Fujikin®

PRODUCT CATALOG

V® COLLECTION

Internet "Beyond the Flow" of Things®

Fujikin Carp Group

Index

Introduction

Process & Instrumentation Valve Equipment for Oil & Gas and General Industries

Fujikin Incorporated 's flow control technologies are state of the art everywhere: earth, ocean and sky.

Fujikin Incorporated

has become the top manufacturing corporation for not only specific-purpose valves but also super high precision flow control systems. Our cutting edge technology is used in every area that demands the highest technology.


Semiconductor

Solar and Fuel Cells


Aerospace


Marine Vessels


Iron and Steel


Nano Devices


Medical, Pharmaceutical and Food

Ocean Development


Petrochemicals


Cryogenic Equipment

Application & Achievement

Process & Instrumentation Valve Equipment for Oil & Gas and General Industries

Oil & Gas Production

Petrochemicals & Chemicals

Petroleum Refining

GTL / DME

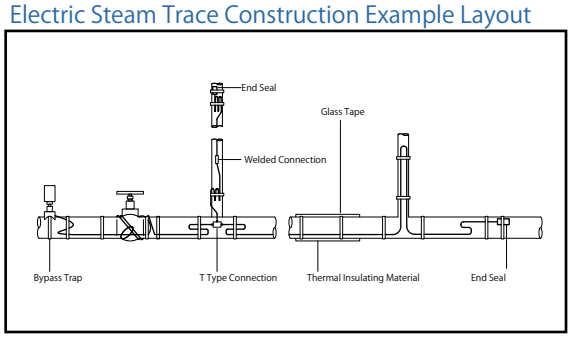
LNG

Oil Platform

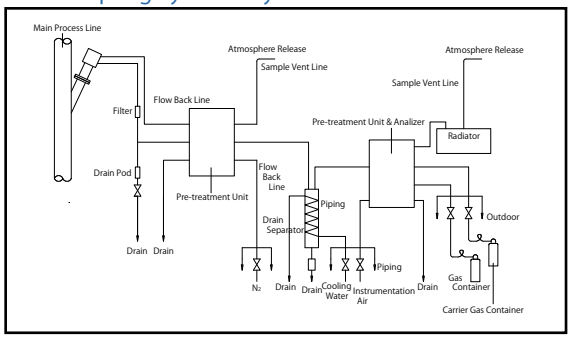
Holding a share of more than 80% of instrumentation valves for Oil & Gas plant in Japan,
Fujikin contributes to safety, security and reliability of the nuclear power stations also.

Application

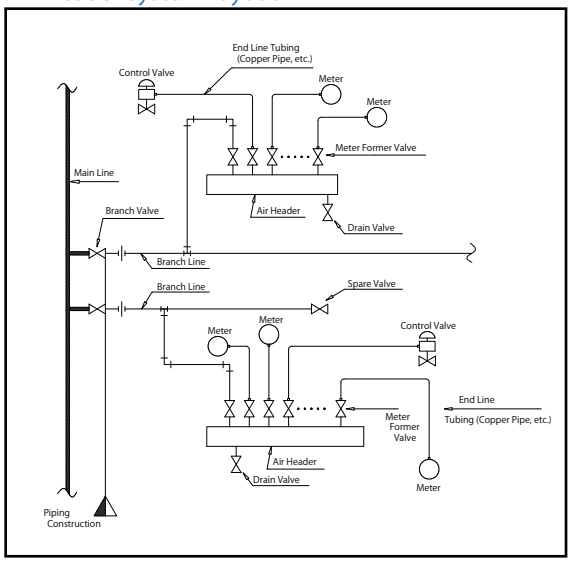
Electric Steam Trace Construction Example Layout



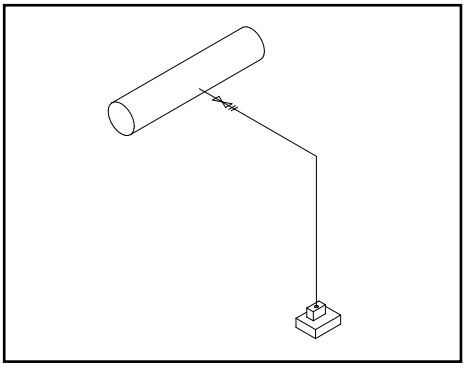
Gas Sampling System Layout



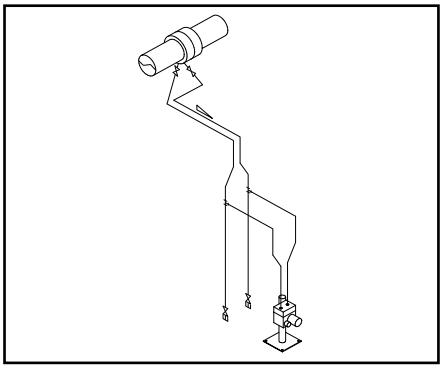
Air Header System Layout



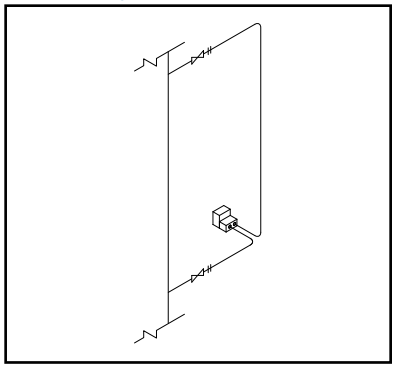
Sampling Nozzle: Horizontal Direction Model



Floor Mount Line Model



General Liquid Line Model



①Differential Pressure Transmitter

②Pressure Transmitter

③Liquid Level Meter by Differential Pressure

④Sampling Line

⑤Analizing Equipment

⑥Air Line

⑦Steam Tracing Line

⑧Pilot Plant / Experiment Plant

⑨NACE STANDARD Line

VCR-Lok Tube Fittings

PDW Tube Fittings

Instrument Ball Valves

3-Pieces Ball Valves

Trunnion Ball Valves

Plug Valves

Union-Bonnet Needle Valves

Integral-Bonnet Needle Stop Valves

Brass Needle Stop Valves

Instrument Manifolds / Gauge Valves

Bellows Valves

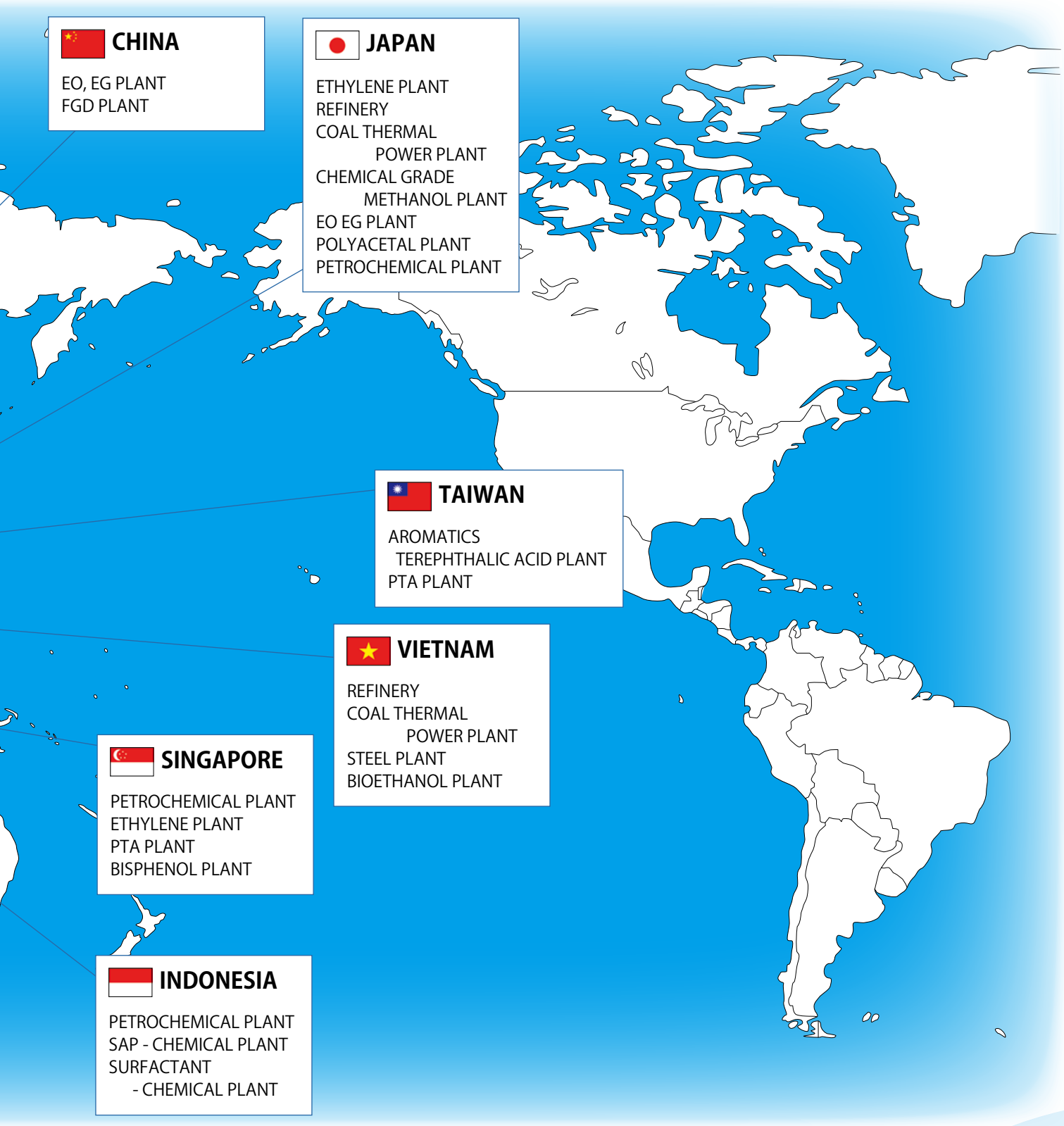
Toggle Valves

Relief Valves

Check Valves

Delivery Records

Process & Instrumentation Valve Equipment for Oil & Gas and General Industries


CHINA
EO, EG PLANT
FGD PLANT
JAPAN
ETHYLENE PLANT
REFINERY
COAL THERMAL
POWER PLANT
CHEMICAL GRADE
METHANOL PLANT
EO EG PLANT
POLYACETAL PLANT
PETROCHEMICAL PLANT
TAIWAN
AROMATICS
TEREPHTHALIC ACID PLANT
PTA PLANT
VIETNAM
REFINERY
COAL THERMAL
POWER PLANT
STEEL PLANT
BIOETHANOL PLANT
SINGAPORE
PETROCHEMICAL PLANT
ETHYLENE PLANT
PTA PLANT
BISPHENOL PLANT
INDONESIA
PETROCHEMICAL PLANT
SAP - CHEMICAL PLANT
SURFACTANT
- CHEMICAL PLANT

memo

Fittings

V-Lok Tube Fittings Double Rings Compression and Bite Type Stainless Steel

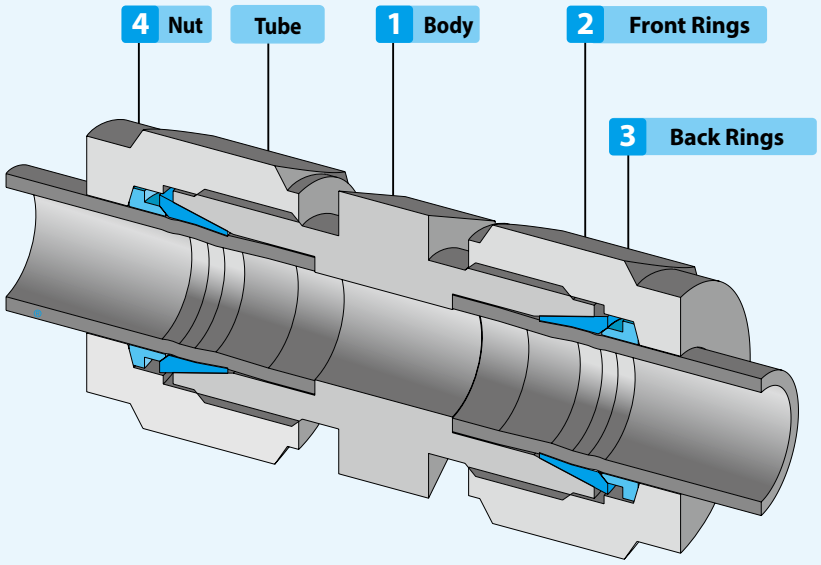
PDW Tube Fittings Double Rings Compression and Bite Type Brass

Overview of V-Lok Tube Fittings

V-Lok is a high performance tube fitting that combines the sealing properties and quality control technologies required for power plant instrumentation fittings, other industies, and the ultra-pure construction required used in fittings used in semiconductor manufacturing equipment.

V-Lok is new value series that provides high performance, cost effectiveness, and quick delivery.

V-Lok tube fittings combine leading edge manufacturing technology and exceptional cost performance.



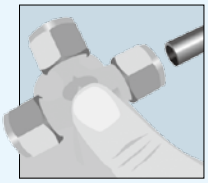
V-Lok Tube Fittings are composed of four parts:
1. Body **2**. Front Rings **3**. Back Rings **4**. Nut

V-Lok How Does it Works?

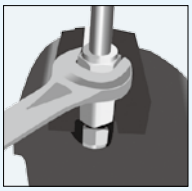
The V-Lok Tube Fittings is a mechanism used both to seal and to grip tubing. The mechanical advantage and geometry of this kind of fitting produces a leak-tight assembly.
To assemble, simply insert the tube into the complete assembly until the tube bottoms-out against the shoulder of the fitting body (**1**). The two Rings are driven forward between the nut (**4**) and fitting body using the mechanical force created by rotating the nut clockwise. The back Rings (**3**) is driven against the tapered rear of the front Rings (**2**) and the front Rings is driven by force into the tapered mouth of the body.
The back Rings is swaged radially inwards on the tube while lifting the front Rings out to form a full-faced seal on the tapered surface of the body. The $1\frac{1}{4}$ turn of the nut from the hand tight position assures consistent drive of the sealing parts. This ensures an effective seal against high pressure as well as ultra high vacuum conditions.

V-Lok Installation Instructions

V-Lok fittings are supplied assembled and hand tight. Disassembly before use can allow the entry of dirt or other particles.



Insert the tubing completely into the V-Lok tube fittings.
Check that the tube point contacts with the fitting body shoulder and that the nut is hand tight until it cannot be tightened further. At this point it is recommended that a scribe mark be drawn on the hex of the nut extending onto the fitting body. This mark will serve as an indicator for the starting point and proper pull-up.



Tighten the nut.
11/4 turn of the nut are required for 1/4" (6 mm) and larger fittings (see Fig. A). 3/4 turn of the nut is required for 3/16" (4 mm) and smaller fittings (see Fig. B). Plugs (part number: VUWJP) and port connectors (part number: VUW–PC): First tighten the nuts manually, and then use a wrench to tighten them a further 1/4 turn only for sizes of 6 mm or more, 1/8 turn only for sizes of 3/16 in. or less. Assembly is then complete.

Figure A

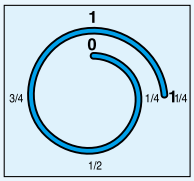
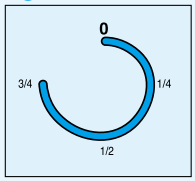


Figure B



Reassembly Instructions

V-Lok tube fittings may be disconnected and reconnected repeatedly, without loss of the leak-tight seal.

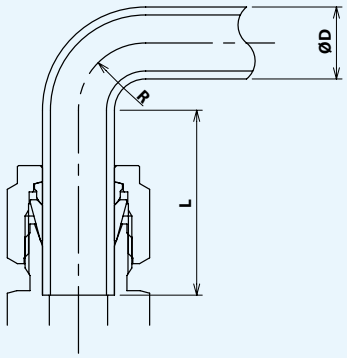
1. Before reassembling the parts, ensure that there is no foreign matter on the sealing diagonal face of the fitting body and the front Rings.
2. Insert the front Rings until it reaches the body, and then manually tighten the nut enough.
3. With a wrench, tighten the nut approximately 1/4 turn. Assembly is then complete.
4. Plugs (part number: VUWJP) and port connectors (part number: VUW–PC): First tighten the nuts manually, and then use a wrench to tighten them a further 1/4 turn only for sizes of 6 mm or more, 1/8 turn only for sizes of 3/16 in. or less. Assembly is then complete.

Note:

1. After reassembly, the fitting body and nut should return to their original position, or be tightened slightly further.
2. For fittings with nominal diameters between 1.6mm (1/16"OD) and 4.8mm, tighten the nut 1/6 turn.
3. For fittings with nominal diameters of 15.88mm (5/8"OD) or larger, it may occasionally be necessary to tighten the nut 1/4 turn or more.
4. Don't use the gap inspection gauge for reassembly.

Before Installation

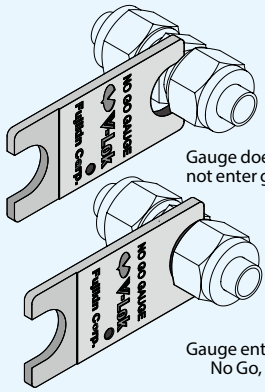
1. Use an austenitic stainless steel tube with a seamless bright anneal finish, a hardness of Hv200 or less, and a tolerance within ±0.1mm of the tube O.D..
2. Please refer to "Tubing Data" on page 12 for recommended tube wall thickness.
3. There should be no visible scratches 30mm from either end of the tube. Remove any foreign matter.
4. Scratches on the tube may cause leaks. It is therefore important to handle the tube carefully to reduce the risk of leak. Please do not drag tube when taking out of the shelf and drag on the floor to avoid scratching on the tube.
5. Before assembling the fittings, cut the tubes to the required length.
6. Use a tube cutter to cut the tube. To attain a leak-free connection, the tubing must be cut squarely. A high-quality tube cutter with an appropriate blade for the tubing material is recommended.
   If it is necessary to use a different method, for example hacksaw cut ting, be sure to cut the tube at a right angle, and then remove burrs carefully from the outer circumstance by filling at a 45°angle to the center line.
7. Tube cutter blades should be replaced regularly to maintain sharpness.
8. Before tightening the fitting, ensure that the tube and the fitting are properly aligned.
9. Before tightening the fitting, ensure that its body has been secured using a wrench. Never hold the nut in place while attempting to tighten the body.
10. Carry out tube bending with a tube bender of the required size.
    Refer to the following figure and the bending size shown in the right table.



Post-assembly: Inspection with a "No-Go"gauge (New Fittings Only)

1. Position the "No-Go" gauge next to the gap between the nut and body.
2. If the gauge cannot fit into the gap, the fitting is sufficiently tightened.
3. If the gauge can enter the gap, additional tightening is required.

Note: Do not use the "No-Go"gauge on retightened or pre-tightened fittings.



Gauge does not enter gap: Go!

Gauge enters gap: No Go, tighten further.

Ordering Information for the V-Lok "No-Go" gauge

Part No.	Fitting Size
G-VUW - 9.52-6.35	1/4", 6mm, 3/8", 8mm
G-VUW - 12.7-10	10mm, 1/2", 12mm

Tube bending size table Unit: mm

Nominal Dia. (Tube O.D.)		Length of straight tube part		Bend Radius (Min.)
D		L		R
mm	Inch	L1	L2	
—	1/16	17	11	—
2.3	1/8	25	15	9.5
4	3/16	26	16	11.1
6	1/4	28	17	14.3
8	5/16	30	18	17.5
10	3/8	33	19.5	23.8
12	1/2	41	26	38.1
14, 15, 16	5/8	42	27	57.1
18, 20, 22	3/4, 7/8	44	27	76.2
25	1	52	33	88.9

L1: Length recommended by Fujikin.
L2: Length in the case where the minimum dimension is required.

Attention!

A small amount of grease has been applied to the wetted area of this product.
Please kindly contact Fujikin, if you require high cleaning level.
We can recommend you F900 Tube Fittings(FINELOK•PURE), UJR Fittings, UPG® Fittings, etc. as an appropriate alternative product.
We've surely checked the safety for this product in the condition of pressurized with Oxygen at 400℃.
However, Improper handling with Oxygen gas system may result in a system failure or a serious fire accident.
When using Oxygen gas with this product, you are kindly requested to take a proper handling for safety purpose on your own authority and responsibility.

Physical Differences and Marking

V-Lok Metric Fittings:

Tee & Elbow (see Fig. 1)
Body marked: MM
Straight Connectors: (see Fig. 2)
Body: Stepped shoulder
marked: F-CARP 316 AV(1)
Nut: (see Figs.1 & 2) Stepped shoulder
marked: V-LOK 316 6M(2) SD8(1)

Fig. 1 Back side

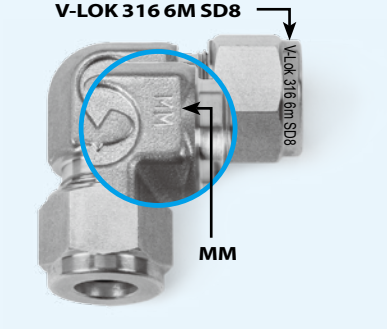


Fig. 1 Front side

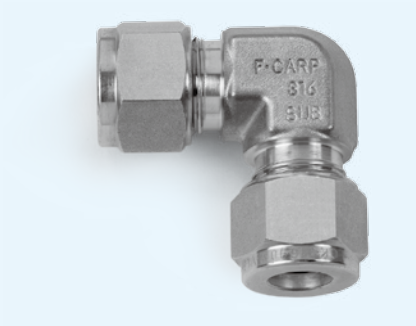
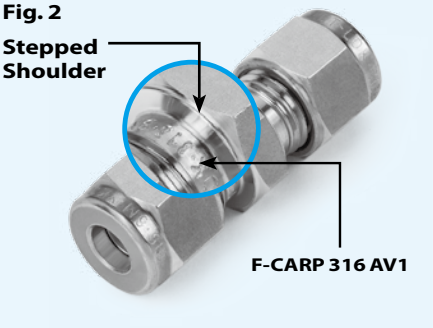


Fig. 2



V-Lok INCH FITTINGS:

Tee & Elbow: (See Fig. 3)
Straight Fittings: (see Fig. 4)
Body: Shoulder marked:
F-CARP 316 AV2(1)
Nut: (See Fig. 3 & 4): Shoulder
marked V-LOK 316 1/2(2) BU2(1)
(1): Material Batch
(2): Tube O.D.

Fig. 3 Back side

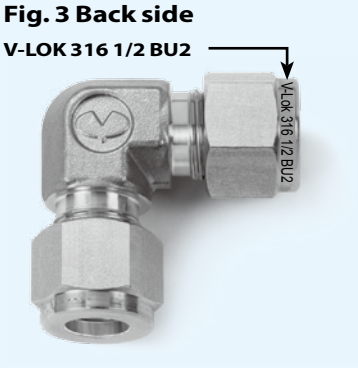


Fig. 3 Front side

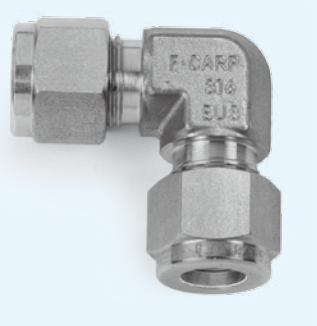
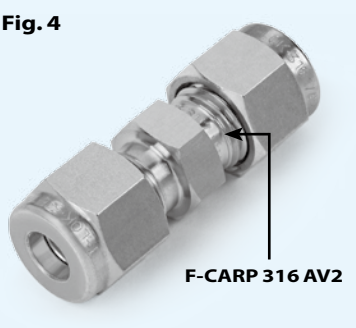


Fig. 4



V-Lok Tubing Data

Table 1-1 Maximum Allowable Working Pressure Of Stainless Steel Each Tube Wall Thickness (Inch Size)

Tube Wall Thickness	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
Nom. Dia. (Inch)	Maximum Allowable Working Pressure (psig)												
1/16	5590	6860	8130	9450	12060								
1/8						8540	10950						
3/16						5490	7090	10290					
1/4						4090	5190	7590	10290				
5/16							4090	5880	8090				
3/8							3350	4840	6540				
1/2							2630	3740	5140	6740			
5/8								2940	4040	5250	6040		
3/4								2430	3350	4240	4940	5840	
7/8								2040	2840	3640	4240	4840	
1									2390	3080	3590	4190	4690

(UNIT : psig)

Table 1-2 Maximum Allowable Working Pressure Of Stainless Steel Each Tube Wall Thickness (mm Size)

Tube Wall Thickness	0.028	0.031	0.039	0.047	0.059	0.071	0.079	0.087	0.098	0.11	0.118
Nom. Dia. (mm)	Maximum Allowable Working Pressure (psig)										
2	7540	10870									
3		9710									
4		6960	9570								
6		4490	6090	7830	10290						
8			4490	5650	7540	8090					
10			3480	4350	5800	7390					
12			2900	3620	4780	5940	6810				
14			2320	2900	3910	4930	5510	6230			
15			2170	2750	3620	4490	5220	5800			
16				2460	3330	4200	4780	5360	5800		
18				2170	2900	3770	4200	4640	5360		
20				2030	2610	3330	3770	4200	4780	5510	
22				1740	2320	2900	3330	3770	4350	4930	
25						2610	2900	3330	3770	4200	4640

Table 2: Factors Used To Determine Allowable Working Pressure At Higher Temperature

°F	°C	A.I.S.I. 316
200	93	1
400	204	0.96
600	316	0.85
800	427	0.79
1000	538	0.76

To determine allowable pressure at higher temperatures, multiply allowable working pressure from Tables 1 by factors shown in Table 2. For example: The allowable pressure for Type 316 stainless steel, size 1/2" O.D. x 0.049" wall at 800°F(427°C) would be equivalent to 3750 psi x 0.79 = 2962.5 psi. Regarding Min. Nominal Wall Thickness, please refer to Table 3.

Table 3: Gas Application Tubing

in		mm	
Tube O.D.	Min. Nominal Wall Thickness	Tube O.D.	Min. Nominal Wall Thickness
1/8" (3.17mm)	0.028" (0.7mm)	3 mm	0.8 mm
3/16" (4.76mm)	0.028" (0.7mm)	6 mm	0.8 mm
1/4" (6.35mm)	0.028" (0.7mm)	8 mm	1 mm
5/16" (7.93mm)	0.035" (0.89mm)	10 mm	1 mm
3/8" (9.52mm)	0.035" (0.89mm)	12 mm	1 mm
1/2" (12.7mm)	0.049" (1.24mm)	14 mm	1.2 mm
5/8" (15.87mm)	0.065" (1.65mm)	16 mm	1.5 mm
3/4" (19.05mm)	0.065" (1.65mm)	18 mm	1.5 mm
7/8" (22.22mm)	0.083" (2.1mm)	20 mm	1.8 mm
1" (25.4mm)	0.083" (2.1mm)	22 mm	2 mm
		25 mm	2.2 mm

For gas applications, we recommend tubing with a greater wall thickness. Table 3 shows the recommended min.wall thicknesses for greater safety and efficiency.

Attention!

1. The value of Table 1 is a maximum allowable working pressure calculated from the tube thickness. The maximum allowable working pressure of the fitting is limited from the value of this table according to the application regulations, and use it, please after considering the application regulations and the standard of used equipment.
2. There is a possibility that the seal decreases remarkably, and consult separately, please when it is used for a long time exceeding 400°C.

Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

V-Lok Part Number Designation

All orders should include material description and ordering information (See product table).

V	U	W	H	—	6.35	B	—	T/C
Product Series	Material	Type of Tube Fittings	Connector Type		Nominal Diameter	Thread Size		Thermoelement Type
V-Lok	Stainless Steel	Double Rings Compression and Bite Type	Male Connector		Outer Diameter of Tube	R1/4		

※This series will be replaced by " New V-lok " in the future.

New V-Lok Part Number Designation (" New V-lok " will have " -V " at the end of the part number.)

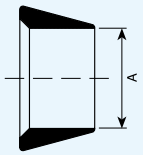
V	U	W	H	—	6.35	B	—	T/C	—	V

V-Lok Index

V.-Lok Index

Front Rings

S

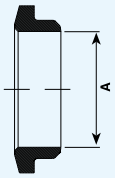


Metric		Inch		
Part Numbers	A Tube O.D. mm	Part Numbers	A Tube O.D. in	A Tube O.D. mm
VUW-2S	2	VUW-1.6S	1/16	1.6
VUW-3S	3	VUW-3.2S	1/8	3.2
VUW-4S	4	VUW-4.8S	3/16	4.8
VUW-6S	6	VUW-6.35S	1/4	6.35
VUW-8S	8	VUW-7.93S	5/16	7.93
VUW-10S	10	VUW-9.52S	3/8	9.52
VUW-12S	12	VUW-12.7S	1/2	12.7
VUW-14S	14	VUW-15.88S	5/8	15.88
VUW-15S	15	VUW-19.05S	3/4	19.05
VUW-16S	16	VUW-22.22S	7/8	22.22
VUW-18S	18	VUW-25.4S	1	25.4
VUW-20S	20			
VUW-22S	22			
VUW-25S	25			

Rings Sets
All VCR-Lok Rings are available as sets.

Back Rings

R

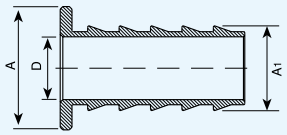


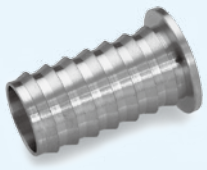
Metric		Inch		
Part Numbers	A Tube O.D. mm	Part Numbers	A Tube O.D. in	A Tube O.D. mm
VUW-2R	2	VUW-1.6R	1/16	1.6
VUW-3R	3	VUW-3.2R	1/8	3.2
VUW-4R	4	VUW-4.8R	3/16	4.8
VUW-6R	6	VUW-6.35R	1/4	6.35
VUW-8R	8	VUW-7.93R	5/16	7.93
VUW-10R	10	VUW-9.52R	3/8	9.52
VUW-12R	12	VUW-12.7R	1/2	12.7
VUW-14R	14	VUW-15.88R	5/8	15.88
VUW-15R	15	VUW-19.05R	3/4	19.05
VUW-16R	16	VUW-22.22R	7/8	22.22
VUW-18R	18	VUW-25.4R	1	25.4
VUW-20R	20			
VUW-22R	22			
VUW-25R	25			

Rings Sets
All VCR-Lok Rings are available as sets.

Tube Inserts

IN





Metric

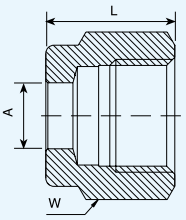
Part Numbers	A Tube O.D.	A1 Tube I.D.	D
	mm	mm	mm
VUW-IN-6X4	6	4	2.8
VUW-IN-8X6	8	6	4.4
VUW-IN-10X8	10	8	6.4
VUW-IN-12X8-19	12	8	6.4
VUW-IN-12X10	12	10	8.3

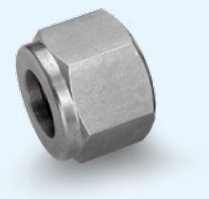
Inch

Part Numbers	A Tube O.D.		A1 Tube I.D.		D	
	in	mm	in	mm	in	mm
VUW-IN-4.8X3.2	3/16	4.8	1/8	3.2	0.09	2.3
VUW-IN-6.35X3.2	1/4	6.35	1/8	3.2	0.09	2.3
VUW-IN-6.35X4.3	1/4	6.35	0.17	4.3	0.11	2.7
VUW-IN-6.35X4.8	1/4	6.35	3/16	4.8	0.12	3.1
VUW-IN-7.93X3.2	5/16	7.93	1/8	3.2	0.09	2.3
VUW-IN-7.93X4.8	5/16	7.93	3/16	4.8	0.12	3
VUW-IN-7.93X6.35	5/16	7.93	1/4	6.35	0.18	4.6
VUW-IN-9.52X4.8	3/8	9.52	3/16	4.8	0.12	3.1
VUW-IN-9.52X6.35	3/8	9.52	1/4	6.35	0.18	4.6
VUW-IN-12.7X6.35	1/2	12.7	1/4	6.35	0.18	4.6
VUW-IN-12.7X9.52	1/2	12.7	3/8	9.52	0.31	7.8
VUW-IN-15.88X9.52	5/8	15.88	3/8	9.52	0.31	7.8
VUW-IN-15.88X12.7	5/8	15.88	1/2	12.7	0.44	11.1
VUW-IN-19.05X12.7	3/4	19.05	1/2	12.7	0.44	11.1
VUW-IN-19.05X15.88	3/4	19.05	5/8	15.88	0.56	14.2
VUW-IN-25.4X19.05	1	25.4	3/4	19.05	0.69	17.5

Nuts

N





Metric

Part Numbers	A Tube O.D.	W	L
	mm	mm	mm
VUW-2N	2	12	11.9
VUW-3N	3	12	11.9
VUW-4N	4	12	12
VUW-6N	6	14	12.7
VUW-8N	8	16	13.5
VUW-10N	10	19	15.1
VUW-12N	12	22	17.4
VUW-14N	14	25	17.4
VUW-15N	15	25	17.4
VUW-16N	16	25	17.4
VUW-18N	18	30	17.4
VUW-20N	20	32	17.4
VUW-22N	22	32	17.4
VUW-25N	25	38	20.6

Inch

Part Numbers	A Tube O.D.		W		L	
	in	mm	in	mm	in	mm
VUW-1.6N	1/16	1.6	5/16	7.9	0.31	8
VUW-3.2N	1/8	3.2	7/16	11.1	0.47	11.9
VUW-4.8N	3/16	4.8	1/2	12.7	0.47	11.9
VUW-6.35N	1/4	6.35	9/16	14.3	0.5	12.7
VUW-7.93N	5/16	7.93	5/8	15.9	0.53	13.5
VUW-9.52N	3/8	9.52	11/16	17.5	0.56	14.3
VUW-12.7N	1/2	12.7	7/8	22.2	0.69	17.5
VUW-15.88N	5/8	15.88	1	25.4	0.69	17.5
VUW-19.05N	3/4	19.05	1 1/8	28.6	0.69	17.5
VUW-22.22N	7/8	22.22	1 1/4	31.8	0.69	17.5
VUW-25.4N	1	25.4	1 1/2	38.1	0.81	20.6

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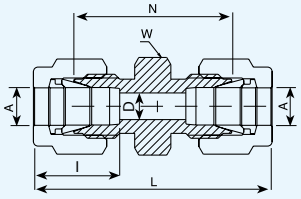
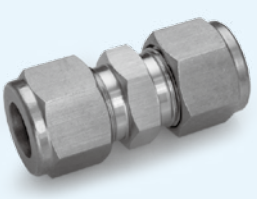
Unions

F





Tube (Metric) To Tube (Metric)

Part Numbers	A Tube O.D.	D	W	N	L	I
	mm	mm	mm	mm	mm	mm
VUWF-2	2	1.7	12	22.4	35.6	12.9
VUWF-3	3	2.4	12	22.1	35.3	12.9
VUWF-4	4	2.4	12	24.1	37.3	13.7
VUWF-6	6	4.8	14	26.2	41	15.3
VUWF-8	8	6.4	15	28.2	43.2	16.2
VUWF-10	10	7.9	18	31	46.2	17.2
VUWF-12	12	9.5	22	31	51.2	22.8
VUWF-14	14	11	24	31.8	52	22.8
VUWF-15	15	12	24	31.8	52	24.4
VUWF-16	16	12.7	24	31.8	52	24.4
VUWF-18	18	15.1	27	33.3	53.5	24.4
VUWF-20	20	15.9	30	34.8	55	26
VUWF-22	22	18.3	30	34.8	55	26
VUWF-25	25	21.8	35	40.4	65	31.3

Tube (Inch) To Tube (Inch)

Part Numbers	A Tube O.D.		D		W		N		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWF-1.6	1/16	1.6	0.05	1.3	5/16	7.9	0.69	17.5	0.99	25.2	0.34	8.6
VUWF-3.2	1/8	3.2	0.09	2.3	7/16	11.1	0.88	22.4	1.4	35.6	0.5	12.7
VUWF-4.8	3/16	4.8	0.12	3.1	7/16	11.1	0.95	24.1	1.47	37.3	0.54	13.7
VUWF-6.35	1/4	6.35	0.19	4.8	1/2	12.7	1.03	26.2	1.61	40.9	0.6	15.2
VUWF-7.93	5/16	7.93	0.25	6.4	9/16	14.3	1.11	28.2	1.69	42.9	0.64	16.3
VUWF-9.52	3/8	9.52	0.28	7.1	5/8	15.9	1.19	30.2	1.77	45	0.66	16.8
VUWF-12.7	1/2	12.7	0.41	10.4	13/16	20.6	1.22	31	2.02	51.3	0.9	22.9
VUWF-15.88	5/8	15.88	0.5	12.7	15/16	23.8	1.25	31.8	2.05	52.1	0.96	24.4
VUWF-19.05	3/4	19.05	0.62	15.8	1 1/16	27	1.31	33.3	2.11	53.6	0.96	24.4
VUWF-22.22	7/8	22.22	0.72	18.3	1 3/16	30.2	1.38	35.1	2.17	55.1	1.02	25.9
VUWF-25.4	1	25.4	0.88	22.3	1 3/8	34.9	1.59	40.4	2.55	64.8	1.23	31.2

Thermoelement Type can also be manufactured.
For ordering: use catalog number of the selected fitting and add the suffix T/C.

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Reducing Unions

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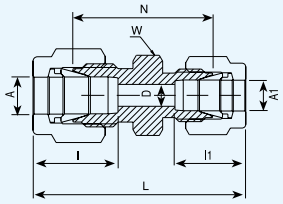

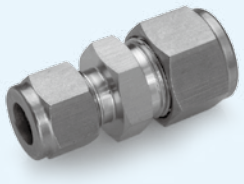

Tube (Metric) To Tube (Metric)

Part Numbers	A Tube O.D.	A1 Tube O.D.	D	W	N	L	I	I1
	mm	mm	mm	mm	mm	mm	mm	mm
VUWF-3X2	3	2	1.7	12	22.1	35.3	12.9	12.9
VUWF-6X2	6	2	1.7	14	24.6	38.6	15.3	12.9
VUWF-6X3	6	3	2.3	14	24.6	38.6	15.3	12.9
VUWF-6X4	6	4	2.3	14	25.4	39.4	15.3	13.7
VUWF-8X6	8	6	4.8	15	27.4	42.3	16.2	15.3
VUWF-10X6	10	6	4.8	18	29.5	44.5	17.2	15.3
VUWF-10X8	10	8	6.4	18	30	45.1	17.2	16.2
VUWF-12X6	12	6	4.8	22	29.5	47	22.8	15.3
VUWF-12X8	12	8	6.4	22	30.2	47.8	22.8	16.2
VUWF-12X10	12	10	7.9	22	31	48.7	22.8	17.2
VUWF-16X10	16	10	7.9	24	31.8	49.5	24.4	17.2
VUWF-16X12	16	12	9.5	24	31.8	52	24.4	22.8
VUWF-18X12	18	12	9.5	27	33.3	53.5	24.4	22.8
VUWF-25X18	25	18	15.1	35	38.6	61	31.3	24.4
VUWF-25X20	25	20	15.9	35	39.9	62.3	31.3	26

Tube (Metric) To Tube (Inch)

Part Numbers	A Tube O.D.	A1 Tube O.D.	D	W	N	L	I	I1
	mm	in	mm	mm	mm	mm	mm	mm
VUWF-6.35X2	2	1/4	1.7	14	24	38.6	12.9	15.2
VUWF-3.2X3	3	1/8	2.3	12	22.1	35.2	12.9	12.7
VUWF-4X3.2	4	1/8	2.4	12	23.4	36.5	13.7	12.7
VUWF-6.35X4	4	1/4	2.4	14	25.4	39.4	13.7	15.2
VUWF-6X3.2	6	1/8	2.4	14	24.6	38.5	15.3	12.7
VUWF-6.35X6	6	1/4	4.8	14	26.2	41	15.3	15.2
VUWF-7.93X6	6	5/16	4.8	14	27.4	42.3	15.3	16.2
VUWF-8X3.2	8	1/8	2.4	15	25.9	39.9	16.2	12.7
VUWF-8X6.35	8	1/4	4.8	15	27.4	42.3	16.2	15.2
VUWF-9.52X8	8	3/8	6.4	16	29.5	44.3	16.2	16.8
VUWF-10X3.2	10	1/8	2.4	18	27.7	41.8	17.2	12.7
VUWF-10X6.35	10	1/4	4.8	18	29.5	44.5	17.2	15.2
VUWF-10X7.93	10	5/16	6.4	18	30	45.1	17.2	16.2
VUWF-10X9.52	10	3/8	7.1	18	31	46	17.2	16.8
VUWF-12X7.93	12	5/16	6.4	22	30.2	47.8	22.8	16.2
VUWF-12X9.52	12	3/8	7.1	22	31	48.4	22.8	16.8
VUWF-12.7X12	12	1/2	9.5	22	31	51.2	22.8	22.9
VUWF-15X12.7	15	1/2	10.4	24	31.8	52.1	24.4	22.9
VUWF-16X15.88	16	5/8	12.7	24	31.8	52	24.4	24.4
VUWF-19.05X18	18	3/4	15.1	27	33.3	53.5	24.4	24.4

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Reducing Unions (continued)

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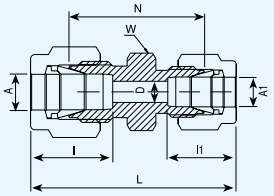

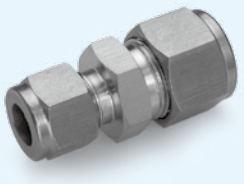

Tube (Inch) To Tube (Inch)

Part Numbers	A Tube O.D.		A1 Tube O.D.		D		W		N		L		I		I1	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWF-3.2X1.6	1/8	3.2	1/16	1.6	0.05	1.3	7/16	11.1	0.81	20.6	1.22	31	0.5	12.7	0.34	8.6
VUWF-4.8X1.6	3/16	4.8	1/16	1.6	0.05	1.3	7/16	11.1	0.86	21.8	1.27	32.3	0.54	13.7	0.34	8.6
VUWF-4.8X3.2	3/16	4.8	1/8	3.2	0.09	2.3	7/16	11.1	0.92	23.4	1.44	36.6	0.54	13.7	0.5	12.7
VUWF-6.35X1.6	1/4	6.35	1/16	1.6	0.05	1.3	1/2	12.7	0.91	23.1	1.35	34.3	0.6	15.2	0.34	8.6
VUWF-6.35X3.2	1/4	6.35	1/8	3.2	0.09	2.3	1/2	12.7	0.97	24.6	1.52	38.6	0.6	15.2	0.5	12.7
VUWF-6.35X4.8	1/4	6.35	3/16	4.8	0.12	3.1	1/2	12.7	1	25.4	1.55	39.4	0.6	15.2	0.54	13.7
VUWF-7.93X3.2	5/16	7.93	1/8	3.2	0.09	2.3	9/16	14.3	1.01	25.7	1.56	39.6	0.64	16.3	0.5	12.7
VUWF-7.93X6.35	5/16	7.93	1/4	6.35	0.19	4.8	9/16	14.3	1.08	27.4	1.66	42.2	0.64	16.3	0.6	15.2
VUWF-9.52X1.6	3/8	9.52	1/16	1.6	0.05	1.3	5/8	15.9	1	25.4	1.44	36.6	0.66	16.8	0.34	8.6
VUWF-9.52X3.2	3/8	9.52	1/8	3.2	0.09	2.3	5/8	15.9	1.06	26.9	1.61	40.9	0.66	16.8	0.5	12.7
VUWF-9.52X6.35	3/8	9.52	1/4	6.35	0.19	4.8	5/8	15.9	1.12	28.5	1.7	43.2	0.66	16.8	0.6	15.2
VUWF-9.52X7.93	3/8	9.52	5/16	7.93	0.25	6.35	5/8	15.9	1.16	29.5	1.74	44.2	0.66	16.8	0.64	16.3
VUWF-12.7X3.2	1/2	12.7	1/8	3.2	0.09	2.3	13/16	20.6	1.12	28.4	1.78	45.2	0.9	22.9	0.5	12.7
VUWF-12.7X6.35	1/2	12.7	1/4	6.35	0.19	4.8	13/16	20.6	1.16	29.5	1.85	47	0.9	22.9	0.6	15.2
VUWF-12.7X9.52	1/2	12.7	3/8	9.52	0.28	7.1	13/16	20.6	1.22	31	1.91	48.5	0.9	22.9	0.66	16.8
VUWF-15.88X9.52	5/8	15.88	3/8	9.52	0.28	7.1	15/16	23.8	1.25	31.8	1.94	49.3	0.96	24.4	0.66	16.8
VUWF-15.88X12.7	5/8	15.88	1/2	12.7	0.41	10.4	15/16	23.8	1.25	31.8	2.05	52.1	0.96	24.4	0.9	22.9
VUWF-19.05X6.35	3/4	19.05	1/4	6.35	0.19	4.8	1 1/16	27	1.25	31.8	1.94	49.3	0.96	24.4	0.6	15.2
VUWF-19.05X9.52	3/4	19.05	3/8	9.52	0.28	7.1	1 1/16	27	1.31	33.3	2	50.8	0.96	24.4	0.66	16.8
VUWF-19.05X12.7	3/4	19.05	1/2	12.7	0.41	10.4	1 1/16	27	1.31	33.3	2.11	53.6	0.96	24.4	0.9	22.9
VUWF-19.05X15.88	3/4	19.05	5/8	15.88	0.5	12.7	1 1/16	27	1.31	33.3	2.11	53.6	0.96	24.4	0.96	24.4
VUWF-25.4X12.7	1	25.4	1/2	12.7	0.41	10.4	1 3/8	34.9	1.5	38.1	2.38	60.5	1.23	31.2	0.9	22.9
VUWF-25.4X19.05	1	25.4	3/4	19.05	0.62	15.8	1 3/8	34.9	1.5	38.1	2.38	60.5	1.23	31.2	0.96	24.4

Thermoelement Type can also be manufactured.

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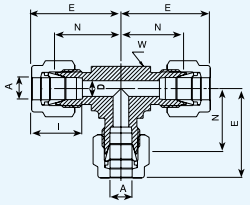
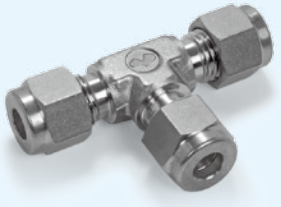
Union Tees

T





Tube (Metric) To Tube (Metric)

Part Numbers	A Tube O.D.	D	W		N	E	I
	mm	mm	in	mm	mm	mm	mm
VUWT-2	2	1.7	3/8	9.5	15.7	22.3	12.9
VUWT-3	3	2.4	3/8	9.5	15.7	22.3	12.9
VUWT-4	4	2.4	1/2	12.7	18.8	25.4	13.7
VUWT-6	6	4.8	1/2	12.7	19.6	27	15.3
VUWT-8	8	6.4	5/8	15.9	22.4	29.9	16.2
VUWT-10	10	7.9	11/16	17.5	23.9	31.5	17.2
VUWT-12	12	9.5	13/16	20.6	25.9	36	22.8
VUWT-14	14	11	15/16	23.8	28.7	38.8	24.4
VUWT-15	15	12	15/16	23.8	28.7	38.8	24.4
VUWT-16	16	12.7	15/16	23.8	28.7	38.8	24.4
VUWT-18	18	15.1	1 1/16	27	29.7	39.8	24.4
VUWT-20	20	15.9	1 3/8	34.9	34.5	44.6	26
VUWT-22	22	18.3	1 3/8	34.9	34.5	44.6	26
VUWT-25	25	21.8	1 3/8	34.9	36.8	49.1	31.3

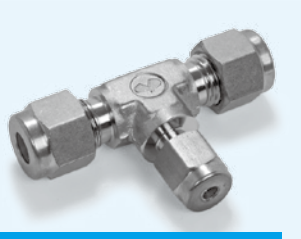
Tube (Inch) To Tube (Inch)

Part Numbers	A Tube O.D.		D		W		N		E		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWT-1.6	1/16	1.6	0.05	1.3	3/8	9.5	0.55	14	0.7	17.8	0.34	8.6
VUWT-3.2	1/8	3.2	0.09	2.3	3/8	9.5	0.62	15.8	0.88	22.4	0.5	12.7
VUWT-4.8	3/16	4.8	0.12	3	1/2	12.7	0.7	17.8	0.96	24.4	0.54	13.7
VUWT-6.35	1/4	6.35	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.6	15.2
VUWT-7.93	5/16	7.93	0.25	6.4	5/8	15.9	0.88	22.4	1.17	29.7	0.64	16.3
VUWT-9.52	3/8	9.52	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	0.66	16.8
VUWT-12.7	1/2	12.7	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	0.9	22.9
VUWT-15.88	5/8	15.88	0.5	12.7	15/16	23.8	1.13	28.7	1.53	38.9	0.96	24.4
VUWT-19.05	3/4	19.05	0.62	15.8	1 1/16	27	1.17	29.7	1.57	39.9	0.96	24.4
VUWT-22.22	7/8	22.22	0.72	18.3	1 3/8	34.9	1.36	34.54	1.76	44.7	1.02	25.9
VUWT-25.4	1	25.4	0.88	22.3	1 3/8	34.9	1.45	36.8	1.93	49	1.23	31.2

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Reducing Union Tees

T



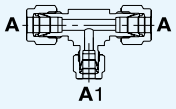
Tube (Inch) To Tube (Inch)

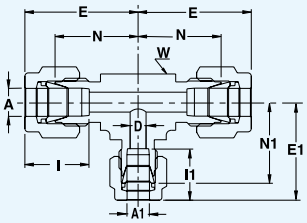
Part Numbers	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		W		N		N1	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWT-9.52X9.52X6.35	3/8	9.52	1/4	6.35	1.2	30.5	1.14	29	0.66	16.8	0.6	15.2	0.19	4.8	5/8	15.9	0.91	23.1	0.85	21.6
VUWT-12.7X12.7X6.35	1/2	12.7	1/4	6.35	1.42	36.1	1.25	31.8	0.9	22.9	0.6	15.2	0.19	4.8	13/16	20.6	1.02	25.9	0.96	24.4
VUWT-12.7X12.7X9.52	1/2	12.7	3/8	9.52	1.42	36.1	1.31	33.3	0.9	22.9	0.66	16.8	0.28	7.1	13/16	20.6	1.02	25.9	1.02	25.9
VUWT-15.88X15.88X9.52	5/8	15.88	3/8	9.52	1.53	38.9	1.42	36.1	0.96	24.4	0.66	16.8	0.28	7.1	15/16	23.8	1.13	28.7	1.13	28.7
VUWT-19.05X19.05X9.52	3/4	19.05	3/8	9.52	1.57	39.9	1.46	37.1	0.96	24.4	0.66	16.8	0.28	7.1	1 1/16	27	1.17	29.7	1.17	29.7
VUWT-19.05X19.05X12.7	3/4	19.05	1/2	12.7	1.57	39.9	1.57	39.9	0.96	24.4	0.9	22.9	0.41	10.4	1 1/16	27	1.17	29.7	1.17	29.7
VUWT-25.4X25.4X9.52	1	25.4	3/8	9.52	1.93	49	1.65	41.9	1.23	31.2	0.66	16.8	0.28	7.1	1 3/8	34.9	1.45	36.8	1.36	34.5
VUWT-25.4X25.4X12.7	1	25.4	1/2	12.7	1.93	49	1.76	44.7	1.23	31.2	0.9	22.9	0.41	10.4	1 3/8	34.9	1.45	36.8	1.36	34.5
VUWT-25.4X25.4X19.05	1	25.4	3/4	19.05	1.93	49	1.76	44.7	1.23	31.2	0.96	24.4	0.62	15.8	1 3/8	34.9	1.45	36.8	1.36	34.5

How To Order

A	A	A1

VUWT - 9.52 x 9.52 x 6.35





Reducing Union Tees

T

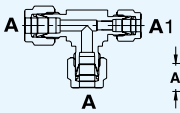
Tube (Inch) To Tube (Inch)

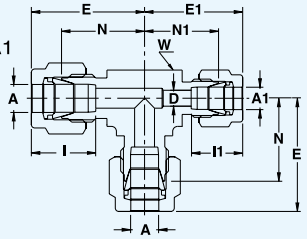
Part Number	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		W		N		N1	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWT-9.52X6.35X9.52	3/8	9.52	1/4	6.35	1.2	30.5	1.14	29	0.66	16.8	0.6	15.2	0.19	4.8	5/8	15.9	0.91	23.1	0.85	21.6

How To Order

A	A1	A

VUWT - 9.52 x 6.35 x 9.52





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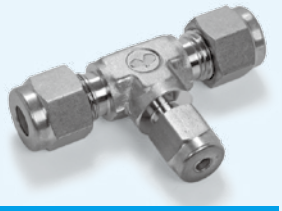
Reducing Union Tees (continued)

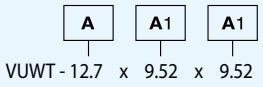
T

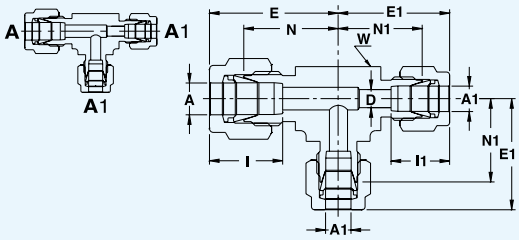


Tube (Inch) To Tube (Inch)

Part Numbers	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		W		N		N1	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWT-12.7X9.52X9.52	1/2	12.7	3/8	9.52	1.42	36.1	1.31	33.3	0.9	22.9	0.66	16.8	0.28	7.1	13/16	20.6	1.02	25.9	1.02	25.9
VUWT-15.88X9.52X9.52	5/8	15.88	3/8	9.52	1.53	38.9	1.42	36.1	0.96	24.4	0.66	16.8	0.28	7.1	15/16	23.8	1.13	28.7	1.13	28.7
VUWT-19.05X9.52X9.52	3/4	19.05	3/8	9.52	1.57	39.9	1.46	37.1	0.96	24.4	0.66	16.8	0.28	7.1	1 1/8	28.6	1.17	29.7	1.17	29.7

How To Order





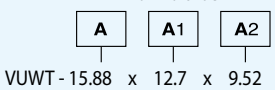
Reducing Union Tees (continued)

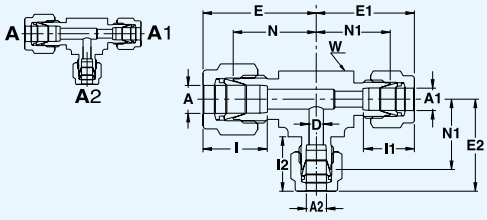
T

Tube (Inch) To Tube (Inch)

Part Numbers	A Tube O.D.		A1 Tube O.D.		A2 Tube O.D.		E		E1		E2		I		I1		I2		D		W		N		N1	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWT-15.88X12.7X9.52	5/8	15.88	1/2	12.7	3/8	9.52	1.53	38.9	1.53	38.9	1.42	36.1	0.96	24.4	0.9	22.9	0.66	16.8	0.28	7.1	15/16	23.8	1.13	28.7	1.13	28.7
VUWT-19.05X12.7X9.52	3/4	19.05	1/2	12.7	3/8	9.52	1.57	39.9	1.57	39.9	1.46	37.1	0.96	24.4	0.9	22.9	0.66	16.8	0.28	7.1	1 1/8	28.6	1.17	29.7	1.17	29.7
VUWT-25.4X19.05X9.52	1	25.4	3/4	19.05	3/8	9.52	1.93	49	1.76	44.7	1.65	41.9	1.23	31.2	0.96	24.4	0.66	16.8	0.28	7.1	1 3/8	34.9	1.45	36.8	1.36	34.5

How To Order





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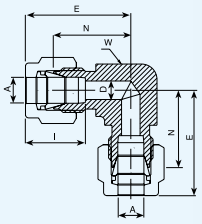
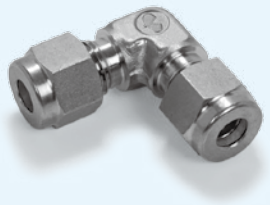
Union Elbows

L





Tube (Metric) To Tube (Metric)

Part Numbers	A Tube O.D.	D	W		N	E	I
	mm	mm	in	mm	mm	mm	mm
VUWL-3	3	2.4	3/8	9.5	15.7	22.3	12.9
VUWL-4	4	2.4	1/2	12.7	18.8	25.4	13.7
VUWL-6	6	4.8	1/2	12.7	19.6	27	15.3
VUWL-8	8	6.4	9/16	14.3	21.3	28.8	16.2
VUWL-10	10	7.9	11/16	17.5	23.9	31.5	17.2
VUWL-12	12	9.5	13/16	20.6	25.9	36	22.8
VUWL-14	14	11	15/16	23.8	27.9	38	24.4
VUWL-15	15	12	15/16	23.8	27.9	38	24.4
VUWL-16	16	12.7	15/16	23.8	27.9	38	24.4
VUWL-18	18	15.1	1 1/16	27	29.7	39.8	24.4
VUWL-20	20	15.9	1 3/8	34.9	34.5	44.6	26
VUWL-22	22	18.3	1 3/8	34.9	34.5	44.6	26
VUWL-25	25	21.8	1 3/8	34.9	36.8	49.1	31.3

Tube (Inch) To Tube (Inch)

Part Numbers	A Tube O.D.		D		W		N		E		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWL-1.6	1/16	1.6	0.05	1.3	3/8	9.5	0.55	14	0.7	17.8	0.34	8.6
VUWL-3.2	1/8	3.2	0.09	2.3	3/8	9.5	0.62	15.7	0.88	22.4	0.5	12.7
VUWL-4.8	3/16	4.8	0.12	3	1/2	12.7	0.74	18.8	1	25.4	0.54	13.7
VUWL-6.35	1/4	6.35	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.6	15.2
VUWL-7.93	5/16	7.93	0.25	6.4	9/16	14.3	0.84	21.3	1.13	28.7	0.64	16.3
VUWL-9.52	3/8	9.52	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	0.66	16.8
VUWL-12.7	1/2	12.7	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	0.9	22.9
VUWL-15.88	5/8	15.88	0.5	12.7	15/16	23.8	1.1	27.9	1.5	38.1	0.96	24.4
VUWL-19.05	3/4	19.05	0.62	15.8	1 1/16	27	1.17	29.7	1.57	39.9	0.96	24.4
VUWL-22.22	7/8	22.22	0.72	18.3	1 3/8	34.9	1.36	34.5	1.76	44.7	1.02	25.9
VUWL-25.4	1	25.4	0.88	22.3	1 3/8	34.9	1.45	36.8	1.93	49	1.23	31.2

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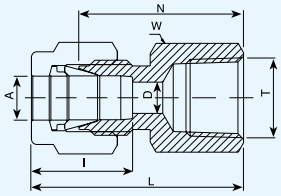
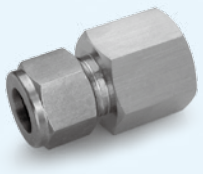
Female Connectors (NPT)

G





Tube (Metric) To Female NPT Thread

Part Numbers	A Tube O.D.	T	D	W	N	L	I
	mm		mm	mm	mm	mm	mm
VUWG-3AN	3	1/8NPT	2.4	14	22.1	28.7	12.7
VUWG-3BN	3	1/4NPT	2.4	19	26.9	33.5	12.7
VUWG-4AN	4	1/8NPT	2.4	14	23.1	29.7	13.7
VUWG-6AN	6	1/8NPT	4.8	14	23.9	31.3	15.3
VUWG-6BN	6	1/4NPT	4.8	19	28.4	35.8	15.3
VUWG-6CN	6	3/8NPT	4.8	22	30.2	37.6	15.3
VUWG-6DN	6	1/2NPT	4.8	27	35.1	42.5	15.3
VUWG-8AN	8	1/8NPT	6.4	15	24.6	32.1	16.2
VUWG-8BN	8	1/4NPT	6.4	19	29.5	37	16.2
VUWG-8CN	8	3/8NPT	6.4	22	31	38.5	16.2
VUWG-8DN	8	1/2NPT	6.4	27	35.8	43.3	16.2
VUWG-10BN	10	1/4NPT	7.9	19	30.2	37.8	17.2
VUWG-10CN	10	3/8NPT	7.9	22	31.8	39.4	17.2
VUWG-10DN	10	1/2NPT	7.9	27	36.6	44.2	17.2
VUWG-12BN	12	1/4NPT	9.5	22	30.2	40.3	22.8
VUWG-12CN	12	3/8NPT	9.5	22	31.8	41.9	22.8
VUWG-12DN	12	1/2NPT	9.5	27	36.6	46.7	22.8
VUWG-15DN	15	1/2NPT	11.9	27	36.6	46.7	24.4
VUWG-16DN	16	1/2NPT	12.7	27	36.8	46.9	24.4
VUWG-18EN	18	3/4NPT	15.1	35	39.6	49.7	24.4
VUWG-20DN	20	1/2NPT	15.9	30	37.8	47.9	26
VUWG-20EN	20	3/4NPT	15.9	35	39.6	49.7	26
VUWG-22EN	22	3/4NPT	18.3	35	39.6	49.7	26
VUWG-22FN	22	1NPT	18.3	41	47.8	57.9	26
VUWG-25EN	25	3/4NPT	21.8	35	41.1	53.4	31.3
VUWG-25FN	25	1NPT	21.8	41	50	62.3	31.3

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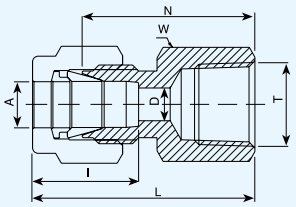
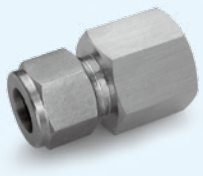
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Connectors (NPT) (continued)

G





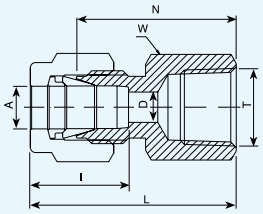
Tube (Inch) To Female NPT Thread

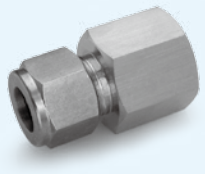
Part Numbers	A Tube O.D.		T	D		W		N		L		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm
VUWG-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	9/16	14.3	0.87	22.1	1.13	28.7	0.5	12.7
VUWG-3.2BN	1/8	3.2	1/4NPT	0.09	2.3	3/4	19.1	1.06	26.9	1.32	33.5	0.5	12.7
VUWG-4.8AN	3/16	4.8	1/8NPT	0.12	3.04	9/16	14.3	0.91	23.11	1.17	29.7	0.54	13.7
VUWG-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	9/16	14.3	0.94	23.9	1.23	31.2	0.6	15.2
VUWG-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	3/4	19.1	1.12	28.5	1.41	35.8	0.6	15.2
VUWG-6.35CN	1/4	6.35	3/8NPT	0.19	4.8	7/8	22.2	1.19	30.2	1.48	37.6	0.6	15.2
VUWG-6.35DN	1/4	6.35	1/2NPT	0.19	4.8	1 1/16	27	1.38	35	1.67	42.4	0.6	15.2
VUWG-7.93AN	5/16	7.93	1/8NPT	0.25	6.35	9/16	14.3	0.97	24.6	1.26	32	0.64	16.3
VUWG-7.93BN	5/16	7.93	1/4NPT	0.25	6.35	3/4	19.1	1.16	29.5	1.45	36.8	0.64	16.3
VUWG-9.52AN	3/8	9.52	1/8NPT	0.28	7.1	5/8	15.9	1	25.4	1.29	32.8	0.66	16.8
VUWG-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	3/4	19.1	1.19	30.2	1.48	37.6	0.66	16.8
VUWG-9.52CN	3/8	9.52	3/8NPT	0.28	7.1	7/8	22.2	1.25	31.8	1.54	39.1	0.66	16.8
VUWG-9.52DN	3/8	9.52	1/2NPT	0.28	7.1	1 1/16	27	1.44	36.6	1.73	43.9	0.66	16.8
VUWG-12.7BN	1/2	12.7	1/4NPT	0.41	10.4	13/16	20.6	1.19	30.2	1.59	40.4	0.9	22.9
VUWG-12.7CN	1/2	12.7	3/8NPT	0.41	10.4	7/8	22.2	1.25	31.8	1.65	41.9	0.9	22.9
VUWG-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	1 1/16	27	1.44	36.6	1.84	46.7	0.9	22.9
VUWG-12.7EN	1/2	12.7	3/4NPT	0.41	10.4	1 5/16	33.3	1.5	38.1	1.9	48.3	0.9	22.9
VUWG-15.88CN	5/8	15.88	3/8NPT	0.5	12.7	15/16	23.8	1.25	31.8	1.65	41.9	0.96	24.4
VUWG-15.88DN	5/8	15.88	1/2NPT	0.5	12.7	1 1/16	27	1.44	36.6	1.84	46.7	0.96	24.4
VUWG-19.05DN	3/4	19.05	1/2NPT	0.62	15.8	1 1/16	27	1.44	36.6	1.84	46.7	0.96	24.4
VUWG-19.05EN	3/4	19.05	3/4NPT	0.62	15.8	1 5/16	33.3	1.5	38.1	1.9	48.3	0.96	24.4
VUWG-22.22EN	7/8	22.22	3/4NPT	0.72	18.3	1 5/16	33.3	1.56	39.6	1.96	49.8	1.02	25.9
VUWG-25.4EN	1	25.4	3/4NPT	0.88	22.3	1 3/8	34.9	1.62	41.1	2.1	53.3	1.23	31.2
VUWG-25.4FN	1	25.4	1NPT	0.88	22.3	1 5/8	41.3	1.97	50	2.45	62.2	1.23	31.2

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Connectors (Rc)

G





Tube (Metric) To Female ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W	N	L	I
	mm		mm	mm	mm	mm	mm
VUWG-3A	3	Rc 1/8	2.4	14	22.1	28.7	12.9
VUWG-6A	6	Rc 1/8	4.8	14	23.9	31.3	15.3
VUWG-6B	6	Rc 1/4	4.8	19	28.4	35.8	15.3
VUWG-6C	6	Rc 3/8	4.8	22	30.2	37.6	15.3
VUWG-6D	6	Rc 1/2	4.8	27	35.1	42.5	15.3
VUWG-8A	8	Rc 1/8	6.4	14	24.6	32.1	16.2
VUWG-8B	8	Rc 1/4	6.4	19	29.5	37	16.2
VUWG-8C	8	Rc 3/8	6.4	22	31	38.5	16.2
VUWG-8D	8	Rc 1/2	6.4	27	35.8	43.3	16.2
VUWG-10A	10	Rc 1/8	7.9	18	25.4	33	17.2
VUWG-10B	10	Rc 1/4	7.9	19	30.2	37.8	17.2
VUWG-10C	10	Rc 3/8	7.9	22	31.8	39.4	17.2
VUWG-10D	10	Rc 1/2	7.9	27	36.6	44.2	17.2
VUWG-12A	12	Rc 1/8	8.3	22	25.4	35.5	22.8
VUWG-12B	12	Rc 1/4	9.5	22	30.2	40.3	22.8
VUWG-12C	12	Rc 3/8	9.5	22	31.8	41.9	22.8
VUWG-12D	12	Rc 1/2	9.5	27	36.6	46.7	22.8
VUWG-12E	12	Rc 3/4	9.5	35	38.9	49	22.8
VUWG-15C	15	Rc 3/8	11.9	24	31.8	41.9	24.4
VUWG-15D	15	Rc 1/2	11.9	27	36.6	46.7	24.4
VUWG-20D	20	Rc 1/2	15.9	30	37.8	47.9	26
VUWG-20E	20	Rc 3/4	15.9	35	39.6	49.7	26
VUWG-22E	22	Rc 3/4	18.3	35	39.6	49.7	26
VUWG-22F	22	Rc 1	18.3	41	47.8	57.9	26
VUWG-25E	25	Rc 3/4	21.8	35	41.1	53.4	31.3
VUWG-25F	25	Rc 1	21.8	41	50	62.3	31.3

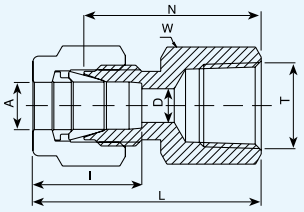
Designation:

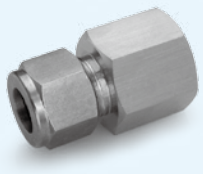
R marking on hex of body

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Connectors (Rc) (continued)

G





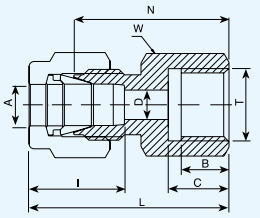
Tube (Inch) To Female ISO Tapered Thread

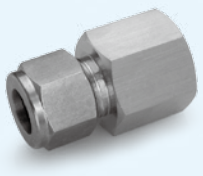
Part Numbers	A Tube O.D.		T	D		W		N		L		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm
VUWG-3.2A	1/8	3.2	Rc 1/8	0.09	2.3	9/16	14.3	0.87	22.1	1.13	28.7	0.5	12.7
VUWG-3.2B	1/8	3.2	Rc 1/4	0.09	2.3	3/4	19.1	1.06	26.9	1.32	33.5	0.5	12.7
VUWG-4.8A	3/16	4.8	Rc 1/8	0.12	3.04	9/16	14.3	0.91	23.11	1.17	29.7	0.54	13.7
VUWG-6.35A	1/4	6.35	Rc 1/8	0.19	4.8	9/16	14.3	0.94	23.9	1.23	31.2	0.6	15.2
VUWG-6.35B	1/4	6.35	Rc 1/4	0.19	4.8	3/4	19.1	1.12	28.5	1.41	35.8	0.6	15.2
VUWG-6.35C	1/4	6.35	Rc 3/8	0.19	4.8	7/8	22.2	1.19	30.2	1.48	37.6	0.6	15.2
VUWG-6.35D	1/4	6.35	Rc 1/2	0.19	4.8	1 1/16	27	1.38	35	1.67	42.4	0.6	15.2
VUWG-7.93A	5/16	7.93	Rc 1/8	0.25	6.35	9/16	14.3	0.97	24.6	1.26	32	0.64	16.3
VUWG-7.93B	5/16	7.93	Rc 1/4	0.25	6.35	3/4	19.1	1.16	29.5	1.45	36.8	0.64	16.3
VUWG-9.52A	3/8	9.52	Rc 1/8	0.28	7.1	5/8	15.9	1	25.4	1.29	32.8	0.66	16.8
VUWG-9.52B	3/8	9.52	Rc 1/4	0.28	7.1	3/4	19.1	1.19	30.2	1.48	37.6	0.66	16.8
VUWG-9.52C	3/8	9.52	Rc 3/8	0.28	7.1	7/8	22.2	1.25	31.8	1.54	39.1	0.66	16.8
VUWG-9.52D	3/8	9.52	Rc 1/2	0.28	7.1	1 1/16	27	1.44	36.6	1.73	43.9	0.66	16.8
VUWG-12.7B	1/2	12.7	Rc 1/4	0.41	10.4	13/16	20.6	1.19	30.2	1.59	40.4	0.9	22.9
VUWG-12.7C	1/2	12.7	Rc 3/8	0.41	10.4	7/8	22.2	1.25	31.8	1.65	41.9	0.9	22.9
VUWG-12.7D	1/2	12.7	Rc 1/2	0.41	10.4	1 1/16	27	1.44	36.6	1.84	46.7	0.9	22.9
VUWG-12.7E	1/2	12.7	Rc 3/4	0.41	10.4	1 5/16	33.3	1.5	38.1	1.9	48.3	0.9	22.9
VUWG-15.88C	5/8	15.88	Rc 3/8	0.5	12.7	15/16	23.8	1.25	31.8	1.65	41.9	0.96	24.4
VUWG-15.88D	5/8	15.88	Rc 1/2	0.5	12.7	1 1/16	27	1.44	36.6	1.84	46.7	0.96	24.4
VUWG-19.05D	3/4	19.05	Rc 1/2	0.62	15.8	1 1/16	27	1.44	36.6	1.84	46.7	0.96	24.4
VUWG-19.05E	3/4	19.05	Rc 3/4	0.62	15.8	1 5/16	33.3	1.5	38.1	1.9	48.3	0.96	24.4
VUWG-22.22E	7/8	22.22	Rc 3/4	0.72	18.3	1 5/16	33.3	1.56	39.6	1.96	49.8	1.02	25.9
VUWG-25.4E	1	25.4	Rc 3/4	0.88	22.3	1 3/8	34.9	1.62	41.1	2.1	53.3	1.23	31.2
VUWG-25.4F	1	25.4	Rc 1	0.88	22.3	1 5/8	41.3	1.97	50	2.45	62.2	1.23	31.2

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Connectors (G)

G





Tube (Metric) To Female ISO Parallel Thread

Part Numbers	A Tube O.D.	T	D	W	N	L	I	B	C
	mm		mm	mm	mm	mm	mm	mm	mm
VUWG-6AF-PG	6	G 1/8	4.8	14	25	32.4	15.3	7	10
VUWG-6BF-PG	6	G 1/4	4.8	19	30.2	37.6	15.3	10	13
VUWG-6CF-PG	6	G 3/8	4.8	24	30.2	37.6	15.3	12	15
VUWG-6DF-PG	6	G 1/2	4.8	27	36.1	43.5	15.3	15	18
VUWG-8BF-PG	8	G 1/4	5.5	19	31	38.5	16.2	10	13
VUWG-8CF-PG	8	G 3/8	5.5	24	29.6	37.1	16.2	12	15
VUWG-8DF-PG	8	G 1/2	5.5	27	33.5	41	16.2	15	18
VUWG-10BF-PG	10	G 1/4	5.5	19	31.8	39.4	17.2	10	13
VUWG-10CF-PG	10	G 3/8	5.5	24	31.2	38.8	17.2	12	15
VUWG-10DF-PG	10	G 1/2	5.5	27	34.5	42.1	17.2	15	18
VUWG-12BF-PG	12	G 1/4	5.5	22	31.8	41.9	22.8	10	13
VUWG-12CF-PG	12	G 3/8	5.5	24	34.3	44.4	22.8	12	15
VUWG-12DF-PG	12	G 1/2	5.5	27	38.1	48.2	22.8	15	18

Tube (Inch) To Female ISO Parallel Thread

Part Numbers	A Tube O.D.		T	D	W		N	L	I	B	C
	in	mm			in	mm				mm	mm
VUWG-1.6CF-PG	1/16	1.58	G3/8	1.25	15/16	23.8	31	34.8	8.6	12	15
VUWG-3.2AF-PG	1/8	3.17	G1/8	2.3	9/16	14.3	24.5	31.1	12.7	7	10
VUWG-3.2CF-PG	1/8	3.17	G3/8	2.3	15/16	23.8	32.7	39.3	12.7	12	15
VUWG-6.35AF-PG	1/4	6.35	G1/8	5.5	9/16	14.3	25	32.4	15.2	7	10
VUWG-6.35BF-PG	1/4	6.35	G1/4	5.5	3/4	19.1	30.2	37.6	15.2	10	13
VUWG-6.35CF-PG	1/4	6.35	G3/8	5.5	15/16	23.8	30.2	37.6	15.2	12	15
VUWG-6.35DF-PG	1/4	6.35	G1/2	5.5	1-1/16	27	36.1	43.4	15.2	15	18
VUWG-9.52BF-PG	3/8	9.52	G1/4	5.5	3/4	19.1	31.8	39.1	16.8	10	13
VUWG-9.52CF-PG	3/8	9.52	G3/8	5.5	15/16	23.8	32.1	38.6	16.8	12	15
VUWG-9.52DF-PG	3/8	9.52	G1/2	5.5	1-1/16	27	34.5	41.9	16.8	15	18
VUWG-12.7BF-PG	1/2	12.7	G1/4	5.5	13/16	20.6	31.8	42	22.9	10	13
VUWG-12.7CF-PG	1/2	12.7	G3/8	5.5	15/16	23.8	34.3	44.5	22.9	12	15
VUWG-12.7DF-PG	1/2	12.7	G1/2	5.5	1-1/16	27	38.1	48.3	22.9	15	18

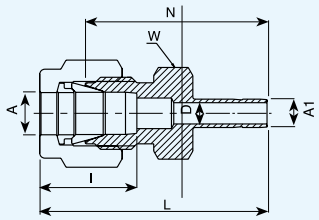
Designation:

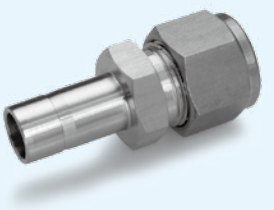
PG marking on hex of body

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Reducers

R





Tube (Metric) To Stub (Metric)

Part Numbers	A Tube O.D.	A1 Tube O.D.	D	W	N	L	I
	mm	mm	mm	mm	mm	mm	mm
VUWR-2X3	2	3	1.7	12	26.9	33.5	12.9
VUWR-3X4	3	4	2.4	12	28.4	35	12.9
VUWR-3X6	3	6	2.4	12	29.5	36.1	12.9
VUWR-3X10	3	10	2.4	14	31.8	38.4	12.9
VUWR-4X6	4	6	2.4	12	30.5	37.1	13.7
VUWR-6X3	6	3	1.8	14	29.5	36.9	15.3
VUWR-6X8	6	8	4.8	14	32.5	39.9	15.3
VUWR-6X10	6	10	4.8	14	33.3	40.7	15.3
VUWR-6X12	6	12	4.8	14	38.9	46.3	15.3
VUWR-6X18	6	18	4.8	22	42.2	49.6	15.3
VUWR-8X6	8	6	4	15	32.8	40.3	16.2
VUWR-8X10	8	10	6.4	15	34.5	42	16.2
VUWR-8X12	8	12	6.4	15	40.1	47.6	16.2
VUWR-10X6	10	6	4	18	34.8	42.4	17.2
VUWR-10X8	10	8	5.6	18	35.8	43.4	17.2
VUWR-10X12	10	12	7.9	18	42.2	49.8	17.2
VUWR-10X15	10	15	7.9	18	43.7	51.3	17.2
VUWR-10X18	10	18	7.9	22	43.7	51.3	17.2
VUWR-12X6	12	6	4	22	34.8	44.9	22.8
VUWR-12X10	12	10	7.1	22	36.6	46.7	22.8
VUWR-12X16	12	16	9.5	22	43.7	53.8	22.8
VUWR-12X18	12	18	9.5	22	43.7	53.8	22.8
VUWR-12X20	12	20	9.5	22	46	56.1	22.8
VUWR-12X22	12	22	9.5	24	46	56.1	22.8
VUWR-12X25	12	25	9.5	27	52.3	62.4	22.8
VUWR-16X12	16	12	8.8	24	42.9	53	24.4
VUWR-18X12	18	12	8.8	27	44.5	54.6	24.4
VUWR-18X16	18	16	12.7	27	46	56.1	24.4
VUWR-18X20	18	20	15.1	27	47.5	57.6	24.4
VUWR-18X22	18	22	15.1	27	47.5	57.6	24.4
VUWR-18X25	18	25	15.1	27	52.3	62.4	24.4
VUWR-20X16	20	16	12.7	30	47.8	57.9	26
VUWR-20X18	20	18	13.9	30	47.8	57.9	26
VUWR-20X22	20	22	15.8	30	49.3	59.4	26
VUWR-20X25	20	25	15.9	30	54.1	64.2	26
VUWR-22X18	22	18	13.9	30	47.8	57.9	26
VUWR-22X20	22	20	15.1	30	49.3	59.4	26
VUWR-22X25	22	25	18.3	30	54.1	64.2	26
VUWR-25X18	25	18	13.9	35	50.8	63.1	31.3
VUWR-25X20	25	20	15.1	35	52.3	64.6	31.3

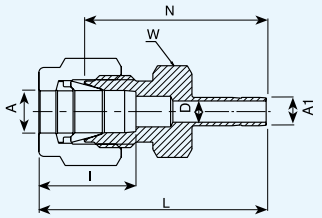
Continued on next page

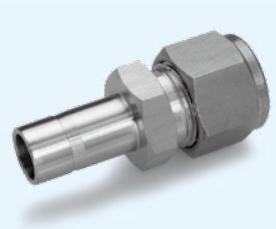
Thermoelement Type can also be manufactured.
For ordering: use catalog number of the selected fitting and add the suffix T/C.

Some combinations of dimensions A and A1 may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Reducers (continued)

R





Tube (Metric) To Stub (Inch)

Part Numbers	A Tube O.D.	A1 Tube O.D.	D	W	N	L	I
	mm	mm	mm	mm	mm	mm	mm
VUWR-2X3.2	2	3.2	1.7	12	26.9	33.5	12.9
VUWR-3X3.2	3	3.2	2	12	26.9	33.5	12.9
VUWR-3X6.35	3	6.35	2.4	12	29.5	36.1	12.9
VUWR-4X6.35	4	6.35	2.4	12	30.5	37.1	13.7
VUWR-6X3.2	6	3.2	2.2	14	29.5	36.9	15.3
VUWR-6X7.93	6	7.93	4.8	14	32.5	39.9	15.3
VUWR-6X9.52	6	9.52	4.8	14	33.3	40.7	15.3
VUWR-6X12.7	6	12.7	4.8	14	38.9	46.3	15.3
VUWR-8X9.52	8	9.52	6.4	15	34.5	42	16.2
VUWR-8X12.7	8	12.7	6.4	15	40.1	47.6	16.2
VUWR-10X9.52	10	9.52	6.9	18	36.6	44.2	17.2
VUWR-10X12.7	10	12.7	7.9	18	42.2	49.8	17.2
VUWR-12X12.7	12	12.7	9.4	22	42.2	52.3	22.8
VUWR-12X19.05	12	19.05	9.5	22	43.7	53.8	22.8
VUWR-18X19.05	18	19.05	15.1	27	46	56.1	24.4
VUWR-18X25.4	18	25.4	15.1	27	52.3	62.4	24.4
VUWR-25X25.4	25	25.4	20.2	35	57.2	69.4	31.3

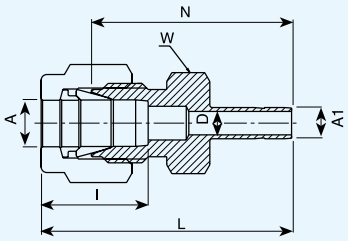
Continued on next page

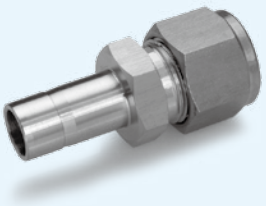
Thermoelement Type can also be manufactured.
For ordering: use catalog number of the selected fitting and add the suffix T/C.

Some combinations of dimensions A and A1 may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Reducers (continued)

R





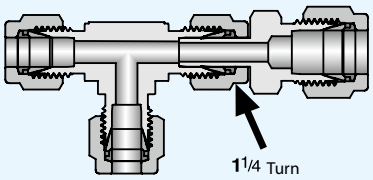
Tube (Inch) To Stub (Inch)

Part Numbers	A Tube O.D.		A1 Tube O.D.		D		W		N		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWR-1.6X3.2	1/16	1.6	1/8	3.2	0.05	1.3	5/16	7.9	1	25.4	1.15	29.2	0.34	8.6
VUWR-1.6X6.35	1/16	1.6	1/4	6.35	0.05	1.3	5/16	7.9	1.09	27.7	1.24	31.5	0.34	8.6
VUWR-3.2X1.6	1/8	3.2	1/16	1.6	0.03	0.8	7/16	11.1	0.88	22.4	1.14	29	0.5	12.7
VUWR-3.2X4.8	1/8	3.2	3/16	4.8	0.09	2.3	7/16	11.1	1.09	27.7	1.35	34.3	0.5	12.7
VUWR-3.2X6.35	1/8	3.2	1/4	6.35	0.09	2.3	7/16	11.1	1.16	29.5	1.42	36.1	0.5	12.7
VUWR-3.2X9.52	1/8	3.2	3/8	9.52	0.09	2.3	7/16	11.1	1.22	31	1.48	37.6	0.5	12.7
VUWR-3.2X12.7	1/8	3.2	1/2	12.7	0.09	2.3	9/16	14.3	1.48	37.6	1.74	44.2	0.5	12.7
VUWR-4.8X3.2	3/16	4.8	1/8	3.2	0.09	2.3	7/16	11.1	1.11	28.2	1.37	34.8	0.54	13.7
VUWR-4.8X6.35	3/16	4.8	1/4	6.35	0.12	3.1	7/16	11.1	1.2	30.5	1.46	37.1	0.6	13.7
VUWR-6.35X3.2	1/4	6.35	1/8	3.2	0.09	2.3	1/2	12.7	1.16	29.5	1.45	36.8	0.6	15.2
VUWR-6.35X4.8	1/4	6.35	3/16	4.8	0.12	3	1/2	12.7	1.19	30.2	1.48	37.6	0.6	15.2
VUWR-6.35X6.35	1/4	6.35	1/4	6.35	0.17	4.2	1/2	12.7	1.25	31.8	1.54	39.1	0.6	15.2
VUWR-6.35X7.93	1/4	6.35	5/16	7.93	0.19	4.8	1/2	12.7	1.28	32.5	1.57	39.9	0.6	15.2
VUWR-6.35X9.52	1/4	6.35	3/8	9.52	0.19	4.8	1/2	12.7	1.31	33.3	1.6	40.6	0.6	15.2
VUWR-6.35X12.7	1/4	6.35	1/2	12.7	0.19	4.8	9/16	14.3	1.53	38.9	1.82	46.2	0.6	15.2
VUWR-6.35X15.88	1/4	6.35	5/8	15.88	0.19	4.8	11/16	17.5	1.6	40.6	1.89	48	0.6	15.2
VUWR-6.35X19.05	1/4	6.35	3/4	19.05	0.19	4.8	13/16	20.6	1.59	40.4	1.88	47.8	0.6	15.2
VUWR-7.93X9.52	5/16	7.93	3/8	9.52	0.25	6.4	9/16	14.3	1.36	34.5	1.65	41.9	0.64	16.3
VUWR-7.93X12.7	5/16	7.93	1/2	12.7	0.25	6.4	9/16	14.3	1.58	40.1	1.87	47.5	0.64	16.3
VUWR-9.52X6.35	3/8	9.52	1/4	6.35	0.17	4.2	5/8	15.9	1.34	34	1.63	41.4	0.66	16.8
VUWR-9.52X9.52	3/8	9.52	3/8	9.52	0.27	6.9	5/8	15.9	1.41	35.8	1.7	43.2	0.66	16.8
VUWR-9.52X12.7	3/8	9.52	1/2	12.7	0.28	7.1	5/8	15.9	1.62	41.2	1.91	48.5	0.66	16.8
VUWR-9.52X15.88	3/8	9.52	5/8	15.88	0.28	7.1	11/16	17.5	1.69	42.9	1.98	50.3	0.66	16.8
VUWR-9.52X19.05	3/8	9.52	3/4	19.05	0.28	7.1	13/16	20.6	1.69	42.9	1.98	50.3	0.66	16.8
VUWR-12.7X6.35	1/2	12.7	1/4	6.35	0.17	4.2	13/16	20.6	1.37	34.8	1.77	45	0.9	22.9
VUWR-12.7X9.52	1/2	12.7	3/8	9.52	0.27	6.9	13/16	20.6	1.44	36.6	1.84	46.7	0.9	22.9
VUWR-12.7X12.7	1/2	12.7	1/2	12.7	0.37	9.4	13/16	20.6	1.66	42.2	2.06	52.3	0.9	22.9
VUWR-12.7X15.88	1/2	12.7	5/8	15.88	0.41	10.4	13/16	20.6	1.72	43.7	2.12	53.8	0.9	22.9
VUWR-12.7X19.05	1/2	12.7	3/4	19.05	0.41	10.4	13/16	20.6	1.72	43.7	2.12	53.9	0.9	22.9
VUWR-12.7X25.4	1/2	12.7	1	25.4	0.41	10.4	1 1/16	27	1.97	50	2.37	60.2	0.9	22.9
VUWR-15.88X19.05	5/8	15.88	3/4	19.05	0.5	12.7	15/16	23.8	1.75	44.5	2.15	54.6	0.96	24.4
VUWR-15.88X22.22	5/8	15.88	7/8	22.22	0.5	12.7	15/16	23.8	1.81	46	2.21	56.1	0.96	24.4
VUWR-15.88X25.4	5/8	15.88	1	25.4	0.5	12.7	1 1/16	27	2	50.8	2.4	61	0.96	24.4
VUWR-19.05X12.7	3/4	19.05	1/2	12.7	0.37	9.4	1 1/16	27	1.75	44.5	2.15	54.6	0.96	24.4
VUWR-19.05X25.4	3/4	19.05	1	25.4	0.62	15.8	1 1/16	27	2.06	52.3	2.46	62.5	0.96	24.4

Thermoelement Type can also be manufactured.

For ordering: use catalog number of the selected fitting and add the suffix T/C.

Assembly Instructions



Some combinations of dimensions A and A1 may not be available.
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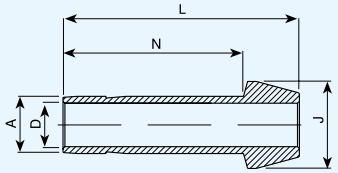
Port Connectors

PC



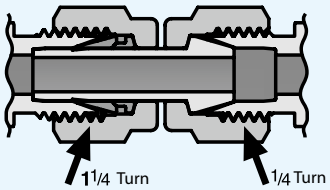
Connects Two V®-Lok Ports (Metric)

Part Numbers	A Tube O.D.	D	N	L	J
	mm	mm	mm	mm	mm
VUW-PC-3	3	2.1	15.7	22.2	6
VUW-PC-6	6	4	19.1	25	9
VUW-PC-8	8	5.6	20	25.9	11
VUW-PC-10	10	7.1	21.2	27.1	13.1
VUW-PC-12	12	8.8	26.4	36.2	15
VUW-PC-16	16	12.7	27.6	37.4	19
VUW-PC-18	18	13.9	27.6	37.4	21.1

Connects Two V®-Lok Ports (Inch)

Part Numbers	A Tube O.D.		D		N		L		J	
	in	mm	in	mm	in	mm	in	mm	in	mm
VUW-PC-1.6	1/16	1.6	0.03	0.8	0.42	10.7	0.54	13.7	0.13	3.3
VUW-PC-3.2	1/8	3.2	0.09	2.2	0.62	15.7	0.88	22.4	0.24	6.1
VUW-PC-6.35	1/4	6.35	0.17	4.2	0.75	19	0.98	24.9	0.37	9.4
VUW-PC-7.93	5/16	7.93	0.24	6	0.79	20	1.02	25.9	0.43	10.9
VUW-PC-9.52	3/8	9.52	0.27	6.9	0.8	20.3	1.03	26.2	0.49	12.6
VUW-PC-12.7	1/2	12.7	0.37	9.4	1.02	25.9	1.41	35.8	0.62	15.7
VUW-PC-19.05	3/4	19.05	0.59	15	1.09	27.7	1.47	37.3	0.87	22.1
VUW-PC-25.4	1	25.4	0.8	20.3	1.37	34.7	1.9	48.1	1.12	28.5

Assembly Instructions



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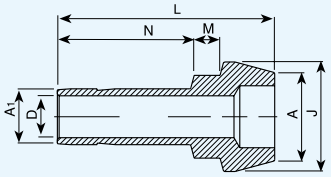
Reducing Port Connectors

PC



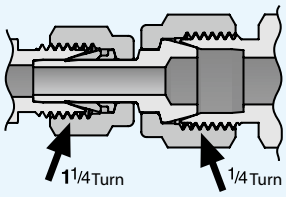
Connects Two V®-Lok Ports (Metric)

Part Numbers	A Tube O.D.	A1 Tube O.D.	D	N	L	J	M
	mm	mm	mm	mm	mm	mm	mm
VUW-PC-6X3	6	3	2.1	13.5	22.9	9	3.2
VUW-PC-8X6	8	6	4	15.7	24.7	11	3.1
VUW-PC-10X6	10	6	4	15.7	25.8	13.1	3.4
VUW-PC-10X8	10	8	5.6	16.8	26.1	13.1	3.1
VUW-PC-12X6	12	6	4	15.7	29.1	15	3.6
VUW-PC-12X8	12	8	5.6	16.8	30.1	15	3.4
VUW-PC-12X10	12	10	7.1	17.5	30.6	15	3.1
VUW-PC-16X12	16	12	8.8	23.1	37.5	19	3.4

Connects Two V®-Lok Ports (Inch)

Part Numbers	A Tube O.D.		A1 Tube O.D.		D		N		L		J		M	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUW-PC-3.2X1.6	1/8	3.2	1/16	1.6	0.03	0.8	0.34	8.6	0.68	17.3	0.24	6.1	0.08	2
VUW-PC-6.35X1.6	1/4	6.35	1/16	1.6	0.03	0.8	0.34	8.6	0.71	18	0.37	9.4	0.14	3.6
VUW-PC-6.35X3.2	1/4	6.35	1/8	3.2	0.09	2.2	0.53	13.5	0.89	22.6	0.37	9.4	0.13	3.3
VUW-PC-9.52X3.2	3/8	9.52	1/8	3.2	0.09	2.2	0.53	13.5	0.91	23.2	0.49	12.6	0.15	3.9
VUW-PC-9.52X6.35	3/8	9.52	1/4	6.35	0.17	4.2	0.62	15.7	0.98	24.9	0.49	12.6	0.13	3.3
VUW-PC-12.7X6.35	1/2	12.7	1/4	6.35	0.17	4.2	0.62	15.7	1.15	29.2	0.62	15.7	0.15	3.8
VUW-PC-12.7X9.52	1/2	12.7	3/8	9.52	0.27	6.9	0.69	17.5	1.2	30.5	0.62	15.7	0.13	3.3
VUW-PC-19.05X12.7	3/4	19.05	1/2	12.7	0.37	9.4	0.96	24.4	1.49	37.9	0.87	22.1	0.15	3.8

Assembly Instructions



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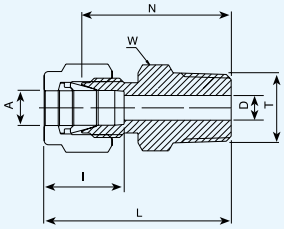
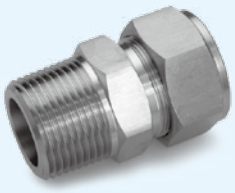
Male Connectors (NPT)

H





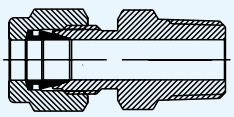
Tube (Metric) Male NPT Thread

Part Numbers	A Tube O.D.	T	D	W	N	L	I
	mm		mm	mm	mm	mm	mm
VUWH-3AN	3	1/8NPT	2.4	12	23.9	30.5	12.9
VUWH-3BN	3	1/4NPT	2.4	14	29	35.6	12.9
VUWH-4AN	4	1/8NPT	2.4	12	24.6	31.2	13.7
VUWH-4BN	4	1/4NPT	2.4	14	29.7	36.3	13.7
VUWH-6AN	6	1/8NPT	4.8	14	25.4	32.8	15.3
VUWH-6BN	6	1/4NPT	4.8	14	30.5	37.9	15.3
VUWH-6CN	6	3/8NPT	4.8	18	31	38.4	15.3
VUWH-6DN	6	1/2NPT	4.8	22	37.3	44.7	15.3
VUWH-8AN	8	1/8NPT	4.8	15	26.7	34.2	16.2
VUWH-8BN	8	1/4NPT	6.4	15	31.2	38.7	16.2
VUWH-8CN	8	3/8NPT	6.4	18	31.8	39.3	16.2
VUWH-8DN	8	1/2NPT	6.4	22	38.1	45.6	16.2
VUWH-10AN	10	1/8NPT	4.8	18	28.7	36.3	17.2
VUWH-10BN	10	1/4NPT	7.9	18	33.3	40.9	17.2
VUWH-10CN	10	3/8NPT	7.9	18	33.3	40.9	17.2
VUWH-10DN	10	1/2NPT	7.9	22	38.9	46.5	17.2
VUWH-10EN	10	3/4NPT	7.9	27	40.4	48	17.2
VUWH-12AN	12	1/8NPT	4.8	22	28.7	38.8	22.8
VUWH-12BN	12	1/4NPT	7.1	22	33.3	43.4	22.8
VUWH-12CN	12	3/8NPT	9.5	22	33.3	43.4	22.8
VUWH-12DN	12	1/2NPT	9.5	22	38.9	49	22.8
VUWH-12EN	12	3/4NPT	9.5	27	40.4	50.5	22.8
VUWH-14BN	14	1/4NPT	7.1	24	34	44.1	24.4
VUWH-14CN	14	3/8NPT	9.5	24	34	44.1	24.4
VUWH-14DN	14	1/2NPT	11	24	38.9	49	24.4
VUWH-15DN	15	1/2NPT	12	24	38.9	49	24.4
VUWH-16CN	16	3/8NPT	9.5	24	34	44.1	24.4
VUWH-16DN	16	1/2NPT	11.9	24	38.9	49	24.4
VUWH-16EN	16	3/4NPT	12.7	27	40.4	50.5	24.4
VUWH-18DN	18	1/2NPT	11.9	27	40.4	50.5	24.4
VUWH-18EN	18	3/4NPT	15.1	27	40.4	50.5	24.4
VUWH-20DN	20	1/2NPT	11.9	30	42.2	52.3	26
VUWH-20EN	20	3/4NPT	15.9	30	42.2	52.3	26
VUWH-22EN	22	3/4NPT	15.9	30	42.2	52.3	26
VUWH-22FN	22	1NPT	18.3	35	47	57.1	26
VUWH-25DN	25	1/2NPT	11.9	35	45.2	57.5	31.3
VUWH-25EN	25	3/4NPT	15.9	35	45.2	57.5	31.3
VUWH-25FN	25	1NPT	21.8	35	50	62.3	31.3

For inches, see next page

Thermoelement Type can also be manufactured.

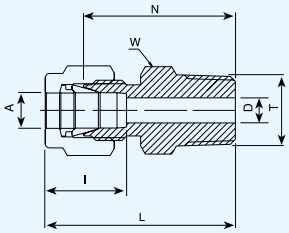
For ordering: use catalog number of the selected fitting and add the suffix T/C.

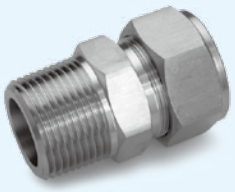


Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors (NPT) (continued)

H





Tube (Inch) Male NPT Thread

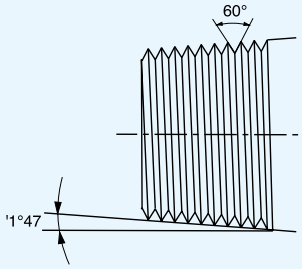
Part Numbers	A Tube O.D.		T	D		W		N		L		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm
VUWH-1.6AN	1/16	1.6	1/8NPT	0.05	1.3	7/16	11.1	0.88	22.35	1.03	26.2	0.34	8.6
VUWH-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	7/16	11.1	0.94	23.9	1.2	30.5	0.5	12.7
VUWH-3.2BN	1/8	3.2	1/4NPT	0.09	2.3	9/16	14.3	1.14	29	1.4	35.6	0.5	12.7
VUWH-4.8AN	3/16	4.8	1/8NPT	0.12	3.1	7/16	11.1	0.97	24.6	1.23	31.2	0.54	13.7
VUWH-4.8BN	3/16	4.8	1/4NPT	0.12	3.1	9/16	14.3	1.17	29.7	1.43	36.3	0.54	13.7
VUWH-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	1/2	12.7	1	25.4	1.29	32.8	0.6	15.2
VUWH-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	9/16	14.3	1.2	30.5	1.49	37.9	0.6	15.2
VUWH-6.35CN	1/4	6.35	3/8NPT	0.19	4.8	11/16	17.5	1.22	31	1.51	38.4	0.6	15.2
VUWH-6.35DN	1/4	6.35	1/2NPT	0.19	4.8	7/8	22.2	1.47	37.3	1.76	44.7	0.6	15.2
VUWH-7.93AN	5/16	7.93	1/8NPT	0.19	4.8	9/16	14.3	1.05	26.7	1.34	34	0.64	16.2
VUWH-7.93BN	5/16	7.93	1/4NPT	0.25	6.4	9/16	14.3	1.23	31.2	1.52	38.6	0.64	16.2
VUWH-9.52AN	3/8	9.52	1/8NPT	0.19	4.8	5/8	15.9	1.1	27.9	1.39	35.3	0.66	16.8
VUWH-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	5/8	15.9	1.28	32.5	1.57	39.9	0.66	16.8
VUWH-9.52CN	3/8	9.52	3/8NPT	0.28	7.1	11/16	17.5	1.28	32.5	1.57	39.9	0.66	16.8
VUWH-9.52DN	3/8	9.52	1/2NPT	0.28	7.1	7/8	22.2	1.52	38.9	1.82	46.2	0.66	16.8
VUWH-9.52EN	3/8	9.52	3/4NPT	0.28	7.1	1 1/16	27	1.59	40.4	1.88	47.8	0.66	16.8
VUWH-12.7AN	1/2	12.7	1/8NPT	0.19	4.8	13/16	20.6	1.13	28.7	1.53	38.9	0.9	22.9
VUWH-12.7BN	1/2	12.7	1/4NPT	0.28	7.1	13/16	20.6	1.31	33.3	1.71	43.4	0.9	22.9
VUWH-12.7CN	1/2	12.7	3/8NPT	0.38	9.6	13/16	20.6	1.31	33.3	1.71	43.4	0.9	22.9
VUWH-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	7/8	22.2	1.53	38.9	1.93	49	0.9	22.9
VUWH-12.7EN	1/2	12.7	3/4NPT	0.41	10.4	1 1/16	27	1.59	40.4	1.99	50.5	0.9	22.9
VUWH-12.7FN	1/2	12.7	1NPT	0.41	10.4	1 3/8	34.9	1.85	47	2.25	57.2	0.9	22.9
VUWH-15.88CN	5/8	15.88	3/8NPT	0.38	9.6	15/16	23.8	1.34	34	1.74	44.2	0.96	24.4
VUWH-15.88DN	5/8	15.88	1/2NPT	0.47	11.9	15/16	23.8	1.53	38.9	1.93	49	0.96	24.4
VUWH-15.88EN	5/8	15.88	3/4NPT	0.5	12.7	1 1/16	27	1.59	40.4	1.99	50.5	0.96	24.4
VUWH-19.05DN	3/4	19.05	1/2NPT	0.5	11.9	1 1/16	27	1.59	40.4	1.99	50.5	0.96	24.4
VUWH-19.05EN	3/4	19.05	3/4NPT	0.62	15.8	1 1/16	27	1.59	40.4	1.99	50.5	0.96	24.4
VUWH-19.05FN	3/4	19.05	1NPT	0.62	15.8	1 3/8	34.9	1.85	47	2.25	57.2	0.96	24.4
VUWH-22.22EN	7/8	22.22	3/4NPT	0.72	18.3	1 3/16	30.2	1.59	40.4	1.99	50.5	1.02	25.9
VUWH-25.4EN	1	25.4	3/4NPT	0.72	15.8	1 3/8	34.9	1.78	45.2	2.26	57.4	1.23	31.2
VUWH-25.4FN	1	25.4	1NPT	0.88	22.3	1 3/8	34.9	1.97	50	2.45	62.2	1.23	31.2

Thermoelement Type can also be manufactured.

For ordering: use catalog number of the selected fitting and add the suffix T/C.

Reference Specifications:

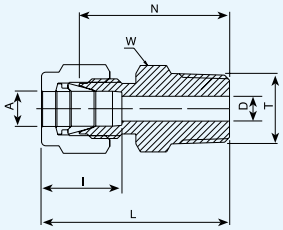
American Standard Pipe Thread (NPT).
NPT (National Pipe Tapered) is made to specifications outlined in ASNI B1.20.1.

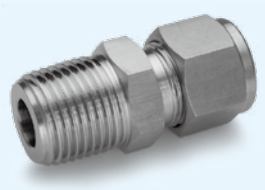


Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors (R)

H





Tube (Metric) ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W	N	L	I
	mm		mm	mm	mm	mm	mm
VUWH-2A	2	R 1/8	1.7	12	23.9	30.5	12.9
VUWH-3A	3	R 1/8	2.4	12	23.9	30.5	12.9
VUWH-3B	3	R 1/4	2.4	14	29	35.6	12.9
VUWH-4A	4	R 1/8	2.4	12	24.6	31.2	13.7
VUWH-4B	4	R 1/4	2.4	14	29.7	36.3	13.7
VUWH-6A	6	R 1/8	4.8	14	25.4	32.8	15.3
VUWH-6B	6	R 1/4	4.8	14	30.5	37.9	15.3
VUWH-6C	6	R 3/8	4.8	18	31	38.4	15.3
VUWH-6D	6	R 1/2	4.8	22	37.3	44.7	15.3
VUWH-8A	8	R 1/8	4.8	15	26.7	34.2	16.2
VUWH-8B	8	R 1/4	6.4	15	31.2	38.7	16.2
VUWH-8C	8	R 3/8	6.4	18	31.8	39.3	16.2
VUWH-8D	8	R 1/2	6.4	22	38.1	45.6	16.2
VUWH-10A	10	R 1/8	4.8	18	28.7	36.3	17.2
VUWH-10B	10	R 1/4	7.9	18	33.3	40.9	17.2
VUWH-10C	10	R 3/8	7.9	18	33.3	40.9	17.2
VUWH-10D	10	R 1/2	7.9	22	38.9	46.5	17.2
VUWH-12B	12	R 1/4	7.1	22	33.3	43.4	22.8
VUWH-12C	12	R 3/8	9.5	22	33.3	43.4	22.8
VUWH-12D	12	R 1/2	9.5	22	38.9	49	22.8
VUWH-12E	12	R 3/4	9.5	27	40.4	50.5	22.8
VUWH-15D	15	R 1/2	11.9	24	38.9	49	24.4
VUWH-16B	16	R 1/4	7.1	24	34	44.1	24.4
VUWH-16C	16	R 3/8	9.5	24	34	44.1	24.4
VUWH-16D	16	R 1/2	11.9	24	38.9	49	24.4
VUWH-16E	16	R 3/4	12.7	27	40.4	50.5	24.4
VUWH-18D	18	R 1/2	11.9	27	40.4	50.5	24.4
VUWH-18E	18	R 3/4	15.1	27	40.4	50.5	24.4
VUWH-20D	20	R 1/2	11.9	30	42.2	52.3	26
VUWH-20E	20	R 3/4	15.9	30	42.2	52.3	26
VUWH-22E	22	R 3/4	15.9	30	42.2	52.3	26
VUWH-22F	22	R 1	18.3	35	47	57.1	26
VUWH-25E	25	R 3/4	15.9	35	45.2	57.5	31.3
VUWH-25F	25	R 1	21.8	35	50	62.3	31.3

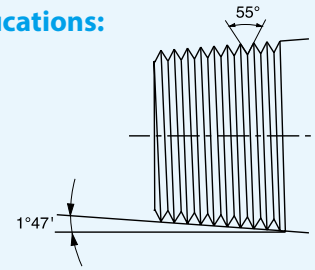
For inches, see next page

Thermoelement Type can also be manufactured.

For ordering: use catalog number of the selected fitting and add the suffix T/C.

Reference Specifications:

DIN - ISO 2999
BS - 21
JIS - B0203
ISO - 7/1-BSP-T



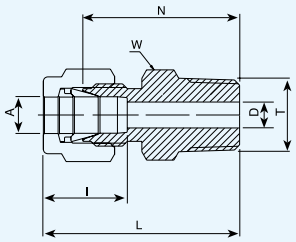
Designation:

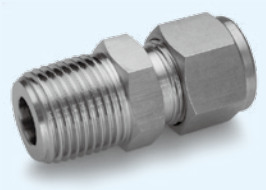
R marking on hex.

Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors (R) (continued)

H





Tube (Inch) ISO Tapered Thread

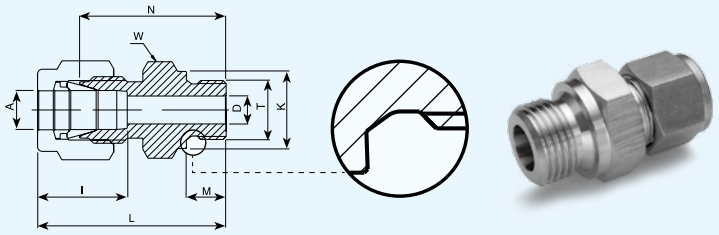
Part Numbers	A Tube O.D.		T	D		W		N		L		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm
VUWH-3.2A	1/8	3.2	R 1/8	0.09	2.3	7/16	11.1	0.94	23.9	1.2	30.5	0.5	12.7
VUWH-3.2B	1/8	3.2	R 1/4	0.09	2.3	9/16	14.3	1.14	29	1.4	35.6	0.5	12.7
VUWH-6.35A	1/4	6.35	R 1/8	0.19	4.8	1/2	12.7	1	25.4	1.29	32.8	0.6	15.2
VUWH-6.35B	1/4	6.35	R 1/4	0.19	4.8	9/16	14.3	1.2	30.5	1.49	37.8	0.6	15.2
VUWH-6.35C	1/4	6.35	R 3/8	0.19	4.8	11/16	17.5	1.22	31	1.51	38.4	0.6	15.2
VUWH-6.35D	1/4	6.35	R 1/2	0.19	4.8	7/8	22.2	1.47	37.3	1.76	44.7	0.6	15.2
VUWH-7.93A	5/16	7.93	R 1/8	0.19	4.8	9/16	14.3	1.05	26.7	1.34	34	0.64	16.2
VUWH-7.93B	5/16	7.93	R 1/4	0.25	6.35	9/16	14.3	1.23	31.2	1.52	38.6	0.64	16.2
VUWH-9.52A	3/8	9.52	R 1/8	0.19	4.8	5/8	15.9	1.1	27.9	1.39	35.3	0.66	16.8
VUWH-9.52B	3/8	9.52	R 1/4	0.28	7.1	5/8	15.9	1.28	32.5	1.57	39.9	0.66	16.8
VUWH-9.52C	3/8	9.52	R 3/8	0.28	7.1	11/16	17.5	1.28	32.5	1.57	39.9	0.66	16.8
VUWH-9.52D	3/8	9.52	R 1/2	0.28	7.1	7/8	22.2	1.53	38.9	1.82	46.2	0.66	16.8
VUWH-12.7B	1/2	12.7	R 1/4	0.28	7.1	13/16	20.6	1.31	33.3	1.71	43.4	0.9	22.9
VUWH-12.7C	1/2	12.7	R 3/8	0.38	9.6	13/16	20.6	1.31	33.3	1.71	43.4	0.9	22.9
VUWH-12.7D	1/2	12.7	R 1/2	0.41	10.4	7/8	22.2	1.53	38.9	1.93	49	0.9	22.9
VUWH-12.7E	1/2	12.7	R 3/4	0.41	10.4	1 1/16	27	1.59	40.4	1.99	50.5	0.9	22.9
VUWH-19.05E	3/4	19.05	R 3/4	0.62	15.8	1 1/16	27	1.59	40.4	1.99	50.5	0.96	24.4
VUWH-25.4F	1	25.4	R 1	0.88	22.3	1 3/8	34.9	1.97	50	2.45	62.2	1.23	31.2

Thermoelement Type can also be manufactured.
For ordering: use catalog number of the selected fitting and add the suffix T/C.

Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors (G)

H



Tube (Metric) ISO Parallel Thread

Part Numbers	A Tube O.D.	T	D	K	W	N	M	L	I
	mm		mm	mm	mm	mm	mm	mm	mm
VUWH-2AF-FJS	2	G 1/8	1.7	13.8	14	23.4	7.1	30	12.9
VUWH-3AF-FJS	3	G 1/8	2.4	13.8	14	23.4	7.1	30	12.9
VUWH-3BF-FJS	3	G 1/4	2.4	18	19	28.7	11.2	35.3	12.9
VUWH-4AF-FJS	4	G 1/8	2.4	13.8	14	24.1	7.1	30.7	13.7
VUWH-6AF-FJS	6	G 1/8	4	13.8	14	24.9	7.1	32.3	15.3
VUWH-6BF-FJS	6	G 1/4	4.8	18	19	30.2	11.2	37.6	15.3
VUWH-6CF-FJS	6	G 3/8	4.8	21.8	22	31.5	11.2	38.9	15.3
VUWH-6DF-FJS	6	G 1/2	4.8	26	27	37.3	14.2	44.7	15.3
VUWH-8AF-FJS	8	G 1/8	4	13.8	15	25.7	7.1	33.2	16.2
VUWH-8BF-FJS	8	G 1/4	6.4	13.8	19	31	11.2	38.5	16.2
VUWH-8CF-FJS	8	G 3/8	6.4	21.8	22	32.3	11.2	39.8	16.2
VUWH-8DF-FJS	8	G 1/2	6.4	26	27	38.1	14.2	45.6	16.2
VUWH-10BF-FJS	10	G 1/4	5.9	18	19	31.8	11.2	39.4	17.2
VUWH-10CF-FJS	10	G 3/8	7.9	21.8	22	33	11.2	40.6	17.2
VUWH-10DF-FJS	10	G 1/2	7.9	26	27	38.9	14.2	46.5	17.2
VUWH-12BF-FJS	12	G 1/4	5.9	18	22	32.5	11.2	42.6	22.8
VUWH-12CF-FJS	12	G 3/8	7.9	21.8	22	33	11.2	43.1	22.8
VUWH-12DF-FJS	12	G 1/2	9.5	26	27	38.9	14.2	49	22.8
VUWH-12EF-FJS	12	G 3/4	9.5	32	35	42.7	15.7	52.8	22.8
VUWH-16CF-FJS	16	G 3/8	7.9	21.8	24	33.8	11.2	43.9	24.4
VUWH-16DF-FJS	16	G 1/2	11.9	26	27	38.9	14.2	49	24.4
VUWH-18DF-FJS	18	G 1/2	11.9	26	27	38.9	14.2	49	24.4
VUWH-18EF-FJS	18	G 3/4	15.1	32	35	42.7	15.7	52.8	24.4
VUWH-20DF-FJS	20	G 1/2	11.9	26	30	40.4	14.2	50.5	26
VUWH-20EF-FJS	20	G 3/4	15.9	32	35	42.7	15.7	52.8	26
VUWH-22EF-FJS	22	G 3/4	15.9	32	35	42.7	15.7	52.8	26
VUWH-22FF-FJS	22	G 1	18.3	39	41	45.2	18.3	55.3	26
VUWH-25EF-FJS	25	G 3/4	15.9	32	35	45.2	15.7	57.5	31.3
VUWH-25FF-FJS	25	G 1	19.8	39	41	47.8	18.3	60.1	31.3

For inches, see next page

Thermoelement Type can also be manufactured.

For ordering: use catalog number of the selected fitting and add the suffix T/C.

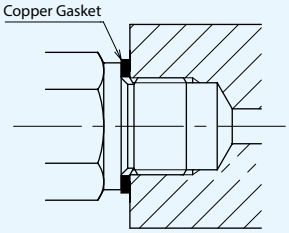
Reference Specifications:

DIN - ISO 228/1
BS - 2779
JIS - B0202
ISO - 228/1-BSP-P

Designation:

G marking on hex.

Seal Method (Male G Thread Side)



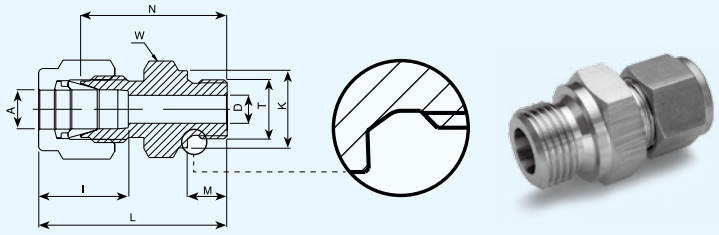
Note:

After checking G male thread size, please order a suitable gasket separately.

Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors (G) (continued)

H



Tube (Inch) ISO Parallel Thread

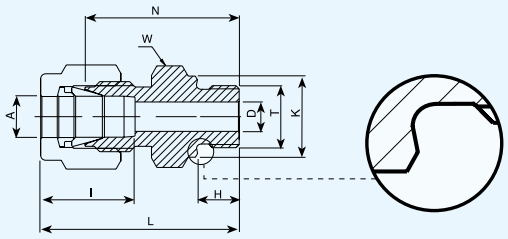
Part Numbers	A Tube O.D.		T	D		K		W		N		M		L		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWH-3.2AF-FJS	1/8	3.2	G 1/8	0.09	2.3	0.54	13.8	9/16	14.3	0.92	23.4	0.28	7.1	1.18	30	0.5	12.7
VUWH-3.2BF-FJS	1/8	3.2	G 1/4	0.09	2.3	0.71	18	3/4	19.1	1.13	28.7	0.44	11.2	1.39	35.3	0.5	12.7
VUWH-3.2CF-FJS	1/8	3.2	G 3/8	0.09	2.3	0.86	21.8	7/8	22.2	1.17	29.7	0.44	11.2	1.46	37	0.5	12.7
VUWH-3.2DF-FJS	1/8	3.2	G 1/2	0.09	2.3	1.02	26	1 1/16	27	1.4	35.7	0.56	14.2	1.69	43	0.5	12.7
VUWH-4.8AF-FJS	3/16	4.8	G 1/8	0.12	3.1	0.54	13.8	9/16	14.3	0.95	24.1	0.28	7.1	1.2	30.7	0.54	13.7
VUWH-6.35AF-FJS	1/4	6.35	G 1/8	0.16	4	0.54	13.8	9/16	14.3	0.98	24.9	0.28	7.1	1.27	32.3	0.6	15.2
VUWH-6.35BF-FJS	1/4	6.35	G 1/4	0.19	4.8	0.71	18	3/4	19.1	1.19	30.2	0.44	11.2	1.48	37.6	0.6	15.2
VUWH-6.35CF-FJS	1/4	6.35	G 3/8	0.19	4.8	0.86	21.8	7/8	22.2	1.24	31.5	0.44	11.2	1.53	38.9	0.6	15.2
VUWH-6.35DF-FJS	1/4	6.35	G 1/2	0.19	4.8	1.02	26	1 1/16	27	1.47	37.3	0.56	14.2	1.76	44.7	0.6	15.2
VUWH-7.93BF-FJS	5/16	7.93	G 1/4	0.25	6.4	0.71	18	3/4	19.1	1.22	31	0.44	11.2	1.51	38.4	0.63	16
VUWH-7.93CF-FJS	5/16	7.93	G 3/8	0.25	6.4	0.86	21.8	7/8	22.2	1.27	32.3	0.44	11.2	1.56	39.6	0.63	16
VUWH-9.52BF-FJS	3/8	9.52	G 1/4	0.23	5.8	0.71	18	3/4	19.1	1.25	31.8	0.44	11.2	1.54	39.1	0.66	16.8
VUWH-9.52CF-FJS	3/8	9.52	G 3/8	0.28	7.1	0.86	21.8	7/8	22.2	1.3	33	0.44	11.2	1.59	40.4	0.66	16.8
VUWH-9.52DF-FJS	3/8	9.52	G 1/2	0.28	7.1	1.02	26	1 1/16	27	1.53	38.9	0.56	14.2	1.82	46.3	0.66	16.8
VUWH-12.7BF-FJS	1/2	12.7	G 1/4	0.23	5.8	0.71	18	13/16	20.6	1.28	32.5	0.44	11.2	1.68	42.7	0.9	22.9
VUWH-12.7CF-FJS	1/2	12.7	G 3/8	0.31	7.9	0.86	21.8	7/8	22.2	1.3	33	0.44	11.2	1.7	43.2	0.9	22.9
VUWH-12.7DF-FJS	1/2	12.7	G 1/2	0.41	10.4	1.02	26	1 1/16	27	1.47	37.3	0.56	14.2	1.87	47.5	0.9	22.9
VUWH-12.7EF-FJS	1/2	12.7	G 3/4	0.41	10.4	1.26	32	1 5/16	33.3	1.68	42.7	0.62	15.7	2.08	52.8	0.9	22.9
VUWH-15.88CF-FJS	5/8	15.88	G 3/8	0.31	7.9	0.86	21.8	15/16	23.8	1.33	33.8	0.44	11.2	1.73	43.9	0.96	24.4
VUWH-15.88DF-FJS	5/8	15.88	G 1/2	0.47	11.9	1.02	26	1 1/16	27	1.53	38.9	0.56	14.2	1.93	49	0.96	24.4
VUWH-19.05DF-FJS	3/4	19.05	G 1/2	0.47	11.9	1.02	26	1 1/16	27	1.53	38.9	0.56	14.2	1.93	49	0.96	24.4
VUWH-19.05EF-FJS	3/4	19.05	G 3/4	0.62	15.7	1.26	32	1 5/16	33.3	1.68	42.7	0.62	15.7	2.08	52.8	0.96	24.4
VUWH-25.4DF-FJS	1	25.4	G 1/2	0.47	11.9	1.02	26	1 3/8	34.9	1.72	43.7	0.56	14.2	2.2	55.8	1.23	31.2
VUWH-25.4EF-FJS	1	25.4	G 3/4	0.62	15.9	1.26	32	1 3/8	34.9	1.78	45.2	0.62	15.7	2.65	67.3	1.23	31.2
VUWH-25.4FF-FJS	1	25.4	G 1	0.78	19.8	1.54	39	1 5/8	41.3	1.88	47.8	0.72	18.3	2.36	59.9	1.23	31.2

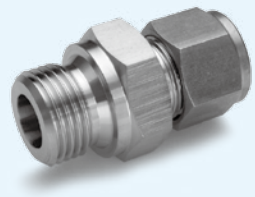
Thermoelement Type can also be manufactured.
For ordering: use catalog number of the selected fitting and add the suffix T/C.

Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors (G)

H





ISO Parallel Thread

Part Numbers	A Tube O.D.	T	D	K	W	N	H	L	I
	mm		mm	mm	mm	mm	mm	mm	mm
VUWH-3AF-FJT	3	G 1/8	2.4	13.8	14	23.4	7.1	30	12.9
VUWH-3BF-FJT	3	G 1/4	2.4	18	19	28.7	11.2	35.3	12.9
VUWH-4AF-FJT	4	G 1/8	2.4	13.8	14	24.1	7.1	30.7	13.7
VUWH-6AF-FJT	6	G 1/8	4	13.8	14	24.9	7.1	32.3	15.3
VUWH-6BF-FJT	6	G 1/4	4.8	18	19	30.2	11.2	37.6	15.3
VUWH-6CF-FJT	6	G 3/8	4.8	21.8	22	31.5	11.2	38.9	15.3
VUWH-6DF-FJT	6	G 1/2	4.8	26	27	37.3	14.2	44.7	15.3
VUWH-8AF-FJT	8	G 1/8	4	13.8	15	25.7	7.1	33.2	16.2
VUWH-8BF-FJT	8	G 1/4	6.4	18	19	31	11.2	38.5	16.2
VUWH-8CF-FJT	8	G 3/8	6.4	21.8	22	32.3	11.2	39.8	16.2
VUWH-8DF-FJT	8	G 1/2	6.4	26	27	38.1	14.2	45.6	16.2
VUWH-10BF-FJT	10	G 1/4	5.9	18	19	31.8	11.2	39.4	17.2
VUWH-10CF-FJT	10	G 3/8	7.9	21.8	22	33	11.2	40.6	17.2
VUWH-10DF-FJT	10	G 1/2	7.9	26	27	38.9	14.2	46.5	19.5
VUWH-12BF-FJT	12	G 1/4	5.9	18	22	32.5	11.2	42.6	17.2
VUWH-12CF-FJT	12	G 3/8	7.9	21.8	22	33	11.2	43.1	22.8
VUWH-12DF-FJT	12	G 1/2	9.5	26	27	38.9	14.2	49	22.8
VUWH-12EF-FJT	12	G 3/4	9.5	32	35	42.7	15.7	52.8	22.8
VUWH-15DF-FJT	15	G 1/2	11.9	26	27	38.9	14.2	49	22.8
VUWH-16CF-FJT	16	G 3/8	7.9	21.8	24	33.8	11.2	43.9	22.4
VUWH-16DF-FJT	16	G 1/2	11.9	26	27	38.9	14.2	49	22.4
VUWH-18DF-FJT	18	G 1/2	11.9	26	27	38.9	14.2	49	22.4
VUWH-18EF-FJT	18	G 3/4	15.1	32	35	42.7	15.7	52.8	22.4
VUWH-20DF-FJT	20	G 1/2	11.9	26	30	40.4	14.2	50.5	26
VUWH-20EF-FJT	20	G 3/4	15.9	32	35	42.7	15.7	52.8	26
VUWH-22EF-FJT	22	G 3/4	15.9	32	35	42.7	15.7	52.8	26
VUWH-22FF-FJT	22	G 1	18.3	39	40	45.2	18.3	55.3	26
VUWH-25EF-FJT	25	G 3/4	15.9	32	35	45.2	15.7	57.5	31.3
VUWH-25FF-FJT	25	G 1	19.8	39	40	47.8	18.3	60.1	31.3

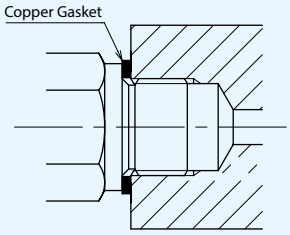
Thermoelement Type can also be manufactured.

For ordering: use catalog number of the selected fitting and add the suffix T/C.

Reference Specifications:

DIN - ISO 228/1
BS - 2779
JIS - B0202
ISO - 228/1-BSP-P

Seal Method (Male G Thread Side)



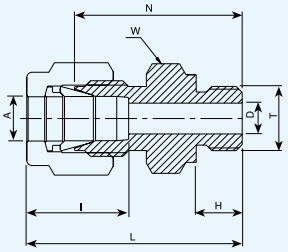
Note:

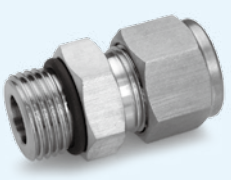
After checking G male thread size,
please order a suitable gasket separately.

Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors (UNF)

H





SAE/MS Straight Thread BOSS ※

Part Numbers	A Tube O.D.		T	D		W		N		H		L		I		O-ring ※※ size
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	AS568
VUWH-3.2X5/16	1/8	3.2	5/16-24	0.09	2.3	7/16	11.1	0.92	23.4	0.3	7.6	1.18	30	0.5	12.7	-902
VUWH-6.35X7/16	1/4	6.35	7/16-20	0.19	4.8	9/16	14.3	1.05	26.7	0.36	9.1	1.34	34	0.6	15.2	-904
VUWH-6.35X9/16	1/4	6.35	9/16-18	0.19	4.8	11/16	17.5	1.11	28.2	0.39	9.9	1.4	35.6	0.6	15.2	-906
VUWH-6.35X3/4	1/4	6.35	3/4 -16	0.19	4.8	7/8	22.2	1.19	30.2	0.44	11.2	1.48	37.6	0.6	15.2	-908
VUWH-6.35X7/8	1/4	6.35	7/8-14	0.19	4.8	1	25.4	1.31	33.3	0.5	12.7	1.6	40.6	0.6	15.2	-910
VUWH-7.93X1/2	5/16	7.93	1/2-20	0.25	6.4	5/8	15.9	1.08	27.4	0.36	9.1	1.37	34.8	0.64	16.2	-905
VUWH-9.52X7/16	3/8	9.52	7/16-20	0.2	5.1	5/8	15.9	1.11	28.2	0.36	9.1	1.4	35.6	0.66	16.8	-904
VUWH-9.52X9/16	3/8	9.52	9/16-18	0.28	7.1	11/16	17.5	1.17	29.7	0.39	9.9	1.46	37.1	0.66	16.8	-906
VUWH-9.52X3/4	3/8	9.52	3/4 -16	0.28	7.1	7/8	22.2	1.25	31.8	0.44	11.2	1.54	39.1	0.66	16.8	-908
VUWH-9.52X7/8	3/8	9.52	7/8-14	0.28	7.1	1	25.4	1.37	34.8	0.5	12.7	1.66	42.2	0.66	16.8	-910
VUWH-12.7X9/16	1/2	12.7	9/16-18	0.28	7.1	13/16	20.6	1.14	29	0.39	9.9	1.54	39.1	0.9	22.9	-906
VUWH-12.7X3/4	1/2	12.7	3/4 -16	0.41	10.4	7/8	22.2	1.25	31.8	0.44	11.2	1.65	41.9	0.9	22.9	-908
VUWH-12.7X7/8	1/2	12.7	7/8-14	0.41	10.4	1	25.4	1.37	34.8	0.5	12.7	1.77	45	0.9	22.9	-910
VUWH-12.7X1-1/16	1/2	12.7	1 1/16-12	0.41	10.4	1 1/4	31.8	1.53	38.9	0.59	15	1.93	49	0.9	22.9	-912
VUWH-15.88X3/4	5/8	15.88	3/4-16	0.42	10.7	15/16	23.8	1.25	31.8	0.44	11.2	1.65	41.9	0.96	22.4	-908
VUWH-15.88X7/8	5/8	15.88	7/8-14	0.5	12.7	1	25.4	1.38	35	0.5	12.7	1.78	45.2	0.96	22.4	-910
VUWH-19.05X3/4	3/4	19.05	3/4-16	0.42	10.7	1 1/16	27	1.41	35.8	0.44	11.2	1.81	46	0.96	22.4	-908
VUWH-19.05X1-1/16	3/4	19.05	1 1/16-12	0.62	15.8	1 1/4	31.8	1.53	38.9	0.59	15	1.93	49	0.96	22.4	-912
VUWH-22.22X1-3/16	7/8	22.22	1 3/16-12	0.72	18.3	1 3/8	34.9	1.53	38.9	0.59	15	1.93	49	1.02	25.9	-914
VUWH-25.4X1-1/16	1	25.4	1 1/16-12	0.66	16.8	1 3/8	34.9	1.62	41.1	0.59	15	2.1	53.3	1.23	31.2	-912
VUWH-25.4X1-5/16	1	25.4	1 5/16-12	0.88	22.3	1 1/2	38.1	1.66	42.2	0.59	15	2.14	54.4	1.23	31.2	-916

※：Per SAE J1926 and MS 16142. See page 78 for mounting dimensions.
※※：O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.

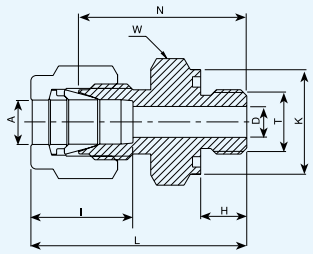
Thermoelement Type can also be manufactured.

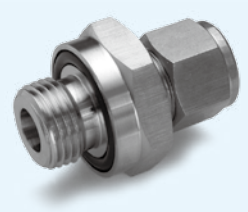
For ordering: use catalog number of the selected fitting and add the suffix T/C.

Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Connectors

H





O-Seal NPT Tapered Thread

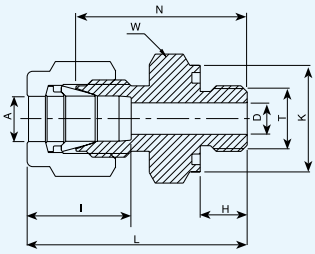
Part Numbers	A Tube O.D.		T	D		K		W		N		H		L		I		O-ring ※※ size AS568
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWH-3.2AN-OR	1/8	3.2	1/8NPT	0.09	2.3	0.74	18.8	3/4	19.1	1.03	26.2	0.28	7.1	1.29	32.8	0.5	12.7	-111
VUWH-6.35AN-OR	1/4	6.35	1/8NPT	0.19	4.8	0.74	18.8	3/4	19.1	1.09	27.7	0.28	7.1	1.38	35.1	0.6	15.2	-111
VUWH-6.35BN-OR	1/4	6.35	1/4NPT	0.19	4.8	0.93	23.6	15/16	23.8	1.22	31	0.38	9.7	1.51	38.4	0.6	15.2	-113
VUWH-9.52BN-OR	3/8	9.52	1/4NPT	0.28	7.1	0.93	23.6	15/16	23.8	1.28	32.5	0.38	9.7	1.57	39.9	0.66	16.8	-113
VUWH-9.52CN-OR	3/8	9.52	3/8NPT	0.28	7.1	1.12	28.4	1 1/8	28.6	1.34	34	0.41	10.4	1.63	41.4	0.66	16.8	-116
VUWH-9.52DN-OR	3/8	9.52	1/2NPT	0.28	7.1	1.3	33	1 5/16	33.3	1.56	39.6	0.53	13.5	1.85	47	0.66	16.8	-212
VUWH-12.7DN-OR	1/2	12.7	1/2NPT	0.41	10.4	1.3	33	1 5/16	33.3	1.56	39.6	0.53	13.5	1.96	49.8	0.9	22.9	-212

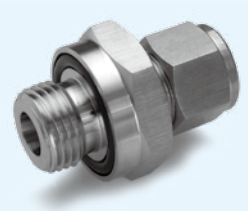
Thermoelement Type can also be manufactured.

For ordering: use catalog number of the selected fitting and add the suffix T/C.

Male Connectors

H





O-Seal Male UNF Thread

Part Numbers	A Tube O.D.		T	D		K		W		N		H		L		I		O-ring ※※ size AS568
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWH-1.6X5/16-OR	1/16	1.6	5/16-24	0.05	1.3	0.55	14	9/16	14.3	0.9	22.9	0.34	8.6	1.05	26.7	0.34	8.6	-011
VUWH-3.2X5/16-OR	1/8	3.2	5/16-24	0.09	2.3	0.55	14	9/16	14.3	1.03	26.2	0.34	8.6	1.29	32.8	0.5	12.7	-011
VUWH-4.8X3/8-OR	3/16	4.8	3/8 -24	0.12	3	0.62	15.7	5/8	15.9	1.09	27.7	0.38	9.7	1.35	34.3	0.54	13.7	-012
VUWH-6.35X7/16-OR	1/4	6.35	7/16-20	0.19	4.8	0.74	18.8	3/4	19.1	1.22	31	0.41	10.4	1.51	38.4	0.6	15.2	-111
VUWH-7.93X1/2-OR	5/16	7.93	1/2 -20	0.25	6.35	0.86	21.8	7/8	22.2	1.31	33.3	0.44	11.2	1.6	40.6	0.64	16.3	-112
VUWH-9.52X9/16-OR	3/8	9.52	9/16-18	0.28	7.1	0.93	23.6	15/16	23.8	1.38	35.1	0.47	11.9	1.67	42.4	0.66	16.8	-113
VUWH-12.7X3/4-OR	1/2	12.7	3/4 -16	0.41	10.4	1.12	28.4	1 1/8	28.6	1.41	35.8	0.47	11.9	1.81	46	0.9	22.9	-116
VUWH-19.05X1-1/16-OR	3/4	19.05	1 1/16-12	0.62	15.7	1.49	37.8	1 1/2	38.1	1.66	42.2	0.56	14.2	2.06	52.3	0.96	24.4	-215
VUWH-25.4X1- 5/16-OR	1	25.4	1 5/16-12	0.88	22.3	1.74	44.2	1 3/4	44.5	1.81	46	0.56	14.2	2.29	58.2	1.23	31.2	-219

※※：O-rings used are BUNA 70 Durometer.

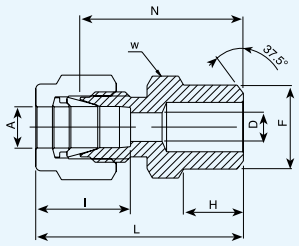
Thermoelement Type can also be manufactured.

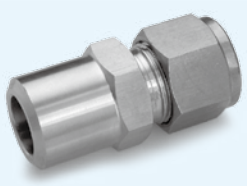
For ordering: use catalog number of the selected fitting and add the suffix T/C.

Some combinations of dimensions A and T may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Pipe Weld Connectors

R





Tube (Metric)

Part Numbers	A Tube O.D.	F Tube size		D	W	N	H	L	I
	mm	in	mm	mm	mm	mm	mm	mm	mm
VUWR-3×10.3	3	1/8	10.3	2.4	12	23.9	9.7	30.5	12.9
VUWR-4×10.3	4	1/8	10.3	2.4	12	24.1	9.7	31.2	13.7
VUWR-6×10.3	6	1/8	10.3	4.8	14	25.4	9.7	32.8	15.3
VUWR-6×13.7	6	1/4	13.7	4.8	14	30.5	14.2	37.9	15.3
VUWR-8×10.3	8	1/8	10.3	5.1	15	26.7	9.7	34.2	16.2
VUWR-8×13.7	8	1/4	13.7	6.4	15	31.2	14.2	38.7	16.2
VUWR-8×21.3	8	1/2	21.3	6.4	22	37.3	19	45.6	16.2
VUWR-10×13.7	10	1/4	13.7	7.1	18	33.3	14.2	40.9	17.2
VUWR-10×17.1	10	3/8	17.1	7.9	18	33.3	14.2	40.9	17.2
VUWR-10×21.3	10	1/2	21.3	7.9	22	38.9	19	46.5	17.2
VUWR-12×13.7	12	1/4	13.7	7.1	22	33.3	14.2	43.4	22.8
VUWR-12×17.1	12	3/8	17.1	9.5	22	33.3	14.2	43.4	22.8
VUWR-12×21.3	12	1/2	21.3	9.5	22	38.9	19	49	22.8
VUWR-15×21.3	15	1/2	21.3	11.9	24	38.9	19	49	24.4
VUWR-16×21.3	16	1/2	21.3	12.7	24	38.9	19	49	24.4
VUWR-18×21.3	18	1/2	21.3	13.5	27	40.4	19	50.5	24.4

Tube (Inch)

Part Numbers	A Tube O.D.		F Tube size		D		W		N		H		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWR-3.2×10.3	1/8	3.2	1/8	10.3	0.09	2.3	7/16	11.1	0.94	23.9	0.38	9.7	1.2	30.5	0.5	12.7
VUWR-4.8×10.3	3/16	4.8	1/8	10.3	0.12	3.1	7/16	11.1	0.97	24.6	0.38	9.7	1.23	31.2	0.54	13.7
VUWR-6.35×10.3	1/4	6.35	1/8	10.3	0.19	4.8	1/2	12.7	1	25.4	0.38	9.7	1.29	32.8	0.6	15.2
VUWR-6.35×13.7	1/4	6.35	1/4	13.7	0.19	4.8	9/16	14.3	1.2	30.5	0.56	14.2	1.49	37.8	0.6	15.2
VUWR-7.93×10.3	5/16	7.93	1/8	10.3	0.2	5.1	9/16	14.3	1.05	26.7	0.38	9.65	1.34	34	0.64	16.3
VUWR-7.93×13.7	5/16	7.93	1/4	13.7	0.25	6.35	9/16	14.3	1.23	31.2	0.56	14.2	1.52	38.6	0.64	16.3
VUWR-9.52×13.7	3/8	9.52	1/4	13.7	0.28	7.1	5/8	15.9	1.28	32.5	0.56	14.2	1.57	39.9	0.66	16.8
VUWR-9.52×17.1	3/8	9.52	3/8	17.1	0.28	7.1	11/16	17.5	1.28	32.5	0.56	14.2	1.57	39.9	0.66	16.8
VUWR-9.52×21.3	3/8	9.52	1/2	21.3	0.28	7.1	7/8	22.2	1.53	38.9	0.75	19	1.82	46.2	0.66	16.8
VUWR-12.7×17.1	1/2	12.7	3/8	17.1	0.41	10.4	13/16	20.6	1.31	33.3	0.56	14.2	1.71	44.4	0.9	22.9
VUWR-12.7×21.3	1/2	12.7	1/2	21.3	0.41	10.4	7/8	22.2	1.53	38.9	0.75	19	1.93	49	0.9	22.9
VUWR-12.7×26.7	1/2	12.7	3/4	26.7	0.41	10.4	1 1/16	27	1.59	40.4	0.75	19	1.99	50.5	0.9	22.9
VUWR-15.88×21.3	5/8	15.88	1/2	21.3	0.5	12.7	15/16	23.8	1.53	38.9	0.75	19	1.93	49	0.96	24.4
VUWR-19.05×26.7	3/4	19.05	3/4	26.7	0.62	15.8	1 1/16	27	1.59	40.4	0.75	19	1.99	50.5	0.96	24.4
VUWR-25.4×33.4	1	25.4	1	33.4	0.88	22.4	1 3/8	34.9	1.97	50	0.94	23.9	2.45	62.2	1.23	31.2

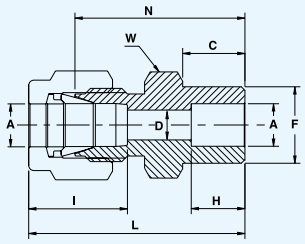
Thermoelement Type can also be manufactured.

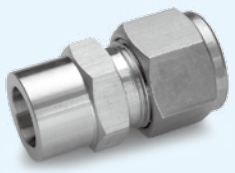
For ordering: use catalog number of the selected fitting and add the suffix T/C.

Some combinations of dimensions A and F may not be available.
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Tube Socket Weld Unions

R





Tube (Inch)

Part Numbers	A Tube O.D.		D		W		N		F		C		H		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWR-3.2X3.2F	1/8	3.2	0.09	2.3	7/16	11.1	0.88	22.4	0.31	7.8	0.34	8.6	0.25	6.35	1.14	29	0.5	12.7
VUWR-6.35X6.35F	1/4	6.35	0.19	4.8	1/2	12.7	1.03	26.2	0.44	11.2	0.41	10.4	0.31	7.9	1.32	33.5	0.6	15.2
VUWR-9.52X9.52F	3/8	9.52	0.28	7.1	5/8	15.9	1.19	30.2	0.62	15.8	0.47	11.9	0.38	9.65	1.48	37.6	0.66	16.8
VUWR-12.7X12.7F	1/2	12.7	0.41	10.4	13/16	20.6	1.26	32	0.75	19.05	0.47	11.9	0.5	12.7	1.62	41.1	0.9	22.9
VUWR-19.05X19.05F	3/4	19.05	0.62	15.8	1 1/16	27	1.31	33.3	1.05	26.7	0.47	11.9	0.56	14.2	1.71	43.4	0.96	24.4
VUWR-25.4X25.4F	1	25.4	0.88	22.3	1 3/8	34.9	1.59	40.4	1.31	33.3	0.56	14.2	0.76	19.2	2.07	52.6	1.23	31.2

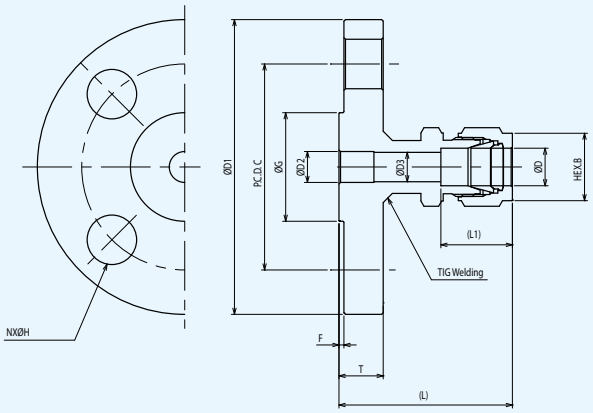
Thermoelement Type can also be manufactured.

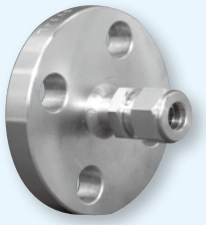
For ordering: use catalog number of the selected fitting and add the suffix T/C.

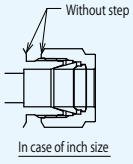
Some combinations of dimensions A and F may not be available.

Flange Unions

RF





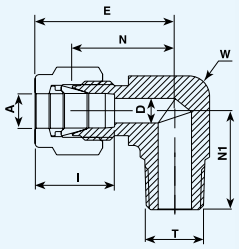


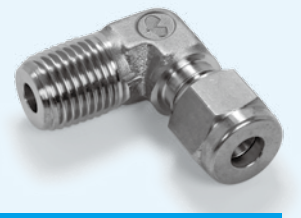
Part Numbers	Connection Flange Standard	Nominal Diameter		Dimensions inch (mm)										
		Fittings inch (mm)	Flanges (A)	L	L1	Flange							D3	B
						D1	T	F	G	Bolt Holes			D2	
										C	N	H		
VUWRF-12D-J10R	JIS 10K	– (12)	15	2.1 (53.4)	0.9 (22.8)	3.74 (95)	0.47 (12)	0.039 (1)	2.01 (51)	2.76 (70)	4	0.59 (15)	0.39 (10)	0.37 (9.5)	0.87 (22)
VUWRF-12D-J20R	JIS 20K	– (12)	15	2.18 (55.4)	0.9 (22.8)	3.74 (95)	0.47 (14)	0.039 (1)	2.01 (51)	2.76 (70)	4	0.59 (15)	0.39 (10)	0.37 (9.5)	0.87 (22)
VUWRF-12D-A2R	ANSI 150	– (12)	15	2.07 (52.6)	0.9 (22.8)	3.5 (88.9)	0.44 (11.2)	0.063 (1.6)	1.38 (35.1)	2.38 (60.5)	4	0.63 (16)	0.39 (10)	0.37 (9.5)	0.87 (22)
VUWRF-12.7D-A2R		1/2 (12.7)	15	2.07 (52.6)	0.9 (22.9)										0.87 (22.2)
VUWRF-12.7F-A2R			25	2.19 (55.7)	0.9 (22.9)	4.25 (108)	0.56 (14.3)	0.063 (1.6)	2 (50.8)	3.12 (79.3)	4	0.63 (16)	0.39 (10)	0.37 (9.5)	0.87 (22.2)
VUWRF-12D-A3R	ANSI 300	– (12)	15	2.19 (55.7)	0.9 (22.8)	3.75 (95.3)	0.56 (14.3)	0.063 (1.6)	1.38 (35.1)	2.62 (66.6)	4	0.63 (16)	0.39 (10)	0.37 (9.5)	0.87 (22)
VUWRF-12.7D-A3R		1/2 (12.7)		2.19 (55.7)	0.9 (22.9)										0.87 (22.2)
VUWRF-12.7F-A3R		1/2 (12.7)	25	2.32 (59)	0.9 (22.9)	4.88 (124)	0.69 (17.6)	0.063 (1.6)	2 (50.8)	3.5 (88.9)	4	0.77 (19.5)	0.39 (10)	0.37 (9.5)	0.87 (22.2)

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Elbows

L





Tube (Metric) Male NPT Thread

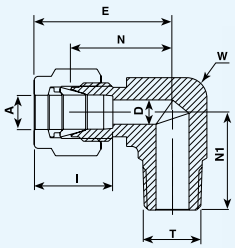
Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWL-3AN	3	1/8NPT	2.4	7/16	11.1	17	23.6	17.8	12.9
VUWL-3BN	3	1/4NPT	2.4	1/2	12.7	18	24.6	23.4	12.9
VUWL-4AN	4	1/8NPT	2.4	1/2	12.7	18.8	25.4	18.8	13.7
VUWL-4BN	4	1/4NPT	2.4	1/2	12.7	18.8	25.4	23.4	13.7
VUWL-6AN	6	1/8NPT	4.8	1/2	12.7	19.6	27	18.8	15.3
VUWL-6BN	6	1/4NPT	4.8	1/2	12.7	19.6	27	23.4	15.3
VUWL-6CN	6	3/8NPT	4.8	11/16	17.5	22.4	29.8	26.2	15.3
VUWL-6DN	6	1/2NPT	4.8	13/16	20.6	24.4	31.8	33	15.3
VUWL-8AN	8	1/8NPT	4.8	9/16	14.3	21.3	28.8	19.8	16.2
VUWL-8BN	8	1/4NPT	6.4	9/16	14.3	21.3	28.8	24.4	16.2
VUWL-8CN	8	3/8NPT	6.4	11/16	17.5	23.1	30.6	26.2	16.2
VUWL-8DN	8	1/2NPT	6.4	13/16	20.6	25.1	32.6	33	16.2
VUWL-10AN	10	1/8NPT	4.8	11/16	17.5	23.9	31.5	21.6	17.2
VUWL-10BN	10	1/4NPT	7.1	11/16	17.5	23.9	31.5	26.2	17.2
VUWL-10CN	10	3/8NPT	7.9	11/16	17.5	23.9	31.5	26.2	17.2
VUWL-10DN	10	1/2NPT	7.9	13/16	20.6	25.9	33.5	33	17.2
VUWL-12AN	12	1/8NPT	4.8	13/16	20.6	25.9	36	23.6	22.8
VUWL-12BN	12	1/4NPT	7.1	13/16	20.6	25.9	36	28.2	22.8
VUWL-12CN	12	3/8NPT	9.5	13/16	20.6	25.9	36	28.2	22.8
VUWL-12DN	12	1/2NPT	9.5	13/16	20.6	25.9	36	33	22.8
VUWL-12EN	12	3/4NPT	9.5	1 1/8	28.6	29.7	39.8	36.8	22.8
VUWL-15DN	15	1/2NPT	11.9	15/16	23.8	27.9	38	35.1	24.4
VUWL-16CN	16	3/8NPT	9.5	15/16	23.8	27.9	38	30.2	24.4
VUWL-16DN	16	1/2NPT	11.9	15/16	23.8	27.9	38	35.1	24.4
VUWL-16EN	16	3/4NPT	12.7	1 1/8	28.6	29.7	39.8	36.8	24.4
VUWL-18DN	18	1/2NPT	11.9	1 1/8	28.6	29.7	39.8	36.8	24.4
VUWL-18EN	18	3/4NPT	15.1	1 1/8	28.6	29.7	39.8	36.8	24.4
VUWL-20DN	20	1/2NPT	11.9	1 3/8	34.9	34.5	44.6	41.7	26
VUWL-20EN	20	3/4NPT	15.9	1 3/8	34.9	34.5	44.6	41.7	26
VUWL-22EN	22	3/4NPT	15.9	1 3/8	34.9	34.5	44.6	41.7	26
VUWL-22FN	22	1NPT	18.3	1 3/8	34.9	34.5	44.6	46.5	26
VUWL-25EN	25	3/4NPT	15.9	1 3/8	34.9	36.8	49.1	41.7	31.3
VUWL-25FN	25	1NPT	21.8	1 3/8	34.9	36.8	49.1	46.5	31.3

For inches, see next page

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Elbows (continued)

L



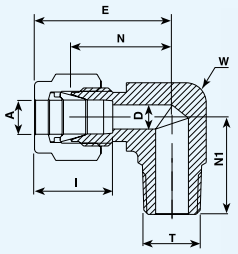
Tube (Inch) Male NPT Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWL-1.6AN	1/16	1.6	1/8NPT	0.05	1.3	7/16	11.1	0.6	15.2	0.75	19.1	0.7	17.8	0.34	8.6
VUWL-3,2AN	1/8	3.2	1/8NPT	0.09	2.3	7/16	11.1	0.67	17	0.93	23.6	0.7	17.8	0.5	12.7
VUWL-3,2BN	1/8	3.2	1/4NPT	0.09	2.3	1/2	12.7	0.71	18	0.97	24.6	0.92	23.4	0.5	12.7
VUWL-4.8AN	3/16	4.8	1/8NPT	0.12	3	1/2	12.7	0.74	18.8	1	25.4	0.74	18.8	0.54	13.7
VUWL-4.8BN	3/16	4.8	1/4NPT	0.12	3	1/2	12.7	0.74	18.8	1	25.4	0.92	23.4	0.54	13.7
VUWL-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.74	18.8	0.6	15.2
VUWL-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.92	23.4	0.6	15.2
VUWL-6.35CN	1/4	6.35	3/8NPT	0.19	4.8	11/16	17.5	0.88	22.4	1.17	29.7	1.03	26.2	0.6	15.2
VUWL-6.35DN	1/4	6.35	1/2NPT	0.19	4.8	13/16	20.6	0.96	24.4	1.25	31.8	1.3	33	0.6	15.2
VUWL-7,93AN	5/16	7.93	1/8NPT	0.19	4.8	9/16	14.3	0.84	21.3	1.13	28.7	0.78	19.8	0.64	16.2
VUWL-7,93BN	5/16	7.93	1/4NPT	0.25	6.4	9/16	14.3	0.84	21.3	1.13	28.7	0.96	24.4	0.64	16.2
VUWL-7.93CN	5/16	7.93	3/8NPT	0.25	6.4	11/16	17.5	0.91	23.1	1.2	30.5	1.03	26.2	0.64	16.2
VUWL-9.52AN	3/8	9.52	1/8NPT	0.19	4.8	5/8	15.9	0.91	23.1	1.2	30.5	0.82	20.8	0.66	16.8
VUWL-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	1	25.4	0.66	16.8
VUWL-9,52CN	3/8	9.52	3/8NPT	0.28	7.1	11/16	17.5	0.94	23.9	1.23	31.2	1.03	26.2	0.66	16.8
VUWL-9.52DN	3/8	9.52	1/2NPT	0.28	7.1	13/16	20.6	1.02	25.9	1.31	33.3	1.3	33	0.66	16.8
VUWL-9.52EN	3/8	9.52	3/4NPT	0.28	7.1	1 1/16	27	1.17	29.7	1.46	37.1	1.45	36.8	0.66	16.8
VUWL-12.7BN	1/2	12.7	1/4NPT	0.28	7.1	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWL-12.7CN	1/2	12.7	3/8NPT	0.37	9.5	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWL-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	1.3	33	0.9	22.9
VUWL-12.7EN	1/2	12.7	3/4NPT	0.41	10.4	1 1/16	27	1.17	29.7	1.57	39.9	1.45	36.8	0.9	22.9
VUWL-15.88CN	5/8	15.88	3/8NPT	0.37	9.6	15/16	23.8	1.1	27.9	1.5	38.1	1.19	30.2	0.96	24.4
VUWL-15.88DN	5/8	15.88	1/2NPT	0.47	11.9	15/16	23.8	1.1	27.9	1.5	38.1	1.38	35.1	0.96	24.4
VUWL-15.88EN	5/8	15.88	3/4NPT	0.50	12.7	1 1/8	28.6	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4
VUWL-19.05DN	3/4	19.05	1/2NPT	0.47	11.9	1 1/16	27	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4
VUWL-19.05EN	3/4	19.05	3/4NPT	0.62	15.8	1 1/16	27	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4
VUWL-22.22EN	7/8	22.22	3/4NPT	0.62	15.8	1 3/8	34.9	1.36	34.5	1.76	44.7	1.64	41.7	1.02	25.9
VUWL-25.4EN	1	25.4	3/4NPT	0.62	15.8	1 3/8	34.9	1.45	36.8	1.93	49	1.64	41.7	1.23	31.2
VUWL-25.4FN	1	25.4	1NPT	0.86	21.8	1 3/8	34.9	1.45	36.8	1.93	49	1.83	46.5	1.23	31.2

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Elbows

L



Tube (Metric) ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWL-3A	3	R 1/8	2.4	7/16	11.1	17	23.6	17.8	12.9
VUWL-3B	3	R 1/4	2.4	1/2	12.7	18	24.6	23.4	12.9
VUWL-4A	4	R 1/8	2.4	1/2	12.7	18.8	25.4	18.8	13.7
VUWL-4B	4	R 1/4	2.4	1/2	12.7	18.8	25.4	23.4	13.7
VUWL-6A	6	R 1/8	4.8	1/2	12.7	19.6	27	18.8	15.3
VUWL-6B	6	R 1/4	4.8	1/2	12.7	19.6	27	23.4	15.3
VUWL-6C	6	R 3/8	4.8	11/16	17.5	22.4	29.8	26.2	15.3
VUWL-6D	6	R 1/2	4.8	13/16	20.6	24.4	31.8	33	15.3
VUWL-8A	8	R 1/8	4.8	9/16	14.3	21.3	28.8	19.8	16.2
VUWL-8B	8	R 1/4	6.4	9/16	14.3	21.3	28.8	24.4	16.2
VUWL-8C	8	R 3/8	6.4	11/16	17.5	23.1	30.6	26.2	16.2
VUWL-8D	8	R 1/2	6.4	13/16	20.6	25.1	32.6	33	16.2
VUWL-10A	10	R 1/8	4.8	11/16	17.5	23.9	31.5	21.6	17.2
VUWL-10B	10	R 1/4	7.1	11/16	17.5	23.9	31.5	26.2	17.2
VUWL-10C	10	R 3/8	7.9	11/16	17.5	23.9	31.5	26.2	17.2
VUWL-10D	10	R 1/2	7.9	13/16	20.6	25.9	33.5	33	17.2
VUWL-12A	12	R 1/8	4.8	13/16	20.6	25.9	36	23.6	22.8
VUWL-12B	12	R 1/4	7.1	13/16	20.6	25.9	36	28.2	22.8
VUWL-12C	12	R 3/8	9.5	13/16	20.6	25.9	36	28.2	22.8
VUWL-12D	12	R 1/2	9.5	13/16	20.6	25.9	36	33	22.8
VUWL-12E	12	R 3/4	9.5	1 1/16	27	29.7	39.8	36.8	22.8
VUWL-16C	16	R 3/8	9.5	15/16	23.8	27.9	38	30.2	24.4
VUWL-16D	16	R 1/2	11.9	15/16	23.8	27.9	38	35.1	24.4
VUWL-18D	18	R 1/2	11.9	1 1/8	28.6	29.7	39.8	36.8	24.4
VUWL-18E	18	R 3/4	15.1	1 1/16	27	29.7	39.8	36.8	24.4
VUWL-20D	20	R 1/2	11.9	1 3/8	34.9	34.5	44.6	41.7	26
VUWL-20E	20	R 3/4	15.9	1 3/8	34.9	34.5	44.6	41.7	26
VUWL-22E	22	R 3/4	15.9	1 3/8	34.9	34.5	44.6	41.7	26
VUWL-22F	22	R 1	18.3	1 3/8	34.9	34.5	44.6	46.5	26
VUWL-25E	25	R 3/4	15.9	1 3/8	34.9	36.8	49.1	41.7	31.3
VUWL-25F	25	R 1	21.8	1 3/8	34.9	36.8	49.1	46.5	31.3

Reference Specifications:

DIN - 2999
BS - 21
JIS - B0203
ISO - 1/7-BSP-T

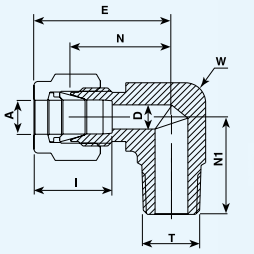
Designation:

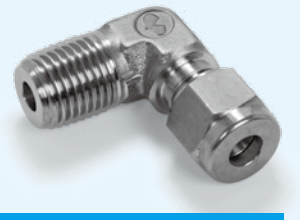
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Elbows (R)

L





Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWL-1.6A	1/16	1.6	R 1/8	0.05	1.3	7/16	11.1	0.6	15.2	0.75	19.1	0.7	17.8	0.34	8.6
VUWL-3,2A	1/8	3.2	R 1/8	0.09	2.3	7/16	11.1	0.67	17	0.93	23.6	0.7	17.8	0.5	12.7
VUWL-3,2B	1/8	3.2	R 1/4	0.09	2.3	1/2	12.7	0.71	18	0.97	24.6	0.92	23.4	0.5	12.7
VUWL-4.8A	3/16	4.8	R 1/8	0.12	3	1/2	12.7	0.74	18.8	1	25.4	0.74	18.8	0.54	13.7
VUWL-4.8B	3/16	4.8	R 1/4	0.12	3	1/2	12.7	0.74	18.8	1	25.4	0.92	23.4	0.54	13.7
VUWL-6.35A	1/4	6.35	R 1/8	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.74	18.8	0.6	15.2
VUWL-6.35B	1/4	6.35	R 1/4	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.92	23.4	0.6	15.2
VUWL-6.35C	1/4	6.35	R 3/8	0.19	4.8	11/16	17.5	0.88	22.4	1.17	29.7	1.03	26.2	0.6	15.2
VUWL-6.35D	1/4	6.35	R 1/2	0.19	4.8	13/16	20.6	0.96	24.4	1.25	31.8	1.3	33	0.6	15.2
VUWL-7,93A	5/16	7.93	R 1/8	0.19	4.8	9/16	14.3	0.84	21.3	1.13	28.7	0.78	19.8	0.64	16.2
VUWL-7,93B	5/16	7.93	R 1/4	0.25	6.35	9/16	14.3	0.84	21.3	1.13	28.7	0.96	24.4	0.64	16.2
VUWL-7.93C	5/16	7.93	R 3/8	0.25	6.35	11/16	17.5	0.91	23.1	1.2	30.5	1.03	26.2	0.64	16.2
VUWL-9.52A	3/8	9.52	R 1/8	0.19	4.8	5/8	15.9	0.91	23.1	1.2	30.5	0.82	20.8	0.66	16.8
VUWL-9.52B	3/8	9.52	R 1/4	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	1	25.4	0.66	16.8
VUWL-9,52C	3/8	9.52	R 3/8	0.28	7.1	11/16	17.5	0.94	23.9	1.23	31.2	1.03	26.2	0.66	16.8
VUWL-9.52D	3/8	9.52	R 1/2	0.28	7.1	13/16	20.6	1.02	25.9	1.31	33.3	1.3	33	0.66	16.8
VUWL-9.52E	3/8	9.52	R 3/4	0.28	7.1	1 1/8	28.6	1.17	29.7	1.46	37.1	1.45	36.8	0.66	16.8
VUWL-12.7B	1/2	12.7	R 1/4	0.28	7.1	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWL-12.7C	1/2	12.7	R 3/8	0.37	9.5	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWL-12.7D	1/2	12.7	R 1/2	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	1.3	33	0.9	22.9
VUWL-12.7E	1/2	12.7	R 3/4	0.41	10.4	1 1/8	28.6	1.17	29.7	1.57	39.9	1.45	36.8	0.9	22.9
VUWL-15.88C	5/8	15.88	R 3/8	0.38	9.6	15/16	23.8	1.1	27.9	1.5	38.1	1.19	30.2	0.96	24.4
VUWL-15.88D	5/8	15.88	R 1/2	0.47	11.9	15/16	23.8	1.1	27.9	1.5	38.1	1.38	35.1	0.96	24.4
VUWL-15.88E	5/8	15.88	R 3/4	0.5	12.7	1 1/8	28.6	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4
VUWL-19.05D	3/4	19.05	R 1/2	0.47	11.9	1 1/16	27	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4
VUWL-19.05E	3/4	19.05	R 3/4	0.62	15.8	1 1/16	27	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4
VUWL-22.22E	7/8	22.22	R 3/4	0.62	15.8	1 3/8	34.9	1.36	34.5	1.76	44.7	1.64	41.7	1.02	25.9
VUWL-25.4E	1	25.4	R 3/4	0.62	15.8	1 3/8	34.9	1.45	36.8	1.93	49	1.64	41.7	1.23	31.2
VUWL-25.4F	1	25.4	R 1	0.86	21.8	1 3/8	34.9	1.45	36.8	1.93	49	1.83	46.5	1.23	31.2

Reference Specifications:

DIN - 2999
BS - 21
JIS - B0203
ISO - 1/7-BSP-T

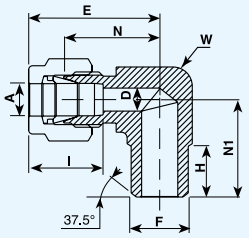
Designation:

R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Pipe Weld Elbows

LR

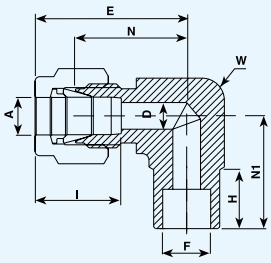


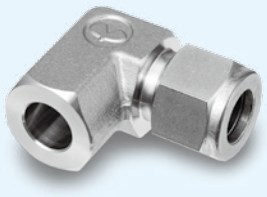
Tube (Inch) To Pipe (Inch)

Part Numbers	A Tube O.D.		F Tube size.		D		W		N		H		E		N1		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWLR-6.35X10.3	1/4	6.35	1/8	10.3	0.19	4.8	1/2	12.7	0.77	19.6	0.38	9.7	1.06	26.9	0.74	18.8	0.6	15.2
VUWLR-6.35X13.7	1/4	6.35	1/4	13.7	0.19	4.8	1/2	12.7	0.77	19.6	0.56	14.2	1.06	26.9	0.92	23.4	0.6	15.2
VUWLR-9.52X13.7	3/8	9.52	1/4	13.7	0.28	7.1	5/8	15.9	0.91	23.1	0.56	14.2	1.2	30.5	1	25.4	0.66	16.8
VUWLR-12.7X21.3	1/2	12.7	1/2	21.3	0.41	10.4	13/16	20.6	1.02	25.9	0.75	19.1	1.42	36.1	1.3	33	0.9	22.9
VUWLR-19.05X26.7	3/4	19.05	3/4	26.7	0.62	15.8	1 1/8	28.6	1.17	29.7	0.75	19.1	1.57	39.9	1.45	36.8	0.96	24.4

Tube Socket Weld Elbows

LR





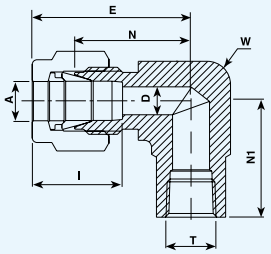
Tube (Inch) To Pipe (Inch)

Part Numbers	A Tube O.D.		F Tube size.		D		W		N		H		E		N1		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWLR-6.35X6.35F	1/4	6.35	1/4	6.35	0.19	4.8	1/2	12.7	0.77	19.6	0.31	7.9	1.06	26.9	0.77	19.6	0.6	15.2
VUWLR-9.52X9.52F	3/8	9.52	3/8	9.52	0.28	7.1	5/8	15.9	0.91	23.1	0.38	9.7	1.2	30.5	0.91	23.1	0.66	16.8
VUWLR-12.7X12.7F	1/2	12.7	1/2	12.7	0.41	10.4	15/16	23.8	1.02	25.9	0.5	12.7	1.42	36.1	1.02	25.9	0.9	22.9

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Elbows

LG



Tube (Metric) To Female NPT Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWLG-6AN	6	1/8NPT	4.8	5/8	15.9	19.6	27	21.6	15.3
VUWLG-6BN	6	1/4NPT	4.8	11/16	17.5	22.4	29.8	22.4	15.3
VUWLG-10BN	10	1/4NPT	7.9	13/16	20.6	25.9	33.5	22.4	17.2
VUWLG-12BN	12	1/4NPT	9.5	13/16	20.6	25.9	36	22.4	22.8
VUWLG-12DN	12	1/2NPT	9.5	1 1/8	28.6	28.7	38.5	28.4	22.8

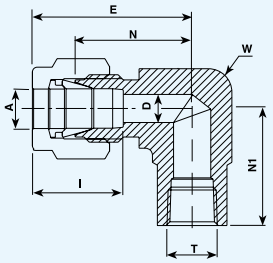
Tube (Inch) To Female NPT Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWLG-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	5/8	15.9	0.71	18	0.97	24.6	0.75	19.1	0.5	12.7
VUWLG-3.2BN	1/8	3.2	1/4NPT	0.09	2.3	13/16	20.6	0.82	20.8	1.08	27.4	0.94	23.8	0.5	12.7
VUWLG-4.8AN	3/16	4.8	1/8NPT	0.12	3	5/8	15.9	0.74	18.8	1	25.4	0.75	19.1	0.54	13.7
VUWLG-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.75	19.1	0.6	15.3
VUWLG-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	11/16	17.5	0.88	22.4	1.17	29.7	0.88	22.4	0.6	15.3
VUWLG-6.35CN	1/4	6.35	3/8NPT	0.19	4.8	15/16	23.8	0.96	24.4	1.25	31.8	0.88	22.4	0.6	15.3
VUWLG-6.35DN	1/4	6.35	1/2NPT	0.19	4.8	1 1/8	28.6	1.07	27.2	1.36	34.5	1.12	28.5	0.6	15.3
VUWLG-7.93AN	5/16	7.93	1/8NPT	0.25	6.35	9/16	14.3	0.84	21.3	1.13	28.7	0.75	19.1	0.64	16.2
VUWLG-7.93BN	5/16	7.93	1/4NPT	0.25	6.35	13/16	20.6	0.91	23.1	1.2	30.5	0.88	22.4	0.64	16.2
VUWLG-9.52AN	3/8	9.52	1/8NPT	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	0.75	19.1	0.66	16.9
VUWLG-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	11/16	20.6	0.94	23.9	1.23	31.2	0.88	22.4	0.66	16.9
VUWLG-9.52CN	3/8	9.52	3/8NPT	0.28	7.1	15/16	23.8	1.02	25.9	1.31	33.3	0.88	22.4	0.66	16.9
VUWLG-9.52DN	3/8	9.52	1/2NPT	0.28	7.1	1 1/16	27	1.12	28.7	1.42	36.1	1.12	28.5	0.66	16.9
VUWLG-12.7BN	1/2	12.7	1/4NPT	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWLG-12.7CN	1/2	12.7	3/8NPT	0.41	10.4	15/16	23.8	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWLG-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	1 1/16	27	1.12	28.7	1.53	36.9	1.12	28	0.9	22.9
VUWLG-15.88CN	5/8	15.88	3/8NPT	0.5	12.7	15/16	23.8	1.1	27.9	1.5	38.1	0.88	22.4	0.96	24.4
VUWLG-15.88DN	5/8	15.88	1/2NPT	0.5	12.7	1 1/8	28.6	1.17	29.7	1.57	39.9	1.12	28.5	0.96	24.4
VUWLG-19.05DN	3/4	19.05	1/2NPT	0.62	15.7	1 1/8	28.6	1.17	29.7	1.57	39.9	1.12	28.5	0.96	24.4
VUWLG-19.05EN	3/4	19.05	3/4NPT	0.62	15.7	1 3/8	34.9	1.36	34.5	1.76	44.7	1.25	31.8	0.96	24.4
VUWLG-22.22EN	7/8	22.22	3/4NPT	0.72	18.3	1 3/8	34.9	1.25	31.8	1.76	44.7	1.25	31.8	1.02	25.9
VUWLG-25.4EN	1	25.4	3/4NPT	0.88	22.3	1 3/8	34.9	1.25	31.8	1.93	49	1.25	31.8	1.23	31.2
VUWLG-25.4FN	1	25.4	1NPT	0.88	22.3	1 11/16	42.9	1.63	41.4	2.11	53.6	1.5	38.1	1.23	31.2

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Elbows (Rc)

LG



Tube (Metric) To ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWLG-6A	6	Rc 1/8	4.8	5/8	15.9	19.6	27	21.6	15.3
VUWLG-6B	6	Rc 1/4	4.8	11/16	17.5	22.4	29.8	22.4	15.3
VUWLG-10B	10	Rc 1/4	7.9	13/16	20.6	25.9	33.5	22.4	17.2
VUWLG-12B	12	Rc 1/4	9.5	13/16	20.6	25.9	36	22.4	22.8
VUWLG-12D	12	Rc 1/2	9.5	1 1/8	28.6	28.7	38.5	28.4	22.8

Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWLG-3.2A	1/8	3.2	Rc 1/8	0.09	2.3	5/8	15.9	0.71	18	0.97	24.6	0.75	19.1	0.5	12.7
VUWLG-3.2B	1/8	3.2	Rc 1/4	0.09	2.3	13/16	20.6	0.82	20.8	1.08	27.4	0.94	23.8	0.5	12.7
VUWLG-4.8A	3/16	4.8	Rc 1/8	0.12	3	5/8	15.9	0.74	18.8	1	25.4	0.75	19.1	0.54	13.7
VUWLG-6.35A	1/4	6.35	Rc 1/8	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.75	19.1	0.6	15.3
VUWLG-6.35B	1/4	6.35	Rc 1/4	0.19	4.8	11/16	17.5	0.88	22.4	1.17	29.7	0.88	22.4	0.6	15.3
VUWLG-6.35C	1/4	6.35	Rc 3/8	0.19	4.8	15/16	23.8	0.96	24.4	1.25	31.8	0.88	22.4	0.6	15.3
VUWLG-6.35D	1/4	6.35	Rc 1/2	0.19	4.8	1 1/8	28.6	1.07	27.2	1.36	34.5	1.12	28.5	0.6	15.3
VUWLG-7.93A	5/16	7.93	Rc 1/8	0.25	6.35	9/16	14.3	0.84	21.3	1.13	28.7	0.75	19.1	0.64	16.2
VUWLG-7.93B	5/16	7.93	Rc 1/4	0.25	6.35	13/16	20.6	0.91	23.1	1.2	30.5	0.88	22.4	0.64	16.2
VUWLG-9.52A	3/8	9.52	Rc 1/8	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	0.75	19.1	0.66	16.9
VUWLG-9.52B	3/8	9.52	Rc 1/4	0.28	7.1	11/16	20.6	0.94	23.9	1.23	31.2	0.88	22.4	0.66	16.9
VUWLG-9.52C	3/8	9.52	Rc 3/8	0.28	7.1	15/16	23.8	1.02	25.9	1.31	33.3	0.88	22.4	0.66	16.9
VUWLG-9.52D	3/8	9.52	Rc 1/2	0.28	7.1	1 1/16	27	1.12	28.7	1.42	36.1	1.12	28.5	0.66	16.9
VUWLG-12.7B	1/2	12.7	Rc 1/4	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWLG-12.7C	1/2	12.7	Rc 3/8	0.41	10.4	15/16	23.8	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWLG-12.7D	1/2	12.7	Rc 1/2	0.41	10.4	1 1/16	27	1.12	28.7	1.53	36.9	1.12	28.5	0.9	22.9
VUWLG-15.88C	5/8	15.88	Rc 3/8	0.5	12.7	15/16	23.8	1.1	27.9	1.5	38.1	0.88	22.4	0.96	24.4
VUWLG-15.88D	5/8	15.88	Rc 1/2	0.5	12.7	1 1/8	28.6	1.17	29.7	1.57	39.9	1.12	28.5	0.96	24.4
VUWLG-19.05D	3/4	19.05	Rc 1/2	0.62	15.7	1 1/8	28.6	1.17	29.7	1.57	39.9	1.12	28.5	0.96	24.4
VUWLG-19.05E	3/4	19.05	Rc 3/4	0.62	15.8	1 3/8	34.9	1.36	34.5	1.76	44.7	1.25	31.8	0.96	24.4
VUWLG-22.22E	7/8	22.22	Rc 3/4	0.72	18.3	1 3/8	34.9	1.25	31.8	1.76	44.7	1.25	31.8	1.02	25.9
VUWLG-25.4E	1	25.4	Rc 3/4	0.88	22.3	1 3/8	34.9	1.25	31.8	1.93	49	1.25	31.8	1.23	31.2
VUWLG-25.4F	1	25.4	Rc 1	0.88	22.3	1 11/16	42.9	1.63	41.4	2.11	53.6	1.5	38.1	1.23	31.2

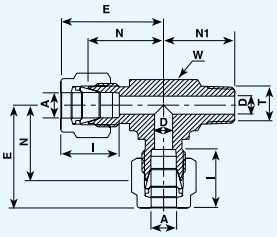
Designation:

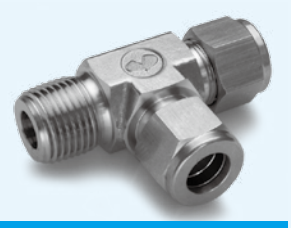
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Run Tees (NPT)

TL





Tube (Metric) To Male NPT Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWTL-6AN	6	1/8NPT	4.8	1/2	12.7	19.6	27	18.8	15.3
VUWTL-6BN	6	1/4NPT	4.8	1/2	12.7	19.6	27	23.4	15.3
VUWTL-8AN	8	1/8NPT	4.8	5/8	15.9	22.4	29.9	20.8	16.2
VUWTL-8BN	8	1/4NPT	6.4	5/8	15.9	22.4	29.9	25.4	16.2
VUWTL-10BN	10	1/4NPT	7.1	13/16	20.6	25.9	33.5	28.2	16.2
VUWTL-12BN	12	1/4NPT	7.1	13/16	20.6	25.9	36	28.2	22.8
VUWTL-12CN	12	3/8NPT	9.5	13/16	20.6	25.9	36	28.2	22.8
VUWTL-12DN	12	1/2NPT	9.5	15/16	23.8	25.9	36	33	22.8
VUWTL-16DN	16	1/2NPT	11.9	15/16	23.8	27.9	38	35	24.4

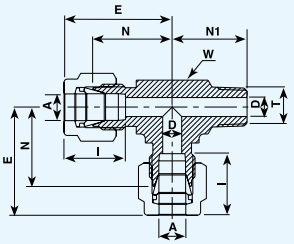
Tube (Inch) To Male NPT Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTL-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	7/16	11.1	0.67	17	0.93	23.6	0.7	17.8	0.5	12.7
VUWTL-3.2BN	1/8	3.2	1/4NPT	0.09	2.3	1/2	12.7	0.71	18	0.97	24.6	0.92	23.4	0.5	12.7
VUWTL-4.8AN	3/16	4.8	1/8NPT	0.12	3.1	7/16	11.1	0.7	17.8	0.96	24.4	0.7	17.8	0.54	13.7
VUWTL-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.74	18.8	0.6	15.2
VUWTL-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.92	23.4	0.6	15.2
VUWTL-7.93AN	5/16	7.93	1/8NPT	0.19	4.8	5/8	15.9	0.88	22.4	1.17	29.7	0.82	20.8	0.64	16.3
VUWTL-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	1	25.4	0.66	16.8
VUWTL-9.52CN	3/8	9.52	3/8NPT	0.28	7.1	13/16	20.6	1.02	25.9	1.31	33.3	1.11	28.2	0.66	16.8
VUWTL-12.7CN	1/2	12.7	3/8NPT	0.38	9.5	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWTL-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	1.3	33	0.9	22.9
VUWTL-15.88DN	5/8	15.88	1/2NPT	0.47	11.9	15/16	23.8	1.1	27.9	1.5	38.1	1.38	35.1	0.96	24.4
VUWTL-19.05EN	3/4	19.05	3/4NPT	0.62	15.8	1 1/8	28.6	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Run Tees (R)

TL



Tube (Metric) To ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWTL-6A	6	R 1/8	4.8	1/2	12.7	19.6	27	18.8	15.3
VUWTL-6B	6	R 1/4	4.8	1/2	12.7	19.6	27	23.4	15.3
VUWTL-8A	8	R 1/8	4.8	5/8	15.9	22.4	29.9	20.8	16.2
VUWTL-8B	8	R 1/4	6.4	5/8	15.9	22.4	29.9	25.4	16.2
VUWTL-10B	10	R 1/4	7.1	13/16	20.6	25.9	33.5	28.2	16.2
VUWTL-12B	12	R 1/4	7.1	13/16	20.6	25.9	36	28.2	22.8
VUWTL-12C	12	R 3/8	9.5	13/16	20.6	25.9	36	28.2	22.8
VUWTL-12D	12	R 1/2	9.5	15/16	23.8	25.9	36	33	22.8
VUWTL-16D	16	R 1/2	11.9	15/16	23.8	27.9	38	35	24.4

Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTL-3.2A	1/8	3.2	R 1/8	0.09	2.3	7/16	11.1	0.67	17	0.93	23.6	0.7	17.8	0.5	12.7
VUWTL-3.2B	1/8	3.2	R 1/4	0.09	2.3	1/2	12.7	0.71	18	0.97	24.6	0.92	23.4	0.5	12.7
VUWTL-4.8A	3/16	4.8	R 1/8	0.12	3.1	7/16	11.1	0.7	17.8	0.96	24.4	0.7	17.8	0.54	13.7
VUWTL-6.35A	1/4	6.35	R 1/8	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.74	18.8	0.6	15.2
VUWTL-6.35B	1/4	6.35	R 1/4	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.92	23.4	0.6	15.2
VUWTL-7.93A	5/16	7.93	R 1/8	0.19	4.8	5/8	15.9	0.88	22.4	1.17	29.7	0.82	20.8	0.64	16.3
VUWTL-9.52B	3/8	9.52	R 1/4	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	1	25.4	0.66	16.8
VUWTL-9.52C	3/8	9.52	R 3/8	0.28	7.1	13/16	20.6	1.02	25.9	1.31	33.3	1.11	28.2	0.66	16.8
VUWTL-12.7C	1/2	12.7	R 3/8	0.38	9.5	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWTL-12.7D	1/2	12.7	R 1/2	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	1.3	33	0.9	22.9
VUWTL-15.88D	5/8	15.88	R 1/2	0.47	11.9	15/16	23.8	1.1	27.9	1.5	38.1	1.38	35.1	0.96	24.4
VUWTL-19.05E	3/4	19.05	R 3/4	0.62	15.8	1 1/8	28.6	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4

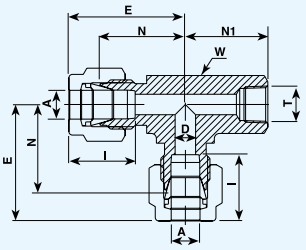
Designation:

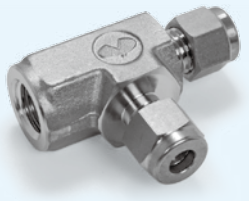
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Run Tees (NPT)

TLG





Tube (Metric) To Female NPT Thread

Part Numbers	A Tube O.D.	T	D		W		N		E		N1		I	
	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTLG-6AN	6	1/8NPT	0.19	4.8	5/8	15.9	0.77	19.6	1.06	27	0.74	19	0.6	15.3
VUWTLG-6BN	6	1/4NPT	0.19	4.8	13/16	20.6	0.88	22.4	1.17	29.8	0.88	22.4	0.6	15.3
VUWTLG-12BN	12	1/4NPT	0.37	9.5	13/16	20.6	1.01	25.9	1.41	36	0.88	22.4	0.89	22.8
VUWTLG-12DN	12	1/2NPT	0.37	9.5	1 1/8	28.6	1.16	29.7	1.57	39.8	1.12	28.5	0.89	22.8

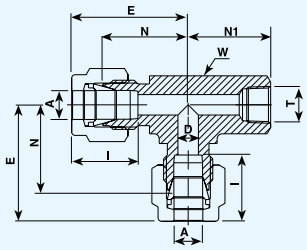
Tube (Metric) To Female NPT Thread

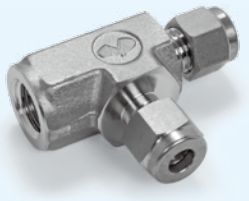
Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTLG-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	5/8	15.9	0.71	18	0.97	24.4	0.75	19.1	0.5	12.7
VUWTLG-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	5/8	15.9	0.77	19.6	1.06	26.9	0.75	19.1	0.6	15.2
VUWTLG-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	13/16	20.6	0.88	22.4	1.17	29.7	0.88	22.4	0.6	15.2
VUWTLG-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	13/16	20.6	0.94	23.9	1.23	31.2	0.88	22.4	0.66	16.8
VUWTLG-12.7CN	1/2	12.7	3/8NPT	0.41	10.4	15/16	23.8	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWTLG-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	1 1/16	27	1.17	29.7	1.57	39.9	1.12	28.5	0.9	22.9
VUWTLG-19.05EN	3/4	19.05	3/4NPT	0.62	15.8	1 3/8	34.9	1.36	34.5	1.76	44.7	1.25	31.8	0.9	24.4

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Run Tees (Rc)

TLG





Tube (Metric) To ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D		W		N		E		N1		I	
	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTLG-6A	6	Rc 1/8	0.19	4.8	5/8	15.9	0.77	19.6	1.06	27	0.74	19	0.6	15.3
VUWTLG-6B	6	Rc 1/4	0.19	4.8	13/16	20.6	0.88	22.4	1.17	29.8	0.88	22.4	0.6	15.3
VUWTLG-12B	12	Rc 1/4	0.37	9.5	13/16	20.6	1.01	25.9	1.41	36	0.88	22.4	0.89	22.8
VUWTLG-12D	12	Rc 1/2	0.37	9.5	1 1/8	28.6	1.16	29.7	1.57	39.8	1.12	28.5	0.89	22.8

Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTLG-3.2A	1/8	3.2	Rc 1/8	0.09	2.3	5/8	15.9	0.71	18	0.97	24.4	0.75	19.1	0.5	12.7
VUWTLG-6.35A	1/4	6.35	Rc 1/8	0.19	4.8	5/8	15.9	0.77	19.6	1.06	26.9	0.75	19.1	0.6	15.2
VUWTLG-6.35B	1/4	6.35	Rc 1/4	0.19	4.8	13/16	20.6	0.88	22.4	1.17	29.7	0.88	22.4	0.6	15.2
VUWTLG-9.52B	3/8	9.52	Rc 1/4	0.28	7.1	13/16	20.6	0.94	23.9	1.23	31.2	0.88	22.4	0.66	16.8
VUWTLG-12.7C	1/2	12.7	Rc 3/8	0.41	10.4	15/16	23.8	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWTLG-12.7D	1/2	12.7	Rc 1/2	0.41	10.4	1 1/16	27	1.17	29.7	1.57	39.9	1.12	28.5	0.9	22.9
VUWTLG-19.05E	3/4	19.05	Rc 3/4	0.62	15.8	1 3/8	34.9	1.36	34.5	1.76	44.7	1.25	31.8	0.9	24.4

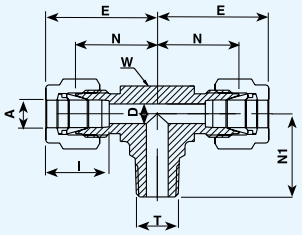
Designation:

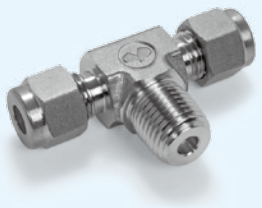
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Branch Tees (NPT)

TS





Tube (Metric) To Male NPT Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWTS-6AN	6	1/8NPT	4.8	1/2	12.7	19.6	27	18.8	15.3
VUWTS-6BN	6	1/4NPT	4.8	1/2	12.7	19.6	27	23.4	15.3
VUWTS-8AN	8	1/8NPT	4.8	5/8	15.9	22.4	29.9	20.8	16.2
VUWTS-8BN	8	1/4NPT	6.4	5/8	15.9	22.4	29.9	25.4	16.2
VUWTS-10BN	10	1/4NPT	7.1	13/16	20.6	25.9	33.5	28.2	17.2
VUWTS-12BN	12	1/4NPT	7.1	13/16	20.6	25.9	36	28.2	22.8
VUWTS-12CN	12	3/8NPT	9.5	13/16	20.6	25.9	36	28.2	22.8
VUWTS-12DN	12	1/2NPT	9.5	13/16	20.6	25.9	36	33	22.8
VUWTS-16DN	16	1/2NPT	11.9	15/16	23.8	28.7	38.8	35.8	24.4

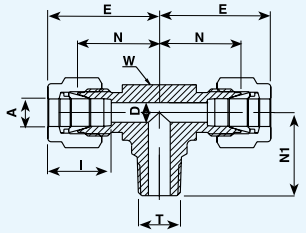
Tube (Inch) To Male NPT Thread

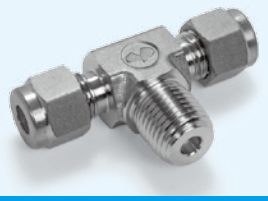
Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTS-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	7/16	11.1	0.67	17	0.93	23.6	0.7	17.8	0.5	12.7
VUWTS-3.2BN	1/8	3.2	1/4NPT	0.09	2.3	1/2	12.7	0.71	18	0.97	24.6	0.92	23.3	0.5	12.7
VUWTS-4.8AN	3/16	4.8	1/8NPT	0.12	3	7/16	11.1	0.7	17.8	0.96	24.4	0.7	17.8	0.54	13.7
VUWTS-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.74	18.8	0.6	15.2
VUWTS-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.92	23.4	0.6	15.2
VUWTS-7.93AN	5/16	7.93	1/8NPT	0.19	4.8	5/8	15.9	0.88	22.4	1.17	29.7	0.82	20.8	0.64	16.2
VUWTS-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	1	25.4	0.66	16.8
VUWTS-9.52CN	3/8	9.52	3/8NPT	0.28	7.1	13/16	20.6	1.02	25.9	1.31	33.3	1.11	28.2	0.66	16.8
VUWTS-12.7CN	1/2	12.7	3/8NPT	0.38	9.5	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWTS-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	13/16	20.6	1.02	26	1.42	36.1	1.3	33	0.9	22.9
VUWTS-15.88DN	5/8	15.88	1/2NPT	0.47	11.9	15/16	23.8	1.13	28.7	1.53	38.9	1.41	35.8	0.96	24.4
VUWTS-19.05EN	3/4	19.05	3/4NPT	0.62	15.8	1 1/16	27	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Branch Tees (R)

TS





Tube (Metric) To ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWTS-6A	6	R 1/8	4.8	1/2	12.7	19.6	27	18.8	15.3
VUWTS-6B	6	R 1/4	4.8	1/2	12.7	19.6	27	23.4	15.3
VUWTS-8A	8	R 1/8	4.8	5/8	15.9	22.4	29.9	20.8	16.2
VUWTS-8B	8	R 1/4	6.4	5/8	15.9	22.4	29.9	25.4	16.2
VUWTS-10B	10	R 1/4	7.1	13/16	20.6	25.9	33.5	28.2	17.2
VUWTS-12B	12	R 1/4	7.1	13/16	20.6	25.9	36	28.2	22.8
VUWTS-12C	12	R 3/8	9.5	13/16	20.6	25.9	36	28.2	22.8
VUWTS-12D	12	R 1/2	9.5	13/16	20.6	25.9	36	33	22.8
VUWTS-16D	16	R 1/2	11.9	15/16	23.8	28.7	38.8	35.8	24.4

Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTS-3.2A	1/8	3.2	R 1/8	0.09	2.3	7/16	11.1	0.67	17	0.93	23.6	0.7	17.8	0.5	12.7
VUWTS-3.2B	1/8	3.2	R 1/4	0.09	2.3	1/2	12.7	0.71	18	0.97	24.6	0.92	23.4	0.5	12.7
VUWTS-4.8A	3/16	4.8	R 1/8	0.12	3	7/16	11.1	0.7	17.8	0.96	24.4	0.7	17.8	0.54	13.7
VUWTS-6.35A	1/4	6.35	R 1/8	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.74	18.8	0.6	15.2
VUWTS-6.35B	1/4	6.35	R 1/4	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.92	23.4	0.6	15.2
VUWTS-7.93A	5/16	7.93	R 1/8	0.19	4.8	5/8	15.9	0.88	22.4	1.17	29.7	0.82	20.8	0.64	16.2
VUWTS-9.52B	3/8	9.52	R 1/4	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	1	25.4	0.66	16.8
VUWTS-9.52C	3/8	9.52	R 3/8	0.28	7.1	13/16	20.6	1.02	25.9	1.31	33.3	1.11	28.2	0.66	16.8
VUWTS-12.7C	1/2	12.7	R 3/8	0.38	9.5	13/16	20.6	1.02	25.9	1.42	36.1	1.11	28.2	0.9	22.9
VUWTS-12.7D	1/2	12.7	R 1/2	0.41	10.4	13/16	20.6	1.02	26	1.42	36.1	1.3	33	0.9	22.9
VUWTS-15.88D	5/8	15.88	R 1/2	0.47	11.9	15/16	23.8	1.13	28.7	1.53	38.9	1.41	35.8	0.96	24.4
VUWTS-19.05E	3/4	19.05	R 3/4	0.62	15.8	1 1/16	27	1.17	29.7	1.57	39.9	1.45	36.8	0.96	24.4

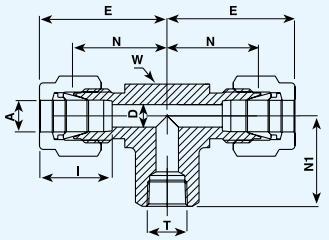
Designation:

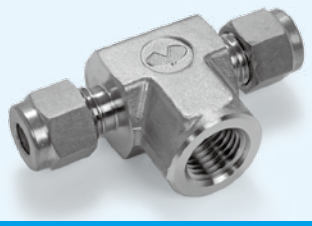
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Branch Tees (NPT)

TG





Tube (Metric) To Female NPT Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWTG-6AN	6	1/8NPT	4.8	5/8	15.9	19.6	27	19	15.3
VUWTG-6BN	6	1/4NPT	4.8	13/16	20.6	22.4	29.8	22.4	15.3
VUWTG-10BN	10	1/4NPT	7.9	13/16	20.6	25.9	33.5	22.4	17.2
VUWTG-10CN	10	3/8NPT	7.9	15/16	23.8	25.9	33.5	22.4	17.2
VUWTG-12BN	12	1/4NPT	9.5	13/16	20.6	25.9	36	22.4	22.8
VUWTG-12DN	12	1/2NPT	9.5	1 1/16	27	28.7	38.8	28.4	22.8
VUWTG-16DN	16	1/2NPT	12.7	1 1/8	28.6	28.7	38.8	28.4	24.4

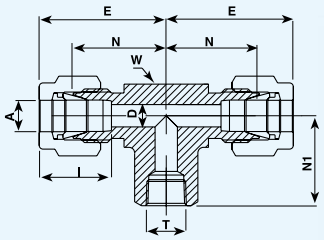
Tube (Inch) To Female NPT Thread

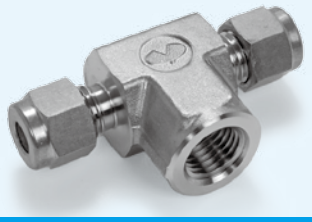
Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTG-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	5/8	15.9	0.7	18	0.97	24.6	0.75	19.1	0.5	12.7
VUWTG-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	5/8	15.9	0.77	19.6	1.06	26.9	0.75	19.1	0.6	15.2
VUWTG-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	13/16	20.6	0.88	22.4	1.17	29.7	0.88	22.4	0.6	15.2
VUWTG-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	13/16	20.6	0.94	23.9	1.23	31.2	0.88	22.4	0.66	16.8
VUWTG-12.7BN	1/2	12.7	1/4NPT	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWTG-12.7CN	1/2	12.7	3/8NPT	0.41	10.4	15/16	23.8	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWTG-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	1 1/16	27	1.13	28.7	1.53	38.9	1.12	28.5	0.9	22.9
VUWTG-15.88DN	5/8	15.88	1/2NPT	0.5	12.7	1 1/16	27	1.13	28.7	1.53	38.9	1.12	28.4	0.96	24.4
VUWTG-19.05EN	3/4	19.05	3/4NPT	0.62	15.8	1 3/8	34.9	1.36	34.5	1.76	44.7	1.25	31.8	0.96	24.4
VUWTG-25.4EN	1	25.4	3/4NPT	0.88	22.3	1 3/8	34.9	1.45	36.8	1.93	49	1.25	31.8	1.23	31.2
VUWTG-25.4FN	1	25.4	1NPT	0.88	22.3	1 11/16	42.9	1.63	41.4	2.11	53.6	1.5	38.1	1.23	31.2

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Branch Tees (Rc)

TG





Tube (Metric) To ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W		N	E	N1	I
	mm		mm	in	mm	mm	mm	mm	mm
VUWTG-6A	6	Rc 1/8	4.8	5/8	15.9	19.6	27	19	15.3
VUWTG-6B	6	Rc 1/4	4.8	13/16	20.6	22.4	29.8	22.4	15.3
VUWTG-10B	10	Rc 1/4	7.9	13/16	20.6	25.9	33.5	22.4	17.2
VUWTG-10C	10	Rc 3/8	7.9	15/16	23.8	25.9	33.5	22.4	17.2
VUWTG-12B	12	Rc 1/4	9.5	13/16	20.6	25.9	36	22.4	22.8
VUWTG-12D	12	Rc 1/2	9.5	1 1/16	27	28.7	38.8	28.4	22.8
VUWTG-16D	16	Rc 1/2	12.7	1 1/8	28.6	28.7	38.8	28.4	24.4

Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWTG-3.2A	1/8	3.2	Rc 1/8	0.09	2.3	5/8	15.9	0.7	18	0.97	24.6	0.75	19.1	0.5	12.7
VUWTG-6.35A	1/4	6.35	Rc 1/8	0.19	4.8	5/8	15.9	0.77	19.6	1.06	26.9	0.75	19.1	0.6	15.2
VUWTG-6.35B	1/4	6.35	Rc 1/4	0.19	4.8	13/16	20.6	0.88	22.4	1.17	29.7	0.88	22.4	0.6	15.2
VUWTG-9.52B	3/8	9.52	Rc 1/4	0.28	7.1	13/16	20.6	0.94	23.9	1.23	31.2	0.88	22.4	0.66	16.8
VUWTG-12.7B	1/2	12.7	Rc 1/4	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWTG-12.7C	1/2	12.7	Rc 3/8	0.41	10.4	15/16	23.8	1.02	25.9	1.42	36.1	0.88	22.4	0.9	22.9
VUWTG-12.7D	1/2	12.7	Rc 1/2	0.41	10.4	1 1/16	27	1.13	28.7	1.53	38.9	1.12	28.5	0.9	22.9
VUWTG-15.88D	5/8	15.88	Rc 1/2	0.5	12.7	1 1/16	27	1.13	28.7	1.53	38.9	1.12	28.4	0.96	24.4
VUWTG-19.05E	3/4	19.05	Rc 3/4	0.62	15.8	1 3/8	34.9	1.36	34.5	1.76	44.7	1.25	31.8	0.96	24.4
VUWTG-25.4E	1	25.4	Rc 3/4	0.88	22.3	1 3/8	34.9	1.45	36.8	1.93	49	1.25	31.8	1.23	31.2
VUWTG-25.4F	1	25.4	Rc 1	0.88	22.3	1 11/16	42.9	1.63	41.4	2.11	53.6	1.5	38.1	1.23	31.2

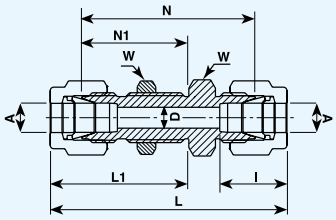
Designation:

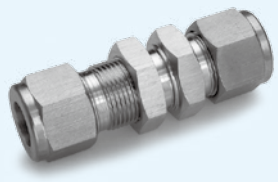
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Bulkhead Unions

P





Tube (Metric) To Tube (Metric)

Part Numbers	A Tube O.D.	D	W	N	N1	L	L1	l	Panel hole drill size	Max. Panel thickness
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
VUWP-3	3	2.4	14	38.1	24.6	51.3	31.2	12.9	8.3	12.7
VUWP-4	4	2.4	14	40.4	25.4	53.6	32	13.7	9.9	12.7
VUWP-6	6	4.8	16	42.9	26.2	57.7	33.6	15.3	11.5	10.2
VUWP-8	8	6.4	18	46	28.6	61	36.1	16.2	13.1	11.2
VUWP-10	10	7.9	22	48.5	29.4	63.7	37	17.2	16.25	11.2
VUWP-12	12	9.5	24	50.8	31.8	71	41.9	22.8	19.5	12.7
VUWP-15	15	11.9	27	52.3	32.5	72.5	42.6	24.4	22.8	12.7
VUWP-16	16	12.7	27	52.3	32.5	72.5	42.6	24.4	22.8	12.7
VUWP-18	18	15.1	30	58.7	37.3	78.9	47.4	24.4	26	16.8
VUWP-20	20	15.9	35	64.3	42.9	84.5	53	26	29	23.9
VUWP-25	25	21.8	41	71.4	45.2	86.6	52.8	26.6	33.7	19

Tube (Inch) To Tube (Inch)

Part Numbers	A Tube O.D.		D		W		N		N1		L		L1		l		Panel hole drill size		Max. Panel thickness	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWP-1.6	1/16	1.6	0.05	1.3	5/16	7.9	0.94	23.9	0.53	13.5	1.24	31.5	0.68	17.3	0.34	8.6	13/64	5.2	0.12	3.1
VUWP-3.2	1/8	3.2	0.09	2.3	1/2	12.7	1.5	38.1	0.97	24.6	2.02	51.3	1.23	31.2	0.5	12.7	21/64	8.3	0.5	12.7
VUWP-4.8	3/16	4.8	0.12	3	9/16	14.3	1.59	40.4	1	25.4	2.11	53.6	1.26	32	0.54	13.7	25/64	9.9	0.5	12.7
VUWP-6.35	1/4	6.35	0.19	4.8	5/8	15.9	1.69	42.9	1.03	26.2	2.27	57.7	1.32	33.5	0.6	15.2	29/64	11.5	0.4	10.2
VUWP-7.93	5/16	7.93	0.25	6.4	11/16	17.5	1.81	46	1.12	28.4	2.39	60.7	1.41	35.8	0.64	16.2	33/64	13.1	0.44	11.2
VUWP-9.52	3/8	9.52	0.28	7.1	3/4	19.1	1.87	47.5	1.16	29.5	2.45	62.2	1.45	36.8	0.66	16.8	37/64	14.7	0.44	11.2
VUWP-12.7	1/2	12.7	0.41	10.4	15/16	23.8	2	50.8	1.25	31.8	2.8	71.1	1.65	41.9	0.9	22.9	49/64	19.4	0.5	12.7
VUWP-15.88	5/8	15.88	0.5	12.7	1 1/16	27	2.06	52.3	1.28	32.5	2.86	72.6	1.68	42.7	0.96	24.4	57/64	22.6	0.5	12.7
VUWP-19.05	3/4	19.05	0.62	15.9	1 3/16	30.2	2.31	58.7	1.47	37.3	3.11	79	1.87	47.5	0.96	24.4	1 1/64	25.8	0.66	16.8
VUWP-25.4	1	25.4	0.88	22.3	1 5/8	41.3	2.81	71.4	1.78	45.2	3.77	95.8	2.26	57.4	1.23	31.2	1 21/64	33.7	0.75	19.1

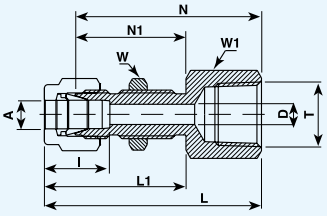
Thermoelement Type can also be manufactured.

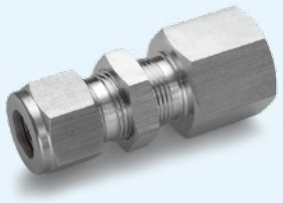
For ordering: use catalog number of the selected fitting and add the suffix T/C.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Bulkhead Female Connectors (NPT)

GP



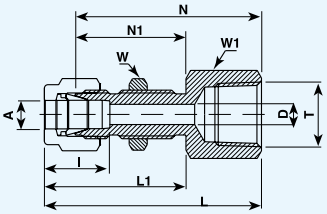


Tube (Inch) To Male NPT Thread

Part Numbers	A Tube O.D.		T	D		W		W1		N		N1		L		L1		l		Panel hole drill size		Max. Panel thickness	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWGP-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	9/16	14.3	1/2	12.7	1.5	38.1	0.97	24.6	1.76	44.7	1.23	31.2	0.5	12.7	21/64	8.3	0.5	12.7
VUWGP-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	5/8	15.9	5/8	15.9	1.56	39.6	1.03	26.2	1.85	47	1.32	33.5	0.6	15.2	29/64	11.5	0.4	10.2
VUWGP-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	3/4	19.1	5/8	15.9	1.75	44.5	1.03	26.2	2.04	51.8	1.32	33.5	0.6	15.2	29/64	11.5	0.4	10.2
VUWGP-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	3/4	19.1	3/4	19.1	1.88	47.8	1.16	29.5	2.17	55.1	1.45	36.8	0.66	16.8	37/64	14.7	0.44	11.2
VUWGP-12.7CN	1/2	12.7	3/8NPT	0.41	10.4	15/16	23.8	15/16	23.8	2.03	51.6	1.25	31.8	2.43	61.7	1.65	41.9	0.9	22.9	49/64	19.4	0.5	12.7
VUWGP-12.7DN	1/2	12.7	1/2NPT	0.41	10.4	1 1/16	27	15/16	23.8	2.22	56.4	1.25	31.8	2.62	66.6	1.65	41.9	0.9	22.9	49/64	19.4	0.5	12.7

Bulkhead Female Connectors (Rc)

GP



Tube (Inch) To ISO Tapered Thread (Rc)

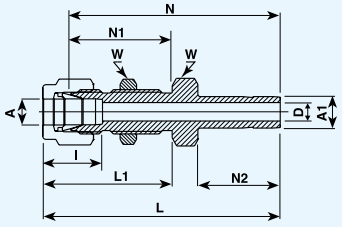
Part Numbers	A Tube O.D.		T	D		W		W1		N		N1		L		L1		l		Panel hole drill size		Max. Panel thickness	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWGP-3.2A	1/8	3.2	Rc 1/8	0.09	2.3	9/16	14.3	1/2	12.7	1.5	38.1	0.97	24.6	1.76	44.7	1.23	31.2	0.5	12.7	21/64	8.3	0.5	12.7
VUWGP-6.35A	1/4	6.35	Rc 1/8	0.19	4.8	5/8	15.9	5/8	15.9	1.56	39.6	1.03	26.2	1.85	47	1.32	33.5	0.6	15.2	29/64	11.5	0.4	10.2
VUWGP-6.35B	1/4	6.35	Rc 1/4	0.19	4.8	3/4	19.1	5/8	15.9	1.75	44.5	1.03	26.2	2.04	51.8	1.32	33.5	0.6	15.2	29/64	11.5	0.4	10.2
VUWGP-9.52B	3/8	9.52	Rc 1/4	0.28	7.1	3/4	19.1	3/4	19.1	1.88	47.8	1.16	29.5	2.17	55.1	1.45	36.8	0.66	16.8	37/64	14.7	0.44	11.2
VUWGP-12.7C	1/2	12.7	Rc 3/8	0.41	10.4	15/16	23.8	15/16	23.8	2.03	51.6	1.25	31.8	2.43	61.7	1.65	41.9	0.9	22.9	49/64	19.4	0.5	12.7
VUWGP-12.7D	1/2	12.7	Rc 1/2	0.41	10.41	1 1/16	27	15/16	23.8	2.22	56.4	1.25	31.8	2.62	66.6	1.65	41.9	0.9	22.9	49/64	19.4	0.5	12.7

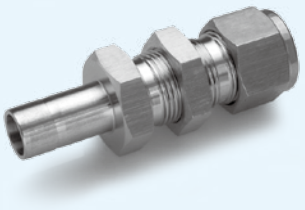
Designation:

R marking on hex.

Bulkhead Reducers

RP





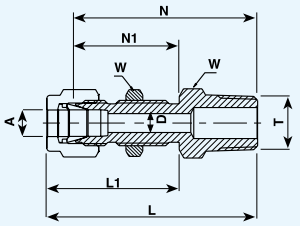
Tube (Inch) To Tube (Inch)

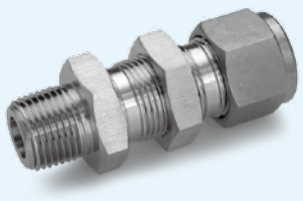
Part Numbers	A Tube O.D.		A1 Tube O.D.		D		W		N		N1		N2		L		L1		l		Panel hole drill size		Max. Panel thickness	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWRP-3.2X3.2	1/8	3.2	1/8	3.2	0.08	2	1/2	12.7	1.69	42.9	0.97	24.6	0.53	13.5	1.95	49.5	1.23	31.2	0.5	12.7	21/64	8.3	0.5	12.7
VUWRP-6.35X6.35	1/4	6.35	1/4	6.35	0.17	4.2	5/8	15.9	1.91	48.5	1.03	26.1	0.62	15.7	2.2	55.9	1.32	33.5	0.6	15.2	29/64	11.5	0.4	10.2
VUWRP-9.52X9.52	3/8	9.52	3/8	9.52	0.28	7.1	3/4	19.1	2.12	53.9	1.16	29.5	0.69	17.5	2.41	61.2	1.45	36.8	0.66	16.8	37/64	14.7	0.44	11.2
VUWRP-12.7X12.7	1/2	12.7	1/2	12.7	0.39	9.9	15/16	23.8	2.47	62.7	1.25	31.8	0.91	23.1	2.87	72.9	1.65	41.9	0.9	22.9	49/64	19.4	0.5	12.7

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Bulkhead Male Connectors (NPT)

HP





Tube (Metric) To Male NPT Thread

Part Numbers	A Tube O.D.	T	D	W	N	N1	L	L1	Panel hole drill size	Max. Panel thickness
	mm		mm	mm	mm	mm	mm	mm	mm	mm
VUWHP-6AN	6	1/8NPT	4.8	16	42.1	26.2	49.5	33.6	11.5	10.2
VUWHP-6BN	6	1/4NPT	4.8	16	46.2	26.2	53.6	33.6	11.5	10.2
VUWHP-12DN	12	1/2NPT	9.5	24	58.7	31.8	68.8	41.9	19.5	12.7

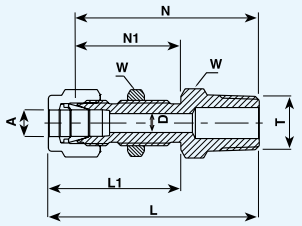
Tube (Inch) To Male NPT Thread

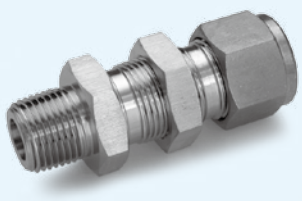
Part Numbers	A Tube O.D.		T	D		W		N		N1		L		L1		Panel hole drill size		Max. Panel thickness	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWHP-3.2AN	1/8	3.2	1/8NPT	0.09	2.3	1/2	12.7	1.57	39.9	0.97	24.6	1.83	46.5	1.23	31.2	21/64	8.3	0.5	12.7
VUWHP-6.35AN	1/4	6.35	1/8NPT	0.19	4.8	5/8	15.9	1.66	42.2	1.03	26.2	1.95	49.5	1.32	33.5	29/64	11.5	0.4	10.2
VUWHP-6.35BN	1/4	6.35	1/4NPT	0.19	4.8	5/8	15.9	1.84	46.7	1.03	26.2	2.13	54.1	1.32	33.5	29/64	11.5	0.4	10.2
VUWHP-9.52BN	3/8	9.52	1/4NPT	0.28	7.1	3/4	19.1	1.97	50	1.16	29.5	2.26	57.4	1.45	36.8	37/64	14.7	0.44	11.2
VUWHP-12.7CN	1/2	12.7	3/8NPT	0.4	10.4	15/16	23.8	2.09	53.1	1.25	31.8	2.49	63.3	1.65	41.9	49/64	19.4	0.5	12.7
VUWHP-12.7DN	1/2	12.7	1/2NPT	0.4	10.4	15/16	23.8	2.31	58.7	1.25	31.8	2.71	68.8	1.65	41.9	49/64	19.4	0.5	12.7

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Bulkhead Male Connectors (R)

HP





Tube (Metric) To ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W	N	N1	L	L1	Panel hole drill size	Max. Panel thickness
	mm		mm	mm	mm	mm	mm	mm	mm	mm
VUWHP-6A	6	R 1/8	4.8	16	42.1	26.2	49.5	33.6	11.5	10.2
VUWHP-6B	6	R 1/4	4.8	16	46.2	26.2	53.6	33.6	11.5	10.2
VUWHP-12D	12	R 1/2	9.5	24	58.7	31.8	68.8	41.9	19.5	12.7

Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		N1		L		L1		Panel hole drill size		Max. Panel thickness	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWHP-3.2A	1/8	3.2	R 1/8	0.09	2.3	1/2	12.7	1.57	39.9	0.97	24.6	1.83	46.5	1.23	31.2	21/64	8.3	0.5	12.7
VUWHP-6.35A	1/4	6.35	R 1/8	0.19	4.8	5/8	15.9	1.66	42.2	1.03	26.2	1.95	49.5	1.32	33.5	29/64	11.5	0.4	10.2
VUWHP-6.35B	1/4	6.35	R 1/4	0.19	4.8	5/8	15.9	1.84	46.7	1.03	26.2	2.13	54.1	1.32	33.5	29/64	11.5	0.4	10.2
VUWHP-9.52B	3/8	9.52	R 1/4	0.28	7.1	3/4	19.1	1.97	50	1.16	29.5	2.26	57.4	1.45	36.8	37/64	14.7	0.44	11.2
VUWHP-12.7C	1/2	12.7	R 3/8	0.4	10.4	15/16	23.8	2.09	53.1	1.25	31.8	2.49	83.3	1.65	41.9	49/64	19.4	0.5	12.7
VUWHP-12.7D	1/2	12.7	R 1/2	0.4	10.4	15/16	23.8	2.31	58.7	1.25	31.8	2.71	68.8	1.65	41.9	49/64	19.4	0.5	12.7

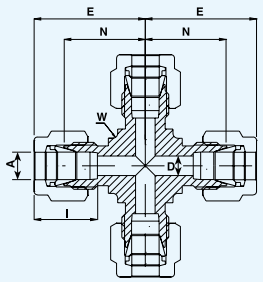
Designation:

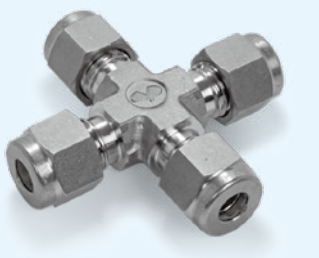
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Union Crosses

X





All Tubes (Metric)

Part Numbers	A Tube O.D.	D	W		N	E	I
	mm	mm	in	mm	mm	mm	mm
VUWX-3	3	2.4	3/8	9.5	15.7	22.3	12.9
VUWX-6	6	4.8	1/2	12.7	19.6	27	15.3
VUWX-8	8	6.4	5/8	15.9	22.4	29.9	16.2
VUWX-10	10	7.9	13/16	20.6	25.9	33.5	17.2
VUWX-12	12	9.5	13/16	20.6	25.9	36	22.8
VUWX-18	18	15.1	1 1/16	27	28.2	38.3	24.4
VUWX-20	20	15.9	1 3/8	34.9	34.5	44.6	26

All Tubes (Inch)

Part Numbers	A Tube O.D.		D		W		N		E		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
VUWX-3.2	1/8	3.2	0.09	2.3	3/8	9.5	0.62	15.8	0.88	22.4	0.5	12.7
VUWX-6.35	1/4	6.35	0.19	4.8	1/2	12.7	0.77	19.6	1.06	26.9	0.6	15.2
VUWX-7.93	5/16	7.93	0.25	6.4	5/8	15.9	0.88	22.4	1.17	29.7	0.64	16.2
VUWX-9.52	3/8	9.52	0.28	7.1	5/8	15.9	0.91	23.1	1.2	30.5	0.66	16.8
VUWX-12.7	1/2	12.7	0.41	10.4	13/16	20.6	1.02	25.9	1.42	36.1	0.9	22.9
VUWX-19.05	3/4	19.05	0.62	15.8	1 1/16	27	1.17	29.7	1.57	39.9	0.96	24.4
VUWX-25.4	1	25.4	0.88	22.3	1 3/8	34.9	1.45	36.8	1.93	49	1.23	31.2

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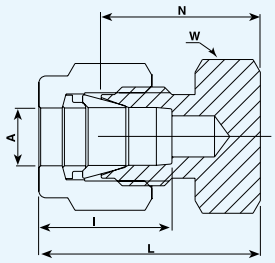
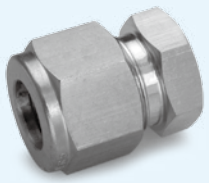
Caps

JC





Capping End Of Tube (Metric)

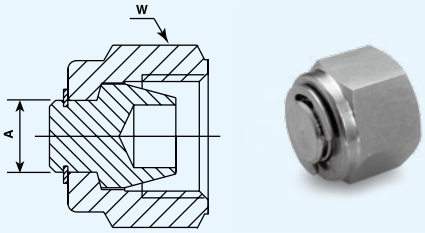
Part Numbers	A Tube O.D.	W	N	L	I
	mm	mm	mm	mm	mm
VUWJC-2	2	12	13.5	20.1	12.9
VUWJC-3	3	12	13.5	20.1	12.9
VUWJC-4	4	12	14.7	21.3	13.7
VUWJC-6	6	14	15.7	23.1	15.3
VUWJC-8	8	15	17	24.5	16.2
VUWJC-10	10	18	19	26.6	17.2
VUWJC-12	12	22	19	29.1	22.8
VUWJC-15	15	24	19.8	29.9	24.4
VUWJC-16	16	24	19.8	29.9	24.4
VUWJC-18	18	27	21.3	31.4	24.4
VUWJC-20	20	30	23.9	34	26
VUWJC-22	22	30	23.9	34	26
VUWJC-25	25	35	26.2	38.5	31.3

Capping End Of Tube (Inch)

Part Numbers	A Tube O.D.		W		N		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm
VUWJC-1.6	1/16	1.6	5/16	7.9	0.44	11.2	0.59	15	0.34	8.6
VUWJC-3.2	1/8	3.2	7/16	11.1	0.53	13.5	0.79	20.1	0.5	12.7
VUWJC-4.8	3/16	4.8	7/16	11.1	0.58	14.7	0.84	21.8	0.54	13.7
VUWJC-6.35	1/4	6.35	1/2	12.7	0.63	16	0.92	23.4	0.6	15.2
VUWJC-7.93	5/16	7.93	9/16	14.3	0.67	17	0.96	24.4	0.64	16.2
VUWJC-9.52	3/8	9.52	5/8	15.9	0.72	18.3	1.01	26.7	0.66	16.8
VUWJC-12.7	1/2	12.7	13/16	20.6	0.75	19.1	1.15	29.2	0.9	22.9
VUWJC-15.88	5/8	15.88	15/16	23.8	0.78	19.8	1.18	30	0.96	24.4
VUWJC-19.05	3/4	19.05	1 1/16	27	0.84	21.3	1.24	31.5	0.96	24.4
VUWJC-22.22	7/8	22.22	1 3/16	30.2	0.94	23.9	1.34	34	1.02	25.9
VUWJC-25.4	1	25.4	1 3/8	34.9	1.03	26.2	1.51	38.4	1.23	31.2

Plugs

JP



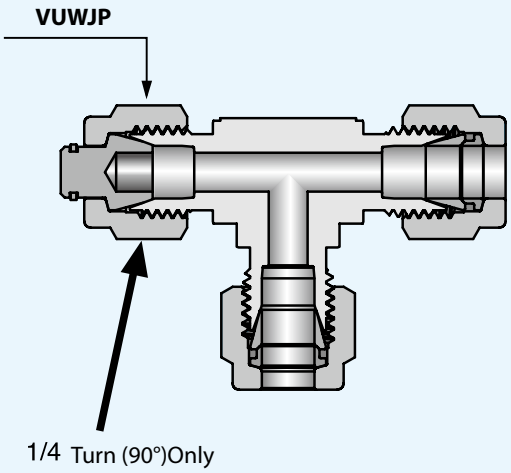
Plugging Unused Port Of Fitting (Metric)

Part Numbers	A	W
	mm	mm
VUWJP-3	3	12
VUWJP-4	4	12
VUWJP-6	6	14
VUWJP-8	8	16
VUWJP-10	10	19
VUWJP-12	12	22
VUWJP-15	15	25
VUWJP-16	16	25
VUWJP-18	18	30
VUWJP-20	20	32
VUWJP-22	22	32
VUWJP-25	25	38

Plugging Unused Port Of Fitting (Inch)

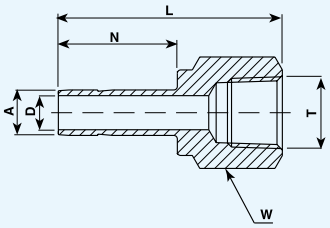
Part Numbers	A		W	
	in	mm	in	mm
VUWJP-1.6	1/16	1.5	5/16	7.9
VUWJP-3.2	1/8	3.1	7/16	11.1
VUWJP-4.8	3/16	4.8	1/2	12.7
VUWJP-6.35	1/4	6.35	9/16	14.3
VUWJP-7.93	5/16	7.93	5/8	15.9
VUWJP-9.52	3/8	9.52	11/16	17.5
VUWJP-12.7	1/2	12.7	7/8	22.2
VUWJP-15.88	5/8	15.8	1	25.4
VUWJP-19.05	3/4	19	1 1/8	28.6
VUWJP-25.4	1	25.4	1 1/2	38.1

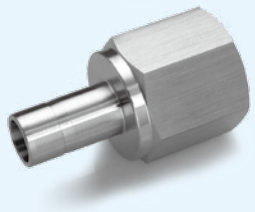
Plug Assembly Instructions



Female Adapters Tube To Pipe (NPT)

GA



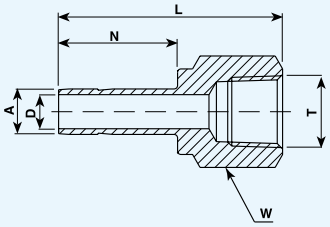


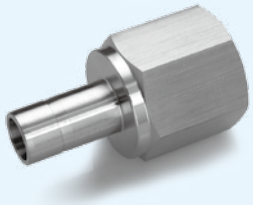
Tube (Metric) Female Pipe

Part Numbers	A Tube O.D.	T	D	W	N	L
	mm		mm	mm	mm	mm
VUW-GA-3AN	3	1/8NPT	2.1	14	13.5	31.5
VUW-GA-3BN	3	1/4NPT	2.1	19	13.5	35.3
VUW-GA-4BN	4	1/4NPT	2.2	19	14.2	35
VUW-GA-6AN	6	1/8NPT	4	14	15.7	32.5
VUW-GA-6BN	6	1/4NPT	4	19	15.7	37.1
VUW-GA-6CN	6	3/8NPT	4	22	15.7	39.6
VUW-GA-6DN	6	1/2NPT	4	27	15.7	45.5
VUW-GA-8AN	8	1/8NPT	5.6	14	16.8	34.3
VUW-GA-8BN	8	1/4NPT	5.6	19	16.8	37.6
VUW-GA-8DN	8	1/2NPT	5.6	27	16.8	46
VUW-GA-10BN	10	1/4NPT	7.1	19	17.5	38.1
VUW-GA-10CN	10	3/8NPT	7.1	22	17.5	40.1
VUW-GA-10DN	10	1/2NPT	7.1	27	17.5	46.5
VUW-GA-12BN	12	1/4NPT	8.8	19	23.1	43.7
VUW-GA-12CN	12	3/8NPT	8.8	22	23.1	45.5
VUW-GA-12DN	12	1/2NPT	8.8	27	23.1	52.3
VUW-GA-16CN	16	3/8NPT	12.7	24	24.7	48
VUW-GA-16DN	16	1/2NPT	12.7	27	24.7	53.1
VUW-GA-20DN	20	1/2NPT	15.1	27	26.6	56
VUW-GA-20EN	20	3/4NPT	15.1	35	26.6	56

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Adapters
Tube To Pipe (NPT) (continued)
GA





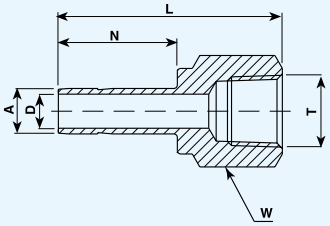
Tube (Inch) Female Pipe

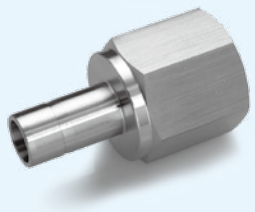
Part Numbers	A Tube O.D.		T	D		W		N		L	
	in	mm		in	mm	in	mm	in	mm	in	mm
VUW-GA-3.2AN	1/8	3.2	1/8NPT	0.08	2.3	9/16	14.3	0.53	13.5	1.24	31.5
VUW-GA-3.2BN	1/8	3.2	1/4NPT	0.08	2.3	3/4	19.1	0.53	13.5	1.39	35.3
VUW-GA-4.8BN	3/16	4.8	1/4NPT	0.12	3	3/4	19.1	0.56	14.2	1.41	35.8
VUW-GA-6.35AN	1/4	6.35	1/8NPT	0.17	4.2	9/16	14.3	0.62	15.8	1.3	33
VUW-GA-6.35BN	1/4	6.35	1/4NPT	0.17	4.2	3/4	19.1	0.62	15.8	1.46	37.1
VUW-GA-6.35CN	1/4	6.35	3/8NPT	0.17	4.2	7/8	22.2	0.62	15.8	1.55	39.4
VUW-GA-6.35DN	1/4	6.35	1/2NPT	0.17	4.2	1 1/16	27	0.62	15.8	1.79	45.5
VUW-GA-7.93BN	5/16	7.93	1/4NPT	0.24	6	3/4	19.1	0.66	16.8	1.48	37.6
VUW-GA-9.52AN	3/8	9.52	1/8NPT	0.28	7.1	9/16	14.3	0.69	17.5	1.35	34.3
VUW-GA-9.52BN	3/8	9.52	1/4NPT	0.27	6.9	3/4	19.1	0.69	17.5	1.5	38.1
VUW-GA-9.52CN	3/8	9.52	3/8NPT	0.27	6.9	7/8	22.2	0.69	17.5	1.59	40.4
VUW-GA-9.52DN	3/8	9.52	1/2NPT	0.27	6.9	1 1/16	27	0.69	17.5	1.84	46.7
VUW-GA-12.7BN	1/2	12.7	1/4NPT	0.37	9.4	3/4	19.1	0.91	23.1	1.71	43.4
VUW-GA-12.7CN	1/2	12.7	3/8NPT	0.37	9.4	7/8	22.2	0.91	23.1	1.79	45.5
VUW-GA-12.7DN	1/2	12.7	1/2NPT	0.37	9.4	1 1/16	27	0.91	23.1	2.04	52.1
VUW-GA-15.88DN	5/8	15.88	1/2NPT	0.5	12.7	1 1/16	27	0.97	24.7	2.09	53.1
VUW-GA-19.05DN	3/4	19.05	1/2NPT	0.59	15	1 1/16	27	0.97	24.7	2.08	52.8
VUW-GA-19.05EN	3/4	19.05	3/4NPT	0.59	15	1 5/16	33.3	0.97	24.7	2.16	54.9
VUW-GA-19.05FN	3/4	19.05	1NPT	0.59	15	1 5/8	41.3	0.97	24.7	2.3	58.4
VUW-GA-25.4EN	1	25.4	3/4NPT	0.8	20.3	1 5/16	33.3	1.23	31.2	2.39	60.7
VUW-GA-25.4FN	1	25.4	1NPT	0.8	20.3	1 5/8	41.3	1.23	31.2	2.53	64.3

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Adapters Tube To Pipe (Rc)

GA





Tube (Metric) To ISO Tapered Thread

Part Numbers	A Tube O.D.	T	D	W	N	L
	mm		mm	mm	mm	mm
VUW-GA-3A	3	Rc 1/8	2.1	14	13.5	31.5
VUW-GA-3B	3	Rc 1/4	2.1	19	13.5	35.3
VUW-GA-4B	4	Rc 1/4	2.2	19	14.2	35
VUW-GA-6A	6	Rc 1/8	4	14	15.7	32.5
VUW-GA-6B	6	Rc 1/4	4	19	15.7	37.1
VUW-GA-6C	6	Rc 3/8	4	22	15.7	39.6
VUW-GA-6D	6	Rc 1/2	4	27	15.7	45.5
VUW-GA-8A	8	Rc 1/8	5.6	14	16.8	34.3
VUW-GA-8B	8	Rc 1/4	5.6	19	16.8	37.6
VUW-GA-8D	8	Rc 1/2	5.6	27	16.8	46
VUW-GA-10B	10	Rc 1/4	7.1	19	17.5	38.1
VUW-GA-10C	10	Rc 3/8	7.1	22	17.5	40.1
VUW-GA-10D	10	Rc 1/2	7.1	27	17.5	46.5
VUW-GA-12B	12	Rc 1/4	8.8	19	23.1	43.7
VUW-GA-12C	12	Rc 3/8	8.8	22	23.1	45.5
VUW-GA-12D	12	Rc 1/2	8.8	27	23.1	52.3
VUW-GA-16C	16	Rc 3/8	12.7	24	24.7	48
VUW-GA-16D	16	Rc 1/2	12.7	27	24.7	53.1
VUW-GA-20D	20	Rc 1/2	15.1	27	26.6	56
VUW-GA-20E	20	Rc 3/4	15.1	35	26.6	56

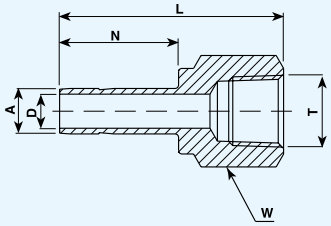
Designation:

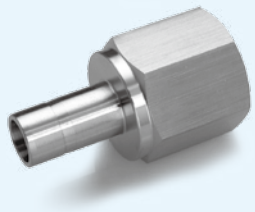
R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Female Adapters
Tube To Pipe (Rc) (continued)

GA





Tube (Inch) To ISO Tapered Thread

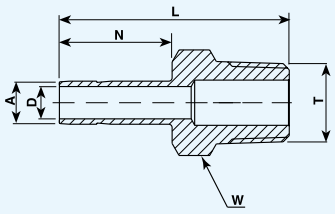
Part Numbers	A Tube O.D.		T	D		W		N		L	
	in	mm		in	mm	in	mm	in	mm	in	mm
VUW-GA-3.2A	1/8	3.2	Rc 1/8	0.08	2.3	9/16	14.3	0.53	13.5	1.24	31.5
VUW-GA-3.2B	1/8	3.2	Rc 1/4	0.08	2.3	3/4	19.1	0.53	13.5	1.39	35.3
VUW-GA-4.8B	3/16	4.8	Rc 1/4	0.12	3	3/4	19.1	0.56	14.2	1.41	35.8
VUW-GA-6.35A	1/4	6.35	Rc 1/8	0.17	4.2	9/16	14.3	0.62	15.8	1.30	33
VUW-GA-6.35B	1/4	6.35	Rc 1/4	0.17	4.2	3/4	19.1	0.62	15.8	1.46	37.1
VUW-GA-6.35C	1/4	6.35	Rc 3/8	0.17	4.2	7/8	22.2	0.62	15.8	1.55	39.4
VUW-GA-6.35D	1/4	6.35	Rc 1/2	0.17	4.2	1 1/16	27	0.62	15.8	1.79	45.5
VUW-GA-7.93B	5/16	7.93	Rc 1/4	0.24	6	3/4	19.1	0.66	16.8	1.48	37.6
VUW-GA-9.52A	3/8	9.52	Rc 1/8	0.28	7.1	9/16	14.3	0.69	17.5	1.35	34.3
VUW-GA-9.52B	3/8	9.52	Rc 1/4	0.27	6.9	3/4	19.1	0.69	17.5	1.5	38.1
VUW-GA-9.52C	3/8	9.52	Rc 3/8	0.27	6.9	7/8	22.2	0.69	17.5	1.59	40.4
VUW-GA-9.52D	3/8	9.52	Rc 1/2	0.27	6.9	1 1/16	27	0.69	17.5	1.84	46.7
VUW-GA-12.7B	1/2	12.7	Rc 1/4	0.37	9.4	3/4	19.1	0.91	23.1	1.71	43.4
VUW-GA-12.7C	1/2	12.7	Rc 3/8	0.37	9.4	7/8	22.2	0.91	23.1	1.79	45.5
VUW-GA-12.7D	1/2	12.7	Rc 1/2	0.37	9.4	1 1/16	27	0.91	23.1	2.04	52.1
VUW-GA-15.88D	5/8	15.88	Rc 1/2	0.5	12.7	1 1/16	27	0.97	24.7	2.09	53.1
VUW-GA-19.05D	3/4	19.05	Rc 1/2	0.59	15	1 1/16	27	0.97	24.7	2.08	52.8
VUW-GA-19.05E	3/4	19.05	Rc 3/4	0.59	15	1 5/16	33.3	0.97	24.7	2.16	54.9
VUW-GA-19.05F	3/4	19.05	Rc 1	0.59	15	1 5/8	41.3	0.97	24.7	2.3	58.4
VUW-GA-25.4E	1	25.4	Rc 3/4	0.8	20.3	1 5/16	33.3	1.23	31.2	2.39	60.7
VUW-GA-25.4F	1	25.4	Rc 1	0.8	20.3	1 5/8	41.3	1.23	31.2	2.53	64.3

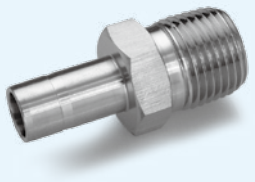
Designation:

R marking on hex.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Adapters
Tube To Pipe (NPT)
A





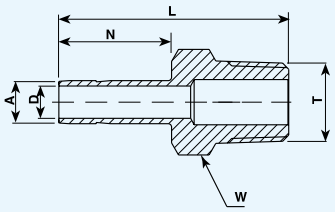
Tube (Metric) Male Pipe

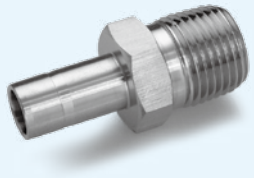
Part Numbers	A Tube O.D.	T	D	W		N	L
	mm		mm	in	mm	mm	mm
VUW-A-3AN	3	1/8NPT	2.1	-	12	13.5	30
VUW-A-3BN	3	1/4NPT	2.1	-	14	13.5	35.3
VUW-A-6AN	6	1/8NPT	4	-	12	15.7	32.8
VUW-A-6BN	6	1/4NPT	4	-	14	15.7	38.1
VUW-A-6CN	6	3/8NPT	4	11/16	17.5	15.7	37
VUW-A-6DN	6	1/2NPT	4	-	22	15.7	43.4
VUW-A-8AN	8	1/8NPT	5.6	-	12	16.8	33.5
VUW-A-8BN	8	1/4NPT	5.6	-	14	16.8	39.1
VUW-A-8DN	8	1/2NPT	5.6	-	22	16.8	43
VUW-A-10BN	10	1/4NPT	7.1	9/16	14	17.5	39.9
VUW-A-10CN	10	3/8NPT	7.1	-	18	17.5	40.6
VUW-A-10DN	10	1/2NPT	7.1	-	22	17.5	46.2
VUW-A-12BN	12	1/4NPT	8.8	-	16	23.1	46.5
VUW-A-12CN	12	3/8NPT	8.8	-	18	23.1	46.5
VUW-A-12DN	12	1/2NPT	8.8	-	22	23.1	52
VUW-A-16DN	16	1/2NPT	11.9	-	22	24.7	50.5
VUW-A-20EN	20	3/4NPT	15.1	-	27	26.6	54.3

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Adapters
Tube To Pipe (NPT) (continued)

A



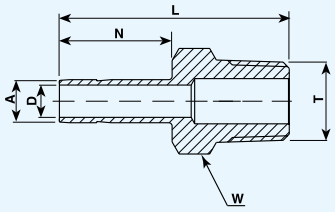


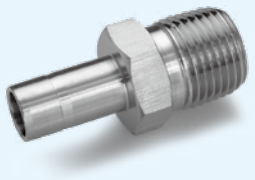
Tube (Inch) Male Pipe

Part Numbers	A Tube O.D.		T	D		W		N		L	
	in	mm		in	mm	in	mm	in	mm	in	mm
VUW-A-3.2AN	1/8	3.2	1/8NPT	0.09	2.2	7/16	11.1	0.53	13.5	1.16	29.5
VUW-A-3.2BN	1/8	3.2	1/4NPT	0.09	2.2	9/16	14.3	0.53	13.5	1.37	34.8
VUW-A-4.8AN	3/16	4.8	1/8NPT	0.12	3	7/16	11.1	0.56	14.2	1.19	30.2
VUW-A-4.8BN	3/16	4.8	1/4NPT	0.12	3	9/16	14.3	0.56	14.2	1.4	35.6
VUW-A-6.35AN	1/4	6.35	1/8NPT	0.17	4.2	7/16	11.1	0.62	15.8	1.25	31.8
VUW-A-6.35BN	1/4	6.35	1/4NPT	0.17	4.2	9/16	14.3	0.62	15.8	1.46	37.1
VUW-A-6.35CN	1/4	6.35	3/8NPT	0.17	4.2	11/16	17.5	0.62	15.8	1.49	37.9
VUW-A-6.35DN	1/4	6.35	1/2NPT	0.17	4.2	7/8	22.2	0.62	15.8	1.71	43.4
VUW-A-7.93AN	5/16	7.93	1/8NPT	0.24	6	7/16	11.1	0.66	16.8	1.29	32.7
VUW-A-7.93BN	5/16	7.93	1/4NPT	0.24	6	9/16	14.3	0.66	16.8	1.5	38.1
VUW-A-9.52AN	3/8	9.52	1/8NPT	0.27	6.9	7/16	11.1	0.69	17.5	1.32	33.5
VUW-A-9.52BN	3/8	9.52	1/4NPT	0.27	6.9	9/16	14.3	0.69	17.5	1.53	38.9
VUW-A-9.52CN	3/8	9.52	3/8NPT	0.27	6.9	11/16	17.5	0.69	17.5	1.56	39.6
VUW-A-9.52DN	3/8	9.52	1/2NPT	0.27	6.9	7/8	22.2	0.69	17.5	1.78	45.2
VUW-A-12.7BN	1/2	12.7	1/4NPT	0.37	9.4	9/16	14.3	0.91	23.1	1.75	44.5
VUW-A-12.7CN	1/2	12.7	3/8NPT	0.37	9.4	11/16	17.5	0.91	23.1	1.78	45.2
VUW-A-12.7DN	1/2	12.7	1/2NPT	0.37	9.4	7/8	22.2	0.91	23.1	2	50.8
VUW-A-15.88CN	5/8	15.88	3/8NPT	0.37	9.5	11/16	17.5	0.97	24.7	1.81	47.6
VUW-A-15.88DN	5/8	15.88	1/2NPT	0.47	11.9	7/8	22.2	0.97	24.7	2.06	52.3
VUW-A-15.88EN	5/8	15.88	3/4NPT	0.5	12.7	1 1/16	27	0.97	24.7	2.06	52.3
VUW-A-19.05DN	3/4	19.05	1/2NPT	0.47	11.9	7/8	22.2	0.97	24.7	2.06	52.3
VUW-A-19.05EN	3/4	19.05	3/4NPT	0.59	15	1 1/16	27	0.97	24.7	2.06	52.3
VUW-A-19.05FN	3/4	19.05	1NPT	0.59	15	1 3/8	34.9	0.97	24.7	2.28	57.3
VUW-A-22.22EN	7/8	22.22	3/4NPT	0.6	15.9	1 1/16	27	1.05	26.6	2.09	54.3
VUW-A-25.4EN	1	25.4	3/4NPT	0.62	15.8	1 1/16	27	1.3	33	2.31	58.7
VUW-A-25.4FN	1	25.4	1NPT	0.8	20.3	1 3/8	34.9	1.3	33	2.6	66.4

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Adapters
Tube To Pipe (R)
A





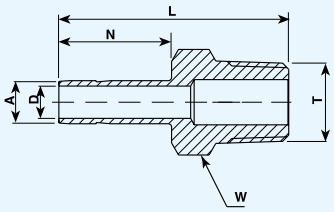
Tube (Metric) To ISO Tapered Thread

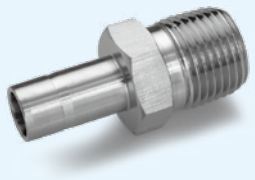
Part Numbers	A Tube O.D.	T	D	W		N	L
	mm		mm	in	mm	mm	mm
VUW-A-3A	3	R 1/8	2.1	-	12	13.5	30
VUW-A-3B	3	R 1/4	2.1	-	14	13.5	35.3
VUW-A-6A	6	R 1/8	4	-	12	15.7	32.8
VUW-A-6B	6	R 1/4	4	-	14	15.7	38.1
VUW-A-6C	6	R 3/8	4	11/16	17.5	15.7	37
VUW-A-6D	6	R 1/2	4	-	22	15.7	43.4
VUW-A-8A	8	R 1/8	5.6	-	12	16.8	33.5
VUW-A-8B	8	R 1/4	5.6	-	14	16.8	39.1
VUW-A-8D	8	R 1/2	5.6	-	22	16.8	43
VUW-A-10B	10	R 1/4	7.1	9/16	14	17.5	39.9
VUW-A-10C	10	R 3/8	7.7	-	18	17.5	40.6
VUW-A-10D	10	R 1/2	7.7	-	22	17.5	46.2
VUW-A-12B	12	R 1/4	7.1	-	16	23.1	46.5
VUW-A-12C	12	R 3/8	9.1	-	18	23.1	46.5
VUW-A-12D	12	R 1/2	9.1	-	22	23.1	52
VUW-A-16D	16	R 1/2	11.9	-	22	24.7	50.5
VUW-A-20E	20	R 3/4	15.1	-	27	26.6	54.3

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Male Adapters
Tube To Pipe (R) (continued)

A





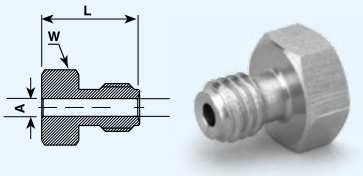
Tube (Inch) To ISO Tapered Thread

Part Numbers	A Tube O.D.		T	D		W		N		L	
	in	mm		in	mm	in	mm	in	mm	in	mm
VUW-A-3.2A	1/8	3.2	R 1/8	0.09	2.2	7/16	11.1	0.53	13.5	1.16	29.5
VUW-A-3.2B	1/8	3.2	R 1/4	0.09	2.2	9/16	14.3	0.53	13.5	1.37	34.8
VUW-A-4.8A	3/16	4.8	R 1/8	0.12	3	7/16	11.1	0.56	14.2	1.19	30.2
VUW-A-4.8B	3/16	4.8	R 1/4	0.12	3	9/16	14.3	0.56	14.2	1.4	35.6
VUW-A-6.35A	1/4	6.35	R 1/8	0.17	4.2	7/16	11.1	0.62	15.8	1.25	31.8
VUW-A-6.35B	1/4	6.35	R 1/4	0.17	4.2	9/16	14.3	0.62	15.8	1.46	37.1
VUW-A-6.35C	1/4	6.35	R 3/8	0.17	4.2	11/16	17.5	0.62	15.8	1.49	37.9
VUW-A-6.35D	1/4	6.35	R 1/2	0.17	4.2	7/8	22.2	0.62	15.8	1.71	43.4
VUW-A-7.93A	5/16	7.93	R 1/8	0.24	6	7/16	11.1	0.66	16.8	1.29	32.7
VUW-A-7.93B	5/16	7.93	R 1/4	0.24	6	9/16	14.3	0.66	16.8	1.5	38.1
VUW-A-9.52A	3/8	9.52	R 1/8	0.27	6.9	7/16	11.1	0.69	17.5	1.32	33.5
VUW-A-9.52B	3/8	9.52	R 1/4	0.27	6.9	9/16	14.3	0.69	17.5	1.53	38.9
VUW-A-9.52C	3/8	9.52	R 3/8	0.27	6.9	11/16	17.5	0.69	17.5	1.56	39.6
VUW-A-9.52D	3/8	9.52	R 1/2	0.27	6.9	7/8	22.2	0.69	17.5	1.78	45.2
VUW-A-12.7B	1/2	12.7	R 1/4	0.37	9.4	9/16	14.3	0.91	23.1	1.75	44.5
VUW-A-12.7C	1/2	12.7	R 3/8	0.37	9.4	11/16	17.5	0.91	23.1	1.78	45.2
VUW-A-12.7D	1/2	12.7	R 1/2	0.37	9.4	7/8	22.2	0.91	23.1	2	50.8
VUW-A-15.88C	5/8	15.88	R 3/8	0.37	9.5	11/16	17.5	0.97	24.7	1.81	47.6
VUW-A-15.88D	5/8	15.88	R 1/2	0.47	11.9	7/8	22.2	0.97	24.7	2.06	52.3
VUW-A-15.88E	5/8	15.88	R 3/4	0.5	12.7	1 1/16	27	0.97	24.7	2.06	52.3
VUW-A-19.05D	3/4	19.05	R 1/2	0.47	11.9	7/8	22.2	0.97	24.7	2.06	52.32
VUW-A-19.05E	3/4	19.05	R 3/4	0.59	15	1 1/16	27	0.97	24.7	2.06	52.32
VUW-A-19.05F	3/4	19.05	R 1	0.59	15	1 3/8	34.9	0.97	24.7	2.28	57.3
VUW-A-22.22E	7/8	22.22	R 3/4	0.6	15.9	1 1/16	27	1.05	26.6	2.09	54.3
VUW-A-25.4E	1	25.4	R 3/4	0.62	15.8	1 1/16	27	1.3	33	2.31	58.7
VUW-A-25.4F	1	25.4	R 1	0.8	20.3	1 3/8	34.9	1.3	33	2.6	66.4

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

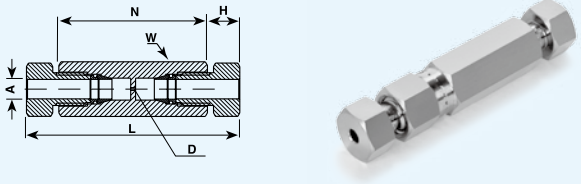
Chromatograph Type Tubes Fittings

Male Nuts



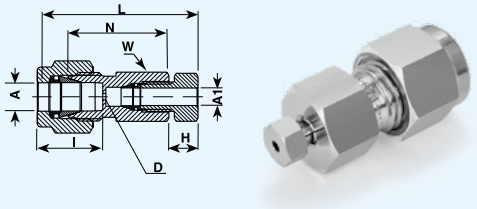
Part Number	A Tube O.D.		W		L	
	in	mm	in	mm	in	mm
VUW-1.6MN	1/16	1.6	1/4	6.4	3/8	9.5

Unions



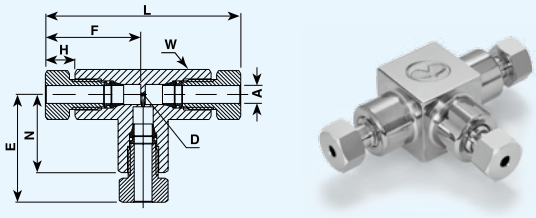
Part Number	A Tube O.D.		D		W		N		H		L		Dead Space
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWF-1.6-MN	1/16	1.6	0.013	0.3	1/4	6.4	0.84	21.3	0.2	5.1	1.24	31.5	6.6 x 10^{-5}cc

Reducing Unions (VCR-Lok × Chromatograph Fittings)



Part Numbers	A Tube O.D.		A_1 Tube O.D.		D		W		N		L		H		I		Dead Space
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWF-6.35X1.6-MN	1/4	6.35	1/16	1.6	0.013	0.3	1/2	12.7	0.75	19.1	1.24	31.5	0.2	5.1	0.6	15.2	6.8 x 10^{-5}cc
VUWF-9.52X1.6-MN	3/8	9.52	1/16	1.6	0.013	0.3	5/8	15.9	0.81	20.6	1.3	33.1	0.2	5.1	0.66	16.8	6.8 x 10^{-5}cc

Union Tees



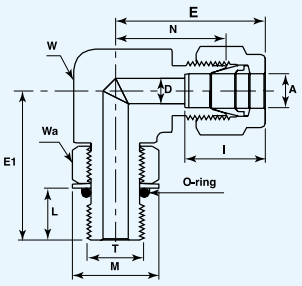
Part Number	A Tube O.D.		D		W		N		H		F		E		L		Dead Space
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWT-1.6-MN	1/16	1.6	0.013	0.3	3/8	9.5	0.45	11.4	0.2	5.1	0.61	15.5	0.65	16.5	1.3	33	2.8 x 10^{-4}cc

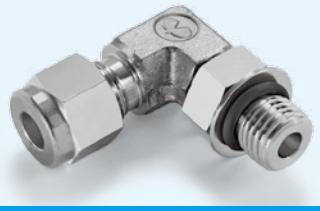
"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Positionables
PER SAE J1926 & MS 16142

Male Elbows

PL



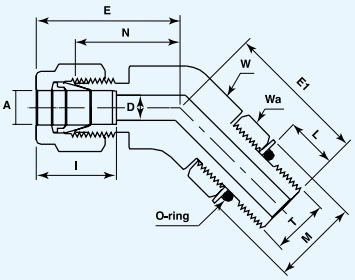


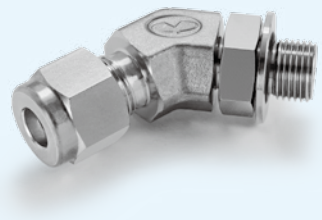
Tube To SAE/MS Straight Thread Boss (Positionable) ※

Part Numbers	A Tube O.D.		T	D		W		Wa		N		E		E1		L		M		I		O-ring ※※ size AS568
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPL-6.35X7/16	1/4	6.35	7/16-20	0.19	4.8	1/2	12.7	9/16	14.3	0.79	20	1.08	27.4	1.12	28.5	0.39	9.9	0.65	16.5	0.6	15.2	-904
VUWPL-6.35X9/16	1/4	6.35	9/16-18	0.19	4.8	5/8	15.9	11/16	17.5	0.91	23.11	1.2	30.48	1.27	32.3	0.44	11	0.79	20.1	0.6	15.2	-906
VUWPL-9.52X9/16	3/8	9.52	9/16-18	0.28	7.1	5/8	15.9	11/16	17.5	0.97	24.6	1.26	32	1.27	32.3	0.44	11	0.79	20.1	0.66	16.8	-906

Male Elbows 45°

PL





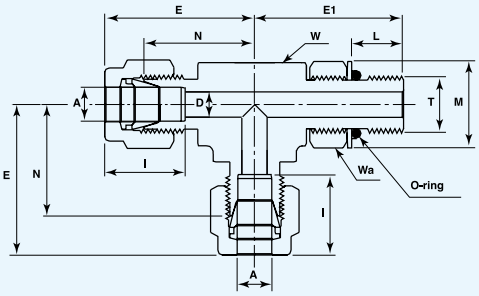
Tube To SAE/MS Straight Thread Boss (Positionable) ※

Part Numbers	A Tube O.D.		T	D		W		Wa		N		E		E1		L		M		I		O-ring ※※ size AS568
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPL-6.35X7/16-45	1/4	6.35	7/16-20	0.19	4.8	9/16	14.3	9/16	14.3	0.72	18.3	1.01	25.7	1.01	25.7	0.39	9.9	0.65	16.5	0.6	15.2	-904
VUWPL-9.52X9/16-45	3/8	9.52	9/16-18	0.28	7.1	13/16	20.6	11/16	17.5	0.81	20.1	1.1	28	1.06	27	0.44	11.2	0.79	20.1	0.66	16.8	-906

※：Per SAE J1926 and MS 16142. See page 78 for mounting dimensions.
※※：O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

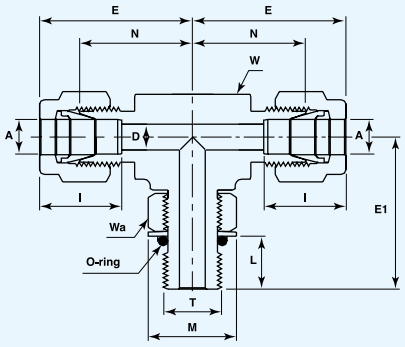
Positionables
PER SAE J1926 & MS 16142



Male Run Tees
PTL

Tube To SAE/MS Straight Thread Boss (Positionable) ※

Part Numbers	A Tube O.D.		T	D		W		Wa		N		E		E1		L		M		I		O-ring ※※ size AS568
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPTL-6.35X7/16	1/4	6.35	7/16-20	0.19	4.8	1/2	12.7	9/16	14.3	0.83	21.1	1.12	28.5	1.12	28.5	0.39	9.9	0.65	16.5	0.6	15.2	-904
VUWPTL-9.52X9/16	3/8	9.52	9/16-18	0.28	7.1	5/8	15.9	11/16	17.5	0.97	24.6	1.26	32	1.27	32.3	0.44	11.2	0.79	20.1	0.66	16.8	-906



Male Branch tees
PTS

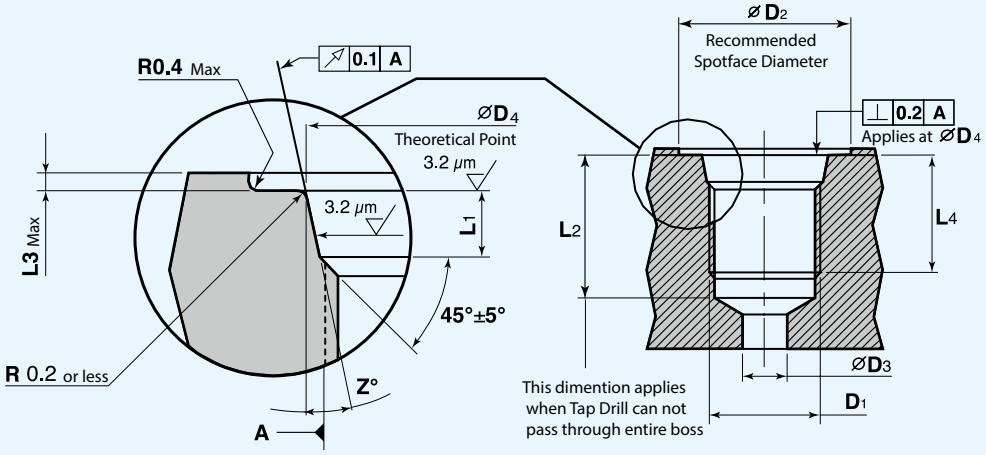
Tube To SAE/MS Straight Thread Boss (Positionable) ※

Part Numbers	A Tube O.D.		T	D		W		Wa		N		E		E1		L		M		I		O-ring ※※ size AS568
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPTS-6.35X7/16	1/4	6.35	7/16-18	0.19	4.8	1/2	12.7	9/16	14.3	0.83	21.1	1.12	28.5	1.12	28.5	0.39	9.9	0.65	16.5	0.6	15.2	-904
VUWPTS-9.52X9/16	3/8	9.52	9/16-18	0.28	7.1	5/8	15.9	11/16	17.5	0.97	24.6	1.26	32	1.27	32.3	0.44	11.2	0.79	20.1	0.66	16.8	-906

※：Per SAE J1926 and MS 16142. See page 78 for mounting dimensions.
※※：O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Mounting Dimensions FOR SAE J1926 & MS 16142 BOSS

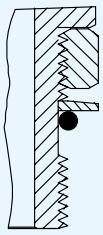


Mounting Dimensions For Oring - Seal Connectors (SAE/MS)

D1 Thread Size	D2 Min. Diameter	D3 Min. Diameter	D4 ± 0.05	L1 ± 0.02	L2 Min.	L3 Max.	L4 Min. Full Thread	Z ± 1°
	mm	mm	mm	mm	mm	mm	mm	°
5/16 - 24 UNF - 2B	17	1.6	9.15	2.1	12	1.6	10	12
3/8 - 24 UNF - 2B	19	3.5	10.75	2.1	12	1.6	10	12
7/16 - 20 UNF - 2B	21	4.5	12.45	2.6	14	1.6	11.5	12
1/2 - 20 UNF - 2B	23	6	14.05	2.6	14	1.6	11.5	12
9/16 - 18 UNF- 2B	25	7.5	15.7	2.7	15.5	1.6	12.7	12
3/4 - 16 UNF -2B	30	10	20.65	2.7	17.5	2.4	14.3	15
7/8 - 14 UNF - 2B	34	12.5	24	2.7	20	2.4	16.7	15
1 1/16 - 12 UNF - 2B	41	16	29.2	3.5	23	2.4	19	15
1 3/16 - 12 UN - 2B	45	18	32.4	3.5	23	2.4	19	15
1 5/16 - 12 UN - 2B	49	21	35.55	3.5	23	3.2	19	15

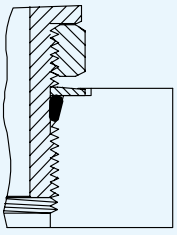
Installation Instructions:

Figure 1
Locking backed off



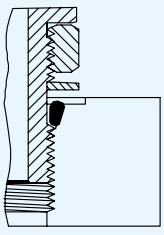
Lubricate the O-ring by inserting it into the groove adjacent to the face of the metal back - up washer which is assembled at the extreme end of the groove as shown in Figure 1.

Figure 2
Fitting install hand tight



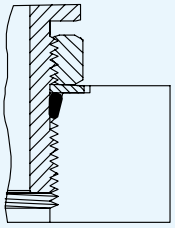
Install the fitting into the S.A.E. straight thread boss, figure 2, until the metal back - up washer contacts the face of the boss as shown in Figure 2.

Figure 3
Fittings backed-off for alignment (1 turn maximum)



Position the fitting by turning it counter clockwise up to a maximum of one turn (see Figure 3).

Figure 4
Fitting locknut tight to appropriate torque



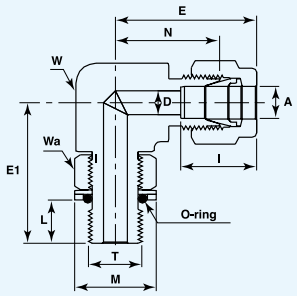
Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face as shown in Figure 4.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Positionables
ISO Parallel Thread

Male Elbows

PL



Tube (Inch) To ISO Parallel Thread (Positionable) ※

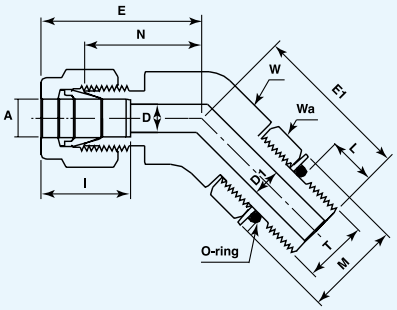
Part Number	A Tube O.D.		T	D		W		Wa		N		E		E1		L		M		I		O-ring ※※ size I.D.
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPL-6.35AF	1/4	6.35	G1/8	0.16	3.9	1/2	12.7	9/16	14.3	0.77	19.6	1.06	26.9	1.04	26.4	0.32	8.1	0.68	17.3	0.6	15.2	8×1.8-G

Tube (Metric) To ISO Parallel Thread (Positionable) ※

Part Numbers	A Tube O.D.	T	D	W		Wa		N	E	E1	L	M	I	O-ring ※※ size I.D.
	mm		mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	
VUWPL-6AF	6	G1/8	3.9	1/2	12.7	9/16	14.3	19.6	27	26.4	8.1	17.3	15.3	
VUWPL-8AF	8	G1/8	3.9	5/8	15.9	9/16	14.3	21.3	28.8	27.4	8.1	17.3	16.2	8×1.8-G

Male Elbows 45°

PL



Tube (Inch) To ISO Parallel Thread (Positionable) ※

Part Number	A Tube O.D.		T	D		D1		W		Wa		N		E		E1		L		M		I		O-ring ※※ size I.D.
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPL-6.35AF-45	1/4	6.35	G1/8	0.16	4	0.19	4.8	9/16	14.3	9/16	14.3	0.69	17.6	0.98	24.9	0.94	25.3	0.32	8.1	0.68	17.3	0.6	15.2	8×1.8-G

Tube (Metric) To ISO Parallel Thread (Positionable) ※

Part Number	A Tube O.D.	T	D	D1		W		Wa		N	E	E1	L	M	I	O-ring ※※ size I.D.
	mm		mm	in	mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	
VUWPL-6AF-45	6	G1/8	4	0.19	4.8	9/16	14.3	9/16	14.3	17.55	25	25.3	8.1	17.3	15.3	8×1.8-G

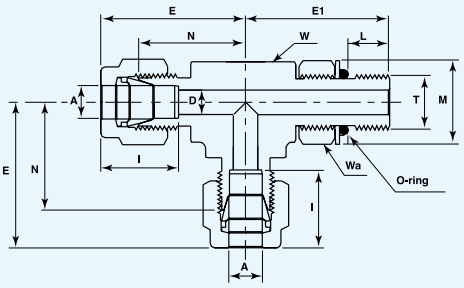
※ : Per SAE J1926 and MS 16142. See page 81 for mounting dimensions.
※※ : O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

Positionables
ISO Parallel Thread

Male Run Tees

PTL



Tube (Inch) To ISO Parallel Thread (Positionable) ※

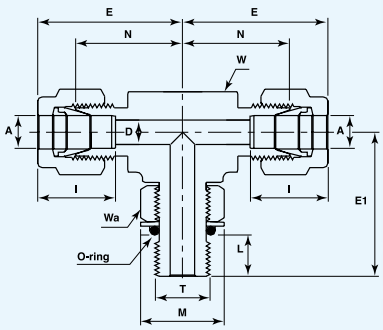
Part Number	A Tube O.D.		T	D		W		Wa		N		E		E1		L		M		I		O-ring ※※ size I.D.
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPTL-6.35AF	1/4	6.35	G1/8	0.16	4	1/2	12.7	9/16	14.3	0.77	19.6	1.06	26.9	1.04	26.4	0.32	8.1	0.68	17.3	0.6	15.2	8×1.8-G

Tube (Metric) To ISO Parallel Thread (Positionable) ※

Part Number	A Tube O.D.	T	D	W		Wa		N	E	E1	L	M	I	O-ring ※※ size I.D.
	mm		mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	
VUWPTL-6AF	6	G1/8	4	1/2	12.7	9/16	14.3	19.6	27	26.4	8.1	17.3	15.3	8×1.8-G

Male Branch Tees

PTS



Tube (Inch) To ISO Parallel Thread (Positionable) ※

Part Number	A Tube O.D.		T	D		W		Wa		N		E		E1		L		M		I		O-ring ※※ size I.D.
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
VUWPTS-6.35AF	1/4	6.35	G1/8	0.16	4	1/2	12.7	9/16	14.3	0.77	19.6	1.06	26.9	1.04	26.4	0.32	8.1	0.68	17.3	0.6	15.2	8×1.8-G

Tube (Metric) To ISO Parallel Thread (Positionable) ※

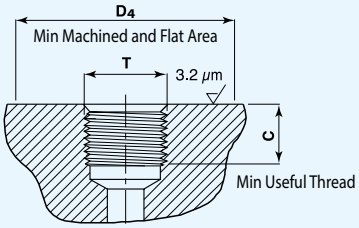
Part Number	A Tube O.D.	T	D	W		Wa		N	E	E1	L	M	I	O-ring ※※ size I.D.
	mm		mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	
VUWPTS-6AF	6	G1/8	4	1/2	12.7	9/16	14.3	19.6	27	26.4	8.1	17.3	15.3	8×1.8-G

※：Per SAE J1926 and MS 16142. See page 81 for mounting dimensions.
※※：O-rings used are Viton 90 Durometer. Other O-ring materials are available on request.

"D" - Dimension is minimum hole diameter - dimensions are for reference only, and are subject to change without notice.

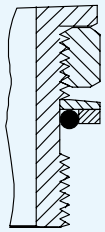
ISO Parallel Thread (Reference)

Mounting Dimensions Of Connectors				
T	D4		C Min useful Thread	
	in	mm	in	mm
G1/8	0.53	13.5	0.28	7



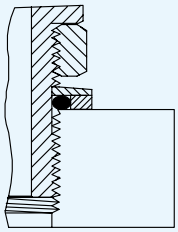
Installation Instructions:

Figure 1
Locking backed off



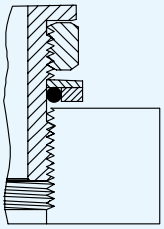
Set the O-ring by inserting it into the groove adjacent to the face of the metal back - up washer which is assembled at the extreme end of the groove as shown in Figure 1.

Figure 2
Fittings install hand tight



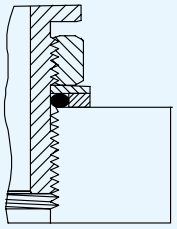
Install the fitting into the ISQ straight thread boss untill the metal back - up washer contacts the face of the boss as shown in Figure 2.

Figure 3
Fittings backed-off for O-ring alignment (1 turn maximum)



Position the fitting by turning it counter clockwise up to a maximum of one turn. See Figure 3.

Figure 4
Fittings locknut tight to appropriate torque



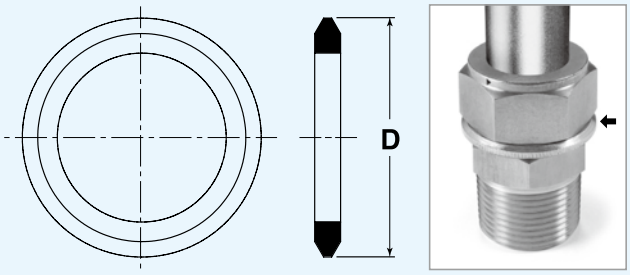
Holding the body of the fitting with a wrench, tighten the locknut and washer against the face as shown in Figure 4.

The contents of the description are reference, and are subject to change without notice.

Stop Collar

V-Lok		D	
in	mm	in	mm
1/4	6.35	0.69	17.5
3/8	9.52	0.84	20.6
1/2	12.7	1.1	27
3/4	19.05	1.31	33.3
1	25.4	1.68	42.7

1. Remove the nut and Rings from the fitting.
2. Insert the stop collar.



Ordering Information For Assembeled Stop Collar (With Fitting)

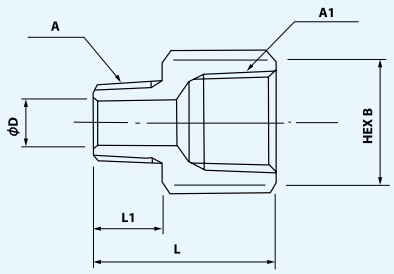
V U W H	-	6.35 BN	-	SC	-	S = Stainless Steel
Fitting type (male V-Lok Fittings)		Tube O.D. The O.D. size is always the first to be described.		Stop Collar		Stop Collar Material

How To Order Stop Collar Only

VUW-6.35 SC	-	S = Stainless Steel

Adapters

When hoping for change in the connection, when you buy the following adapter separately, you're quite able to connect various kinds very easily.



Stainless Steel Pipe Fittings, Adapters

R x Rc Type

Part Numbers	Nominal Dia.	A	A1	B		D		L		L1	
				in	mm	in	mm	in	mm	in	mm
UJB-A × B-AM	R1/8 × Rc1/4	R1/8	Rc1/4	0.75	19	0.18	4.5	1.06	27	0.39	10
UJB-B × A-AM	R1/4 × Rc1/8	R1/4	Rc1/8	0.55	14	0.18	4.5	1.02	26	0.51	13
UJB-B × C-AM	R1/4 × Rc3/8	R1/4	Rc3/8	0.91	23	0.28	7	1.22	31	0.51	13
UJB-C × B-AM	R3/8 × Rc1/4	R3/8	Rc1/4	0.75	19	0.28	7	1.18	30	0.55	14
UJB-C × D-AM	R3/8 × Rc1/2	R3/8	Rc1/2	1.06	27	0.39	10	1.42	36	0.55	14
UJB-D × C-AM	R1/2 × Rc3/8	R1/2	Rc3/8	0.91	23	0.39	10	1.34	34	0.67	17
UJB-D × E-AM	R1/2 × Rc3/4	R1/2	Rc3/4	1.26	32	0.47	12	1.69	43	0.67	17
UJB-E × D-AM	R3/4 × Rc1/2	R3/4	Rc1/2	1.14	29	0.47	12	1.61	41	0.75	19
UJB-E × F-AM	R3/4 × Rc1	R3/4	Rc1	1.61	41	0.63	16	1.93	49	0.75	19
UJB-F × E-AM	R1 × Rc3/4	R1	Rc3/4	1.42	36	0.63	16	1.81	46	0.87	22
UJB-D-AM	R1/2 × Rc1/2	R1/2	Rc1/2	1.06	27	0.29	10	1.54	39	0.67	17

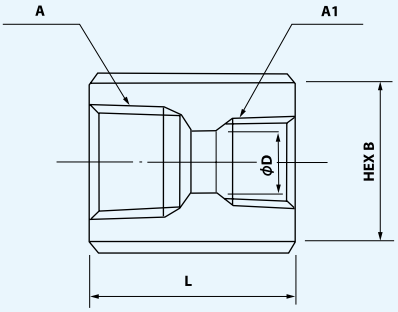
R x NPT Type

Part Numbers	Nominal Dia.	A	A1	B		D		L		L1	
				in	mm	in	mm	in	mm	in	mm
UJB-A × AN-AM	R1/8 × 1/8NPT	R1/8	1/8NPT	0.55	14	0.18	4.5	0.91	23	0.39	10
UJB-B × AN-AM	R1/4 × 1/8NPT	R1/4	1/8NPT	0.55	14	0.18	4.5	1.02	26	0.51	13
UJB-B × BN-AM	R1/4 × 1/4NPT	R1/4	1/4NPT	0.75	19	0.28	7	1.14	29	0.51	13
UJB-C × BN-AM	R3/8 × 1/4NPT	R3/8	1/4NPT	0.75	19	0.28	7	1.18	30	0.55	14
UJB-C × CN-AM	R3/8 × 3/8NPT	R3/8	3/8NPT	0.91	23	0.39	10	1.26	32	0.55	14
UJB-D × CN-AM	R1/2 × 3/8NPT	R1/2	3/8NPT	0.91	23	0.39	10	1.34	34	0.67	17
UJB-D × DN-AM	R1/2 × 1/2NPT	R1/2	1/2NPT	1.06	27	0.47	12	1.54	39	0.67	17
UJB-E × DN-AM	R3/4 × 1/2NPT	R3/4	1/2NPT	1.14	29	0.47	12	1.61	41	0.75	19
UJB-E × EN-AM	R3/4 × 3/4NPT	R3/4	3/4NPT	1.26	32	0.63	16	1.77	45	0.75	19
UJB-F × EN-AM	R1 × 3/4NPT	R1	3/4NPT	1.42	36	0.63	16	1.81	46	0.87	22
UJB-F × FN-AM	R1 × 1NPT	R1	1NPT	1.61	41	0.79	20	2.05	52	0.87	22

NPT x NPT Type

Part Numbers	Nominal Dia.	A	A1	B		D		L		L1	
				in	mm	in	mm	in	mm	in	mm
UJB-BN × AN-AM	1/4NPT × 1/8NPT	1/4NPT	1/8NPT	0.55	14	0.18	4.5	1.02	26	0.51	13
UJB-CN × BN-AM	3/8NPT × 1/4NPT	3/8NPT	1/4NPT	0.75	19	0.28	7	1.18	30	0.55	14
UJB-DN × CN-AM	1/2NPT × 3/8NPT	1/2NPT	3/8NPT	0.91	23	0.39	10	1.34	34	0.67	17
UJB-EN × DN-AM	3/4NPT × 1/2NPT	3/4NPT	1/2NPT	1.14	29	0.47	12	1.61	41	0.75	19
UJB-FN × EN-AM	1NPT × 3/4NPT	1NPT	3/4NPT	1.42	36	0.63	16	1.81	46	0.87	22
UJB-DN-AM	1/2NPT × 1/2NPT	1/2NPT	1/2NPT	1.06	27	0.39	10	1.54	39	0.67	17

Stainless Steel Pipe Fittings, Hex Couplings



Rc x Rc (Same Diameter A1=A)

Part Numbers	Nominal Dia.	A	B		D		L	
			in	mm	in	mm	in	mm
UJS-A-AM	Rc1/8	Rc1/8	0.55	14	0.24	6	0.91	23
UJS-B-AM	Rc1/4	Rc1/4	0.75	19	0.31	8	1.18	30
UJS-C-AM	Rc3/8	Rc3/8	0.91	23	0.39	10	1.34	34
UJS-D-AM	Rc1/2	Rc1/2	1.06	27	0.47	12	1.65	42

Rc x NPT

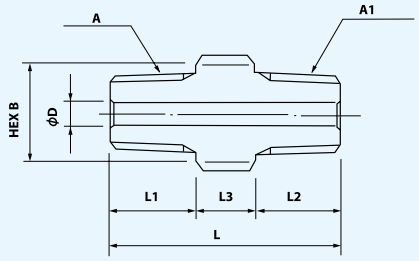
Part Numbers	Nominal Dia.	A	A1	B		D		L	
				in	mm	in	mm	in	mm
UJS-B × BN-AM	Rc1/4 × 1/4NPT	1/4NPT	Rc1/4	0.75	19	0.31	8	1.18	30
UJS-B × CN-AM	Rc1/4 × 3/8NPT	3/8NPT	Rc1/4	0.91	23	0.31	8	1.26	32
UJS-B × DN-AM	Rc1/4 × 1/2NPT	1/2NPT	Rc1/4	1.06	27	0.31	8	1.42	36

NPT x NPT (Same Diameter A1=A)

Part Numbers	Nominal Dia.	A, A1	B		D		L	
			in	mm	in	mm	in	mm
UJS-BN-AM	1/4NPT	1/4NPT	0.75	19	0.31	8	1.18	30
UJS-CN-AM	3/8NPT	3/8NPT	0.91	23	0.39	10	1.34	34
UJS-DN-AM	1/2NPT	1/2NPT	1.06	27	0.47	12	1.65	42
UJS-EN-AM	3/4NPT	3/4NPT	1.26	32	0.63	16	1.97	50

Note : Materials and dimensions are subject to change without notice.

Stainless Steel Pipe Fittings, Nipples, Plugs



Nipples

R x R(Same Diameter A1=A, L2=L1)

Part Numbers	Nominal Dia.	D		A, A1	B		L		L1, L2		L3	
		in	mm		in	mm	in	mm	in	mm	in	mm
UJN-A	R1/8	0.16	4	R1/8	0.47	12	0.98	25	0.39	10	0.2	5
UJN-B	R1/4	0.24	6	R1/4	0.55	14	1.22	31	0.51	13	0.2	5
UJN-C	R3/8	0.35	9	R3/8	0.67	17	1.38	35	0.55	14	0.28	7
UJN-D	R1/2	0.47	12	R1/2	0.91	23	1.73	44	0.67	17	0.39	10

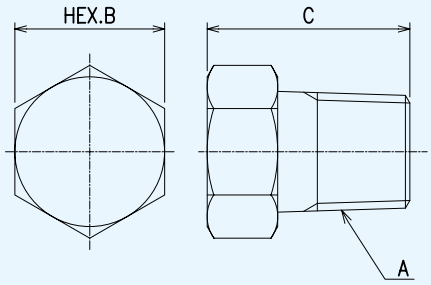
R x NPT

Part Numbers	Nominal Dia.	D		A	A1	B		L		L1		L2		L3	
		in	mm			in	mm	in	mm	in	mm	in	mm	in	mm
UJN-A × AN	R1/8 × 1/8NPT	0.16	4	R1/8	1/8NPT	0.98	12	0.98	25	0.39	10	0.39	10	0.2	5
UJN-B × BN	R1/4 × 1/4NPT	0.24	6	R1/4	1/4NPT	0.55	14	1.22	31	0.51	13	0.51	13	0.2	5
UJN-C × CN	R3/8 × 3/8NPT	0.35	9	R3/8	3/8NPT	0.75	19	1.38	35	0.55	14	0.55	14	0.28	7
UJN-D × DN	R1/2 × 1/2NPT	0.47	12	R1/2	1/2NPT	0.91	23	1.73	44	0.67	17	0.67	17	0.39	10

NPT x NPT(Same Diameter A1=A)

Part Numbers	Nominal Dia.	A, A1	D		B		L		L1, L2		L3	
			in	mm	in	mm	in	mm	in	mm	in	mm
UJN-BN-AM	1/4NPT	1/4NPT	0.24	6	0.55	14	1.22	31	0.51	13	0.2	5
UJN-CN-AM	3/8NPT	3/8NPT	0.35	9	0.67	17	1.38	35	0.55	14	0.28	7
UJN-DN-AM	1/2NPT	1/2NPT	0.47	12	0.91	23	1.73	44	0.67	17	0.39	10
UJN-EN-AM	3/4NPT	3/4NPT	0.63	16	1.14	29	1.89	48	0.75	19	0.39	10

Plugs



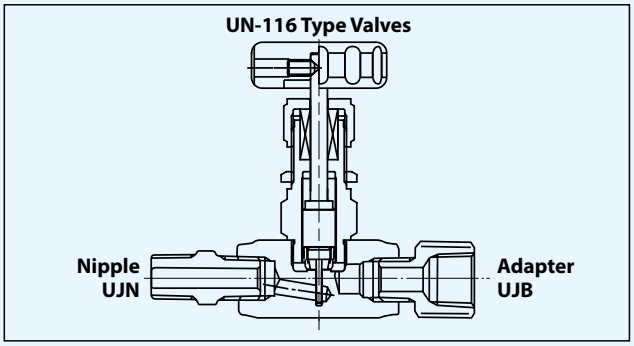
R

Part Numbers	Nominal Dia.	A	B		D	
			in	mm	in	mm
UJP-B-AM	R1/4	R1/4	0.67	17	0.91	23
UJP-D-AM	R1/2	R1/2	0.91	23	1.18	30

NPT

Part Numbers	Nominal Dia.	A	B		D	
			in	mm	in	mm
UJP-AN-AM	1/8NPT	1/8NPT	0.47	12	0.67	17
UJP-BN-AM	1/4NPT	1/4NPT	0.67	17	0.91	23
UJP-CN-AM	3/8NPT	3/8NPT	0.75	19	0.94	24
UJP-DN-AM	1/2NPT	1/2NPT	0.91	23	1.18	30
UJP-FN-AM	1NPT	1NPT	1.38	35	1.5	38

● Use Example



※ : In other ones above-mentioned, some kinds, **Fujikin** has a large selection, so please consult **Fujikin**.

Note : Materials and dimensions are subject to change without notice.

Overview

The **POWERFULLOK** is a tube fitting with excellent performance and quality. It is manufactured utilizing the design expertise and production technology that we have accumulated through our many years of experience as a precision fitting manufacturer. The brass **POWERFULLOK** is a flareless double Rings compression fitting that does not require tube thread cutting. It consists of a brass (C3771B, C3604B, C3602B) body, front ferrule, back ferrule, and nut.

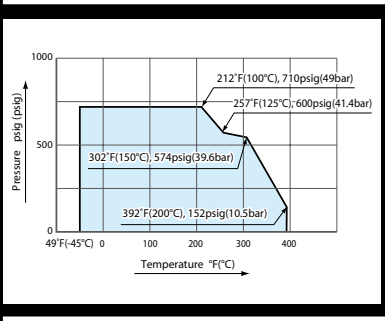
Reliability

Product performance and reliability are dependent on proper assembly. Before installing the product, please read the Installation Guide on page 103 carefully. Contact Fujikin if you have any questions about assembly procedures.

Features / Applications

- This flareless fitting is easy to install; simply insert the tube into the fitting and tight the nut. No welding is required.
- The Double-Rings connection creates a strong bond. By applying a compressive force to the tube, it achieves extremely high pressure resistance.
- The metal sealing parts, which undergo precision finishing, ensure an airtight seal.
- This compact, lightweight fitting requires low tightening torque, and is easy to disassemble and retighten.
- The tube size is stamped on the body for quick and easy identification.

Pressure and Temperature Ratings



Notes At the maximum operating pressure, the maximum operating temperature is 212°F (100°C) for most fluids. However, air, hot water, and steam have a higher maximum operating temperature 392°F (200°C). when they are used at lower pressures. Consult with Fujikin before using the POWERFULLOK at temperatures greater than 212°F (100°C).

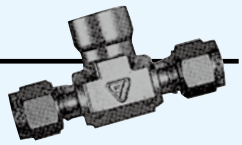
Applicable Fluid

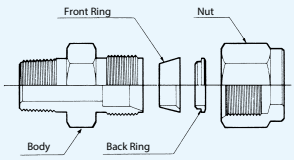
- Air, Nitorogen gas, Inert gas like Helium, and non-corrosive gas and liquid.

Other

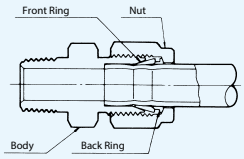
- The front and back Rings are available in metric (mm) and fractional inch sizes. Make sure that you use ferrules of the correct size, or the sealing performance will be compromised.
- Materials and dimensions are subject to change without notice.
- Avoid potential problems by notifying Fujikin before changing the conditions of use.

Parts





Cross-section after Assembly



Thread Size

Taper Pipe Thread (JIS)

Designation		A	B	C	D
JIS B0203 (1982)	Male thread	R1/8	R1/4	R3/8	R1/2
	Female thread	Rc1/8	Rc1/4	Rc3/8	Rc1/2

Parallel Pipe Thread (JIS)

Designation	AF	BF	CF	DF
JIS B0203 (1982)	G1/8	G1/4	G3/8	G1/2

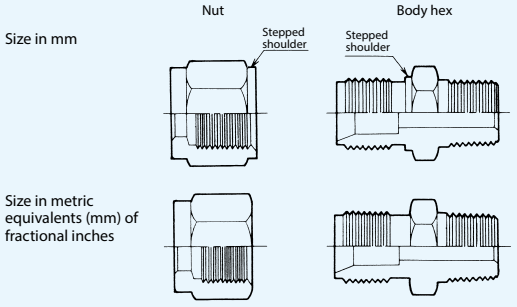
National Pipe Taper Thread (ANSI)

Designation	AN	BN	CN	DN
ANSI B2.1	1/8NPT	1/4NPT	3/8NPT	1/2NPT

Nominal Diameter

Size in mm	Size in fractional inches
3 = 3mm OD	3.2 = 3.2mm (1/8") OD
4 = 4mm OD	6.35 = 6.35mm (1/4") OD
6 = 6mm OD	9.52 = 9.52mm (3/8") OD
8 = 8mm OD	12.7 = 12.7mm (1/2") OD
10 = 10mm OD	
12 = 12mm OD	

Identification of sizes in mm and metric equivalents (mm) of fractional inches
For easy size identification, fitting diameters (expressed in millimeters) are stamped on the body hex and the nut. In addition, metric fittings have stepped shoulders to distinguish them from fractional fittings.



Part Number Designation

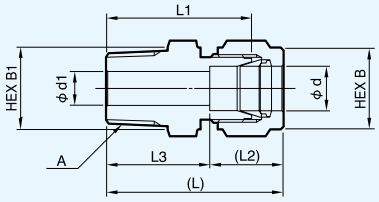
P D W H - 6 B - R

Product Series:	Material:	Fitting Type:	Connection Type:	Nominal Diameter:	Thread Size:	
POWERFULLOK Tube Fittings	Brass	Double-Rings Compression Fitting	Male Connector	Outer Diameter of Tube (mm)	R 1/4"	Correspondlng to RoHS

Please use the part number designations below when placing an order or making an inquiry.

Connector Type

MALE CONNECTORS



Size in mm

Part numbers	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWH-3A-R	3	R1/8	2.4	10	12	29.5	23.1	12.7	16.8
PDWH-3B-R	3	R1/4	2.4	10	14	35.4	29	12.7	22.7
PDWH-4A-R	4	R1/8	2.4	12	12	31.1	24.6	13.6	17.5
PDWH-4B-R	4	R1/4	2.4	12	14	36.2	29.7	13.6	22.6
PDWH-6A-R	6	R1/8	4.8	14	14	32.6	25.4	15.2	17.4
PDWH-6B-R	6	R1/4	4.8	14	14	37.4	30.2	15.2	22.2
PDWH-6C-R	6	R3/8	4.8	14	17	38.2	31	15.2	23
PDWH-6D-R	6	R1/2	4.8	14	22	43.8	36.6	15.2	28.6
PDWH-8A-R	8	R1/8	4.8	16	16	34.2	26.7	16.2	18
PDWH-8B-R	8	R1/4	6.4	16	16	38.7	31.2	16.2	22.5
PDWH-8C-R	8	R3/8	6.4	16	17	39.3	31.8	16.2	23.1
PDWH-8D-R	8	R1/2	6.4	16	22	44.8	37.3	16.2	28.6
PDWH-10A-R	10	R1/8	4.8	19	19	36.1	28.7	17	19.1
PDWH-10B-R	10	R1/4	7.9	19	19	40.7	33.3	17	23.7
PDWH-10C-R	10	R3/8	7.9	19	19	40.7	33.3	17	23.7
PDWH-10D-R	10	R1/2	7.9	19	22	45.5	38.1	17	28.5
PDWH-12A-R	12	R1/8	4.8	22	22	38.5	28.7	22.5	16
PDWH-12B-R	12	R1/4	7.1	22	22	43.1	33.3	22.5	20.6
PDWH-12C-R	12	R3/8	9.5	22	22	43.1	33.3	22.5	20.6
PDWH-12D-R	12	R1/2	9.5	22	22	47.9	38.1	22.5	25.4

Also available with NPT (ANSI) threads.

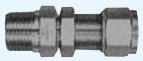
Size in metric equivalents (mm) of fractional inches

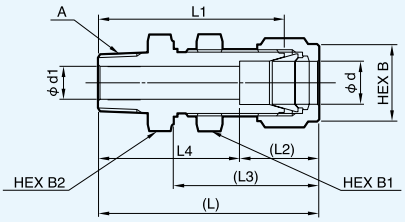
Part numbers	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWH-3.2A-R	3.2	R1/8	2.3	12	12	30.6	23.9	13	17.6
PDWH-3.2B-R	3.2	R1/4	2.3	12	14	35.7	29	13	22.7
PDWH-6.35A-R	6.35	R1/8	4.8	14	14	32.8	25.4	15.4	17.4
PDWH-6.35B-R	6.35	R1/4	4.8	14	14	37.9	30.5	15.4	22.5
PDWH-6.35C-R	6.35	R3/8	4.8	14	17	38.4	31	15.4	23
PDWH-6.35D-R	6.35	R1/2	4.8	14	22	44.7	37.3	15.4	29.3
PDWH-9.52A-R	9.52	R1/8	4.8	17	17	35.5	27.9	17.2	18.3
PDWH-9.52B-R	9.52	R1/4	7.1	17	17	40.1	32.5	17.2	22.9
PDWH-9.52C-R	9.52	R3/8	7.1	17	17	40.1	32.5	17.2	22.9
PDWH-9.52D-R	9.52	R1/2	7.1	17	22	46.5	38.9	17.2	29.3
PDWH-12.7A-R	12.7	R1/8	4.8	22	22	39	28.7	23	16
PDWH-12.7B-R	12.7	R1/4	7.1	22	22	43.6	33.3	23	20.6
PDWH-12.7C-R	12.7	R3/8	9.7	22	22	43.6	33.3	23	20.6
PDWH-12.7D-R	12.7	R1/2	10.4	22	22	49.2	38.9	23	26.2

Also available with NPT (ANSI) threads.

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

BULKHEAD MALE CONNECTORS





Size in mm

Part numbers	Nominal dia. d	A	Panel hole dia.	d1	B	B1	B2	L	L1	L2	L3	L4
PDWHP-3A-R	3	R1/8	8	2.4	10	14	14	46.3	39.9	12.7	30.7	33.6
PDWHP-3B-R	3	R1/4	8	2.4	10	14	14	51.4	45	12.7	30.7	38.7
PDWHP-6A-R	6	R1/8	11.2	4.8	14	16	16	49.4	42.2	15.2	33.7	34.2
PDWHP-6B-R	6	R1/4	11.2	4.8	14	16	16	53.2	46	15.2	33.7	38
PDWHP-6C-R	6	R3/8	11.2	4.8	14	16	17	54.3	47.1	15.2	33.7	39.1
PDWHP-6D-R	6	R1/2	11.2	4.8	14	16	22	60.6	53.4	15.2	33.7	45.4
PDWHP-8A-R	8	R1/8	12.8	4.8	16	19	19	51.7	44.2	16.2	36.1	35.5
PDWHP-8B-R	8	R1/4	12.8	6.4	16	19	19	56.2	48.7	16.2	36.1	40
PDWHP-8C-R	8	R3/8	12.8	6.4	16	19	19	56.8	49.3	16.2	36.1	40.6
PDWHP-8D-R	8	R1/2	12.8	6.4	16	19	22	62.3	54.8	16.2	36.1	46.1
PDWHP-10A-R	10	R1/8	16	4.8	19	22	22	53.6	46.2	17	36.8	36.6
PDWHP-10B-R	10	R1/4	16	7.1	19	22	22	58.2	50.8	17	36.8	41.2
PDWHP-10C-R	10	R3/8	16	7.9	19	22	22	58.2	50.8	17	36.8	41.2
PDWHP-10D-R	10	R1/2	16	7.9	19	22	22	63	55.6	17	36.8	46
PDWHP-12A-R	12	R1/8	19.1	4.8	22	24	24	58.3	48.5	22.5	41.5	35.8
PDWHP-12B-R	12	R1/4	19.1	7.1	22	24	24	62.9	53.1	22.5	41.5	40.4
PDWHP-12C-R	12	R3/8	19.1	9.5	22	24	24	62.9	53.1	22.5	41.5	40.4
PDWHP-12D-R	12	R1/2	19.1	9.5	22	24	24	68.5	58.7	22.5	41.5	46

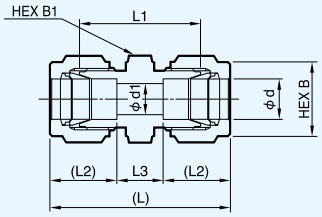
Also available with NPT (ANSI) threads.

Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	A	Panel hole dia.	d1	B	B1	B2	L	L1	L2	L3	L4
PDWHP-3.2A-R	3.2	R1/8	8	2.3	12	14	14	46.6	39.9	13	31	33.6
PDWHP-3.2B-R	3.2	R1/4	8	2.3	12	14	14	51.7	45	13	31	38.7
PDWHP-6.35A-R	6.35	R1/8	11.2	4.8	14	16	16	49.6	44.2	15.4	33.9	34.2
PDWHP-6.35B-R	6.35	R1/4	11.2	4.8	14	16	16	53.4	46	15.4	33.9	38
PDWHP-6.35C-R	6.35	R3/8	11.2	4.8	14	16	17	54.5	47.1	15.4	33.9	39.1
PDWHP-6.35D-R	6.35	R1/2	11.2	4.8	14	16	22	60.8	53.4	15.4	33.9	45.4
PDWHP-9.52A-R	9.52	R1/8	14.3	4.8	17	22	22	53.1	45.5	17.2	37.1	35.9
PDWHP-9.52B-R	9.52	R1/4	14.3	7.1	17	22	22	57.6	50	17.2	37.1	40.4
PDWHP-9.52C-R	9.52	R3/8	14.3	7.1	17	22	22	57.6	50	17.2	37.1	40.4
PDWHP-9.52D-R	9.52	R1/2	14.3	7.1	17	22	22	64.1	56.5	17.2	37.1	46.9
PDWHP-12.7A-R	12.7	R1/8	19.1	4.8	22	24	24	58.8	48.5	23	42	35.8
PDWHP-12.7B-R	12.7	R1/4	19.1	7.1	22	24	24	63.4	53.1	23	42	40.4
PDWHP-12.7C-R	12.7	R3/8	19.1	9.4	22	24	24	63.4	53.1	23	42	40.4
PDWHP-12.7D-R	12.7	R1/2	19.1	10.4	22	24	24	69	58.7	23	42	46

Also available with NPT (ANSI) threads.

STRAIGHT UNIONS



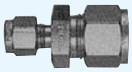
Size in mm

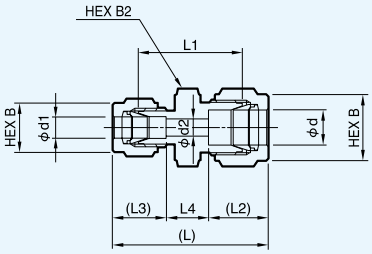
Part numbers	Nominal dia. d	d1	B	B1	L	L1	L2	L3
PDWF-3-R	3	2.4	10	12	34.9	22.1	12.7	9.5
PDWF-4-R	4	2.4	12	12	37.1	24.1	13.6	9.9
PDWF-6-R	6	4.8	14	14	40.6	26.2	15.2	10.2
PDWF-8-R	8	6.4	16	16	43.1	28.2	16.2	10.7
PDWF-10-R	10	7.9	19	19	45.8	31	17	11.8
PDWF-12-R	12	9.5	22	22	50.6	31	22.5	5.6

Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	d1	B	B1	L	L1	L2	L3
PDWF-3.2-R	3.2	2.3	12	12	35.7	22.4	13	9.7
PDWF-6.35-R	6.35	4.8	14	14	40.9	26.2	15.4	10.1
PDWF-9.52-R	9.52	7.1	17	17	45.4	30.2	17.2	11
PDWF-12.7-R	12.7	10.4	22	22	51.5	31	23	5.5

REDUCING UNIONS





Size in mm

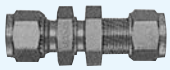
Part numbers	Nominal dia. d	Nominal dia. d1	d2	B	B1	B2	L	L1	L2	L3	L4
PDWF-4×3-R	4	3	2.4	12	10	12	36.5	23.6	13.6	12.7	10.2
PDWF-6×3-R	6	3	2.4	14	10	14	38.2	24.6	15.2	12.7	10.3
PDWF-6×4-R	6	4	2.4	14	12	14	39.1	25.4	15.2	13.6	10.3
PDWF-8×6-R	8	6	4.8	16	14	16	42.1	27.4	16.2	15.2	10.7
PDWF-10×6-R	10	6	4.8	19	14	19	44.1	29.5	17	15.2	11.9
PDWF-10×8-R	10	8	6.4	19	16	19	44.9	30	17	16.2	11.7
PDWF-12×6-R	12	6	4.8	22	14	22	46.5	29.5	22.5	15.2	8.8
PDWF-12×8-R	12	8	6.4	22	16	22	47.5	30.2	22.5	16.2	8.8
PDWF-12×10-R	12	10	7.9	22	19	22	48.2	31	22.5	17	8.7

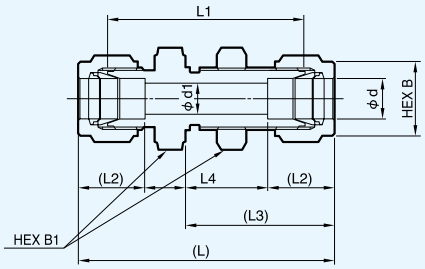
Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	Nominal dia. d1	d2	B	B1	B2	L	L1	L2	L3	L4
PDWF-6.35×3.2-R	6.35	3.2	2.3	14	12	14	38.7	24.6	15.4	13	10.3
PDWF-9.52×6.35-R	9.52	6.35	4.8	17	14	17	43.4	28.4	17.2	15.4	10.8
PDWF-12.7×6.35-R	12.7	6.35	4.8	22	14	22	47.2	29.5	23	15.4	8.8
PDWF-12.7×9.52-R	12.7	9.52	7.1	22	17	22	48.9	31	23	17.2	8.7

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

BULKHEAD UNIONS





Size in mm

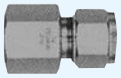
Part numbers	Nominal dia. d	Panel hole dia.	d1	B	B1	L	L1	L2	L3	L4
PDWP-3-R	3	8	2.4	10	14	50.9	38.1	12.7	30.7	25.5
PDWP-4-R	4	9.6	2.4	12	14	53.4	40.4	13.6	31.9	26.2
PDWP-6-R	6	11.2	4.8	14	16	57.3	42.9	15.2	33.7	26.9
PDWP-8-R	8	12.8	6.4	16	19	60.9	46	16.2	36.1	28.5
PDWP-10-R	10	16	7.9	19	22	63.3	48.5	17	36.8	29.3
PDWP-12-R	12	19.1	9.5	22	24	70.4	50.8	22.5	41.5	25.4

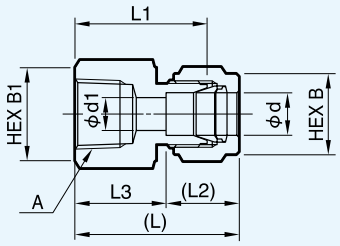
Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	Panel hole dia.	d1	B	B1	L	L1	L2	L3	L4
PDWP-3.2-R	3.2	8	2.3	12	14	51.4	38.1	13	31	25.4
PDWP-6.35-R	6.35	11.2	4.8	14	16	57.6	42.9	15.4	33.9	26.8
PDWP-9.52-R	9.52	14.3	7.1	17	22	62.7	47.5	17.2	37.1	28.3
PDWP-12.7-R	12.7	19.1	10.4	22	24	71.3	50.8	23	42	25.3

FEMALE CONNECTORS

Rc Thread





Size in mm

Part numbers	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWG-3A-R	3	Rc1/8	2.4	10	14	28.5	22.1	12.7	15.8
PDWG-3B-R	3	Rc1/4	2.4	10	19	33.3	26.9	12.7	20.6
PDWG-4A-R	4	Rc1/8	2.4	12	14	29.6	23.1	13.6	16
PDWG-4B-R	4	Rc1/4	2.4	12	19	34.2	27.7	13.6	20.6
PDWG-6A-R	6	Rc1/8	4.8	14	14	31.1	23.9	15.2	15.9
PDWG-6B-R	6	Rc1/4	4.8	14	19	35.6	28.4	15.2	20.4
PDWG-6C-R	6	Rc3/8	4.8	14	22	36.7	29.5	15.2	21.5
PDWG-6D-R	6	Rc1/2	4.8	14	26	42.3	35.1	15.2	27.1
PDWG-8A-R	8	Rc1/8	6.4	16	16	32.1	24.6	16.2	15.9
PDWG-8B-R	8	Rc1/4	6.4	16	19	37	29.5	16.2	20.8
PDWG-8C-R	8	Rc3/8	6.4	16	22	37.7	30.2	16.2	21.5
PDWG-8D-R	8	Rc1/2	6.4	16	26	43.3	35.8	16.2	27.1
PDWG-10A-R	10	Rc1/8	7.9	19	19	32.8	25.4	17	15.8
PDWG-10B-R	10	Rc1/4	7.9	19	19	37.6	30.2	17	20.6
PDWG-10C-R	10	Rc3/8	7.9	19	22	38.4	31	17	21.4
PDWG-10D-R	10	Rc1/2	7.9	19	26	44	36.6	17	27
PDWG-12A-R	12	Rc1/8	8.3	22	22	38.2	28.4	22.5	15.7
PDWG-12B-R	12	Rc1/4	9.5	22	22	40	30.2	22.5	17.5
PDWG-12C-R	12	Rc3/8	9.5	22	22	40.8	31	22.5	18.3
PDWG-12D-R	12	Rc1/2	9.5	22	26	46.4	36.6	22.5	23.9

Also available with NPT (ANSI) threads.

Size in metric equivalents (mm) of fractional inches

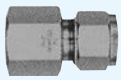
Part numbers	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWG-3.2A-R	3.2	Rc1/8	2.3	12	14	28.8	22.1	13	15.8
PDWG-3.2B-R	3.2	Rc1/4	2.3	12	19	33.6	26.9	13	20.6
PDWG-6.35A-R	6.35	Rc1/8	4.8	14	14	31.3	23.9	15.4	15.9
PDWG-6.35B-R	6.35	Rc1/4	4.8	14	19	35.8	28.4	15.4	20.4
PDWG-6.35C-R	6.35	Rc3/8	4.8	14	22	37.6	30.2	15.4	22.2
PDWG-6.35D-R	6.35	Rc1/2	4.8	14	26	42.5	35.1	15.4	27.1
PDWG-9.52A-R	9.52	Rc1/8	7.1	17	16	33	25.4	17.2	15.8
PDWG-9.52B-R	9.52	Rc1/4	7.1	17	19	37.8	30.2	17.2	20.6
PDWG-9.52C-R	9.52	Rc3/8	7.1	17	22	39.4	31.8	17.2	22.2
PDWG-9.52D-R	9.52	Rc1/2	7.1	17	26	44.2	36.6	17.2	27
PDWG-12.7A-R	12.7	Rc1/8	7	22	22	38.7	28.4	23	15.7
PDWG-12.7B-R	12.7	Rc1/4	10.4	22	22	40.5	30.2	23	17.5
PDWG-12.7C-R	12.7	Rc3/8	10.4	22	22	42.1	31.8	23	19.1
PDWG-12.7D-R	12.7	Rc1/2	10.4	22	26	46.9	36.6	23	23.9

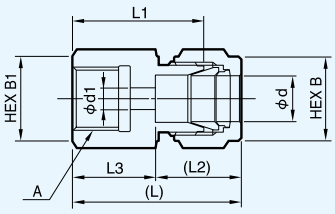
Also available with NPT (ANSI) threads.

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

FEMALE CONNECTORS

ISO Parallel Thread





Size in mm

Part numbers	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWG-3AF-R	3	G1/8	5.5 ※	10	14	32.1	25.7	12.7	19.4
PDWG-3BF-R	3	G1/4	5.5 ※	10	19	35.1	28.7	12.7	22.4
PDWG-4AF-R	4	G1/8	5.5 ※	12	14	33.2	26.7	13.6	19.6
PDWG-4BF-R	4	G1/4	5.5 ※	12	19	36.2	29.7	13.6	22.6
PDWG-6AF-R	6	G1/8	5.5 ※	14	14	34.4	27.2	15.2	19.2
PDWG-6BF-R	6	G1/4	5.5 ※	14	19	37.4	30.2	15.2	22.2
PDWG-6CF-R	6	G3/8	5.5 ※	14	22	37.4	30.2	15.2	22.2
PDWG-6DF-R	6	G1/2	5.5 ※	14	26	42.8	35.6	15.2	27.6
PDWG-8AF-R	8	G1/8	5.5	16	16	35.5	28	16.2	19.3
PDWG-8BF-R	8	G1/4	5.5	16	19	38.5	31	16.2	22.3
PDWG-8CF-R	8	G3/8	5.5	16	22	36.2	28.7	16.2	20
PDWG-8DF-R	8	G1/2	5.5	16	26	40.5	33	16.2	24.3
PDWG-10AF-R	10	G1/8	5.5	19	19	36.2	28.8	17	19.2
PDWG-10BF-R	10	G1/4	5.5	19	19	39.2	31.8	17	22.2
PDWG-10CF-R	10	G3/8	5.5	19	22	38.6	31.2	17	21.6
PDWG-10DF-R	10	G1/2	5.5	19	26	41.2	33.8	17	24.2
PDWG-12AF-R	12	G1/8	5.5	22	22	38.6	28.8	22.5	16.1
PDWG-12BF-R	12	G1/4	5.5	22	22	41.6	31.8	22.5	19.1
PDWG-12CF-R	12	G3/8	5.5	22	22	44.1	34.3	22.5	21.6
PDWG-12DF-R	12	G1/2	5.5	22	26	47.9	38.1	22.5	25.4 ※

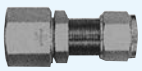
Size in metric equivalents (mm) of fractional inches

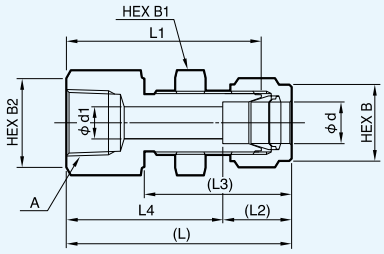
Part numbers	Nominal dia. d	A	d1	B	B1	L	L1	L2	L3
PDWG-3.2AF-R	3.2	G1/8	5.5 ※	12	14	32.4	25.7	13	19.4
PDWG-3.2BF-R	3.2	G1/4	5.5 ※	12	19	35.4	28.7	13	22.4
PDWG-6.35AF-R	6.35	G1/8	5.5	14	14	34.6	27.2	15.4	19.2
PDWG-6.35BF-R	6.35	G1/4	5.5	14	19	37.6	30.2	15.4	22.2
PDWG-6.35CF-R	6.35	G3/8	5.5	14	22	37.6	30.2	15.4	22.2
PDWG-6.35DF-R	6.35	G1/2	5.5	14	26	43	35.6	15.4	27.6
PDWG-9.52AF-R	9.52	G1/8	5.5	17	16	36.4	28.8	17.2	19.2
PDWG-9.52BF-R	9.52	G1/4	5.5	17	19	39.4	31.8	17.2	22.2
PDWG-9.52CF-R	9.52	G3/8	5.5	17	22	38.8	31.2	17.2	21.6
PDWG-9.52DF-R	9.52	G1/2	5.5	17	26	41.4	33.8	17.2	24.2
PDWG-12.7AF-R	12.7	G1/8	5.5	22	22	39.1	28.8	23	16.1
PDWG-12.7BF-R	12.7	G1/4	5.5	22	22	42.1	31.8	23	19.1
PDWG-12.7CF-R	12.7	G3/8	5.5	22	22	44.6	34.3	23	21.6
PDWG-12.7DF-R	12.7	G1/2	5.5	22	26	48.4	38.1	23	25.4

For fittings with a nominal diameter of 3mm, 3.2mm (1/8"), 4mm, and 6mm, the inner diameter of the gasket (ϕD1) is 5.5mm. However, the interior of the fitting's body is stepped such that the portion directly behind the gasket and in front of the tube is as follows : Tube OD (mm): 3.4, 3.2, 6 Fitting ID (mm): 2.4, 2.3, 4.8

BULKHEAD FEMALE CONNECTORS

Rc Thread





Panel Hole Dia : +0.0315 in. (+0.5mm), +0

Size in mm

Part numbers	Nominal dia. d	A	Panel hole dia.	d1	B	B1	B2	L	L1	L2	L3	L4
PDWGP-3A-R	3	Rc1/8	8	2.4	10	14	14	44.2	37.8	12.7	30.7	31.5
PDWGP-3B-R	3	Rc1/4	8	2.4	10	14	19	49	42.6	12.7	30.7	36.3
PDWGP-4A-R	4	Rc1/8	9.6	2.4	12	14	14	45.4	38.9	13.6	31.9	31.8
PDWGP-4B-R	4	Rc1/4	9.6	2.4	12	14	19	50	43.5	13.6	31.9	36.4
PDWGP-6A-R	6	Rc1/8	11.2	4.8	14	16	14	47.2	40	15.2	33.7	32
PDWGP-6B-R	6	Rc1/4	11.2	4.8	14	16	19	51.7	44.5	15.2	33.7	36.5
PDWGP-6C-R	6	Rc3/8	11.2	4.8	14	16	22	52.8	45.6	15.2	33.7	37.6
PDWGP-6D-R	6	Rc1/2	11.2	4.8	14	16	26	58.4	51.2	15.2	33.7	43.2
PDWGP-8A-R	8	Rc1/8	12.8	6.4	16	19	16	49.6	42.1	16.2	36.1	33.4
PDWGP-8B-R	8	Rc1/4	12.8	6.4	16	19	19	54.5	47	16.2	36.1	38.3
PDWGP-8C-R	8	Rc3/8	12.8	6.4	16	19	22	55.2	47.7	16.2	36.1	39
PDWGP-8D-R	8	Rc1/2	12.8	6.4	16	19	26	60.8	53.5	16.2	36.1	44.6
PDWGP-10A-R	10	Rc1/8	16	7.9	19	22	19	50.3	42.9	17	36.8	33.3
PDWGP-10B-R	10	Rc1/4	16	7.9	19	22	19	55.1	47.7	17	36.8	38.1
PDWGP-10C-R	10	Rc3/8	16	7.9	19	22	22	55.9	48.5	17	36.8	38.9
PDWGP-10D-R	10	Rc1/2	16	7.9	19	22	26	61.5	54.1	17	36.8	44.5
PDWGP-12A-R	12	Rc1/8	19.1	8.3	22	24	22	58	48.2	22.5	41.5	35.5
PDWGP-12B-R	12	Rc1/4	19.1	9.5	22	24	22	59.8	50	22.5	41.5	37.3
PDWGP-12C-R	12	Rc3/8	19.1	9.5	22	24	22	60.6	50.8	22.5	41.5	38.1
PDWGP-12D-R	12	Rc1/2	19.1	9.5	22	24	26	66.2	56.4	22.5	41.5	43.7

Also available with NPT (ANSI) threads.

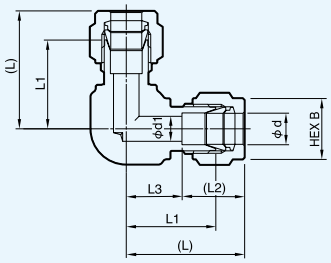
Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	A	Panel hole dia.	d1	B	B1	B2	L	L1	L2	L3	L4
PDWGP-3.2A-R	3.2	Rc1/8	8	2.3	12	14	14	44.5	37.8	13	31	31.5
PDWGP-3.2B-R	3.2	Rc1/4	8	2.3	12	14	19	49.3	42.6	13	31	36.3
PDWGP-6.35A-R	6.35	Rc1/8	11.2	4.8	14	16	14	47.4	40	15.4	33.9	32
PDWGP-6.35B-R	6.35	Rc1/4	11.2	4.8	14	16	19	51.9	44.5	15.4	33.9	36.5
PDWGP-6.35C-R	6.35	Rc3/8	11.2	4.8	14	16	22	53.7	46.3	15.4	33.9	38.3
PDWGP-6.35D-R	6.35	Rc1/2	11.2	4.8	14	16	26	58.6	51.2	15.4	33.9	43.2
PDWGP-9.52A-R	9.52	Rc1/8	14.3	7.1	17	22	16	50.6	43	17.2	37.1	33.4
PDWGP-9.52B-R	9.52	Rc1/4	14.3	7.1	17	22	19	55.4	47.8	17.2	37.1	38.2
PDWGP-9.52C-R	9.52	Rc3/8	14.3	7.1	17	22	22	57	49.4	17.2	37.1	39.8
PDWGP-9.52D-R	9.52	Rc1/2	14.3	7.1	17	22	26	61.8	54.2	17.2	37.1	44.6
PDWGP-12.7A-R	12.7	Rc1/8	19.1	8.8	22	24	22	58.5	48.2	23	42	35.5
PDWGP-12.7B-R	12.7	Rc1/4	19.1	10.4	22	24	22	60.3	50	23	42	37.3
PDWGP-12.7C-R	12.7	Rc3/8	19.1	10.4	22	24	22	61.9	51.6	23	42	38.9
PDWGP-12.7D-R	12.7	Rc1/2	19.1	10.4	22	24	26	66.7	56.4	23	42	43.7

Also available with NPT (ANSI) threads.

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

ELBOW UNIONS



Size in mm

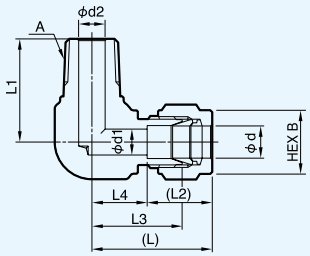
Part numbers	Nominal dia. d	d1	B	L	L1	L2	L3
PDWL-3-R	3	2.4	10	22.1	15.7	12.7	9.4
PDWL-4-R	4	2.4	12	25.3	18.8	13.6	11.7
PDWL-6-R	6	4.8	14	26.8	19.6	15.2	11.6
PDWL-8-R	8	6.4	16	28.8	21.3	16.2	12.6
PDWL-10-R	10	7.9	19	33.3	25.9	17	16.3
PDWL-12-R	12	9.5	22	35.7	25.9	22.5	13.2

Size in metric equivalents
(mm) of fractional inches

Part numbers	Nominal dia. d	d1	B	L	L1	L2	L3
PDWL-3.2-R	3.2	2.3	12	22.4	15.7	13	9.4
PDWL-6.35-R	6.35	4.8	14	27	19.6	15.4	11.6
PDWL-9.52-R	9.52	7.1	17	30.7	23.1	17.2	13.5
PDWL-12.7-R	12.7	10.4	22	36.2	25.9	23	13.2

MALE ELBOWS

R Thread



Size in mm

Part numbers	Nominal dia. d	A	d1	B	L	L1	L2	L3	L4
PDWL-3A-R	3	R1/8	2.4	10	23.4	17.8	12.7	17	10.7
PDWL-3B-R	3	R1/4	2.4	10	24.4	23.4	12.7	18	11.7
PDWL-4A-R	4	R1/8	2.4	12	25.3	18.8	13.6	18.8	11.7
PDWL-4B-R	4	R1/4	2.4	12	25.3	23.4	13.6	18.8	11.7
PDWL-6A-R	6	R1/8	4.8	14	26.8	18.8	15.2	19.6	11.6
PDWL-6B-R	6	R1/4	4.8	14	26.8	23.4	15.2	19.6	11.6
PDWL-6C-R	6	R3/8	4.8	14	29.6	26.2	15.2	22.4	14.4
PDWL-6D-R	6	R1/2	4.8	14	31.6	33	15.2	24.4	16.4
PDWL-8A-R	8	R1/8	4.8	16	28.8	19.8	16.2	21.3	12.6
PDWL-8B-R	8	R1/4	6.4	16	28.8	24.4	16.2	21.3	12.6
PDWL-8C-R	8	R3/8	6.4	16	30.6	26.2	16.2	23.1	14.4
PDWL-8D-R	8	R1/2	6.4	16	32.6	33	16.2	25.1	16.4
PDWL-10A-R	10	R1/8	4.8	19	33.3	23.6	17	25.9	16.3
PDWL-10B-R	10	R1/4	7.1	19	33.3	28.2	17	25.9	16.3
PDWL-10C-R	10	R3/8	7.9	19	33.3	28.2	17	25.9	16.3
PDWL-10D-R	10	R1/2	7.9	19	33.3	33	17	25.9	16.3
PDWL-12A-R	12	R1/8	4.8	22	35.7	23.6	22.5	25.9	13.2
PDWL-12B-R	12	R1/4	7.1	22	35.7	28.2	22.5	25.9	13.2
PDWL-12C-R	12	R3/8	9.5	22	35.7	28.2	22.5	25.9	13.2
PDWL-12D-R	12	R1/2	9.5	22	35.7	33	22.5	25.9	13.2

Also available with NPT (ANSI) threads.

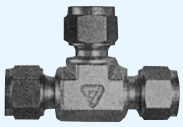
Size in metric equivalents (mm) of fractional inches

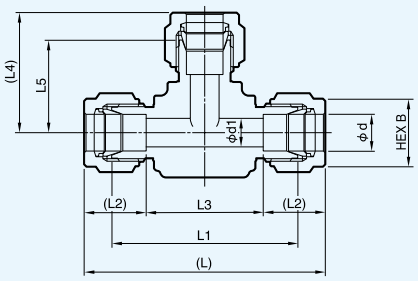
Part numbers	Nominal dia. d	A	d1	B	L	L1	L2	L3	L4
PDWL-3.2A-R	3.2	R1/8	2.3	12	23.7	17.8	13	17	10.7
PDWL-3.2B-R	3.2	R1/4	2.3	12	24.7	23.4	13	18	11.7
PDWL-6.35A-R	6.35	R1/8	4.8	14	27	18.8	15.4	19.6	11.6
PDWL-6.35B-R	6.35	R1/4	4.8	14	27	23.4	15.4	19.6	11.6
PDWL-6.35C-R	6.35	R3/8	4.8	14	29.8	26.2	15.4	22.4	14.4
PDWL-6.35D-R	6.35	R1/2	4.8	14	31.8	33	15.4	24.4	16.4
PDWL-9.52A-R	9.52	R1/8	4.8	17	30.7	20.8	17.2	23.1	13.5
PDWL-9.52B-R	9.52	R1/4	7.1	17	30.7	25.4	17.2	23.1	13.5
PDWL-9.52C-R	9.52	R3/8	7.1	17	31.5	26.2	17.2	23.9	14.3
PDWL-9.52D-R	9.52	R1/2	7.1	17	33.5	33	17.2	25.9	16.3
PDWL-12.7A-R	12.7	R1/8	4.8	22	36.2	23.6	23	25.9	13.2
PDWL-12.7B-R	12.7	R1/4	7.1	22	36.2	28.2	23	25.9	13.2
PDWL-12.7C-R	12.7	R3/8	9.7	22	36.2	28.2	23	25.9	13.2
PDWL-12.7D-R	12.7	R1/2	10.4	22	36.2	33	23	25.9	13.2

Also available with NPT (ANSI) threads.

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

TEE UNIONS





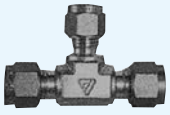
Size in mm

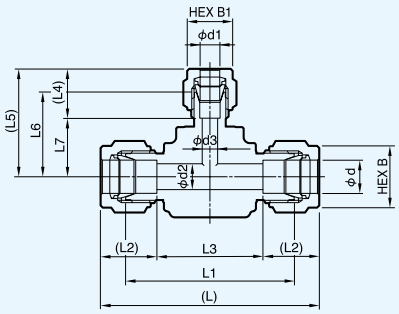
Part numbers	Nominal dia. d	d1	B	L	L1	L2	L3	L4	L5
PDWT-3-R	3	2.4	10	44.2	31.4	12.7	18.8	22.1	15.7
PDWT-4-R	4	2.4	12	50.6	37.6	13.6	23.4	25.3	18.8
PDWT-6-R	6	4.8	14	53.4	39	15.2	23	26.7	19.5
PDWT-8-R	8	6.4	16	59.7	44.8	16.2	27.3	29.9	22.4
PDWT-10-R	10	7.9	19	66.6	51.8	17	32.6	33.3	25.9
PDWT-12-R	12	9.5	22	71.4	51.8	22.5	26.4	35.7	25.9

Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	d1	B	L	L1	L2	L3	L4	L5
PDWT-3.2-R	3.2	2.3	12	44.9	31.6	13	18.9	22.5	15.8
PDWT-6.35-R	6.35	4.8	14	53.7	39	15.4	22.9	26.9	19.5
PDWT-9.52-R	9.52	7.1	17	61.4	46.2	17.2	27	30.7	23.1
PDWT-12.7-R	12.7	10.4	22	72.3	51.8	23	26.3	36.2	25.9

REDUCING TEE UNIONS





Size in mm

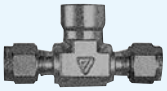
Part numbers	Nominal dia. d	Nominal dia. d1	d2	d3	B	B1	L	L1	L2	L3	L4	L5	L6	L7
PDWT-8×8×6-R	8	6	6.4	4.8	16	14	59.7	44.8	16.2	27.3	15.2	29.6	22.4	14.4
PDWT-10×10×6-R	10	6	7.9	4.8	19	14	66.6	51.8	17	32.6	15.2	33.1	25.9	17.9
PDWT-10×10×8-R	10	8	7.9	6.4	19	16	66.6	51.8	17	32.6	16.2	33.4	25.9	17.2
PDWT-12×12×6-R	12	6	9.5	4.8	22	14	71.4	51.8	22.5	26.4	15.2	33.1	25.9	17.9
PDWT-12×12×8-R	12	8	9.5	6.4	22	16	71.4	51.8	22.5	26.4	16.2	33.4	25.9	17.2
PDWT-12×12×10-R	12	10	9.5	7.9	22	19	71.4	51.8	22.5	26.4	17	33.3	25.9	16.3

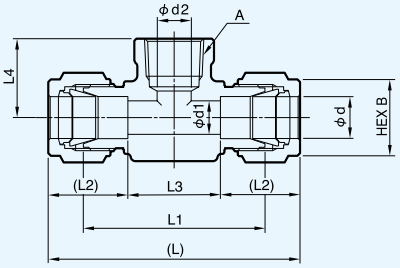
Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	Nominal dia. d1	d2	d3	B	B1	L	L1	L2	L3	L4	L5	L6	L7
PDWT-9.52×9.52×6.35-R	9.52	6.35	7.1	4.8	17	14	61.4	46.2	17.2	27	15.4	30.5	23.1	15.1
PDWT-12.7×12.7×6.35-R	12.7	6.35	10.4	4.8	22	14	72.3	51.8	23	26.3	15.4	33.3	25.9	17.9
PDWT-12.7×12.7×9.52-R	12.7	9.52	10.4	7.1	22	17	72.3	51.8	23	26.3	17.2	33.5	25.9	16.3

FEMALE BRANCH TEES

Rc Thread





Size in mm

Part numbers	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTG-3A-R	3	Rc1/8	2.4	7	10	48.9	36.1	12.7	22.7	19.1
PDWTG-3B-R	3	Rc1/4	2.4	7	10	54.4	41.6	12.7	29	22.4
PDWTG-4A-R	4	Rc1/8	2.4	7	12	50.6	37.6	13.6	23.4	19.1
PDWTG-4B-R	4	Rc1/4	2.4	7	12	54.6	41.6	13.6	27.4	22.4
PDWTG-6A-R	6	Rc1/8	4.8	7	14	53.5	39.1	15.2	22.5	19.1
PDWTG-6B-R	6	Rc1/4	4.8	7	14	59.1	44.7	15.2	28.1	22.4
PDWTG-6C-R	6	Rc3/8	4.8	7	14	63.2	48.8	15.2	32.8	22.4
PDWTG-8A-R	8	Rc1/8	6.4	7	16	57.5	42.6	16.2	25.1	19.1
PDWTG-8B-R	8	Rc1/4	6.4	7	16	61.1	46.2	16.2	28.7	22.4
PDWTG-8C-R	8	Rc3/8	6.4	7	16	63.7	48.8	16.2	31.3	22.4
PDWTG-10A-R	10	Rc1/8	7.9	7	19	66.6	51.8	17	32.6	22.4
PDWTG-10B-R	10	Rc1/4	7.9	7.9	19	66.6	51.8	17	32.6	22.4
PDWTG-10C-R	10	Rc3/8	7.9	7.9	19	66.6	51.8	17	32.6	22.4
PDWTG-12A-R	12	Rc1/8	8.3	7	22	71.4	51.8	22.5	26.4	22.4
PDWTG-12B-R	12	Rc1/4	9.5	9.5	22	71.4	51.8	22.5	26.4	22.4
PDWTG-12C-R	12	Rc3/8	9.5	9.5	22	71.4	51.8	22.5	26.4	22.4

Also available with NPT (ANSI) threads.

Size in metric equivalents (mm) of fractional inches

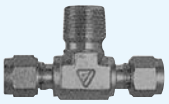
Part numbers	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTG-3.2A-R	3.2	Rc1/8	2.3	7.1	12	49.4	36.1	13	23.4	19.1
PDWTG-3.2B-R	3.2	Rc1/4	2.3	7.1	12	54.9	41.6	13	28.9	22.4
PDWTG-6.35A-R	6.35	Rc1/8	4.8	7.1	14	53.8	39.1	15.4	23	19.1
PDWTG-6.35B-R	6.35	Rc1/4	4.8	7.1	14	59.4	44.7	15.4	28.6	22.4
PDWTG-6.35C-R	6.35	Rc3/8	4.8	7.1	14	63.5	48.8	15.4	32.7	22.4
PDWTG-9.52A-R	9.52	Rc1/8	7.1	7.1	17	61.4	46.2	17.2	27	19.1
PDWTG-9.52B-R	9.52	Rc1/4	7.1	7.1	17	63	47.8	17.2	28.6	22.4
PDWTG-9.52C-R	9.52	Rc3/8	7.1	7.1	17	67	51.8	17.2	32.6	22.4
PDWTG-12.7A-R	12.7	Rc1/8	10.4	7.1	22	72.3	51.8	23	26.3	22.4
PDWTG-12.7B-R	12.7	Rc1/4	10.4	9.5	22	72.3	51.8	23	26.3	22.4
PDWTG-12.7C-R	12.7	Rc3/8	10.4	10.4	22	72.3	51.8	23	26.3	22.4

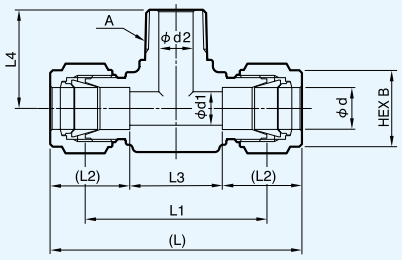
Also available with NPT (ANSI) threads.

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

MALE BRANCH TEES

R Thread





Size in mm

Part numbers	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTS-3A-R	3	R1/8	2.4	4.8	10	46.8	34	12.7	21.4	17.8
PDWTS-3B-R	3	R1/4	2.4	4.8	10	48.9	36.1	12.7	23.5	23.4
PDWTS-4A-R	4	R1/8	2.4	4.8	12	48.6	35.6	13.6	21.4	17.8
PDWTS-4B-R	4	R1/4	2.4	4.8	12	48.6	35.6	13.6	21.4	23.4
PDWTS-6A-R	6	R1/8	4.8	4.8	14	53.5	39.1	15.2	23.1	18.8
PDWTS-6B-R	6	R1/4	4.8	4.8	14	53.5	39.1	15.2	23.1	23.4
PDWTS-6C-R	6	R3/8	4.8	4.8	14	59.2	44.8	15.2	28.8	26.2
PDWTS-6D-R	6	R1/2	4.8	4.8	14	63.2	48.8	15.2	32.8	33
PDWTS-8A-R	8	R1/8	6.4	4.8	16	59.6	44.7	16.2	27.2	20.8
PDWTS-8B-R	8	R1/4	6.4	6.4	16	59.6	44.7	16.2	27.2	25.4
PDWTS-8C-R	8	R3/8	6.4	6.4	16	61.1	46.2	16.2	28.7	26.2
PDWTS-8D-R	8	R1/2	6.4	6.4	16	65.1	50.2	16.2	32.7	33
PDWTS-10A-R	10	R1/8	7.9	4.8	19	66.6	51.8	17	32.6	23.6
PDWTS-10B-R	10	R1/4	7.9	7.1	19	66.6	51.8	17	32.6	28.2
PDWTS-10C-R	10	R3/8	7.9	7.9	19	66.6	51.8	17	32.6	28.2
PDWTS-10D-R	10	R1/2	7.9	7.9	19	66.6	51.8	17	32.6	33
PDWTS-12A-R	12	R1/8	9.5	4.8	22	71.4	51.8	22.5	26.4	23.6
PDWTS-12B-R	12	R1/4	9.5	7.1	22	71.4	51.8	22.5	26.4	28.2
PDWTS-12C-R	12	R3/8	9.5	9.5	22	71.4	51.8	22.5	26.4	28.2
PDWTS-12D-R	12	R1/2	9.5	9.5	22	71.4	51.8	22.5	26.4	33

Also available with NPT (ANSI) threads.

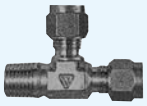
Size in metric equivalents (mm) of fractional inches

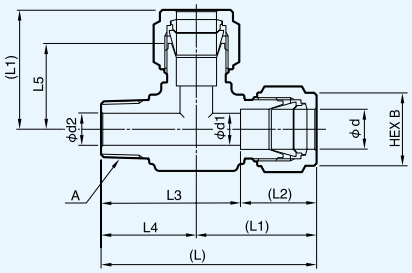
Part numbers	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4
PDWTS-3.2A-R	3.2	R1/8	2.3	4.8	12	47.3	34	13	21.3	17.8
PDWTS-3.2B-R	3.2	R1/4	2.3	4.8	12	49.4	36.1	13	23.4	23.4
PDWTS-6.35A-R	6.35	R1/8	4.8	4.8	14	53.8	39.1	15.4	23	18.8
PDWTS-6.35B-R	6.35	R1/4	4.8	4.8	14	53.8	39.1	15.4	23	23.4
PDWTS-6.35C-R	6.35	R3/8	4.8	4.8	14	59.5	44.8	15.4	28.7	26.2
PDWTS-6.35D-R	6.35	R1/2	4.8	4.8	14	63.5	48.8	15.4	32.7	33
PDWTS-9.52A-R	9.52	R1/8	7.1	4.8	17	61.4	46.2	17.2	27	20.8
PDWTS-9.52B-R	9.52	R1/4	7.1	7.1	17	61.4	46.2	17.2	27	25.4
PDWTS-9.52C-R	9.52	R3/8	7.1	7.1	17	67	51.8	17.2	32.6	28.2
PDWTS-9.52D-R	9.52	R1/2	7.1	7.1	17	67	51.8	17.2	32.6	33
PDWTS-12.7A-R	12.7	R1/8	10.4	4.8	22	72.3	51.8	23	26.3	23.6
PDWTS-12.7B-R	12.7	R1/4	10.4	7.1	22	72.3	51.8	23	26.3	28.2
PDWTS-12.7C-R	12.7	R3/8	10.4	9.7	22	72.3	51.8	23	26.3	28.2
PDWTS-12.7D-R	12.7	R1/2	10.4	10.4	22	72.3	51.8	23	26.3	33

Also available with NPT (ANSI) threads.

MALE RUN TEES

R Thread





Size in mm

Part numbers	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4	L5
PDWTL-3A-R	3	R1/8	2.4	4.8	10	41.2	23.4	12.7	28.5	17.8	17
PDWTL-3B-R	3	R1/4	2.4	4.8	10	47.8	24.4	12.7	35.1	23.4	18
PDWTL-4A-R	4	R1/8	2.4	4.8	12	42.1	24.3	13.6	28.5	17.8	17.8
PDWTL-4B-R	4	R1/4	2.4	4.8	12	47.7	24.3	13.6	34.1	23.4	17.8
PDWTL-6A-R	6	R1/8	4.8	4.8	14	45.6	26.8	15.2	30.4	18.8	19.6
PDWTL-6B-R	6	R1/4	4.8	4.8	14	50.2	26.8	15.2	35	23.4	19.6
PDWTL-6C-R	6	R3/8	4.8	4.8	14	55.8	29.6	15.2	40.6	26.2	22.4
PDWTL-6D-R	6	R1/2	4.8	4.8	14	64.6	31.6	15.2	49.4	33	24.4
PDWTL-8A-R	8	R1/8	6.4	4.8	16	50.7	29.9	16.2	34.5	20.8	22.4
PDWTL-8B-R	8	R1/4	6.4	6.4	16	55.3	29.9	16.2	39.1	25.4	22.4
PDWTL-8C-R	8	R3/8	6.4	6.4	16	56.8	30.6	16.2	40.6	26.2	23.1
PDWTL-8D-R	8	R1/2	6.4	6.4	16	65.6	32.6	16.2	49.4	33	25.1
PDWTL-10A-R	10	R1/8	7.9	4.8	19	56.9	33.3	17	39.9	23.6	25.9
PDWTL-10B-R	10	R1/4	7.9	7.1	19	61.5	33.3	17	44.5	28.2	25.9
PDWTL-10C-R	10	R3/8	7.9	7.9	19	61.5	33.3	17	44.5	28.2	25.9
PDWTL-10D-R	10	R1/2	7.9	7.9	19	66.3	33.3	17	49.3	33	25.9
PDWTL-12A-R	12	R1/8	9.5	4.8	22	59.3	35.7	22.5	36.8	23.6	25.9
PDWTL-12B-R	12	R1/4	9.5	7.1	22	63.9	35.7	22.5	41.4	28.2	25.9
PDWTL-12C-R	12	R3/8	9.5	9.5	22	63.9	35.7	22.5	41.4	28.2	25.9
PDWTL-12D-R	12	R1/2	9.5	9.5	22	68.7	35.7	22.5	46.2	33	25.9

Also available with NPT (ANSI) threads.

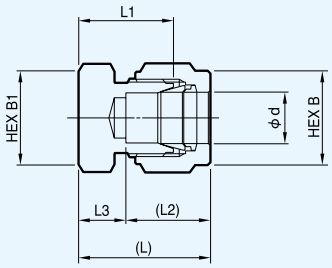
Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	A	d1	d2	B	L	L1	L2	L3	L4	L5
PDWTL-3.2A-R	3.2	R1/8	2.3	4.8	12	41.5	23.7	13	28.5	17.8	17
PDWTL-3.2B-R	3.2	R1/4	2.3	4.8	12	48.1	24.7	13	35.1	23.4	18
PDWTL-6.35A-R	6.35	R1/8	4.8	4.8	14	45.8	27	15.4	30.4	18.8	19.6
PDWTL-6.35B-R	6.35	R1/4	4.8	4.8	14	50.4	27	15.4	35	23.4	19.6
PDWTL-6.35C-R	6.35	R3/8	4.8	4.8	14	56	29.8	15.4	40.6	26.2	22.4
PDWTL-6.35D-R	6.35	R1/2	4.8	4.8	14	64.8	31.8	15.4	49.4	33	24.4
PDWTL-9.52A-R	9.52	R1/8	7.1	4.8	17	51.5	30.7	17.2	34.3	20.8	23.1
PDWTL-9.52B-R	9.52	R1/4	7.1	7.1	17	56.1	30.7	17.2	38.9	25.4	23.1
PDWTL-9.52C-R	9.52	R3/8	7.1	7.1	17	61.7	33.5	17.2	44.5	28.2	25.9
PDWTL-9.52D-R	9.52	R1/2	7.1	7.1	17	66.5	33.5	17.2	49.3	33	25.9
PDWTL-12.7A-R	12.7	R1/8	10.4	4.8	22	59.8	36.2	23	36.8	23.6	25.9
PDWTL-12.7B-R	12.7	R1/4	10.4	7.1	22	64.4	36.2	23	41.4	28.2	25.9
PDWTL-12.7C-R	12.7	R3/8	10.4	9.7	22	64.6	36.4	23	41.6	28.2	25.9
PDWTL-12.7D-R	12.7	R1/2	10.4	10.4	22	69.4	36.4	23	46.4	33	25.9

Also available with NPT (ANSI) threads.

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

CAP UNIONS



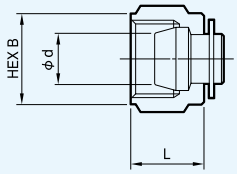
Size in mm

Part numbers	Nominal dia. d	B	B1	L	L1	L2	L3
PDWJC-3-R	3	10	12	19.9	13.5	12.7	7.2
PDWJC-4-R	4	12	12	21.2	14.7	13.6	7.6
PDWJC-6-R	6	14	14	22.9	15.7	15.2	7.7
PDWJC-8-R	8	16	16	24.5	17	16.2	8.3
PDWJC-10-R	10	19	19	26.4	19	17	9.4
PDWJC-12-R	12	22	22	28.8	19	22.5	6.3

Size in metric equivalents
(mm) of fractional inches

Part numbers	Nominal dia. d	B	B1	L	L1	L2	L3
PDWJC-3.2-R	3.2	12	12	20.2	13.5	13	7.2
PDWJC-6.35-R	6.35	14	14	23.4	16	15.4	8
PDWJC-9.52-R	9.52	17	17	25.9	18.3	17.2	8.7
PDWJC-12.7-R	12.7	22	22	29.4	19.1	23	6.4

PLUG UNIONS



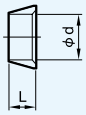
Size in mm

Part numbers	Nominal dia. d	B	L
PDWJP-3-R	3	10	11.8
PDWJP-4-R	4	12	11.9
PDWJP-6-R	6	14	12.6
PDWJP-8-R	8	16	13.4
PDWJP-10-R	10	19	15
PDWJP-12-R	12	22	17.4

Size in metric equivalents
(mm) of fractional inches

Part numbers	Nominal dia. d	B	L
PDWJP-3.2-R	3.2	12	11.8
PDWJP-6.35-R	6.35	14	12.6
PDWJP-9.52-R	9.52	17	14.2
PDWJP-12.7-R	12.7	22	17.4

FRONT Rings



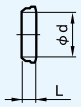
Size in mm

Part numbers	Nominal dia. d	L
PDW-3S-R	3	4.9
PDW-4S-R	4	4.9
PDW-6S-R	6	4.9
PDW-8S-R	8	4.9
PDW-10S-R	10	4.9
PDW-12S-R	12	7.3

Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	L
PDW-3.2S-R	3.2	4.9
PDW-6.35S-R	6.35	4.9
PDW-9.52S-R	9.52	4.9
PDW-12.7S-R	12.7	7.3

BACK Rings



Size in mm

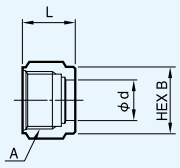
Part numbers	Nominal dia. d	L
PDW-3R-R	3	2.6
PDW-4R-R	4	2.6
PDW-6R-R	6	2.6
PDW-8R-R	8	2.6
PDW-10R-R	10	2.6
PDW-12R-R	12	3.8

Size in metric equivalents (mm) of fractional inches

Part numbers	Nominal dia. d	L
PDW-3.2R-R	3.2	2.6
PDW-6.35R-R	6.35	2.6
PDW-9.52R-R	9.52	2.6
PDW-12.7R-R	12.7	3.8

Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

NUTS



Size in mm

Part numbers	Nominal dia. d	A	B	L
PDW-3N-R	3	5/16-20UN	10	11.8
PDW-4N-R	4	3/8-20UN	12	11.9
PDW-6N-R	6	7/16-20UNF	14	12.6
PDW-8N-R	8	1/2-20UNF	16	13.4
PDW-10N-R	10	5/8-20UN	19	15
PDW-12N-R	12	3/4-20UNEF	22	17.4

Size in metric equivalents
(mm) of fractional inches

Part numbers	Nominal dia. d	A	B	L
PDW-3.2N-R	3.2	5/16-20UN	12	11.8
PDW-6.35N-R	6.35	7/16-20UNF	14	12.6
PDW-9.52N-R	9.52	9/16-20UN	17	14.2
PDW-12.7N-R	12.7	3/4-20UNEF	22	17.4

Before Installation

1. The tubes used must:
   - Be made of soft (O, annealed) or hard (1/2H) copper.
   - Have a tolerance within ±0.1mm of the tube OD.
   - Be free of visible scratches 30mm from either end of the tube.
   - Refer a wall thickness listed in the table below.

   Consult with Fujikin before using non-copper tubes.
2. Before assembling the fittings, cut the tubes to the required length. Cutting tubes after fitting assembly will cause bending stress at the fitting seals and may result in leakage.

In case of using " O (annealed)" copper tube

Nominal Dia. mm	Nominal Dia. inches	Nominal Wall Thicknesses of tubes (mm)
3	3.2 ($1/8^{OD}$)	0.5
4	–	0.8
6	6.35 ($1/4^{OD}$)	1 ~ 1.5
8, 10	9.52 ($3/8^{OD}$)	1 ~ 1.5
12	12.7 ($1/2^{OD}$)	1.2 ~ 1.5
–	19.05 ($3/4^{OD}$)	1.5 ~ 2

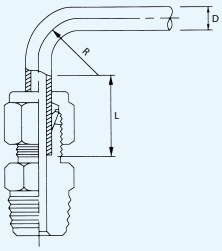
In case of using "1/2 H " copper tube

Nominal Dia. mm	Nominal Dia. inches	Nominal Wall Thicknesses of tubes (mm)
6	6.35 ($1/4^{OD}$)	0.8
8, 10	9.52 ($3/8^{OD}$)	0.8
12	12.7 ($1/2^{OD}$)	1.2

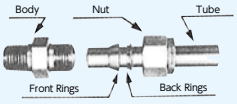
3. Use a tube cutter to cut the tubes to the required length. If it is necessary to use a different method, be sure to cut the tubes at a right angle, and then remove burrs carefully from the outer circumference by filing at a 45°angle to the centerline. Use a scraper or a round file to remove burrs inside the tubes. Ensure that no burrs remain.
4. When installing fittings near tube bends, there must be a sufficient straight length of tubing to allow for proper installation (see the table to the left; units in millimeters).

D (mm)	L (mm) L1	L (mm) L2	R (mm)
6, 6.35	21	17	14.3
8	22	18	17.5
10, 9.52	24	19.5	23.8
12, 12.7	31	26	38.1

L1: Recommended straight tube length.
L2: Minimum straight tube length.

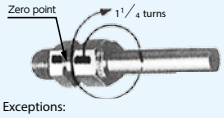


Assembly



Ensure that the parts are installed in the order shown in the picture (left). Assembling them in the wrong order may result in leakage.

Insert the tube completely until it makes contact with the body. Hand-tighten the nut until it cannot be tightened further. After manually tightening the nut, mark both the body and the nut. This point is the zero point.



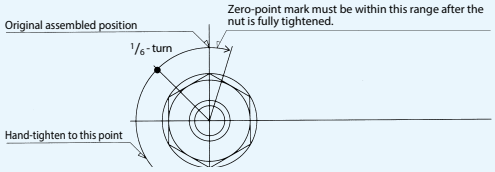
With a wrench, tighten the nut 1 1/4-turns from the zero point. Assembly is then complete.

Exceptions:
- Fittings with nominal diameters of 4mm, 3.2mm (1/8" OD) or smaller: Tighten the nut a 3/4 turn.
- Plug unions (product number: PDWJP): Tighten the nut a 1/4 turn, regardless of size.

Reassembly

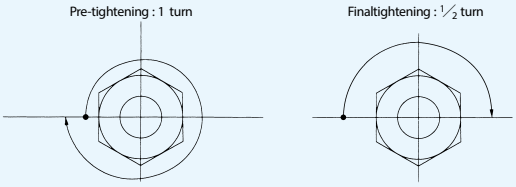
1. Hand-tighten the nut until it cannot be tightened further. Then use a wrench to tighten it another 1/8 turn.

Note: After reassembly, the body and the nut should return to their original position, or be tightened slightly further.



Preswaging

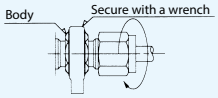
1. In situations where it may be difficult to tighten the ferrules (e.g., in installation locations where a wrench cannot be used), the fittings may not be assembled correctly. In such situations, attach the front ferrule, back ferrule, and nut to the tube beforehand.
2. Hand-tighten the nut until it cannot be tightened further (zero point). With a wrench, further tighten the nut 1 turn. Next, loosen the nut until it can be manually turned. At the fitting's actual installation location, use a wrench to tighten the nut another 1/2 turn from the zero point. Assembly is then complete.



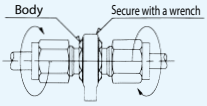
Preparations: Before Operation

1. For tightening, use the appropriate wrench.
2. Before tightening the fitting, ensure that its body has been secured using a wrench. Never hold the nut in place while attempting to tighten the body.

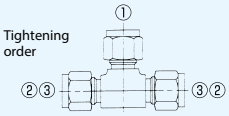
a. Assembling Male Connectors
Use a wrench to secure the body.



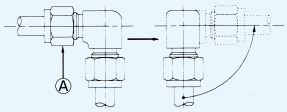
b. Assembling Straight Unions
Secure the body and tighten either the left nut or the right nut. Then tighten the other nut. Do not attempt to tighten one nut while holding onto the other.



c. Assembling Tee Unions
Secure the body. Always start tightening from Position 1. Preswaging the nut and ferrules at Position 1 facilitates installation.



d. Changing the Orientation of an Assembled Elbow Union
Loosen the fitting at Location A before attempting to change its orientation. Failure to do so will strip the threads and result in leakage that cannot be stopped by retightening the fitting.



3. Support longer tubes to control vibration and prevent movement. If there is minor vibration, the line should be supported at every 2m interval. If there is significant vibration, the line should be supported at every 1m interval.

Troubleshooting

Fujikin POWERFULLOK fittings are manufactured to the most rigorous quality control standards. Leakage should not occur if the fittings are installed and used properly. However, should leakage occur, take the following measures.

1. Leakage may occur if there is difficult installation or slant tubing.
   In this case, please relieve the pressure without untightening the nut, and take additional tightening by 1/8-turn.
   If there is still leakage, take the procedure "Reassembly" in the above, after untightening the nut.
2. If leakage persists after the nut has been tightened, it may be caused by the following:
   - Fitting damage caused by forcible overtightening.
   - Fitting eroded or corroded by the fluid media.
   - Corrosion caused by a reaction between leak detection fluid and the fluid media.
   - Incorrect fitting assembly.
   - Fitting and tube size mismatch.

Review the conditions of use, and consult with Fujikin if you have any questions.

Valves

- Instrument Ball Valves
- 3-Pieces Ball Valves
- Trunnion Ball Valves
- Plug Valves
- Union-Bonnet Needle Valves
- Integral-Bonnet Needle Stop Valves
- Brass Needle Stop Valves
- Instrument Manifolds / Gauge Valves
- Bellows Valves
- Toggle Valves
- Relief Valves
- Check Valves

Features

VUBV–920 Series

1. Simple design with one piece body
2. Tight and smooth, low torque and easy operation
3. One-piece ball stem
4. Panel mountable
5. End Connections V-Lok, Female pipe (NPT)

VUBVS, VUBVST–920 Series

1. Reduction the parts which may leak by one-piece seat
2. Self-compensation of the wear of a seat by the spring structure of a gland
3. Simple design with one piece body
4. Tight and smooth, low torque and easy operation
5. One-piece ball stem
6. Panel mountable
7. End Connections V-Lok, Rc, Female pipe (NPT)

Technical Data

Working Pressure, Temperature Rating

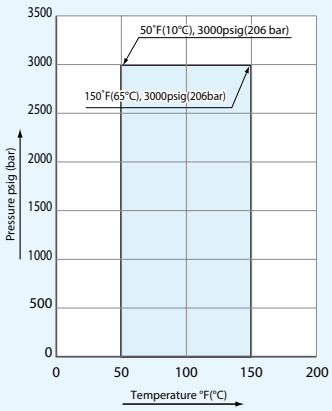
Types	Nominal Sizes	Working Pressure psig (bar) ※	Temperature °F (℃)
VUBV–920 Series	1/4B, 6, 8, 6.35	3000 (206)	50 (10) – 150 (65)
	3/8B, 1/2B, 10, 12, 9.52, 12.7 19.05	2500 (172)	
VUBVS–920 Series	1/8B, 1/4B, 6. 8, 6.35, 9.52	3000 (206)	–65 (–53) – +300 (+148)
	1.6, 3.2, 6.35 (Orifice Small) 3, 6 (Orifice Small) 1/8B (Orifice Small)	2500 (172)	
VUBVST–920 Series	1.6, 3.2, 6.35 (Orifice Small) 3.6 (Orifice Small)	2500 (172)	–65 (–53) – +300 (+148)

※: Working Pressure: Please refer to following Temperature and Pressure Rating.

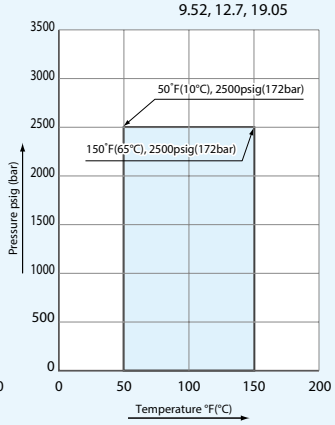
Temperature and Pressure Rating

VUBV–920 Series

Nominal Sizes: 1/4B, 6, 8, 6.35

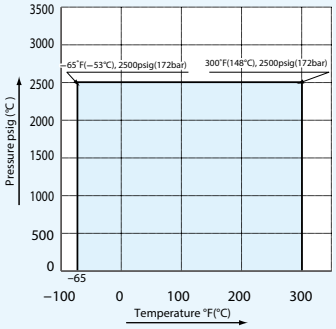


Nominal Sizes: 3/8B, 1/2B, 10, 12
9.52, 12.7, 19.05

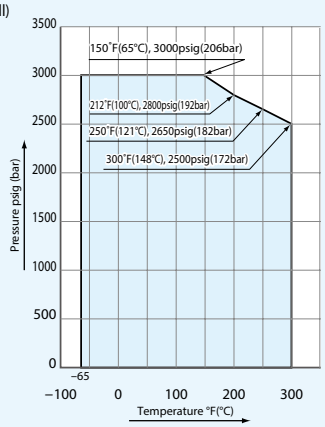


VUBVS–920 Series

Nominal Sizes: 1.6, 3.2, 6.35 (Orifice Small)
3, 6 (Orifice Small), 1/8B (Orifice Small)



Nominal Sizes: 1/8B, 1/4B, 6, 8, 6.35, 9.52



Note: If the end connection is V-Lok type, the working pressure may be low depending on the tube used.
For details, please refer to 1-1, 1-2 in the table of P12.

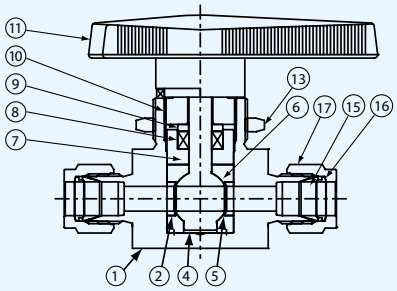
Applicable Fluid

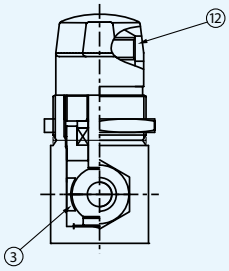
Water, Air, Nitrogen gas, Inert gas like Helium, and non-corrosive gas and liquid.

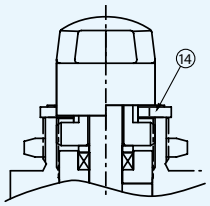
Note : Materials and dimensions are subject to change without notice.

Materials of Construction

VUBV–920 Series



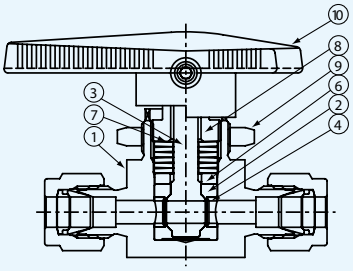


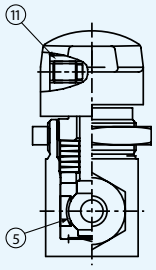


No.	Description		Materials
1	BODY	※	ASTM A479 316
2	RETAINER1	※	SUS316L
3	RETAINER2	※	SUS316L
4	STEM	※	ASTM A276 316
5	SEAT1	※	PTFE
6	SEAT2	※	PTFE
7	PACKING BOX	※	ASTM A276 316
8	GLAND PACKING	※	PTFE
9	PACKING GLAND BUSH		ASTM A276 316
10	PACKING GLAND SCREW		ASTM A276 316
11	HANDLE		NYLON6 + ADC6
12	SET SCREW		S17400 or SUS630
13	PANEL NUT		ASTM A276 304 or ASTM A276 316
14	SPACER	※※	ASTM A276 304

※：Wetted Parts
※※：End Connections: VCR-Lok Tube Fitting types, 12.7, 19.05, 12, 1/2in. Female pipe (NPT), Rc1/2

VUBVS–920 Series





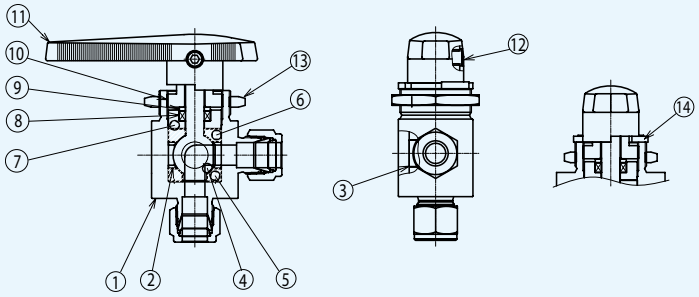
No.	Description		Materials
1	BODY	※	ASTM A479 316
2	SEAT	※	PTFE
3	STEM	※	ASTM A276 316
4	RETAINER1	※	SUS316L
5	RETAINER2	※	SUS316L
6	GLAND		ASTM A276 316
7	DISH SPRING		S17700 or SUS631
8	PACKING GLAND SCREW		ASTM A276 316
9	PANEL NUT		ASTM A276 304 or 316
10	HANDLE		NYLON6 + SUS316L
11	SET SCREW		S17400 or SUS630/SUS304 (ORIFICE SMALL)

※：Wetted Parts

Materials of Construction

VUBV–020 Series ※

※: Getting ready. Begin to sell it soon.

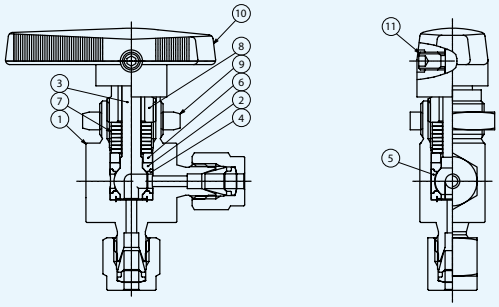


No.	Description	Materials
1	BODY ※	ASTM A479 316
2	RETAINER1 ※	SUS316L
3	RETAINER2 ※	SUS316L
4	STEM ※	ASTM A276 316
5	SEAT1 ※	PTFE
6	SEAT2 ※	PTFE
7	PACKING BOX ※	ASTM A276 316
8	GLAND PACKING ※	PTFE
9	PACKING GLAND BUSH	ASTM A276 316
10	PACKING GLAND SCREW	ASTM A276 316
11	HANDLE	NYLON6 + ADC6
12	SET SCREW	S17400 or SUS630
13	PANEL NUT	ASTM A276 304 or 316
14	SPACER ※※	ASTM A276 304

※ : Wetted Parts
※※: End Connections: V®-Lok Tube Fitting types, 12.7, 19.05, 12, 1/2in. Female pipe (NPT), Rc1/2

VUBVS–020 Series ※

※: Getting ready. Begin to sell it soon.



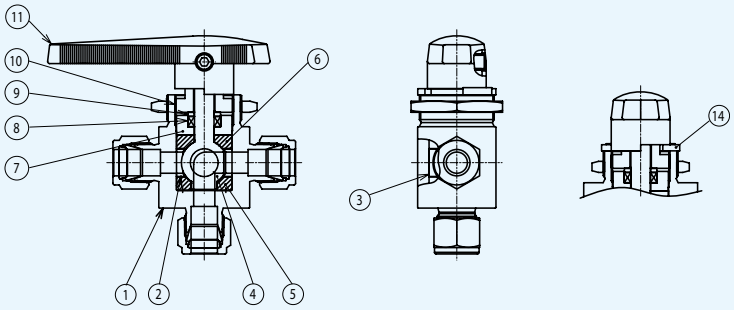
No.	Description	Materials
1	BODY ※	ASTM A479 316
2	SEAT ※	PTFE
3	STEM ※	ASTM A276 316
4	RETAINER1 ※	SUS316L
5	RETAINER2 ※	SUS316L
6	GLAND	ASTM A276 316
7	DISH SPRING	S17700 or SUS631
8	PACKING GLAND SCREW	ASTM A276 316
9	PANEL NUT	ASTM A276 304 or 316
10	HANDLE	NYLON6 + SUS316
11	SET SCREW	S17400 or SUS630/SUS304 (ORIFICE SMALL)

※ : Wetted Parts

Materials of Construction

VUBVT–920 Series ※

※: Getting ready. Begin to sell it soon.



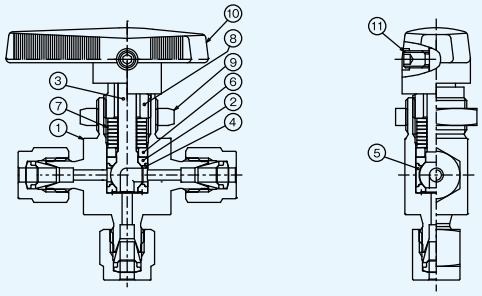
No.	Description	Materials
1	BODY ※	ASTM A479 316
2	RETAINER1 ※	SUS316L
3	RETAINER2 ※	SUS316L
4	STEM ※	ASTM A276 316
5	SEAT1 ※	PTFE
6	SEAT2 ※	PTFE
7	PACKING BOX ※	ASTM A276 316
8	GLAND PACKING ※	PTFE
9	PACKING GLAND BUSH	ASTM A276 316
10	PACKING GLAND SCREW	ASTM A276 316
11	HANDLE	NYLON6 + ADC6
12	SET SCREW	S17400 or SUS630
13	PANEL NUT	ASTM A276 304 or 316
14	SPACER ※※	ASTM A276 304

※ : Wetted Parts

※※: End Connections: V-Lok Tube Fitting types, 12.7, 19.05, 12, 1/2in. Female pipe (NPT), Rc1/2

VUBVST–920 Series ※

※: Getting ready. Begin to sell it soon.



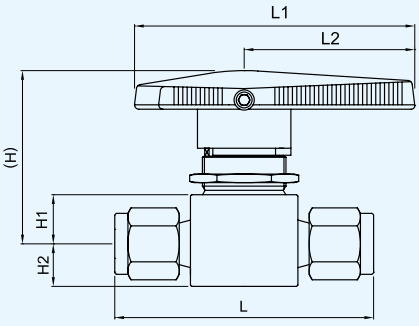
No.	Description	Materials
1	BODY ※	ASTM A479 316
2	SEAT ※	PTFE
3	STEM ※	ASTM A276 316
4	RETAINER1 ※	SUS316L
5	RETAINER2 ※	SUS316L
6	GLAND	ASTM A276 316
7	DISH SPRING	S17700 or SUS631
8	PACKING GLAND SCREW	ASTM A276 316
9	PANEL NUT	ASTM A276 304 or 316
10	HANDLE	NYLON6 + SUS316
11	SET SCREW	S17400 or SUS630/SUS304 (ORIFICE SMALL)

※ : Wetted Parts

Dimensions

Manual Valves

VUBV / VUBVS–920 Series



Connections	Nominal Dia. inch (mm)	Working Pressure psig (bar)	Orifice inch (mm)	Dimensions inch (mm) L	L1	L2	H	H1	H2	W	Ordering Numbers VUBV–920 Series	VUBVS–920 Series
V-Lok	1/16 (1.6)	2500 (172)	0.051 (1.3)	1.68 (42.7)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.28 (7.1)	0.58 (14.7)	–	VUBVS–920P–1.6–B
	1/8 (3.2)		0.094 (2.4)	2.01 (51.1)							–	VUBVS–920P–3.2–B
	1/4 (6.35)		0.13 (3.2)	2.21 (56.1)							–	VUBVS–920P–6.35–S–B
	1/4 (6.35)	3000 (206)	0.19 (4.8)	2.39 (60.7)	2.52 (63.9)	1.53 (38.9)	1.47 (37.3)	0.44 (11.2)	0.38 (9.7)	0.78 (19.8)	VUBV–920P–6.35	VUBVS–920P–6.35
	3/8 (9.52)			2.58 (65.5)							–	VUBVS–920P–9.52
	3/8 (9.52)	2500 (172)	0.28 (7.1)	3.05 (77.5)	3.26 (82.8)	2 (50.8)	2.07 (52.6)	0.56 (14.2)		1.12 (28.4)	VUBV–920P–9.52	–
	1/2 (12.7)		0.41 (10.3)	3.92 (99.6)	4.26 (108.2)	3 (76.2)	2.43 (61.7)	0.69 (17.5)		1.5 (38.1)	VUBV–920P–12.7	–
	3/4 (19.05)										VUBV–920P–19.05	–
	– (3)		0.094 (2.4)	2.01 (51.1)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.28 (7.1)	0.58 (14.7)	–	VUBVS–920P–3–B
	– (6)		0.13 (3.2)	2.21 (56.1)							–	VUBVS–920P–6–S–B
	– (6)	3000 (206)	0.19 (4.8)	2.39 (60.7)	2.52 (63.9)	1.53 (38.9)	1.47 (37.3)	0.44 (11.2)	0.38 (9.7)	0.78 (19.8)	VUBV–920P–6	VUBVS–920P–6
	– (8)			2.46 (62.5)							VUBV–920P–8	VUBVS–920P–8
	– (10)	2500 (172)	0.28 (7.1)	3.07 (78)	3.26 (82.8)	2 (50.8)	2.07 (52.6)	0.56 (14.2)		1.12 (28.4)	VUBV–920P–10	–
	– (12)		0.41 (10.3)	3.92 (99.6)	4.26 (108.2)	3 (76.2)	2.43 (61.7)	0.69 (17.5)		1.5 (38.1)	VUBV–920P–12	–
Female NPT	1/8	2500 (172)	0.13 (3.2)	1.63 (41.4)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.28 (7.1)	0.58 (14.7)	–	VUBVS–120PAN–S–B
	1/8	3000 (206)	0.19 (4.8)	2 (50.8)	2.52 (63.9)	1.53 (38.9)	1.47 (37.3)	0.44 (11.2)	0.38 (9.7)	0.78 (19.8)	–	VUBVS–120PAN
	1/4			2.06 (52.3)							VUBV–120PBN	VUBVS–120PBN
	3/8	2500 (172)	0.28 (7.1)	2.5 (63.5)	3.26 (82.8)	2 (50.8)	2.07 (52.6)	0.56 (14.2)		1.12 (28.4)	VUBV–120PCN	–
	1/2		0.41 (10.3)	3.012 (79.2)	4.26 (108.2)	3 (76.2)	2.43 (61.7)	0.69 (17.5)		1.5 (38.1)	VUBV–120PDN	–
Rc	1/8	2500 (172)	0.13 (3.2)	1.63 (41.4)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.28 (7.1)	0.58 (14.7)	–	VUBVS–120PA–S–B ※
	1/8	3000 (206)	0.19 (4.8)	2 (50.8)	2.52 (63.9)	1.53 (38.9)	1.47 (37.3)	0.44 (11.2)	0.38 (9.7)	0.78 (19.8)	–	VUBVS–120PA
	1/4			2.06 (52.3)							VUBV–120PB	VUBVS–120PB
	3/8	2500 (172)	0.28 (7.1)	2.5 (63.5)	3.26 (82.8)	2 (50.8)	2.07 (52.6)	0.56 (14.2)		1.12 (28.4)	VUBV–120PC	–
	1/2		0.41 (10.3)	3.012 (79.2)	4.26 (108.2)	3 (76.2)	2.43 (61.7)	0.69 (17.5)		1.5 (38.1)	VUBV–120PD	–

Note1: It's possible to be interchangeable about a Ordering Number mentioned in parallel (background color: Light blue) and change.
Note2: VUBV can be destinguished from VUBVS by handle direction.

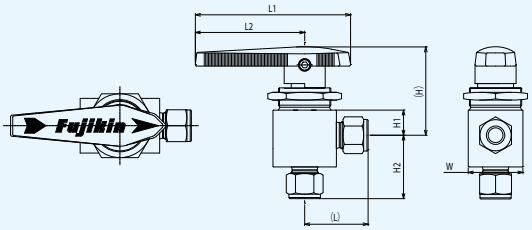
※: Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Dimensions

Manual Valves

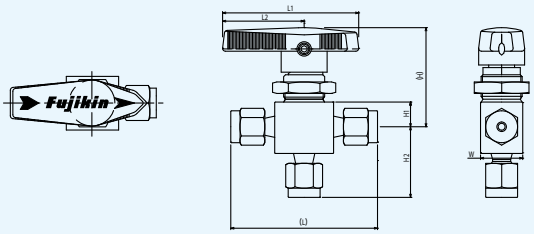
VUBV / VUBVS–020 Series



Connections	Nominal Dia. inch (mm)	Working Pressure psig (bar)	Orifice inch (mm)	Dimensions inch (mm)							Ordering Numbers		
				L	L1	L2	H	H1	H2	W	VUBV–020 Series	VUBVS–020 Series	
V-Lok	1/8 (3.2)	2500 (172)	0.094 (2.4)	0.97 (24.6)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.97 (24.6)	0.58 (14.7)	–	VUBVS–020P–3.2–B	※
	1/4 (6.35)		0.13 (3.2)	1.07 (27.2)					1.07 (27.2)		–	VUBVS–020P–6.35–S–B	※
	3/8 (9.52)		0.28 (7.1)	1.43 (36.3)	3.26 (82.8)	2 (50.8)	2.07 (52.6)	0.56 (14.2)	1.43 (36.3)	1.12 (28.4)	VUBV–020P–9.52–B	–	※
	0.12 (3)		0.094 (2.4)	2.01 (51.1)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.97 (24.6)	0.58 (14.7)	–	VUBVS–020P–3–B	※
	0.24 (6)		0.13 (3.2)	2.21 (56.1)					1.07 (27.2)		–	VUBVS–020P–6–S–B	※
Female NPT	1/8 (–)		0.13 (3.2)	1.63 (41.4)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.81 (20.6)	0.58 (14.7)	–	VUBVS–320PAN–S–B	※
Rc	1/8 (–)		0.13 (3.2)	1.63 (41.4)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.81 (20.6)	0.58 (14.7)	–	VUBVS–320PA–S–B	※

※: Getting ready. Begin to sell it soon.

VUBVT / VUBVST–920 Series



Connections	Nominal Dia. inch (mm)	Working Pressure psig (bar)	Orifice inch (mm)	Dimensions inch (mm)							Ordering Numbers		
				L	L1	L2	H	H1	H2	W	VUBVT–920 Series	VUBVST–920 Series	
V-Lok	1/16 (1.6)	2500 (172)	0.051 (1.3)	1.68 (42.7)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.81 (20.6)	0.58 (14.7)	–	VUBVST–920P–1.6–B	
	1/8 (3.2)		0.094 (2.4)	2.01 (51.1)					0.97 (24.6)		–	VUBVST–920P–3.2–B	
	1/4 (6.35)		0.13 (3.2)	2.21 (56.1)					1.07 (27.2)		–	VUBVST–920P–6.35–S–B	
	3/8 (9.52)		0.28 (7.1)	2.89 (73.4)	3.26 (82.8)	2 (50.8)	2.07 (52.6)	0.56 (14.2)	1.43 (36.3)	1.12 (28.4)	VUBVT–920P–9.52–B	–	※
	0.12 (3)		0.094 (2.4)	2.01 (51.1)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.97 (24.6)	0.58 (14.7)	–	VUBVST–920P–3–B	
	0.24 (6)		0.13 (3.2)	2.21 (56.1)					1.07 (27.2)		–	VUBVST–920P–6–S–B	
Female NPT	1/8 (–)		0.13 (3.2)	1.63 (41.4)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.81 (20.6)	0.58 (14.7)	–	VUBVST–120PAN–S–B	
Rc	1/8 (–)		0.13 (3.2)	1.63 (41.4)	1.87 (47.4)	1.12 (28.4)	1.36 (34.5)	0.34 (8.6)	0.81 (20.6)	0.58 (14.7)	–	VUBVST–120PA–S–B	※

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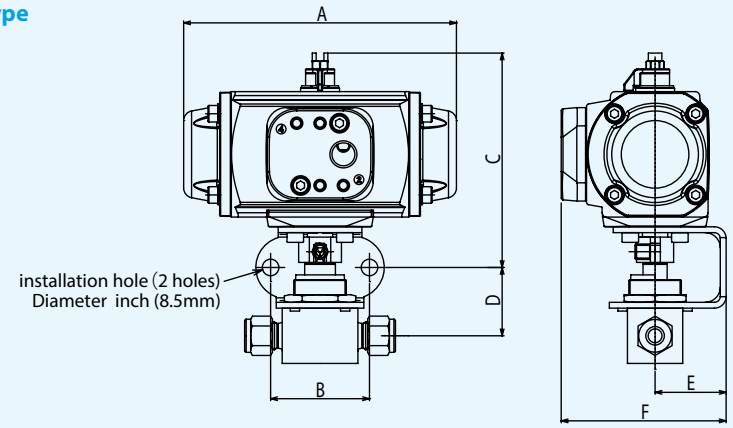
Note : Materials and dimensions are subject to change without notice.

Dimensions

Automated Valves

APR–VUBV / VUBVS–920 Series

Spring Return Type



Connections	Nominal Dia. inch (mm)	Actuator Type	Dimensions inch (mm) A	B	C	D	E	F	Ordering Numbers APR–VUBV–920 Series	APR–VUBVS–920 Series
V-Lok	1/4 (6.35)	AC2S	5.52 (140.2)	2 (50.8)	4.18 (106.1)	1.1 (27.9)	1.44 (36.5)	3.66 (93)	–	APR–VUBVS–920P–6.35
	3/8 (9.52)				4.33 (109.9)	1.38 (35.1)			–	APR–VUBVS–920P–9.52
	3/8 (9.52)								APR–VUBV–920P–9.52	–
	1/2 (12.7)	AC3S	6 (152.3)	2.19 (55.6)	4.93 (125.1)	1.61 (40.9)	1.73 (44)	4.13 (105)	APR–VUBV–920P–12.7	–
	3/4 (19.05)								APR–VUBV–920P–19.05	–
	– (6)	AC2S	5.52 (140.2)	2 (50.8)	4.18 (106.1)	1.1 (27.9)	1.44 (36.5)	3.66 (93)	–	APR–VUBVS–920P–6
	– (8)								–	APR–VUBVS–920P–8
	– (10)				4.33 (109.9)	1.38 (35.1)			APR–VUBV–920P–10	–
	– (12)	AC3S	6 (152.3)	2.19 (55.6)	4.93 (125.1)	1.61 (40.9)	1.73 (44)	4.13 (105)	APR–VUBV–920P–12	–
Female NPT	1/8 (–)	AC2S	5.52 (140.2)	2 (50.8)	4.18 (106.1)	1.1 (27.9)	1.44 (36.5)	3.66 (93)	–	APR–VUBVS–120PAN
	1/4 (–)								–	APR–VUBVS–120PBN
	3/8 (–)				4.33 (109.9)	1.38 (35.1)			APR–VUBV–120PCN	–
	1/2 (–)	AC3S	6 (152.3)	2.19 (55.6)	4.93 (125.1)	1.61 (40.9)	1.73 (44)	4.13 (105)	APR–VUBV–120PDN	–
Rc	1/8 (–)	AC2S	5.52 (140.2)	2 (50.8)	4.18 (106.1)	1.1 (27.9)	1.44 (36.5)	3.66 (93)	–	APR–VUBVS–120PA–S ※
	1/8 (–)								–	APR–VUBVS–120PA
	1/4 (–)								–	APR–VUBVS–120PB
	3/8 (–)				4.33 (109.9)	1.38 (35.1)			APR–VUBV–120PC	–
	1/2 (–)	AC3S	6 (152.3)	2.19 (55.6)	4.93 (125.1)	1.61 (40.9)	1.73 (44)	4.13 (105)	APR–VUBV–120PD	–

※: Getting ready. Begin to sell it soon.

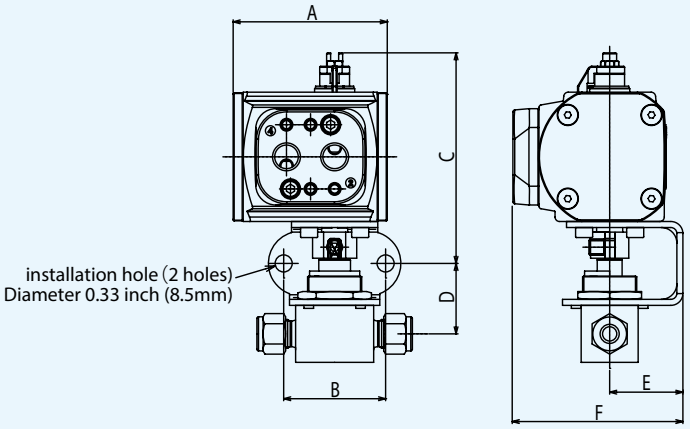
Note : Materials and dimensions are subject to change without notice.

Dimensions

Automated Valves

APDM–VUBV / VUBVS–920 Series

Double Acting Type



Connections	Nominal Dia. inch (mm)	Actuator Type	Dimensions inch (mm) A	B	C	D	E	F	Ordering Numbers APDM–VUBV–920 Series	APDM–VUBVS–920 Series
V-Lok	1/4 (6.35)	AC1	3.02 (76.8)	2 (50.8)	3.98 (101.1)	1.1 (27.9)	1.44 (36.5)	3.33 (84.7)	–	APDM–VUBVS–920P–6.35
	3/8 (9.52)				4.13 (104.9)	1.38 (35.1)			–	APDM–VUBVS–920P–9.52
	3/8 (9.52)								APDM–VUBV–920P–9.52	–
	1/2 (12.7)	AC2	3.98 (101)	2.19 (55.6)	4.45 (113.1)	1.61 (40.9)	1.73 (44)	3.63 (92.2)	APDM–VUBV–920P–12.7	–
	3/8 (19.05)								APDM–VUBV–920P–19.05	–
	– (6)	AC1	3.02 (76.8)	2 (50.8)	3.98 (101.1)	1.1 (27.9)	1.44 (36.5)	3.33 (84.7)	–	APDM–VUBVS–920P–6
	– (8)								–	APDM–VUBVS–920P–8
	– (10)				4.13 (104.9)	1.38 (35.1)			APDM–VUBV–920P–10	–
	– (12)	AC2	3.98 (101)	2.19 (55.6)	4.45 (113.1)	1.61 (40.9)	1.73 (44)	3.63 (92.2)	APDM–VUBV–920P–12	–
Female NPT	1/8 (–)	AC1	3.02 (76.8)	2 (50.8)	3.98 (101.1)	1.1 (27.9)	1.44 (36.5)	3.33 (84.7)	–	APDM–VUBVS–120PAN
	1/4 (–)								–	APDM–VUBVS–120PBN
	3/8 (–)				4.13 (104.9)	1.38 (35.1)			APDM–VUBV–120PCN	–
	1/2 (–)	AC2	3.98 (101)	2.19 (55.6)	4.45 (113.1)	1.61 (40.9)	1.73 (44)	3.63 (92.2)	APDM–VUBV–120PDN	–
Rc	1/8 (–)	AC1	3.02 (76.8)	2 (50.8)	3.98 (101.1)	1.1 (27.9)	1.44 (36.5)	3.33 (84.7)	–	APDM–VUBVS–120PA–S ※
	1/8 (–)								–	APDM–VUBVS–120PA
	1/4 (–)								–	APDM–VUBVS–120PB
	3/8 (–)								APDM–VUBV–120PC	–
	1/2 (–)	AC2	3.98 (101)	2.19 (55.6)	4.45 (113.1)	1.61 (40.9)	1.73 (44)	3.63 (92.2)	APDM–VUBV–120PD	–

※: Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Ordering Information

APR	–	VUBVT	–	920P	–	6.35S	–	B	–	KL
①		②③④⑤		⑥⑦⑧		⑨⑩		⑪		⑫

① Actuator Type
- APR : Spring Back Type
- APDM : Double Acting Type
- Blank: Manual Type

② Valve Series

③ Body Material
- Stainless Steel

④ Valve Type
- BV: Ball Valves
- BVS: One-piece Seat Ball Valves

⑤ Valve Type
- Blank: 2-Way Valve
- T : 3-Way Valve

⑥ End Connections
- 1: Thread Type
- 9: VCR® Type

⑦ Working Pressure
- 20 : 206 bar

⑧ Panel Mount Type

⑨ Connection Sizes
- 1.6 : VCR® 1.6
- 3.2 : VCR® 3.2
- 6.35 : VCR® 6.35
- 9.52 : VCR® 9.52
- 12.7 : VCR® 12.7
- 19.05 : VCR® 19.05
- 3 : VCR® 3
- 6 : VCR® 6
- 8 : VCR® 8
- 10 : VCR® 10
- 12 : VCR® 12

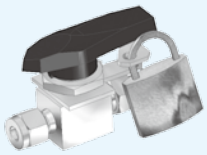
⑩ Orifice
- Blank : Standard
- S : Small

- AN : 1/8 NPT
- BN : 1/4 NPT
- CN : 3/8 NPT
- DN : 1/2 NPT
- A : Rc 1/8
- B : Rc 1/4
- C : Rc 3/8
- D : Rc 1/2

⑪ Handle Color

Handle Color	Code
Blue	–B
Green	–G
Orange	–YR
Red	–RE
Yellow	–Y
Black	–

⑫ Key Lock
- Blank : without Key Lock
- KL : with Key Lock



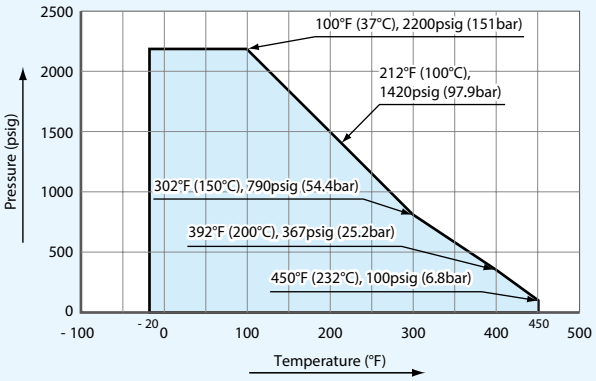
memo

Features

1. Large flowate with 3 pieces body.
2. ON-OFF by operation of quarter turn.
3. End Connections: V-Lok Type, Rc, NPT Female
4. Manual Valves, Automated Valves
   （Spring Back, Double Action Type）

Technical Data

Temperature and Pressure Rating

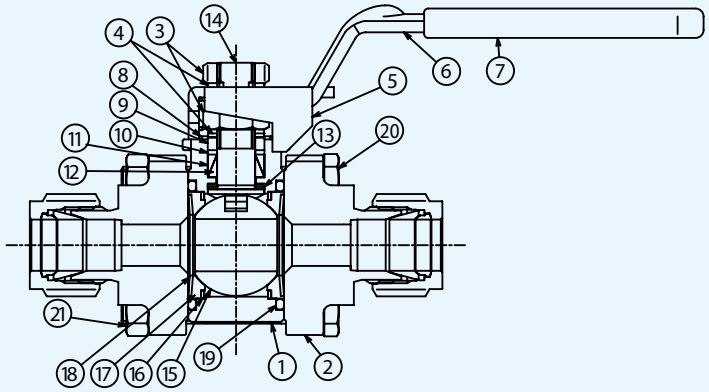


Note: If the end connection is V-Lok type, the working pressure may be low depending on the tube used.
For details, please refer to 1-1, 1-2 in the table of P12.

Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non-corrosive gas and liquid.

Materials of Construction



No.	Description	Materials	No.	Description	Materials
1	BODY ※	ASTM A351 CF3M	12	BOTTOM PACKING ※	C - PTFE
2	FLANGE ※	ASTM A351 CF3M	13	STEM BEARING ※	SUS316
3	STEM NUT	ASTM A276 316	14	STEM ※	ASTM A240 316
4	STEM SPRING	SUS304 - CSP	15	BALL ※	ASTM A240 316 or ASTM A351 CF8M
5	STOP PLATE	ASTM A240 304			
6	HANDLE	ASTM A240 304	16	SUPPORT RING ※	ASTM A240 316
7	HANDLE SLEEVE	VINYL	17	SEAT ※	C - PTFE
8	EARTH SPRING	ASTM A313 302	18	SEAT SPRING ※	SUS304 - CSP
9	GLAND	ASTM B783 316	19	O-RING ※	FKM
10	PACKING SUPPORT	PEEK	20	BOLT	SUS316
11	TOP PACKING ※	C - PTFE	21	BOLT NUT	SUS316

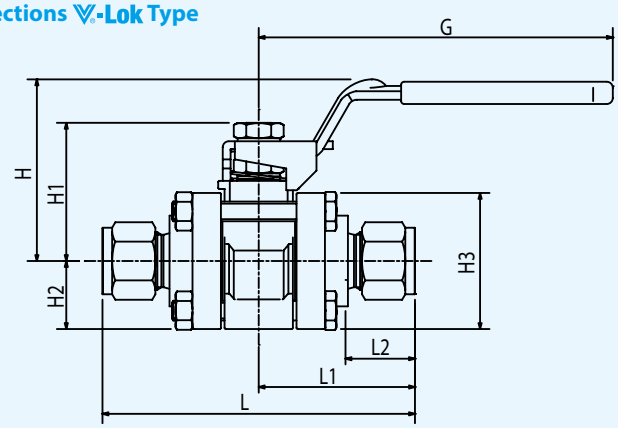
※ : Wetted Parts

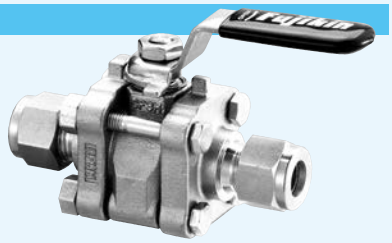
Note : Materials and dimensions are subject to change without notice.

Dimensions

Manual Valves

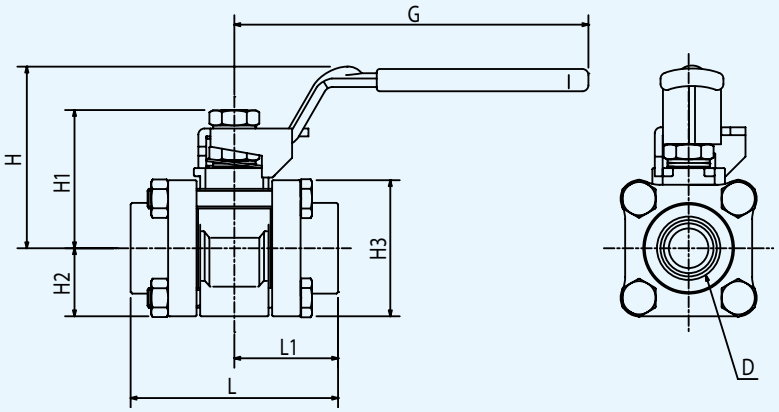
End Connections V-Lok Type





Sizes D	Orifice in. (mm)	Dimensions inch (mm)									Ordering Numbers
		L	L1	L2	B	H	H1	H2	H3	G	
1/4in.(6.35)	0.189 (4.8)	3.17 (80.5)	1.59 (40.4)	0.6 (15.2)	9/16 in.	1.66 (42.2)	1.26 (32)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	VUBV - 915 - 6.35
3/8in.(9.52)	0.28 (7.1)	3.17 (80.5)	1.59 (40.4)	0.66 (16.8)	11/16 in.	1.66 (42.2)	1.26 (32)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	VUBV - 915 - 9.52
1/2in.(12.7)	0.406 (10.3)	4.06 (103)	2.02 (51.3)	0.9 (22.9)	7/8 in.	2.35 (59.7)	1.79 (45.5)	0.89 (22.6)	1.78 (45.2)	4.49 (114)	VUBV - 915 - 12.7
3/4in.(19.05)	0.516 (13.1)	4.06 (103)	2.02 (51.3)	0.96 (24.4)	1 - 1/8 in.	2.35 (59.7)	1.79 (45.5)	0.89 (22.6)	1.78 (45.2)	4.49 (114)	VUBV - 915 - 19.05
1in.(25.4)	0.874 (22.2)	5.35 (136)	2.68 (68.1)	1.23 (31.2)	1 - 1/2 in.	2.94 (74.7)	2.52 (64)	1.25 (31.8)	2.5 (63.5)	5.98 (152)	VUBV - 915 - 25.4
6	0.189 (4.8)	3.17 (80.5)	1.59 (40.4)	0.6 (15.3)	0.55 (14)	1.66 (42.2)	1.26 (32)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	VUBV - 915 - 6
8	0.252 (6.4)	3.17 (80.5)	1.59 (40.4)	0.64 (16.2)	0.63 (16)	1.66 (42.2)	1.26 (32)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	VUBV - 915 - 8
10	0.28 (7.1)	3.2 (81.3)	1.6 (40.6)	0.68 (17.2)	0.75 (19)	1.66 (42.2)	1.26 (32)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	VUBV - 915 - 10
12	0.374 (9.5)	4.06 (103)	2.02 (51.3)	0.9 (22.8)	0.87 (22)	2.35 (59.7)	1.79 (45.5)	0.89 (22.6)	1.78 (45.2)	4.49 (114)	VUBV - 915 - 12

End Connections: Rc Type

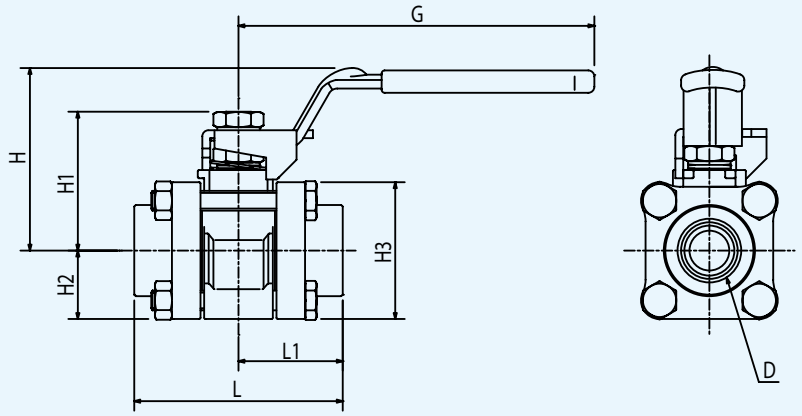


Sizes	Orifice in. (mm)	End Connections D	Dimensions inch (mm)							Ordering Numbers
			L	L1	H	H1	H2	H3	G	
1/4 in.	0.28 (7.1)	Rc 1/4	2.16 (54.9)	1.08 (27.4)	1.66 (42.2)	1.26 (32)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	VUBV - 115B
3/8 in.	0.516 (13.1)	Rc 3/8	2.7 (68.6)	1.35 (34.3)	2.35 (59.7)	1.79 (45.5)	0.89 (22.6)	1.78 (45.2)	4.49 (114)	VUBV - 115C
1/2 in.	0.516 (13.1)	Rc 1/2	2.7 (68.6)	1.35 (34.3)	2.35 (59.7)	1.79 (45.5)	0.89 (22.6)	1.78 (45.2)	4.49 (114)	VUBV - 115D
3/4 in.	0.874 (22.2)	Rc 3/4	3.59 (91.2)	1.8 (45.7)	2.94 (74.7)	2.52 (64)	1.25 (31.8)	2.5 (63.5)	5.98 (152)	VUBV - 115E
1 in.	0.874 (22.2)	Rc 1	4.45 (113)	2.23 (56.6)	2.94 (74.7)	2.52 (64)	1.25 (31.8)	2.5 (63.5)	5.98 (152)	VUBV - 115F

Dimensions

Manual Valves

End Connections: Female NPT Type

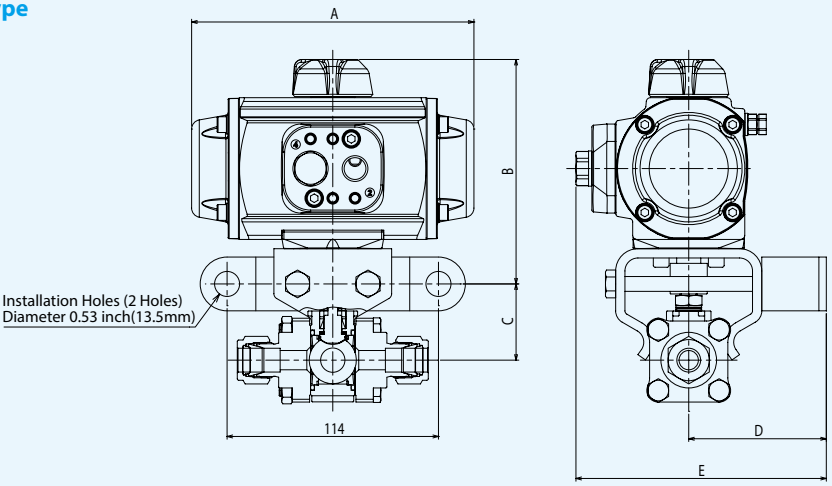


Sizes	Orifice in. (mm)	End Connections D	Dimensions inch (mm)							Ordering Numbers
			L	L1	H	H1	H2	H3	G	
1/4 in.	0.28 (7.1)	1/4 NPT	2.16 (54.9)	1.08 (27.4)	1.66 (42.2)	1.26 (32)	0.68 (17.3)	1.35 (34.3)	2.37 (60.2)	VUBV - 115BN
3/8 in.	0.516 (13.1)	3/8 NPT	2.7 (68.6)	1.35 (34.3)	2.35 (59.7)	1.79 (45.5)	0.89 (22.6)	1.78 (45.2)	4.49 (114)	VUBV - 115CN
1/2 in.	0.516 (13.1)	1/2 NPT	2.7 (68.6)	1.35 (34.3)	2.35 (59.7)	1.79 (45.5)	0.89 (22.6)	1.78 (45.2)	4.49 (114)	VUBV - 115DN
3/4 in.	0.874 (22.2)	3/4 NPT	3.59 (91.2)	1.8 (45.7)	2.94 (74.7)	2.52 (64)	1.25 (31.8)	2.5 (63.5)	5.98 (152)	VUBV - 115EN
1 in.	0.874 (22.2)	1 NPT	4.45 (113)	2.23 (56.6)	2.94 (74.7)	2.52 (64)	1.25 (31.8)	2.5 (63.5)	5.98 (152)	VUBV - 115FN

Dimensions

Automated Valves

Spring Return Type

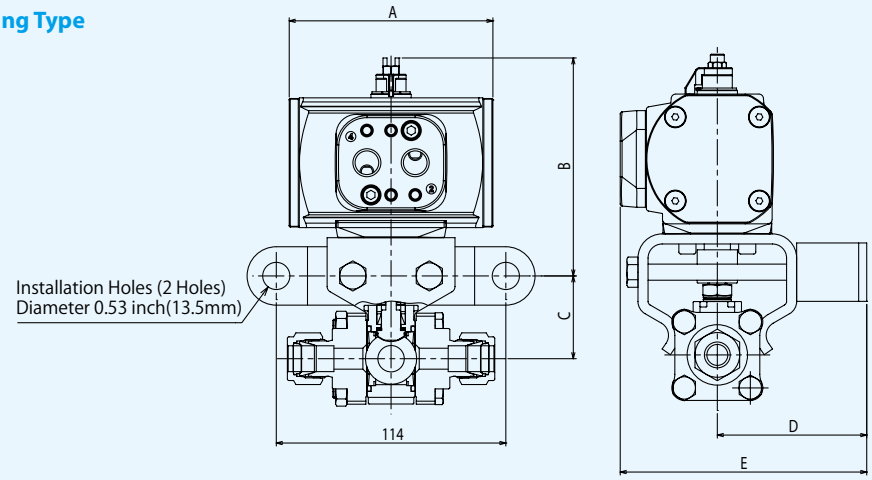


Connection Type	Nominal Diameter Inch (mm)	Actuator Type	Dimensions Inch (mm)					Ordering Numbers
			A	B	C	D	E	
V-Lok	1/4 (6.35)	AC2S	5.52 (140.2)	4.26 (108.3)	1.54 (39.1)	2.9 (73.7)	5.14 (130.5)	APR-VUBV-915-6.35
	3/8 (9.52)							APR-VUBV-915-9.52
	1/2 (12.7)	AC3S	6 (152.3)	4.77 (121.1)	1.62 (41.1)	2.92 (74.2)	5.34 (135)	APR-VUBV-915-12.7
	3/4 (19.05)							APR-VUBV-915-19.05
	1 (25.4)	AC4S	7.93 (201.3)	6.05 (153.6)	2.18 (55.4)	3.3 (83.8)	6.07 (154.1)	APR-VUBV-915-25.4
	– (6)	AC2S	5.52 (140.2)	4.26 (108.3)	1.54 (39.1)	2.9 (73.7)	5.14 (130.5)	APR-VUBV-915-6
	– (8)							APR-VUBV-915-8
	– (10)							APR-VUBV-915-10
	– (12)	AC3S	6 (152.3)	4.77 (121.1)	1.62 (41.1)	2.92 (74.2)	5.34 (135)	APR-VUBV-915-12
Rc	1/4	AC2S	5.52 (140.2)	4.26 (108.3)	1.54 (39.1)	2.9 (73.7)	5.14 (130.5)	APR-VUBV-115B
	3/8	AC3S	6 (152.3)	4.77 (121.1)	1.62 (41.1)	2.92 (74.2)	5.34 (135)	APR-VUBV-115C
	1/2							APR-VUBV-115D
	3/4	AC4S	7.93 (201.3)	6.05 (153.6)	2.18 (55.4)	3.3 (83.8)	6.07 (154.1)	APR-VUBV-115E
	1							APR-VUBV-115F
Female NPT	1/4	AC2S	5.52 (140.2)	4.26 (108.3)	1.54 (39.1)	2.9 (73.7)	5.14 (130.5)	APR-VUBV-115BN
	3/8	AC3S	6 (152.3)	4.77 (121.1)	1.62 (41.1)	2.92 (74.2)	5.34 (135)	APR-VUBV-115CN
	1/2							APR-VUBV-115DN
	3/4	AC4S	7.93 (201.3)	6.05 (153.6)	2.18 (55.4)	3.3 (83.8)	6.07 (154.1)	APR-VUBV-115EN
	1							APR-VUBV-115FN

Dimensions

Automated Valves

Double Acting Type



Connection Type	Nominal Diameter Inch (mm)	Actuator Type	Dimensions Inch (mm)					Ordering Numbers
			A	B	C	D	E	
V-Lok	1/4 (6.35)	AC2S	3.02 (76.8)	4.06 (103.1)	1.54 (39.1)	2.9 (73.7)	4.8 (121.9)	APDM-VUBV-915-6.35
	3/8 (9.52)							APDM-VUBV-915-9.52
	1/2 (12.7)	AC3S	3.98 (101.2)	4.26 (108.3)	1.62 (41.1)	2.92 (74.2)	4.82 (122.4)	APDM-VUBV-915-12.7
	3/4 (19.05)							APDM-VUBV-915-19.05
	1 (25.4)	AC4S	5.98 (152.2)	5.38 (136.6)	2.18 (55.4)	3.3 (83.8)	5.35 (136)	APDM-VUBV-915-25.4
	– (6)	AC2S	3.02 (76.8)	4.06 (103.1)	1.54 (39.1)	2.9 (73.7)	4.8 (121.9)	APDM-VUBV-915-6
	– (8)							APDM-VUBV-915-8
	– (10)							APDM-VUBV-915-10
	– (12)	AC3S	3.98 (101.5)	4.26 (108.3)	1.62 (41.1)	2.92 (74.2)	4.82 (122.4)	APDM-VUBV-915-12
Rc	1/4	AC2S	3.02 (76.8)	4.06 (103.1)	1.54 (39.1)	2.9 (73.7)	4.8 (121.9)	APDM-VUBV-115B
	3/8	AC3S	3.98 (101.2)	4.26 (108.3)	1.62 (41.1)	2.92 (74.2)	4.82 (122.4)	APDM-VUBV-115C
	1/2							APDM-VUBV-115D
	3/4	AC4S	5.98 (152.2)	5.38 (136.6)	2.18 (55.4)	3.3 (83.8)	5.35 (136)	APDM-VUBV-115E
	1							APDM-VUBV-115F
Female NPT	1/4	AC2S	3.02 (76.8)	4.06 (103.1)	1.54 (39.1)	2.9 (73.7)	4.8 (121.9)	APDM-VUBV-115BN
	3/8	AC3S	3.98 (101.2)	4.26 (108.3)	1.62 (41.1)	2.92 (74.2)	4.82 (122.4)	APDM-VUBV-115CN
	1/2							APDM-VUBV-115DN
	3/4	AC4S	6 (152.3)	5.38 (136.6)	2.18 (55.4)	3.3 (83.8)	5.35 (136)	APDM-VUBV-115EN
	1							APDM-VUBV-115FN

Ordering Information

APR	—	V U BV	—	9 15	—	6.35	—	B	—	KL
①		②③④		⑤⑥		⑦		⑧		⑨

① Actuator Type
- APR : Spring Return Type
- APDM : Double Acting type
- Blank : Manual Type

② Valve Series

③ Body Material
- Stainless Steel

④ Valve Type
- Ball Valves

⑤ End Connections
- 1 : Thread Type
- 9 : V-Lok Type

⑥ Working Pressure
- 2200 psig
- (151 bar)

⑦ Connection Sizes

6.35 :	V-Lok 1/4	B : Rc 1/4
9.52 :	V-Lok 3/8	C : Rc 3/8
12.7 :	V-Lok 1/2	D : Rc 1/2
19.05 :	V-Lok 3/4	E : Rc 3/4
25.4 :	V-Lok 1	F : Rc 1
6 :	V-Lok 6	BN : 1/4 NPT
8 :	V-Lok 8	CN : 3/8 NPT
10 :	V-Lok 10	DN : 1/2 NPT
12 :	V-Lok 12	EN : 3/4 NPT
		FN : 1 NPT

⑧ Handle Color
- — : Black
- B : Blue
- G : Green
- YR : Orange
- RE : Red
- Y : Yellow

⑨ Key Lock Type
- Blank : without Key Lock
- KL : with Key Lock

Option

Handle Color

Standard Handle Color is black.

When you ordered a colored handle besides the black.
Please put the relevant symbol to the part number end from beside table.

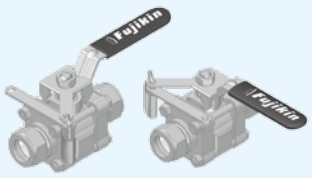
Ex. Ordering Number in case of you will order blue handle
VUBV-941P-6.35-B

HANDLE Color	The end of Ordering Numbers
Black	—
Blue	-B
Green	-G
Orange	-YR
Red	-RE
Yellow	-Y

Key Lock & Bracket ※

- Locking with standard parts for lock , and with a handle of flow direction locking certainly at open or close for 2-way valves
- Possible to fix a locking part on the hole in the bracket or install a distinction tag.
- After installing to a panel, it isn't possible to install a bracket.

※: Getting ready. Begin to sell it soon.



When a bracket for Key Locks is installed, it's possible to fix a valve open or shut.

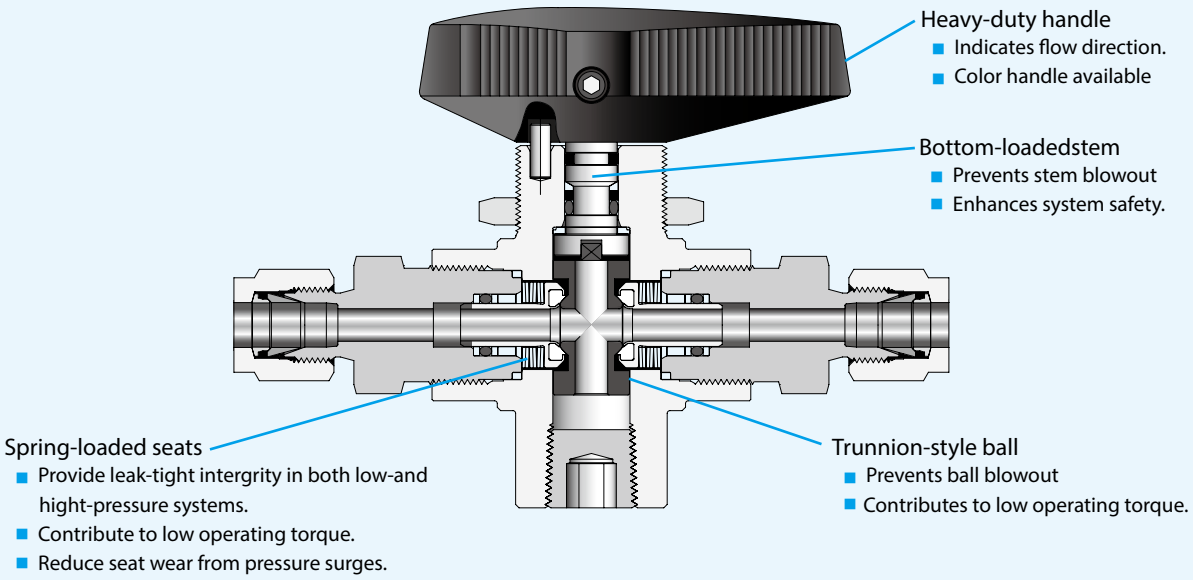
Seal Kit

You can buy a Seal Kit at the valve maintenance time.

Valve Series	Kit Contents
VUBV-915 Series (2-way Type)	• INSTRUCTION MANUAL • Ball • STEM BEARING • O-RING(1), O-RING(2) • SEAT ASSEMBLY (SEAT + SEAT CARRIERS) • DISC SPRING • END SCREW SEALS • LUBRICANT • SDS of LUBRICANT
VUBV-115 Series (2-way Type)	

Features

1. Compact, maximum-flow design
2. Low operating torque
3. Flow Patern: 2-way Type, 3-way Type
4. Panel mountable



Important Information About Ball Valves

1. Fujikin ball valves are designed to be used in a fully open or fully closed position.
2. Valves that have not been cycled for a period of time may have a higher initial actuation torque.

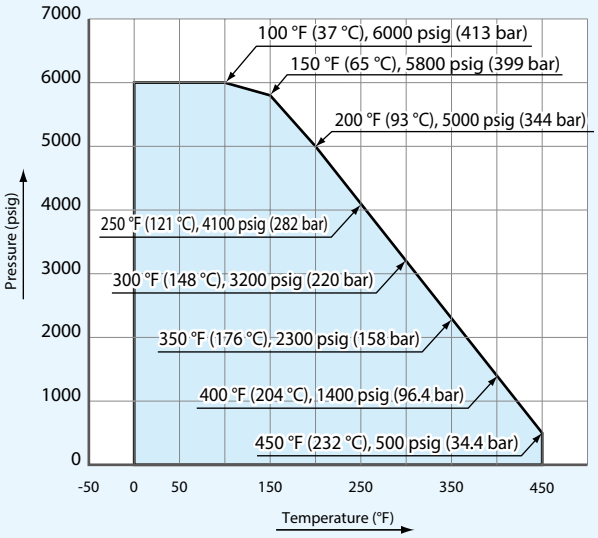
Technical Data

Working Pressure, Temperature Rating

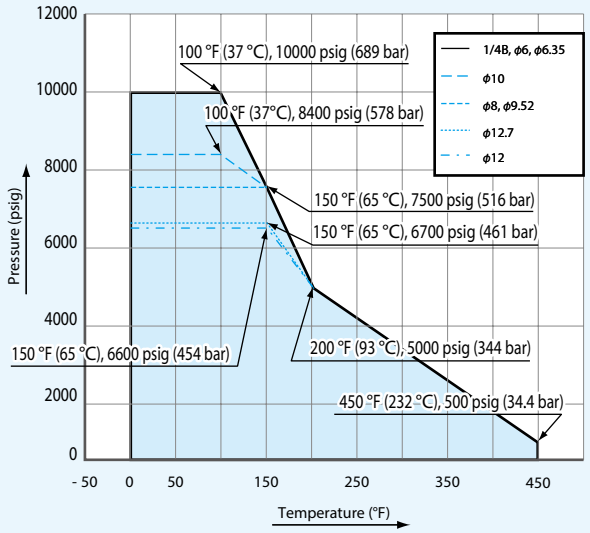
Types	Seat Material	Temperature Rating °F (°C)	Pressure Rating psig (bar)
VUBV -941 Series	PEEK	0 to 450 (–17 to 232)	6000 (413)
VUBV (T)-968 Series			6600 to 10000 (454 to 689)

Temperature and Pressure Rating

VUBV(T)-941 Series



VUBV(T)-968 Series



Note1: Please contact Fujikin beforehand if you are planning to use these valves at lower temperature than 32 °F (0°C).
Note2: If the end connection is V-Lok type, the working pressure may be low depending on the tube used.
For details, please refer to 1-1, 1-2 in the table of P12.

Applicable Fluid

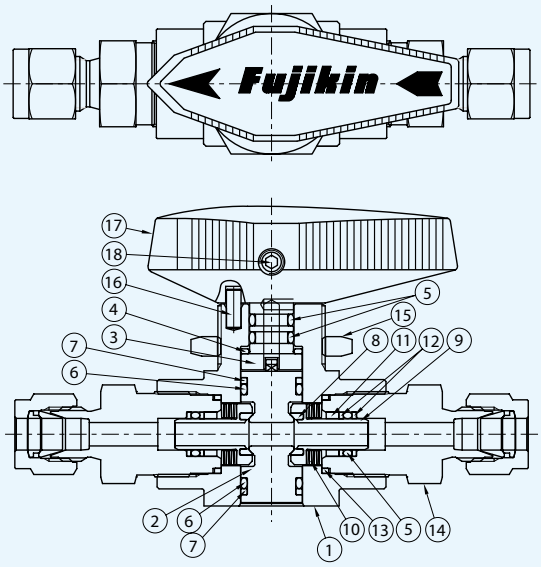
Air, Nitrogeh gas, Inert gas like Helium, and non-corrosive gas and liquid.

Note : Materials and dimensions are subject to change without notice.

Materials of Construction

VUBV-941 Sereis

2-way Type



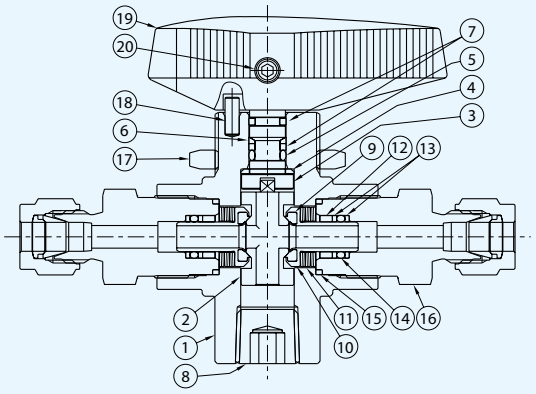
No.	Description	Materials
1	BODY ※	ASTM A479 316
2	BALL ※1 ※	ASTM A276 316
3	STEM	ASTM A276 316
4	STEM BEARING	C-PTFE
5	O-RINGS(1) ※	FKM
6	O-RINGS(2) ※	FKM
7	BACKUP RINGS	C-PTFE
8	SEATS ※	PEEK
9	SEAT CARRIERS ※	ASTM A276 316
10	DISC SPRINGS ※	ALLOY X-750
11	SEAT CARRIER GUIDES ※	ASTM A276 316
12	SEAT CARRIER BACKUP RINGS ※	C-PTFE
13	END SCREW SEALS ※	PTFE
14	END SCREWS ※	ASTM A479 316
15	PANEL NUT	ASTM A276 304 or ASTM A276 316
16	STOP PIN	SUS304
17	HANDLE	PHENOLIC RESIN + C3604B
18	SET SCREW	S17400 or SUS630

※：Wetted part
※1：Ball trunnions are PTFE coated.

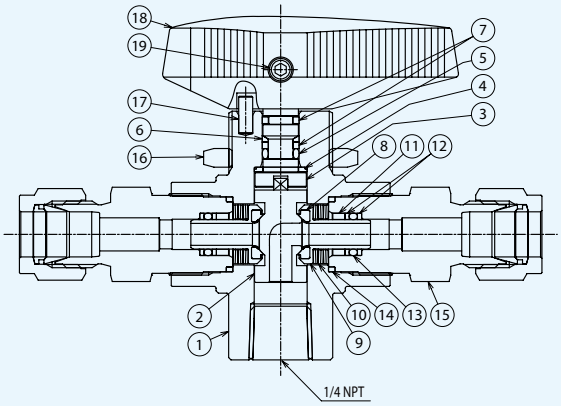
Materials of Construction

VUBV,VUBVT-968 Sereis

2-way Type



3-way Type



No.	Description	Materials
1	BODY ※1	ASTM A479 316
2	BALL ※1 ※2	ASTM A276 316
3	STEM	ASTM A276 316
4	STEM BEARING	PEEK
5	STEM O-RING ※1	FKM
6	STEM BACKUP RING1	PEEK
7	STEM BACKUP RING2	PTFE
8	PLUG ※1	ASTM A479 316
9	SEATS ※1	PEEK
10	SEAT CARRIERS ※1	ASTM A276 316
11	DISC SPRINGS ※1	ALLOY X-750
12	SEAT CARRIER GUIDES ※1	ASTM A276 316
13	SEAT CARRIER BACKUP RINGS ※1	C-PTFE
14	SEAT CARRIER O-RINGS ※1	FKM
15	END SCREW SEALS ※1	PTFE
16	END SCREWS ※1	ASTM A479 316
17	PANEL NUT	ASTM A276 304 or ASTM A276 316
18	STOP PIN	SUS304
19	HANDLE	PHENOLIC RESIN + C3604B
20	SET SCREW	S17400 or SUS630

※1：Wetted part
※2：Ball trunnions are PTFE coated.

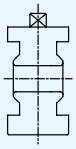
No.	Description	Materials
1	BODY ※1	ASTM A479 316
2	BALL ※1 ※2	ASTM A276 316
3	STEM	ASTM A276 316
4	STEM BEARING	PEEK
5	STEM O-RING ※1	FKM
6	STEM BACKUP RING1	PEEK
7	STEM BACKUP RING2	PTFE
8	SEATS ※1	PEEK
9	SEAT CARRIERS ※1	ASTM A276 316
10	DISC SPRINGS ※1	ALLOY X-750
11	SEAT CARRIER GUIDES ※1	ASTM A276 316
12	SEAT CARRIER BACKUP RINGS ※1	C-PTFE
13	SEAT CARRIER O-RINGS ※1	FKM
14	END SCREW SEALS ※1	PTFE
15	END SCREWS ※1	ASTM A479 316
16	PANEL NUT	ASTM A276 304 or ASTM A276 316
17	STOP PIN	SUS304
18	HANDLE	PHENOLIC RESIN + C3604B
19	SET SCREW	S17400 or SUS630

※1：Wetted part
※2：Ball trunnions are PTFE coated.

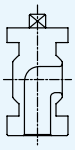
About a BALL shape

There is no No.8 PLUG when being 2-way Type, and it's different shape of No.2 BALL in 3-way Type.

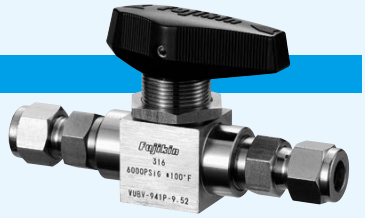
2-way Type Ball



3-way Type Ball

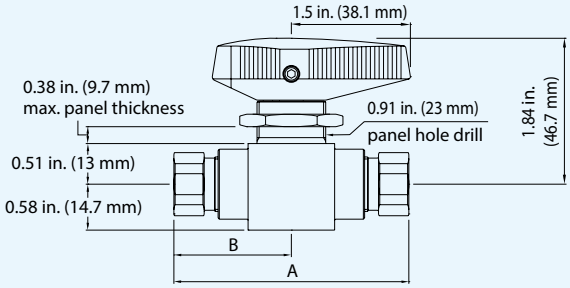


Ordering Information and Dimensions

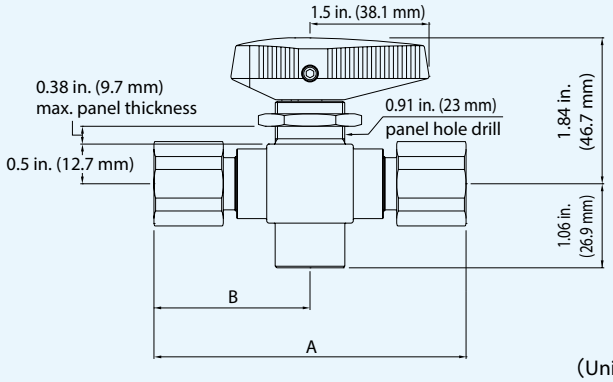


1. Dimensions, in inches (millimeters), are for reference only and are subject to change.
2. Dimensions shown with V-Lok tube fitting nuts finger-tight.

VUBV–141, 941 Type



VUBV,VUBVT–168, 968 Type



(Unit: mm)

Flow Pattern	Connection	Nominal Dia. Inch (mm)	Olifice Dia. Inch(mm)	Dimensions Inch (mm) A	Dimensions Inch (mm) B	Ordering Numbers		
2-way Type	V-Lok	1/4 (6.35)	4.8	4.13 (105)	2.07 (52.6)	VUBV-941P-6.35	VUBV-968P-6.35	
		3/8 (9.52)		4.41 (112)	2.19 (55.6)	VUBV-941P-9.52	VUBV-968P-9.52	
		1/2 (12.7)		4.61 (117)	2.3 (58.4)	VUBV-941P-12.7	VUBV-968P-12.7	
		– (6)		4.13 (105)	2.07 (52.6)	VUBV-941P-6	VUBV-968P-6	
		– (8)				VUBV-941P-8	VUBV-968P-8	
		– (10)		4.41 (112)	2.2 (55.9)	VUBV-941P-10	VUBV-968P-10	
		– (12)		4.61 (117)	2.3 (58.4)	VUBV-941P-12	VUBV-968P-12	
	Female NPT	1/4		2.94 (74.7)	1.47 (37.3)	VUBV-141PBN	–	
				3.93 (99.8)	1.97 (50)	–	VUBV-168PBN	
3-way Type	V-Lok	6.35 (–)	4.8	4.13 (105)	2.07 (52.6)	–	VUBVT-968P-6.35	※
		9.52 (–)		4.41 (112)	2.19 (55.6)	–	VUBVT-968P-9.52	※
		12.7 (–)		4.61 (117)	2.3 (58.4)	–	VUBVT-968P-12.7	※
		– (6)		4.13 (105)	2.07 (52.6)	–	VUBVT-968P-6	※
		– (8)				–	VUBVT-968P-8	※
		– (10)		4.41 (112)	2.2 (55.9)	–	VUBVT-968P-10	※
		– (12)		4.61 (117)	2.3 (58.4)	–	VUBVT-968P-12	※
	Female NPT	1/4		3.93 (99.8)	1.97 (50)	–	VUBVT-168PBN	※

※：Bottom port of all 3-way type valves are 1/4 Female NPT.

※：Getting ready. Begin to sell it soon.

Ordering Information

VUBVT	—	968P	—	6.35	—	□	—	KL
①②③④		⑤⑥⑦		⑧		⑨		⑩

① Valve Series

② Body Material
Stainless Steel

③ Valve Type
Ball Valves

④ Flow Patern
Blank : 2-way Type
T : 3-way Type

⑤ End Connections
1 : Thread Type
9 : VCR-Lok Type

⑥ Working Pressure
68 : 10000 psi (689 bar)

⑦ Panel Nut

⑧ Connection Sizes
6.35 : VCR-Lok 1/4
9.52 : VCR-Lok 3/8
12.7 : VCR-Lok 1/2
6 : VCR-Lok 6
8 : VCR-Lok 8
10 : VCR-Lok 10
12 : VCR-Lok 12
BN : Female NPT 1/ 4 in.

⑨ Handle Color
Blank : Black
B : Blue
G : Green
YR : Orange
RE : Red
Y : Yellow

⑩ Key Lock Type
Blank : without Key Lock
KL : with Key Lock

Option

HANDLE COLOR

Standard Handle Color is black.

When you ordered a colored handle besides the black.
Please put the relevant symbol to the part number end from beside table.

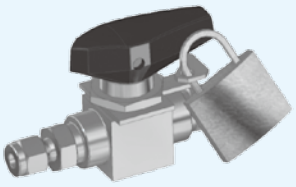
Ex. Ordering Number in case of you will order blue handle
VUBV-941P-6.35-B

HANDLE Color	The end of Ordering Number
Black	—
Blue	-B
Green	-G
Orange	-YR
Red	-RE
Yellow	-Y

Key Lock & Bracket ※

- Locking with standard parts for lock , and with a handle of flow direction locking certainly at open or close for 2-way valves
- Possible to fix a locking part on the hole in the bracket or install a distinction tag.
- After installing to a panel, it isn't possible to install a bracket.

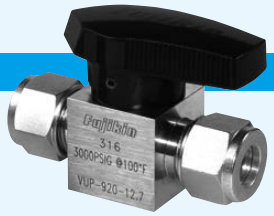
※: Getting ready. Begin to sell it soon.



Seal Kit

You can buy a Seal Kit at the valve maintenance time.

Valve Series	Kit Contents
VUBV-941 Series (2-way Type)	• INSTRUCTION MANUAL • Ball • STEM BEARING • O-RING(1), O-RING(2) • SEAT ASSEMBLY (SEAT + SEAT CARRIERS) • DISC SPRING • END SCREW SEALS • LUBRICANT • SDS of LUBRICANT
VUBV-968 Series (2-way Type)	• INSTRUCTION MANUAL • BALL • STEM • STEM BEARING • STEM O-RING • STEM BACKUP RING1, 2 • SEAT ASSEMBLY (SEAT + SEAT CARRIERS) • DISC SPRING • END SCREW SEALS • LUBRICANT • SDS of LUBRICANT
VUBVT-968 Series (3-way Type)	

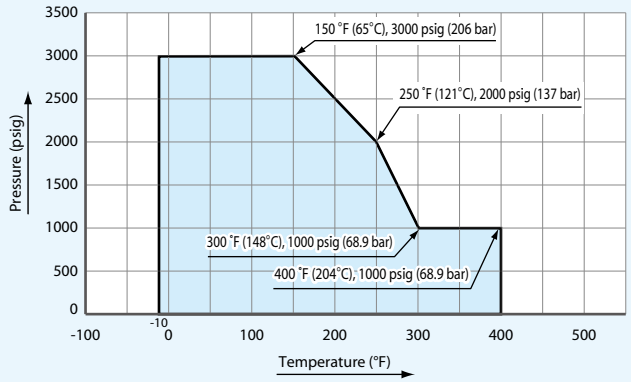


Features

1. Simple, Compact Design
2. Low Operating Torque
3. Quarter Turn Operation

Technical Data

Temperature and Pressure Rating



Note: If the end connection is V-Lok type, the working pressure may be low depending on the tube used.
For details, please refer to 1-1, 1-2 in the table of P12.

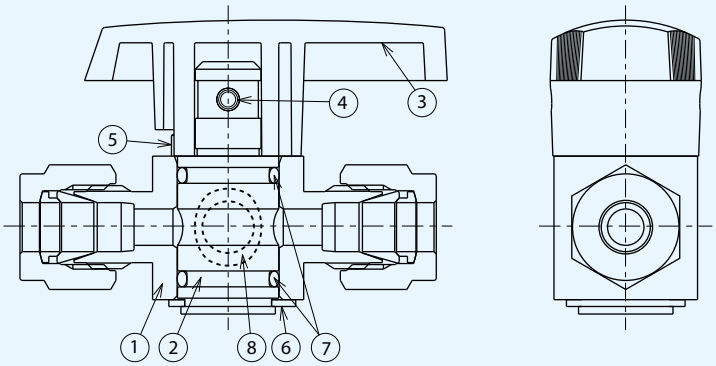
Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non-corrosive gas and liquid.

Attention

1. Differential pressure is limited to 150 psig (10.3 bar) maximum if reverse-flow occurs.
2. Reverse-flow throtting may damage O-Ring.

Materials of Construction



No.	Description		Materials
1	BODY	※ 1	ASTM A479 316
2	PLUG	※ 1	PTFE-Coated ASTM A479 316
3	HANDLE		POLYETHERIMIDE
4	ROLL SPRING PIN		SUS304
5	STOP PIN		SUS304
6	C-RING		SUS304
7	O-RING	※ 1, ※ 2	PTFE-Coated FKM
8	O-RING	※ 1, ※ 2	
Lubricants			Silicone-based

※ 1 : Wetted parts
※ 2 : Please refer to the maintenance stock number of parts of P129 in case of ordering No.7 or 8 parts element.

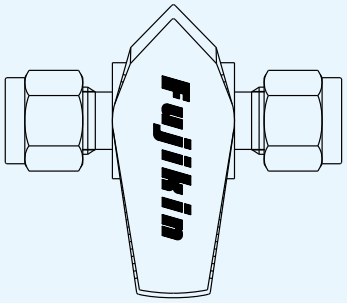
Note : Materials and dimensions are subject to change without notice.

Operation

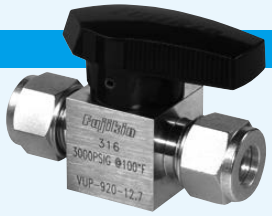
Open

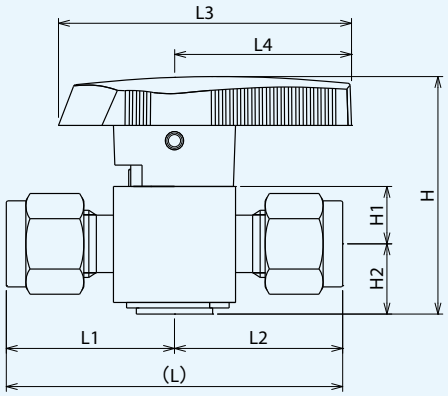
Forward-Flow Throttling

Closed



Dimensions





End Connections	Nominal Sizes	Working Pressure psig (bar)	Orifice in. (mm)	Dimensions in. (mm)									Ordering Numbers
				L	L1	L2	H	H1	H2	L3	L4	W	
VCR-Lok	1/4 in.	3000 (206)	0.173 (4.4)	2.17 (55.1)	1.08 (27.6)		1.54 (39.1)	0.37 (9.4)	0.46 (11.7)	1.89 (48)	1.14 (29)	0.75 (19.1)	VUP-920-6.35
	3/8 in.			2.29 (58.2)	1.15 (29.1)								VUP-920-9.52-S
			0.283 (7.2)	2.66 (67.6)	1.33 (33.8)		2.14 (54.4)	0.56 (14.2)	0.66 (16.8)	2.47 (62.7)	1.5 (38.1)	1.12 (28.4)	VUP-920-9.52
	1/2 in.			2.88 (73.2)	1.44 (36.6)								VUP-920-12.7
Female NPT	1/4 in.		0.173 (4.4)	2.09 (53.1)	1.05 (26.6)		1.54 (39.1)	0.37 (9.4)	0.46 (11.7)	1.89 (48)	1.14 (29)	0.75 (19.1)	VUP-120BN
	1/2 in.		0.283 (7.2)	2.88 (73.2)	1.44 (36.6)		2.14 (54.4)	0.56 (14.2)	0.66 (16.8)	2.47 (62.7)	1.5 (38.1)	1.12 (28.4)	VUP-120DN
Rc	1/4		0.173 (4.4)	2.21 (56.1)	1.1 (28.1)		1.54 (39.1)	0.37 (9.4)	0.46 (11.7)	1.89 (48)	1.14 (29)	0.75 (19.1)	VUP-120B
	1/2		0.283 (7.2)	3.14 (79.8)	1.57 (39.9)		2.14 (54.4)	0.56 (14.2)	0.66 (16.8)	2.47 (62.7)	1.5 (38.1)	1.12 (28.4)	VUP-120D

Ordering Information

①	②	③	—	④	⑤	—	⑥	—	⑦	—	⑧
V	U	P	—	9	20	—	9.52	—	S	—	B

① Valve Series

② Body Material
Stainless Steel

③ Valve Type
Plug Valves

④ End Connections
1: Thread Type
9: VCR® Type

⑤ Working Pressure
3000 psig (206 bar)

⑥ Connection Sizes
6.35: VCR® 1/4 in.
9.52: VCR® 3/8 in.
12.7: VCR® 1/2 in.
BN: 1/4 NPT
DN: 1/2 NPT
B: Rc1/4
D: Rc1/2

⑦ Body Sizes
BLANK: STD
S: Small Size

⑧ Handle Color
Blank: Green
B: Blue ※
BK: Black ※
RE: Red ※
Y: Yellow ※
YR: Orange ※

Attention
The handle color change after shipment can't be available.
Please order the Plug Valves with color handle when you need.

※: Getting ready. Begin to sell it soon.

Maintenance Parts (O-Rings) Ordering Numbers

Orifice Diameter in. (mm)	Valve Ordering Numbers	O-Ring Ordering Numbers
0.173 (4.4)	VUP-920-6.35	GT O-Ring VUP-920-6.35
	VUP-920-9.52-S	
	VUP-120BN	
	VUP-120B	
0.283 (7.2)	VUP-920-9.52	GT O-Ring VUP-920-9.52
	VUP-920-12.7	
	VUP-120-DN	
	VUP-120D	

Please refer the procedure on the instruction manual (No. TKS01-120910-01) before deassembling and checking it.

memo

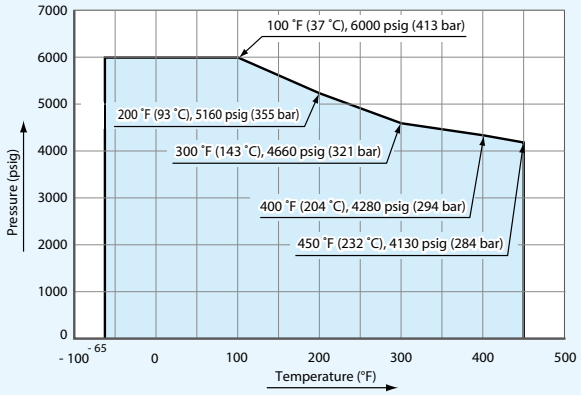
Features

1. Panel Mountable
2. Nonrotating Ball Stem Tip
3. Requlating Stem Tip Available
4. End Connections V-Lok Tube Fittings

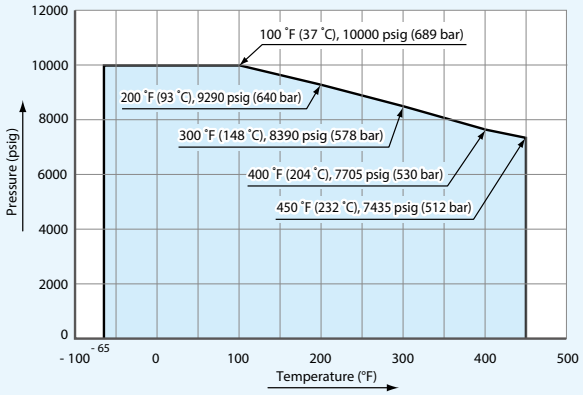
Technical Data

Temperature and Pressure Rating

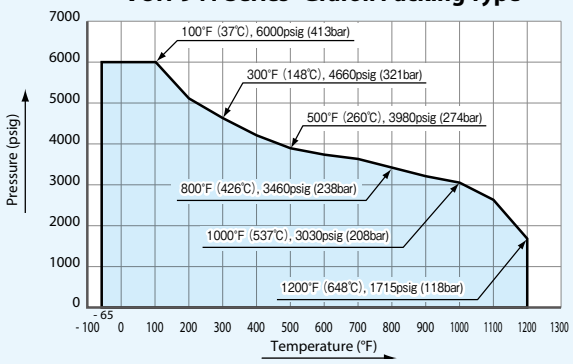
VUH-941 Series PTFE Packing Type



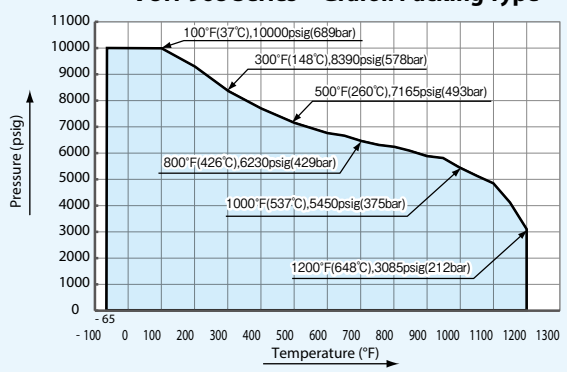
VUH-968 Series PTFE Packing Type



VUH-941 Series Grafoil Packing Type



VUH-968 Series Grafoil Packing Type



Note: If the end connection is V-Lok type, the working pressure may be low depending on the tube used.
For details, please refer to 1-1, 1-2 in the table of P12.

Applicable Fluid

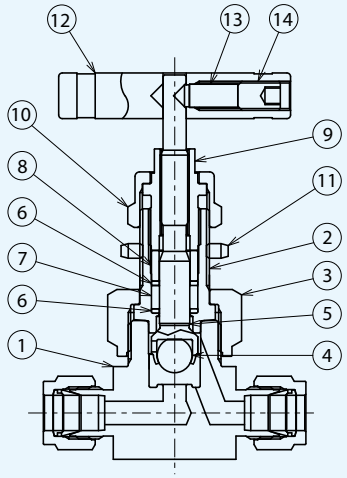
PTFE Packing Type
Air, Nitrogen gas, Inert gas like Helium, and non-corrosive gas and liquid.

Grafoil Packing Type
Steam, Water and non-corrosive gas and liquid.

Note : Materials and dimensions are subject to change without notice.

Material of Construction

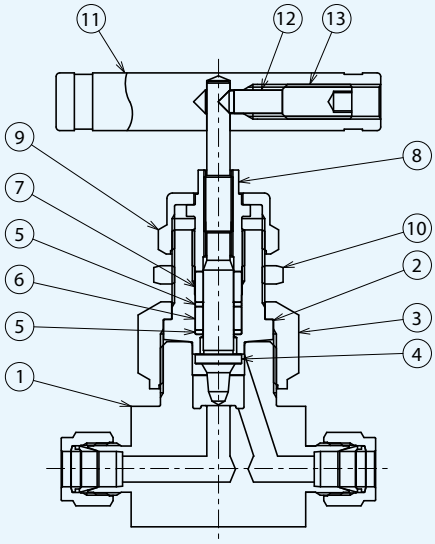
VUH-941 Series



No.	Description		Materials
1	BODY	※	ASTM A479 316
2	BONNET	※	ASTM A479 316
3	BONNET NUT		ASTM A276 316
4	BALL TIP	※	ASTM A276 316
5	STEM	※	ASTM A276 316
6	PACKING SUPPORT	※	C-PTFE
7	PACKING	※	PTFE
8	GLAND		ASTM A276 316
9	PACKING BOLT		ASTM A276 316
10	LOCK NUT		ASTM A276 316
11	PANEL NUT		ASTM A276 304 or ASTM A276 316
12	HANDLE		A6061B
13	PIN		SUS316
14	SET SCREW		SUSXM7

※：Wetted part

VUH-968 Series

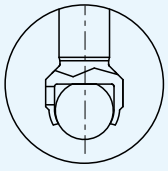


No.	Description		Materials
1	BODY	※	ASTM A479 316
2	BONNET	※	ASTM A479 316
3	BONNET NUT		ASTM A276 316
4	STEM	※	ASTM A276 316
5	PACKING SUPPORT	※	C-PTFE
6	PACKING	※	PTFE
7	GLAND		ASTM A276 316
8	PACKING BOLT		ASTM A276 316
9	LOCK NUT		ASTM A276 316
10	PANEL NUT		ASTM A276 304 or ASTM A276 316
11	HANDLE		A6061B
12	PIN		SUS316
13	SET SCREW		SUSXM7

※：Wetted part

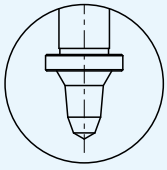
Stem Types

VUH-941 Series



Nonrotating Stem Tip

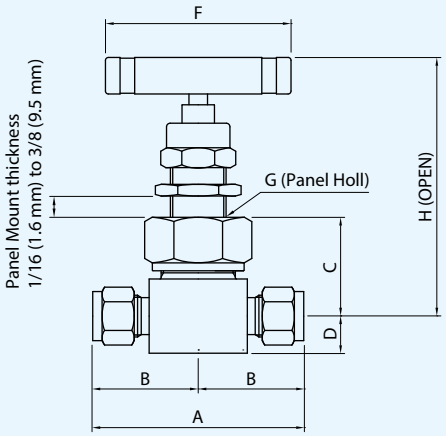
VUH-968 Series



Requlating Stem Tip

Dimensions

VUH-941 Series

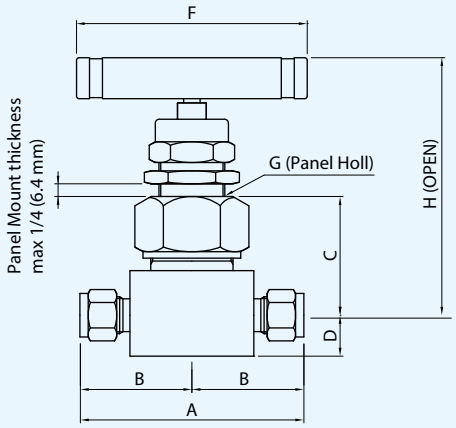


Connection Types	Nominal Diameter inch (mm)	Operating Pressure psi (bar)	Olifice inch (mm)	Dimensions inch (mm)							Ordering Numbers	
				A	B	C	D	F	G	H		
V-Lok	1/4 (6.35)	6000 (413)	0.16 (4)	2.4 (61)	1.2 (30.5)	1.09 (27.7)	0.38 (9.7)	1.75 (44.4)	0.59 (15.1)	3.04 (77.2)	VUH–941P–6.35	
	3/8 (9.52)		0.25 (6.4)	2.83 (71.9)	1.41 (35.8)	1.34 (34)	0.5 (12.7)	2.5 (63.5)	0.78 (19.8)	3.7 (94)	VUH–941P–9.52	
	1/2 (12.7)			3.04 (77.2)	1.52 (38.6)						VUH–941P–12.7–S	
			0.44 (11.1)	3.92 (99.6)	1.96 (49.8)	1.82 (46.2)	0.62 (15.7)	3.5 (88.9)	1.03 (26.2)	4.76 (121)	VUH–941P–12.7	
Female NPT	1/4		0.16 (4)	2.06 (52.3)	1.03 (26.2)	1.09 (27.7)	0.39 (9.9)	1.75 (44.4)	0.59 (15.1)	3.04 (77.2)	VUH–141PBN	※
	3/8		0.25 (6.4)	2.25 (57.2)	1.12 (28.4)	1.34 (34)	0.5 (12.7)	2.5 (63.5)	0.78 (19.8)	3.7 (94)	VUH–141PCN	※
	1/2		0.44 (11.1)	3.12 (79.2)	1.56 (39.6)	1.82 (46.2)	0.62 (15.7)	3.5 (88.9)	1.03 (26.2)	4.76 (121)	VUH–141PDN	※
Rc	1/4		0.16 (4)	2.06 (52.3)	1.03 (26.2)	1.09 (27.7)	0.39 (9.9)	1.75 (44.4)	0.59 (15.1)	3.04 (77.2)	VUH–141PB	※
	3/8		0.25 (6.4)	2.25 (57.2)	1.12 (28.4)	1.34 (34)	0.5 (12.7)	2.5 (63.5)	0.78 (19.8)	3.7 (94)	VUH–141PC	※
	1/2		0.44 (11.1)	3.12 (79.2)	1.56 (39.6)	1.82 (46.2)	0.62 (15.7)	3.5 (88.9)	1.03 (26.2)	4.76 (121)	VUH–141PD	※

※： Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

VUH-968 Series



Connection Types	Nominal Diameter inch (mm)	Operating Pressure psi (bar)	Olifice inch (mm)	Dimensions inch (mm)							Ordering Numbers
				A	B	C	D	F	G	H	
VCR-Lok	1/4 (6.35)	10000 (689)	0.44 (11.1)	2.82 (71.6)	1.41 (35.8)	1.38 (35.1)	0.5 (12.7)	2.5 (63.5)	0.81 (20.6)	3.31 (84.1)	VUH-968P-6.35
	3/8 (9.52)		0.25 (6.4)	3.39 (86.1)	1.69 (43)	1.8 (45.8)	0.62 (15.8)	3.5 (88.9)	1.06 (26.9)	4.25 (108)	VUH-968P-9.52
Female NPT	1/4		0.44 (11.1)	2.25 (57.2)	1.13 (28.6)	1.38 (35.1)	0.5 (12.7)	2.5 (63.5)	0.81 (20.6)	3.31 (84.1)	VUH-168PBN ※
	3/8		0.25 (6.4)	3.25 (82.6)	1.63 (41.3)	1.94 (49.3)	0.78 (19.8)	3.5 (88.9)	1.06 (26.9)	4.25 (108)	VUH-168PCN ※
	1/2										VUH-168PDN ※
Rc	1/4		0.44 (11.1)	2.25 (57.2)	1.13 (28.6)	1.41 (35.8)	0.5 (12.7)	2.5 (63.5)	0.81 (20.6)	3.31 (84.1)	VUH-168PB ※
	3/8		0.25 (6.4)	3.25 (82.6)	1.63 (41.3)	1.94 (49.3)	0.78 (19.8)	3.5 (88.9)	1.06 (26.9)	4.25 (108)	VUH-168PC ※
	1/2										VUH-168PD ※

※ : Getting ready. Begin to sell it soon.

Ordering Information

VUH ① ② ③ — 141P ④ ⑤ ⑥ — BN ⑦ — GR ⑧

① Valve Series

② Body Material
Stainless Steel

③ Valve Type
Needle Valves

④ End Connection
1: Thread Type
9: VCR-Lok Type

⑤ Working Pressure
41: 6000 psi (413 bar)
68: 10000 psi (689 bar)

⑥ Panel Mount Type

⑦ Connection Sizes
B: Rc1/4 ※
C: Rc3/8 ※
D: Rc1/2 ※
BN: 1/4NPT ※
CN: 3/8NPT ※
DN: 1/2NPT ※
-6.35: VCR-Lok 1/4
-9.52: VCR-Lok 3/8
-12.7: VCR-Lok 1/2

⑧ Gland Packing materials
Blank: PTFE+C-PTFE
GR: Graphoil

※ : Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Features

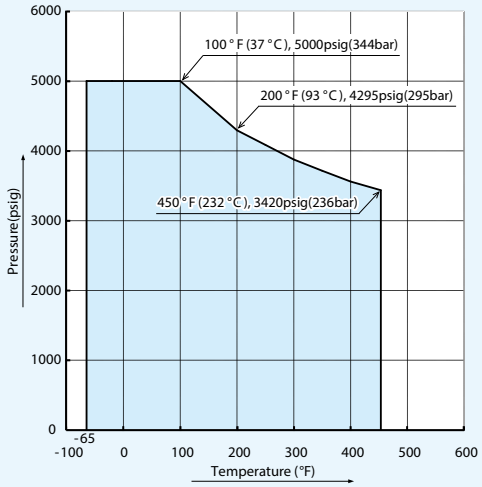
1. Integrate-type Body & Compact Design
2. Excellent Operability with Small Operating Torque
3. Panel Mount Type
4. Linear Flow Control
5. Available with Round Handle Type & Bar Handle Type
6. 2-Stem Design

VEE Type

Regulating Type

Technical Data

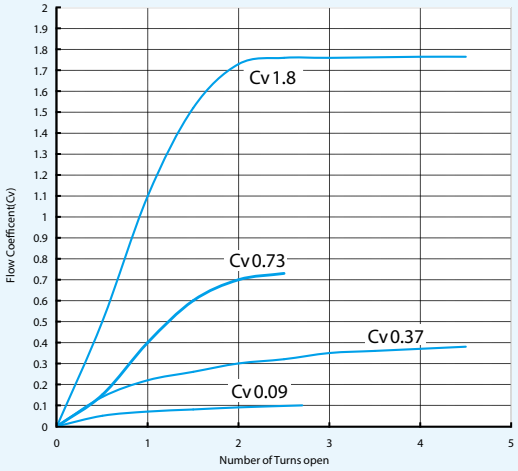
Temperature and Pressure Rating



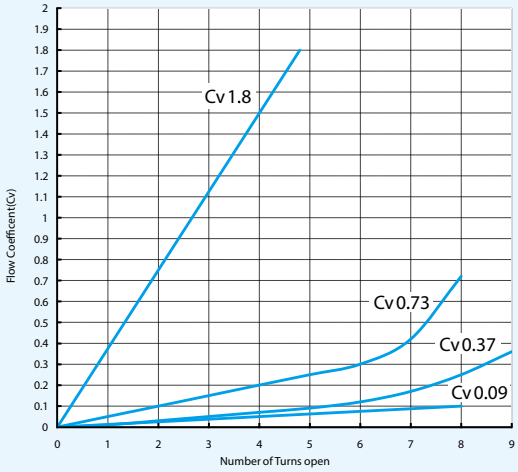
Note: If the end connection is V-Lok type, the working pressure may be low depending on the tube used.
For details, please refer to 1-1, 1-2 in the table of P12.

Flow Coefficient (Cv Value)

VEE Type Stem



Regulating Type Stem

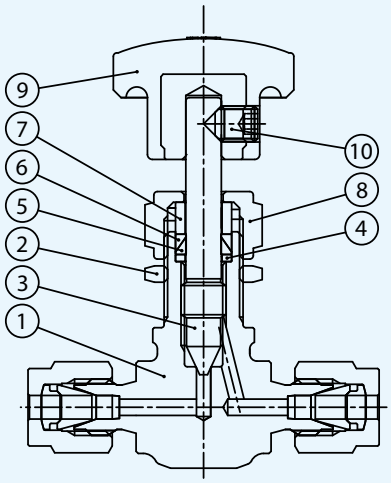


Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

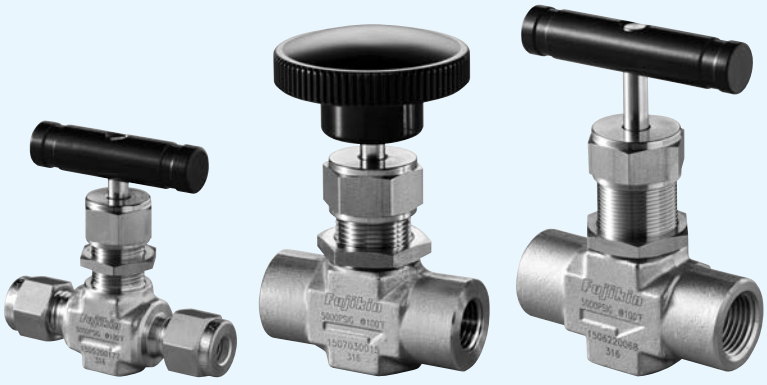
Note : Materials and dimensions are subject to change without notice.

Material of Construction



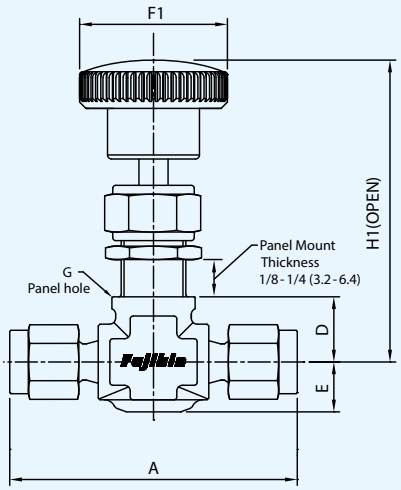
No.	Description		Material
1	BODY ※		ASTM A182 316
2	PANEL NUT		ASTM A276 316
3	STEM	VEE TYPE ※	ASTM A276 316 (Cr Plated)
		REGULATING TYPE ※	
4	LOWER GLAND ※		ASTM A276 316
5	LOWER PACKING ※		PTFE
6	UPPER PACKING ※		PTFE
7	PACKING GLAND		ASTM A276 316
8	LOCK NUT		ASTM A276 316
9	HANDLE		Phenolic with brass insert
10	SET SCREW		316 SS

※: Wetted Parts

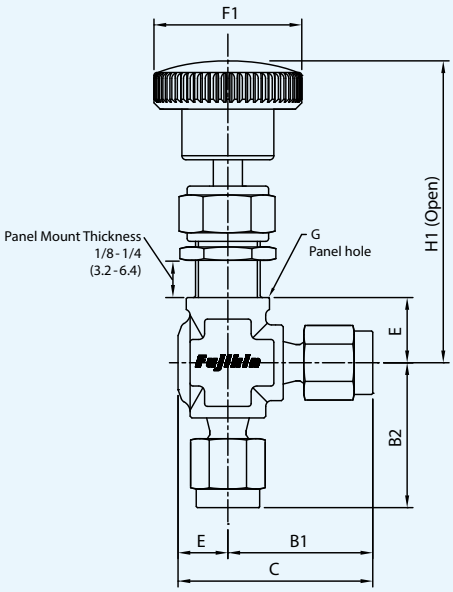


Dimensions

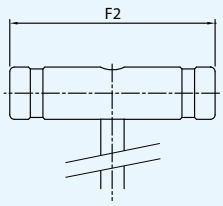
Globe Type



Angle Type



Bar Handle Type



End Connections	Nominal Sizes inch (mm)	Working Pressure psig(bar)	Orifice inch (mm)	Dimensions inch (mm)												Ordering Numbers	
				Cv	A	B1	B2	C	D	E	F1	F2	G	H1	H2		
V-Lok	1/8 (3.2)	5000 (344)	0.079 (2)	0.09	1.94(49.3)	0.98 (24.9)		1.29 (32.8)	0.44 (11.2)	0.31 (7.9)	1 (25.4)	1.73 (44)	0.47 (11.9)	2.28 (57.9)	1.91 (48.4)	VUH-934P-3.2	
	– (3)				2.27(57.6)											VUH-934P-3	※
Female NPT	1/8 (–)				1.88(47.8)	0.94(23.9)		1.25(31.8)								VUH-134PAN-S	※
V-Lok	1/4 (6.35)		0.173 (4.4)	0.37	2.27(57.6)	1.13 (28.7)		1.51 (38.4)		0.38 (9.7)	1.38 (35.1)		0.53 (13.5)	2.5 (63.5)	2.02 (51.4)	VUH-934P-6.35	
	– (6)															VUH-934P-6	
	– (8)				2.34(59.4)	1.17(29.7)		1.54(39.1)								VUH-934P-8	
Female NPT	1/8 (–)				1.62(41.1)	0.81(20.6)		1.19(30.2)								VUH-134PAN	※
V-Lok	3/8 (9.52)		0.252 (6.4)	0.73	2.58(65.5)	1.29(32.8)		1.79 (45.5)	0.55 (14)	0.5 (12.7)	1.88 (47.8)	2.52 (64)	0.78 (19.8)	2.97 (75.4)	2.43 (61.7)	VUH-934P-9.52	
	1/2 (12.7)				2.8(71.1)	1.4(35.6)										VUH-934P-12.7-S	
	– (10)				2.6(66)	1.3(33)		1.8(45.7)								VUH-934P-10	
	– (12)				2.8(71.1)	1.4(35.6)		1.9(48.3)								VUH-934P-12-S	※
Female NPT	1/4 (–)				2.12(53.8)	1.06(26.9)		1.56(39.6)								VUH-134PBN	
V-Lok	1/2 (12.7)		0.374 (9.5)	1.8	3.8 (96.5)	1.9 (48.3)		2.65 (67.3)	0.75 (19.1)		–	3 (76.2)	1.03 (26.2)	3.91 (99.3)	3.83 (97.4)	VUH-934P-12.7	
	3/4 (19.05)															VUH-934P-19.05	
	– (12)															VUH-934P-12	
	– (18)															VUH-934P-18	※
Female NPT	3/8 (–)				3 (76.2)	1.5 (38.1)		2.25 (57.2)						3.88 (98.6)		VUH-134PCN	
	1/2 (–)															VUH-134PDN	

※ : Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Ordering Information

VUH — 934P — 6 — PK — BH

① ②③ ④ ⑤ ⑥

① Valve Series
- VUH : VEE Type Stem
- VUN : Regulating Type Stem ※
- (VUD : Soft Seat Type Stem) ※

② End Connection Types
- 0 : VCR-Lok Angle Type ※
- 1 : Thread Globe Type
- 3 : Thread Angle Type ※
- 9 : VCR-Lok Globe Type

③ Working Pressure
- 5000 psig (344 bar)

④ Connection Sizes
- 3.2 : VCR-Lok 1/8
- 6.35 : VCR-Lok 1/4
- 9.52 : VCR-Lok 3/8
- 12.7 : VCR-Lok 1/2
- 12.7-S : VCR-Lok 1/2 (Small Body Size Type)
- 19.05 : VCR-Lok 3/4
- 3 : VCR-Lok 3 ※
- 6 : VCR-Lok 6
- 8 : VCR-Lok 8
- 10 : VCR-Lok 10
- 12 : VCR-Lok 12
- 12-S : VCR-Lok 12 (Small Body Size Type) ※

When there are two kinds of Body Size to the same Connection Size, please add to ordering number of Small Type Body Size "-S" behind the character which shows the Connection Size.
Ex. 12-S, 12.7-S, AN-S

- AN : 1/8NPT ※
- AN-S : 1/8NPT (Small Body Size Type) ※
- BN : 1/4NPT
- CN : 3/8NPT
- DN : 1/2NPT

⑤ Packing Materials
- Blank : PTFE
- PK : PEEK ※
- PA : PFA ※
- PE : Polyethylene ※

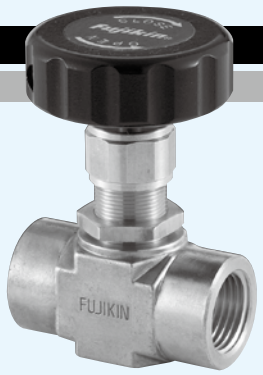
⑥ Handle Types
- Blank : Round Handle Type
- BH : Bar Handle Type

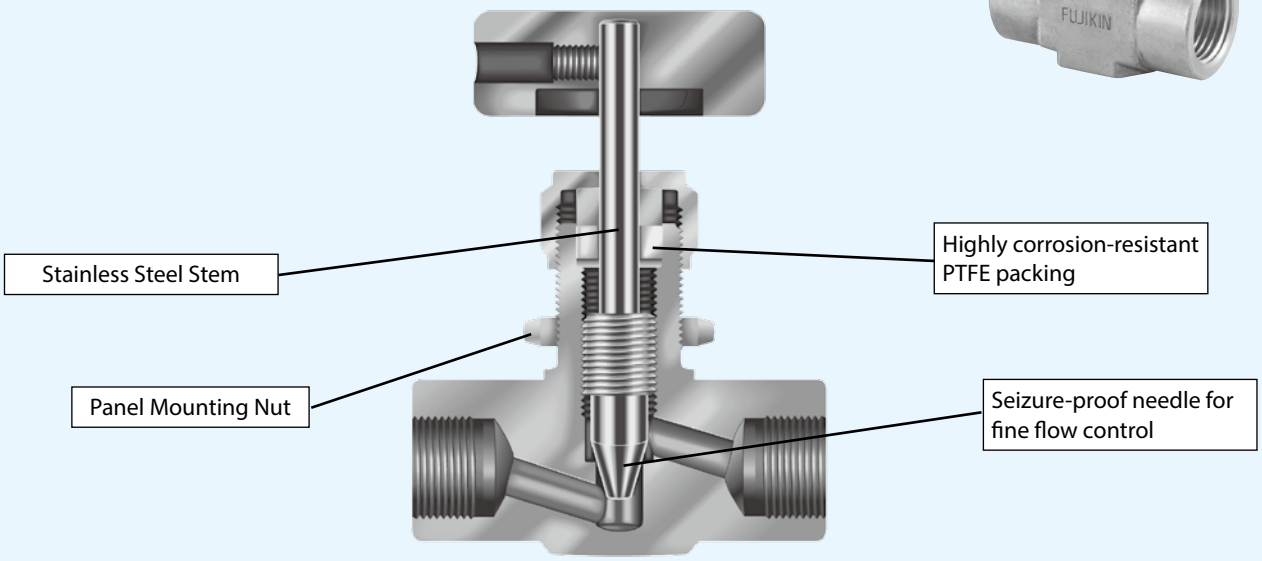
※: Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Brass Needle Stop Valves

With Color-coded Handles & Panel Mounting Nut





Features

1. Robust forged body and compact bonnet-less construction.
2. Needle design enhances ease of flow adjustment.
3. Packing and gland design reduce handle torque and enhance seal performance.

In the standard configuration, the valve comes with a black handle. blue, red, and green handles are also available.

※ It's popular for customers to use different colours for different fluide and flow lines.

Note: Materials and dimensions are subject to change without notice.

Ordering Number Designation

Threaded Connector Type

P D S - 1 5 B - S H - R

- P: POWERFULL Series
- D: Brass
- S: Needle Stop Valves
- 15: Threaded Connector, Globe Pattern
- B: 713 psig (49bar)
- SH: Please see ※2 Thread Sizes Table
- R: Corresponding RoHS

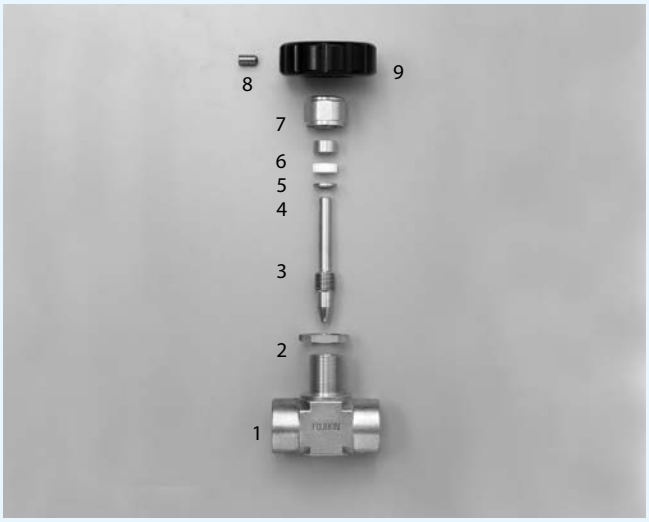
Thread Size (When a connection in one side is thread.) ※2
(In case of a NPT thread connection, the character "N" is attached additionally at the end.)

※2: Thread Sizes Table

	Designation		A	B	C	D
Taper Pipe Thread	JIS B 0203 (1982) (ISO7/1)	Male thread	R1/8	R1/4	Rc3/8	R1/2
		Female thread	Rc1/8	Rc1/4	R3/8	Rc1/2

Thread designation complies with JIS B0203 (1982) (ISO7/1).
Sizes as per JIS B0203 (1981) are shown for reference purpose.

Construction



Materials

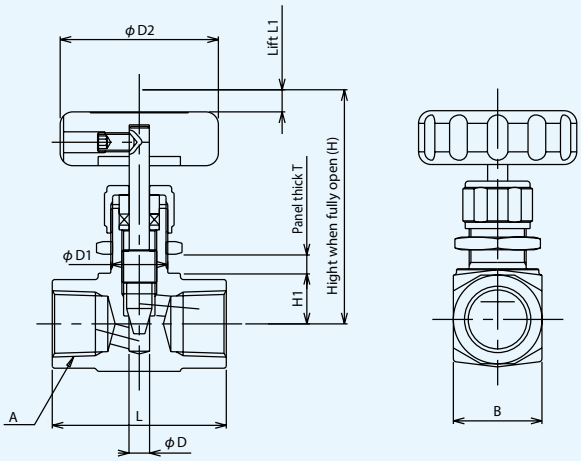
No.	Description	Materials
1	Body ※	C3771B
2	Panel Nut	C3604B
3	Stem ※	SUS303 or SUS316 ※1
4	Ring	SUS316
5	Gland Packing ※	P T F E
6	Gland	C3604B
7	Gland Nut	C3604B
8	Hexagon Socket Head Set Screw	SUS304 equivalent
9	Handwheel ※2	A5056B

※: Wetted Parts
Exceptions:
1: Applicabel fuild: Water, Air, Nitrogen gas, inter gas like Helium, and non-corrosive gas and liquid.
※1: SUS materials may use ASTM standard material(SUS equivalent material)
※2: Standard color of the Handwheel is black. A Nameplate (material: Tetoron) is stuck to the Handle.

A seat will be corroded on early by the Langerear index when you use a brass valve for tap water, Fujikin recommends use of a stainless steel valve.
Quoting : Japan Valve Manufacturer's Association Publication.

Brass 4.9 MPa POWERFULL SERIES Needle Stop Valves

Threaded Connector Type



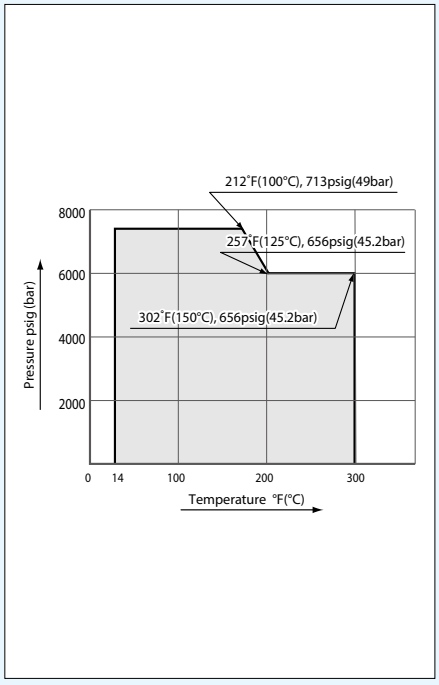
Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

● Dimension

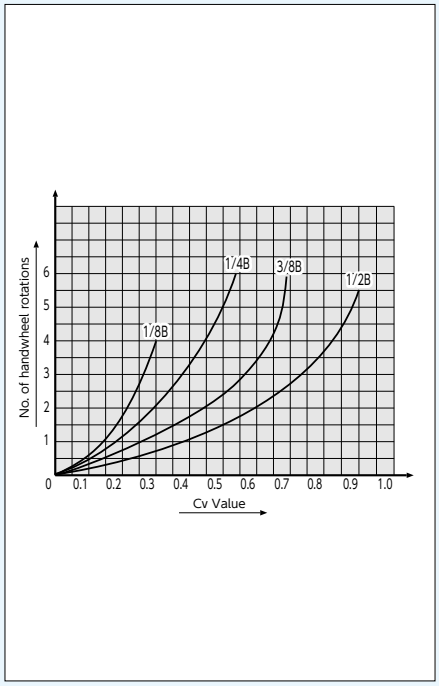
UNIT(mm)

Nominal Dia. (B)	Orifice Dia. D	Face to face Dimension L	Connection Port A	Panel Mounting D1	Panel Mounting H1	H	L1	D2	B	T MIN.	T MAX.	Cv Value MAX.	Weight approx. (kg)	Ordering Numbers
1/8	5	40	Rc 1/8	13.2	10.5	55	4	40	18.5	2	6	0.3	0.2	PDS-15A-SH-R
1/4	6.5	45	Rc 1/4	18.5	14	71	6	50	21	2	8	0.55	0.3	PDS-15B-SH-R
3/8	6.5	50	Rc 3/8	18.5	16	73	6	50	28	2	8	0.7	0.4	PDS-15C-SH-R
1/2	6.5	55	Rc 1/2	18.5	16	73	6	50	28	2	8	0.9	0.4	PDS-15D-SH-R

● Temperature-Pressure Curve



● Cv Curves



● Specifications

Working Pressure psig (bar)		Temperature °F (°C)
713 (49)	※ 1, 2	14 – +302 (–10 – +150)

※ 1: Please refer to Temperature-Pressure Curve.
※ 2: Consult with Fujikin before using hydrogen, helium, or toxic gases, and in vacume state.

Exceptions:
Applicabel fuild: Water, Air, Nitrogen gas, inter gas like Helium, and non-corrosive gas and liquid.

● Panel Mounting Procedures

If you are panel-mounting the valve, follow these instructions:

1. Ensure that the bracket hole on the panel is ≤ 0.5mm wider than the valve's Panel-Mounting Diameter (refer to the CAD drawing).
2. Use an adjustable wrench to loosen the Hex Nut securing the Handle. Remove the Handle.
3. Remove the Gland Nut and the Panel Nut.
4. Mount the valve on the panel and secure it with the Panel Nut. Reattach the Gland Nut and the Handle.
5. Tighten the Gland Nut with an adjustable wrench to the torque shown in the table below.

● Gland Nut Tightening Torgue (Reference Value)

Nominal Dia. (B)	Tightening Torgue (N•m)
1/8	8
1/4	18
3/8	18
1/2	18

Note: Materials and dimensions are subject to change without notice.

Brass 2 MPa POWERFULL SERIES Miniature Valves with POWERFULLOK Fittings

Ordering Number Designation

P D W V P – 6 B – R

- R : Corresponding RoHS
- Thread Size (When a connection in one side is thread.) Please see ※ 2
  (In case of a NPT thread connection, the character "N" is attached additionally at the end.)
- Nominal Dia. (Tube Dia.) ※ 1
- P: with Panel Nut
- V: Miniature Valves
  A: Angle Valves
- W: POWERFULLOK Tube Fittings Type
- D: Brass
- P: POWERFULL Series

※ 1: Nominal Diameter (Tube Dia.)

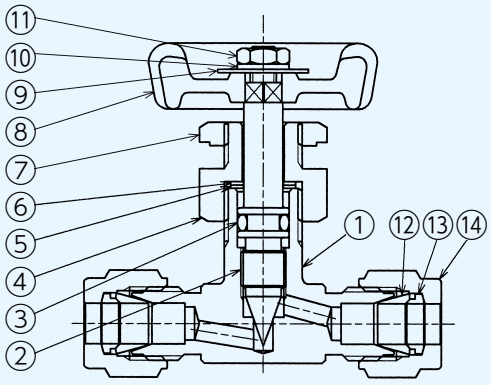
	inch Sizes	mm Sizes
Nominal Diameter (Tube Dia.)	6.35 : connection part 6.35 9.52 : connection part 9.52 12.7 : connection part 12.7	6 : connection part 6 8 : connection part 8 10 : connection part 10 12 : connection part 12

※ 2: Thread Sizes Table

	Designation		A	B	C
Taper Pipe Thread	JIS B 0203 (1982) (ISO7/1)	Male thread	R1/8	R1/4	Rc3/8
		Female thread	Rc1/8	Rc1/4	R3/8

Thread designation complies with JIS B0203 (1982) (ISO7/1).
Sizes as per JIS B0203 (1981) are shown for reference purpose.

Construction



Materials

No.	Description	Materials
1	Body ※	C3771B
2	Stem ※	SUS304 or 303 ※3※4
3	O-Ring ※	NBR
4	Gland Nut	C3604B
5	Ring	A5052P
6	Sheet Packing	Nylon
7	Panel Nut	C3604B
8	Handle	ADC12
9	Name Plate	A5052P
10	Washer	SK85 (MF Ni)
11	Hex Nut	C3604B
12	Front Ring	C3602B
13	Back Ring	C3602B
14	Nut	C3604B

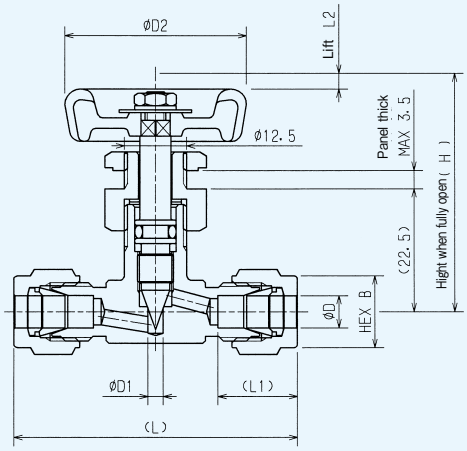
※: Wetted Part
Exceptions:
Applicabel fuild: Water, Air, Nitrogen gas, inter gas like Helium, and non-corrosive gas and liquid.
※ 3: Stainless Steel : Nominal Dia. 9.52 or more,
C3604B : Rc Thread 3/8 or more
※ 4: SUS materials may use ASTM standard material(SUS equivalent material)

A seat will be corroded on early by the Langerear index when you use a brass valve for tap water, **Fujikin**, recommends use of a stainless steel valve.
Quoting : Japan Valve Manufacturer's Association Publication.

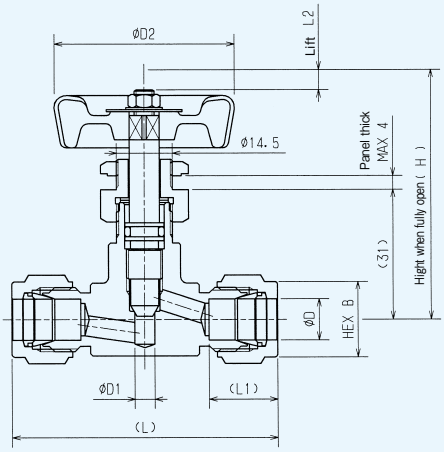
Brass 2 MPa POWERFULL SERIES Miniature Valves

POWERFULLOK Fittings Connection Type

Nom. Dia. 6, 6.35, 8 Type



Nom. Dia. 9.52, 10, 12, 12.7 Type



Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

● Dimensions (inch size)

UNIT (mm)

Nominal Dia. D	D1	D2	L	L1	L2	B	H	Ordering Numbers
6.35	3	35	54.8	15.4	3	14	45	PDWVP-6.35-R
9.52	5	45	66.4	17.2	5	17	62	PDWVP-9.52-R
12.7	5	45	78.6	23	5	22	62	PDWVP-12.7-R

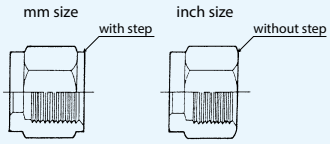
● Dimensions (mm size)

UNIT (mm)

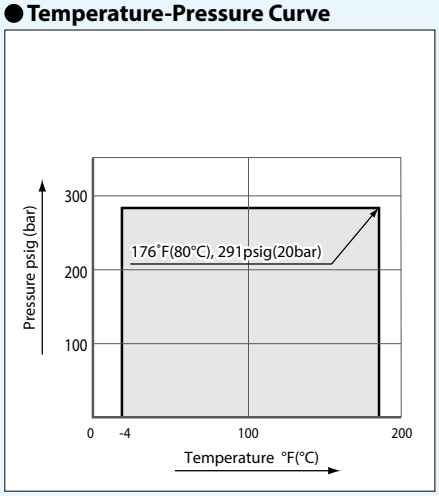
Nominal Dia. D	D1	D2	L	L1	L2	B	H	Ordering Numbers
6	3	35	54.5	15.2	3	14	45	PDWVP-6-R
8	3	35	58.9	16.2	3	16	45	PDWVP-8-R
10	5	45	65.9	17	5	19	62	PDWVP-10-R
12	5	45	77.6	22.5	5	22	62	PDWVP-12-R

About size distinctinction of the mm size and inch size

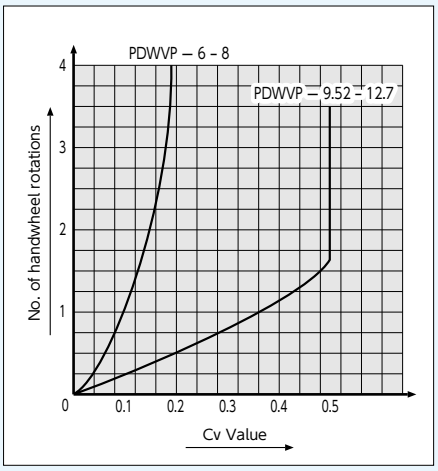
In order to distinguish easily from outside, edge of metric Nut is dented. Nut has size-marking.



● Temperature-Pressure Curve



● Cv Curves



● Specifications

Working Pressure psig (bar)	Temperature °F (°C)	
291 (20)	−4 – +176 (– 20 – +80)	※

※ : Valves up to 392°F(200°C) are available. Please contact Fujikin for more information.

Exceptions:
Applicabel fuild: Water, Air, Nitrogen gas, inter gas like Helium, and non-corrosive gas and liquid.

Panel Mounting Procedures

If you are panel-mounting the valve, follow these instructions:

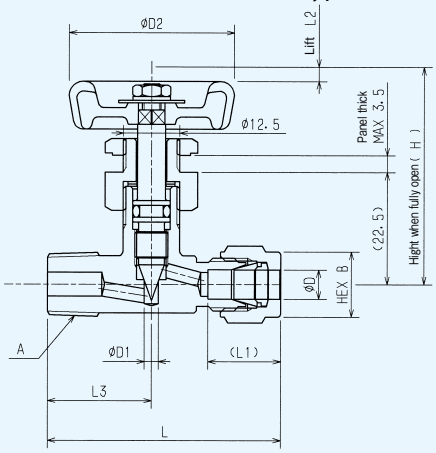
1. Ensure that the bracket hole on the panel is ≤ 0.5mm wider than the valve's Panel-Mounting Diameter (refer to the CAD drawing).
2. Use an adjustable wrench to loosen the Hex Nut securing the Handle. Remove the Handle.
3. Remove the Gland Nut and the Panel Nut.
4. Mount the valve on the panel and secure it with the Panel Nut. Reattach the Gland Nut and the Handle.
5. Please assemble the Handle at the end.

Note: Materials and dimensions are subject to change without notice.

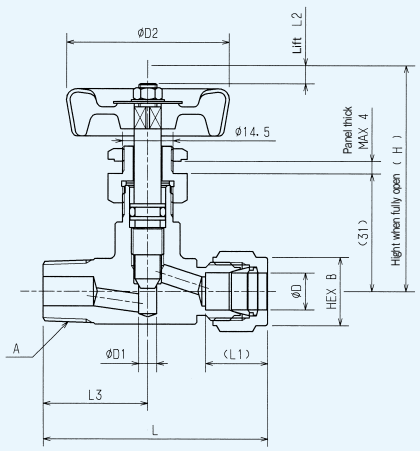
Brass 2 MPa POWERFULL SERIES Miniature Valves

POWERFULLOK Fittings Connection Type

Nom. Dia. 6, 6.35, 8 Type



Nom. Dia. 9.52, 10, 12, 12.7 Type



Individual drawings may be downloaded from the CAD Data Service section of the Fujikin website. http://www.fujikin.co.jp/fujikinhp_e/cad_s/

● Dimensions (inch size)

UNIT (mm)

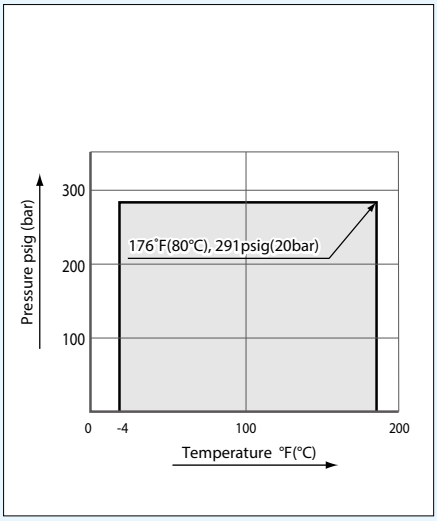
Nominal Dia. D	A	D1	D2	L	L1	L2	L3	B	H	Ordering Numbers
6.35	R1/8	3	35	47.4	15.4	3	20	14	45	PDWVP-6.35A-R
6.35	R1/4	3	35	49.4	15.4	3	22	14	45	PDWVP-6.35B-R
9.52	R1/4	5	45	62.1	17.2	5	29	17	62	PDWVP-9.52B-R
9.52	R3/8	5	45	62.1	17.2	5	29	17	62	PDWVP-9.52C-R
12.7	R1/4	5	45	68.3	23	5	29	22	62	PDWVP-12.7B-R
12.7	R3/8	5	45	68.3	23	5	29	22	62	PDWVP-12.7C-R

● Dimensions (mm size)

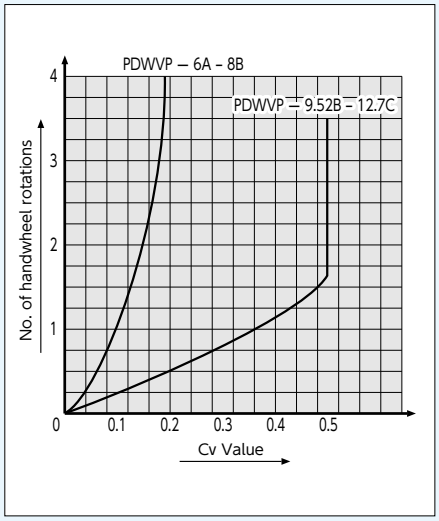
UNIT (mm)

Nominal Dia. D	A	D1	D2	L	L1	L2	L3	B	H	Ordering Numbers
6	R1/8	3	35	47.2	15.2	3	20	14	45	PDWVP-6A-R
6	R1/4	3	35	49.2	15.2	3	22	14	45	PDWVP-6B-R
8	R1/8	3	35	49.5	16.2	3	20	16	45	PDWVP-8A-R
8	R1/4	3	35	51.5	16.2	3	22	16	45	PDWVP-8B-R
10	R1/4	5	45	61.9	17	5	29	19	62	PDWVP-10B-R
10	R3/8	5	45	61.9	17	5	29	19	62	PDWVP-10C-R
12	R1/4	5	45	67.8	22.5	5	29	22	62	PDWVP-12B-R
12	R3/8	5	45	67.8	22.5	5	29	22	62	PDWVP-12C-R

● Temperature-Pressure Curve



● Cv Curves



● Specifications

Working Pressure psig (bar)	Temperature °F (°C)
291 (20)	−4 – +176 (– 20 – +80) ※

※ : Valves up to 392°F(200°C) are available.
Please contact Fujikin for more information.

Exceptions:
Applicabel fuild: Water, Air, Nitrogen gas, inter gas like Helium, and non-corrosive gas and liquid.

Panel Mounting Procedures

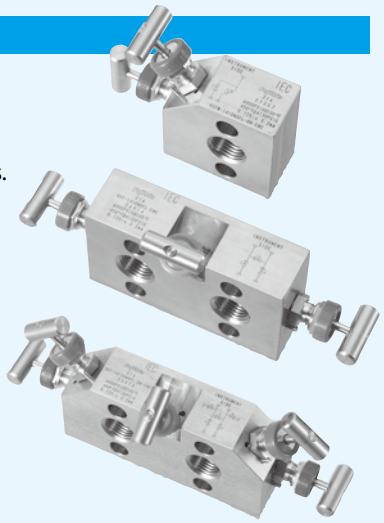
If you are panel-mounting the valve, follow these instructions:

1. Ensure that the bracket hole on the panel is ≤ 0.5mm wider than the valve's Panel-Mounting Diameter (refer to the CAD drawing).
2. Use an adjustable wrench to loosen the Hex Nut securing the Handle. Remove the Handle.
3. Remove the Gland Nut and the Panel Nut.
4. Mount the valve on the panel and secure it with the Panel Nut. Reattach the Gland Nut and the Handle.
5. Please assemble the Handle at the end.

Note: Materials and dimensions are subject to change without notice.

Instrument Manifolds

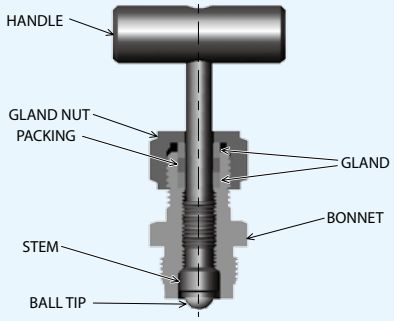
Features



1. Fujikin offers a variety of 2-, 3-, and 5-Valve Instrument Manifolds.
2. The 2-Valve Manifolds are designed for static pressure and liquid level applications ; the 3- and 5-Valve Manifolds are designed for differential pressure applications.
3. The flow through a Fujikin manifold is controlled by a series of stainless steel needle valves.
4. Each valve has a specific function — to block pressure, to bleed off pressure, or to equalize pressure — depending on its location on the manifold.
   The control of all these functions is shared by two needle valve designs
   a large bonnet needle valve for manifold orifices of 0.156 in. (4 mm)
   a small bonnet needle valve for manifold orifices of 0.125 in. (3.2 mm).
5. End connections - 1/2 in. female pipe (NPT) ; flange (MSS) (Please refer to P149)
6. The bonnet is prevented from loosening from a body with a lock plate. (standard) (There is also pin lock type. Please refer to P149)
7. On both designs, the stem packing is externally adjustable in the open position. PTFE is the standard packing material.
8. Distinguished by different colors according to use. with color caps
   BLOCK: Blue, BLEED: Red, EQUALIZE: Green

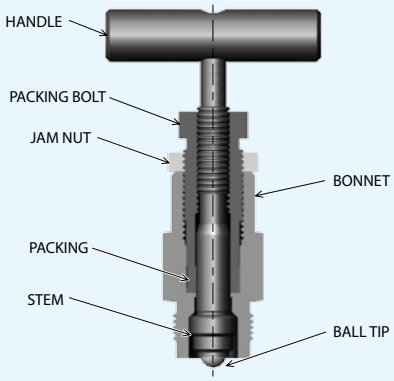
Bonnet Design

Small Bonnet Needle Valves



Description	Materials
HANDLE	ASTM A276 304
GLAND NUT	ASTM A276 316
PACKING	PTFE
GLAND	ASTM A276 316
BONNET	ASTM A479 316
STEM	ASTM A276 316
BALL TIP	ASTM A276 316

Large Bonnet Needle Valves



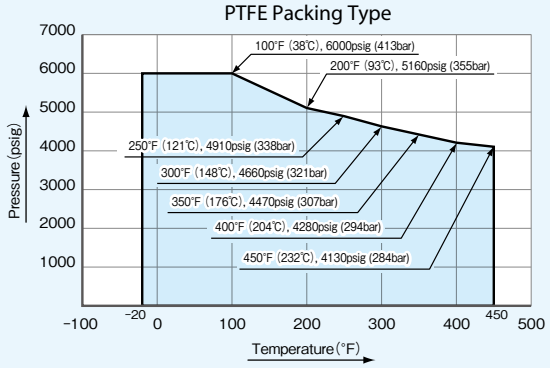
Description	Materials
HANDLE	ASTM A276 304
JAM NUT	ASTM A276 304
PACKING BOLT	ASTM A276 316
BONNET	ASTM A479 316
PACKING	PTFE
STEM	ASTM A276 316
BALL TIP	ASTM A276 316

Cautions: ASTM A276 material may use SUS (ASTM A276 equivalent material).

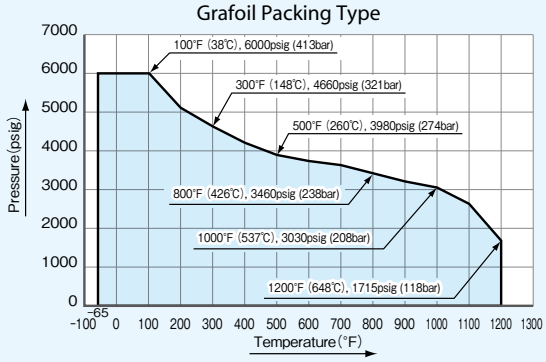
Technical Data

Temperature and Pressure Rating

PTFE Packing Type



Grafoil Packing Type

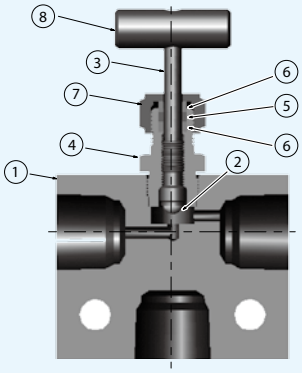


Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

Material of Construction

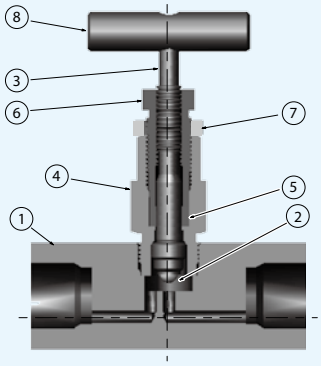
Small Bonnet Manifolds



No.	Description	Materials
1	BODY ※	ASTM A479 316
2	BALLTIP ※	ASTM A276 316
3	STEM ※	ASTM A276 316
4	BONNET ※	ASTM A479 316
5	PACKING ※	PTFE
6	GLAND ※	ASTM A276 316
6	GLAND NUT	ASTM A276 304
8	HANDLE	ASTM A276 304

※: Wetted Parts
Cautions: ASTM A276 material may use SUS (ASTM A276 equivalent material).

Large Bonnet Manifolds

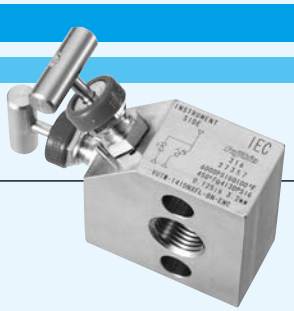


No.	Description	Materials
1	BODY ※	ASTM A479 316
2	BALL TIP ※	ASTM A276 316
3	STEM ※	ASTM A276 316
4	BONNET ※	ASTM A479 316
5	PACKING ※	PTFE
6	PACKING BOLT	ASTM A276 316
7	JAM NUT	ASTM A276 304
8	HANDLE	ASTM A276 304

※: Wetted Parts
Cautions: ASTM A276 material may use SUS (ASTM A276 equivalent material).

Dimensions, Flow and Ordering Numbers

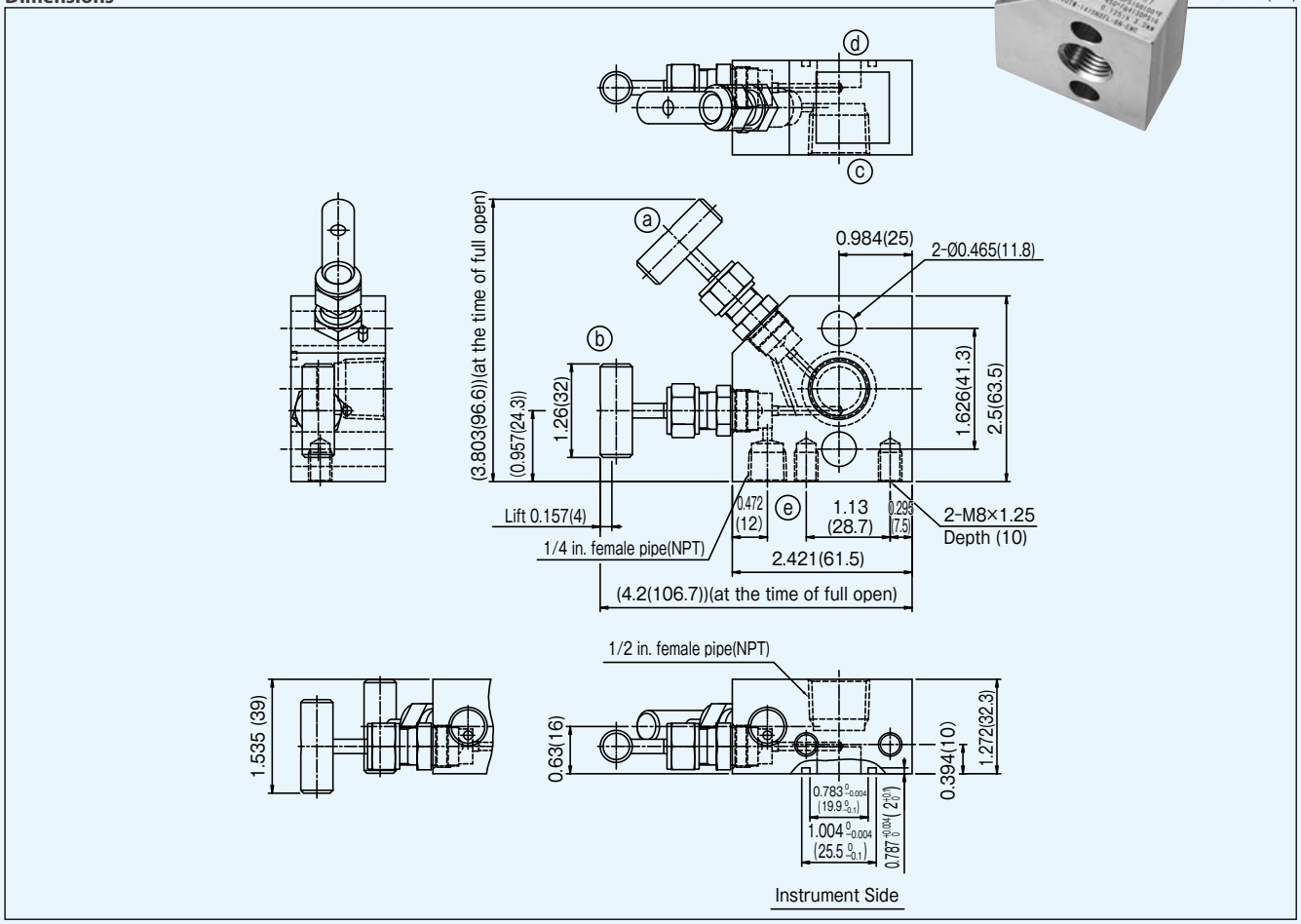
2-Valve Manifolds (Consist of one block valve and one vent valve)



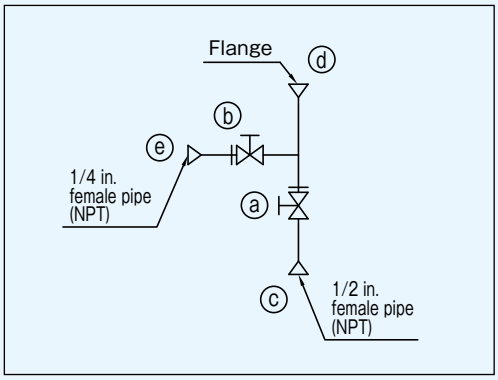
Direct Mounting Type

Dimensions

UNIT: in. (mm)



Flow



Ordering Number:

- **VUTW-141DN×FL-BN-EMC:**
  Standard (PTFE Packing & no Blind Type)
- **VUTW-141DN×FL-BN-EMC-GR:**
  Graphite Packing Type
- **VUTW-141DN×FL-BN-EMC-BL:**
  with Vent Port Blind Type

Remarks

A gasket and two bolts are attached with this product.

Dimensions, Flow and Ordering Numbers

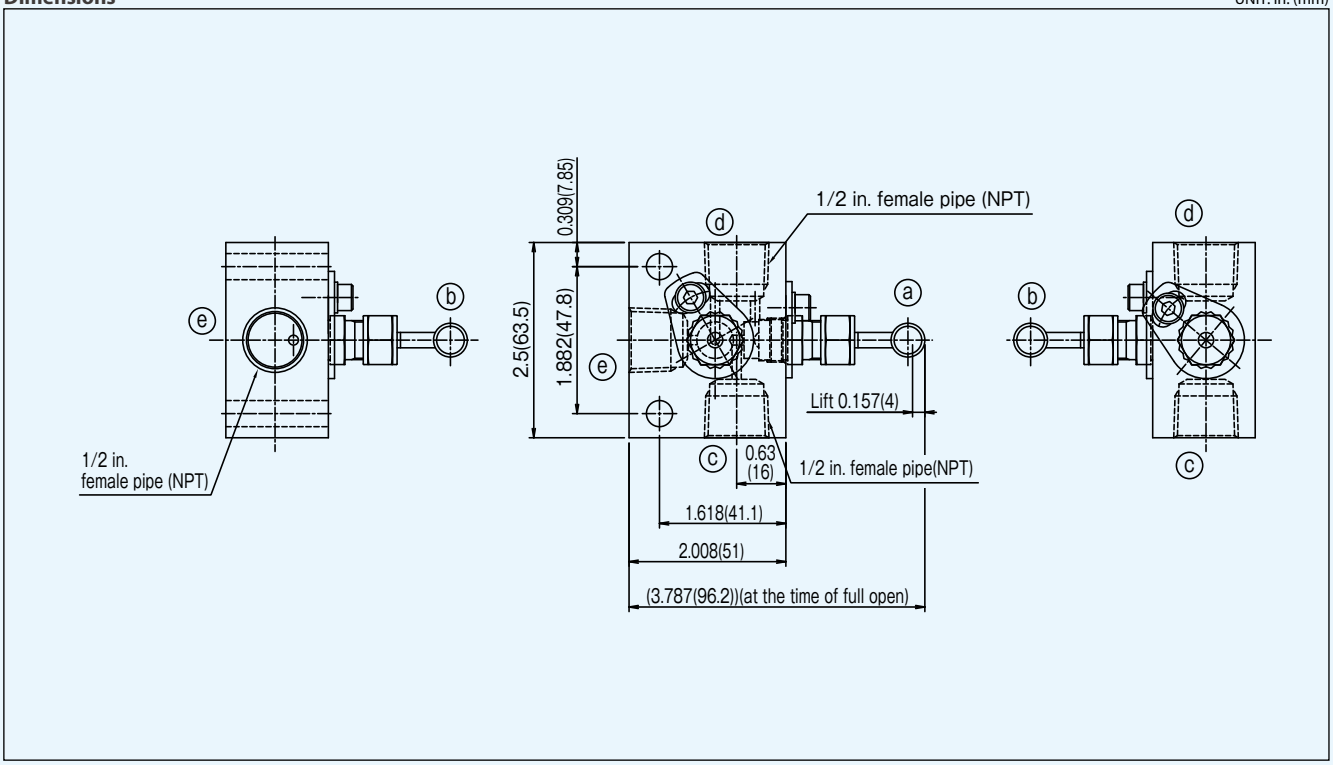
2-Valve Manifolds (Consist of one block valve and one bleed valve)

Remote Mounting Type

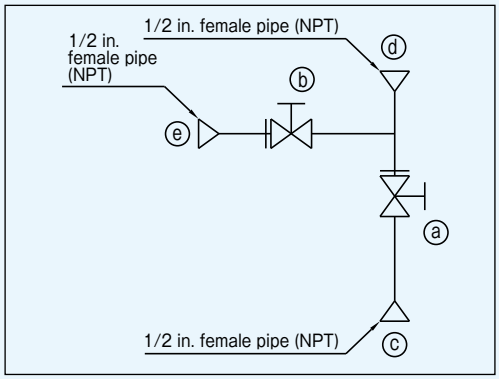
End Connections of Process side, Instrument side:
1/2 in. Female Pipe (NPT)

Dimensions

UNIT: in. (mm)



Flow



Ordering Number:

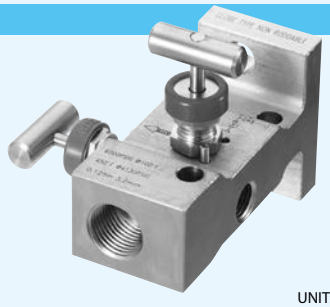
- **VUTW-141LDN:**
  Standard (PTFE Packing & no Blind Type)
- **VUTW-141LDN-GR:**
  Graphite Packing Type
- **VUTW-141LDN-BL:**
  with Vent Port Blind Type

Dimensions, Flow and Ordering Numbers

2-Valve Manifolds (Consist of one block valve and one bleed valve)

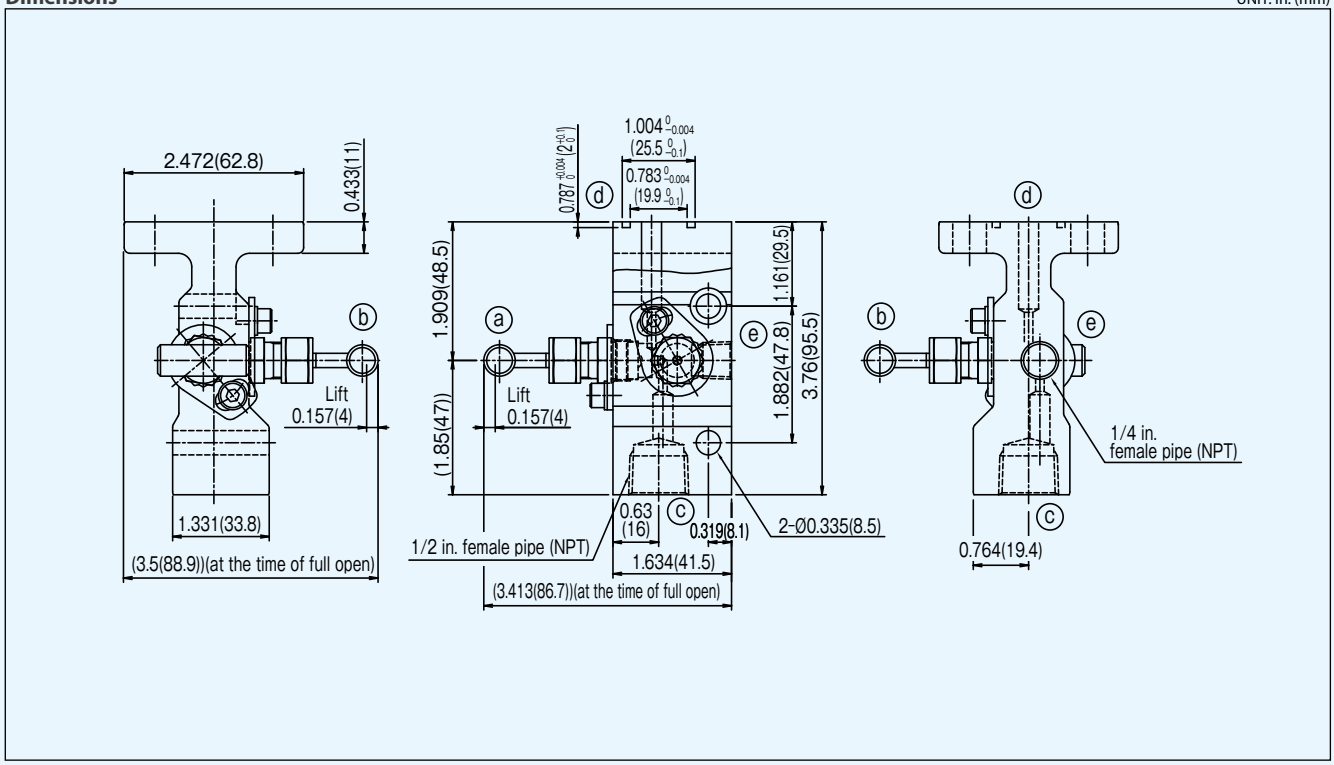
Direct Mounting Type

End Connections of Process Side: 1/2 in. Female Pipe (NPT),
Instrument side: Flange (MSS)

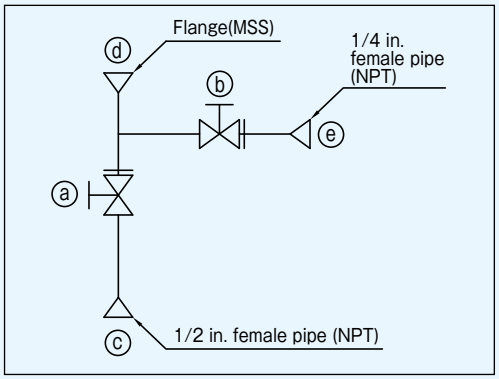


Dimensions

UNIT: in. (mm)



Flow



Ordering Number:

- **VUTW-141LDN×FL-BN:**
  Standard **(PTFE Packing & no Blind Type)**
- **VUTW-141LDN×FL-BN-GR:**
  Graphite Packing Type
- **VUTW-141LDN×FL-BN-BL:**
  with Vent Port Blind Type

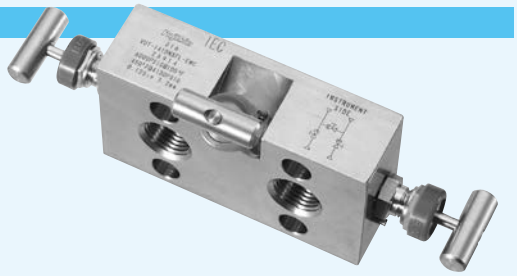
Remarks

A gasket and two bolts are attached with this product.

Dimensions, Flow and Ordering Numbers

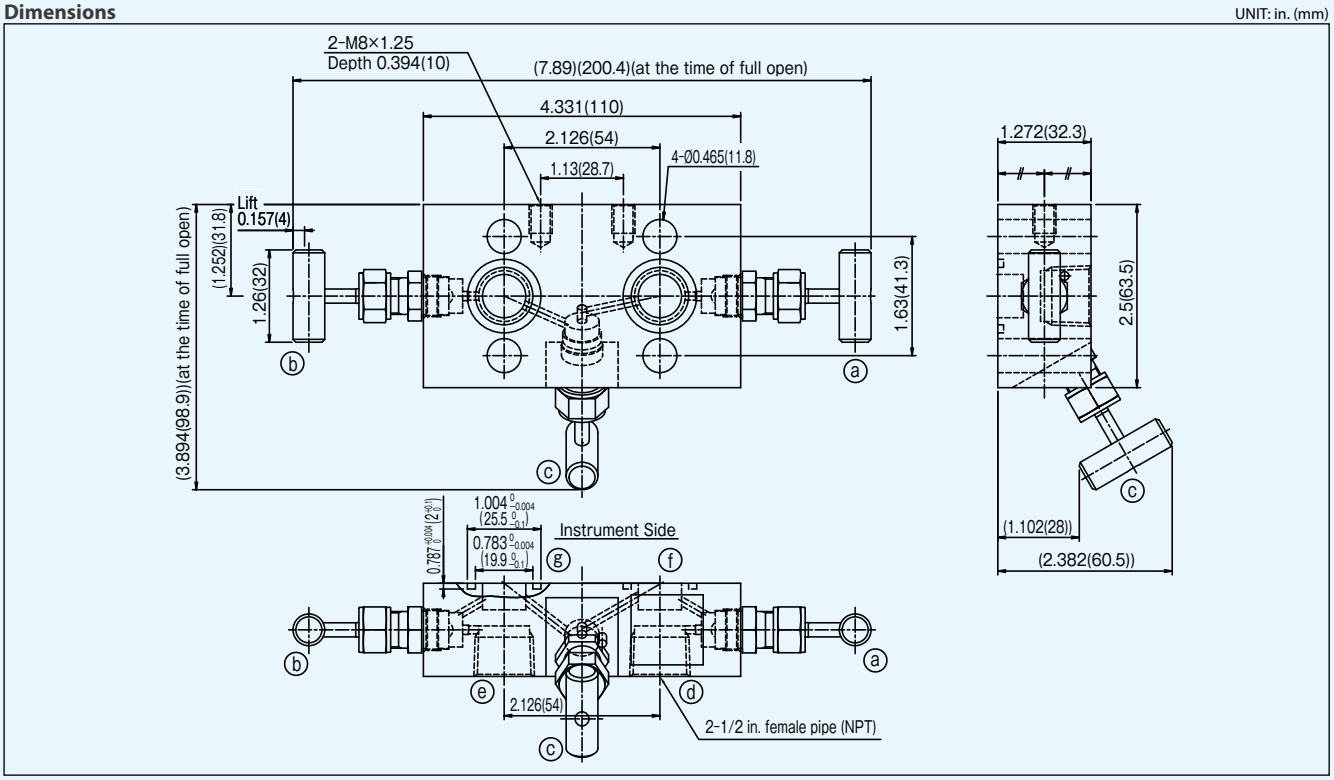
3-Valve Manifolds (Consist of two block valves and one equalizer valve)

Direct Mounting Type

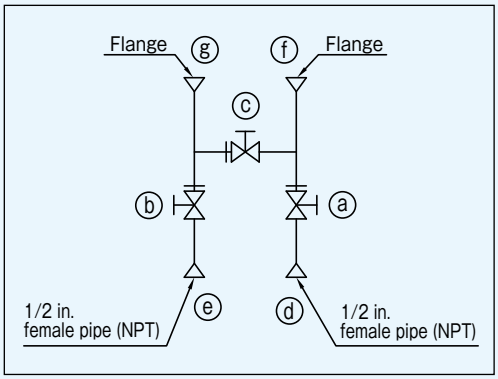


Dimensions

UNIT: in. (mm)



Flow



Ordering Number:

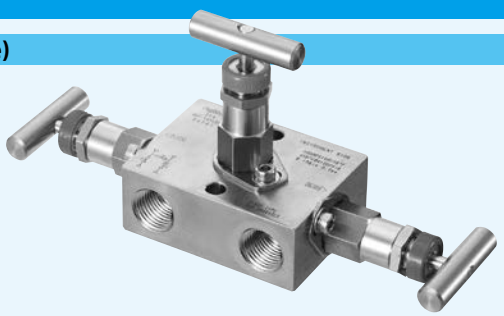
- **VUT-141DN×FL-EMC:**
  Standard (PTFE Packing & no Blind Type)
- **VUT-141DN×FL-EMC-GR:**
  Graphite Packing Type

Remarks

A gasket and two bolts are attached with this product.

Dimensions, Flow and Ordering Numbers

3-Valve Manifolds (Consist of two block valves and one equalizer valve)

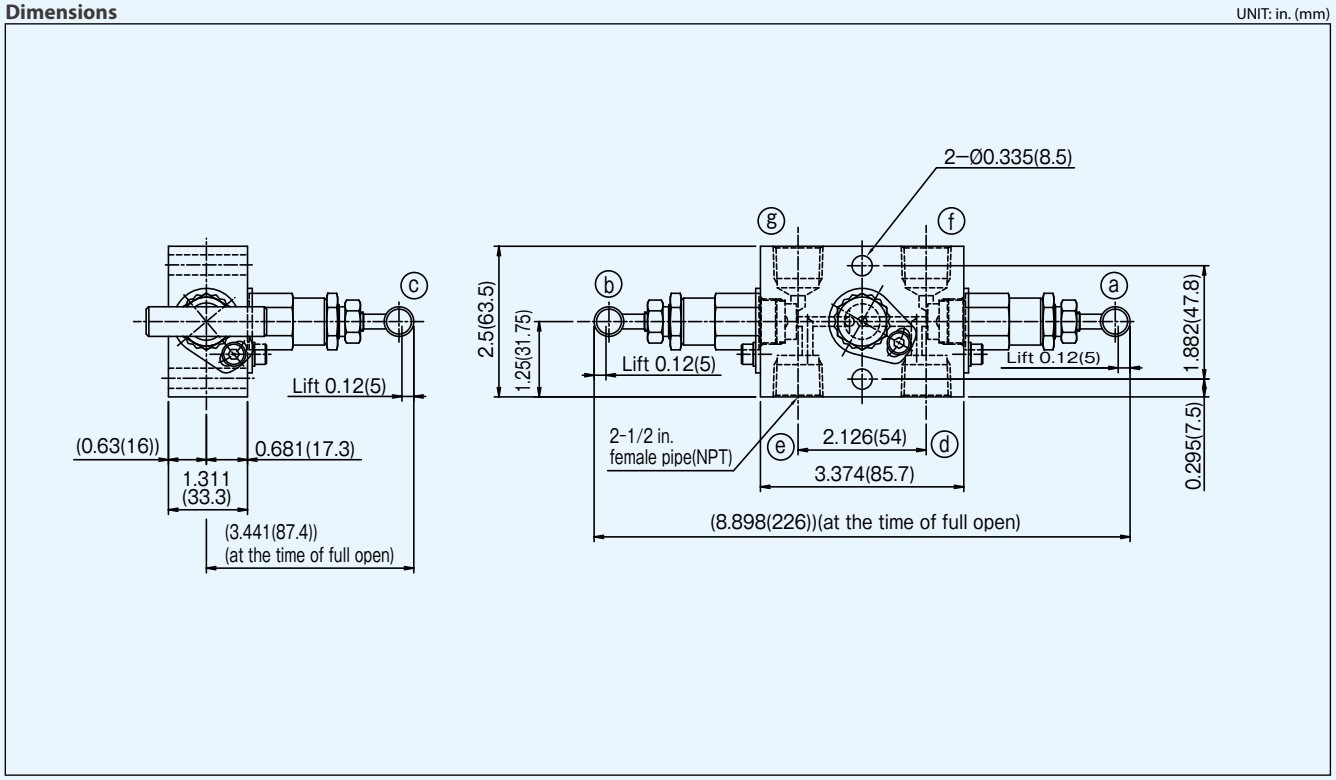


Remote Mounting Type

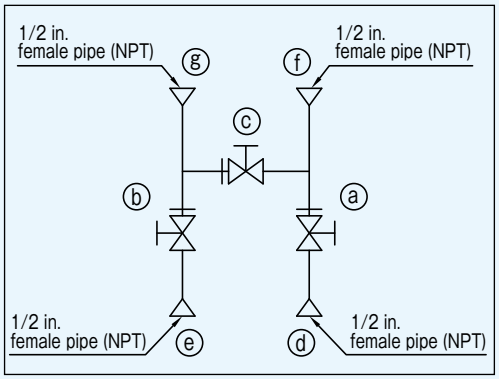
End connections of Process side, Instrument side:
1/2 in. Female Pipe (NPT)

Dimensions

UNIT: in. (mm)



Flow



Ordering Number:

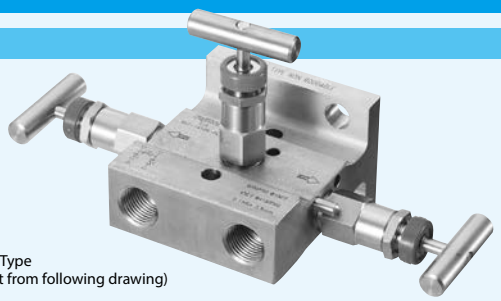
- **VUT-141LDN:**
  Standard (PTFE Packing & no Blind Type)
- **VUT-141LDN-GR:**
  Graphite Packing Type

Dimensions, Flow and Ordering Numbers

3-Valve Manifolds (Consist of two block valves and one equalizer valve)

Direct Mounting Type

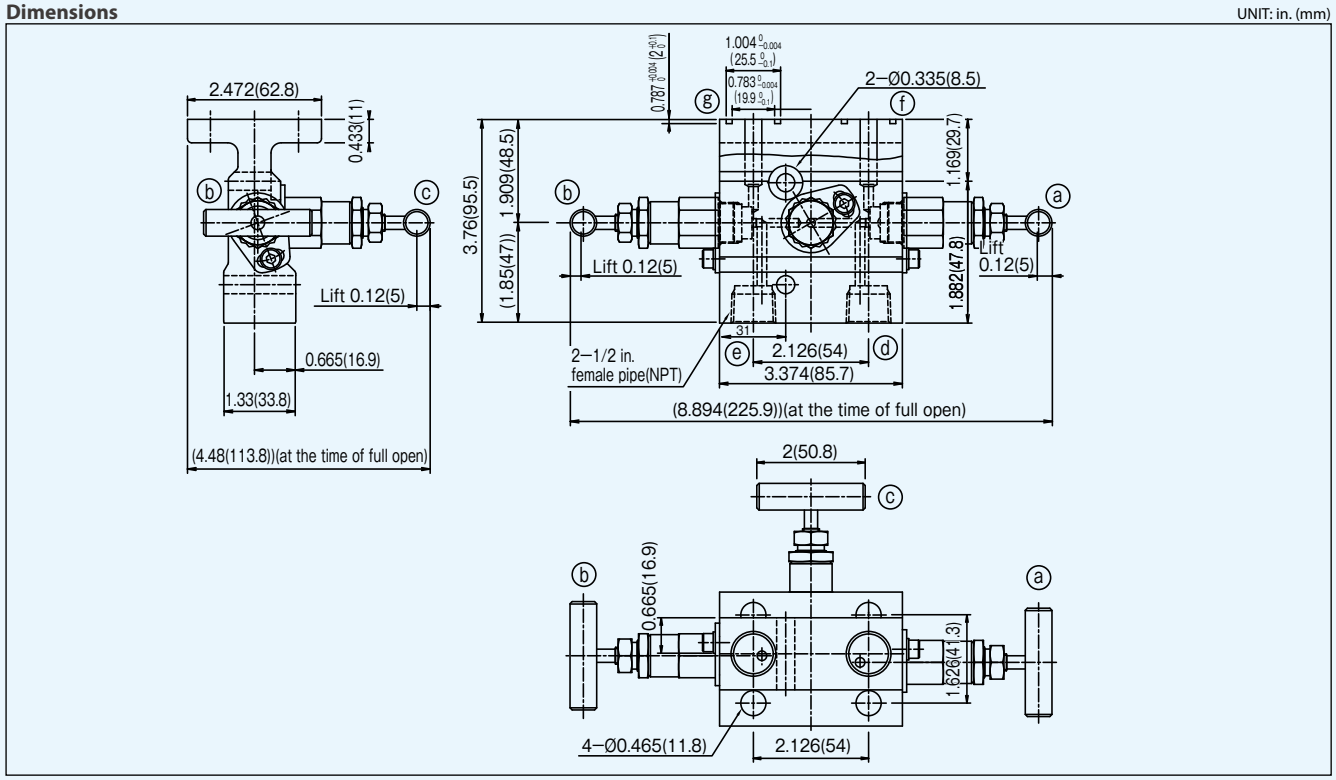
End Connections of Process Side: 1/2 in. Female Pipe (NPT),
Instrument side: Flange (MSS)



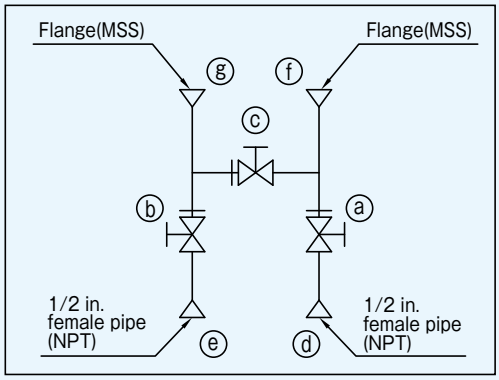
Pin Lock Type
(different from following drawing)

Dimensions

UNIT: in. (mm)



Flow



Ordering Number:

- **VUT-141LDN×FL:**
  Standard (PTFE Packing & no Blind Type)
- **VUT-141LDN×FL-GR:**
  Graphite Packing Type

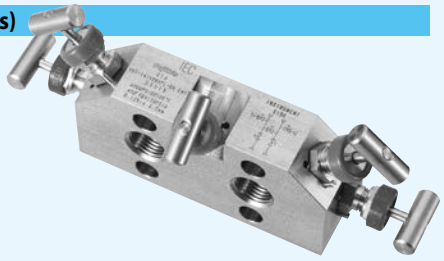
Remarks

A gasket and two bolts are attached with this product.

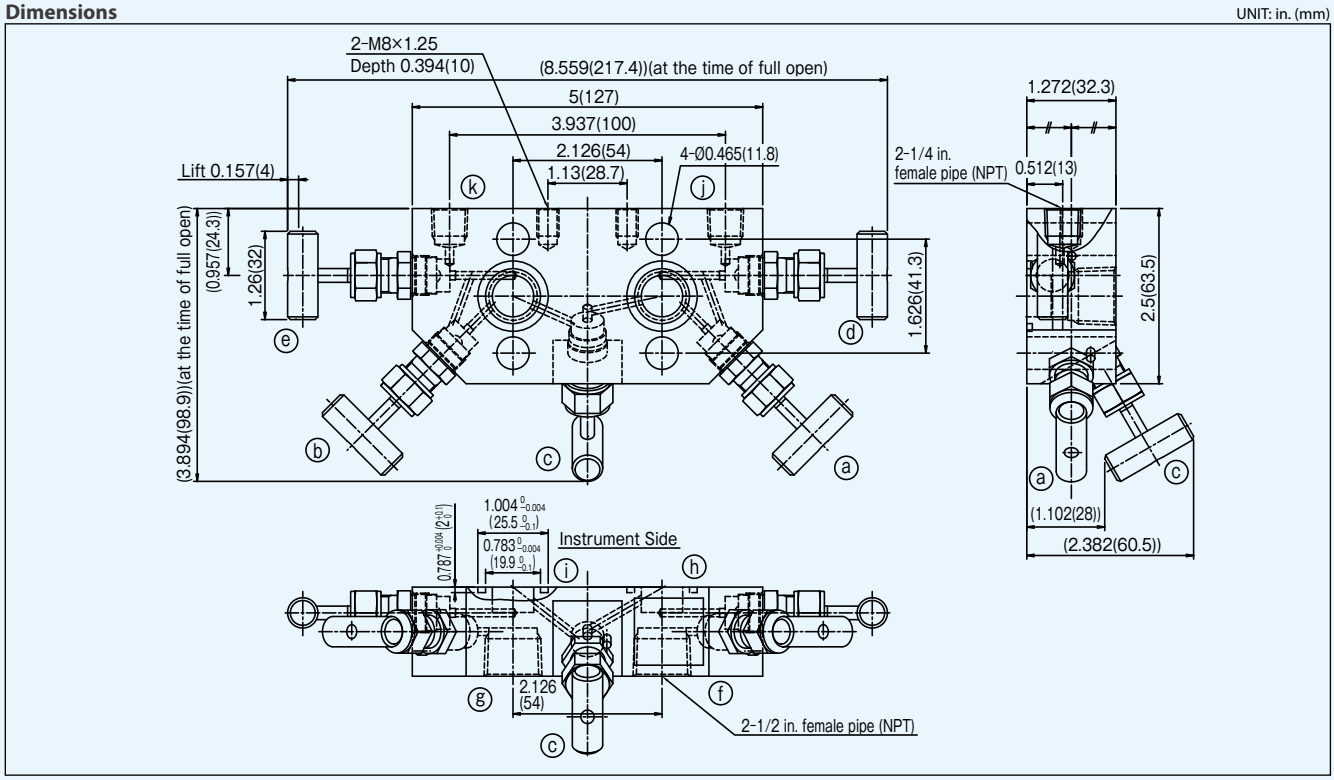
Dimensions, Flow and Ordering Numbers

5-Valve Manifolds (Consisit of two block valves, one equalizer valve and two bleed valves)

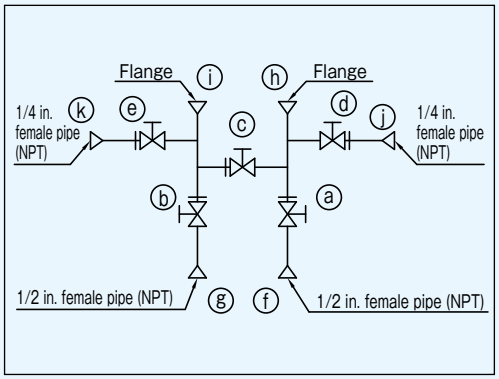
Direct Mounting Type



Dimensions UNIT: in. (mm)



Flow



Ordering Number:

- **VUT-141VDN×FL-BN-EMC:**
  Standard (PTFE Packing & no Blind Type)
- **VUT-141VDN×FL-BN-EMC-GR:**
  Graphite Packing Type
- **VUT-141VDN×FL-BN-EMC-BL:**
  with Vent Port Blind Type

Remarks

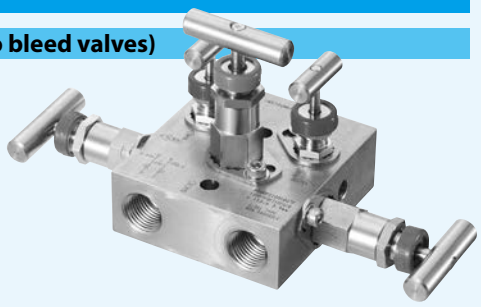
A gasket and two bolts are attached with this product.

Dimensions, Flow and Ordering Numbers

5-Valve Manifolds (Consisit of two block valves, one equalizer valve and two bleed valves)

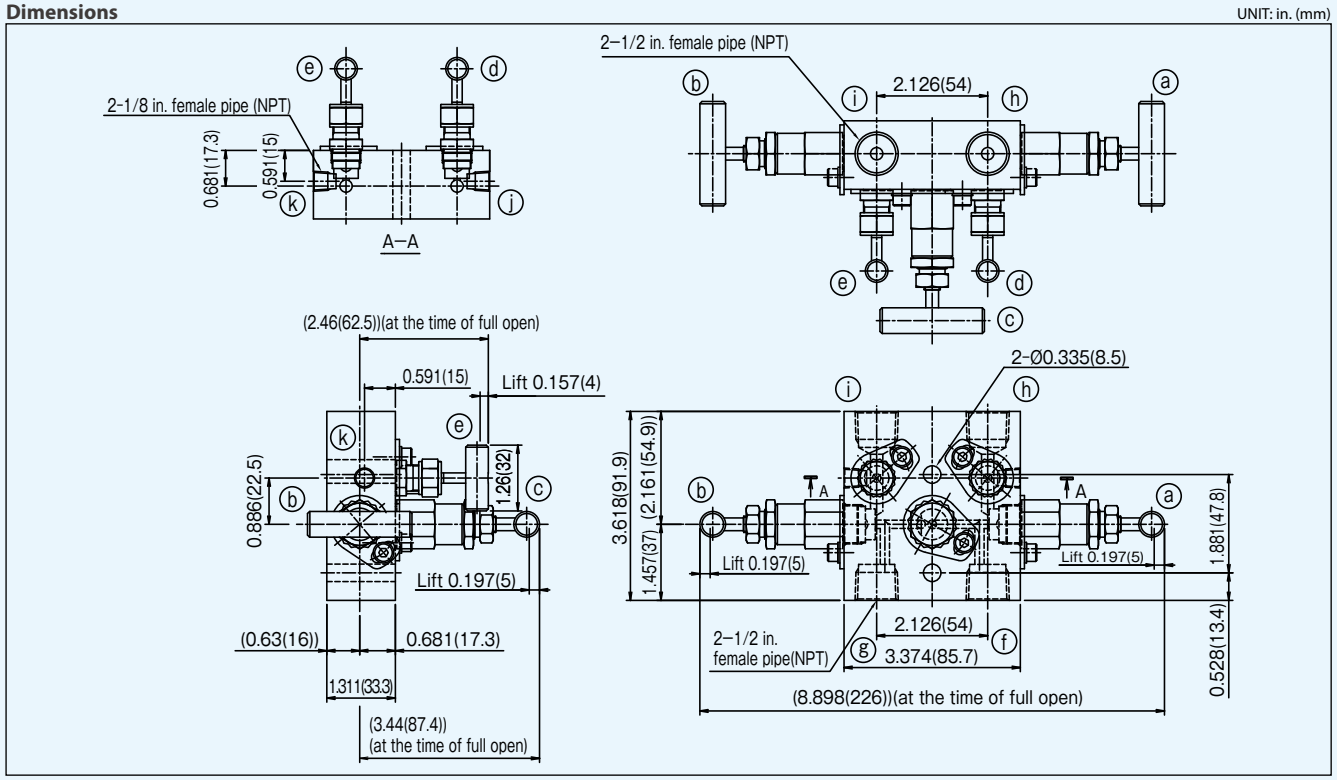
Remote Mounting Type

End Connections of Process Side, Instrument Side: 1/2 in. Female Pipe (NPT)

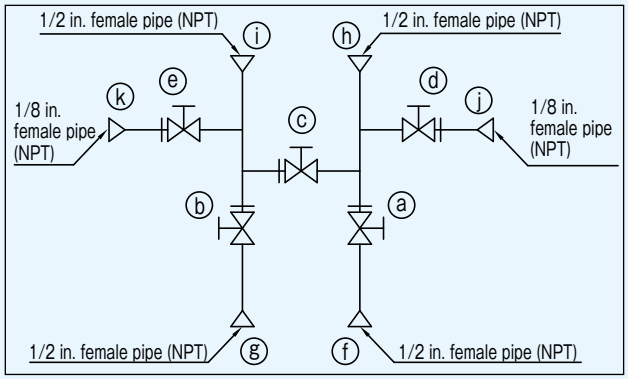


Dimensions

UNIT: in. (mm)



Flow

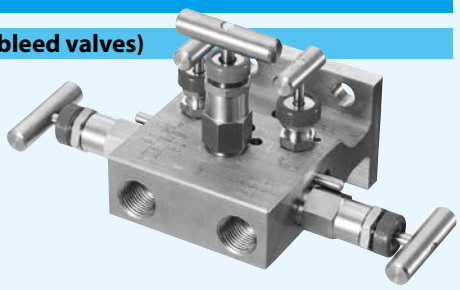


Ordering Number:

- **VUT-141LVDN-AN:**
  Standard (PTFE Packing & no Blind Type)
- **VUT-141LVDN-AN-GR:**
  Graphite Packing Type
- **VUT-141LVDN-AN-BL:**
  with Vent Port Blind Type

Dimensions, Flow and Ordering Numbers

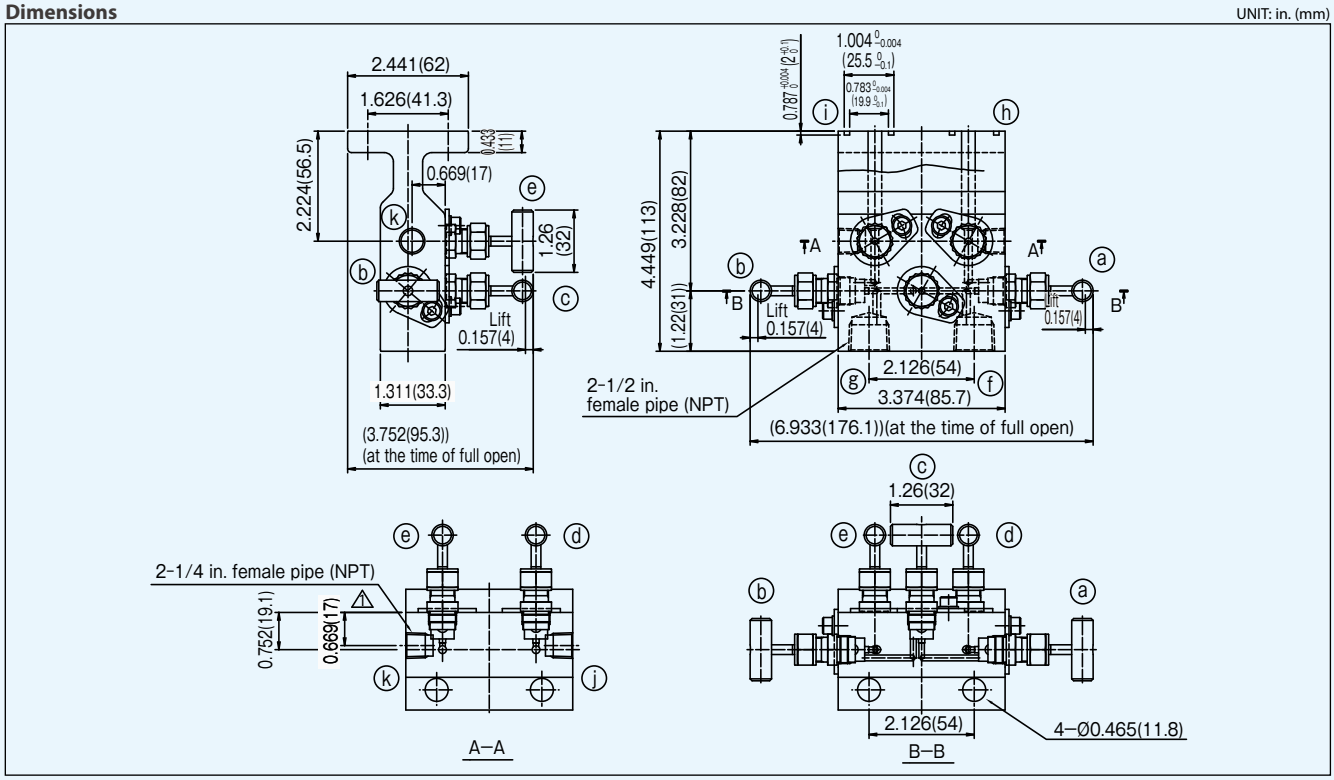
5-Valve Manifolds (Consisit of two block valves, one equalizer valve and two bleed valves)



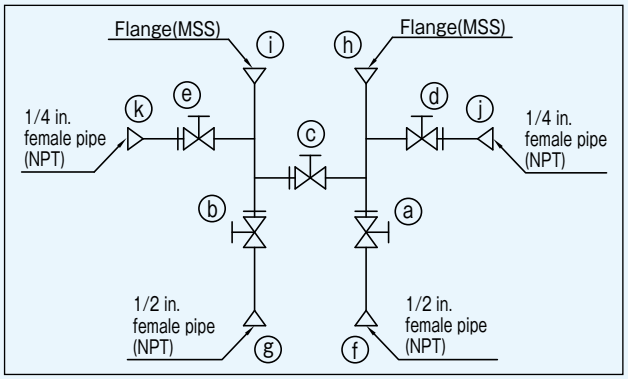
Direct Mounting Type

End Connections of Process Side: 1/2 in. Female Pipe (NPT),
Instrument side: Flange (MSS)

Dimensions UNIT: in. (mm)



Flow



Ordering Number:

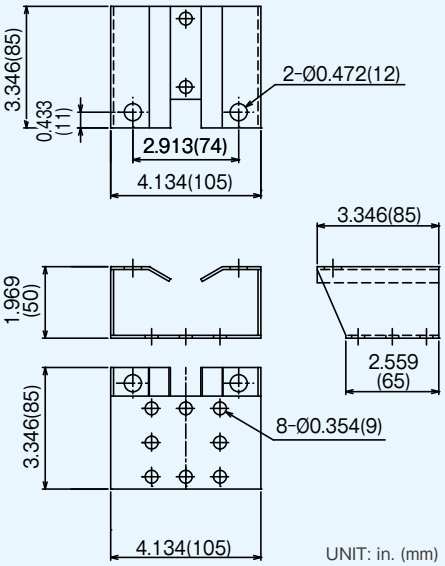
- **VUT-141LVDN × FL-BN-GUU**
  Standard (PTFE Packing & no Blind Type)
- **VUT-141LVDN × FL-BN-GUU-GR:**
  Graphite Packing Type
- **VUT-141LVDN × FL-BN-GUU-BL:**
  with Vent Port Blind Type

Remarks

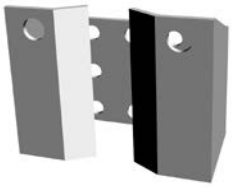
Two gaskets and four bolts are attached with this product.

Option Parts

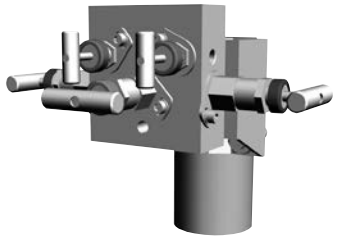
MANIFOLD BRACKET KIT for Remote Type Manifold Valves (apply to 2 inch pipe)



UNIT: in. (mm)



Bracket

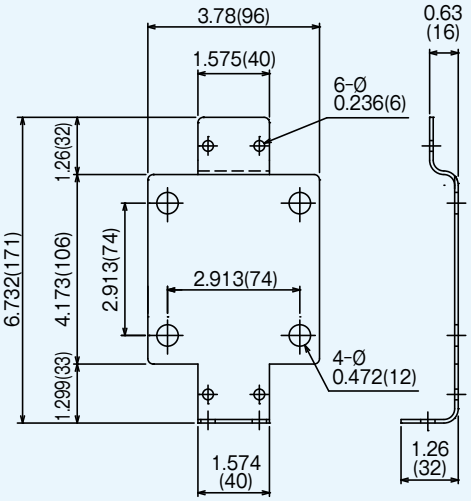


Manifold Valve attached to Bracket

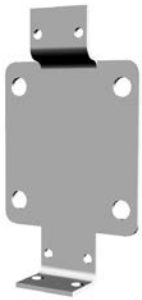
Parts Name	Materials	Q'ty	Remarks
Bracket	SUS304	1	
U-Bolt	SS400	1	MFZn, for 2 In. (M10)
Spring Washer	SS400	2	MFZn, Nominal 10
Hex Nut	SS400	2	MFZn, M10
Hex Bolt	SS400	2	MFZn, M8 x 45
Spring Washer	SS400	2	MFZn, Nominal 8
Hex Nut	SS400	2	MFZn, M8 x 45

The set of a Bracket includes U-Bolt•Spring Washers•Hex Nuts (for Bracket), Hex Bolts•Spring Washers•Hex Nuts(for Valve)

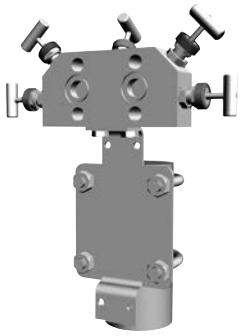
MANIFOLD BRACKET KIT for Direct Mount Type Manifold Valves (-EMC Type) (apply to 2 inch pipe)



UNIT: in. (mm)



Bracket



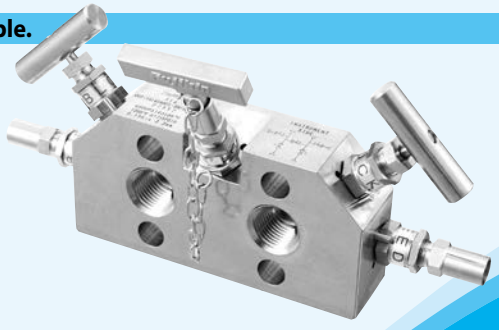
Manifold Valve attached to Bracket

Parts Name	Materials	Q'ty	Remarks
Bracket	SUS304	1	
U-Bolt	SS400	2	MFZn, for 2 In. (M10)
Spring Washer	SS400	4	MFZn, Nominal 10
Hex Nut	SS400	4	MFZn, M10
Hex Bolt	SS400	2	MFZn, M5 x 8
Spring Washer	SS400	2	MFZn, Nominal 8

The set of a Bracket includes U-Bolts•Spring Washers•Hex Nuts (for Bracket), Hex Bolts•Spring Washers

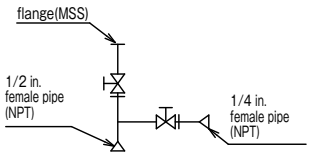
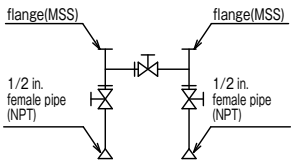
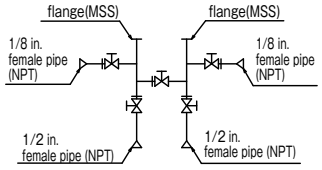
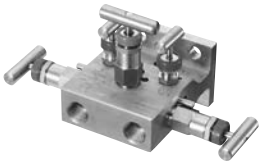
Anti Tamper Handle Type (Small Bonnet Mount Type) is available.

Please remove the special handle from valve at the time of installation.
Please manage to use it only during open/close of valve.



Other Types

Pin Look Types

Types	End Connections		Flow	Appearance
	Process	Instrument		
2-Valve Manifolds (Consists of one block valve and one bleed valve)	1/2 in. female pipe (NPT)	flange (MSS)		
3-Valve Manifolds (Consists of two block valves and one equalizer valve)	1/2 in. female pipe (NPT)	flange (MSS)		
5-Valve Manifolds (Consists of two block valves, one equalizer valve and two bleed valves)	1/2 in. female pipe (NPT)	flange (MSS)		

Ordering Numbers

V U TW − 1 41 L V DN × FL − BN − EMC − GR − BL

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

① Series
V: V®-Series

② Wetted Part (Body) Material
U: Stainless steel
M: Monel

③ Valve Basic Structure
TW: 2-Valve Manifolds
T : 3-Valve Manifolds
(However, in the item of ⑦, when you choose "V", two Vent Valves are added and it is set to 5-Valve Manifolds.)

④ Inlet Connections
1: Thread Type
2: Flange Type

⑤ Design Pressure
41: Design Pressure 6000psig (413bar)

⑥ Bonnet Lock Structure
L: Bonnet; Lock Plate Type (not apply to EMC type)
(Blank) : Bonnet; Pin Lock Type

⑦ with Vent Valve
V: 5-Valve Manifolds (add two vent valves to 3-Valve Manifolds)
(Blank): 3-Valve Manifolds

⑧ Inlet Connections
DN: Nominal Diameter 1/2 in. female pipe (NPT)
EN : 3/4 in. female pipe (NPT)

⑨ Outlet connections (Since various connections are available, please consult us.)
(Blank) : Same as Inlet Connections
XFL : Flange
XBN: Thread Size (refer to ⑦)

⑩ Vent Port Connections (Since various connections are available, please consult us.)
(Blank) : Same as Inlet Connections
AN: Bleed connection; 1/8 in. female pipe (NPT)
BN: Bleed connection for bleed valve; 1/4 in. female pipe (NPT)
DN: 1/2 in. female pipe (NPT)
B : Rc1/4

⑪ Body Form Supplement
(Blank) : Standard Product
EMC: Direct Mount Compact Type
EME: Anti Tamper Handle Type (Small Bonnet Mount Type)
In the case that outlet connection is flange (⑨: XFL) and EME, EMC Type, Body should be Direct Mount Type.

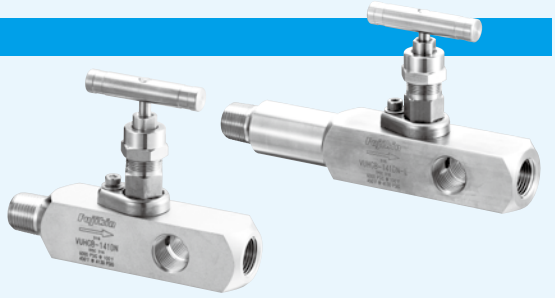
⑫ Packing Material
(Blank) : PTFE Packing (Standard)
GR: Graphite Packing (In the case that outlet connecting is Flange, accessory gasket also should be graphite.)

⑬ Blind
(Blank) : Standard (no Blind)
BL: with Vent Port Blind

Gauge Valves

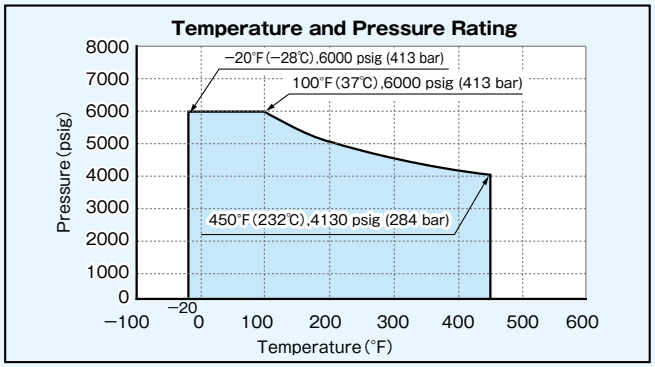
Features

1. Stainless steel construction.
2. Nonrotating ball-tip stem design.
3. Lagging extension body available for insulation clearance.
4. 1/2 and 3/4 in. male to 1/2 in. female pipe (NPT) end connections.
5. 1/2 in. female gauge ports standard.
6. Schedule 160 pipe wall or heavier on valve inlet fitting for strength.
7. Bonnet lock plate standard.



Technical Date

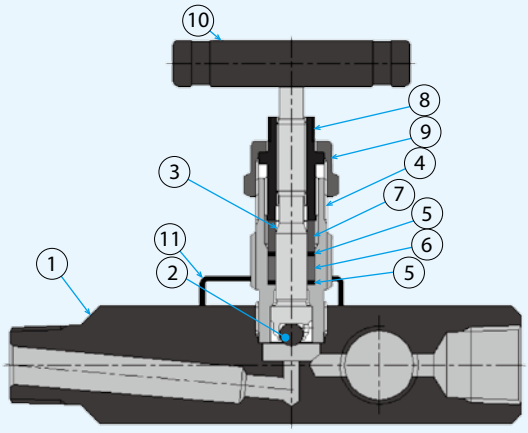
Temperature and Pressure Rating



Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

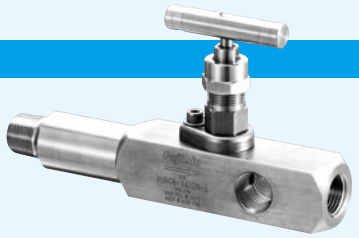
Material of Construction

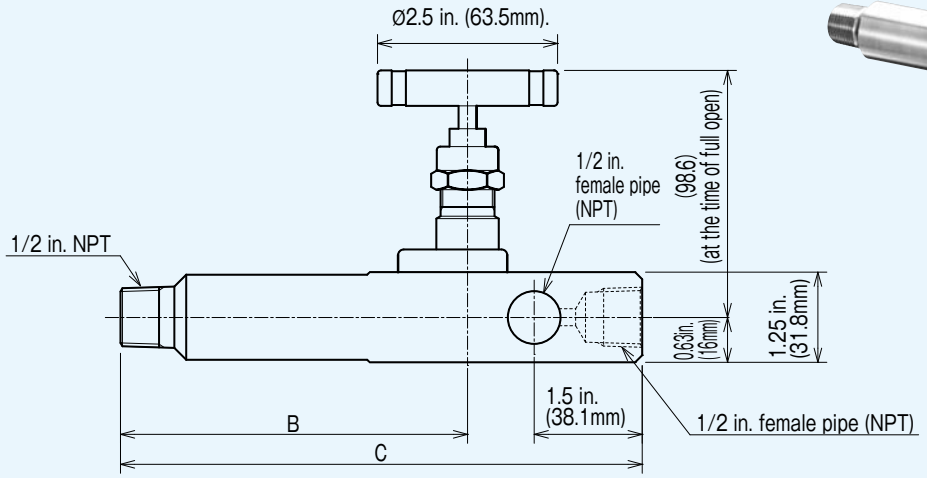


No.	Description		Materials
1	BODY	※	ASTM A479 316
2	BALL	※	ASTM A276 316
3	STEM	※	ASTM A276 316
4	BONNET	※	ASTM A479 316
5	SUPPORT PACKING	※	C-PTFE
6	GLAND PACKING	※	PTFE
7	GLAND		ASTM A276 316
8	PACKING BOLT		ASTM A276 316
9	LOCK NUT		ASTM A276 316
10	HANDLE		ASTM A276 316
11	LOCK PLATE		SUS304

※: Wetted Parts
Cautions: ASTM A276 material may use SUS (ASTM A276 equivalent material).

Dimensions and Ordering Numbers





End Connections	Ordering Numbers	Dimensions in. (mm)		Remarks
		B	C	
1/2 in. female pipe (NPT)	VUHGB-141DN	2.97(75.4)	5.39(137)	std. body type
1/2 in. female pipe (NPT)	VUHGB-141DN-L	4.82(122.4)	7.24(184)	extension body type for insulation clearance ※

※ : Getting ready. Begin to sell it soon.

Manifold Valves Ordering Number Selection

Request for Quotation & Purchase Order
(For attachment)

[ ] of the under within the limit indicates, and as attachment data at the time of of a request for proposal or order, etc., please utilize after copying this page.

V U TW – 1 41 L V DN × FL – BN – EMC – GR – BL
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

① **Series**	V: V-Series
② **Wetted Part (Body) Material**	U: Stainless steel M: Monel
③ **Valve Basic Structure**	TW: 2-Valve Manifolds T : 3-Valve Manifolds (However, in the item of ⑦, when you choose "V", two Vent Valves are added and it is set to 5-Valve Manifolds.)
④ **Inlet Connections**	1: Thread Type 2: Flange Type
⑤ **Design Pressure**	41: Design Pressure 6000psig (413bar)
⑥ **Bonnet Lock Structure**	L: Bonnet; Lock Plate Type (not apply to EMC type) (Blank): Bonnet; Pin Lock Type
⑦ **with Vent Valve**	V: 5-Valve Manifolds (add two vent valves to 3-Valve Manifolds) (Blank): 3-Valve Manifolds
⑧ **Inlet Connections**	DN: Nominal Diameter 1/2 in. female pipe (NPT) EN: 3/4 in. female pipe (NPT)
⑨ **Outlet connections** (Since various connections are available, please consult us.)	(Blank): Same as Inlet Connections XFL: Flange XBN: Thread Size (refer to ⑦)
⑩ **Vent Port Connections** (Since various connections are available, please consult us.)	(Blank): Same as Inlet Connections AN: Bleed connection; 1/8 in. female pipe (NPT) BN: Bleed connection for bleed valve; 1/4 in. female pipe (NPT) DN: 1/2 in. female pipe (NPT) B : Rc1/4
⑪ **Body Form Supplement**	(Blank): Standard Product EMC: Direct Mount Compact Type EME: Anti Tamper Handle Type (Small Bonnet Mount Type) In the case that outlet connection is flange (⑨: XFL)and EME, EMC Type, Body should be Direct Mount Type.
⑫ **Packing Material**	(Blank): PTFE Packing (Standard) GR: Graphite Packing (In the case that outlet connecting is Flange, accessory gasket also should be graphite.)
⑬ **Blind**	(Blank): Standard (no Blind) BL: with Vent Port Blind

Manifold Valves Ordering Number Selection

V [ ] [ ] – [ ] **41** [ ] [ ] [ ] × [ ] – [ ] – [ ] – [ ] – [ ]
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬

Pleease put a check mark "✓" into either following check box [ ].

Pleease indicate quantity either following check box [ ].

[ ] Estimate Request for Quotation — Q'ty [ ] pcs.

[ ] Order — Q'ty [ ] pcs.

1000 psig (68.9 bar) Type (VUBF-96P、VUBFD-96P Type)

Features

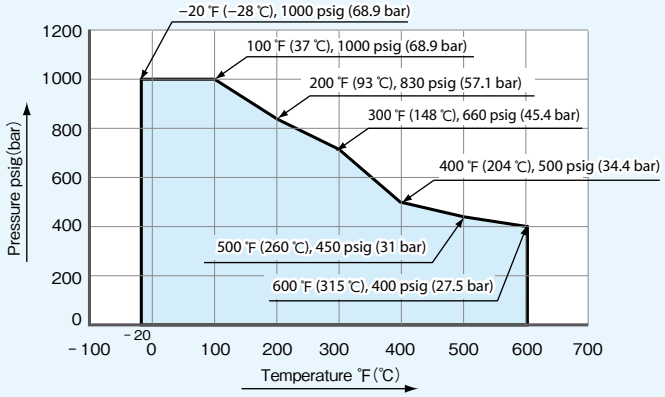
1. Precision-formed metal bellows provides reliable seal to atmosphere.
2. Sealed between body and bellows by gasket.
3. A positve seal is repeatedly possible with nonrotating spherical disk.
   (Metal Seal Type, Soft Seal Type)
4. Panel and bottom mounting.
5. End Connections: V-Lok Tube Fittings 1/4, 3/8, 1/2

Metal Seal Type (VUBF-96P Type)

Technical Data

Temperature and Pressure Rating

Nominal Sizes	1/4	3/8	1/2
Temperature °F (°C)	– 20 (– 28) ～ 600 (315)		
Working Pressure psig (bar)	1000 (68.9)		



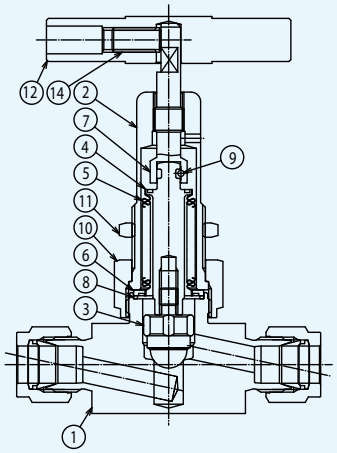
Outside Leakage, Seat Leakage

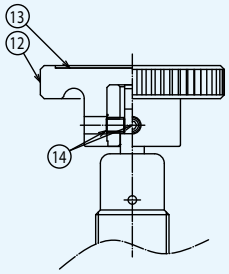
After Pressurise test, we do He leakage test.
We confirm at the time of test that the leakage amount is less than 4.0×10^{-10} Pa•m³/sec. (Vacuum process)

Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

Materials of Construction





Construction of handle part (Nominal Size 1/4)

No.	Description	Materials
1	BODY ※	ASTM A479 316
2	BONNET	ASTM A479 316
3	DISK ※	COBALT - BASED ALLOY + ASTM A479 316
4	STEM(1) ※	ASTM A479 316
5	BELLOWS ※	ASTM A240 321 or AMS5510 TYPE321
6	WELD RING ※	ASTM A479 316
7	STEM(2)	ASTM A582 416 or ASTM A582 410
8	GASKET ※	ASTM A580 316
9	STOP PIN	ASTM A276 304
10	BONNET NUT	ASTM A479 316
11	PANEL NUT	ASTM A276 304 or ASTM A276 316
12	HANDLE	Nom. Size 6.35: PHENOLIC RESIN + ZDC2 Nom. Size 9.52,12.7: ALUMINUM A5056B or A6061B(T6)
13	NAME PLATE(Nominal Size 1/4)	POLYESTER
14	SET SCREW	ASTM A276 304

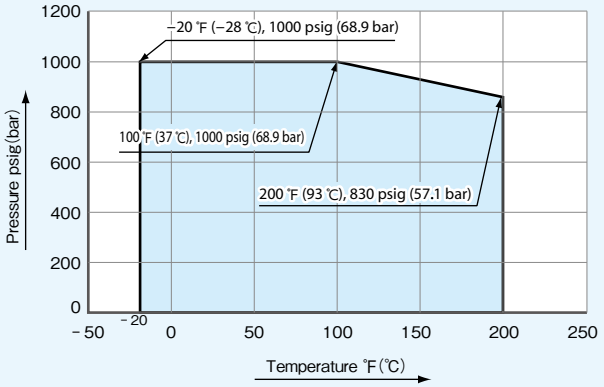
※: Wetted Parts

Soft Seal Type (VUBFD-96P Type)

Technical Data

Temperature and Pressure Rating

Nominal Sizes	1/4	3/8	1/2
Temperature °F (°C)	– 20 (– 28) ~ 200 (93)		
Working Pressure psig (bar)	1000 (68.9)		



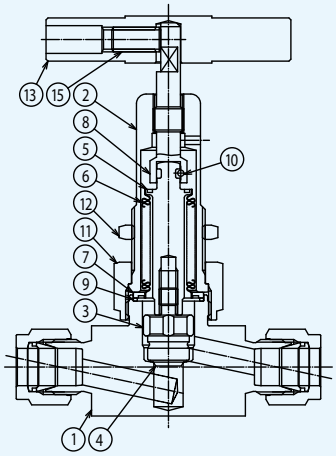
Outside Leakage, Seat Leakage

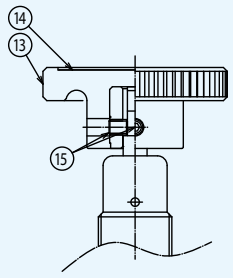
After Pressurise test, we do He leakage test.
We confirm at the time of test that the leakage amount is less than 4.0×10^{-10} Pa•m³/sec. (Vacuum process)

Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

Materials of Construction





Construction of handle part (Nominal Size 1/4)

No.	Description	Materials
1	BODY ※	ASTM A479 316
2	BONNET	ASTM A479 316
3	DISK ※	ASTM A479 316
4	DISK PACKING ※	PCTFE
5	STEM(1) ※	ASTM A479 316
6	BELLOWS ※	ASTM A240 321 or AMS 5510 TYPE 321
7	WELD RING ※	ASTM A479 316
8	STEM(2)	ASTM A582 416 or ASTM A582 410

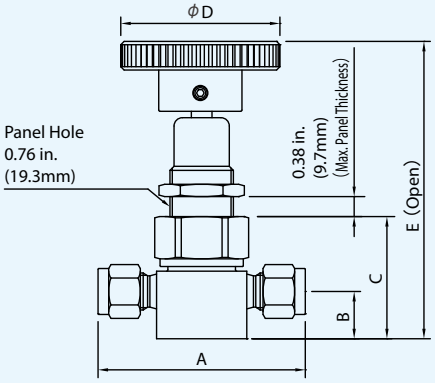
No.	Description	Materials
9	GASKET ※	ASTM A580 316
10	STOP PIN	ASTM A276 304
11	BONNET NUT	ASTM A276 304 or ASTM A276 316
12	PANEL NUT	ASTM A276 316
13	HANDLE	Nom. Size 6.35: PHENOLIC RESIN + ZDC2 Nom. Size 9.52, 12.7: ALUMINUM A5056B or A6061B(T6)
14	NAME PLATE(Size 6.35)	POLYESTER
15	SET SCREW	ASTM A276 304

※: Wetted Parts

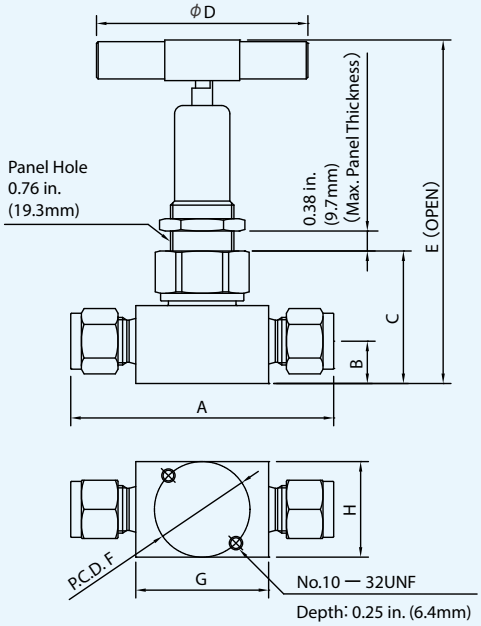
Dimensions and Ordering Numbers

End Connection V-Lok Tube Fitting Type

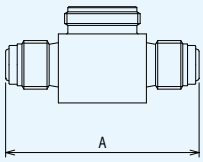
Nominal Size 1/4



Nominal Size 3/8, 1/2



End Connection UJR Tube Fitting Type



End Connections (Inlet/Outlet)	Nominal Diameter	Orifice inch (mm)	Dimensions inch (mm)								Ordering Numbers
			A	B	C	D	E	F	G	H	
V-Lok	1/4	0.16 (4.1)	2.46 (62.5)	0.56 (14.2)	1.45 (36.8)	1.88 (47.8)	3.64 (92.5)	1 (25.4)	1.06 (26.9)	1 (25.4)	VUBF–96P–6.35
											VUBFD–96P–6.35
	3/8	0.3 (7.6)	3.09 (78.5)	0.5 (12.7)	1.57 (39.9)	2.5 (63.5)	4.17 (106)	1.13 (28.7)	1.57 (39.9)	1.13 (28.6)	VUBF–96P–9.52
											VUBFD–96P–9.52
	1/2		3.3 (83.8)								VUBF–96P–12.7
											VUBFD–96P–12.7
UJR	1/4	0.16 (4.1)	2.24 (56.9)	0.44 (11.2)	1.45 (36.8)	1.88 (47.8)	3.64 (92.5)	1 (25.4)	1.02 (25.9)	1 (25.4)	VUBF–76P–6.35 ※
											VUBFD–76P–6.35 ※
	3/8	0.3 (7.6)	3 (76.2)	0.46 (11.7)	1.57 (39.9)	2.5 (63.5)	4.17 (106)	1.13 (28.7)	1.5 (38)	1.13 (28.7)	VUBF–76P–9.52 ※
											VUBFD–76P–9.52 ※

※ : Getting ready. Begin to sell it soon.

1000 psig (68.9 bar) Compact Type (VUBFH-96P Type)

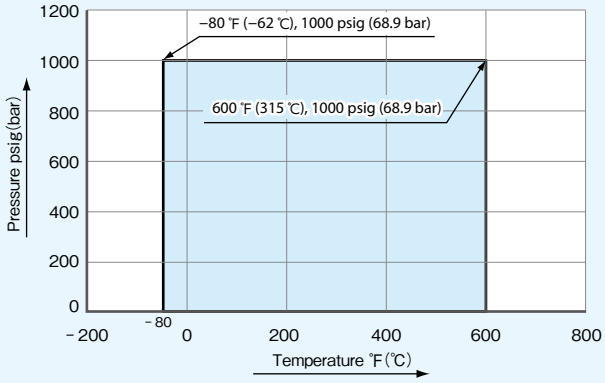
Features

1. Precision-formed metal bellows provides reliable seal to atmosphere.
2. Welded bonnet to body provides perfect seal to atmosphere.
3. A positive seal is repeatedly possible with nonrotating spherical disk.
4. Panel and bottom mounting.
5. End Connections: VCR-Lok Tube Fittings 1/16, 1/4

Technical Data

Temperature and Pressure Rating

Size	1/16	1/4
Temperature °F (°C)	– 80 (– 62) ~ 600 (315)	
Working Pressure psig (bar)	1000 (68.9)	



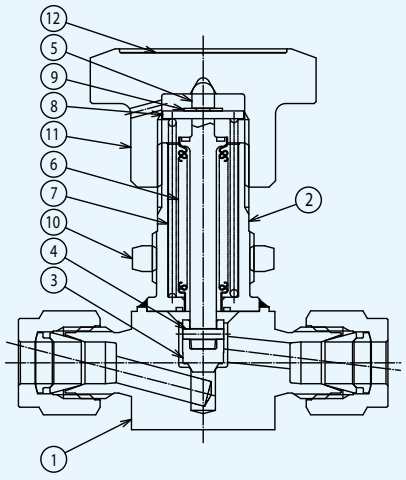
Outside Leakage, Seat Leakage

After Pressurise test, we do He leakage test.
We confirm at the time of test that the leakage amount is less than 4.0×10^{-10} Pa•m³/sec. (Vacuum process)

Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

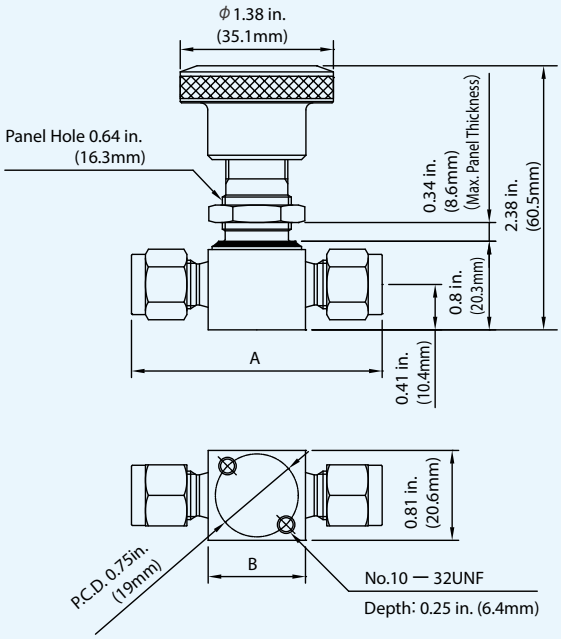
Materials of Construction



No.	Description		Materials
1	BODY	※	ASTM A479 316
2	BONNET	※	ASTM A479 316
3	DISK	※	S17400 or ASTM A276 630
4	STOP PIN	※	SUS304
5	STEM	※	ASTM A479 316
6	BELLOWS	※	ASTM A240 321 or AMS 5510 TYPE 321
7	SPRING		S17700 or ASTM A276 631
8	WASHER		ASTM A240 316
9	E - RING		ASTM A276 304
10	PANEL NUT		ASTM A276 304 or ASTM A479 316
11	HANDLE		ALUMINUM A5056B or A6061B(T6)
12	NAME PLATE		TETORON

※: Wetted Parts

Dimensions and Ordering Numbers



End Connections	Nominal Sizes	Orifice inch (mm)	Dimensions inch (mm)		Ordering Numbers
Inlet / Outlet			A	B	
VCR	1/8	0.15 (3.8)	2.09 (53.1)	0.88 (22.3)	VUBFH - 96P - 3.2
	1/4		2.27 (57.7)		VUBFH - 96P - 6.35

700 psig (48.2 bar) Metering Needle Bellows Valves (VUBFN-94MP Type)

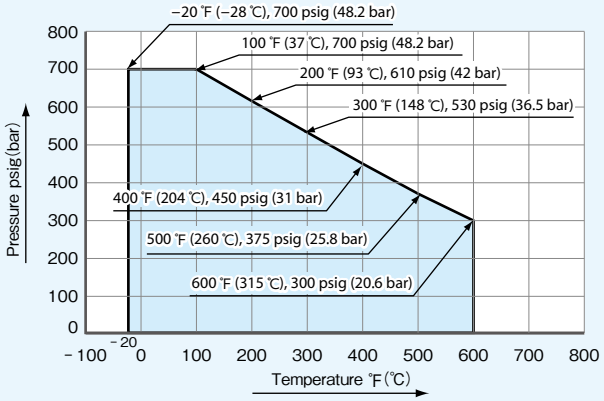
Features

1. Minutes flow control type disk.
2. Micrometer handles provide precise flow control repeatedly.
3. Precision- formed metal bellows provides reliable seal to atmosphere.
4. Valves open to maximum flow in six turns.
5. Slotted handle tops enable adjustments with screwdriver.
6. Sealed between body and bellows by gaskets.
7. Panel and bottom mounting.
8. End Connection: **V-Lok** Tube Fitting 1/4

Technical Data

Temperature and Pressure Rating

Nominal Size	1/4
Temperature °F(℃)	– 20 (– 28) ～ 600 (315)
Working Pressure psig (bar)	700 (48.2)



Outside Leakage, Seat Leakage

After Pressurise test, we do He leakage test.
We confirm at the time of test that the leakage amount is less than 4.0×10^{-10} Pa•㎥/sec. (Vacuum process)

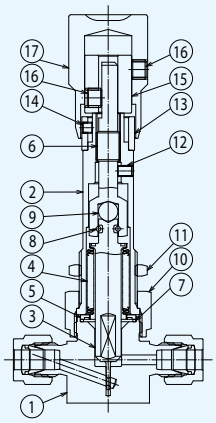
Flow Rate at the shut time

We adjust the flow rate of 9.86psig (0.68bar) Nitrogen gas 10-15㎤/min. (At the shipment time)

Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

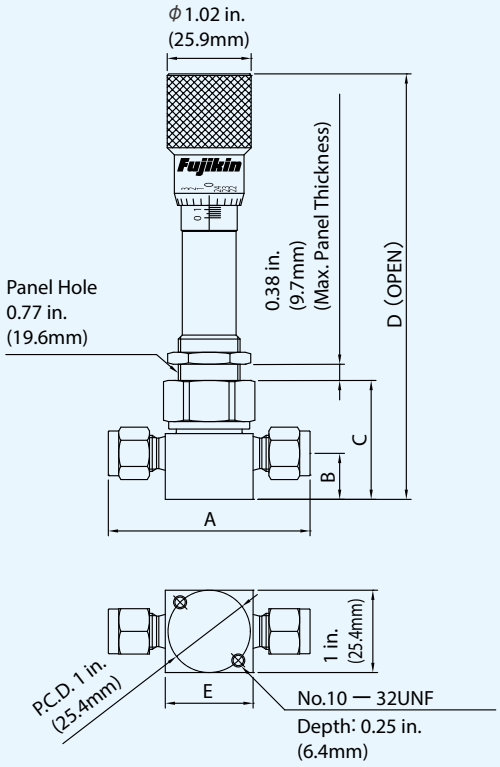
Materials of Construction



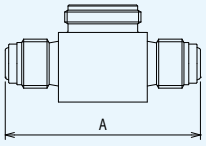
No.	Description	Materials
1	BODY ※	ASTM A479 316
2	BONNET	ASTM A479 316
3	DISK ※	ASTM A479 316
4	BELLOWS ※	ASTM A240 321 or AMS 5510 TYPE 321
5	WELD RING ※	ASTM A479 316
6	STEM	ASTM A582 416 or ASTM A582 410
7	GASKET ※	ASTM A580 316
8	STOP PIN	SUS304
9	BALL	SUS420C
10	BONNET NUT	ASTM A479 316
11	PANEL NUT	ASTM A276 304 or ASTM A276 316
12	SET SCREW	ASTM A276 304
13	INDICATOR SCALE	ASTM A582 303
14	SET SCREW	ASTM A276 304
15	BUSH	ASTM A582 303
16	SET SCREW	ASTM A276 304
17	HANDLE	ASTM A582 313

※: Wetted Parts

Dimensions and Ordering Numbers



V®-Lok Type



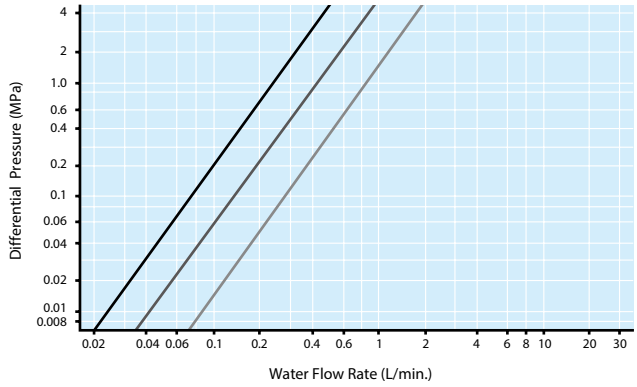
UJR Type

End Connections	Nominal Diameter	Orifice inch (mm)	Dimensions inch (mm)					Ordering Numbers
			A	B	C	D	E	
V-Lok	1/4	0.055 (1.4)	2.46 (62.5)	0.56 (14.2)	1.45 (36.8)	5.24 (133)	0.07 (27.1)	VUBFN–94MP–6.35
UJR	1/4	0.055 (1.4)	2.24 (56.9)	0.44 (11.2)	1.45 (36.8)	5.16 (131)	1.02 (25.9)	VUBFN–74MP–6.35

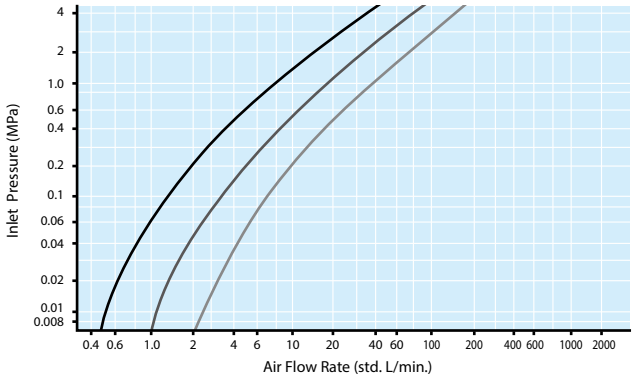
Flow Rate Curve & Cv Value

Flow Rate Curve

Fluid: Water

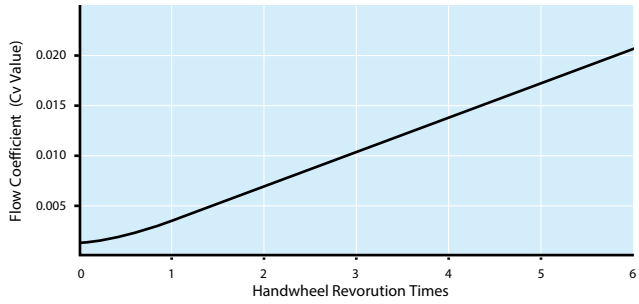


Fluid: Air



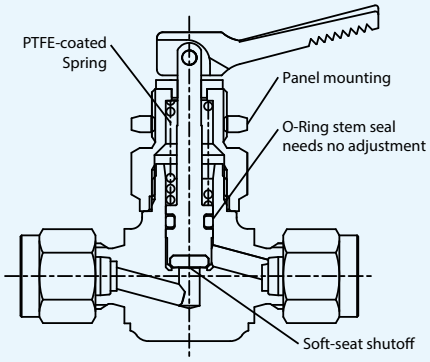
Cv Value

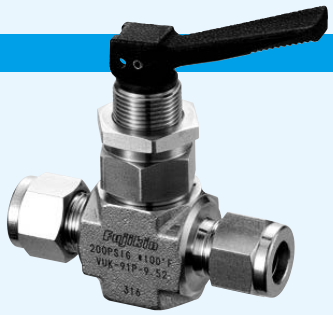
Handwheel Revorution Times & Flow Coefficient (Cv Value)



Features

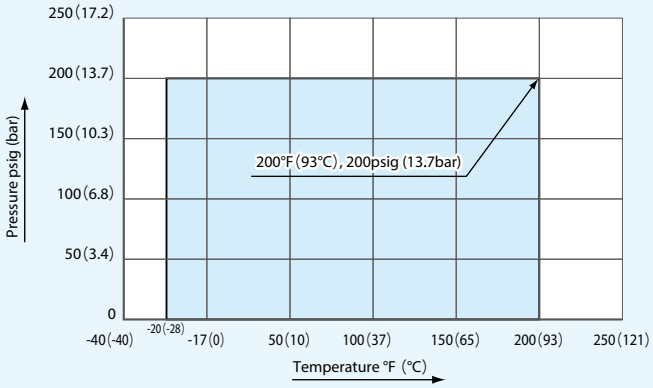
1. Compact Design
2. Open and Close quickly
3. Panel Mounting
4. End Connections V-Lok Tube Fittings





Technical Data

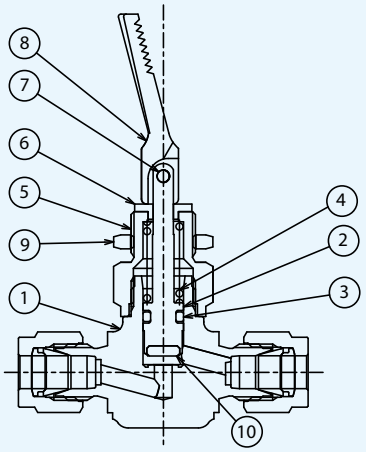
Temperature and Pressure Rating



Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

Materials of Construction

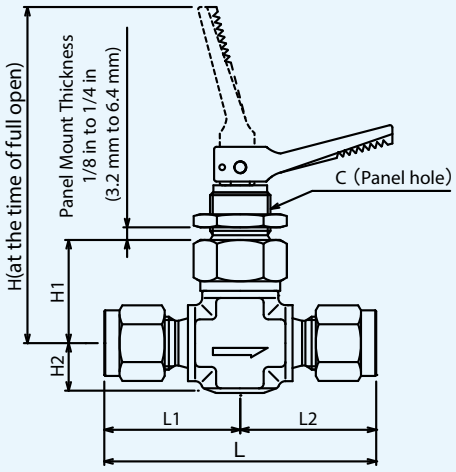


No.	Description		Material
1	BODY	※	ASTM A182 316
2	STEM	※	ASTM A276 316
3	O-RING	※	FKM
4	SPRING		SUS631J1
5	PACKING NUT		ASTM A276 316
6	WASHER		NYLON
7	ROLL PIN		SUS304
8	HANDLE		NYLON
9	PANEL NUT		ASTM A276 304 or ASTM A276 316
10	STEM TIP	※	PTFE
Lubricants			Fluorinated-based

※: Wetted Parts

Dimensions

Globe Type



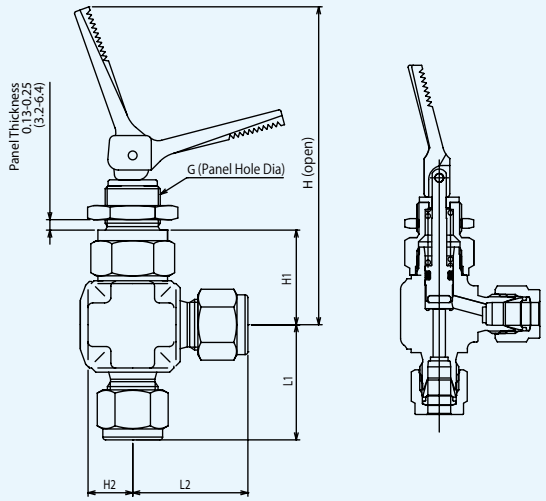
Connection Types	Nominal Diameter inch (mm)	Operating Pressure psi (bar)	Olifice inch (mm)	Dimensions inch (mm)							Ordering Numbers	
				L	L1	L2	H	H1	H2	G		
VCR-Lok	1/4 (6.35)	200 (137)	0.126 (3.2)	2.26 (57.4)	1.13 (28.7)		2.81 (71.4)	0.68 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–91P–6.35	
	3/8 (9.52)		0.252 (6.4)	2.58 (65.5)	1.29 (32.8)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–91P–9.52	
	1/2 (12.7)			2.8 (71.1)	1.4 (35.6)						VUK–91P–12.7	
	– (6)		0.126 (3.2)	2.26 (57.4)	1.13 (28.7)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–91P–6	
	– (8)			2.22 (56.4)	1.11 (28.2)						VUK–91P–8	
	– (10)		0.252 (6.4)	2.72 (69.1)	1.36 (34.5)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–91P–10	
	– (12)			2.92 (74.2)	1.46 (37.1)						VUK–91P–12	※
Rc	1/8		0.126 (3.2)	1.63 (41.4)	0.81 (20.6)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–11PA	※
	1/4		0.252 (6.4)	2.12 (53.8)	1.06 (26.9)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–11PB	※
R	1/8		0.126 (3.2)	1.72 (43.7)	0.86 (21.8)		2.83 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–11PAM	※
	1/4			1.96 (49.8)	0.98 (24.9)						VUK–11PBM	※
	3/8		0.252 (6.4)	2.25 (57.2)	1.12 (28.4)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–11PCM	※
Female NPT	1/8		0.126 (3.2)	1.63 (41.4)	0.81 (20.6)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–11PAN	※
	1/4		0.252 (6.4)	2.12 (53.8)	1.06 (26.9)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–11PBN	※
Male NPT	1/8		0.126 (3.2)	1.72 (43.7)	0.86 (21.8)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–11PANM	※
	1/4			1.96 (49.8)	0.98 (24.9)						VUK–11PBNM	※
	3/8		0.252 (6.4)	2.25 (57.2)	1.12 (28.4)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–11PCNM	※

※ : Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Dimensions

Angle Type



Connection Types	Nominal Diameter inch (mm)	Operating Pressure psi (bar)	Olifice inch (mm)	Dimensions inch (mm)						Ordering Numbers
				L1	L2	H	H1	H2	G	
V-Lok	1/4 (–)	200 (137)	0.13 (3.2)	1.13 (28.7)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–01P–6.35 ※
	3/8 (–)		0.25 (6.4)	1.29 (32.8)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–01P–9.52 ※
	1/2 (–)			1.4 (35.6)						VUK–01P–12.7 ※
	– (6)		0.13 (3.2)	1.13 (28.7)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–01P–6 ※
	– (8)			1.11 (28.2)						VUK–01P–8 ※
	– (10)		0.25 (6.4)	1.36 (34.5)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–01P–10 ※
	– (12)			1.46 (37.1)						VUK–01P–12 ※
Rc	1/8		0.13 (3.2)	0.81 (20.6)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–31PA ※
	1/4		0.25 (6.4)	1.06 (26.9)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–31PB ※
R	1/8		0.13 (3.2)	0.86 (21.8)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–31PAM ※
	1/4			0.98 (24.9)						VUK–31PBM ※
	3/8		0.25 (6.4)	1.12 (28.4)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–31PCM ※
Female NPT	1/8		0.13 (3.2)	0.81 (20.6)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–31PAN ※
	1/4		0.25 (6.4)	1.06 (26.9)		90.4	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–31PBN ※
Male NPT	1/8		0.13 (3.2)	0.86 (21.8)		2.81 (71.4)	0.86 (21.8)	0.37 (9.5)	0.53 (13.5)	VUK–31PANM ※
	1/4			0.98 (24.9)						VUK–31PBNM ※
	3/8		0.25 (6.4)	1.12 (28.4)		3.56 (90.4)	1.06 (26.9)	0.5 (12.7)	0.66 (16.8)	VUK–31PCNM ※

※ : Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Ordering Information

VUK — 91PA — 6.35
①②③ ④⑤⑥⑦ ⑧

① Valve Series

② Body Material
Stainless Steel

③ Valve Type
Toggle Valves

④ End Connections
0 : VCR-Lok Type (Angle Type) ※
1 : Thread Type (Globe Type) ※
3 : Thread Type (Angle Type) ※
9 : VCR-Lok Type (Globe Type)

⑤ Working Pressure
200psig（1.37 bar）

⑥ Panel Nut

⑦ Connection1
A : Rc1/8 ※
B : Rc1/4 ※
Blank : VCR-Lok Type

⑧ Connection Sizes
Blank : Thread Type
6 : VCR-Lok 6
8 : VCR-Lok 8
10 : VCR-Lok 10
12 : VCR-Lok 12 ※
6.35 : VCR-Lok 1/4
9.52 : VCR-Lok 3/8
12.7 : VCR-Lok 1/2

※ : Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

Features

1. Service up to 6000 psig (413 bar)
2. By 8 kinds of springs for Nominal Size 1/4, possible to set the cracking pressure for your request
3. By 3 kinds of springs for Nominal Size 1/2, possible to set the cracking pressure for your request

Technical Data

Working Pressure

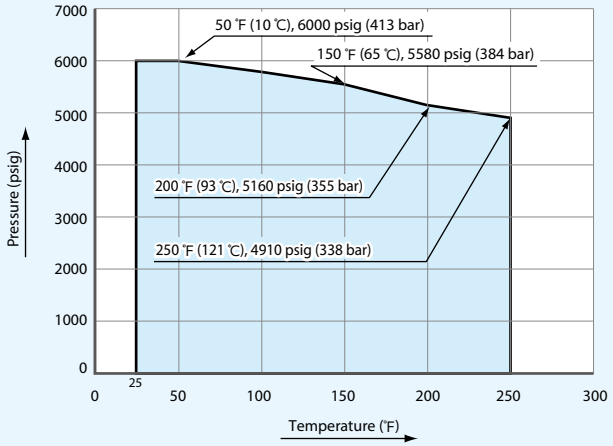
	Nominal Sizes inch(mm)	
	1/4 (6.35)	1/2 (12.7)
Working pressure at 70 °F (20 °C)	6000 psig (413 bar): up to 8000 psig (551 bar) during relief	6000 psig (413 bar)
Set Pressure ※1	50 to 6000 psig (3.4 to 413 bar)	50 to 1500 psig (3.4 to 103 bar)
Outlet pressure ※2	1500 psig (103 bar)	2500 psig (172 bar)
Seat Material	FKM, Chloroprene Rubber, Kalrez®	FKM, Chloroprene Rubber

※ 1: Please confirm the maximum setting pressure in each temperature from the Temperature and Pressure Rating. The pressure-temperature ratings are basd upon laboratory testing to **ensure that the cracking pressure (※ 3) dose not deviate by more than 20 % from the Initial room-temperature set pressure.**
※ 2: Outlet pressure should not exceed Inlet pressure.
※ 3: Cracking pressure means the inlet pressure at the time of showing the indication of the flow starting. The flow starting indicates the flow level that bubbles are generated continuously from outlet piping in the water, when pressurizing from inlet piping.

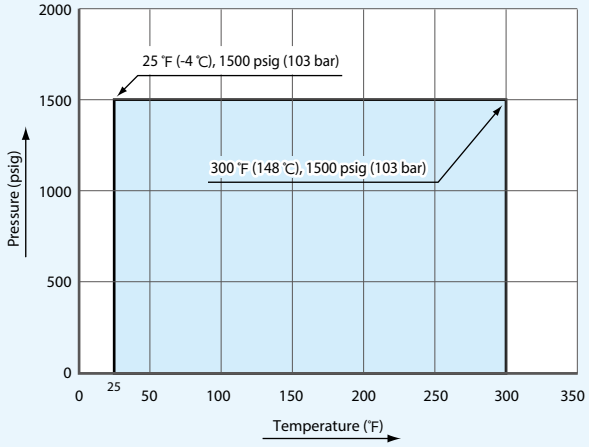
Temperature and Pressure Rating

Seat Materials: FKM

Nominal Size: 1/4 in. (6.35)

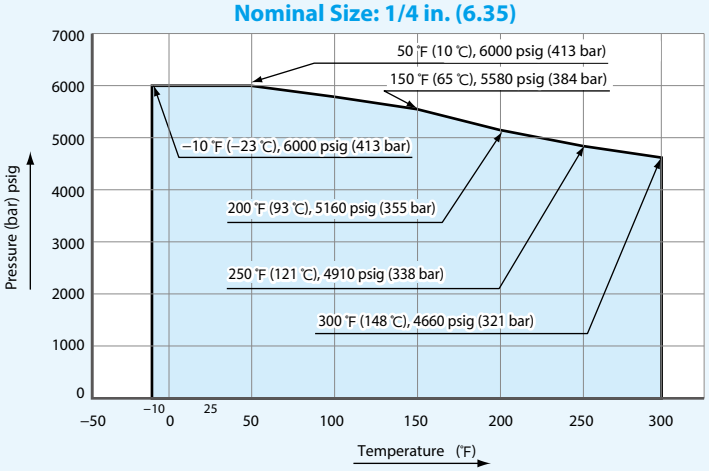


Nominal Size: 1/2 in. (12.7)

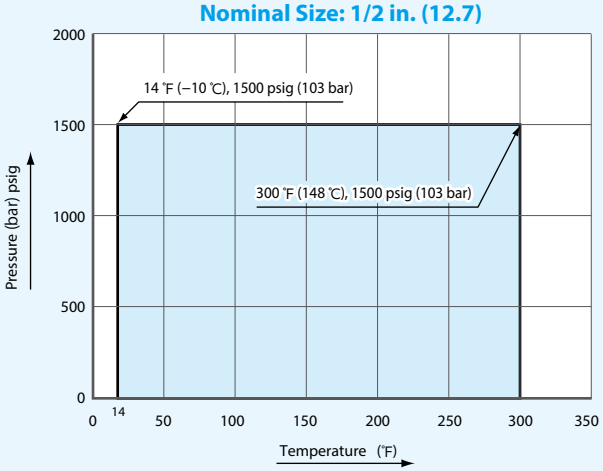


Seat Material: Chloroprene Rubber

Nominal Size: 1/4 in. (6.35)



Nominal Size: 1/2 in. (12.7)



Note: If the end connection is **V-Lok** type, the working pressure may be low depending on the tube used. For details, please refer to 1-1, 1-2 in the table of P12.

Note : Materials and dimensions are subject to change without notice.

Applicable Fluid

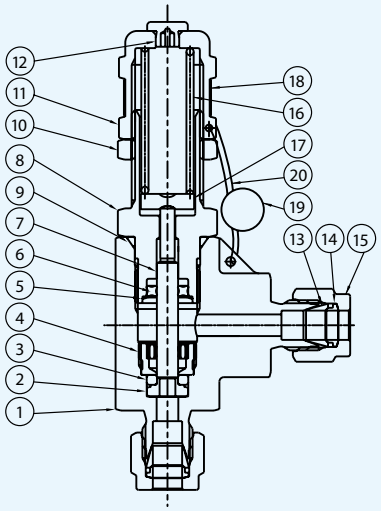
Air, Nitrogen gas, Inert gas like Helium, and non-corrosive gas and Liquid.

Attention and asking in selection

1. The spring isn't built in the valve, so please order the spring kit separately. (Prease refer to the P.176 "Ordering Information".)
2. This product opens gradually as the pressure increases. There is no designated capacity rating at a given pressure (accumulation), therefore, the product does not confirm to ASME standard or any other standards.
3. A higher relief pressure than the set pressure may be required for opening the product initially, when the product is not in use for a long period of time.
4. This product is a relief valve, therefore, do not use it as a safety valve.

Materials of Construction

Nominal size: 1/4 in. (6.35)

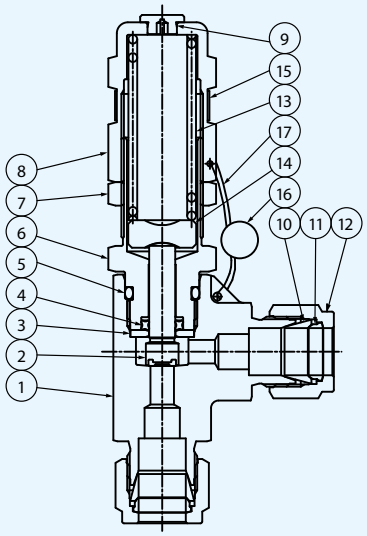


No.	Description		Materials	
1	BODY	※ 1	ASTM A182 F316	
2	INSERT	※ 1	ASTM A479 316	
3	O-RING	※ 1	FKM	※ 3
4	SEAT RETAINER	※ 1	ASTM A479 316	
5	RETAINER	※ 1	SUS304	
6	X-RING	※ 1	FKM	※ 3
7	STEM	※ 1	ASTM A479 316	
8	BONNET	※ 1	ASTM A479 316	
9	O-RING	※ 1	FKM	※ 3
10	LOCK NUT		ASTM A276 316	

No.	Description		Materials
11	CAP		ASTM A479 316
12	PLUG		NYLON6
13	FRONT RING	※ 1	ASTM A276 316
14	BACK RING	※ 1	ASTM A276 316
15	NUT		ASTM A276 316
16	SPRING	※ 2	SUS631
17	SPRING SUPPORT	※ 2	ASTM A276 316
18	LABEL	※ 2	PET
19	CORD SEAL	※ 2	Pb
20	WIRE	※ 2	SUS304-W1

※ 1: Wetted Part
※ 2: Parts of No.16-20 aren't built in the valve. Please order the spring kit of another sales separately. (Prease refer to P.176 "Ordering Information".)
※ 3: Available Chloroprene Rubber, Kalrez® for option.

Nominal size: 1/2 in. (12.7)



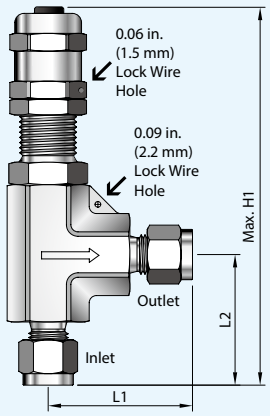
No.	Description		Materials	
1	BODY	※ 1	ASTM A182 F316	
2	STEM	※ 1	ASTM A479 316+FKM	
3	RETAINER	※ 1	ASTM A479 316	
4	X-RING	※ 1	FKM	※ 3
5	O-RING	※ 1	FKM	※ 3
6	BONNET	※ 1	ASTM A479 316	
7	LOCK NUT		ASTM A276 316	
8	CAP		ASTM A479 316	
9	PLUG		NYLON 6	

No.	Description		Materials
10	FRONT RING	※ 1	ASTM A276 316
11	BACK RING	※ 1	ASTM A276 316
12	NUT		ASTM A276 316
13	SPRING	※ 2	SUS631
14	SPRING SUPPORT	※ 2	ASTM A276 316
15	LABEL	※ 2	PET
16	CORD SEAL	※ 2	Pb
17	WIRE	※ 2	SUS304-W1

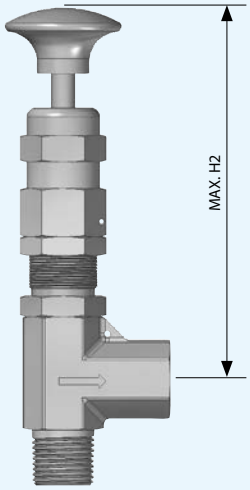
※ 1: Wetted Part
※ 2: Parts of No.13-17 aren't built in the valve. Please order the spring kit of another sales separately. (Prease refer to P.176 "Ordering Information".)
※ 3: Available Chloroprene Rubber, Kalrez® for option.

Dimensions

Standard Type



with Pressure Relief Handle Type



Nominal Size: 1/4 Type

End Connection Inlet/Outlet	Nominal Sizes	Working Pressure psig (bar)	Orifice inch (mm)	Dimensions inch (mm)				Ordering Numbers
				L1	L2	H	H2	
VCR-Lok	1/4 (6.35)	6000 (413)	0.14 (3.6)	1.6 (40.6)	1.44 (36.6)	4.13 (105)	4.09 (104)	VURF-041L-6.35
NPT ※	1/4			1.17 (29.7)	1.19 (30.2)	3.89 (98.8)		VURF-341LBNM×BNF

Nominal Size: 1/2 Type

End Connection Inlet/Outlet	Nominal Sizes	Working Pressure psig (bar)	Orifice inch (mm)	Dimensions inch (mm)				Ordering Numbers
				L1	L2	H	H2	
VCR-Lok	1/2 (12.7)	6000 (413)	0.252 (6.4)	1.83 (46.5)	1.83 (46.5)	5.91 (150)	5.35 (136)	VURF-041L-12.7
NPT ※	1/2			1.43 (36.3)	1.43 (36.3)	5.51 (140)		VURF-341LDNM×DNF

※: Inlet: Male, Outlet: Femalea

Ordering Information

Relief Valves

VURF — 041L — 6.35 — CR — HA

① ② ③ — ④ ⑤ ⑥ — ⑦ — ⑧ — ⑨

Spring kit

Set Pressure psig(bar)	Spring Color	Ordering Numbers
Nominal Sizes 1/4 in.		
50-350 psig (3.4-24.1bar)	Blue	SK-VURF-6.35-A
350-750 psig (24.1-51.7bar)	Yellow	SK-VURF-6.35-B
750-1500 psig (51.7-103bar)	Purple	SK-VURF-6.35-C
1500-2250 psig (103-155bar)	Orange	SK-VURF-6.35-D
2250-3000 psig (155-206bar)	Brown	SK-VURF-6.35-E
3000-4000 psig (206-275bar)	White	SK-VURF-6.35-F
4000-5000 psig (275-344bar)	Red	SK-VURF-6.35-G
5000-6000 psig (344-413bar)	Green	SK-VURF-6.35-H
Nominal Sizes 1/2 in.		
50-350 psig (3.4-24.1bar)	Blue	SK-VURF-12.7-A
350-750 psig (24.1-51.7bar)	Yellow	SK-VURF-12.7-B
750-1500 psig (51.7-103bar)	Purple	SK-VURF-12.7-C

Factory-Set Relief Valves

Relief valves are available with spings factory-set to a special set pressure.
Valves are set, tested locked, and stuck a label with the set pressure.
Inspection certificate is also attached.

To order, add the alphabet A–H of Ordering Numbers whose includes the desired set pressure to the valve ordering number; specify the desired set pressure.
Example: VURF–041L–6.35–A

Manual Override Handle Kits

A manual override handle opens the valve without changing the set pressure.

kits contain handle, pull rod, spring support, and instructions. To order, select the desired kit ordering number.

Nominal Sizes	Ordering Numbers	Applicable Spring kit (Ordering Number at the end)
1/4 (6.35)	HK-VURF-6.35	A, B, C
1/2 (12.7)	HK-VURF-12.7	A

① Valve Series

② Body Material
Stainless Steel

③ Valve Type
Relief Valves

④ End Connections
VCR-Lok, Angle Type

⑤ Working Pressure
6000 psig (413 bar)

⑥ Lock Nut

⑦ Connection Sizes
6.35 : VCR-Lok 1/4 in.
12.7 : VCR-Lok 1/2 in.
BNM × BNF : 1/4 in. (NPT)
Inlet: Male Pipe
Outlet: Female Pipe
DNM × DNF: 1/2 in. (NPT)
Inlet: Male Pipe
Outlet: Female Pipe

⑧ Seal Material
Blank : FKM (Standard)
CR : Chloroprene Rubber

⑨ Blank : Standard
HA : with Pressure Relief Handle Type

Note : Materials and dimensions are subject to change without notice.

Features

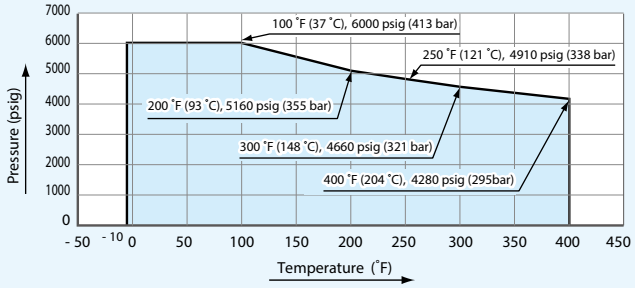
Fixed Cracking Pressures

From 1/3 to 25 psi (0.03 to 1.8 bar) (Standard: 1 psig)

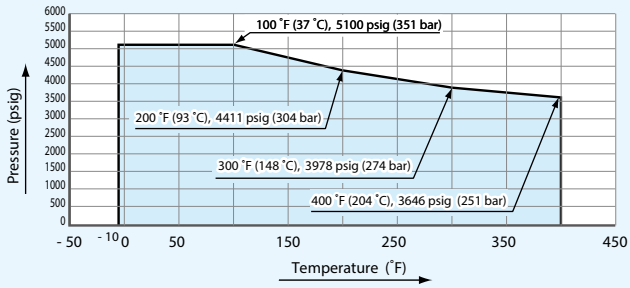
Technical Data

Temperature and Pressure Rating

End Connections: VCR-Lok, Rc1/4



End Connections: Rc1/2



Note: If the end connection is VCR-Lok type, the working pressure may be low depending on the tube used.
For details, please refer to 1-1, 1-2 in the table of P12.

Cracking and Reseal Pressures at 70 °F (20 °C)

Nominal Cracking Pressure psig (bar)	Cracking Pressure Range psig (bar) ※1	Reseal Pressure psig (bar) ※2
1/3 (0.03)	Up to 3 (0.21)	Up to 6 (0.42) back pressure
1 (0.07)	Up to 4 (0.28)	Up to 5 (0.35) back pressure
5 (0.35)	3 to 9 (0.21 to 0.63)	Up to 2 (0.14) back pressure
10 (0.69)	7 to 15 (0.49 to 1.1)	3 (0.21) or more upstream pressure
25 (1.8)	20 to 30 (1.4 to 2.1)	17 (1.2) or more upstream pressure

※1: Inlet pressure at the beginning of flow
The beginning of flow refers to a flow that produces continuous bubbles from the outlet side when the outlet piping is placed in water and pressurized from the inlet side.

※2: Pressure when the flow is no longer confirmed.
[Claking pressure (nominal): 0.003 to 0.035 MPa]
Reverse pressure according to cracking pressure is required for the seal of the valve seat, respectively.
Reverse pressure is the pressure obtained by subtracting the inlet pressure from the outlet pressure.
[Clacking pressure (nominal): 0.069 to 0.18 MPa]
If the inlet pressure falls below the value shown in the table, the valve seat is resealed.

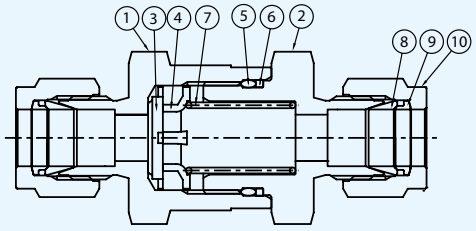
Applicable Fluid

Air, Nitrogen gas, Inert gas like Helium, and non - corrosive gas and liquid.

Attention and asking in selection

1. For valves not actuated for a period of time, initial cracking pressure may be higher than the set cracking pressure.
2. In general Check Valves are used for only direction control of flow. Please don't use Check Valves for ON - OFF Valves and Relife Valves.

Materials of Construction



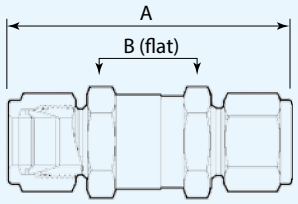
No.	Description		Materials
1	BODY1	※	ASTM A479 316
2	BODY2	※	ASTM A479 316
3	POPPET	※	SUS 316L + FKM
4	POPPET STOP	※	ASTM A276 316
5	O-RING	※	FKM

No.	Description		Materials
6	BACKUP RING		PTFE
7	SPRING	※	SUS316
8	FRONT RING	※	ASTM A276 316
9	BACK RING	※	ASTM A276 316
10	NUT		ASTM A276 316

※: Wetted Part

Note : Materials and dimensions are subject to change without notice.

Dimensions



End Connections	Nominal Sizes inch (mm)	Working Pressure psig (bar)	Dimensions inch (mm) A	Dimensions inch (mm) B	Cracking Pressure psig (bar)	Ordering Numbers	
V-Lok	1/4 (6.35)	6000 (413)	2.43 (61.7)	11/16 (17.5)	1 (0.07) ※1	VUCL-941-6.35-0.07	
	3/8 (9.52)		2.75 (69.9)	1 (25.4)		VUCL-941-9.52-0.07	
	1/2 (12.7)		2.96 (75.2)			VUCL-941-12.7-0.07	
	– (6)		2.43 (61.7)	11/16 (17.5)		VUCL-941-6-0.07	
	– (8)		2.7 (68.6)	1 (25.4)		VUCL-941-8-0.07	
	– (10)		2.8 (71.1)			VUCL-941-10-0.07	
	– (12)		2.96 (75.2)			VUCL-941-12-0.07	
Rc	1/4		2.28 (57.9)	11/16 (17.5)		VUCL-141B-0.07	
	1/2	5100 (351)	3.29 (83.6)	1-1/16 (27)		VUCL-141D-0.07	
Female NPT	1/4	6000 (413)	2.13 (54.1)	11/16 (17.5)		VUCL-141BN-0.07	※
	3/8	5300 (365)	2.55 (64.8)	1 (25.4)		VUCL-141CN-0.07	※
	1/2	4896 (337)	3.03 (77)	1-1/16 (27)		VUCL-141DN-0.07	※
Male NPT	1/8	6000 (413)	1.79 (45.5)	11/16 (17.5)		VUCL-141ANM-0.07	※
	1/4		2.17 (55.1)			VUCL-141BNM-0.07	※
	3/8		2.36 (59.9)	1 (25.4)		VUCL-141CNM-0.07	※
	1/2		2.73 (69.3)			VUCL-141DNM-0.07	※

※: Getting ready. Begin to sell it soon.

Ordering Information

VUCL ① ② ③ — 941 ④ ⑤ — 6.35 ⑥ — 0.07 ⑦

① Valve Series

② Body Material
Stainless Steel

③ Valve Type
Check Valves

④ End Connections
1: Thread Type
9: V-Lok Type

⑤ Working Pressure
6000 psig (413 bar)

⑥ Connection Sizes
6.35: V-Lok 6.35
9.52: V-Lok 9.52
12.7: V-Lok 12.7
6: V-Lok 6
8: V-Lok 8
10: V-Lok 10
12: V-Lok 12

B: Rc1/4
D: Rc1/2
BN: 1/4in. Female NPT ※
CN: 1/8in. Female NPT ※
DN: 1/2in. Female NPT ※
ANM: 1/8in. Male NPT ※
BNM: 1/4in. Male NPT ※
CNM: 3/8in. Male NPT ※
DNM: 1/2in. Male NPT ※

⑦ Cracking Pressures
0.07: 1 psig (0.07 bar)
0.03: 1/3 psig (0.0 3bar)
0.35: 5 psig (0.35 bar)
0.69: 10 psig (0.69 bar)
1.8: 25 psig (1.8 bar)

※: Getting ready. Begin to sell it soon.

Note : Materials and dimensions are subject to change without notice.

memo

Other Related Products

Automatic Flow Control Valve Series

Diaphragm Type Mini Control Valves MINUCON Series
Electric Valves SR100 Series
Electric Valves SR100E Series
Electric Valves AR2000 Series
Electric Valves SR100M Series

Others

FINE BUBBLE Leak Detection Fluid

MINUCON

MINUCON is the pneumatic operating control valves which concentrated the aggregate power of this craftsmanship of Fujikin and was manufactured.
The precision of control and the certainty of the operation are suitable for precise flow control of various kinds of research experiments, process lines, etc.
Wide Cv Value selection range 0.0000015 - 5 is available.

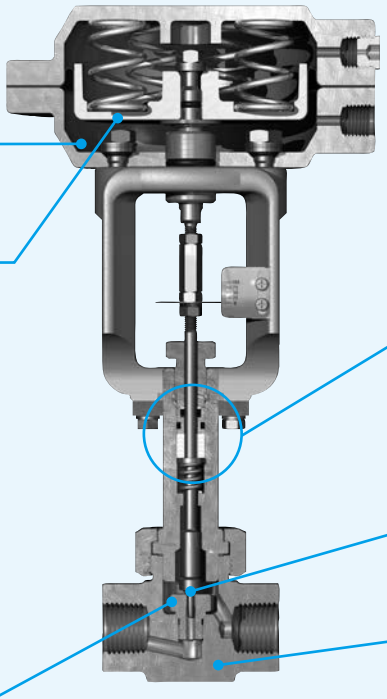
Features

The High Sensitivity Diaphragm Type Actuator
Realizes outstanding control performance

Compact Design
Adopted the multi - spring system (M3 Type)

Close Control Hysteresis
1.5 % or less is realized by adoption of a positioner. (Less than 0.00025 Cv Value is less than hysteresis 2 %.)

The material of Disc & Seat is SUS316+Stellite cladding, and is excellent against abrasion.



Double Seal Structure
A gland part is the double seal structure of the gland packing made from PTFE, and O-Rings made of fluorocarbon rubber.

Wide Cv Value Selection Range
Stem & Disk are made by SUS316+Stellite cladding, excellent for against abrasion. Wide range of Cv Value available, 0.0000015 to 5. ※

Body made from forged Stainless steel body (SUSF316) ※

※ ASTM standard (equivalent to SUS316 & SUS304) may be used instead of SUS316 & SUS304 materials.

Application

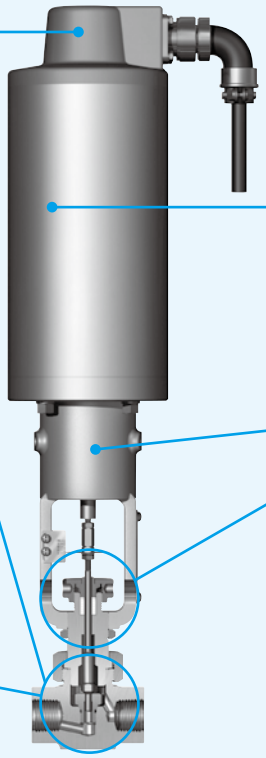
- Various Research / Experiment Equipment
- Precise Fluid Control of Process Line
- For flow control of Calorie Meter Coolant

SR100

SR100 is the electronic valve which concentrated the aggregate power of this craftsmanship of Fujikin and was manufactured. Adoption of the stepping motor excellent in position accuracy realized the high-speed response, close control, and high resolution which are not in the conventional electric motor valve. Wide Cv Value selection range 0.0000015 – 5 is available.
Fujikin satisfy flexibly the demand of all precise flow control of various kinds of research experimental devices, a process line, etc.

Features

Close Controlability
A high precision sensor is built in,
By feeding back valve travel,
close control, excellent in reproducibility
and hysteresis characteristics is realized!



Special Proportional Solenoid Actuator
By adopting special proportional solenoid as a drive source, the high - speed esponse was realized as the time from full open to close is 0.6 sec or less.
(normal open type: 0.8 sec or less)

Wide Cv Value Selection Range
Stem & Disk are made by SUS316 + Stellite cladding, excellent against abrasion. ※
Wide range of Cv Value available, 0.0000015 to 5.

Spring Back Structure
Since SR100 has a spring back structure, in an emergency, the valve operates in full open or a closed position.

PTFE Gland Packing

Body made from forged
Stainless Steel (SUSF316) ※

Drive Unit
If an electric signal 4 – 20mA is inputted into a drive unit for exclusive use, the valve will operate to predetermined valve travel.

※ ASTM standard (equivalent to SUS316 & SUS304) may be used instead of SUS316 & SUS304 materials.

Application

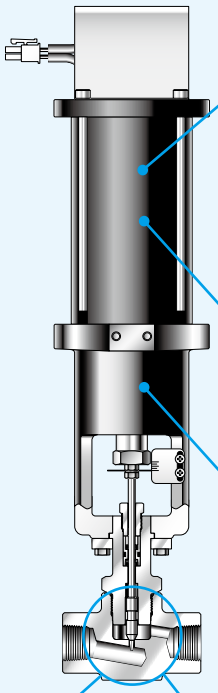
- Cogeneration・For fuel control of generator
- For flow control of Calorie Meter Coolant
- For pressure control in the evaluation equipment of fuel cell
- For the equipment which cannot install the source of air

The Order of the Rising Sun, Gold and Silver Rays
Spring of 2016
Electronic Valves™
Medal with Yellow Ribbon
Spring of 2001

SR100E

SR100E is the electric flow control valve which has excellent penformance in position accuracy, the high speed response, close control, and high resolution.

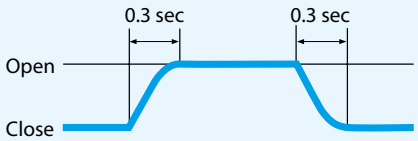
Features



1. High Speed Response

By adopting special solenoid as a drive source, the high speed response was realized as the time from full open to close is 0.3 sec or less.
It's excellent compared with air operate and motor drive valve.

Open / Close Time (sec)	approximately 0.3 (One way)
Resolution	500 : 1
Hysteresis (%)	1.5 or less



2. Close Controllability

A high precision sensor is built in,
By feeding back valve travel,
close control, excellent in reproducibility
and hysteresis characteristics is realized!

3. Spring Back Structure

Since SR100E has a spring back structure, in an emergency, the valve operates in full open or a closed position.

4. Wide Cv Value Selection Range

Stem & Disk are made by SUS316 + Stellite cladding, excellent against abrasion. ※
Wide range of Cv Value available, 0.0000015 to 5.

Body made from forged Stainless Steel (SUSF316) ※

※ ASTM standard (equivalent to SUS316 & SUS304) may be used instead of SUS316 & SUS304 materials.

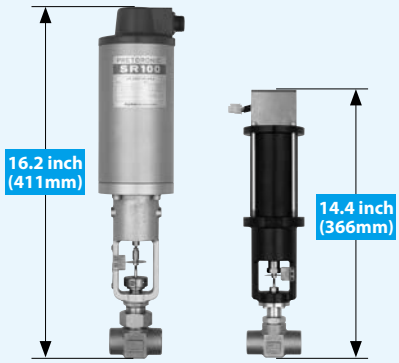
5. Input Signal

DC 4 – 20 mA
DC 1 – 5 V

6. Air Source Unnecessary

7.Compact Design

30% compact than SR100
60% light weight than SR100



Application

- Cogeneration・For fuel control of generator
- For flow control of Calorie Meter Coolant
- For pressure control in the evaluation equipment of fuel cell
- For the equipment which cannot install the source of air

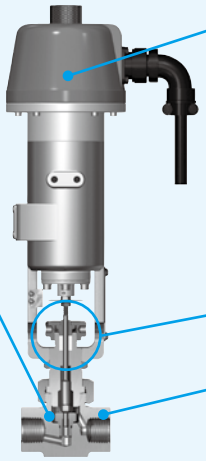
AR2000

AR2000 is the electronic valve which concentrated the aggregate power of this craftsmanship of Fujikin and was manufactured. Adoption of the stepping motor excellent in position accuracy realized the high-speed response, close control, and high resolution which are not in the conventional electric motor valve. Wide Cv Value selection range 0.0000015 – 5 is available.

Features

Wide Cv Value Selection Range
Stem & Disk are made by SUS316 + Stellite cladding, excellent against abrasion.
Wide Cv Value range available, 0.0000015 to 5. ※

Drive Unit
If an electric signal 4 – 20mA is inputted into a drive unit for exclusive use, the valve will operate to predetermined valve travel.



Resolution: 2000: 1
High resolution by adopting stepping motor driven actuator.

Explosion – proof model is also available
d2G4 explosion – proof type actuator is available.

PTFE Gland Packing

Body made from forged Stainless Steel (SUSF316) ※

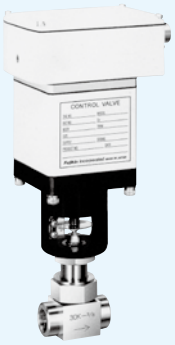
※ ASTM standard (equivalent to SUS316 & SUS304) may be used instead of SUS316 & SUS304 materials.

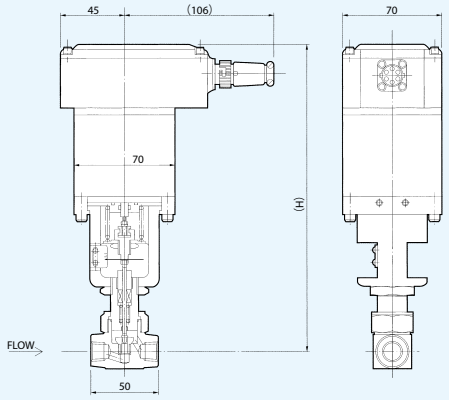
Application

- Cogeneration For fuel control of generator
- For flow control of Calorie Meter Coolant
- For pressure control in the evaluation equipment of fuel cell
- For the equipment which cannot install the source of air
- For flow control of a compressed natural gas automobile filling machine

SR100M

SR100M is the ultra compact electric valve which concentrated the aggregate power of this craftsmanship of Fujikin, was manufactured, and has united drive unit and actuator.





UNIT(mm)

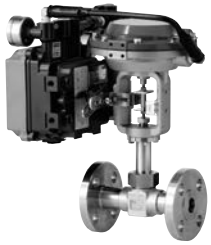
Features

1. **High Speed Operation**
2. **Spring Back Structure**
3. **Compact Design**
   compact & Lightweight
4. **Air Source Unnecessary**
5. **Input Signal**
   DC 4 – 20 mA
   DC 1 – 5 V
6. **Feed Back Mechanism**

Application

- Hyperbaric Oxygen Therapy
- Micro Reactor

Automatic Flow Control Valves

Product Series	MINUCON				
Type	without Positioner Type	ON-OFF Type	with E/P SAMSON Positioner Type	with E/P SSS Positioner Type	wirh P/P SIEMENS Positioner Type
Outkook					
Signal	20 – 100 kPa	–	4 – 20 mA DC		20 – 100 kPa
Electric Source	–				
Supply Pressure (kPa)	–	100 / 200 / 400	140 / 240 / 400		
Hysteresis (%)	15 or less	–	1.5% or less		
Full Open to Close Time (sec)	–	–	3 or less (One way) 140kPa 2 or less (One way) 240kPa 1 or less (One way) 400kPa	140kPa → 13 or below (One way) 240kPa → 12 or below (One way) 400kPa → 9 or below (One way)	–
Resolution / Stroke (mm)	–	–	850 (M2 Type) 1000 (M3 Type)	350 (M2, M3 Type)	–
Range-ability	20 : 1 (standard) available to 100 : 1	–	20 : 1 (standard) available to 100 : 1		
Rated Cv Value	0.01 – 5	0.25 – 5	0.0000015 – 5		
Max. Opr. Pres. (MPa)	14.7	14.7 / 29.4 / 49			
Fluid Temperature (℃)	(PTFE Gland packing) –25 – +150(Cv Value 0.7 or more) /–50 – +150(Cv Value 0.5 or less) (C-PTFE Gland packing) –25 – +230(Cv Value 0.7 or more) /–50 – +230(Cv Value 0.5 or less)	Standard Type(PTFE Gland packing)–25 – +150(Cv Value 0.7 or more)／–50 – +150(Cv Value 0.5 or less) Standard Type(C-PTFE Gland packing)–25 – +230(Cv Value 0.7 or more)／–50 – +230(Cv Value 0.5 or less) High Temperature Type(with Fin)–25 – +500(Cv Value 0.7 or more)／–50 – +500(Cv Value 0.5 or less) Low temperature Type(with Extension)–253 – +150(Cv Value 0.7 or more・Cv Value 0.5 or less)			
Explosion Proof	–	–	Ⅱ 2G EEx d IICT6 (ATEX) Pressure / Explosion Proof Ex Ⅱ 2G EEx ia IICT6 (ATEX) Instrinsically Safe Explosion Proof	Exd Ⅱ BT6(Pressure / Explosion Proof) Exd Ⅱ B+H2T6(Pressure – resistant & Explosion Proof for Hydrogen)	–
Actuator Type	Diaphragm				
Oprating Type	N.O. / N.C.				
Failure Position	Full Open / Full Close				
Cable Connection	–		Terminal Box		–
Height (mm)	250			270	380
Weight (Kg)	2.5		4.5	6	–
Features	Minutes Flow Contol Valves for High Pressure				
Applications	Pressure control for calorie meters / High degree of purity nitrogen refinement equipment Hydrogen producing device / Hydrogen and oxygen supply installation Hydrogen absorbing alloys evaluation equipment / Ammonia supply equipment Pressure control for carbonic acid gas super-criticality / Oxygen gas filling equipment Flow control & pressure control				

Automatic Flow Control Valves

Product Series	AR2000				SR100		SR100E	SR100M
Type	C1	C3	C1E	C3E	S2	S3	S5	S1
Outkook								
Signal	DC4 – 20mA / DC1 – 5V / DC1 – 10V				DC4 – 20mA / DC1 – 5V / DC1 – 10V			
Electric Source	DC24V±10% (2.4A)	DC24V±10% (3.4A)	DC24V±10% (2.4A)	DC24V±10% (3.4A)	AC100V (85 – 132V) DC24V ±10%(2.1A)		DC24V±10% (2.1A)	DC24V±10% 2.1A(2.4A)
Supply Pressure (kPa)	–							
Hysteresis (%)	1.5 or less (Actual : 0.1 or less)				1.5 or less			3.0 or less
Full Open to Close Time (sec)	1.7 or less				0.6 or less (F.S. 8mm) 1 or less (N.O. Type)		Approx 0.3	0.5 or less
Resolution / Stroke (mm)	Approx 2000 : 1/ 8				500 : 1 / 8		500 : 1 / 5	200 : 1 / 4
Range-ability	20 : 1 (Standard) 100 : 1 (Option)						20 : 1	
Rated Cv Value	0.0000015 – 5						0.1 / 0.25 / 0.5	0.01 – 0.5
Max. Opr. Pres. (MPa)	14.7 / 29.4 / 49				14.7		1	2.94
Fluid Temperature (℃)	Standard Type(PTFE Gland packing) –25 – +150(Cv Value 0.7 or more)／–50 – +150(Cv Value 0.5 or less) Standard Type(C-PTFE Gland packing) –25 – +230(Cv Value 0.7 or more)／–50 – +230(Cv Value 0.5 or less) High Temperature Type(with Fin) –25 – +500(Cv Value 0.7 or more)／–50 – +500(Cv Value 0.5 or less) Low temperature Type(with Extension) –253 – +150(Cv Value 0.7 or more•Cv Value 0.5 or less)						–20 – 150	–10 – 150
Explosion Proof	–		d2G4 (Pressure / Explosion Proof)		–			
Actuator Type	Stepping Motor				Proportional Solenoid			Proportional Solenoid
Oprating Type	Signal to open				N.O / N.C		N.C	N.O / N.C
Failure Position	keeping as				Full Open / Full Close		Full Close	Full Open / Full Close
Cable Connection	Connector		Terminal Block		Connector / Terminal Block		Connector ※ with control cable 1m	Connector
Height (mm)	340	390	430	490	440	460m	370	230
Weight (Kg)	4 Drive unit:1	5 Drive unit:1	–	–	11 Drive Unit: 1	18 Drive Unit: 1	5 Drive Unit: 0.3	3.5 United Drive Unit and Actuator
Features	High Resolution				High Speed Response		High Speed Response Good Cost Performane	High Speed Response United Drive Unit and Actuator
Applications	Fuel control for Gas turbine / Small gas turbine Fuel control / Pressure control for calorie meters / Pressure control for injection checks / Flow rate control for compressed natural gas dispensers / Flow rate control for resin production units / Pressure control for carbonic acid gas super-criticality / Oxygen gas filling equipment				Pressure control for calorie meters / Control for refrigeration machine of refrigerating installation / Air pressure control for low pressure casting machine / Fuel control for Gas turbine / Small gas turbine Fuel control / Flow control for NOx reduction water injection / Fuel cell evaluation units		For water supply equipment / Fuel control for Gas turbine	For cold control systems / Cultivation Tank / Airflow control valve / Flow rate control for high-pressure oxygen treatment machines

FINE BUBBLE Leak Detection Fluid

Concentration of Impurities (Units: ppm)

Impurities	Na	K	Ca	Cl	F
Concentration	<1	<1	<1	<1	<1

Ordering No.	Container Size	Quantity per Pack	Container
LL-S-1	60mL	6 bottles/pack	Squeeze bottle
LL-M-1	300mL	1 bottle/pack	Squeeze bottle with nozzle cap
LL-L-1	4 L	1container/pack	Refill container

60mL

300mL

4 L

Note: Materials and dimention are subject to change without notice.

Features

- With its viscosity and rapid foaming action, FINE BUBBLE detects the smallest leaks even when it is applied in small amounts.
- Noncorrosive; does not react with metal, coatings, rubber, or plastic surfaces.
- Dries clean and without staining.
- Minimal impurities such as sodium, potassium, calcium, chlorine, fluorine, bromine, and sulfur compounds.
- Nonflammable; does not react with oxygen.
- Available in three convenient sizes: 60mL (squeeze bottle), 300mL (squeeze bottle with nozzle cap), and 4L (refill container).
- Read the instructions carefully before use.

FINE BUBBLE Test Data

Corrosion Test Results

Tube Material (25 x 50 x 15t #400 finish)	Leak Detection Fluid			
	FINE BUBBLE	Brand B	Brand C	Duration
S55C	O	X3	X3	24 hours
A1050P	O	O	Δ120	120 hours
C2801P	Δ3	Δ3	Δ3	120 hours
SUS304	O	O	O	120 hours

Key: O: Almost no changes at the end of the test
Δ: Discolored or slightly corroded
x : Corroded

* Numbers next to the icon indicate when (in terms of hours) changes to the metal were visually observed.

Immersion Corrosion Test

The metal samples were immersed in the leak detection fluids at 30°c and inspected for changes.

FINE BUBBLE

Brand B

Brand C

S55C samples after 24 hours of immersion in the leak detection fluids

The contents of the description are reference, and are subject to change without notice.

Technical Data

V-Lok Tube Fittings PERFORMANCE CONFIRMATION TEST RESULTS

CERTIFICATE V-Lok Tube Fittings

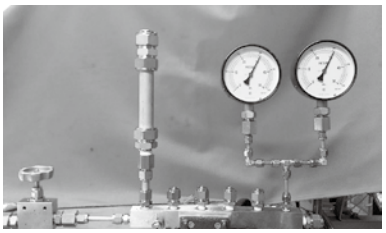
REMARKS Special Materials
Oil-free Products

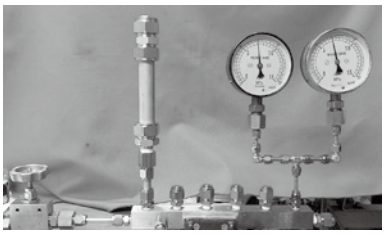
1. V-Lok PERFORMANCE CONFIRMATION TEST RESULTS (1/3)

Tightness Test

Test Fluid	Nominal Dia. inch(mm)	Test Pres. (MPa)
H_2O	1/8(3.2)	45
	1/2(12.7)	45
	1(25.4)	30
Air	1/8(3.2)	7
	1/2(12.7)	7
	1(25.4)	7

Retaining Period: 5 minutes



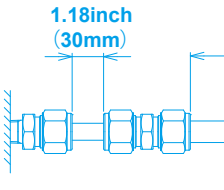


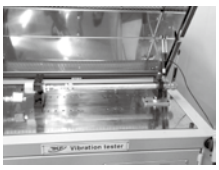
Results: good (No Leakage)

Vibration (Fatigue) Test

Test Fluid	Nominal Dia. inch(mm)	Test Pres. (MPa)
Oil	1/8(3.2)	30
	1/2(12.7)	30
	1(25.4)	20

Number of Cycle: 10^7 cycles
Amplitude (One side): 0.066 inch (1.68mm)
Frequency: 20Hz



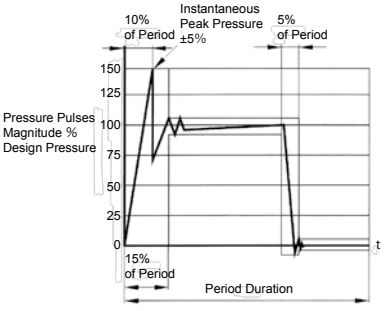


Results: good (No Leakage)

Pressure Pulsation Test

Test Fluid	Nominal Dia. inch(mm)	Test Pres. (MPa)
Oil	1/8(3.2)	45
	1/2(12.7)	45
	1(25.4)	30

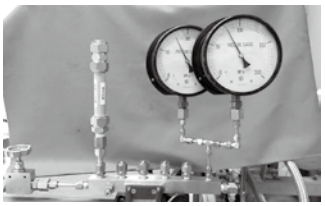
Number of Cycle: 5×10^5 Cycles
Frequency: 30 - 100 cycles per minute
※ Putting into effect with the Vibration (Fatigue)Test.

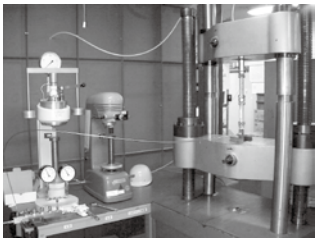
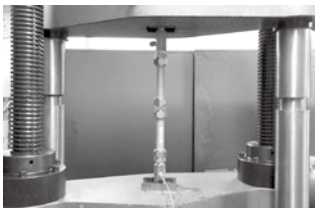
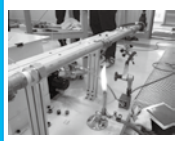


Results: good (No Leakage)

※ Please refer to the test report for details about each test.

1. V-Lok PERFORMANCE CONFIRMATION TEST RESULTS (2/3)

<table>
<tr><th>Test Items</th><th>Test Conditions & Landscape</th><th>Results</th></tr>
<tr><td>Burst Pressure Test</td><td>
<table>
<tr><th>Test Fluid</th><th>Nominal Dia. inch(mm)</th><th>Test Pres. (MPa)</th></tr>
<tr><td rowspan="3">H₂O</td><td>1/8(3.2)</td><td>45</td></tr>
<tr><td>1/2(12.7)</td><td>45</td></tr>
<tr><td>1(25.4)</td><td>30</td></tr>
</table>
Retaining Period: 5 minutes


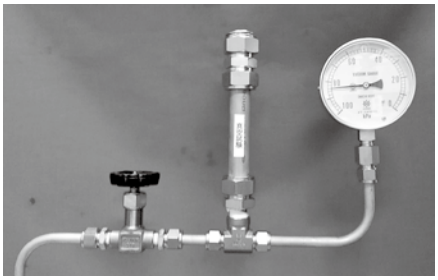
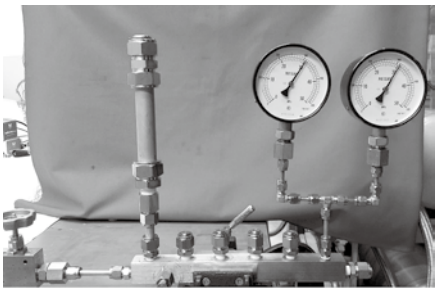
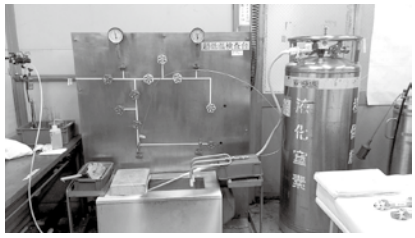
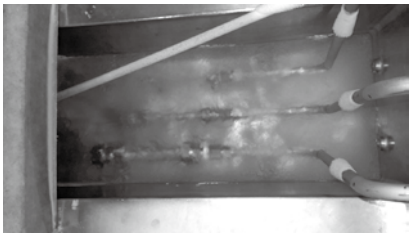

</td><td>good
(No Leakage)</td></tr>
<tr><td>Pull-out Test</td><td>
<table>
<tr><th>Test Fluid</th><th>Nominal Dia. inch(mm)</th><th>Test Pres. (MPa)</th></tr>
<tr><td rowspan="3">H₂O</td><td>1/8(3.2)</td><td>30</td></tr>
<tr><td>1/2(12.7)</td><td>30</td></tr>
<tr><td>1(25.4)</td><td>20</td></tr>
</table>
Axial Load: 15,202N
Retaining Period: 5 minutes


</td><td>good
(No Leakage,
No Damage,
No Displacement of Fittings and Pipes)</td></tr>
<tr><td>Fire Endurance Test</td><td>
① Fire Test
with ISO19921: 2005(E)
ISO19922: 2005(E)
Test Period: 30 minutes
Test Temperature: 80℃
Test Pressure:
500～1000KPa
※ Confirming no destruction during Fire Endurance Test.


② Tightness Test
Retaining Period: 5 minutes
<table>
<tr><th>Test Fluid</th><th>Nominal Dia. inch(mm)</th><th>Test Pres. (MPa)</th></tr>
<tr><td rowspan="3">H₂O</td><td>1/8(3.2)</td><td>45</td></tr>
<tr><td>1/2(12.7)</td><td>45</td></tr>
<tr><td>1(25.4)</td><td>30</td></tr>
<tr><td rowspan="3">Air</td><td>1/8(3.2)</td><td>7</td></tr>
<tr><td>1/2(12.7)</td><td>7</td></tr>
<tr><td>1(25.4)</td><td>7</td></tr>
</table>

</td><td>good
(No Leakage)</td></tr>
</table>

※ Please refer to the test report for details about each test.

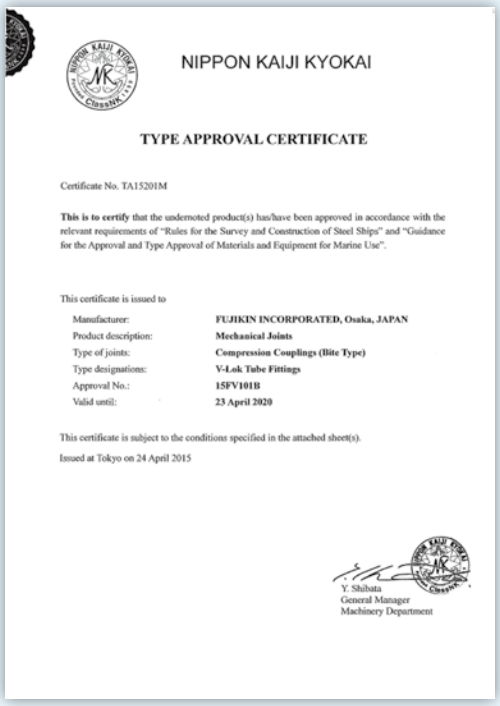
1. V-Lok PERFORMANCE CONFIRMATION TEST RESULTS (3/3)

<table>
<tr><th>Test Items</th><th>Test Conditions & Landscape</th><th>Results</th></tr>
<tr><td>Vacuum Test</td><td>
<table>
<tr><th>Test Fluid</th><th>Nominal Dia. inch(mm)</th><th>Test Pres. (kPa abs)</th></tr>
<tr><td rowspan="3">H_2O</td><td>1/8(3.2)</td><td>17</td></tr>
<tr><td>1/2(12.7)</td><td>17</td></tr>
<tr><td>1(25.4)</td><td>17</td></tr>
</table>
Retaining Period: 5 minutes

</td><td>good
(No Leakage)</td></tr>
<tr><td>Repeated Assembly Test</td><td>
<table>
<tr><th>Test Fluid</th><th>Nominal Dia. inch(mm)</th><th>Test Pres. (MPa)</th></tr>
<tr><td rowspan="3">H_2O</td><td>1/8(3.2)</td><td>45</td></tr>
<tr><td>1/2(12.7)</td><td>45</td></tr>
<tr><td>1(25.4)</td><td>30</td></tr>
<tr><td rowspan="3">Air</td><td>1/8(3.2)</td><td>7</td></tr>
<tr><td>1/2(12.7)</td><td>7</td></tr>
<tr><td>1(25.4)</td><td>7</td></tr>
</table>
Reassemble Times: 10 Times
Retaining Period: 5 minutes

</td><td>good
(No Leakage)</td></tr>
<tr><td>Low Temperature Test</td><td>
<table>
<tr><th>Test Fluid</th><th>Nominal Dia. inch(mm)</th><th>Test Pres. (MPa)</th></tr>
<tr><td rowspan="3">He</td><td>1/8(3.2)</td><td>7</td></tr>
<tr><td>1/2(12.7)</td><td>7</td></tr>
<tr><td>1(25.4)</td><td>7</td></tr>
</table>
By keeping in liquid nitrogen
Test Temperature: −196℃
Retaining Period: 10 minutes


</td><td>good
(No Leakage)</td></tr>
</table>

※ Please refer to the test report for details about each test.

2.CERTIFICATE V-Lok Fittings

V-Lok Fitting has acquired NK(NIPPON KAIJI KYOKAI) TYPE APPROVAL CERTIFICATE.



NIPPON KAIJI KYOKAI

TYPE APPROVAL CERTIFICATE

Certificate No. TA15201M

This is to certify that the undernoted product(s) has/have been approved in accordance with the relevant requirements of "Rules for the Survey and Construction of Steel Ships" and "Guidance for the Approval and Type Approval of Materials and Equipment for Marine Use".

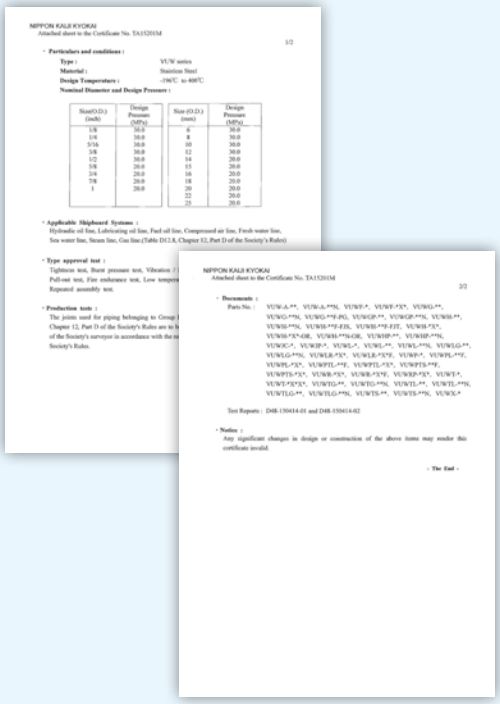
This certificate is issued to

Manufacturer:	**FUJIKIN INCORPORATED, Osaka, JAPAN**
Product description:	**Mechanical Joints**
Type of joints:	**Compression Couplings (Bite Type)**
Type designations:	**V-Lok Tube Fittings**
Approval No.:	**15FV101B**
Valid until:	**23 April 2020**

This certificate is subject to the conditions specified in the attached sheet(s).

Issued at Tokyo on 24 April 2015

Y. Shibata
General Manager
Machinery Department



NIPPON KAIJI KYOKAI
Attached sheet to the Certificate No. TA15201M

1/2

- **Particulars and conditions :**

Type : VUW series
Material : Stainless Steel
Design Temperature : -196°C to 400°C
Nominal Diameter and Design Pressure :

Size(O.D.) (inch)	Design Pressure (MPa)	Size (O.D.) (mm)	Design Pressure (MPa)
1/8	30.0	6	30.0
1/4	30.0	8	30.0
5/16	30.0	10	30.0
3/8	30.0	12	30.0
1/2	30.0	14	20.0
5/8	20.0	15	20.0
3/4	20.0	16	20.0
7/8	20.0	18	20.0
1	20.0	20	20.0
		22	20.0
		25	20.0

- **Applicable Shipboard Systems :**
Hydraulic oil line, Lubricating oil line, Fuel oil line, Compressed air line, Fresh water line, Sea water line, Steam line, Gas line.(Table D12.8, Chapter 12, Part D of the Society's Rules)

- **Type approval test :**
Tightness test, Burst pressure test, Vibration /
Pull-out test, Fire endurance test, Low tempera
Repeated assembly test.

- **Production tests :**
The joints used for piping belonging to Group
Chapter 12, Part D of the Society's Rules are to b
of the Society's surveyor in accordance with the te
Society's Rules.

NIPPON KAIJI KYOKAI
Attached sheet to the Certificate No. TA15201M

2/2

- **Documents :**
Parts No. :
VUW-A-**, VUW-A-**N, VUWF-*, VUWF-*X*, VUWG-**, VUWG-**N, VUWG-**F-PG, VUWGP-**, VUWGP-**N, VUWH-**, VUWH-**N, VUWH-**F-FJS, VUWH-**F-FJT, VUWH-*X*, VUWH-*X*-OR, VUWH-**N-OR, VUWHP-**, VUWHP-**N, VUWJC-*, VUWJP-*, VUWL-*, VUWL-**, VUWL-**N, VUWLG-**, VUWLG-**N, VUWLR-*X*, VUWLR-*X*F, VUWP-*, VUWPL-**F, VUWPL-*X*, VUWPTL-**F, VUWPTL-*X*, VUWPTS-**F, VUWPTS-*X*, VUWR-*X*, VUWR-*X*F, VUWRP-*X*, VUWT-*, VUWT-*X*X*, VUWTG-**, VUWTG-**N, VUWTL-**, VUWTL-**N, VUWTLG-**, VUWTLG-**N, VUWTS-**, VUWTS-**N, VUWX-*

Test Reports : D48-150414-01 and D48-150414-02

- **Notice :**
Any significant changes in design or construction of the above items may render this certificate invalid.

- **The End -**

V-Lok Fitting has acquired DNV•GL CERTIFICATE COMPLIANCE OF ASTM F1387 & CERTIFICATE FOR ABS TYPE APPROVAL.

DNV·GL

CERTIFICATE OF COMPLIANCE

Cert No: 1UACUIY-28

Date of issue: 25th, September, 2015

THIS IS TO CERTIFY THAT the mechanical attachment fitting described below, manufactured by **Fujikin Incorporated, Osaka Plant,** meets the performance characteristics requirements of fittings specified in ASTM F1387-99(Reapproved 2012), Standard Specification for Performing of Piping and Tubing Mechanically Attached Fittings.

Mechanical attachment fittings for testing were presented as follows:

Standard : ASTM F1387-99(Reapproved 2012) Type-IV Grade B
Materials : Stainles Steel, ASTM A276 316, A182 F316
Fujikin Product Name : V-Lok
Nominal Diameter : from φ 1/8" to 1" (from 3.2mm to 25.4mm)

Testing and inspection of performance characteristics for mechanical attachment fittings were carried out in compliance with the test codes specified in the said standards specification in the presence of the undersigned surveyor at the manufacturer, Fujikin Incorporated, Osaka Plant, on 2015.09.17. The document reviewing has been completed on the date of 2015.09.25.

Results of testing and inspection were found satisfactory in compliance with the requirements in the Standards and Specification.

Test reports as under-mentioned were fully reviewed and endorsed by the surveyor.

Document No. : TC08-150824-01 1st edition
Report Title: Test Report for Mechanically Attached Fittings(Fujikin V-Lok)
Test Program Title : Test Program for Mechanically Attached Fittings (Fujikin V-Lok)
Date: 25th, September, 2015

Place: Osaka-Pref., Japan
Date: 25th, September, 2015

Yuri Nonomatsu
Surveyor to DNV GL AS

Form code: AS 91a Revision: 2014-11 www.dnvgl.com Page 1 of 1
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CERTIFICATE COMPLIANCE OF ASTM F1387 (DNV•GL)

ABS

CERTIFICATE NUMBER 15-YO1455235-PDA

DATE 04 Dec 2015

ABS TECHNICAL OFFICE
Yokohama Engineering Services

CERTIFICATE OF
DESIGN ASSESSMENT

This is to certify that a representative of this Bureau did, at the request of

FUJIKIN INCORPORATED

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: **Tube Fittings**
Model: **Fujikin V-Lok VUW Series**

This Product Design Assessment (PDA) Certificate 15-YO1455235-PDA, dated 04 Dec 2015 remains valid until 03 Dec 2020 or until the Rules or specifications used in the assessment are revised (whichever occurs first).

This PDA is intended for a product to be installed on an ABS classed vessel, MODU or facility which is in existence or under contract for construction on the date of the ABS Rules or specifications used to evaluate the Product.

Use of the Product on an ABS classed vessel, MODU or facility which is contracted after the validity date of the ABS Rules and specifications used to evaluate the Product, will require re-evaluation of the PDA.

Use of the Product for non ABS classed vessels, MODUs or facilities is to be by an agreement between the manufacturer and intended client.

AMERICAN BUREAU OF SHIPPING
Engineer/Consultant

CERTIFICATE FOR ABS TYPE APPROVAL.

CERTIFICATE FOR BV TYPE APPROVAL


Page 1 / 3

Marine & Offshore Division

Certificate number: 44357/A1 BV
File number: ACM 135/2766/01
Product code: 2130H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to
FUJIKIN INCORPORATED
Osaka - JAPAN

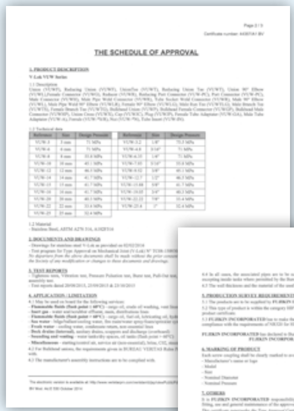
for the type of product
SCREW COUPLINGS
V-Lok VUW series

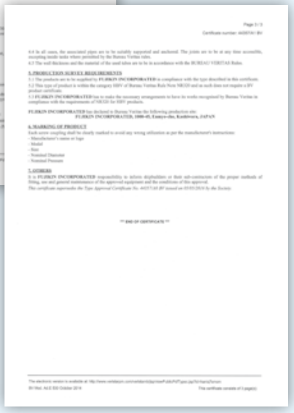
Requirements:
- Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 05 May 2021

For BUREAU VERITAS,
At BV KOBE, on 03 Jun 2016,
Yasuo Hiramatsu


THE SCHEDULE OF APPROVAL



Lloyd's Register Type Approval Certificate


Lloyd's Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

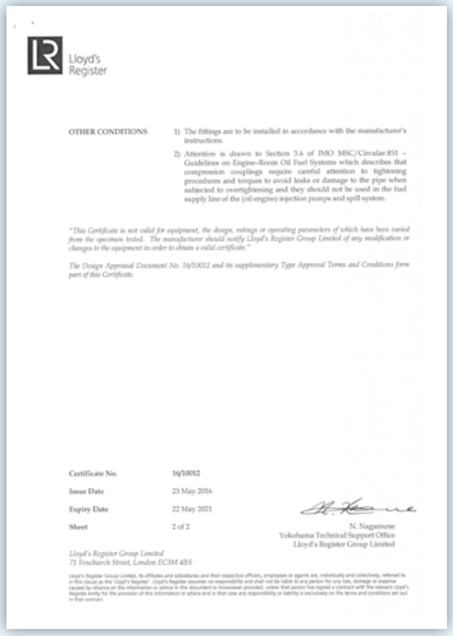
This certificate is issued to:

PRODUCER	Fujikin Incorporated
PLACE OF PRODUCTION	Fujikin Incorporated, Osaka Plant Kashiwara 1000-45, Ennyo-chou, Kashiwara, Osaka, Japan
DESCRIPTION	Stainless steel compression type mechanical tube fittings
TYPE	V-Lok series mechanical tube fittings
APPLICATION	Hydraulic & pneumatic fluid gas, lubricating oil, fuel oil and instrument control system
STANDARD	Lloyd's Register Rules and Regulations for Classification of Ships Part 5, Chapter 12 - January 2016
RATINGS	Nominal Diameter : from 1/8" to 1" (from 3mm to 25 mm) Design Pressure) : from 32.4 MPa to 75.5 MPa (depending on Nominal Diameter)
PERFORMANCE TEST	1) Vibration test 2) Pressure pulsation test 3) Tightness test 4) Pull-out test 5) Vacuum test 6) Repeated assembly test 7) Burst pressure test

Certificate No.	16/10012
Issue Date	23 May 2016
Expiry Date	22 May 2021
Sheet	1 of 2

N. Nagamune
Yokohama Technical Support Office
Lloyd's Register Group Limited

Lloyd's Register Group Limited
71 Fenchurch Street, London EC3M 4BS


Lloyd's Register

OTHER CONDITIONS
1) The fittings are to be installed in accordance with the manufacturer's instructions.
2) Attention is drawn to Section 3.6 of IMO MSC/Circular.851 – Guidelines on Engine-Room Oil Fuel Systems which describes that compression couplings require careful attention to tightening procedures and torques to avoid leaks or damage to the pipe when subjected to overtightening and they should not be used in the fuel supply line of the (oil engine) injection pumps and spill system.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Group Limited of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No. 16/10012 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No.	16/10012
Issue Date	23 May 2016
Expiry Date	22 May 2021
Sheet	2 of 2

N. Nagamune
Yokohama Technical Support Office
Lloyd's Register Group Limited

Lloyd's Register Group Limited
71 Fenchurch Street, London EC3M 4BS

3.REMARKS

3-1. Special materials(Tantalum, Titanium, Hastelloy, Monel) are available. Please contact Fujikin.

3-2. When needing for perfect oil-free products, please inform Fujikin with use conditions beforehand.

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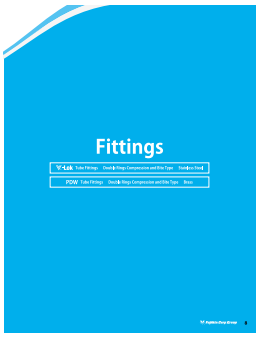
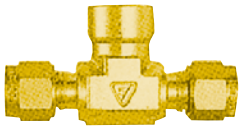
INDEX

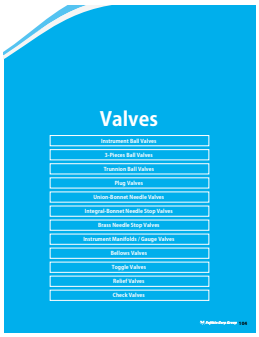
memo



V-Lok Tube Fittings Stainless Steel

PDW Tube Fittings Brass





Instrument Ball Valves

3-Pieces Ball Valves

Trunnion Ball Valves

Plug Valves

Union-Bonnet Needle Valves

Integral-Bonnet Needle Stop Valves

Brass Needle Stop Valves

Instrument Manifolds / Gauge Valves

Bellows Valves

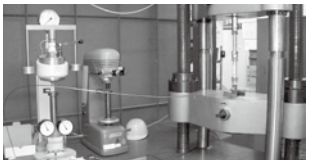
Toggle Valves

Relief Valves

Check Valves

Automatic Flow Control Valve Series

FINE BUBBLE Leak Detection Fluid



Fujikin Carp Group

URL http://www.fujikin.co.jp/

ものづくり日本大賞

- the 1st MONODZUKURI NIPPON GRAND AWARDS.
  (9 developers awarded)
- the 5th MONODZUKURI NIPPON GRAND AWARDS.
  (Fujikin Vietnam 4 employees awarded)
- the 7th MONODZUKURI NIPPON GRAND AWARDS.
  (7 developers awarded)

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