
	Ball	ASTM 351 GR.CF8
		ASTM A276 TYPE 304
	Handle	ASTM A216 GR.WCB
	Seat	NEW PTFE

- ISO 5211 mounting pad
- Blow-out proof stem design/ Full port
- Anti-static standard design

F602D JIS 10K						
Size		Ød	ØD	K	L	H
MM	INCH					
15	1/2"	15	95	145	108	73
20	3/4"	20	100	145	117	79
25	1"	25	125	165	127	91
32	1-1/4"	32	135	165	140	94
40	1-1/2"	38	140	230	165	113
50	2"	50	155	230	178	122
65	2-1/2"	65	175	230	190	144
80	3"	80	185	320	203	151
100	4"	100	210	320	229	165
125	5"	125	250	514	356	207.5
150	6"	150	280	514	394	225



Unit: mm

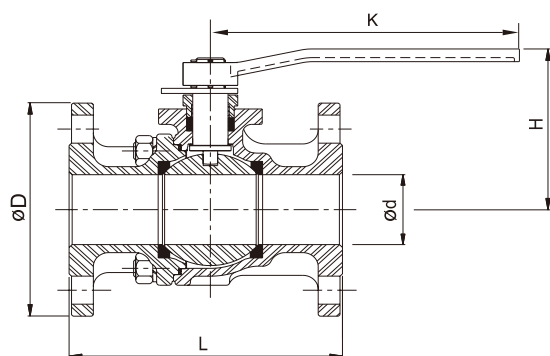
Model		F603 PN16
Size Range		DN15-DN250
Working Cond.	Press. Gr.	PN16
	Working Temp.	-29 °C~232 °C
Spec.	Flange	EN 1092-1
	Body	ASME B16.34
	Face-to-Face	EN 558
Mat'l	Body&Cap	EN10213 1.4308/1.4408/1.0619
	Stem	ASTM A276 TYPE 304/316/316L
	Ball	ASTM A351 GR.CF8/CF8M/CF3M
		ASTM A276 TYPE 304/316
	Handle	1/2"~6" ASTM A351 GR.CF8
		1/2"~6" ASTM A216 GR.WCB
	Seat	NEW PTFE

- ISO 5211 mounting pad
- Blow-out proof stem design/ Full port
- Anti-static standard design

F603 PN16						
Size		Ød	ØD	H	L	K
MM	INCH					
15	1/2"	15	95	73	130	145
20	3/4"	20	105	79	150	145
25	1"	25	115	91	160	165
32	1-1/4"	32	140	94	180.3	165
40	1-1/2"	38	150	113	200	230
50	2"	50	165	122	230	230
65	2-1/2"	65	185	144	290	230
80	3"	80	200	151	310	320
100	4"	100	220	165	350	320
125	5"	125	250	207.5	400	514
150	6"	150	285	225	480	514
200	8"	200	340	290.4	600	1000
250	10"	250	405	347	730	1000

Flange Ball Valve

Unit: mm



F604 JIS 20K

Size		Ød	ØD	H	L	K
MM	INCH					
15	1/2"	15	95	73	140	145
20	3/4"	20	100	79	152	145
25	1"	25	125	91	165	165
32	1-1/4"	32	135	94	178	165
40	1-1/2"	38	140	113	190	230
50	2"	50	155	122	216	230
65	2-1/2"	65	175	144	241	230
80	3"	80	200	156	282	320
100	4"	100	225	170	305	320

F606 CLASS 300LB

Size		Ød	ØD	H	L	K
MM	INCH					
15	1/2"	15	95	73	140	145
20	3/4"	20	115	79	152	145
25	1"	25	125	91	165	165
32	1-1/4"	32	135	94	178	165
40	1-1/2"	38	155	113	190	230
50	2"	50	165	122	216	230
65	2-1/2"	65	190	144	241	230
80	3"	80	210	156	282	320
100	4"	100	255	170	305	320

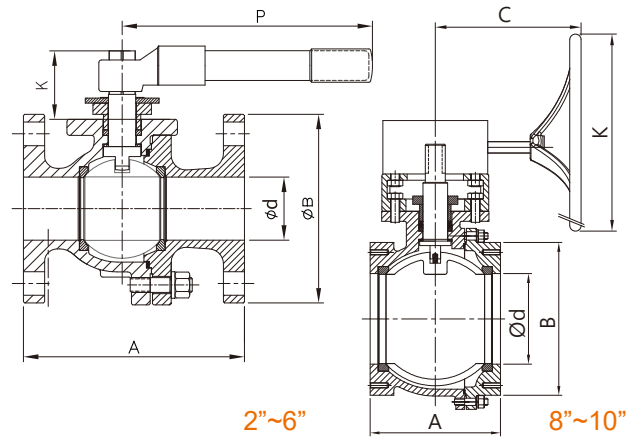
Model		F604 JIS-20K	F606 CLASS 300 LB
Size Range		15A~100A	1/2"~4"
Working Cond.	Pressure Rating	JIS -20K	CLASS 300
	Working Temp.	-29 °C~232 °C	-29 °C~232 °C
Spec.	Body	ASME B16.34	ASME B16.34
	Flange	JIS B2220-20K	ASME B16.5 CLASS 300 RF
	Face-to-Face	JIS B2002	ASME B16.10
Mat'l	Body&Cap	JIS G5121-SCS13A/SCS14A	ASTM A351 GR.CF8/CF8M
		JIS G5151-SCPH2	ASTM A216 GR.WCB
	Stem	ASTM A276 TYPE 304/316	ASTM A276 TYPE 304/316
	Ball	ASTM A351 GR.CF8/CF8M	ASTM A351 GR.CF8/CF8M
		ASTM A276 TYPE 304/316	ASTM A276 TYPE 304/316
	Handle	ASTM A351 GR.CF8	ASTM A351 GR.CF8
		ASTM A216 GR. WCB	ASTM A216 GR.WCB
Seat	NEW PTFE	NEW PTFE	
		- ISO 5211 mounting pad - Blow-out proof stem design/ Full port - Anti-static standard design	- ISO 5211 mounting pad - Blow-out proof stem design/ Full port - Anti-static standard design

▶ Flange Ball Valve

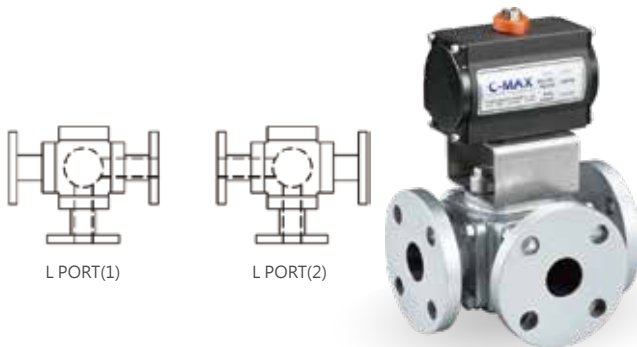


F605D	
Size Range	2"~10"
Cond.	Max. Temp.
	2"~6" 160 °C
	8"~10" 60 °C
Cond.	Press. Gr.
	CLASS 125LB
Spec.	Max. Working Press.
	200 psi (14 bars) CWP
Mat'l	Face-to-Face
	Cast Iron Flange ANSI B16.10 Class 125
	Body
	CAST IRON, ASTM A126 CLASS B
	Cap
	CAST IRON, ASTM A126 CLASS B
	Stem
	ASTM A276 TYPE 304
Mat'l	Ball
	ASTM A351 GR.CF8
	Handle
	SPB SCH40 PIPE
Mat'l	Handwheel
	DUCTILE IRON
Mat'l	Seat
	PTFE

- Surface coated with epoxy resin
- Manual gear equipped for sizes 8" and above

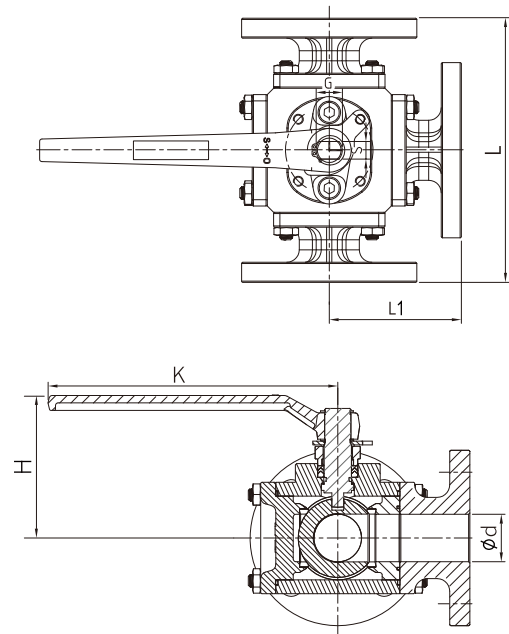


F605D CLASS 125LB						
Size		A	ØB	Ød	P	K
MM	INCH					
50	2"	178	152	50.8	229	55
65	2-1/2"	191	178	63.5	406	53
80	3"	203	190	76.2	406	54.5
100	4"	229	229	101.6	500	57
150	6"	267	279	152.4	660	73
200	8"	292	343	203	337	508
250	10"	330	406	254	337	508



Model		BBW602 JIS 10K 3-Way Flange Ball Valve
Size Range		1 1/2" & 2 1/2"
Cond.	Working Temp.	-29 °C~232 °C
	Press. Gr.	JIS -10K
Spec.	Flange	JIS 10K B 2239
	Body	ASME B16.42
Mat'l	Body&Cap	JIS G5502-FCD450
	Stem	ASTM A276 TYPE 304
	Ball	ASTM A351 GR. CF8
		ASTM A 276 TYPE 304
	Handle	ASTM A 216 GR.WCB
	Blind Cap	JIS G5502-FCD450
	Seat	PTFE

- ISO 5211 mounting pad
- Anti-static standard design
- Blow-out proof stem design/ Full port
- Ball L PORT



Unit: mm

BBW602 JIS 10K						
Size		Ød	K	L	L1	H
MM	INCH					
40	1-1/2"	38	231.5	211	105.5	114
65	2-1/2"	63	325	320	160	146

Valve Accessories

▶ PTFE

PTFE (Polytetrafluoroethylene) is a fluoropolymer thermoplastic known for its low friction coefficient and high insulation properties. PTFE is chemically inert to most substances, can withstand high-temperature applications, and is widely recognized for its non-stick characteristics.

Choosing the correct valve seat sealing material is often a critical factor in selecting a ball valve. With over 50 years of experience, we can provide various PTFE materials according to customer design requirements, incorporating different proportions of glass fiber, carbon, graphite, stainless steel, and more.

Material List

VIRGIN PTFE
MODIFIED PTFE
GLASS FILLED PTFE:15% Glass Filled PTFE, 25% Glass Filled PTFE
CARBON FILLED PTFE
PTFE WITH COAL
GRAPHITE FILLED PTFE
STAINLESS STEEL FILLED PTFE
MOLYBDENU M DISULFIDE (MOS2) FILLED PTFE
BRONZE FILLED PTFE
POLYIMIDE FILLED PTFE

Application

- PTFE Engineering Gaskets for Flanges
- PTFE Valve Seat
- PTFE Gaskets
- PTFE Washers
- PTFE Backup Rings
- PTFE O-Rings
- PTFE Tubing / PTFE Corrugated Tubing
- PTFE Bolts / Teflon PTFE Nuts
- OEM PTFE Parts

- We also provide plastic injection molding and rubber products (e.g., flange covers, butterfly valve injection balls, etc.). Custom products can be made according to customer requirements.



Metal Castings / Machined Parts

▶ CNC Machining | OEM valve parts | PED Certification

- Balls, Valve Bodies, Valve Caps, Valve Stems, etc.
- Customized products can be made according to customer requirements.
- In addition to producing high-quality stainless steel castings, we also manufacture other high-alloy products.
- Our foundry in Vietnam is ISO 9001 certified.
- Our foundry in Vietnam complies with Pressure Equipment Directive PED (CE 2014/68/EU), DGR 97/23/EC, and AD2000-W0/TRD 100.

Material List

CF8M / CF8	DUPLEX
CF3M	MONEL
CA15	CE3MN
ALLOY 20	CX2MW
HASTELLOY C	CD3MN
STELLITE 6	Special materials can be used upon request.
SUPER DUPLEX	



Actuators

▶ Pneumatic Actuator - Operating Conditions

- **Power Supply Pressure Range**
2.5 bar (36 psi) to 8 bar (116 psi)
Range of Pressure Supply for Double Acting and Single Acting Cylinders
- **Operating Temperatures**
Standard (Nitrile Rubber): -40°C (-40°F) to +80°C (+176°F)
Low Temperature (Hydrogenated Nitrile Rubber): -55°C (-67°F) to +80°C (+176°F)
High Temperature (Fluoroelastomer): -15°C (-5°F) to +150°C (+302°F)
Note: Special lubricants are required for low temperature and high temperature conditions.
- **Wide Range of Actuators**
There are a total of 17 different cylinder models, with torque ranges from 14.4 to 11,674 Nm at 6 bar air supply pressure.
- **Working Media**
Filtered and dried or lubricated air, non-corrosive gases, light hydraulic oils, with maximum permissible particle size not exceeding 30 µm.
- **Stroke Adjustment Range**
Standard adjustment range of 0° and 90° ±5°.
- **Lubrication**
All moving parts are lubricated to enhance cylinder operational lifespan.
- **Construction**
Dual piston rack and pinion design suitable for indoor and outdoor use.



- **Connections**
Cylinder bottom connection according to ISO 5211/DIN 3337 standards, electromagnetic valve interface, and cylinder top connection according to VDI/VDE3845, NAMUR standards.
- **Testing**
Each cylinder undergoes pressure testing before leaving the factory, marked with a casting number.

▶ Pneumatic Actuator Features

- **Indicator**
Position Indicator: Namur standard for easy installation of related accessories on all AIR TORQUE pneumatic actuators.
- **Output Shaft**
High precision, nickel-plated hard alloy ($\geq 15\mu\text{m}$) output shaft for low friction and high wear resistance under harsh conditions. Complies with ISO 5211 and DIN 3337 standards. Custom sizes available in stainless steel and hard aluminum alloy materials.
- **Body**
Extruded aluminum alloy body with hard oxide treatment ($\geq 30\mu\text{m}$), providing corrosion resistance and minimizing friction between piston and body. Options include nickel plating, PTFE (Polytetrafluoroethylene) coating, and epoxy resin spraying.
- **End Cap**
Pressure die-cast aluminum alloy end cap with epoxy resin spraying ($\geq 80\mu\text{m}$), offering corrosion resistance. Options include nickel plating and PTFE coating.
- **Piston**
High precision balanced piston made from hard oxide-treated ($\geq 30\mu\text{m}$) pressure die-cast aluminum alloy. Features rack and pinion design for stable torque output, supported by high-quality seals and guide plates.
- **Stroke Adjustment**
Standard stroke adjustment of $\pm 5^\circ$ for easy open and close positions via two independent external stroke bolts.
- **High Performance Springs**
High tension springs with nickel plating for corrosion resistance and extended lifespan. Preloaded springs ensure safe and quick disassembly.
- **Bearings and Guide Plates**
Durable composite materials provide low friction, high stability, and extended lifespan.
- **Seals**
Nitrile rubber (NBR) for standard temperature conditions, Viton for high temperatures, and hydrogenated nitrile rubber (HNBR) for low temperatures.

Bueno Technology Co., LTD
Your reliable and strong partner!





MEMO





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