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TUBE FITTING & VALVE

OTG lok

Fittings & Valves

Catalog No_01 March, 2024

OTG. Co., Ltd

TUBE FITTING & VALVE

OTG lok

Your Partner for Fluid system Solutions.

Since 1974, OTG Corporation has industry-leading developer and manufacturer of superior high-quality instrumentation valves fittings

OTG is committed to designing, developing, producing, and selling high-quality Instrumentation valves and fittings made of various materials used in high temperature and high pressure application environments.

Fittings and valves produced by our company are essential products used in fluid control systems, and they are acknowledged for excellent quality in the fields of semiconductor, power generation, oil refinery, shipbuilding and maritime affairs.
Especially, OTG provides superior quality products and services in the semiconductor cleaning equipment and parts field.

Our Motto is place utmost efforts to impress customers with a mindset to maximize customer satisfaction and minimize complaints. OTG will rise as a top-notch global company based on technological innovation and product development. We will do our best at all times and approach our customers with best service and quality.

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TUBE FITTING & VALVE

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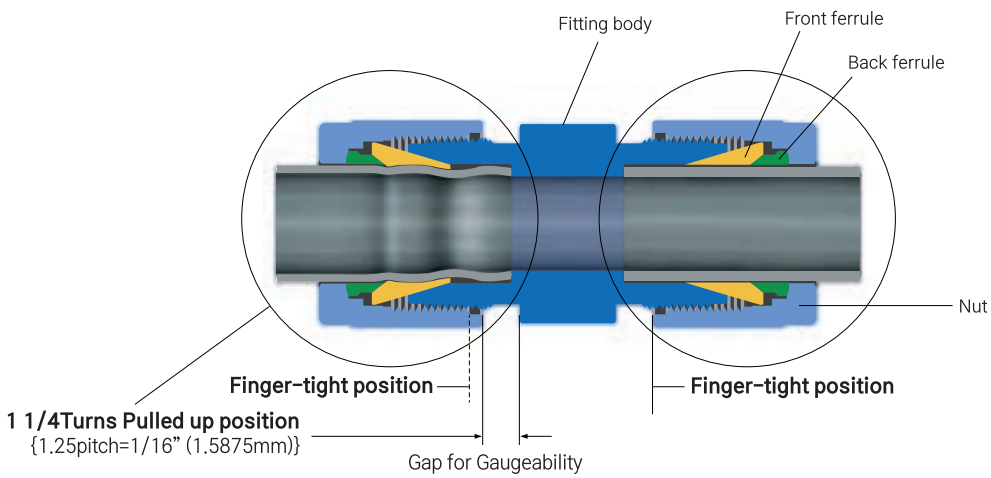
Tube Fittings

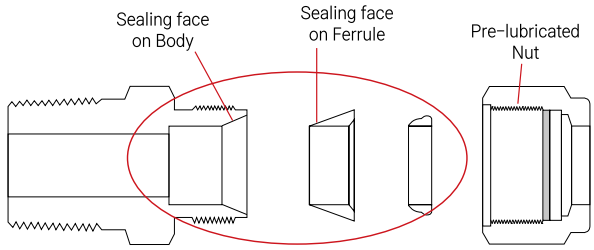
01

Features

- OTG-LOK Tube Fittings have been specifically designed for use on instrumentation, process and control system, equipment employed in chemical, petroleum, nuclear power generatiion, pulp and paper plants.
- OTG-LOK Tube Fitting has also found extensive application in other fields where a very high quality tube fitting is required.
- OTG-LOK Tube Fittings are provide a highly reliable, leakproof and torque free seal on all tubing connections.
- OTG-LOK Tube Fittings are sequential phase-controlled action, sealing and gripping devices. Superior design, rigid manufacturing tolerances, and strict quality assurance programs produce an all metal sealing and holding device which performs leak-free when properly installed.
- OTG-LOK tube Fittings consist of a body, a nut, and ferrules and are constructed of the following meterials: brass, 316 stainless steel, Cabon steel, nickel alloy, monel, or inconel.
  Straight Fittings are machined form cold finished bar stock and shaped bodies are machined form close grain forgings.
  The materials used, fully conform to the chemical requirements of one or more of the specifications listed in Table 6 on page.
  Nut internals are supplied standard with silver plating. For nuclear and other critical applications, stainless steel OTG-LOK Tube Fitting are readliy available with documented heat code traceability.

Construction of OTG-Lok® Tube Fttings





Sealing System

❖ Mechanically Outstanding for "Metal Seal" Leak-Tight Performance

OTG-LOK Tube Fittings provide metal to metal sealing and are designed to the requirements of industrial codes and standards with additional Cutting-Edge Engineering on leak-free pressure retaining performance.

❖ Gaugeability

It is possible to measure the state of the equipment when processing the ferrule by measuring the datum gauge and implementing strict management of 1/1000" tolerance.

❖ Interchangeability

OTG-LOK Tube Fittings are manufactured according to industrial codes and standards, Therefore, OTG-LOK tube Fittings are fully compatible with Swage lok tube fittings as well as other major tube fitting manufactures.

❖ Wide range of sealing performance

All OTG-LOK products have been verified for excellence in quality in all industries through repeated experiments. And the special heat treatment method for the back ferrule shows excellent sealing performance for all tubing from thin to thick tubing.

❖ Consistency

All processes, from raw material input to machining and post processing are carried out according to standardized work to maintain the highest quality and uniform product quality.

❖ Cleaning and Surface Protection

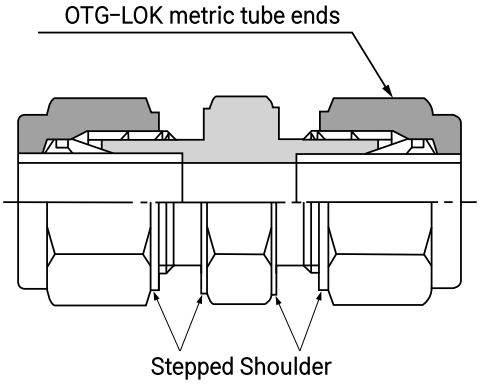
All products processed at the production site are subjected to cleaning, passivation and drying processes at high temperatures to thoroughly remove visible impurities and invisible impurities on the metal surface, thus satisfying the highest level of cleanliness required by the industry.

❖ OTG-LOK ferrule can be used for repeated sealing.

❖ OTG-LOK ferrule can be used for all levels of pressure from vacuum to low pressure to high pressure

Identification of Metric OTG-LOK Tube Fittings

OTG-LOK metric tube fitting has stepped shoulder on body and nut hex.



Compression **TUBE Fittings**

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Tube Adapter to Famale Pipe

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Materials

OTG-LOK Tube Fittings are supplied in various materials to satisfy the needs of various applications including on shore oil & gas, refinery, offshore oil & gas, chemical, petrochemical, analytical instrumentation, steel mill, power plant, shipbuilding, pharmaceutical, and alternative fuel.

Material	Bar Stock	Forgings
Stainless Steel 316	ASTM A276 type 316 ASTM A479 Type 316 ASTM SA479 Type 316 JIS G4303	ASTM A182 ASME SA 182 JIS G3214
Brass	ASTM B16 UNS C36000 ASTM B453 UNS C35300 JIS H3250 Alloy C3604	ASTM B283 Alloy 37700 JIS H3250 C3771
Carbon Steel	A108 JIS G4051 S20C-S45C	ASTM A105 JIS G4051 S20C
Hastelloy C276	ASTM B574 N10276	ASTM B564 N10276
Alloy 400	ASTM B164 N04400	ASTM B564 N04400
Alloy 600	ASTM B166 N06600	ASTM B564 N06600
Alloy 625	ASTM B446 N06625	ASTM B564 N06625
Alloy 825	ASTM B425 N08825	ASTM B564 N08825
Titanium (Grade 4)	ASTM B348 Gr.4	ASTM B381 F-4
PTFE	ASTM D1710	ASTM D3294

Stainless Steel Tube Fittings

Over 1 in. /25mm OD fittings are supplied with stainless steel ferrules coated with PFA. For applications beyond 450˚F (232 ˚C) silver-plated front ferrule and uncoated back ferrule are supplied.

Carbon Steel Tube Fittings

Carbon steel fittings are white Zinc plated.
Every carbon Steel fitting is supplied with SS316 back ferrule and carbon steel front ferrule with black fast plated.

Additional Surface Protection

Fitting Body Materials	Additional Processing
Stainless Steel, 6Mo	Passivation
Carbon Steel	White Zinc Electroplating
Brass	Acid Cleaning
Alloy 20, Monel 400, Alloy 600, Alloy 625, Alloy 825, C276	Hydrocarbon Film
Titanium Gr.4	Anodizing
PTFE	Cleaning

O-Rings

O-seal fittings are supplied with O-ring; 70 durometer NBR O-ring on Brass and Carbon steel fittings, 90 durometer FKM O-ring on Stainless steel fitting.
Other O-ring materials are available upon request.

- Cryogenic Application

OTG-LOK Tube Fittings in SS316 Stainless Steel provide highly reliable performance on cryogenic application.
Cryogenic temperature is considered to be temperatures below -100℉(-73℃)

- Gas Application

OTG-LOK Tube Fittings fitting is designed for a wide range of leak-free application including gas leak proof and vacuum tight service. Gases(helium, hydrogen, nitrogen, air, etc.) can escape even the most minute leak-path due to their very small molecules. Tube therefore must be handled not to have scratches, draw mark, nicks, flat spots, dirt, and dust.

Use NOT thin wall tubing for gas applications.
Use heavier wall tubing for gas application.
Heavier wall tubing resists the ferrule action whereas thin wall tubing may collapse with little resistance to ferrule action.
For Gas service, use the tubing wall listed below table

Fractional Tubing

Tubing OD	Nominal Min. Wall Thickness	Tubing OD	Nominal Min. Wall Thickness
1/8"	.028"	3/4"	.065"
3/16"	.028"	7/8"	.083"
1/4"	.028"	1"	.083"
5/16"	.035"	1 1/4"	.109"
3/8"	.035"	1 1/2"	.134"
1/2"	.049"	2"	.180"
5/8"	.065"		

Metric Tubing

Tubing OD	Nominal Min. Wall Thickness	Tubing OD	Nominal Min. Wall Thickness
3mm	0.8mm	18mm	1.5mm
6mm	0.8mm	20mm	1.8mm
8mm	1.0mm	22mm	2.0mm
10mm	1.0mm	25mm	2.2mm
12mm	1.0mm	28mm	2.8mm
14mm	1.2mm	32mm	3.0mm
16mm	1.5mm	38mm	3.5mm

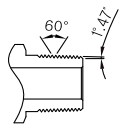
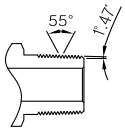
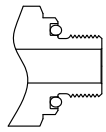
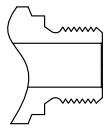
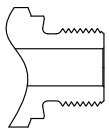
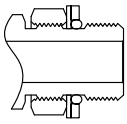
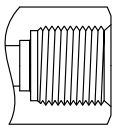
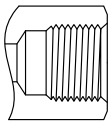
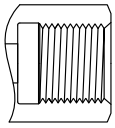
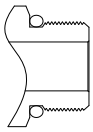
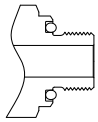
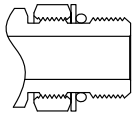
- High Pressure Gas Application

To run flow, fluid system is pressurized. Especially a gas needs to be highly compressed to fill smaller tank or container.
Pressure over 500 psig (34.5 bar) is considered high pressure.
OTG-LOK Tube Fittings provide gas leak-tight performance based on the working pressure of the tubing selected.

- Vacuum Application

OTG-LOK Tube Fittings have been proved to be excellent vacuum tight seal in many applications including analytical industry. Outstanding Sealing System of OTG-LOK Tube Fitting eliminates air-ingress into the tubing system at vacuum conditions.
With properly selected tubing, OTG-LOK Tube Fittings perform leak-tight up to the vacuum level of 10^{-9} torr.

Thread Specifications

	OTG	Reference Specification	Thread Configuration	E
Tapered Pipe Thread	N	ASME B1.20.1(NPT)		-
	R	ISO 7-1 BS EN 10226-1(BSPT) JIS B0203 (PT)		RT
	NO	ASME B1.20.1 SAE AS71051 SAE J514 O-seal NPT Thread Seal by O-ring		OR
Parallel Pipe Thread	G	ISO 228-1 BS 2779 (BSPP) JIS B0202 (PF) DIN 3852 (FORM A) Seal by Bonded Gasket or Copper Gasket		RS
	GB	ISO 228-1 BS 2779 (BSPP) JIS B0202 (PF) DIN 3852 (FORM B) Seal by Copper Gasket Compression against Female flat face.		RP
	GR	ISO 228-1 BS 2779 (BSPP) JIS B0202 (PF) Positionable Seal by O-ring		PR
	GG	ISO 228-1, BS 2779 (BSPP) JIS B0202 (PF), EN 837-1,EN 837-3 Gauge Port Seal by copper gasket at the bottom of GG female port		RG
	GZ	ISO 228-1, BS 2779 (BSPP) JIS B0202 (PF) DIN 3852 (FORM Z) With G & GB Male thread Seal by copper gasket over the flat Face of female		RP
	GY	ISO 228-1, BS 2779 (BSPP) JIS B0202 (PF) DIN 3852 (FORM Y) With G & GB Male thread Seal by copper gasket over the flat Face of female		RJ
SAE SAE Straight Thread	U	ASME B1.1, SAE J514 ISO R725, DIN 3852(FORM F) Non-Positionable Seal by O-ring to SAE 1926/1 Straight Thread Boss		SR
	UO	ASME B1.1 SAE J514, ISO R725 O-Seal SAE straight thread Seal by O-ring to SAE J1926/1 Straight Thread Boss		OR
	UP	ASME B1.1 SAE J514, ISO R725 Positionable Seal by O-ring to SAE J1926/1 Straight Thread Boss		ST

Pipe Thread Sealants

When assemble the tapered threads, a thread sealant should be used always to ensure leak-free thread sealing.
Commonly the pipe thread sealant and PTFE tape are available.
The PTFE tape fills the voids between threads and prevents galling on pipe threads. The sealant usually contains a lubricant.
Wrap PTFE tape clockwise from first thread. Do not overhang the first thread; the tape may get into the fluid system.

Tubing

For safe, reliable and leak-free **OTG-LOK Tube Fittings** system, tubing should be considered as one of fitting components.
Suitable tube selection is essential in performance of tubing system.
Purchasing high quality tubing, maintaining the tubing quality on the good quality tubing rack, and proper handling of the tubing are the key to leak-tight tubing system.

- Tubing Selection

Hardness

- Tubing must be softer than fitting material. The metal tubing must be fully annealed and suitable for bending and flaring.

Surface

- Tubing must have a surface free form scratches, draw mark, dirt, dust and flat spots.

Ovality

- Tubing in oval or out-of-roundness may not fit into the fitting. Do not force the tubing into the fitting; it may damage the fitting sealing system on nut, ferrules, and body.

Wall thickness

- The table 1 to 8 list tubing working pressure ratings in a wide range of wall thickness. Do not select a too thin or too thick wall. A too thin wall may collapse and too thick wall may not properly be deformed by the ferrule action.
  Selection the wall's thickness should be based on the applicable pressure, temperature, shock and vibration.
- Do not use tubing wall thickness not listed in the table 1 to 8

Weld tubing

- Welded tubing should have a not measurable bead on its outside diameter.

- Tubing Handling

Tubing must be always carefully handled to keep the tubing surface condition.

- Do not drag tubing out of tubing racks
- Tubing should be stored to avoid collection of dirt and contamination.
- Do not drag tubing across a rough surface such as cement, asphalt, gravel or any other rough surface.
- Tubing ends should be capped so any foreign materials will not fall inside during transportation and storage.

- Tube Cutting

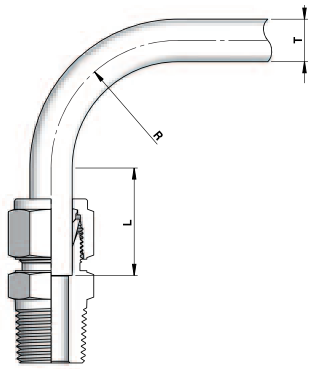
- Tubing cutter wheel and hacksaw blade should always be sharp. The wrong cutter may result in excessive deformation of the tube end.
- Do not cut deep with each turn of cutting.
- Tube end should be deburred always before inserting in fittings.
- Hacksaw blades should have at least 32 teeth per inch.

- Tube Bending

For leak tight installation in case of bended tubing being near the fittings, tube bends must not be too close to the fitting.
There should be enough lineal distance from bending point to the fittings.
When tube bend is too close to the fitting, the deformed section of the bend may enter the fitting, and it may result in leaking.
Also, the bending radius should not be too short of bending radius may affect the working pressure and may cause insufficient flow.
Usually, minimum bending radius is recommended by the tube bender manufacturer.

the following is the recommended minimum straight length of tube measured from the tube end to the bend.

Tube OD	Min. Length	Tube OD (mm)	Min. Length (mm)
1/8"	23/32"	3	19
3/16"	3/4"	6	21
1/4"	13/16"	8	23
5/16"	7/8"	10	25
3/8"	15/16"	12	30
1/2"	1-3/16"	14~18	32
5/8"	1-1/4"	20	32
3/4"	1-1/4"	22	34
7/8"	1-5/16"	25	40
1"	1-1/2"	28	46
1 1/4"	2"	32	52
1 1/2"	2-13/32"	38	62
2"	3-1/4"	50	83



T : Tube O.D

R : Radius
Follow the bented tube vendor's recommendation

L : Straight tubing length is required from the beginning of the bend to the tubing end.

Pressure Ratings

The Pressure rating of **OTG-LOK Tube Fitting** is rated to the working pressure of connective tubing.
The allowable working pressure of tubing in various materials is listed in the tubing table.

Allowable Stress

Stress values are based on ASME Code for Pressure Piping B31.3, Process Piping, at ambient temperature.

Material	Allowable Stress	
	psi	bar
316 SS	20,000	1378
Brass	10,000	689
Steel	20,000	1378

Pressure Ratings

Pressure ratings are based on ASME B31.3 Process Piping, at ambient temperature.

NPT /ISO Pipe Size In.	Stainless Steel and Carbon Steel				Brass			
	Male		Female		Male		Female	
	psig	bar	psig	bar	psig	bar	psig	bar
1/16	11000	758	6700	462	5500	378	3300	227
1/8	10000	689	6500	448	5000	345	3200	220
1/4	8000	551	6600	455	4000	275	3300	227
3/8	7800	538	5300	365	3900	269	2600	179
1/2	7700	531	4900	338	3800	262	2400	165
3/4	7300	503	4600	317	3600	248	2300	158
1	5300	365	4400	303	2600	179	2200	152
1-1/4	6000	414	5000	345	3000	207	2500	172
1-1/2	5000	345	4600	317	2500	172	2300	152
2	3900	270	3900	269	1900	131	1900	131

Parallel Pipe Thread End - G, and GB

Pipe Size in.	Stainless Steel and Carbon Steel	
	Male	
	psi	bar
S Value	20ksi	
1/8	16000	1103
1/4	12500	861
3/8	12000	827
1/2	11900	820
3/4	8000	551
1	5600	386
1 1/4	5400	372
1 1/2	5100	351

SAE Straight Thread End-U, and UP

Nominal SAE Dash Size	SAE Thread Size	Stainless Steel and Carbon Steel			
		Non-Positionable "U"		Positionable "UP"	
		psi	bar	psi	bar
2	5/16-24	4568	315	4568	315
4	7/16-20				
6	9/16-18			3626	250
8	3/4-16				
10	7/8-14	3626	250	2900	200
12	1 1/16-12				
14	1 3/16-12	2900	200	2320	160
16	1 5/16-12				
20	1 5/8-12	2320	160	1813	125
24	1 7/8-12				
32	2 1/2-12	1813	125	1450	100

Pressure ratings are based on SAE J1926/3 at ambient temperature

Positionable ISO/BSPP Parallel Thread-GR

ISO/PSPP Male pipe size in.	Stainless Steel and Carbon Steel	
	psi	bar
1/8	4568	315
1/4		
3/8		
1/2	2320	160
3/4		
1		

Pressure ratings are at ambient temperature

SAE J514 37° Flare AN End

Tube OD		Stainless Steel and Carbon Steel SAE J514, Table1.	
Metro. mm	in.	psi	bar
2	1/8	5000	344
6	1/4	5000	344
8	5/16	5000	344
10	3/8	4000	275
12	1/2	3000	206
16	5/8	3000	206
20	3/4	2500	172
25	1/	2000	137
32	1 1/4	1150	79.2
38	1 1/2	1000	68.9
50	2	1000	68.9

Pressure Ratings are extracted from SAE J514 Standard.

Elevated Temperature De-rating Factors

The allowable working pressure is determined by an elevated temperatures. The working pressure is de-rated as the temperature is elevated. To determine the working pressure at an elevated temperatures, multiply the working pressure at ambient temperature and factor.

Pipe Butt Weld End - BW

Nom. Pipe Size	Stainless Steel and Carbon Steel Butt Weld End	
	psi	bar
S Value	20ksi	
1/8	5300	365
1/4	5200	358
3/8	4400	303
1/2	4100	282
3/4	3200	220
1	3100	213
1 1/4	3000	206
1 1/2	2900	199
2	1900	131

Pressure ratings are at ambient temperature

Tube Socket Weld End - SW

Socket Weld End is rated to the working pressure of tubing connected.

O Seal Fitting "NO" and "UO" Ends

Stainless and Carbon Steel "NO" & "UO" Ends up to 1 in. are rated to 3000 psig (206 bar) at ambient temperature.

Temperature Ratings

The following temperature ratings are applicable.

Tubing Material	Temperature Range
316 Stainless Steel	-196°C to 649°C (-321°F to 1200°F)
Brass	-40°C to 204°C (-40°F to 400°F)
Carbon Steel	-53°C to 427°C (-65°F to 800°F)
Monel	-198°C to 427°C (-325°F to 800°F)
Alloy 600	-130°C to 649°C (-205°F to 1200°F)
Alloy C-276	-195°C to 537°C (-320°F to 1000°F)
Titanium	-195°C to 315°C (-320°F to 600°F)
PTFE	-17°C to 65°C (0°F to 150°F)

Elastomer Seal Temperature Ratings

Elastomer Seal Material	Temperature Range
NBR	-20°C to 105°C (-4°F to 221 °F)
FKM	-28°C to 204°C (-20°F to 400°F)
FFKM	-30°C to 315°C (-22°F to 600°F)
EPDM	-28°C to 148°C (-20°F to 300°F)

Temp °F	℃	Stainless 304	Stainless 316	C.steel A179	Copper B75	825 B423	C276 B622	625 B444	20 B729	400 B165	Super Duplex A789
100	38	1	1	1	1	1	1	1	1	1	1
200	93	1	1	0.96	0.8	0.92	1	1	0.9	0.88	0.9
300	149	1	1	0.9	0.78	0.87	1	1	0.86	0.79	0.85
400	204	0.94	0.97	0.86	0.5	0.83	1	1	0.83	0.79	0.82
500	260	0.88	0.9	0.82	0.13	0.79	0.98	0.97	0.79	0.79	0.81
600	316	0.82	0.85	0.77		0.76	0.93	0.95	0.77	0.79	0.8
700	371	0.8	0.82	0.73		0.74	0.87	0.93	0.76	0.79	
800	427	0.76	0.8	0.59		0.73	0.84	0.93	0.73	0.76	
900	482	0.73	0.78			0.73	0.81	0.93			
1000	538	0.69	0.77			0.71	0.79	0.93			
1200	649	0.3	0.37				0.35	0.93			

Stainless Steel Tubing

Table 1. Fractional Seamless Stainless Steel Tubing

Fully annealed seamless stainless steel tubing ASTM A269 or A213 TP 316/316L, 304/304L or equivalent. Tubing free from scratches, draw mark, dirt, dust, flat spots, and suitable for bending and flaring. Hardness 90 HRB or less

OD	Wall Thickness (in.)															
in	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	0.134	0.156	0.188
1/16	5,600	6,800	8,100	9,400	12,000											
1/8						8,500	10,900									
3/16						5,400	7,000	10,200					Working pressure (psig)			
1/4						4,000	5,100	7,500	10,200							
5/16							4,000	5,800	8,000							
3/8							3,300	4,800	6,500	7,500						
1/2							2,600	3,700	5,100	6,700						
5/8								2,900	4,000	5,200	6,000					
3/4								2,400	3,300	4,200	4,900	5,800				
7/8								2,000	2,800	3,600	4,200	4,800				
1									2,400	3,100	3,600	4,200	4,700			
1 1/4										2,400	2,800	3,300	3,600	4,100	4,900	
1 1/2											2,300	2,700	3,000	3,400	4,000	4,900
2												2,000	2,200	2,500	2,900	3,600

Table 2. Metric Seamless Stainless Steel Tubing

OD	Wall Thickness (mm.)														
mm	0.6	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.5	5.0
2	780	1050													
3	516	710													
4		520	660												
6		330	420	520	670										
8			310	380	490							Working pressure (bar)			
10			240	300	380										
12			200	240	310	380	430								
14			180	220	280	340	390	430							
15			170	200	260	320	360	400							
16				190	240	300	330	370	430						
18				170	210	260	290	320	370						
20				150	190	230	260	290	330	380					
22				140	170	210	230	260	300	340					
25						180	200	230	260	300	320				
28							180	200	230	260	280	330			
30							170	190	210	240	260	310			
32							160	170	200	230	240	290	330		
38								140	170	190	200	240	280	310	
42										170	190	210	250	290	50
50										150	180	210	240	270	

- According to the requirements of ASME B31.3 Process Piping Code and ASME B31.1 Power Piping Code,
  Allowable working pressure are calculated using S value of 20,000psi (1378bar) for ASTM A269 tubing at -20 to 100℉(-28 to 37℃) .
- Pressure calculations are made with maximum O.D. and minimum wall thickness No allowance is made for corrosion and erosion
  Example : ASTM A269 Type 316 Tubing 1/2 in. OD × 0.065 in. WT
  ASTM A269 standard specifies permissible O.D tolerance ± 0.005 in. (±0.13mm), permissible WT tolerance ± 15%,
  Allowable working pressure is therefore calculated with maximum OD 0.505 in. and minimun WT 0.0552 in.
- Safety Factor is 3.75 to 1, considering ultimate tensile strength of 75,000 psi.
- For welded tubing, the following derating rate to be applied for weld integrity. (ASME B31.3 Code)
  for double welded tubing : 0.85
  for single welded tubing : 0.80
  Example: SS316 seamless 1/2 in. O.D. × 0.065 in. WT allowable working pressure : 4700 psi.
  To determine the work pressure of the single weld tubing, multiply 4700 psi by 0.80.
  4700 psig × 0.80 = 3760 psig at -20 to 100℉(-28 to 37℃)

Carbon Steel Tubing

Table 3. Fractional Seamless Carbon Steel Tubing

Soft annealed seamless carbon steel hydraulic tubing ASTM A179 or equivalent. Tubing to be free from scratches, draw mark, dirt, dust, flat spots, and suitable for bending and flaring. Recommended hardness: 72 HRB or less.

OD	Wall Thickness (in.)												
in	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.148	0.165	0.180	0.220
1/8	8,000	10,200											
3/16	5,100	6,600	9,600								Working pressure (psig)		
1/4	3,700	3,700	7,000	9,600									
5/16		3,800	5,500	7,600									
3/8		3,100	4,500	6,200									
1/2		2,300	3,300	4,500	5,900								
5/8		1,800	2,600	3,500	4,600	5,300							
3/4			2,100	2,900	3,700	4,300	5,100						
7/8			1,800	2,400	3,200	3,700	4,300						
1			1,500	2,100	2,700	3,200	3,700	4,100					
1 1/4				1,600	2,100	2,500	2,900	3,200	3,600	4,000	4,600	5,000	
1 1/2					1,800	2,000	2,400	2,600	3,000	3,300	3,700	4,100	5,100
2						1,500	1,700	1,900	2,200	2,400	2,700	3,000	3,700

Table 4. Metric Seamless Carbon Steel Tubing

OD	Wall Thickness (mm.)												
mm	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.5	4.0	4.5
3	670	830											
6	310	400	490	630						Working pressure (bar)			
8		290	360	460									
10		230	280	360									
12		190	230	290	360	410	450						
14		160	190	250	300	340	380						
15		150	180	230	280	320	350						
16			170	210	260	290	330	380					
18			150	190	230	260	290	330					
20			130	170	200	230	250	290	330				
22			120	150	180	210	230	260	300				
25					160	180	200	230	260	280			
28						160	180	200	230	250	290		
30						150	160	190	210	230	270		
32						140	150	170	200	210	250	290	
38							130	140	160	180	210	240	280

Allowable working pressure calculated at −20 to 100°F (−28 to 37°C) using S value of 15,700 psi according to ASME B31.3 Process Piping Code.

- Safety Factor is 3 to 1, considering ultimate tensile strength of 47,000 psi.
- To determine working pressure of ASME B31.1 Power Piping Code, multiply the ASME B31.3 rating by 0.85.

Copper Tubing

Table 5. Fractional Seamless Copper Tubing

Soft annealed seamless copper tubing ASME B75 or equivalent. Soft annealed copper water Tube, Type K or L to ASTM B88. Recommended hardness: 60 HRB or less.

OD	Wall Thickness (in.)									
in	0.010	0.012	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/8			2,700	3,600						
3/16			1,800	2,300	3,400					
1/4			1,300	1,600	2,500	3,500		Working pressure (psig)		
5/16				1,300	1,900	2,700				
3/8				1,000	1,600	2,200				
1/2				800	1,100	1,600	2,100			
5/8					900	1,200	1,600	1,900		
3/4					700	1,000	1,300	1,500	1,800	
7/8					600	800	1,100	1,300	1,500	
1					500	700	900	1,100	1,300	1,500

Table 6. Metric Seamless Copper Tubing

OD	Wall Thickness (mm.)											
mm	0.7	0.8	1.0	1.2	1.5	1.6	1.8	2.0	2.2	2.5	2.8	3.0
3	220	260										
4	160	190	240	290								
6		120	150	190	240	260			Working pressure (bar)			
8		80	110	130	170	190						
10		70	80	100	130	150	160	190				
12		50	70	80	110	120	130	150				
14			60	70	90	100	110	130	140	160		
16			50	60	80	80	100	110	120	140		
18			40	50	70	70	80	90	100	120	140	150
20			40	50	60	60	70	80	90	100	120	130
22			30	40	50	60	70	80	80	100	110	120
25			30	40	50	50	60	70	70	80	90	100
28							50	60	60	70	80	90

According to the requirements of ASME B31.3 Process Piping Code and ASME B31.1 Power Piping Code.
Allowable working pressure are calculated using of 6,000 psi for ASTM B75 and B88 tubing at -20 to 100℉ (-28 to 37℃)
- Safety Factor is 5 to 1, considering ultimate tensile strength of 30,000 psi.

Alloy 400 (Monel)Tubing

Table 7. Fractional Seamless Alloy 400 Tubing

Fully annealed seamless Alloy 400 tubing ASTM B165 or equivalent. Tubing to be free from scratches, draw mark, dirt, dust, flat spots, and suitable for bending and flaring. Recommended hardness: 75HRB or less.

OD	Wall Thickness (in.)							
in.	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/8	7,900	10,100						
1/4	3,700	4,800	7,000	9,500		Working pressure (psig)		
3/8		3,100	4,400	6,100				
1/2		2,300	3,200	4,400				
3/4			2,200	3,000	4,000	4,600		
1				2,200	2,900	3,400	3,900	4,300

Table 8. Metricl Seamless Alloy 400 Tubing

OD	Wall Thickness (mm.)									
mm.	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0
6	310	390	490	620						
8		290	350	450			Working pressure (bar)			
10		220	280	350						
12		180	230	290	360	410	450			
14		160	190	240	270	340	380			
18			150	200	240	270	300	330		
20			130	180	210	240	270	290	330	
25					170	190	210	240	270	290

According to requirement of ASME B31.3 Process Piping Code and ASME B31.1 Power Piping Code, allowable working pressure calculated using S value of 18,700 psi for ASTM B165 tubing at -20 to 100℉(-28 to 37℃).
- Safety Factor is 3.74 to 1, considering ultimate tensile strength of 70,000 psi.

Ordering Information and Dimensions

❖ See How to Order, below. Minimum order quantities may apply to certain materials and configurations.

❖ Dimensions are for reference only and are subject to change. Dimensions are shown with OTGlok nuts finger-tight.

❖ **OTG-LOK** tube fitting ordering numbers follow the sequence shown below

O M C - 8 - 8 R - SS

A B C D E F

- **A : OTG-LOK Tube Fitting (double Ferrule)**
- **B : Fitting Type** (See Catalog page 4~5)
- **C : Tubing O.D**

Tube O.D Designator

OD in.	1/16	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2	2
Designator	1	2	3	4	5	6	8	10	12	14	16	20	24	32
OD mm	2mm	3mm	4mm	6mm	8mm	10mm	12mm	16mm	20mm	22mm	25mm	28mm	32mm	38mm
Designator	2M	3M	4M	6M	8M	10M	12M	16M	20M	22M	25M	28M	32M	38M

- **D : End connection Pipe Thread Size**

Pipe Thread Size Designator

Nom.size in.	1/16	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Designator	1	2	4	6	8	12	16	20	24	32

- **E : End connection Thread Type**

Ex) R = PT

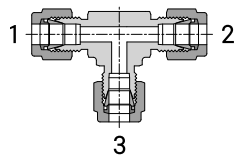
Type	Designator
ASME B 1.20.1 (NPT)	N
ISO 7/1, B821 (BSPT) JIS B 0203 (PT) DIN 2999	R
ISO 228/1 BS 2779 (BSPP) JIS B 0202 (PF)	G
ASME	B 1.1

- **F : Material**

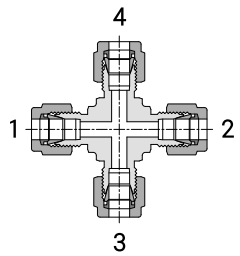
Material	Designator	Material	Designator
Stainless Steel 316	SS	Alloy 600	INC
Brass	BS	Alloy 625	A625
Carbon Steel	CS	Alloy 825	A825
Hastelloy C276	HC	Titanium (Grade 4)	TI
Alloy 400	MO	PTFE	TE

To order, select part number and suffix an applicable material designator to the part number.

- To order complete assembly fitting, apply the material designator of complete assembly. Example: OU-8-**SS**
- To order component only, apply the material designator of component.
  Examples: Stainless steel Nut 1/2 in. OD : ON-8-**SS**
  Stainless steel Front Ferrule 1/2 in. OD: OFF-8-**SS**



Tee part number is described by first the run (1 and 2) and then the branch (3).



Cross part number is described by first the run (1 and 2) and then the branch (3 and 4).

OTG-Lok TUBE FITTINGS INSTALLATION INSTRUCTIONS

OTG-Lok tube fittings 1 in./25 mm and smaller can be installed quickly, easily, and reliably with simple hand tools. Over 1 in./25 mm sizes require use of a hydraulic swaging unit to swage the ferrules onto the tubing.

- Safety Precautions

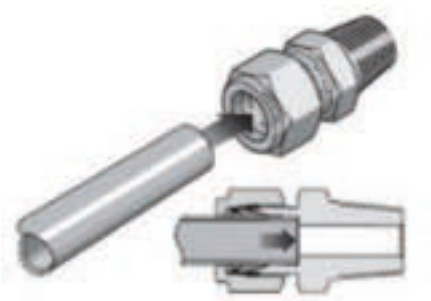
- Do not bleed system by loosening fitting nut or fitting plug.
- Do not make up and tighten fittings when system is pressurized.
- Make sure that the tubing rests firmly on the shoulder of the tube fitting body before tightening the nut.
- Always use proper thread sealants on tapered pipe threads.
- Never turn fitting body. Instead, hold fitting body and turn nut.
- Avoid unnecessary disassembly of unused fittings.

- Preparing

1.Check the fitting and tubing size.
2.Check the tubing surface scratch or distortion.
3.Do deburr tube ends before inserting in fittings.

- Installation Instructions

OTG-LOK Tube Fittings Up to 1 in./25 mm



Fully Insert tubing on the OTG-LOK fitting until the tubing end bottoms on the shoulder of the fitting body. And finger-tighten the nut until dose not rotate by hand.

Mark the nut at 6 o'clock position for starting point

While holding the fitting body steady with a back up wrench, tighten the nut 1-1/4 turns to the 9 o'clock position.

Attention : Tighten the nut ¾ turn to the 3 o'clock position for 1/16,1/8, and 3/16 " ; 2MM, 3MM, and 4MM tube fittings.

- When 1 1/4 turning, it is designed to tolerate until tube breaking pressure. So, turning beyond regulation can make leakage and breakage. And too strong tightening can make it difficult to re-assembly.

- OTG-LOK Tube Fittings Over 1 in./25 mm

1. Preswage the ferrules onto the tubing.
2. Tighten nut one-half turn past finger-tight after the ferrules are preswaged.

- Installation in High-Pressure Applications

Even though OTG-Lok tube fittings are designed to accept the tube variations specified in ASTM or equivalent specifications, it is more desirable to have a common starting point, or snug position, for high pressure applications.

1. Fully insert the tubing into the fitting and against the shoulder; rotate the nut finger-tight.
2. Due to the variations of tubing diameters, a common starting point is desirable. Therefore, tighten the nut until the tubing will not turn by hand or move axially in the fitting.
3. Mark the nut at the 6 o'clock position.
4. While holding the fitting body steady with a back up wrench, tighten the nut 1-1/4 turns to the 9 o'clock position.
   Attention : Tighten the nut ¾ turn to the 3 o'clock position for 1/16,1/8,and 3/16 " ;2MM, 3MM, and 4MM tube fittings.

- Re-assembly Instructions - All Sizes

OTG-Lok tube fittings can be used many times.
Prior to re-assembly, ensure the components are clean and free of defects

Fig1

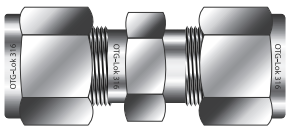
Fig2

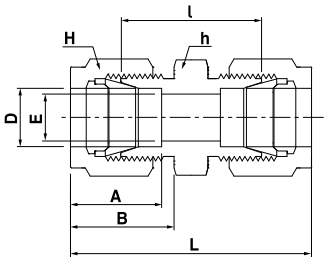
1. Insert tubing with preswaged ferrules into the fitting body until the front ferrule seats firmly. (Fig. 1).
2. Hand-tighten the nut.
3. Rotate the nut with a wrench to the previously pulled-up position; at this point, a significant increase in resistance will be encountered and a sharp rise in torque is felt.
4. Tighten slightly with a wrench. (about ¼ turn) (Fig. 2).

Do not use the Gap inspection gauge with reassembled fittings.

OU

Union





Connects fractional tube

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	L
				h		H					
	in.	mm		in.	mm	in.	mm				
OU-1	1/16	1.59	1.27	5/16	7.93	5/16	7.93	8.63	10.92	17.50	25.15
OU-2	1/8	3.17	2.28	7/16	11.11	7/16	11.11	12.70	15.24	22.35	35.56
OU-3	3/16	4.76	3.04	7/16	11.11	1/2	12.70	13.71	16.00	24.13	37.33
OU-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	26.16	40.89
OU-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	28.19	42.92
OU-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	30.22	44.95
OU-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	30.98	51.30
OU-10	5/8	15.87	12.70	15/16	23.81	1	25.40	24.38	21.84	31.75	52.07
OU-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	33.27	53.59
OU-14	7/8	22.22	18.28	1-3/16	30.16	1-1/4	31.75	25.90	21.84	35.05	55.37
OU-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	40.38	64.77
OU-20	1-1/4	31.75	27.68	1-3/4	44.45	1-7/8	47.68	41.14	38.86	48.00	92.20
OU-24	1-1/2	38.10	34.03	2-1/8	53.97	2-1/4	57.15	50.03	45.21	53.60	107.95
OU-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	74.70	149.35

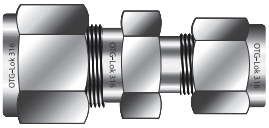
Connects metric tube

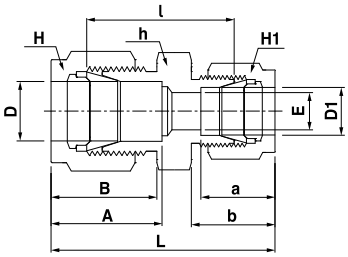
Part No.	Tube O.D D	E Min.	Width across flat		A	B	l	L
			h	H				
OU-2M	2	1.7	12	12	12.9	15.3	22.4	35.6
OU-3M	3	2.4	12	12	12.9	15.3	22.1	35.3
OU-4M	4	2.4	12	12	13.7	16.1	24.1	37.3
OU-6M	6	4.8	14	14	15.3	17.7	26.2	41.0
OU-8M	8	6.4	15	16	16.2	18.6	28.2	43.2
OU-10M	10	7.9	18	19	17.2	19.5	31.0	46.2
OU-12M	12	9.5	22	22	22.8	22.0	31.0	51.2
OU-15M	15	11.9	24	25	24.4	22.0	31.8	52.0
OU-16M	16	12.7	24	25	24.4	22.0	31.8	52.0
OU-18M	18	15.1	27	30	24.4	22.0	33.3	53.5
OU-20M	20	15.9	30	32	26.0	22.0	34.8	55.0
OU-22M	22	18.3	30	32	26.0	22.0	34.8	55.0
OU-25M	25	21.8	35	38	31.3	26.5	40.4	65.0
OU-28M	28	21.8	41	46	36.6	36.6	43.4	85.0
OU-32M	32	28.6	46	50	42.0	41.6	51.3	97.3
OU-38M	38	33.7	55	60	49.4	47.9	58.4	113.6
OU-42M	42	36.8	60	65	49.3	47.8	58.4	113.4
OU-50M	50	45.2	70	76	65.0	60.2	74.7	146.0

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

ORU

Reducing Union





Connects fractional tube

Part No.	Tube O.D				E Min.	Width across flat						A	a	B	b	l	L
	D		D1			h		H		H1							
	in.	mm	in.	mm		in.	mm	in.	mm	in.	mm						
ORU 2-1	1/8	3.18	1/16	1.59	1.27	7/16	11.11	7/16	11.11	5/16	7.93	12.70	8.63	15.24	10.92	20.60	30.91
ORU 3-1	3/16	4.76	1/16	1.59	1.27	7/16	11.11	1/2	12.70	5/16	7.93	13.71	8.63	16.00	10.92	21.84	32.25
ORU 3-2	3/16	4.76	1/8	3.17	2.28	7/16	11.11	1/2	12.70	7/16	11.11	13.71	12.70	16.00	15.24	23.36	36.57
ORU 4-1	1/4	6.35	1/16	1.59	1.27	1/2	12.70	9/16	14.28	5/16	7.93	15.24	8.63	17.78	10.92	23.11	34.29
ORU 4-2	1/4	6.35	1/8	3.17	2.28	1/2	12.70	9/16	14.28	7/16	11.11	15.24	12.70	17.78	15.24	24.63	38.60
ORU 4-3	1/4	6.35	3/16	4.76	3.04	1/2	12.70	9/16	14.28	1/2	12.70	15.24	13.71	17.78	16.00	25.40	39.37
ORU 5-2	5/16	7.93	1/8	3.17	2.28	9/16	14.28	5/8	15.87	7/16	11.11	16.25	12.70	18.54	15.24	25.90	39.37
ORU 5-4	5/16	7.93	1/4	6.35	4.82	9/16	14.28	5/8	15.87	9/16	14.28	16.25	15.24	18.54	17.78	27.43	42.16
ORU 6-1	5/16	9.52	1/6	1.59	1.27	5/8	15.87	11/16	17.46	5/16	7.93	16.76	8.63	19.30	10.92	25.40	36.57
ORU 6-2	3/8	9.52	1/8	3.17	2.28	5/8	15.87	11/16	17.46	7/16	11.11	16.76	12.70	19.30	15.24	26.92	40.89
ORU 6-4	3/8	9.52	1/4	6.35	4.82	5/8	15.87	11/16	17.46	9/16	14.28	16.76	15.24	19.30	17.78	28.44	43.18
ORU 6-5	3/8	9.52	5/16	7.93	6.35	5/8	15.87	11/16	17.46	5/8	15.87	16.76	16.25	19.30	18.54	29.46	44.19
ORU 8-2	1/2	12.70	1/8	3.17	2.28	13/16	20.63	7/8	22.22	7/16	11.11	22.86	12.70	21.84	15.24	28.44	45.21
ORU 8-4	1/2	12.70	1/4	6.35	4.82	13/16	20.63	7/8	22.22	9/16	14.28	22.86	15.24	21.84	17.78	29.46	46.99
ORU 8-6	1/2	12.70	3/8	9.52	7.11	13/16	20.63	7/8	22.22	11/16	17.46	22.86	16.76	21.84	19.30	30.98	48.51
ORU 10-6	5/8	15.87	3/8	9.52	7.11	15/16	23.81	1	25.40	11/16	17.46	24.38	16.76	21.84	19.30	31.75	49.27
ORU 10-8	5/8	15.87	1/2	12.70	10.41	15/16	23.81	1	25.40	7/8	22.22	24.38	22.86	21.84	21.84	31.75	52.07
ORU 12-4	3/4	19.05	1/4	6.35	4.82	1-1/16	26.98	1-1/8	28.57	9/16	14.48	24.38	15.24	21.84	17.78	31.75	49.27
ORU 12-6	3/4	19.05	3/8	9.52	7.11	1-1/16	26.98	1-1/8	28.57	11/16	17.46	24.38	16.76	21.84	19.30	33.27	50.80
ORU 12-8	3/4	19.05	1/2	12.70	10.41	1-1/16	26.98	1-1/8	28.57	7/8	22.22	24.38	22.86	21.84	21.84	33.27	53.59
ORU 12-10	3/4	19.05	5/8	15.87	12.70	1-1/16	26.98	1-1/8	28.57	1	25.40	24.38	24.38	21.84	21.84	33.27	53.59
ORU 16-8	1	25.40	1/2	12.70	10.41	1-3/8	34.92	1-1/2	38.10	7/8	22.22	31.24	22.86	26.41	21.84	40.89	63.24
ORU 16-12	1	25.40	3/4	19.05	15.74	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	31.24	24.38	26.41	21.84	40.89	62.73

Connects metric tube

Part No.	Tube O.D. D		E Min.	Width across flat			A	a	B	b	l	L
	D	D1		h	H	H1						
ORU 3M-2M	3	2	1.7	12	12	12	12.9	12.9	15.3	15.3	22.1	35.3
ORU 6M-2M	6	2	1.7	14	14	12	15.3	12.9	17.7	15.3	24.6	38.6
ORU 6M-3M	6	3	2.4	14	14	12	15.3	12.9	17.7	15.3	24.6	38.6
ORU 6M-4M	6	4	2.4	14	14	12	15.3	13.7	17.7	16.1	25.4	39.4
ORU 8M-6M	8	6	4.8	15	16	14	16.2	15.3	18.6	17.7	27.4	42.3
ORU 10M-3M	10	3	2.4	18	19	12	17.2	12.9	19.5	15.3	27.7	41.9
ORU 10M-4M	10	4	2.4	18	19	12	17.2	13.7	19.5	16.1	28.7	42.9
ORU 10M-6M	10	6	4.8	18	19	14	17.2	15.3	19.5	17.7	29.5	44.5
ORU 10M-8M	10	8	6.4	18	19	16	17.2	16.2	19.5	18.6	30.0	45.1
ORU 12M-6M	12	6	4.8	22	22	14	22.8	15.3	22.0	17.7	29.5	47.0
ORU 12M-8M	12	8	6.4	22	22	16	22.8	16.2	22.0	18.6	30.2	47.8
ORU 12M-10M	12	10	7.9	22	22	19	22.8	17.2	22.0	19.5	31.0	48.7
ORU 16M-10M	16	10	7.9	24	25	19	24.4	17.2	22.0	19.5	31.8	49.5
ORU 16M-12M	16	12	9.5	24	25	22	24.4	22.8	22.0	22.0	31.8	52.0
ORU 18M-10M	18	10	7.9	27	30	19	24.4	17.2	22.0	19.5	33.0	51.0
ORU 18M-12M	18	12	9.5	27	30	22	24.4	22.8	22.0	22.0	33.3	53.5
ORU 25M-18M	25	18	15.1	35	38	30	31.3	24.4	26.5	22.0	38.6	61.0
ORU 25M-20M	25	20	15.9	35	38	32	31.3	26.0	26.5	22.0	39.9	62.3
ORU 30M-18M	30	18	15.1	46	50	30	39.7	24.4	39.3	22.0	43.7	75.4
ORU 30M-20M	30	20	15.9	46	50	32	39.7	26.0	39.3	22.0	43.7	75.4
ORU 30M-25M	30	25	21.8	46	50	38	39.7	31.3	39.3	26.5	46.2	80.1
ORU 32M-18M	32	18	15.1	46	50	30	42.0	24.4	41.6	22.0	44.7	77.8
ORU 32M-20M	32	20	15.9	46	50	32	42.0	26.0	41.6	22.0	44.7	77.8
ORU 32M-25M	32	25	21.8	46	50	38	42.0	31.3	41.6	26.5	47.0	82.3
ORU 38M-20M	38	20	15.9	55	60	32	49.4	26.0	47.9	22.0	49.8	87.5
ORU 38M-25M	38	25	21.8	55	60	38	49.4	31.3	47.9	26.5	52.1	92.0
ORU 38M-30M	38	30	26.2	55	60	50	49.4	39.7	47.9	39.3	55.4	104.6

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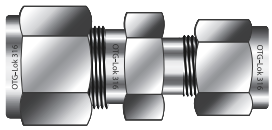
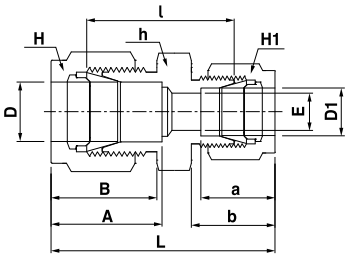
ORU

Reducing Union





Connects metric tube to fractional tube

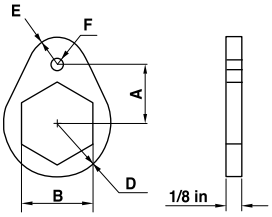
Part No.	Tube O.D D	D1 in.	D1 mm	E Min.	Width across flat h	H	H1(in.)	A	a	B	b	l	L
ORU 3M-2	3	1/8	3.17	2.3	7/16 in	12	7/16	12.9	12.8	15.3	15.2	22.1	35.2
ORU 4M-2	4	1/8	3.17	2.3	7/16 in	12	7/16	13.7	12.8	16.1	15.2	23.4	36.5
ORU 4M-4	4	1/4	6.35	2.4	7/16 in	12	9/16	13.7	15.3	16.1	17.7	25.4	39.4
ORU 6M-2	6	1/8	3.17	2.3	1/2 in	14	7/16	15.3	12.8	17.7	15.2	24.6	38.5
ORU 6M-4	6	1/4	6.35	4.8	1/2 in	14	9/16	15.3	15.3	17.7	17.7	26.2	41.0
ORU 6M-5	6	5/16	7.93	4.8	14	14	5/8	15.3	16.2	17.7	18.6	27.4	42.3
ORU 8M-4	8	1/4	6.35	4.8	15	16	9/16	16.2	15.3	18.6	17.7	27.4	42.3
ORU 10M-2	10	1/8	3.17	2.3	17	19	7/16	17.2	12.8	19.5	15.2	27.7	41.8
ORU 10M-4	10	1/4	6.35	4.8	17	19	9/16	17.2	15.3	19.5	17.7	29.5	44.5
ORU 10M-5	10	1/16	7.93	6.3	17	19	5/8	17.2	16.2	19.5	18.6	30.3	45.1
ORU 10M-6	10	3/8	9.52	7.0	17	19	11/16	17.2	16.9	19.5	19.2	31.0	45.9
ORU 12M-5	12	5/16	7.93	6.3	13/16 in	22	5/8	22.8	16.2	22.0	18.6	30.3	47.8
ORU 12M-6	12	3/8	9.52	7.0	13/16 in	22	11/16	22.8	16.9	22.0	19.2	31.0	48.4
ORU 12M-8	12	1/2	12.70	9.5	13/16 in	22	7/8	22.8	22.8	22.0	22.0	31.0	51.2
ORU 15M-8	15	1/2	12.70	10.4	24	25	7/8	24.4	22.8	22.0	22.0	31.8	52.0
ORU 16M-10	16	5/8	15.87	12.7	24	25	1	24.4	24.4	22.0	22.0	31.8	52.0
ORU 18M-12	18	3/4	19.05	15.0	27	30	1-1/2	24.4	24.4	22.0	22.0	33.3	53.5
ORU 20M-12	20	3/4	19.05	15.7	30	32	1-1/8	26.0	24.4	22.0	22.0	34.8	54.9
ORU 20M-16	20	1	25.40	16.0	35	32	1-1/2	26.0	31.2	22.0	26.4	38.0	60.3
ORU 22M-16													

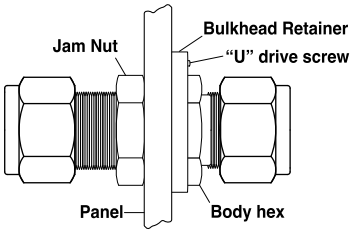
OBR

Bulkhead Retainer

Keeping the bulkhead retainer and jam nut tightened over panel, bulkhead retainer acts as a buckup wrench when tube ports are pulled up.

"U" drive screw is not supplied.





Connects fractional tube

Part No.	Tube O.D D in.	D mm	A	B	D	E	F	"U" Drive Screw	Drill Number	Drill Hole Dia
OBR-1-SS	1/16	-	9.52	7.94	7.94	3.97	3.97	#6-3/8	31	3.05
OBR-2-SS	1/8	-	12.7	12.7	10.31	5.55	3.97	#6-3/8	31	3.05
OBR-3-SS	3/16	3M, 4M	14.28	14.28	11.90	6.35	3.97	#6-3/8	31	3.05
OBR-4-SS	1/4	6M	15.87	15.87	12.7	7.14	3.97	#6-3/8	31	3.05
OBR-5-SS	5/16	-	17.46	17.46	14.28	7.94	3.97	#6-3/8	31	3.05
OBR-8M-SS	-	8M	17.46	18.0	14.28	7.94	3.97	#6-3/8	31	3.05
OBR-6-SS	3/8	-	19.05	19.05	15.87	8.73	3.97	#6-3/8	31	3.05
OBR-10M-SS	-	10M	23.81	22.0	19.05	10.31	5.55	#10-1/2	27	3.66
OBR-8-SS	1/2	12M	23.81	23.81	19.05	10.31	5.55	#10-1/2	27	3.66
OBR-10-SS	5/8	15M,16M	25.4	26.98	20.64	10.31	5.55	#10-1/2	27	3.66
OBR-12-SS	3/4	18M	26.98	30.16	23.02	11.90	5.55	#10-1/2	27	3.66
OBR-14-SS	7/8	-	28.57	33.33	26.19	13.49	5.55	#10-1/2	27	3.66
OBR-16-SS	1	-	32.54	41.27	29.37	14.28	5.55	#10-1/2	27	3.66

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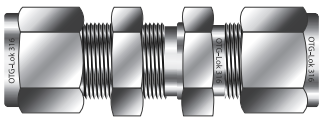
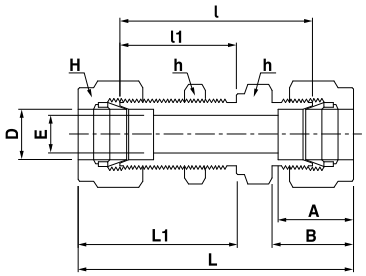
OBU

Bulkhead Union





Connects fractional tube

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	l1	L	L1	Panel Hole Drill Size	Panel Max Thickness
				h		H									
	in.	mm		in.	mm	in.	mm								
OBU-1	1/16	1.59	1.27	5/16	7.93	5/16	7.93	8.63	10.92	23.87	13.46	31.50	17.27	5.16	3.05
OBU-2	1/8	3.17	2.28	1/2	12.70	7/16	11.11	12.70	15.24	38.10	24.63	51.30	31.24	8.33	12.70
OBU-3	3/16	4.76	3.04	9/16	14.28	1/2	12.70	13.71	16.00	40.38	25.40	53.59	32.00	9.92	12.70
OBU-4	1/4	6.35	4.82	5/8	15.87	9/16	14.28	15.24	17.78	42.92	26.16	57.65	33.52	11.50	10.16
OBU-5	5/16	7.93	6.35	11/16	17.46	5/8	15.87	16.25	18.54	45.97	28.44	60.70	35.81	13.09	11.17
OBU-6	3/8	9.52	7.11	3/4	19.05	11/16	17.46	16.76	19.30	47.49	29.46	62.23	36.83	14.68	11.17
OBU-8	1/2	12.70	10.41	15/16	23.81	7/8	22.22	22.86	21.84	50.80	31.75	71.12	41.91	19.44	12.70
OBU-10	5/8	15.87	12.70	1-1/16	26.98	1	25.40	24.38	21.84	52.32	32.51	72.64	42.67	22.62	12.70
OBU-12	3/4	19.05	15.74	1-3/16	30.16	1-1/8	28.57	24.38	21.84	58.67	37.33	78.99	47.49	25.79	16.76
OBU-14	7/8	22.22	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	64.26	42.92	84.58	53.08	28.97	19.05
OBU-16	1	25.40	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	71.37	45.21	95.75	57.40	33.73	19.05
OBU-20	1-1/4	31.75	27.68	1-7/8	47.63	1-7/8	47.63	41.14	38.86	78.99	47.75	123.19	69.85	41.67	19.05
OBU-24	1-1/2	38.10	34.03	2-1/4	57.15	2-1/4	57.15	50.03	45.21	84.83	49.27	139.19	76.45	49.61	19.05
OBU-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	105.56	56.38	180.34	93.72	57.94	19.05

Connects metric tube

Part No.	Tube O.D D	E Min.	Width across flat		A	B	l	l1	L	L1	Panel Hole Drill Size	Panel Max Thickness
			h	H								
OBU-3M	3	2.4	14.0	12	12.9	15.3	38.1	24.6	51.3	31.2	8.3	12.7
OBU-4M	4	2.4	14.0	12	13.7	16.1	40.4	25.4	53.6	32.0	9.9	12.7
OBU-6M	6	4.8	16.0	14	15.3	17.7	42.9	26.2	57.7	33.6	11.5	10.2
OBU-8M	8	6.4	18.0	16	16.2	18.6	46.0	28.6	61.0	36.1	13.1	11.2
OBU-10M	10	7.9	22.0	19	17.2	19.5	48.5	29.4	63.7	37.0	16.2	11.2
OBU-12M	12	9.5	24.0	22	22.8	22.0	50.8	31.8	71.0	41.9	19.5	12.7
OBU-15M	15	11.9	27.0	25	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
OBU-16M	16	12.7	27.0	25	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
OBU-18M	18	15.1	30.0	30	24.4	22.0	58.7	37.3	78.9	47.4	26.0	16.8
OBU-20M	20	15.9	35.0	32	26.0	22.0	64.3	42.9	84.5	53.0	29.0	17.0
OBU-22M	22	18.3	35.0	32	26.0	22.0	64.3	42.9	84.5	53.0	29.0	19.1
OBU-25M	25	21.8	41.3	38	31.3	26.5	71.4	45.2	95.9	57.5	33.7	19.1
OBU-32M	32	28.6	50.0	50	42.0	41.6	82.3	49.5	128.3	72.5	42.5	19.0
OBU-38M	38	33.7	60.0	60	49.4	47.9	89.4	51.5	144.6	79.1	50.5	19.0

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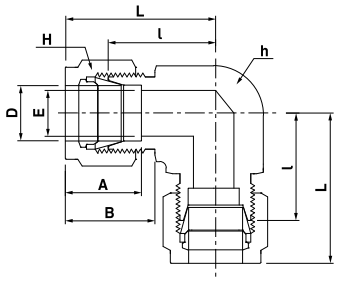
OUE

Union Elbow



Connects fractional tube

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	L
				h		H					
	in.	mm		in.	mm	in.	mm				
OUE-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.88
OUE-2	1/8	3.17	2.28	3/8	9.52	7/16	11.11	12.70	15.24	15.74	22.35
OUE-3	3/16	4.76	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.78	24.38
OUE-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92
OUE-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70
OUE-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48
OUE-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06
OUE-10	5/8	15.87	12.70	15/16	23.80	1	25.40	24.38	21.84	28.70	38.80
OUE-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87
OUE-14	7/8	22.22	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70
OUE-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02
OUE-20	1-1/4	31.75	27.68	1-11/16	42.89	1-7/8	47.63	41.14	38.86	44.50	66.54
OUE-24	1-1/2	38.10	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97
OUE-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18

Connects metric tube

Part No.	Tube O.D D	E Min.	Width across flat		A	B	l	L
			h	H				
OUE-2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
OUE-3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
OUE-4M	4	2.4	12.7	12	13.7	16.4	18.8	25.4
OUE-6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
OUE-8M	8	6.4	14.3	16	16.2	18.6	21.3	28.8
OUE-10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
OUE-12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
OUE-15M	15	11.9	25.4	25	24.4	22.0	28.7	38.8
OUE-16M	16	12.7	25.4	25	24.4	22.0	28.7	38.8
OUE-18M	18	15.1	27.0	30	24.4	22.0	29.7	39.8
OUE-20M	20	15.9	34.92	32	26.0	22.0	34.5	44.6
OUE-22M	22	18.3	34.92	32	26.0	22.0	34.5	44.6
OUE-25M	25	21.8	34.92	38	31.3	26.5	36.8	49.1
OUE-28M	28	21.8	41.0	46	36.6	36.6	43.2	64.0
OUE-32M	32	28.6	46.0	50	42.0	41.6	49.3	72.3
OUE-38M	38	33.7	55.0	60	49.4	47.9	56.4	84.0

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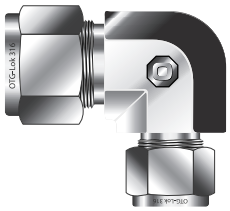
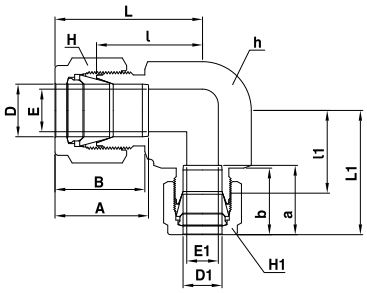
ORE

Reducing Union Elbow





Connects fractional tube

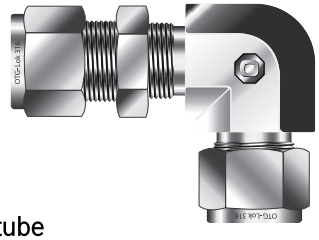
Part No.	Tube O.D				Width across flat						E	E1	A	a	B	b	l	l1	L	L1
	D		D1		h		H		H1											
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm										
ORE 2-1	1/8	3.17	1/16	1.59	3/8	9.52	7/16	11.11	5/16	7.93	2.4	1.3	12.7	8.63	15.24	10.93	15.74	14.2	22.35	18.0
ORE 4-2	1/4	6.35	1/8	3.17	1/2	12.7	9/16	14.28	7/16	11.11	4.8	2.4	15.24	12.7	17.78	15.24	19.55	17.9	26.92	24.5
ORE 6-4	3/8	9.52	1/4	6.35	5/8	15.87	11/16	17.46	9/16	14.28	7.1	4.8	16.76	15.24	19.3	17.78	23.1	21.92	30.47	29.29
ORE 8-4	1/2	12.7	1/4	6.35	13/16	20.64	7/8	22.22	9/16	14.28	10.41	4.8	22.86	15.24	21.84	17.78	25.9	24.4	36.06	31.77
ORE 8-6	1/2	12.7	3/8	9.52	13/16	20.64	7/8	22.22	11/16	17.46	10.41	7.1	22.86	16.76	21.84	19.30	25.9	25.9	36.06	33.27

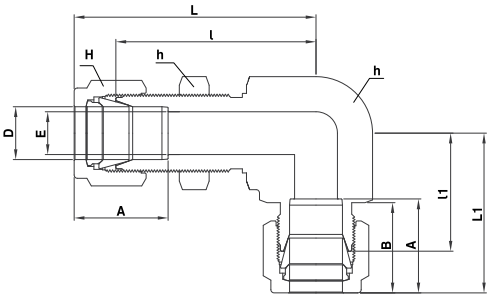
Connects metric tube

Part No.	Tube O.D			Width across flat					E	E1	A	a	B	b	l	l1	L	L1
	D	D1		h		H	H1											
		in.	mm	in.	mm	mm	in.	mm										
ORE 8M-4	8	1/4	6.35	9.16	14.28	16	9/16	14.28	6.4	4.8	16.2	15.24	18.6	17.78	21.3	20.6	28.7	28.0

OBUE

Bulkhead Elbow Union





Connects fractional tube

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	l1	L	L1	Panel Hole Drill size	Panel Max Tickness
				h		H									
	in.	mm		in.	mm	in.	mm								
OBUE-4	1/4	6.35	4.82	5/8	15.87	9/16	14.28	15.24	17.78	36.5	20.6	48.01	32.11	11.50	10.16
OBUE-6	3/8	9.52	7.11	3/4	19.05	11/16	17.46	16.76	19.30	43.5	25.9	50.82	33.22	14.68	11.17
OBUE-8	1/2	12.70	10.41	15/16	23.81	7/8	22.22	22.86	21.84	48.7	28.7	58.84	38.84	19.44	12.70
OBUE-12	3/4	15.74	15.74	1-3/16	30.16	1-1/8	28.58	24.38	21.84	60.0	34.5	69.88	44.38	25.79	16.76

Connects metric tube

Part No.	Tube O.D	E Min.	Width across flat			A	B	l	l1	L	L1	Panel Hole Drill size	Panel Max Tickness
			h	h1	H								
OBUE-6M	6	4.8	15.8	14.2	14.0	15.3	1707	36.5	20.6	43.9	30.0	11.5	10.2
OBUE-8M	8	6.4	17.4	17.4	16.0	18.6	46.0	40.9	23.2	48.4	30.7	13.1	11.2
OBUE-10M	10	7.9	22.0	22.0	19.0	19.5	48.5	44.5	26.9	52.1	34.5	16.2	11.2
OBUE-12M	12	9.5	23.8	23.8	22.0	22.0	50.8	46.9	26.9	57.0	37.0	19.5	12.7
OBUE-16M	16	13.5	27.0	27.0	25.0	22.0	52.3	53.5	34.1	63.7	44.5	22.8	12.7
OBUE-20M	20	15.9	35.0	35.0	32.0	26.0	22.0	68.4	39.0	78.2	48.7	29.0	17.0
OBUE-25M	25	21.8	41.0	41.0	38.0	31.3	26.5	74.2	46.1	86.5	58.4	33.7	19.1

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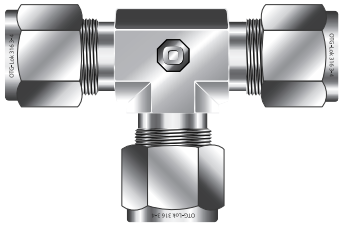
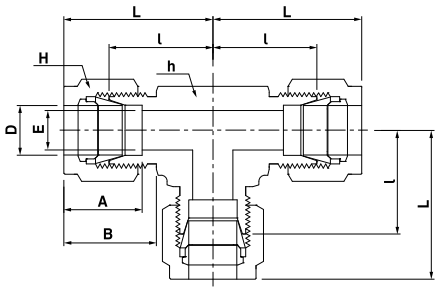
OUT

Union Tee





Connects fractional tube

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	L
				h		H					
	in.	mm		in.	mm	in.	mm				
OUT-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.88
OUT-2	1/8	3.17	2.28	3/8	9.52	7/16	11.11	12.70	15.24	15.74	22.35
OUT-3	3/16	4.76	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.78	24.38
OUT-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92
OUT-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70
OUT-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48
OUT-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06
OUT-10	5/8	15.87	12.70	15/16	23.80	1	25.40	24.38	21.84	28.70	38.80
OUT-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87
OUT-14	7/8	22.22	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70
OUT-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02
OUT-20	1-1/4	31.75	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54
OUT-24	1-1/2	38.10	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97
OUT-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18

Connects metric tube

Part No.	Tube O.D D	E Min.	Width across flat		A	B	l	L
			h	H				
OUT-2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
OUT-3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
OUT-4M	4	2.4	12.7	12	13.7	16.1	18.8	25.4
OUT-6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
OUT-8M	8	6.4	14.3	16	16.2	18.6	21.3	28.8
OUT-10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
OUT-12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
OUT-15M	15	11.9	25.4	25	24.4	22.0	28.7	38.8
OUT-16M	16	12.7	25.4	25	24.4	22.0	28.7	38.8
OUT-18M	18	15.1	27.0	30	24.4	22.0	29.7	39.8
OUT-20M	20	15.9	34.92	32	26.0	22.0	34.5	44.6
OUT-22M	22	18.3	34.92	32	26.0	22.0	34.5	44.6
OUT-25M	25	21.8	34.92	38	31.3	26.5	36.8	49.1
OUT-28M	28	21.8	41.0	46	36.6	36.6	43.2	64.0
OUT-32M	32	28.6	46.0	50	42.0	41.6	49.3	72.3
OUT-38M	38	33.7	55.0	60	49.4	47.9	56.4	84.0

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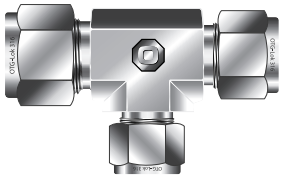
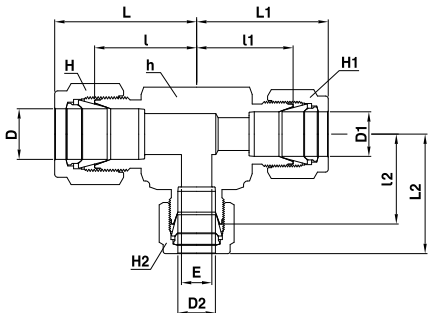
ORT

Reducing Union Tee





Connects fractional tube

Part No.	Port 1 D		Port 2 D1		Port 3 D2		E min.	Width across flat								l	l1	l2	L	L1	L2
								h		H		H1		H2							
	in.	mm	in.	mm	in.	mm		in.	mm	in.	mm	in.	mm	in.	mm						
ORT 4-2	1/4	6.35	1/4	6.35	1/8	3.17	2.28	1/2	12.70	9/16	14.28	9/16	14.28	7/16	11.11	19.55	19.55	17.90	26.91	26.91	24.50
ORT 4-6	1/4	6.35	1/4	6.35	3/8	9.52	4.82	5/8	15.87	9/16	14.28	9/16	14.28	11/16	17.46	21.92	21.92	23.10	29.28	29.28	30.46
ORT 4-8-8	1/4	6.35	1/2	12.70	1/2	12.70	4.82	13/16	20.64	9/16	14.28	7/8	22.22	7/8	22.22	24.40	25.90	25.90	31.76	36.06	36.06
ORT 6-4-6	3/8	9.52	1/4	6.35	3/8	9.52	4.82	5/8	15.87	11/16	17.46	9/16	14.28	11/16	17.46	23.10	21.92	23.10	30.46	29.28	30.46
ORT 6-4	3/8	9.52	3/8	9.52	1/4	6.35	4.82	5/8	15.87	11/16	17.46	11/16	17.46	9/16	14.28	23.10	23.10	21.92	30.46	30.46	29.28
ORT 6-8	3/8	9.52	3/8	9.52	1/2	12.70	7.11	13/16	20.64	11/16	17.46	11/16	17.46	7/8	22.22	25.90	25.90	25.90	33.26	33.26	36.06
ORT 8-4-6	1/2	12.70	1/4	6.35	3/8	9.52	4.82	13/16	20.64	7/8	22.22	9/16	14.28	11/16	17.46	25.90	25.90	25.90	36.06	31.76	33.26
ORT 8-4-8	1/2	12.70	1/4	6.35	1/2	12.70	4.82	13/16	20.64	7/8	22.22	9/16	14.28	7/8	22.22	25.90	24.40	25.90	36.06	31.76	36.06
ORT 8-6-6	1/2	12.70	3/8	9.52	3/8	9.52	7.11	13/16	20.64	7/8	22.22	11/16	17.46	11/16	17.46	25.90	25.90	25.90	36.06	33.26	33.26
ORT 8-4	1/2	12.07	1/2	12.70	1/4	6.35	4.82	13/16	20.64	7/8	22.22	7/8	22.22	9/16	14.28	25.90	25.90	24.40	36.06	36.06	31.76
ORT 8-6	1/2	12.70	1/2	12.70	3/8	9.52	7.11	13/16	20.64	7/8	22.22	7/8	22.22	11/16	17.46	25.90	25.90	25.90	36.06	36.06	33.26
ORT 10-6	5/8	15.87	5/8	15.87	3/8	9.52	7.11	15/16	23.81	1	25.40	1	25.40	11/16	17.46	28.70	28.70	28.70	38.86	38.86	36.06
ORT 12-8-12	3/4	19.05	1/2	12.70	3/4	19.05	10.41	1-1/16	26.98	1-1/8	28.58	7/8	22.22	1-1/8	28.58	29.71	29.71	29.71	39.87	38.37	39.87
ORT 12-4	3/4	19.05	3/4	19.05	1/4	6.35	4.82	1-1/16	26.98	1-1/8	28.58	1-1/8	28.58	9/16	14.28	29.71	29.71	28.21	39.87	39.87	35.57
ORT 12-6	3/4	19.05	3/4	19.05	3/8	9.52	7.11	1-1/16	26.98	1-1/8	28.58	1-1/8	28.58	11/16	17.46	29.71	29.71	29.71	39.87	39.87	37.1
ORT 12-8	3/4	19.05	3/4	19.05	1/2	12.70	10.41	1-1/16	26.98	1-1/8	28.58	1-1/8	28.58	7/8	22.22	29.71	29.71	29.71	39.87	39.87	38.37
ORT 12-16	3/4	19.05	3/4	19.05	1	25.40	15.74	1-3/8	34.92	1-1/8	28.58	1-1/8	28.58	1-1/2	38.10	34.43	34.43	36.83	49.02	49.02	45.70
ORT 12-20	3/4	19.05	3/4	19.05	1-1/4	31.75	15.74	1-11/16	42.86	1-1/8	28.58	1-1/8	28.58	1-7/8	47.63	39.41	39.41	44.45	49.57	49.57	66.55
ORT 14-8	7/8	22.22	7/8	22.22	1/2	12.70	10.41	1-1/4	31.75	1-1/4	31.75	1-1/4	31.75	7/8	22.22	34.54	34.54	34.54	44.70	44.70	44.70
ORT 16-12-12	1	25.40	3/4	19.05	3/4	19.05	15.74	1-3/8	34.92	1-1/2	38.10	1-1/8	28.58	1-1/8	28.58	36.83	35.54	35.54	49.02	45.70	45.70
ORT 16-4	1	25.04	1	25.40	1/4	6.35	4.82	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	9/16	14.28	36.83	36.83	33.04	49.02	49.02	40.40
ORT 16-6	1	25.40	1	25.40	3/8	9.52	7.11	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	11/16	17.46	36.83	36.83	35.54	49.02	49.02	41.90
ORT 16-8	1	25.40	1	25.40	1/2	12.70	10.41	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	7/8	22.22	36.83	36.83	35.54	49.02	49.02	44.70
ORT 16-12	1	25.40	1	25.40	3/4	19.05	15.74	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	1-1/8	28.58	36.83	36.83	35.54	49.02	49.02	45.70
ORT 20-12-12	1-1/4	31.75	3/4	19.05	3/4	19.05	15.74	1-11/16	42.86	1-7/8	47.63	1-1/8	28.58	1-1/8	28.58	44.45	39.41	39.41	66.55	49.57	49.57
ORT 20-12	1-1/4	31.75	1-1/4	31.75	3/4	19.05	15.74	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	1-1/8	28.58	44.45	44.45	39.41	66.55	66.55	49.57
ORT 24-20-20	1-1/2	38.10	1-1/4	31.75	1-1/4	31.75	27.68	2	50.8	2-1/4	57.15	1-7/8	47.63	1-7/8	47.63	50.80	49.62	46.92	77.97	71.72	71.72
ORT 24-8	1-1/2	38.10	1-1/2	38.10	1/2	12.70	10.41	2	50.8	2-1/4	57.15	2-1/4	57.15	7/8	22.22	50.80	50.8	44.58	77.97	77.97	54.74
ORT 24-12	1-1/2	38.10	1-1/2	38.10	3/4	19.05	15.74	2	50.8	2-1/4	57.15	2-1/4	57.15	1-1/8	28.58	50.80	50.8	44.58	77.97	77.97	54.74
ORT 24-16	1-1/2	38.10	1-1/2	38.10	1	25.40	22.35	2	50.8	2-1/4	57.15	2-1/4	57.15	1-1/2	38.10	50.80	50.8	47.75	77.97	77.97	59.94

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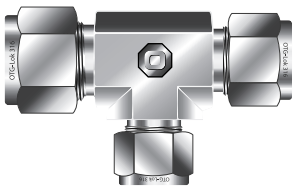
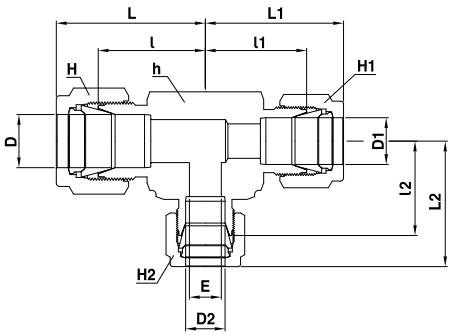
ORT

Reducing Union Tee





Connects metric tube

Part No.	Port 1	Port 2	Port 3	E min.	Width across flat				l	l1	l2	L	L1	L2
	D	D1	D2		h	H	H1	H2						
ORT 3M-6M	3	3	6	2.4	12.7	12	12	14	18.0	18.0	19.6	24.6	24.6	27.0
ORT 8M-6M	8	8	6	4.8	15	16	16	14	21.3	21.3	20.5	28.8	28.8	28.0
ORT 10M-6M	10	10	6	4.8	17.4	19	19	14	23.9	23.9	22.4	31.5	31.5	29.8
ORT 10M-12M	10	10	12	7.9	20.6	19	19	22	25.9	25.9	25.9	33.5	33.5	36.0
ORT 12M-6M-10M	12	6	10	4.8	20.6	22	14	19	25.9	24.4	25.9	36.0	31.8	33.5
ORT 12M-6M-12M	12	6	12	4.8	20.6	22	14	22	25.9	24.4	25.9	36.0	31.8	36.0
ORT 12M-10M-10M	12	10	10	7.9	20.6	22	19	19	25.9	25.9	25.9	36.0	33.5	33.5
ORT 12M-10M	12	12	10	7.9	20.6	22	22	19	25.9	25.9	25.9	36.0	36.0	33.5
ORT 12M-6M	12	12	6	4.8	20.6	22	22	14	25.9	25.9	24.4	36.0	36.0	31.8
ORT 15M-12M	15	15	12	9.8	25.4	25	25	22	28.7	28.7	28.7	38.8	38.8	38.8
ORT 16M-12M	16	16	12	9.8	25.4	25	25	22	28.7	28.7	28.7	38.8	38.8	38.8
ORT 18M-12M	18	18	12	9.8	27	30	30	22	29.7	29.7	29.7	39.8	39.8	39.8
ORT 20M-12M-20M	20	12	20	9.8	34.9	32	22	32	32.5	32.5	32.5	42.6	42.6	42.6
ORT 20M-6M	20	20	6	4.8	34.9	32	32	14	32.5	32.5	31.0	42.6	42.6	38.4
ORT 20M-10M	20	20	10	7.9	34.9	32	32	19	32.5	32.5	32.5	42.6	42.6	40.1
ORT 20M-12M	20	20	12	9.8	34.9	32	32	22	32.5	32.5	32.5	42.6	42.6	42.6
ORT 20M-25M	20	20	25	15.9	34.9	32	32	38	34.3	34.3	36.8	44.4	44.4	49.1
ORT 20M-32M	20	20	32	15.9	46	32	32	50	42.5	42.5	49.3	52.6	52.6	72.3
ORT 22M-12M	22	20	12	9.8	34.9	32	32	22	32.5	32.5	32.5	42.6	42.6	42.6
ORT 25M-20M-20M	25	20	20	15.9	34.9	38	32	32	36.8	34.3	34.3	49.1	44.4	44.4
ORT 25M-10M	25	25	10	7.9	34.9	38	38	19	36.8	36.8	34.3	49.1	49.1	38.9
ORT 25M-12M	25	25	12	9.8	34.9	38	38	22	36.8	36.8	34.3	49.1	49.1	44.4
ORT 25M-20M	25	25	20	15.9	34.9	38	38	32	36.8	36.8	34.3	49.1	49.1	44.4
ORT 32M-20M	32	32	20	15.9	46	38	38	32	49.3	49.3	42.5	72.3	72.3	52.6
ORT 38M-32M-32M	38	32	32	28.6	50.8	60	38	38	56.4	54.7	54.7	84.0	77.7	77.7
ORT 38M-20M	38	38	20	15.9	50.8	60	60	32	56.4	56.4	47.9	84.0	84.0	58.0
ORT 38M-25M	38	38	25	21.8	50.8	60	60	38	56.4	56.4	50.4	84.0	84.0	62.7

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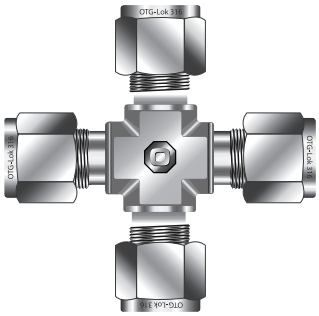
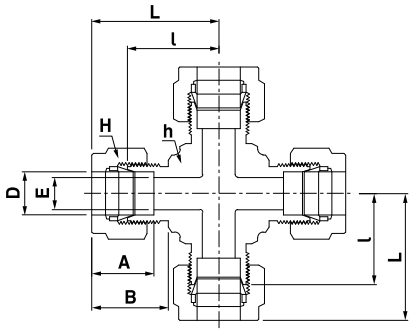
OUC

Union Cross





Connects fractional tube

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	L
				h		H					
	in.	mm		in.	mm	in.	mm				
OUC-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.88
OUC-2	1/8	3.17	2.28	3/8	9.52	7/16	11.11	12.70	15.24	15.74	22.35
OUC-3	3/16	4.76	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.78	24.38
OUC-4	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92
OUC-5	5/16	7.93	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70
OUC-6	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48
OUC-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06
OUC-10	5/8	15.87	12.70	15/16	23.80	1	25.40	24.38	21.84	28.70	38.80
OUC-12	3/4	19.05	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87
OUC-14	7/8	22.22	18.28	1-1/4	31.75	1-1/4	31.75	25.90	21.84	34.54	44.70
OUC-16	1	25.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02
OUC-20	1-1/4	31.75	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54
OUC-24	1-1/2	38.10	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97
OUC-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18

Connects metric tube

Part No.	Tube O.D D	E Min.	Width across flat		A	B	l	L
			h	H				
OUC-2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
OUC-3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
OUC-4M	4	2.4	12.7	12	13.7	16.4	18.8	25.4
OUC-6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
OUC-8M	8	6.4	14.3	16	16.2	18.6	21.3	28.8
OUC-10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
OUC-12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
OUC-15M	15	11.9	25.4	25	24.4	22.0	28.7	38.8
OUC-16M	16	12.7	25.4	25	24.4	22.0	28.7	38.8
OUC-18M	18	15.1	27.0	30	24.4	22.0	29.7	39.8
OUC-20M	20	15.9	34.92	32	26.0	22.0	34.5	44.6
OUC-22M	22	18.3	34.92	32	26.0	22.0	34.5	44.6
OUC-25M	25	21.8	34.92	38	31.3	26.5	36.8	49.1
OUC-28M	28	21.8	41.0	46	36.6	36.6	43.2	64.0
OUC-32M	32	28.6	46.0	50	42.0	41.6	49.3	72.3
OUC-38M	38	33.7	55.0	60	49.4	47.9	56.4	84.0

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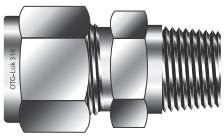
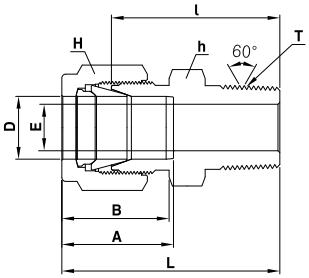
OMC-N

Male Connector





Connects fractional tube to female NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L
					h		H					
	in.	mm			in.	mm	in.	mm				
OMC 1-1N	1/16	1.59	1/16	1.27	5/16	7.93	5/16	7.93	8.63	10.92	20.00	23.83
OMC 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	22.35	26.23
OMC 1-4N	1/16	1.59	1/4	1.27	9/16	14.28	5/16	7.93	8.63	10.92	27.17	30.98
OMC 2-1N	1/8	3.17	1/16	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.11	29.71
OMC 2-2N	1/8	3.17	1/8	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.87	30.48
OMC 2-4N	1/8	3.17	1/4	2.28	9/16	14.28	7/16	11.11	12.70	15.24	28.95	35.56
OMC 2-6N	1/8	3.17	3/8	2.28	11/16	17.46	7/16	11.11	12.70	15.24	29.21	35.81
OMC 2-8N	1/8	3.17	1/2	2.28	7/8	22.22	7/16	11.11	12.70	15.24	35.56	42.16
OMC 3-2N	3/16	4.76	1/8	3.04	7/16	11.11	1/2	12.70	13.71	16.00	24.63	31.24
OMC 3-4N	3/16	4.76	1/4	3.04	9/16	14.28	1/2	12.70	13.71	16.00	29.71	36.32
OMC 4-1N	1/4	6.35	1/16	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	32.76
OMC 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	32.76
OMC 4-4N	1/4	6.35	1/4	4.82	9/16	14.28	9/16	14.28	15.24	17.78	30.48	37.84
OMC 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	30.98	38.35
OMC 4-8N	1/4	6.35	1/2	4.82	7/8	22.22	9/16	14.28	15.24	17.78	37.33	44.70
OMC 4-12N	1/4	6.35	3/4	4.82	1-1/6	26.98	9/16	14.28	15.24	17.78	38.86	46.22
OMC 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	26.67	34.03
OMC 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	31.24	38.60
OMC 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	31.75	39.11
OMC 5-8N	5/16	7.93	1/2	6.35	7/8	22.22	5/8	15.87	16.25	18.54	38.11	45.60
OMC 6-2N	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	27.94	35.30
OMC 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.51	39.87
OMC 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	32.51	39.87
OMC 6-8N	3/8	9.52	1/2	7.11	7/8	22.22	11/16	17.46	16.76	19.30	38.86	46.22
OMC 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	40.38	47.75
OMC 8-2N	1/2	12.70	1/8	4.82	13/16	20.64	7/8	22.22	22.86	21.84	28.70	38.86
OMC 8-4N	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	33.27	43.43
OMC 8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	33.27	43.43
OMC 8-8N	1/2	12.70	1/2	10.41	7/8	22.22	7/8	22.22	22.86	21.84	38.86	49.02
OMC 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	40.38	50.54
OMC 8-16N	1/2	12.70	1	10.41	1-3/8	34.92	7/8	22.22	22.86	21.84	46.99	57.15
OMC 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	34.03	44.19
OMC 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	38.86	49.02
OMC 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	40.38	50.54
OMC 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	40.38	50.54
OMC 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	40.38	50.54
OMC 12-16N	3/4	19.05	1	15.74	1-3/8	34.92	1-1/8	28.58	24.38	21.84	46.99	57.15
OMC 14-12N	7/8	22.22	3/4	15.74	1-3/16	30.16	1-1/4	31.75	25.90	21.84	40.38	50.54
OMC 14-16N	7/8	22.22	1	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	46.99	57.15
OMC 16-8N	1	25.40	1/2	11.93	1-3/8	34.92	1-1/2	38.10	31.24	26.41	45.21	57.40
OMC 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	45.21	57.40
OMC 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	50.03	62.23
OMC 20-16N	1-1/4	31.75	1	22.35	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.11	77.21
OMC 20-20N	1-1/4	31.75	1-1/4	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.11	77.21
OMC 20-24N	1-1/4	31.75	1-1/2	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	60.54	82.64
OMC 24-20N	1-1/2	38.10	1-1/4	27.68	2-1/8	53.98	2-1/4	57.15	50.03	45.21	59.42	86.60
OMC 24-24N	1-1/2	38.10	1-1/2	34.03	2-1/8	53.98	2-1/4	57.15	50.03	45.21	61.72	88.90
OMC 24-32N	1-1/2	38.10	2	34.03	2-3/4	69.85	2-1/4	57.15	50.03	45.21	62.42	99.75
OMC 32-8N	2	50.80	1/2	11.93	2-3/4	69.85	3	76.20	67.56	62.73	68.40	105.73
OMC 32-20N	2	50.80	1-1/4	45.97	2-3/4	69.85	3	76.20	67.56	62.73	71.40	108.73
OMC 32-24N	2	50.80	1-1/2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	75.50	112.83
OMC 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	76.20	113.53

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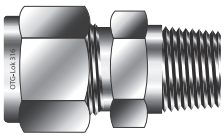
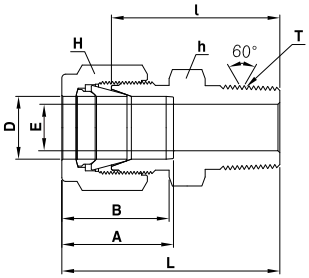
OMC-N

Male Connector





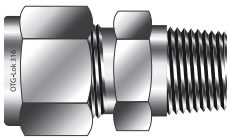
Connects metric tube to female NPT thread

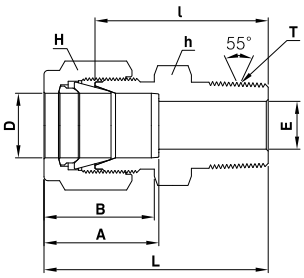
Part No.	Tube O.D D	T NPT	E Min.	Width across flat		A	B	l	L
				h	H				
OMC 2M-2N	2	1/8	1.7	12	12	12.9	15.3	23.9	30.5
OMC 3M-2N	3	1/8	2.4	12	12	12.9	15.3	23.1	29.7
OMC 3M-4N	3	1/4	2.4	14	12	12.9	15.3	29.0	35.6
OMC 4M-2N	4	1/8	2.4	12	12	13.7	16.1	24.6	31.2
OMC 4M-4N	4	1/4	2.4	14	12	13.7	16.1	29.7	36.3
OMC 6M-2N	6	1/8	4.8	14	14	15.3	17.7	25.4	32.8
OMC 6M-4N	6	1/4	4.8	14	14	15.3	17.7	30.2	37.6
OMC 6M-6N	6	3/8	4.8	18	14	15.3	17.7	31.0	38.4
OMC 6M-8N	6	1/2	4.8	22	14	15.3	17.7	37.3	44.0
OMC 8M-2N	8	1/8	4.8	15	16	16.2	18.6	26.7	34.2
OMC 8M-4N	8	1/4	6.4	15	16	16.2	18.6	31.2	38.7
OMC 8M-6N	8	3/8	6.4	18	16	16.2	18.6	31.8	39.2
OMC 8M-8N	8	1/2	6.4	22	16	16.2	18.6	37.3	44.8
OMC 10M-2N	10	1/8	4.8	18	19	17.2	19.5	28.7	36.3
OMC 10M-4N	10	1/4	7.1	18	19	17.2	19.5	33.3	40.9
OMC 10M-6N	10	3/8	7.9	18	19	17.2	19.5	33.3	40.9
OMC 10M-8N	10	1/2	7.9	22	19	17.2	19.5	38.1	45.7
OMC 10M-12N	10	3/4	7.9	27	19	17.2	19.5	38.9	46.5
OMC 12M-2N	12	1/8	4.8	22	22	22.8	22.0	28.7	38.8
OMC 12M-4N	12	1/4	7.1	22	22	22.8	22.0	33.3	43.4
OMC 12M-6N	12	3/8	9.5	22	22	22.8	22.0	33.3	43.4
OMC 12M-8N	12	1/2	9.5	22	22	22.8	22.0	38.1	48.2
OMC 12M-12N	12	3/4	9.5	27	22	22.8	22.0	38.9	49.0
OMC 14M-4N	14	1/4	6.4	24	25	24.4	22.0	34.0	44.1
OMC 14M-6N	14	3/8	9.5	24	25	24.4	22.0	34.0	44.1
OMC 14M-8N	14	1/2	11.1	24	25	24.4	22.0	34.0	44.1
OMC 15M-8N	15	1/2	11.9	24	25	24.4	22.0	38.9	49.0
OMC 16M-4N	16	1/4	7.1	24	25	24.4	22.0	34.0	44.1
OMC 16M-6N	16	3/8	9.5	24	25	24.4	22.0	34.0	44.1
OMC 16M-8N	16	1/2	11.9	24	25	24.4	22.0	38.9	49.0
OMC 16M-12N	16	3/4	12.7	27	25	24.4	22.0	38.9	49.0
OMC 18M-8N	18	1/2	11.9	27	30	24.4	22.0	40.4	50.5
OMC 18M-12N	18	3/4	15.1	27	30	24.4	22.0	40.4	50.5
OMC 20M-8N	20	1/2	11.9	30	32	26.0	22.0	42.2	52.3
OMC 20M-12N	20	3/4	15.9	30	32	26.0	22.0	42.2	52.3
OMC 22M-12N	22	3/4	15.9	30	32	26.0	22.0	42.2	52.3
OMC 22M-16N	22	1	18.3	35	32	26.0	22.0	47.8	57.9
OMC 25M-8N	25	1/2	11.9	35	38	31.3	26.5	45.2	57.5
OMC 25M-12N	25	3/4	15.9	35	38	31.3	26.5	45.2	57.5
OMC 25M-16N	25	1	21.8	35	38	31.3	26.5	50.0	62.3
OMC 28M-16N	28	1	21.8	41	46	36.6	36.6	51.6	72.4
OMC 28M-20N	28	1-1/4	23.0	46	46	36.6	36.6	52.3	73.1
OMC 32M-20N	32	1-1/4	28.6	46	50	42.0	41.6	56.6	76.9
OMC 32M-24N	38	1-1/2	33.7	55	60	49.4	47.9	64.0	91.6

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OMC-R

ISO/BSP Tapered Thread
Male Connector





Connects fractional tube to female ISO / BSP tapered thread

Part No.	Tube O.D D		T (PT)	E Min.	Width across flat				A	B	l	L
					h		H					
	in.	mm			in.	mm	in.	mm				
OMC 2-2R	1/8	3.17	1/8	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.87	30.48
OMC 2-4R	1/8	3.17	1/4	2.28	9/16	14.28	7/16	11.11	12.70	15.24	28.95	35.56
OMC 4-2R	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	32.76
OMC 4-4R	1/4	6.35	1/4	4.82	9/16	14.28	9/16	14.28	15.24	17.78	30.48	37.84
OMC 4-6R	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	30.98	38.35
OMC 4-8R	1/4	6.35	1/2	4.82	7/8	22.22	9/16	14.28	15.24	17.78	37.33	44.70
OMC 5-2R	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	26.67	34.03
OMC 5-4R	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	31.24	38.60
OMC 5-16R	5/16	7.93	1	6.35	1-3/8	34.92	5/8	15.87	16.25	18.54	46.2	50.0
OMC 6-2R	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	27.94	35.30
OMC 6-4R	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.51	39.87
OMC 6-6R	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	32.51	39.87
OMC 6-8R	3/8	9.52	1/2	7.11	7/8	22.22	11/16	17.46	16.76	19.30	38.86	46.22
OMC 6-12R	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	40.38	47.75
OMC 8-2R	1/2	12.70	1/8	4.82	13/16	20.64	7/8	22.22	22.86	21.84	28.70	38.86
OMC 8-4R	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	33.27	43.43
OMC 8-6R	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	33.27	43.43
OMC 8-8R	1/2	12.70	1/2	10.41	7/8	22.22	7/8	22.22	22.86	21.84	38.86	49.02
OMC 8-12R	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	40.38	50.54
OMC 8-16R	1/2	12.70	1	10.41	1-3/8	34.92	7/8	22.22	22.86	21.84	46.99	57.15
OMC 10-6R	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	34.03	44.19
OMC 10-8R	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	38.86	49.02
OMC 10-12R	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	40.38	50.54
OMC 12-8R	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	40.38	50.54
OMC 12-12R	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	40.38	50.54
OMC 12-16R	3/4	19.05	1	15.74	1-3/8	34.92	1-1/8	28.58	24.38	21.84	46.99	57.15
OMC 16-12R	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	45.21	57.40
OMC 16-16R	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	50.03	62.23
OMC 20-12R	1-1/4	31.75	3/4	15.74	1-3/4	44.45	1-7/8	47.63	41.14	38.86	50.0	72.10
OMC 20-16R	1-1/4	31.75	1	22.35	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.11	77.21
OMC 20-20R	1-1/4	31.75	1-1/4	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.11	77.21
OMC 32-32R	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	76.20	113.53

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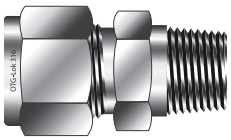
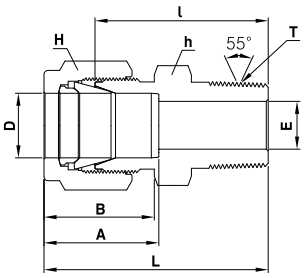
OMC-R

ISO/BSP Tapered Thread
Male Connector





Connects metric tube to female ISO / BSP tapered thread

Part No.	Tube O.D D	T R(PT)	E Min.	Width across flat		A	B	l	L
				h	H				
OMC 2M-2R	2	1/8	1.7	12	12	12.9	15.3	23.9	30.5
OMC 3M-2R	3	1/8	2.4	12	12	12.9	15.3	23.1	29.7
OMC 3M-4R	3	1/4	2.4	14	12	12.9	15.3	29.0	35.6
OMC 4M-2R	4	1/8	2.4	12	12	13.7	16.1	24.6	31.2
OMC 4M-4R	4	1/4	2.4	14	12	13.7	16.1	29.7	36.3
OMC 6M-2R	6	1/8	4.8	14	14	15.3	17.7	25.4	32.8
OMC 6M-4R	6	1/4	4.8	14	14	15.3	17.7	30.2	37.6
OMC 6M-6R	6	3/8	4.8	18	14	15.3	17.7	31.0	38.4
OMC 6M-8R	6	1/2	4.8	22	14	15.3	17.7	37.3	44.0
OMC 8M-2R	8	1/8	4.8	15	16	16.2	18.6	26.7	34.2
OMC 8M-4R	8	1/4	6.4	15	16	16.2	18.6	31.2	38.7
OMC 8M-6R	8	3/8	6.4	18	16	16.2	18.6	31.8	39.2
OMC 8M-8R	8	1/2	6.4	22	16	16.2	18.6	37.3	44.8
OMC 10M-2R	10	1/8	4.8	18	19	17.2	19.5	28.7	36.3
OMC 10M-4R	10	1/4	7.1	18	19	17.2	19.5	33.3	40.9
OMC 10M-6R	10	3/8	7.9	18	19	17.2	19.5	33.3	40.9
OMC 10M-8R	10	1/2	7.9	22	19	17.2	19.5	38.1	45.7
OMC 12M-4R	12	1/4	7.1	22	22	22.8	22.0	33.3	43.4
OMC 12M-6R	12	3/8	9.5	22	22	22.8	22.0	33.3	43.4
OMC 12M-8R	12	1/2	9.5	22	22	22.8	22.0	38.1	48.2
OMC 12M-12R	12	3/4	9.5	27	22	22.8	22.0	38.9	49.0
OMC 15M-8R	15	1/2	11.9	24	25	24.4	22.0	38.9	49.0
OMC 16M-4R	16	1/4	7.1	24	25	24.4	22.0	34.0	44.1
OMC 16M-6R	16	3/8	9.5	24	25	24.4	22.0	34.0	44.1
OMC 16M-8R	16	1/2	11.9	24	25	24.4	22.0	38.9	49.0
OMC 16M-12R	16	3/4	12.7	27	25	24.4	22.0	38.9	49.0
OMC 18M-8R	18	1/2	11.9	27	30	24.4	22.0	40.4	50.5
OMC 18M-12R	18	3/4	15.1	27	30	24.4	22.0	40.4	50.5
OMC 20M-8R	20	1/2	11.9	30	32	26.0	22.0	42.2	52.3
OMC 20M-12R	20	3/4	15.9	30	32	26.0	22.0	42.2	52.3
OMC 22M-12R	22	3/4	15.9	30	32	26.0	22.0	42.2	52.3
OMC 22M-16R	22	1	18.3	35	32	26.0	22.0	47.8	57.9
OMC 25M-12R	25	3/4	15.9	35	38	31.3	26.5	45.2	57.5
OMC 25M-16R	25	1	21.8	35	38	31.3	26.5	50.0	62.3
OMC 28M-16R	28	1	21.8	41	46	36.6	36.6	51.6	72.4
OMC 28M-20R	28	1-1/4	21.8	46	46	36.6	26.5	52.3	73.1
OMC 32M-20R	32	1-1/4	28.6	46	50	42.0	41.6	56.6	79.6
OMC 32M-24R	38	1-1/2	33.7	55	60	49.4	47.9	64.0	91.6

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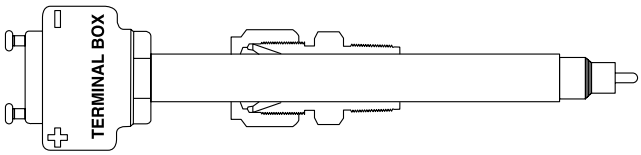
OMCT

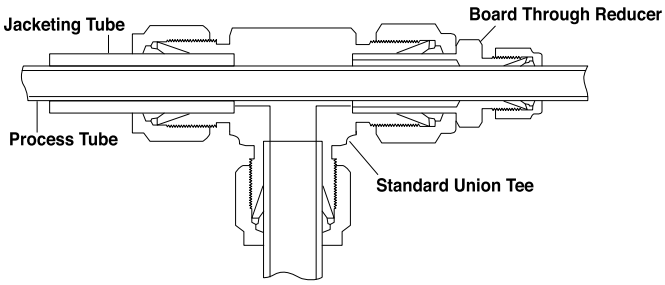
Thermocouple(Bore-Thru)

Bored-through fitting has no tube shoulder, allowing Dip tube of Thermocouple to pass through the fitting



Most male connectors - **OMC** can be bored-through except those fitting with 1/8 in. NPT or BSPT end.

To order bored-through male connectors, add **T** to the ordering number. Example : OMC **T**8-8N-SSA



The combination of standard tee and bored-through port reducer - **OR** can be used to chill or heat a process line as heat exchanger fitting.

To order bored-throughport reducer, add **T** to the ordering number. Example : OR **T**8-8N-SSA

Diagram shown ;
Jacketing tube 1/2 in. OD
Process tube : 1/4 in. OD

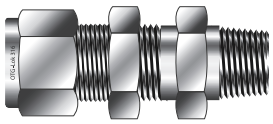
- Thermocouple is a sensor for measuring temperature.
- Dip tube is to direct the incoming cold water to the bottom of water heater tank or to use for removing debirs from the bottom of water tank.

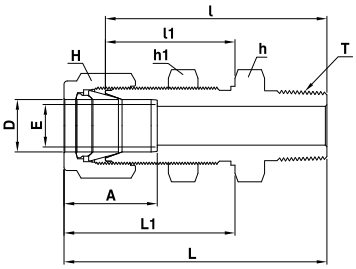
Assembly instruction

1. Position the length of dip tube / thermocouple passed through the fitting.
2. Once positioned, hold it to prevent from shifting during assembly.
3. Wrench tightens the nut 1 1/4turns from finger-tight position, keeping the body steady with a backup wrench.

OBMC

Bulkhead Male Connector





Connects fractional tube to female NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat						A	l	l1	L	L1	Panel Hole Drill Size	Panel Max Thickness
					h		h1		H								
	in.	mm			in.	mm	in.	mm	in.	mm							
OBMC 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	1/2	12.70	7/16	11.11	12.70	39.87	24.63	46.48	31.24	8.33	12.70
OBMC 4-2N	1/4	6.35	1/8	4.82	5/8	15.87	5/8	15.87	9/16	14.28	15.24	42.16	26.16	49.53	33.52	11.50	10.16
OBMC 4-4N	1/4	6.35	1/4	4.82	5/8	15.87	5/8	15.87	9/16	14.28	15.24	45.97	26.16	53.34	33.52	11.50	10.16
OBMC 6-4N	3/8	9.52	1/4	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	50.03	29.46	57.40	36.83	14.68	11.17
OBMC 6-6N	3/8	9.52	3/8	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	50.03	29.46	57.40	36.83	14.68	11.17
OBMC 6-8N	3/8	9.52	1/2	7.11	7/8	22.22	3/4	19.05	11/16	17.46	16.76	56.38	29.46	63.75	36.83	14.68	11.17
OBMC 8-6N	1/2	12.70	3/8	9.39	15/16	23.81	15/16	23.81	7/8	22.22	22.86	53.08	31.75	63.24	41.91	19.44	12.70
OBMC 8-8N	1/2	12.70	1/2	10.41	15/16	23.81	15/16	23.81	7/8	22.22	22.86	58.67	31.75	68.83	41.91	19.44	12.70
OBMC 12-12N	3/4	19.05	3/4	15.74	1-3/16	30.16	1-3/16	30.16	1-1/8	28.58	24.38	66.04	37.33	76.20	47.49	25.76	16.76
OBMC 16-16N	1	25.40	1	22.35	1-5/8	41.28	1-5/8	41.28	1-1/2	38.10	31.24	81.02	45.21	93.21	57.40	33.73	19.05
OBMC 20-20N	1-1/4	31.75	1-1/4	27.68	1-7/8	47.63	1-7/8	47.63	1-7/8	47.63	41.14	85.97	47.75	108.07	69.85	41.67	19.05
OBMC 24-24N	1-1/2	38.10	1-1/2	34.03	2-1/4	57.15	2-1/4	57.15	2-1/4	57.15	50.03	93.03	49.27	120.21	76.45	49.61	19.05
OBMC 32-32N	2	50.80	2	45.97	2-1/4	69.85	2-3/4	69.85	3	76.20	67.56	107.29	56.38	144.62	93.71	16.27	19.05

Connects metric tube to female NPT thread

Part No.	Tube O.D D	T NPT	E Min.	Width across flat			A	l	l1	L	L1	Panel Hole Drill Size	Panel Max Thickness
				h	h1	H							
OBMC 6M-2N	6	1/8	2.28	16	16	14	15.3	42.2	26.2	49.6	33.6	11.5	10.2
OBMC 6M-4N	6	1/4	4.82	16	16	14	15.3	46.2	26.2	53.6	33.6	11.5	10.2
OBMC 6M-6N	6	3/8	4.82	16	16	14	15.3	46.2	26.2	53.6	33.6	11.5	10.2
OBMC 6M-8N	6	1/2	4.82	16	16	14	15.3	52.6	26.2	60.0	33.6	11.5	10.2
OBMC 8M-6N	8	3/8	6.4	18	18	16	16.2	50.0	28.6	57.5	36.1	13.1	11.2
OBMC 10M-4N	10	1/4	7.11	22	22	19	17.2	50.0	29.4	57.5	37.0	16.2	11.2
OBMC 10M-6N	10	3/8	7.9	22	22	19	17.2	50.0	29.4	57.5	37.0	16.2	11.2
OBMC 10M-8N	10	1/2	7.9	22	22	19	17.2	55.9	29.4	63.5	37.0	16.2	11.2
OBMC 12M-6N	12	3/8	9.8	24	24	22	22.8	53.3	31.8	63.4	41.9	19.5	12.7
OBMC 12M-8N	12	1/2	9.8	24	24	22	22.8	58.7	31.8	68.8	41.9	19.5	12.7

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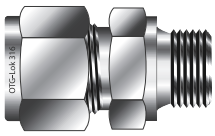
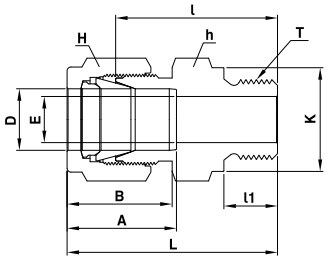
OMC-G

Male Connector for
Bonded Gasket Seal



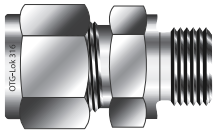


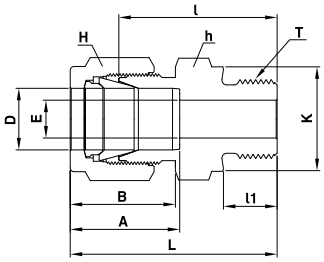
Connects fractional tube to female ISO parallel thread

Part No.	Tube O.D D		T (PF)	E Min.	Width across flat				A	B	l	l1	L	K
					h		H							
	in.	mm			in.	mm	in.	mm						
OMC 2-2G	1/8	3.17	1/8	2.28	9/16	14.28	7/16	11.11	12.70	15.24	23.87	7.11	29.97	13.72
OMC 2-4G	1/8	3.17	1/4	2.28	3/4	19.05	7/16	11.11	12.70	15.24	28.70	11.18	35.31	18.03
OMC 2-6G	1/8	3.17	3/8	2.28	7/8	22.22	7/16	11.11	12.70	15.24	29.72	11.18	36.21	21.84
OMC 4-2G	1/4	6.35	1/8	2.28	9/16	14.28	9/16	14.28	15.24	17.78	24.89	7.11	32.26	13.72
OMC 4-4G	1/4	6.35	1/4	4.82	3/4	19.05	9/16	14.28	15.24	17.78	30.23	11.18	37.59	18.03
OMC 4-6G	1/4	6.35	3/8	4.82	7/8	22.22	9/16	14.28	15.24	17.78	31.50	11.18	38.86	21.84
OMC 4-8G	1/4	6.35	1/2	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	37.34	14.22	44.70	25.91
OMC 6-4G	3/8	9.53	1/4	4.82	3/4	19.05	11/16	17.46	16.76	19.30	31.75	11.18	39.12	18.03
OMC 6-6G	3/8	9.53	3/8	7.11	7/8	22.22	11/16	17.46	16.76	19.30	33.02	11.18	40.39	21.84
OMC 6-8G	3/8	9.53	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	38.86	14.22	46.23	25.91
OMC 8-4G	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	32.51	11.18	42.67	18.03
OMC 8-6G	1/2	12.70	3/8	9.65	7/8	22.22	7/8	22.22	22.86	21.84	33.02	11.18	43.18	21.84
OMC 8-8G	1/2	12.70	1/2	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	38.86	14.22	49.02	25.91
OMC 12-8G	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	38.86	14.22	49.02	25.91
OMC 12-12G	3/4	19.05	3/4	15.74	1-5/16	33.33	1-1/8	28.58	24.38	21.84	42.67	15.75	52.83	32.00
OMC 16-8G	1	25.40	1/2	11.93	1-3/8	34.92	1-1/2	38.10	31.24	26.41	43.69	14.22	55.88	25.91
OMC 16-16G	1	25.40	1	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	47.75	18.29	59.94	39.12
OMC 20-20G	1-1/4	31.75	1-1/4	27.68	2	50.80	1-7/8	47.63	41.14	38.86	51.16	20.00	73.26	49.00
OMC 24-24G	1-1/2	38.10	1-1/2	34.03	2-1/4	57.15	2-1/4	57.15	50.03	45.21	57.57	22.00	84.75	54.70

OMC-GB

Male Connector for
Metal Gasket





Connects fractional tube to female ISO parallel thread

Part No.	Tube O.D D		T (PF)	E Min.	Width across flat				A	B	l	l1	L	K
					h		H							
	in.	mm			in.	mm	in.	mm						
OMC 2-2GB	1/8	3.17	1/8	2.28	9/16	14.28	7/16	11.11	12.70	15.24	23.87	7.11	29.97	13.72
OMC 2-4GB	1/8	3.17	1/4	2.28	3/4	19.05	7/16	11.11	12.70	15.24	28.70	11.18	35.31	18.03
OMC 2-6GB	1/8	3.17	3/8	2.28	7/8	22.22	7/16	11.11	12.70	15.24	29.72	11.18	36.21	21.84
OMC 4-2GB	1/4	6.35	1/8	2.28	9/16	14.28	9/16	14.28	15.24	17.78	24.89	7.11	32.26	13.72
OMC 4-4GB	1/4	6.35	1/4	4.82	3/4	19.05	9/16	14.28	15.24	17.78	30.23	11.18	37.59	18.03
OMC 4-6GB	1/4	6.35	3/8	4.82	7/8	22.22	9/16	14.28	15.24	17.78	31.50	11.18	38.86	21.84
OMC 4-8GB	1/4	6.35	1/2	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	37.34	14.22	44.70	25.91
OMC 6-4GB	3/8	9.53	1/4	4.82	3/4	19.05	11/16	17.46	16.76	19.30	31.75	11.18	39.12	18.03
OMC 6-6GB	3/8	9.53	3/8	7.11	7/8	22.22	11/16	17.46	16.76	19.30	33.02	11.18	40.39	21.84
OMC 6-8GB	3/8	9.53	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	38.86	14.22	46.23	25.91
OMC 8-4GB	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	32.51	11.18	42.67	18.03
OMC 8-6GB	1/2	12.70	3/8	9.65	7/8	22.22	7/8	22.22	22.86	21.84	33.02	11.18	43.18	21.84
OMC 8-8GB	1/2	12.70	1/2	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	38.86	14.22	49.02	25.91
OMC 12-8GB	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	38.86	14.22	49.02	25.91
OMC 12-12GB	3/4	19.05	3/4	15.74	1-5/16	33.33	1-1/8	28.58	24.38	21.84	42.67	15.75	52.83	32.00
OMC 16-8GB	1	25.40	1/2	11.93	1-3/8	34.92	1-1/2	38.10	31.24	26.41	43.69	14.22	55.88	25.91
OMC 16-16GB	1	25.40	1	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	47.75	18.29	59.94	39.12
OMC 20-20GB	1-1/4	31.75	1-1/4	27.68	2	50.80	1-7/8	47.63	41.14	38.86	51.16	20.00	73.26	49.00
OMC 24-24GB	1-1/2	38.10	1-1/2	34.03	2-1/4	57.15	2-1/4	57.15	50.03	45.21	57.57	22.00	84.75	54.70

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

Parallel Pipe Threads - Male

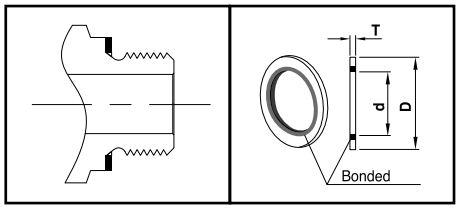
ISO 228-1

Pipe threads where pressure-tight joints are not made on the threads

Either compressing two tightening surfaces (of internal and external threads) outside the threads or by interposing an appropriate gasket seal, the parallel threads make pressure-tight.

Thread Designator : **G**

Thread end form to DIN 3852 Form A
Sealing by compression of bonded gasket



A self-centering taper is constructed at thread end. This taper centers a bonded gasket to seal up on the face of threaded female.

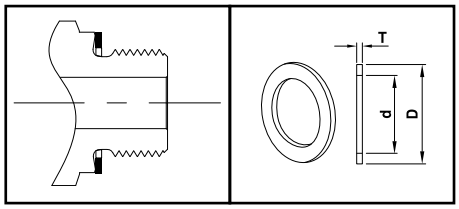
Bonded Gasket
Ordering Information and Dimensions

G Thread, in	Dimensions, mm(in.)			Bonded Gasket Part Number	
	D	d	T	A*	B*
1/8	16.0 (0.63)	14.4 (0.41)	2.0 (0.08)	9PBN-2G-C	9PBV-2G-SS
1/4	20.6 (0.81)	13.7 (0.54)		9PBN-4G-C	9PBV-4G-SS
3/8	23.9 (0.94)	17.3 (0.68)		9PBN-6G-C	9PBV-6G-SS
1/2	28.7 (1.13)	21.6 (0.85)	2.5 (0.1)	9PBN-8G-C	9PBV-8G-SS
3/4	35.1 (1.38)	27.2 (1.06)		9PBN-12G-C	9PBV-12G-SS
1	42.9 (1.69)	33.8 (1.33)		9PBN-16G-C	9PBV-16G-SS
1 1/4	51.05 (2.01)	42.4 (1.67)		9PBN-20G-C	9PBV-20G-SS
1 1/2	59.18 (2.33)	48.8 (1.92)		9PBN-24G-C	9PBV-24G-SS

A* : NBR inner ring bonded to zinc plated carbon steel outer ring.
B* : FKM inner ring bonded to stainless steel outer ring.

Thread Designator : **GB**

Thread end form to DIN 3852 Form B
Sealing by compression of copper gasket



A copper gasket performs sealing between reversed bevel of fitting and the face of threaded female.

Copper Gasket
Ordering Information and Dimensions

G Thread, in	Dimensions, mm(in.)			Part Number
	D	d	T	
1/8	18.0 (0.71)	10.0 (0.39)	2.3 (0.09)	9PP-2G-CU
1/4	22.1 (0.87)	14.0 (0.55)		9PP-4G-CU
3/8	24.0 (0.94)	17.0 (0.67)		9PP-6G-CU
1/2	30.0 (1.18)	22.0 (0.67)		9PP-8G-CU
3/4	35.0 (1.38)	27.0 (1.06)		9PP-12G-CU
1	42.0 (1.65)	34.0 (1.34)		9PP-16G-CU
1 1/4	49.8 (1.96)	42.2 (1.66)		9PP-20G-CU
1 1/2	58.4 (2.30)	48.0 (1.89)		9PP-24G-CU

Copper Gasket Ordering Information and Dimensions

Gasket	Temperature, ˚F (℃)
Copper	325 to 400 (-198 to 204)
NBR bonded carbon steel outer ring	-13 to 230 (-25 to 110)
FKM bonded stainless steel outer ring	-20 to 400 (-28 to 204)
Kalrez® bonded stainless steel outer ring	-22 to 600 (-30 to 315)

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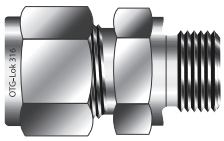
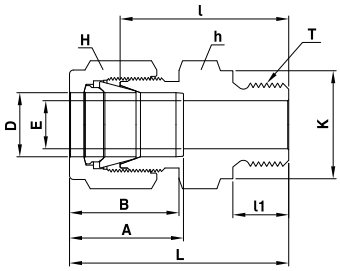
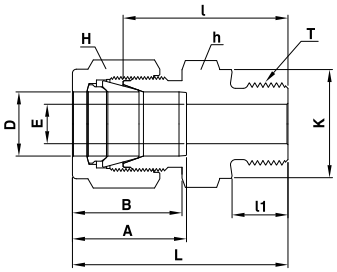


Image Shown
-GB End

OMC-G



OMC-GB



Connects metric tube to female ISO parallel thread

Part No.	Tube O.D D	G (PF)	E Min.	Width across flat		A	B	l	l1	L	K
				h	H						
OMC 3M-2G(-2GB)	3	1/8	2.4	14	12	12.9	15.3	23.4	7.1	30.0	13.8
OMC 3M-4G(-4GB)	3	1/4	2.4	19	12	12.9	15.3	28.7	11.2	35.3	18.0
OMC 4M-2G(-2GB)	4	1/8	2.4	14	12	13.7	16.1	24.1	7.1	30.7	13.8
OMC 4M-4G(-4GB)	4	1/4	2.4	19	12	13.7	16.1	29.4	11.2	36.0	18.0
OMC 6M-2G(-2GB)	6	1/8	4.0	14	14	15.3	17.7	24.9	7.1	32.3	13.8
OMC 6M-4G(-4GB)	6	1/4	4.8	19	14	15.3	17.7	30.2	11.2	37.6	18.0
OMC 6M-6G(-6GB)	6	3/8	4.8	22	14	15.3	17.7	31.5	11.2	38.9	21.8
OMC 6M-8G(-8GB)	6	1/2	4.8	27	14	15.3	17.7	37.3	14.2	44.7	26.0
OMC 8M-2G(-2GB)	8	1/8	4.0	15	16	16.2	18.6	25.7	7.1	33.2	13.8
OMC 8M-4G(-4GB)	8	1/4	6.4	19	16	16.2	18.6	31.0	11.2	38.5	13.8
OMC 8M-6G(-6GB)	8	3/8	6.4	22	16	16.2	18.6	32.3	11.2	39.8	21.8
OMC 8M-8G(-8GB)	8	1/2	6.4	27	16	16.2	18.6	38.1	14.2	45.6	26.0
OMC 10M-4G(-4GB)	10	1/4	6.4	19	19	17.2	19.5	31.8	11.2	39.4	18.0
OMC 10M-6G(-6GB)	10	3/8	7.9	22	19	17.2	19.5	33.0	11.2	40.6	21.8
OMC 10M-8G(-8GB)	10	1/2	7.9	27	19	17.2	19.5	38.9	14.2	46.5	26.0
OMC 12M-4G(-4GB)	12	1/4	5.9	22	22	22.8	22.0	32.5	11.2	42.6	18.0
OMC 12M-6G(-6GB)	12	3/8	7.9	22	22	22.8	22.0	33.0	11.2	43.1	21.8
OMC 12M-8G(-8GB)	12	1/2	9.5	27	22	22.8	22.0	38.9	14.2	49.0	26.0
OMC 12M-12G(-12GB)	12	3/4	9.5	35	22	22.8	22.0	42.7	15.2	52.8	32.0
OMC 16M-6G(-6GB)	16	3/8	7.9	24	25	24.4	22.0	33.8	11.2	43.9	21.8
OMC 16M-8G(-8GB)	16	1/2	11.9	27	25	24.4	22.0	38.9	14.2	49.0	26.0
OMC 18M-8G(-8GB)	18	1/2	11.9	27	30	24.4	22.0	38.9	14.2	49.0	26.0
OMC 18M-12G(-12GB)	18	3/4	15.1	35	30	24.4	22.0	42.7	15.7	52.8	32.0
OMC 20M-8G(-8GB)	20	1/2	11.9	30	32	26.0	22.0	40.4	14.2	50.5	26.0
OMC 20M-12G(-12GB)	20	3/4	15.9	35	32	26.0	22.0	42.7	15.7	52.8	32.0
OMC 22M-12G(-12GB)	22	3/4	15.9	35	32	26.0	22.0	42.7	15.7	52.8	32.0
OMC 22M-16G(-16GB)	22	1	18.3	41	32	26.0	22.0	45.2	18.3	55.3	39.0
OMC 25M-12G(-12GB)	25	3/4	15.9	35	38	31.3	26.5	45.2	15.7	57.5	32.0
OMC 25M-16G(-16GB)	25	1	19.8	41	38	31.3	26.5	47.8	18.3	60.1	39.0
OMC 28M-16G(-16GB)	28	1	19.8	41	46	36.6	36.6	49.3	18.3	70.1	39.0
OMC 28M-20G(-20GB)	28	1-1/4	21.8	50	46	36.6	36.6	53.1	19.8	73.9	49.0
OMC 32M-20G(-20GB)	32	1-1/4	25.0	50	50	42.0	41.6	55.9	19.8	78.9	49.0
OMC 38M-24G(-24GB)	38	1-1/2	31.8	55	60	49.4	47.9	63.2	22.1	90.8	54.7

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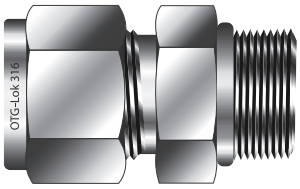
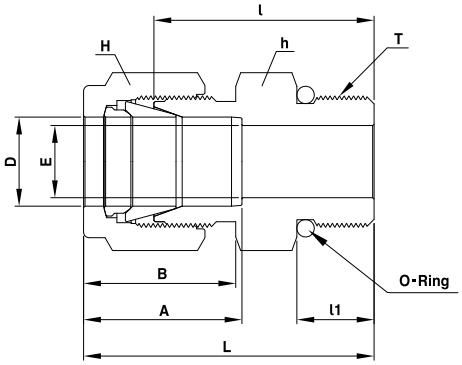
OMC-U

SAE / MS Male Connector





Connects fractional tube to SAE staight thread boss

Part No.	Tube O.D D		Straight Thread T(U)	E Min.	Width across flat				A	B	l	l1	L	O-Ring Uniform Size Number
					h		H							
	in.	mm			in.	mm	in.	mm						
OMC 2-2U	1/8	3.17	5/16-24	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.26	7.62	29.97	-902
OMC 4-4U	1/4	6.35	7/16-20	4.82	9/16	14.28	9/16	14.28	15.24	17.78	26.67	9.14	34.03	-904
OMC 4-6U	1/4	6.35	9/16-18	4.82	11/16	17.46	9/16	14.28	15.24	17.78	28.19	9.90	35.56	-906
OMC 4-8U	1/4	6.35	3/4-16	4.82	7/8	22.22	9/16	14.28	15.24	17.78	30.22	11.17	37.59	-908
OMC 4-10U	1/4	6.35	7/8-14	4.82	1	25.40	9/16	14.28	15.24	17.78	33.27	12.70	40.64	-910
OMC 5-5U	5/16	7.93	1/2-20	5.84	5/8	15.87	5/8	15.87	16.25	18.54	27.43	9.14	34.79	-905
OMC 6-4U	3/8	9.52	7/16-20	5.08	5/8	15.87	11/16	17.46	16.76	19.30	28.19	9.14	35.56	-904
OMC 6-6U	3/8	9.52	9/16-18	7.11	11/16	17.46	11/16	17.46	16.76	19.30	29.71	9.90	37.08	-906
OMC 6-8U	3/8	9.52	3/4-16	7.11	7/8	22.22	11/16	17.46	16.76	19.30	31.75	11.17	39.11	-908
OMC 6-10U	3/8	9.52	7/8-14	7.11	1	25.40	11/16	17.46	16.76	19.30	34.79	12.70	42.16	-910
OMC 8-6U	1/2	12.70	9/16-18	7.11	13/16	20.64	7/8	22.22	22.86	21.84	28.95	9.90	39.11	-906
OMC 8-8U	1/2	12.70	3/4-16	10.41	7/8	22.22	7/8	22.22	22.86	21.84	31.75	11.17	41.91	-908
OMC 8-10U	1/2	12.70	7/8-14	10.41	1	25.40	7/8	22.22	22.86	21.84	34.79	12.70	44.95	-910
OMC 8-12U	1/2	12.70	1-1/16-12	10.41	1-1/4	31.75	7/8	22.22	22.86	21.84	38.86	14.98	49.02	-912
OMC 10-8U	5/8	15.87	3/4-16	10.66	15/16	23.81	1	25.40	24.38	21.84	31.75	11.17	41.91	-908
OMC 10-10U	5/8	15.87	7/8-14	12.70	1	25.40	1	25.40	24.38	21.84	35.05	12.70	45.21	-910
OMC 12-8U	3/4	19.05	3/4-16	10.66	1-1/16	26.98	1-1/8	28.57	24.38	21.84	35.81	11.17	45.97	-908
OMC 12-12U	3/4	19.05	1-1/16-12	15.74	1-1/4	31.75	1-1/8	28.57	24.38	21.84	38.86	14.98	49.02	-912
OMC 14-14U	7/8	22.22	1-3/16-12	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	38.86	14.98	49.02	-914
OMC 16-12U	1	25.40	1-1/16-12	16.76	1-3/8	34.92	1-1/2	38.10	31.24	26.41	41.14	14.98	53.54	-912
OMC 16-16U	1	25.40	1-5/16-12	22.35	1-1/2	38.10	1-1/2	38.10	31.24	26.41	42.16	14.98	54.35	-916
OMC 20-20U	1-1/4	31.75	1-5/8-12	27.68	1-7/8	47.63	1-7/8	47.63	41.14	38.86	46.22	14.98	68.32	-920
OMC 24-24U	1-1/2	38.10	1-7/8-12	34.03	2-1/8	53.98	2-1/4	57.15	50.03	45.21	50.54	14.98	77.72	-924
OMC 32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	62.73	64.26	14.98	101.60	-932

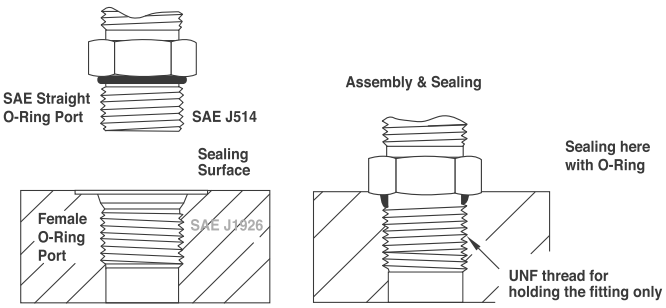
Connects metric tube to SAE staight thread boss

Part No.	Tube O.D D	Straight Thread T(U)	E Min.	Width across flat		A	B	l	l1	L	O-Ring Uniform Size Number
				h	H						
OMC 6M-6U	6	9/16-18	4.8	18	14	15.3	17.7	28.2	9.90	36.5	-906
OMC 10M-6U	10	9/16-18	7.9	18	19	17.2	19.5	29.7	9.90	37.3	-906
OMC 10M-8U	10	3/4-16	7.9	22	19	17.2	19.5	31.8	11.17	39.4	-908
OMC 12M-4U	12	7/16-20	5.2	22	22	22.8	22.0	28.2	9.14	38.3	-904
OMC 12M-6U	12	9/16-18	7.5	22	22	22.8	22.0	29.0	9.90	39.1	-906

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

SAE Straight Thread Mounting to SAE J1926

Thread Designator : **U**



The sealing and holding function are separated in SAE Straight Thread with O-ring.

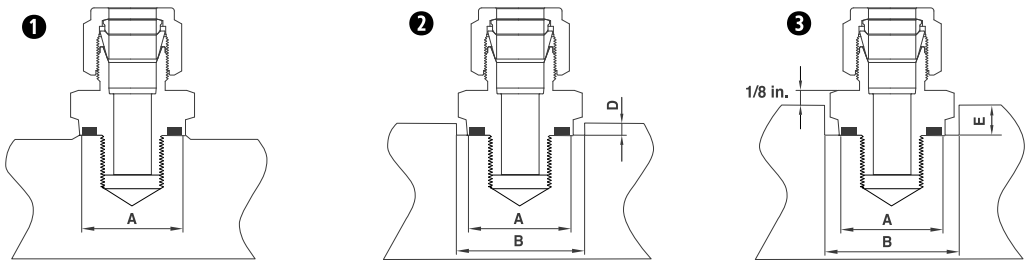
UNF threads have only the holding function and sealing is achieved with a high durometer O-ring seated in a chamber at the top of the female port.

Installation Instruction

1. Lubricate the O-ring compatible with system fluid.
2. Finger-tighten the fitting in the port
3. Hand-tighten the fitting until the O-ring is compressed in the chamber at the top of the female port.
4. Tighten slightly further with wrench to compress the O-ring completely.

Mounting Dimension for O-Seal Male Connector

UO : SAE straight with O-ring in groove
NO : NPT thread with O-ring in groove
O-ring is contained in a precision groove that prevents O-ring extrusion at pressure and vacuum.



SAE Thread, Size	NPT Size	A Min. Flat Dia.	B Min Clearance Dia	C Min Clearance Dia	D Max Depth	D Max Depth
Dimensions, in						
5/16-24	-	0.50	059	0.66	0.09	0.16
5/16-24	-					0.22
3/8-24	-	0.56.	0.66	0.75	0.09	0.22
7/16-20	-	0.69	0.78	0.88	0.16	0.28
1/2-20	-	0.75	0.91	1.03	0.16	0.31
9/16-18	-	0.81	0.97	1.09	0.16	0.31
3/4-16	-	1.00	1.16	1.31	0.16	0.34
11/16-12	-	1.41	1.53	1.75	0.22	0.50
15/16-12	-	1.69	1.78	2.03	0.22	0.56
-	1/8	0.69	0.78	0.88	0.16	0.28
-	1/4	0.87	0.97	1.09	0.16	0.31
-	3/8	1.00	1.16	1.31	0.16	0.34
-	1/2	1.22	1.34	1.53	0.22	0.44

1. Raised Port
The minimum diameter A allows metal- to-metal contact outside of O-ring that prevents O-ring extrusion.

2. Counter-Bored Port
The round shoulder of O-Seal fitting is recessed into counter-bored port.

3. Recessed Port
The Hex O-Seal fitting is recessed into the recessed port.

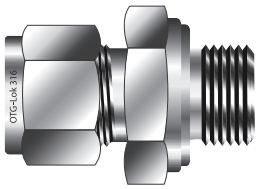
Port should have a smooth, flat surface perpendicular to the port. NPT thread in short length ensures thread interference.

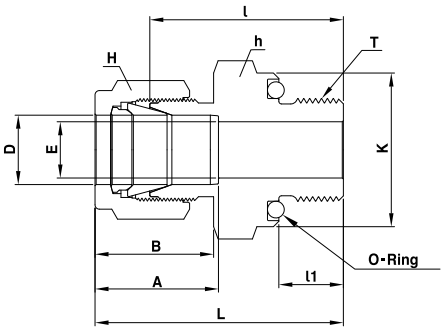
Installation Instruction

1. Lubricate the O-ring compatible with system fiuid.
2. Finger - tighten the O-seal fitting in the port.
3. Hand-tighten the fitting until squeezing of O-ring is felt during the last 1/4 turn.
4. Gently wrench-tighten the fitting until the round shoulder outside of O-ring achieves metal contact against the flat face of female port. This compresses O-ring completely for leak-tight.

OMC-UO

O-Seal SAE Male Connector



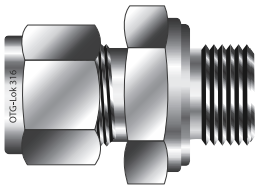


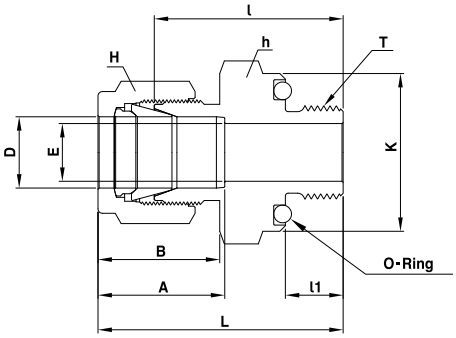
Connects fractional tube to female SAE staight thread

Part No.	Tube O.D D		Straight Thread T(U)	E Min.	Width across flat				A	B	l	l1	L	O-Ring Uniform Size Number
					h		H							
	in.	mm			in.	mm	in.	mm						
OMC 2-2UO	1/8	3.17	5/16-24	2.28	9/16	14.28	7/16	11.11	12.70	15.24	26.16	8.63	23.76	-011
OMC 3-3UO	3/16	4.76	3/8-24	3.04	5/8	15.87	1/2	12.70	13.71	16.00	27.68	9.65	34.29	-012
OMC 4-4UO	1/4	6.35	7/16-20	4.82	3/4	19.05	9/16	14.28	15.24	17.78	30.98	10.41	38.35	-013
OMC 5-5UO	5/16	7.93	1/2-20	6.35	7/8	22.22	5/8	15.87	16.25	18.54	33.27	11.17	40.64	-112
OMC 6-6UO	3/8	9.52	9/16-18	7.11	15/16	23.81	11/16	17.46	16.76	19.30	35.05	11.93	42.41	-113
OMC 8-8UO	1/2	12.70	3/4-16	10.41	1-1/8	28.57	7/8	22.22	22.86	21.84	35.81	11.93	45.97	-116
OMC 12-12UO	3/4	19.05	1-1/16-12	15.74	1-1/2	38.10	1-1/8	28.58	24.38	21.84	42.16	14.22	52.32	-121
OMC 16-16UO	1	25.40	1-5/16-12	22.35	1-3/4	44.45	1-1/2	38.10	31.24	26.41	45.97	14.22	58.16	-125

OMC-NO

O-Seal NPT Male Connector





Connects fractional tube to female NPT thread

Part No.	Tube O.D D		Male Thread T(NPT)	E Min.	Width across flat				A	B	l	l1	L	O-Ring Uniform Size Number
					h		H							
	in.	mm			in.	mm	in.	mm						
OMC 2-2NO	1/8	3.17	1/8	2.28	3/4	19.05	7/16	11.11	12.70	15.24	26.16	7.11	32.76	-013
OMC 4-2NO	1/4	6.35	1/8	4.82	3/4	19.05	9/16	14.28	15.24	17.78	27.68	7.11	35.05	-013
OMC 4-4NO	1/4	6.35	1/4	4.82	15/16	23.81	9/16	14.28	15.24	17.78	30.98	9.65	38.35	-113
OMC 6-4NO	3/8	9.52	1/4	7.11	15/16	23.81	11/16	17.46	16.76	19.30	32.51	9.65	39.87	- 113
OMC 6-6NO	3/8	9.52	3/8	7.11	1-1/8	28.58	11/16	17.46	16.76	19.30	34.03	10.41	41.40	-116
OMC 6-8NO	3/8	9.52	1/2	7.11	1-5/16	33.33	11/16	17.46	16.76	19.30	39.62	13.46	46.99	-118
OMC 8-8NO	1/2	12.70	1/2	10.41	1-5/16	33.33	7/8	22.22	22.86	21.84	39.62	13.46	49.78	-118

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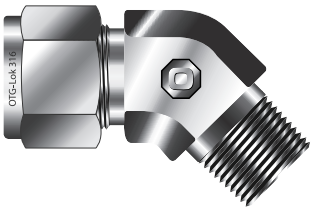
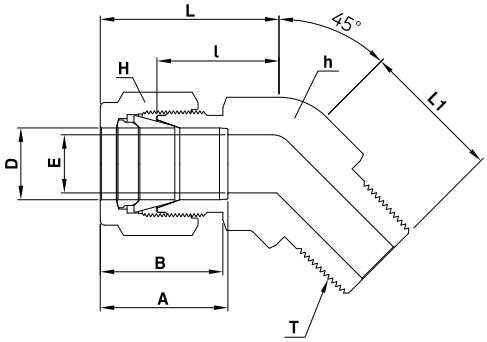
OME45

Male Elbow 45°





Connects fractional tube to female NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OME45-2-2N	1/8	3.17	1/8	2.4	1/2	12.70	7/16	11.11	12.70	15.24	15.77	22.38	16.51
OME45-4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	17.27	24.63	16.51
OME45-4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	17.27	24.63	21.08
OME45-6-2N	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	20.57	27.94	18.28
OME45-6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	20.57	27.94	22.86
OME45-6-6N	3/8	9.52	3/8	7.11	13/16	20.64	11/16	17.46	16.76	19.30	21.84	29.21	24.13
OME45-8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	21.84	32.00	24.13
OME45-8-8N	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	21.84	32.00	28.95
OME45-12-12N	3/4	12.70	3/4	15.74	1-1/8	28.58	1-1/8	28.58	24.38	21.84	23.87	34.03	30.98
OME45-16-16N	1	25.40	1	22.35	1-3/8	34.93	1-1/2	38.10	31.24	26.41	28.19	40.38	37.84

Connects metric tube to female NPT thread

Part No.	Tube O.D D	T NPT	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OME45-6M-4N	6	1/4	4.8	12.7	14.0	15.3	17.7	21.8	29.4	22.9
OME45-12M-8N	12	1/2	9.5	20.64	22.0	22.8	22.0	21.8	31.9	29.0

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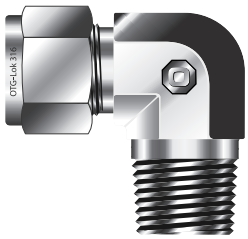
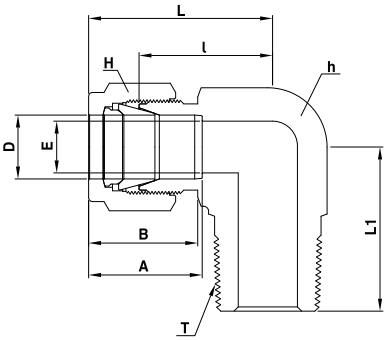
OME-N

NPT Thread Male Elbow





Connects fractional tube to female NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OME 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
OME 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
OME 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	18.90
OME 2-4N	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	23.26
OME 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	18.79
OME 3-4N	3/16	4.76	1/4	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	23.36
OME 4-1N	1/4	6.35	1/16	3.04	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.90	18.79
OME 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.47	18.79
OME 4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.81	27.18	23.87
OME 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	26.20
OME 4-8N	1/4	6.35	1/2	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.60	31.97	33.02
OME 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.81
OME 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	29.77	24.50
OME 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	26.20
OME 6-2N	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	20.60
OME 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
OME 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.42	26.20
OME 6-8N	3/8	9.52	1/2	7.11	13/16	20.64	11/16	17.46	16.76	19.30	25.90	31.42	33.02
OME 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
OME 8-4N	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OME 8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OME 8-8N	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
OME 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	29.71	39.87	36.83
OME 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	28.00	37.06	30.22
OME 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	28.00	37.06	35.10
OME 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
OME 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	37.00
OME 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	36.83
OME 14-12N	7/8	22.22	3/4	15.74	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	41.65
OME 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
OME 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70
OME 20-20N	1-1/4	31.75	1-1/4	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
OME 24-24N	1-1/4	38.10	1-1/2	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97	60.45
OME 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	62.73	63.73	69.80	107.18	70.61

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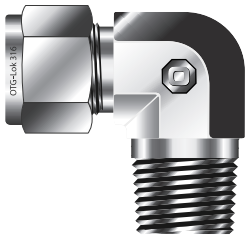
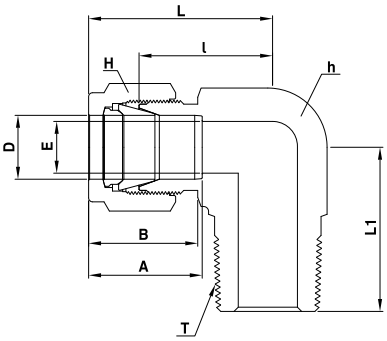
OME-N

NPT Thread Male Elbow





Connects metric tube to female NPT thread

Part No.	Tube O.D D	T (NPT)	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OME 3M-1N	3	1/16	2.4	11.1	12	12.9	15.3	17.0	23.6	17.8
OME 3M-2N	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
OME 3M-4N	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
OME 4M-2N	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
OME 4M-4N	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
OME 6M-2N	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
OME 6M-4N	6	1/4	4.8	12.7	14	15.3	17.7	19.6	27.0	23.4
OME 6M-6N	6	3/8	4.8	17.5	14	15.3	17.7	22.4	29.8	26.2
OME 6M-8N	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
OME 8M-2N	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
OME 8M-4N	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
OME 8M-6N	8	3/8	6.4	17.5	16	16.2	18.6	23.1	30.6	26.2
OME 8M-8N	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
OME 10M-2N	10	1/8	4.8	17.5	19	17.2	19.5	23.9	31.5	23.6
OME 10M-4N	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
OME 10M-6N	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
OME 10M-8N	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
OME 12M-2N	12	1/8	4.8	20.6	22	22.8	22.0	25.9	36.0	23.6
OME 12M-4N	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
OME 12M-6N	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
OME 12M-8N	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
OME 12M-12N	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
OME 16M-6N	16	3/8	9.5	23.81	25	24.4	22.0	27.9	38.0	30.2
OME 16M-8N	16	1/2	11.9	23.81	25	24.4	22.0	27.9	38.0	35.1
OME 16M-12N	16	3/4	12.7	23.81	25	24.4	22.0	29.7	39.8	36.8
OME 18M-8N	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
OME 18M-12N	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
OME 20M-8N	20	1/2	11.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OME 20M-12N	20	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OME 22M-12N	22	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OME 22M-16N	22	1	18.3	34.92	32	26.0	22.0	34.5	44.6	46.5
OME 25M-12N	25	3/4	15.9	34.92	38	31.3	26.5	36.8	49.1	41.7
OME 25M-16N	25	1	21.8	34.92	38	31.3	26.5	36.8	49.1	46.5
OME 28M-16N	28	1	21.8	41.0	46	36.6	36.6	43.2	64.0	53.7
OME 30M-20N	30	1-1/4	26.2	46.0	50	39.6	39.2	48.3	69.9	53.1
OME 32M-20N	32	1-1/4	27.8	46.0	50	42.0	41.6	49.3	72.3	53.1
OME 38M-24N	38	1-1/4	33.7	50.8	60	49.4	47.9	56.4	84.0	60.4

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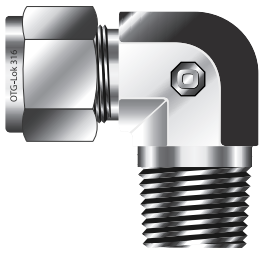
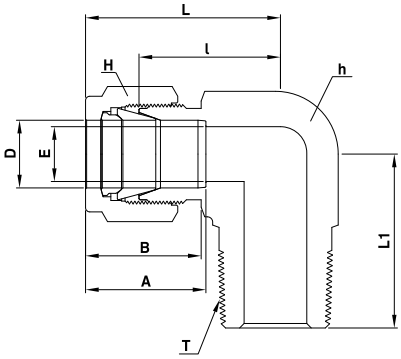
OME-R

ISO Tapered Thread Male Eloow





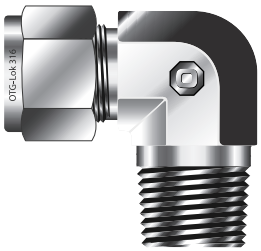
Connects fractional tube to female ISO tapered thread

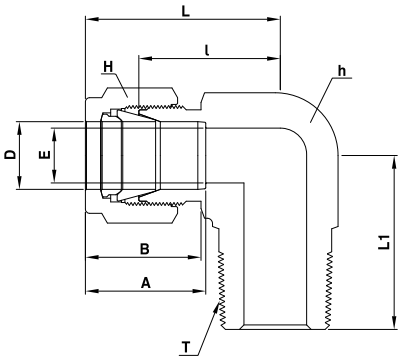
Part No.	Tube O.D D		T R(PT)	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OME 2-2R	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	18.90
OME 2-4R	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	23.26
OME 3-4R	3/16	4.76	1/4	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	23.36
OME 4-2R	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.47	18.79
OME 4-4R	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.81	27.18	23.87
OME 4-6R	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	23.35	29.71	26.20
OME 4-8R	1/4	6.35	1/2	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.60	31.97	33.02
OME 5-4R	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	29.77	24.50
OME 5-6R	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	26.20
OME 6-2R	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	20.60
OME 6-4R	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
OME 6-6R	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	26.20
OME 6-8R	3/8	9.52	1/2	7.11	13/16	20.64	11/16	17.46	16.76	19.30	25.90	37.08	33.02
OME 6-12R	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
OME 8-4R	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OME 8-6R	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OME 8-8R	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
OME 8-12R	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	29.71	39.87	36.83
OME 10-6R	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	28.00	37.06	30.22
OME 10-8R	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	28.00	37.06	35.10
OME 10-12R	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
OME 12-8R	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	37.00
OME 12-12R	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	36.83
OME 12-16R	3/4	19.05	1	16.0	1-3/8	34.92	1-1/8	28.57	24.38	21.84	34.54	44.59	46.48
OME 16-12R	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
OME 16-16R	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70
OME 20-12R	1-1/4	31.75	3/4	15.74	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54	42.95
OME 20-20R	1-1/4	31.75	1-1/4	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OME-R

ISO Tapered Thread Male Eloow





Connects metric tube to female ISO tapered thread

Part No.	Tube O.D D	T R(PT)	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OME 3M-1R	3	1/16	2.4	11.1	12	12.9	15.3	17.0	23.6	17.8
OME 3M-2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
OME 3M-4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
OME 4M-2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
OME 4M-4R	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
OME 6M-2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
OME 6M-4R	6	1/4	4.8	12.7	14	15.3	17.7	19.6	27.0	23.4
OME 6M-6R	6	3/8	4.8	17.5	14	15.3	17.7	22.4	29.8	26.2
OME 6M-8R	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
OME 8M-2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
OME 8M-4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
OME 8M-6R	8	3/8	6.4	17.5	16	16.2	18.6	23.1	30.6	26.2
OME 8M-8R	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
OME 10M-2R	10	1/8	4.8	17.5	19	17.2	19.5	23.9	31.5	23.6
OME 10M-4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
OME 10M-6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
OME 10M-8R	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
OME 12M-2R	12	1/8	4.8	20.6	22	22.8	22.0	25.9	36.0	23.6
OME 12M-4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
OME 12M-6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
OME 12M-8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
OME 12M-12R	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
OME 14M-8R	14	1/2	11.1	23.81	25	24.4	22.0	27.9	38.0	30.2
OME 15M-6R	15	3/8	9.5	23.81	25	24.4	22.0	27.9	38.0	30.2
OME 15M-8R	15	1/2	11.9	23.81	25	24.4	22.0	27.9	38.0	35.1
OME 16M-6R	16	3/8	9.5	23.81	25	24.4	22.0	27.9	38.0	30.2
OME 16M-8R	16	1/2	11.9	23.81	25	24.4	22.0	27.9	38.0	35.1
OME 18M-8R	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
OME 18M-12R	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
OME 20M-8R	20	1/2	11.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OME 20M-12R	20	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OME 22M-8R	22	1/2	11.9	34.92	32	26.0	22.0	32.5	42.6	39.6
OME 22M-12R	22	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OME 22M-16R	22	1	18.3	34.92	32	26.0	22.0	34.5	44.6	46.5
OME 25M-8R	25	1/2	11.9	34.92	38	31.3	26.5	36.8	49.1	41.7
OME 25M-12R	25	3/4	15.9	34.92	38	31.3	26.5	36.8	49.1	41.7
OME 25M-16R	25	1	21.8	34.92	38	31.3	26.5	36.8	49.1	46.5
OME 28M-16R	28	1	21.8	41.0	46	36.6	36.6	43.2	64.0	53.7

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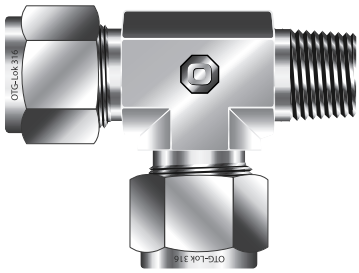
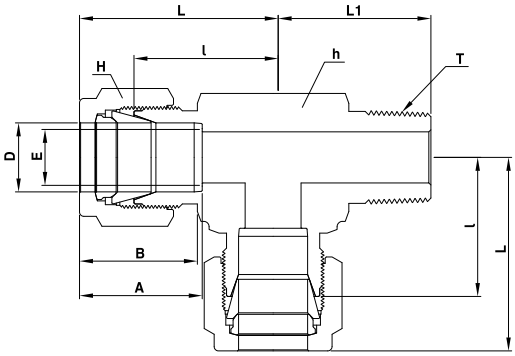
OMRT-N

Male Run Tee–NPT Thread





Connects fractional tube to female NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OMRT 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
OMRT 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
OMRT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	18.90
OMRT 2-4N	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	23.26
OMRT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	24.38	18.79
OMRT 3-4N	3/16	4.76	1/4	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	23.26
OMRT 4-1N	1/4	6.35	1/16	3.04	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.90	18.79
OMRT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	18.79
OMRT 4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	27.08	23.87
OMRT 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	28.40
OMRT 4-8N	1/4	6.35	1/2	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.60	31.97	35.10
OMRT 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.71	19.81
OMRT 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.77	24.50
OMRT 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	28.40
OMRT 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
OMRT 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	28.44
OMRT 6-8N	3/8	9.52	1/2	7.11	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	33.02
OMRT 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
OMRT 8-4N	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OMRT 8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OMRT 8-8N	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
OMRT 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	29.71	39.84	36.83
OMRT 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	29.40
OMRT 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	34.00
OMRT 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
OMRT 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	39.87	37.00
OMRT 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	39.81	36.83
OMRT 14-12N	7/8	22.23	3/4	15.74	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	41.65
OMRT 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
OMRT 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70
OMRT 20-20N	1-1/4	31.75	1-1/4	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
OMRT 24-24N	1-1/2	38.10	1-1/2	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97	60.45
OMRT 32-32N	2	50.80	2	45.91	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18	70.61

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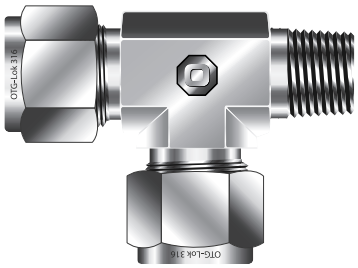
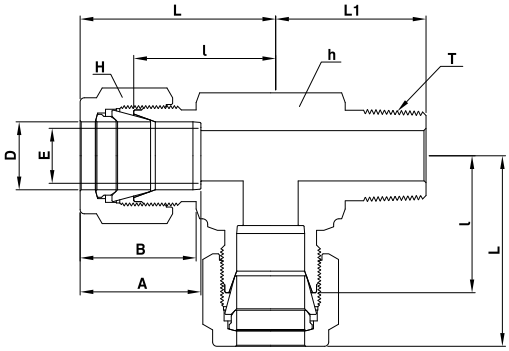
OMRT-R

Male Run Tee–ISO Tapered Thread





Connects fractional tube to female ISO tapered thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OMRT 6-4R	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
OMRT 8-6R	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OMRT 8-8R	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
OMRT 10-8R	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	34.00

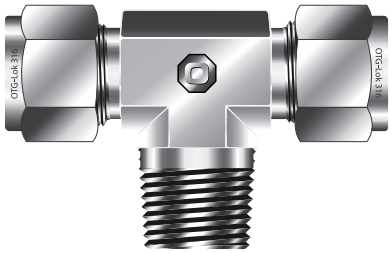
Connects metric tube to female ISO tapered thread

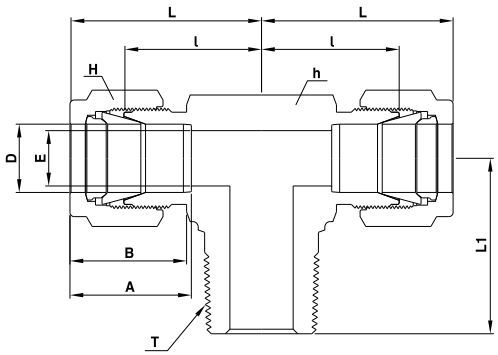
Part No.	Tube O.D D	T R(PT)	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OMRT 3M-2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
OMRT 3M-4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
OMRT 4M-2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
OMRT 4M-4R	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
OMRT 6M-2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
OMRT 6M-4R	6	1/4	4.8	14.2	14	15.3	17.7	19.6	27.0	23.4
OMRT 6M-6R	6	3/8	4.8	17.5	14	15.3	17.7	22.4	29.8	26.2
OMRT 6M-8R	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
OMRT 8M-2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
OMRT 8M-4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
OMRT 8M-6R	8	3/8	6.4	17.5	16	16.2	18.6	23.1	30.6	26.2
OMRT 8M-8R	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
OMRT 10M-2R	10	1/8	4.8	17.5	19	17.2	19.5	23.9	31.5	23.6
OMRT 10M-4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
OMRT 10M-6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
OMRT 10M-8R	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
OMRT 12M-2R	12	1/8	4.8	20.6	22	22.8	22.0	25.9	36.0	23.6
OMRT 12M-4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
OMRT 12M-6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
OMRT 12M-8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
OMRT 12M-12R	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
OMRT 16M-6R	16	3/8	9.5	25.4	25	24.4	22.0	27.9	38.0	30.2
OMRT 16M-8R	16	1/2	11.9	25.4	25	24.4	22.0	27.9	38.0	35.1
OMRT 16M-12R	16	3/4	12.7	27.0	25	24.4	22.0	29.7	39.8	36.8
OMRT 18M-8R	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
OMRT 18M-12R	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
OMRT 20M-8R	20	1/2	11.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMRT 20M-12R	20	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMRT 22M-12R	22	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMRT 22M-16R	22	1	18.3	34.92	32	26.0	22.0	34.5	44.6	46.5
OMRT 25M-12R	25	3/4	15.9	34.92	38	31.3	26.5	36.8	49.1	41.7
OMRT 25M-16R	25	1	21.8	34.92	38	31.3	26.5	36.8	49.1	46.5

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OMBT-N/R

Male Branch Tee–NPT Thread
Male Branch Tee–ISO Tapered Thread





Connects fractional tube to female NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OMBT 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
OMBT 1-2N	1/16	1.59	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
OMBT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	18.90
OMBT 2-4N	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	23.26
OMBT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	24.38	18.79
OMBT 3-4N	3/16	4.76	1/4	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	23.26
OMBT 4-1N	1/4	6.35	1/16	3.04	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.90	18.79
OMBT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	18.79
OMBT 4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	27.08	23.87
OMBT 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	28.40
OMBT 4-8N	1/4	6.35	1/2	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.60	31.97	35.10
OMBT 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.71	19.81
OMBT 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.77	24.50
OMBT 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	28.40
OMBT 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
OMBT 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	28.19
OMBT 6-8N	3/8	9.52	1/2	7.11	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	33.02
OMBT 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
OMBT 8-4N	1/2	12.70	1/4	7.11	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OMBT 8-6N	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OMBT 8-8N	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
OMBT 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	29.71	39.84	36.83
OMBT 10-6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	29.40
OMBT 10-8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	34.00
OMBT 10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
OMBT 12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	39.87	37.00
OMBT 12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	39.81	36.83
OMBT 14-12N	7/8	22.22	3/4	15.74	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	41.65
OMBT 16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
OMBT 16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70
OMBT 20-20N	1-1/4	31.75	1-1/4	27.68	1-11/16	42.86	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
OMBT 24-24N	1-1/2	38.10	1-1/2	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97	60.45
OMBT 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18	70.61

Connects fractional tube to female ISO tapered thread

Part No.	Tube O.D D		T R(PT)	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OMBT 6-4R	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
OMBT 8-6R	1/2	12.70	3/8	9.65	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	28.30
OMBT8-8R	1/2	12.70	1/2	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	33.02
OMBT 10-8R	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	27.90	38.10	34.00

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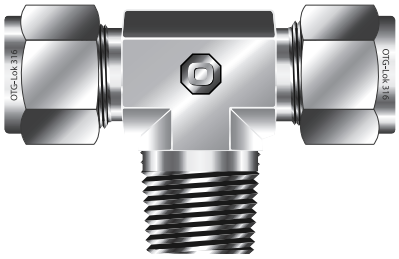
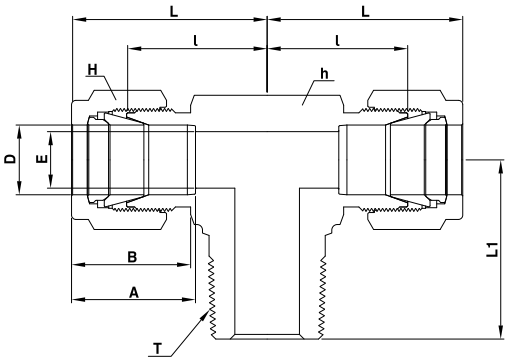
OMBT-N

Male Branch Tee–NPT Thread





Connects metric tube to female NPT thread

Part No.	Tube O.D D	T NPT	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OMBT 3M-2N	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
OMBT 3M-4N	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
OMBT 4M-2N	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
OMBT 4M-4N	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
OMBT 6M-2N	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
OMBT 6M-4N	6	1/4	4.8	14.2	14	15.3	17.7	19.6	27.0	23.4
OMBT 6M-6N	6	3/8	4.8	17.5	14	15.3	17.7	22.4	29.8	26.2
OMBT 6M-8N	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
OMBT 8M-2N	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
OMBT 8M-4N	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
OMBT 8M-6N	8	3/8	6.4	17.5	16	16.2	18.6	23.1	30.6	26.2
OMBT 8M-8N	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
OMBT 10M-2N	10	1/8	4.8	17.5	19	17.2	19.5	23.9	31.5	23.6
OMBT 10M-4N	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
OMBT 10M-6N	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
OMBT 10M-8N	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
OMBT 12M-2N	12	1/8	4.8	20.6	22	22.8	22.0	25.9	36.0	23.6
OMBT 12M-4N	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
OMBT 12M-6N	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
OMBT 12M-8N	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
OMBT 12M-12N	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
OMBT 16M-6N	16	3/8	9.5	25.4	25	24.4	22.0	27.9	38.0	30.2
OMBT 16M-8N	16	1/2	11.9	25.4	25	24.4	22.0	27.9	38.0	35.1
OMBT 16M-12N	16	3/4	12.7	27.0	25	24.4	22.0	29.7	39.8	36.8
OMBT 18M-8N	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
OMBT 18M-12N	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
OMBT 20M-8N	20	1/2	11.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMBT 20M-12N	20	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMBT 22M-12N	22	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMBT 22M-16N	22	1	18.3	34.92	32	26.0	22.0	34.5	44.6	46.5
OMBT 25M-12N	25	3/4	15.9	34.92	38	31.3	26.5	36.8	49.1	41.7
OMBT 25M-16N	25	1	21.8	34.92	38	31.3	26.5	36.8	49.1	46.5

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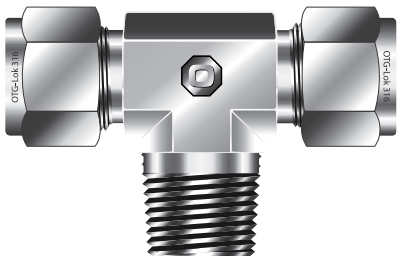
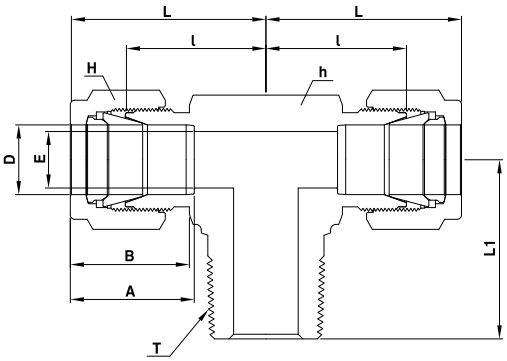
OMBT-R

Male Branch Tee–ISO Tapered Thread





Connects metric tube to female ISO tapered thread

Part No.	Tube O.D D	T R(PT)	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OMBT 3M-2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
OMBT 3M-4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
OMBT 4M-2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
OMBT 4M-4R	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
OMBT 6M-2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
OMBT 6M-4R	6	1/4	4.8	14.2	14	15.3	17.7	19.6	27.0	23.4
OMBT 6M-6R	6	3/8	4.8	17.5	14	15.3	17.7	22.4	29.8	26.2
OMBT 6M-8R	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
OMBT 8M-2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
OMBT 8M-4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
OMB T8M-6R	8	3/8	6.4	17.5	16	16.2	18.6	23.1	30.6	26.2
OMBT 8M-8R	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
OMBT 10M-2R	10	1/8	4.8	17.5	19	17.2	19.5	23.9	31.5	23.6
OMBT 10M-4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
OMBT 10M-6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
OMBT 10M-8R	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
OMBT 12M-2R	12	1/8	4.8	20.6	22	22.8	22.0	25.9	36.0	23.6
OMBT 12M-4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
OMBT 12M-6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
OMBT 12M-8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
OMBT 12M-12R	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
OMBT 16M-6R	16	3/8	9.5	25.4	25	24.4	22.0	27.9	38.0	30.2
OMBT 16M-8R	16	1/2	11.9	25.4	25	24.4	22.0	27.9	38.0	35.1
OMBT 16M-12R	16	3/4	12.7	27.0	25	24.4	22.0	29.7	39.8	36.8
OMBT 18M-8R	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
OMBT 18M-12R	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
OMBT 20M-8R	20	1/2	11.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMBT 20M-12R	20	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMBT 22M-12R	22	3/4	15.9	34.92	32	26.0	22.0	34.5	44.6	41.7
OMBT 22M-16R	22	1	18.3	34.92	32	26.0	22.0	34.5	44.6	46.5
OMBT 25M-12R	25	3/4	15.9	34.92	38	31.3	26.5	36.8	49.1	41.7
OMBT 25M-16R	25	1	21.8	34.92	38	31.3	26.5	36.8	49.1	46.5

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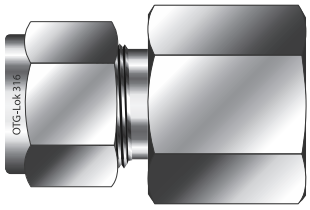
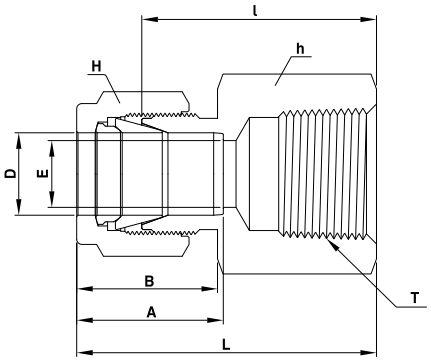
OFC-N

Female Connector NPT Thread





Connects fractional tube to male NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L
					h		H					
	in.	mm			in.	mm	in.	mm				
OFC 1-1N	1/16	1.59	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	19.81	23.62
OFC 1-2N	1/16	1.59	1/8	1.27	9/16	14.28	5/16	7.93	8.63	10.92	20.57	24.38
OFC 2-2N	1/8	3.17	1/8	2.28	9/16	14.28	7/16	11.11	12.70	15.24	22.09	28.70
OFC 2-4N	1/8	3.17	1/4	2.28	3/4	19.05	7/16	11.11	12.70	15.24	26.92	33.52
OFC 3-2N	3/16	4.76	1/8	3.04	9/16	14.28	1/2	12.70	13.71	16.00	23.11	29.71
OFC 4-2N	1/4	6.35	1/8	4.82	9/16	14.28	9/16	14.28	15.24	17.78	23.87	31.24
OFC 4-4N	1/4	6.35	1/4	4.82	3/4	19.05	9/16	14.28	15.24	17.78	28.44	35.81
OFC 4-6N	1/4	6.35	3/8	4.82	7/8	22.22	9/16	14.28	15.24	17.78	30.22	37.59
OFC 4-8N	1/4	6.35	1/2	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	35.05	42.41
OFC 5-2N	5/16	7.93	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	24.63	32.00
OFC 5-4N	5/16	7.93	1/4	6.35	3/4	19.05	5/8	15.87	16.25	18.54	29.46	36.83
OFC 6-2N	3/8	9.52	1/8	7.11	5/8	15.87	11/16	17.46	16.76	19.3	25.40	32.76
OFC 6-4N	3/8	9.52	1/4	7.11	3/4	19.05	11/16	17.46	16.76	19.30	30.22	37.59
OFC 6-6N	3/8	9.52	3/8	7.11	7/8	22.22	11/16	17.46	16.76	19.30	31.75	39.11
OFC 6-8N	3/8	9.52	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	36.57	43.94
OFC 6-12N	3/8	9.52	3/4	7.11	1-5/16	33.33	11/16	17.46	16.76	19.30	40.38	47.45
OFC 8-4N	1/2	12.70	1/4	10.41	1-3/16	20.64	7/8	22.22	22.86	21.84	30.22	40.38
OFC 8-6N	1/2	12.70	3/8	10.41	7/8	22.22	7/8	22.22	22.86	21.84	31.75	41.91
OFC 8-8N	1/2	12.70	1/2	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	36.57	46.73
OFC 8-12N	1/2	12.70	3/4	10.41	1-5/16	33.33	7/8	22.22	22.86	21.84	38.10	48.26
OFC 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	31.75	41.91
OFC 10-8N	5/8	15.87	1/2	12.70	1-1/16	26.98	1	25.40	24.38	21.84	36.57	46.73
OFC 10-12N	5/8	15.87	3/4	12.70	1-5/16	33.33	1	25.40	24.38	21.84	38.10	48.26
OFC 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	36.57	46.73
OFC 12-12N	3/4	19.05	34	15.74	1-5/16	33.33	1-1/8	28.58	24.38	21.84	38.10	48.26
OFC 14-12N	7/8	22.22	3/4	18.28	1-5/16	33.33	1-1/4	31.75	25.90	21.84	39.62	49.78
OFC 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	41.14	53.34
OFC 16-16N	1	25.40	1	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	50.03	62.23
OFC 20-20N	1-1/4	31.75	1-1/4	27.68	2-1/8	53.98	1- 7/8	47.63	41.14	38.86	52.57	74.67
OFC 24-24N	1-1/2	38.10	1-1/2	34.03	2-3/8	60.33	2-1/4	57.15	50.03	45.21	56.13	83.31
OFC 32-32N	2	50.80	2	45.97	2-1/8	73.03	3	76.20	67.56	62.73	62.26	101.60

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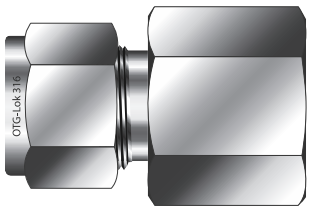
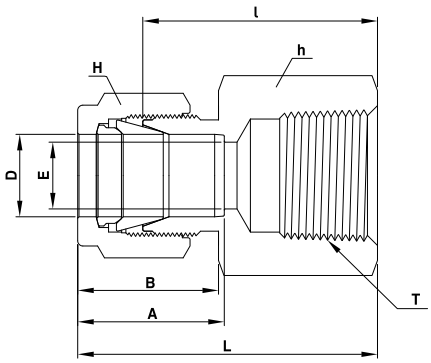
OFC-N

Female Connector NPT Thread





Connects metric tube to female NPT thread

Part No.	Tube O.D D	T NPT	E Min.	Width across flat		A	B	l	L
				h	H				
OFC 3M-2N	3	1/8	2.4	14	12	12.9	15.3	22.1	28.7
OFC 3M-4N	3	1/4	2.4	19	12	12.9	15.3	26.9	33.5
OFC 4M-2N	4	1/8	2.4	14	12	13.7	16.1	23.1	29.7
OFC 6M-2N	6	1/8	4.8	14	14	15.3	17.7	23.9	31.3
OFC 6M-4N	6	1/4	4.8	19	14	15.3	17.7	28.4	35.8
OFC 6M-6N	6	3/8	4.8	22	14	15.3	17.7	29.5	36.9
OFC 6M-8N	6	1/2	4.8	27	14	15.3	17.7	35.1	42.5
OFC 8M-2N	8	1/8	6.4	15	16	16.2	18.6	24.6	32.1
OFC 8M-4N	8	1/4	6.4	19	16	16.2	18.6	29.5	37.0
OFC 8M-6N	8	3/8	6.4	22	16	16.2	18.6	30.2	37.7
OFC 8M-8N	8	1/2	6.4	27	16	16.2	18.6	35.8	43.3
OFC 10M-2N	10	1/8	7.9	18	19	17.2	19.5	25.4	33.0
OFC 10M-4N	10	1/4	7.9	19	19	17.2	19.5	30.2	37.8
OFC 10M-6N	10	3/8	7.9	22	19	17.2	19.5	31.0	38.6
OFC 10M-8N	10	1/2	7.9	27	19	17.2	19.5	36.6	44.2
OFC 12M-2N	12	1/8	8.3	22	22	22.8	22.0	28.4	38.5
OFC 12M-4N	12	1/4	9.5	22	22	22.8	22.0	30.2	40.3
OFC 12M-6N	12	3/8	9.5	22	22	22.8	22.0	31.0	41.1
OFC 12M-8N	12	1/2	9.5	27	22	22.8	22.0	36.6	46.7
OFC 12M-12N	12	3/4	9.5	35	22	22.8	22.0	38.9	49.0
OFC 15M-8N	15	1/2	11.9	27	25	24.4	22.0	36.6	46.7
OFC 16M-8N	16	1/2	12.7	27	25	24.4	22.0	36.8	46.9
OFC 20M-8N	20	1/2	15.9	30	32	26.0	22.0	37.8	47.9
OFC 20M-12N	20	3/4	15.9	35	32	26.0	22.0	39.6	49.7
OFC 22M-12N	22	3/4	18.3	35	32	26.0	22.0	39.6	49.7
OFC 22M-16N	22	1	18.3	41	32	26.0	22.0	47.8	57.9
OFC 25M-12N	25	3/4	21.8	35	38	31.3	26.5	41.1	53.4
OFC 25M-16N	25	1	21.8	41	38	31.3	26.5	50.0	62.3

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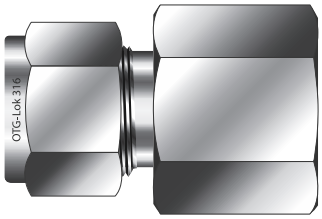
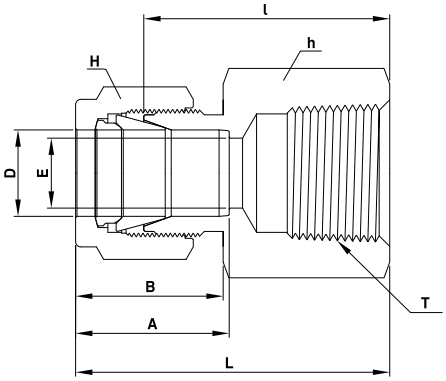
OFC-R

Female Connector ISO Tapered Thread





Connects fractional tube to male ISO tapered thread

Part No.	Tube O.D D		R (PT)	E Min.	Width across flat				A	B	l	L
					h		H					
	in.	mm			in.	mm	in.	mm				
OFC 2-2R	1/8	3.17	1/8	2.28	9/16	14.28	7/16	11.11	12.70	15.24	22.09	28.70
OFC 4-2R	1/4	6.35	1/8	4.82	9/16	14.28	9/16	14.28	15.24	17.78	23.87	31.24
OFC 4-4R	1/4	6.35	1/4	4.82	3/4	19.05	9/16	14.28	15.24	17.78	28.44	35.81
OFC 4-6R	1/4	6.35	3/8	4.82	7/8	22.22	9/16	14.28	15.24	17.78	30.22	37.59
OFC 4-8R	1/4	6.35	1/2	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	35.05	42.41
OFC 6-4R	3/8	9.52	1/4	7.11	3/4	19.05	11/16	17.46	16.76	19.3	30.22	37.59
OFC 6-6R	3/8	9.52	3/8	7.11	7/8	22.22	11/16	17.46	16.76	19.3	31.75	39.11
OFC 6-8R	3/8	9.52	1/2	7.11	1-1/16	26.98	11/16	17.46	16.76	19.3	36.57	43.94
OFC 8-2R	1/2	12.70	1/8	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.40	35.56
OFC 8-4R	1/2	12.70	1/4	10.41	1-3/16	20.64	7/8	22.22	22.86	21.84	30.22	40.38
OFC 8-6R	1/2	12.70	3/8	10.41	7/8	22.22	7/8	22.22	22.86	21.84	31.75	41.91
OFC 8-8R	1/2	12.70	1/2	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	36.57	46.73
OFC 8-12R	1/2	12.70	3/4	10.41	1-5/16	33.33	7/8	22.22	22.86	21.84	38.10	48.26
OFC 10-6R	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	31.75	41.91
OFC 10-8R	5/8	15.87	1/2	12.70	1-1/16	26.98	1	25.40	24.38	21.84	36.57	46.73
OFC 10-12R	5/8	15.87	3/4	12.70	1-5/16	33.33	1	25.40	24.38	21.84	38.10	48.26
OFC 12-8R	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	36.57	46.73
OFC 12-12R	3/4	19.05	3/4	15.74	1-5/16	33.33	1-1/8	28.58	24.38	21.84	38.10	48.26
OFC 16-12R	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	41.14	53.34
OFC 16-16R	1	25.40	1	22.35	1-5/8	41.27	1-1/2	38.10	31.24	26.41	50.03	62.23
OFC 20-16R	1-1/4	31.75	1	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	52.57	74.67
OFC 20-20R	1-1/4	31.75	1-1/4	27.68	2-1/8	53.98	1-7/8	47.63	41.14	38.86	52.57	74.67
OFC 24-24R	1-1/2	38.10	1-1/2	34.03	2-3/8	60.33	2-1/4	57.15	50.03	45.21	56.13	83.81

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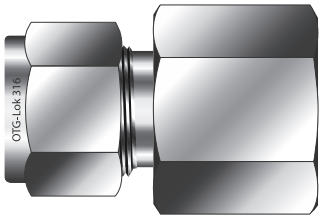
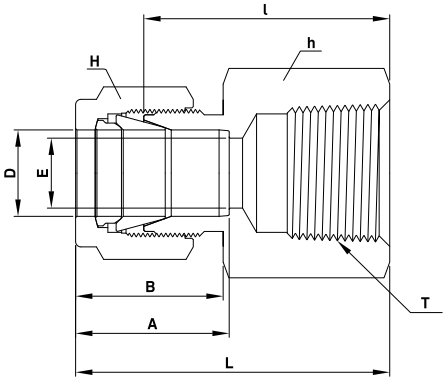
OFC-R

Female Connector ISO Tapered Thread





Connects metric tube to male ISO tapered thread

Part No.	Tube O.D D	R (PT)	E Min.	Width across flat		A	B	l	L
				h	H				
OFC 3M-2R	3	1/8	2.4	14	12	12.9	15.3	22.1	28.7
OFC 3M-4R	3	1/4	2.4	19	12	12.9	15.3	26.9	33.5
OFC 4M-2R	4	1/8	2.4	14	12	13.7	16.1	23.1	29.7
OFC 6M-2R	6	1/8	4.8	14	14	15.3	17.7	23.9	31.3
OFC 6M-4R	6	1/4	4.8	19	14	15.3	17.7	28.4	35.8
OFC 6M-6R	6	3/8	4.8	22	14	15.3	17.7	29.5	36.9
OFC 6M-8R	6	1/2	4.8	27	14	15.3	17.7	35.1	42.5
OFC 8M-2R	8	1/8	6.4	15	16	16.2	18.6	24.6	32.1
OFC 8M-4R	8	1/4	6.4	19	16	16.2	18.6	29.5	37.0
OFC 8M-6R	8	3/8	6.4	22	16	16.2	18.6	30.2	37.7
OFC 8M-8R	8	1/2	6.4	27	16	16.2	18.6	35.8	43.3
OFC 10M-2R	10	1/8	7.9	18	19	17.2	19.5	25.4	33.0
OFC 10M-4R	10	1/4	7.9	19	19	17.2	19.5	30.2	37.8
OFC 10M-6R	10	3/8	7.9	22	19	17.2	19.5	31.0	38.6
OFC 10M-8R	10	1/2	7.9	27	19	17.2	19.5	36.6	44.2
OFC 12M-2R	12	1/8	8.3	22	22	22.8	22.0	28.4	38.5
OFC 12M-4R	12	1/4	9.5	22	22	22.8	22.0	30.2	40.3
OFC 12M-6R	12	3/8	9.5	22	22	22.8	22.0	31.0	41.1
OFC 12M-8R	12	1/2	9.5	27	22	22.8	22.0	36.6	46.7
OFC 12M-12R	12	3/4	9.5	35	22	22.8	22.0	38.9	49.0
OFC 15M-8R	15	1/2	11.9	27	25	24.4	22.0	36.6	46.7
OFC 16M-8R	16	1/2	12.7	27	25	24.4	22.0	36.8	46.9
OFC 20M-8R	20	1/2	15.9	30	32	26.0	22.0	37.8	47.9
OFC 20M-12R	20	3/4	15.9	35	32	26.0	22.0	39.6	49.7
OFC 22M-12R	22	3/4	18.3	35	32	26.0	22.0	39.6	49.7
OFC 22M-16R	22	1	18.3	41	32	26.0	22.0	47.8	57.9
OFC 25M-12R	25	3/4	21.8	35	38	31.3	26.5	41.1	53.4
OFC 25M-16R	25	1	21.8	41	38	31.3	26.5	50.0	62.3

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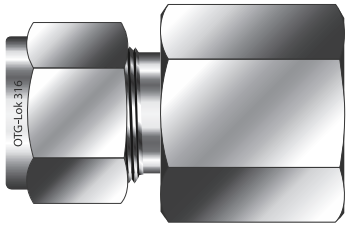
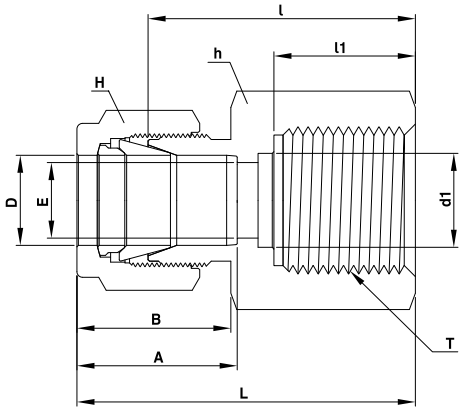
OGC

Gauge Connector





Connects fractional tube to Gauge(male ISO parallel thread)

Part No.	Tube O.D D		T (PF)	E Min.	d1	Width across flat				A	B	l	l1	L
						h		H						
	in.	mm				in.	mm	in.	mm					
OGC 2-4GG	1/8	3.17	1/4	2.4	5.5	3/4	19.05	7/16	11.11	12.70	15.24	28.70	13.00	35.31
OGC 4-2GG	1/4	6.35	1/8	4.82	-	9/16	14.28	9/16	14.28	15.24	17.78	26.30	12.00	33.55
OGC 4-4GG	1/4	6.35	1/4	4.82	5.5	3/4	19.05	9/16	14.28	15.24	17.78	30.22	13.00	37.59
OGC 4-6GG	1/4	6.35	3/8	4.82	6.5	15/16	23.81	9/16	14.28	15.24	17.78	30.22	14.22	37.59
OGC 4-8GG	1/4	6.35	1/2	4.82	7.0	1-1/16	26.98	9/16	14.28	15.24	17.78	30.07	18.80	43.43
OGC 5-4GG	5/6	7.93	1/4	5.58	5.5	3/4	19.05	5/8	15.87	16.25	18.54	30.98	13.00	38.35
OGC 5-8GG	5/6	7.93	1/2	7.11	7.0	1-1/16	26.98	5/8	15.87	16.25	18.54	33.02	18.00	40.38
OGC 6-4GG	3/8	9.52	1/4	5.58	5.5	3/4	19.05	11/16	17.46	16.76	19.30	31.75	12.95	39.12
OGC 6-6GG	3/8	9.52	3/8	6.60	6.5	15/16	23.81	11/16	17.46	16.76	19.30	31.24	14.22	38.61
OGC 6-8GG	3/8	9.52	1/2	7.11	7.0	1-1/16	26.98	11/16	17.46	16.76	19.30	34.54	18.80	41.91
OGC 8-4GG	1/2	12.70	1/4	5.50	5.5	7/8	22.22	7/8	22.22	22.86	21.84	31.80	13.00	41.95
OGC 8-6GG	1/2	12.70	3/8	6.60	6.5	15/16	23.81	7/8	22.22	22.86	21.84	34.29	14.24	44.45
OGC 8-8GG	1/2	12.70	1/2	7.11	7.0	1-1/16	26.98	7/8	22.22	22.86	21.84	38.10	18.80	48.26

Connects metric tube to Gauge(male ISO parallel thread)

Part No.	Tube O.D D	T (PF)	E Min.	d1	Width across flat		A	B	l	L1	L
					h	H					
OGC 3M-4GG	3	1/4	2.4	5.5	19	12	12.9	15.3	28.7	13	35.3
OGC 6M-4GG	6	1/4	4.8	5.5	19	14	15.3	17.7	30.2	13	37.6
OGC 6M-6GG	6	3/8	4.8	6.5	24	14	15.3	17.7	30.2	14	37.6
OFC 6M-8GG	6	1/2	4.8	7.0	27	14	15.3	17.7	36.3	19	43.0
OFC 8M-4GG	8	1/4	5.5	5.5	19	16	16.2	18.6	31.0	13	38.5
OFC 8M-6GG	8	3/8	6.5	6.5	24	16	16.2	18.6	28.7	14	36.2
OFC 8M-8GG	8	1/2	7.0	7.0	27	16	16.2	18.6	33.0	19	40.5
OFC 10M-4GG	10	1/4	5.5	5.5	19	19	17.2	19.5	31.8	13	39.4
OFC 10M-6GG	10	3/8	6.5	6.5	24	19	17.2	19.5	31.2	14	38.8
OFC 10M-8GG	10	1/2	7.0	7.0	27	19	17.2	19.5	33.8	19	41.4
OFC 12M-4GG	12	1/4	5.5	5.5	22	22	22.8	22.0	31.8	13	41.9
OFC 12M-6GG	12	3/8	6.5	6.5	24	22	22.8	22.0	34.3	14	44.4
OFC 12M-8GG	12	1/2	7.0	7.0	27	22	22.8	22.0	38.1	19	48.2
OFC 20M-8GG	20	1/2	7.0	7.0	30	32	26.0	22.0	44.2	19	54.3
OFC 22M-8GG	22	1/2	7.0	7.0	30	32	26.0	22.0	44.2	19	54.3

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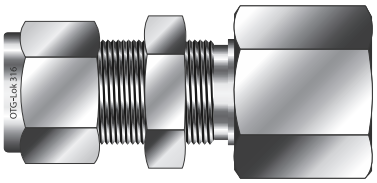
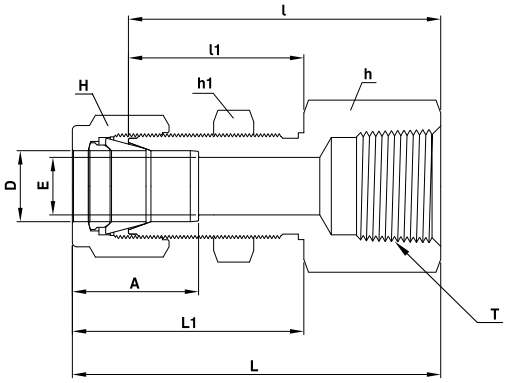
OBFC

Bulkhead Female Connector





Connects fractional tube to male NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat						A	l	l1	L	L1	Panel Hole Drill size	Panel Max Tickness
					h		h1		H								
	in.	mm			in.	mm	in.	mm	in.	mm							
OBFC 2-2N	1/8	3.17	1/8	2.28	9/16	14.28	1/2	12.70	7/16	11.11	12.70	38.10	24.63	44.70	31.24	8.33	12.70
OBFC 4-2N	1/4	6.35	1/8	4.82	5/8	15.87	5/8	15.87	9/16	14.28	15.24	39.62	26.16	46.99	33.52	11.50	10.16
OBFC 4-4N	1/4	6.35	1/4	4.82	3/4	19.05	5/8	15.87	9/16	14.28	15.24	44.45	26.16	51.81	33.52	11.50	10.16
OBFC 6-4N	3/8	9.52	1/4	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	47.75	29.46	55.11	36.83	14.68	11.17
OBFC 6-6N	3/8	9.52	3/8	7.11	7/8	22.22	3/4	19.05	11/16	17.46	16.76	49.41	29.46	56.77	36.83	14.68	11.17
OBFC 8-6N	1/2	12.70	3/8	10.41	15/16	23.81	15/16	23.81	7/8	22.22	22.86	51.56	31.75	61.72	41.91	19.44	12.70
OBFC 8-8N	1/2	12.70	1/2	10.41	1-1/16	26.98	15/16	23.81	7/8	22.22	22.86	56.38	31.75	66.54	41.91	19.44	12.70
OBFC 12-12N	3/4	19.05	3/4	15.74	1-1/4	31.75	1-3/16	30.16	1-1/8	28.57	24.38	63.60	38.30	73.51	47.21	25.79	16.76
OBFC 16-16N	1	25.40	1	22.35	1-5/8	41.27	1-5/8	41.27	1-1/2	38.10	31.24	81.04	45.21	93.23	57.40	33.73	19.05
OBFC 20-20N	1-1/4	31.75	1-1/4	27.68	1-7/8	47.63	1-7/8	47.63	1-7/8	47.63	41.14	83.49	47.75	105.59	69.85	41.67	19.05
OBFC 24-24N	1-1/2	38.10	1-1/2	34.03	1-1/4	57.15	2-1/4	57.15	2-1/4	57.15	50.03	87.93	49.27	114.57	76.45	49.61	19.05
OBFC 32-32N	2	50.80	2	45.97	1-3/4	69.85	2-3/4	69.85	3	76.20	67.56	95.30	56.38	132.63	93.71	57.94	19.05

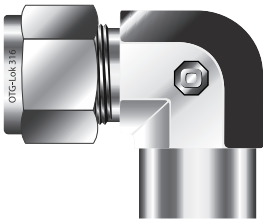
Connects metric tube to male NPT thread

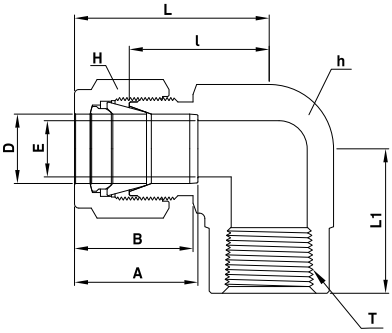
Part No.	Tube O.D D	T NPT	E Min.	Width across flat			A	l	l1	L	L1	Panel Hole Drill size	Panel Max Tickness
				h	h1	H							
OBFC 6M-2N	6	1/8	4.8	15.8	15.8	14	15.3	39.6	26.2	46.90	35.00	11.5	10.2
OBFC 6M-4N	6	1/4	4.8	19.0	16.0	14	15.3	44.4	26.2	51.80	33.60	11.5	10.2
OBFC 8M-4N	8	1/4	6.3	19.0	17.4	16	16.2	46.7	28.6	53.85	35.55	13.1	11.2
OBFC 12M-8N	12	1/2	9.5	27.0	24.0	22	22.8	31.8	31.8	66.50	41.90	19.5	12.7

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OFE

Female Elbow





Connects fractional tube to male NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OFE 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.63	19.05
OFE 2-4N	1/8	3.17	1/4	2.28	11/16	17.46	7/16	11.11	12.70	15.24	20.82	27.43	22.35
OFE 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	19.05
OFE 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	19.05
OFE 4-4N	1/4	6.35	1/4	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	22.35
OFE 4-6N	1/4	6.35	3/8	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.38	31.75	22.35
OFE 4-8N	1/4	6.35	1/2	4.82	1	25.40	9/16	14.28	15.24	17.78	27.17	34.54	28.44
OFE 5-2N	5/16	7.93	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
OFE 5-4N	5/16	7.93	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
OFE 6-2N	3/8	9.52	1/8	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	19.05
OFE 6-4N	3/8	9.52	1/4	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	22.35
OFE 6-6N	3/8	9.52	3/8	7.11	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	22.35
OFE 6-8N	3/8	9.52	1/2	7.11	1	25.40	11/16	17.46	16.76	19.30	28.70	36.06	28.44
OFE 8-4N	1/2	12.70	1/4	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	22.35
OFE 8-6N	1/2	12.70	3/8	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	22.35
OFE 8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	28.70	38.86	28.44
OFE 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	27.94	38.10	22.35
OFE 10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	29.71	39.87	28.44
OFE 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	39.87	28.44
OFE 12-12N	3/4	19.05	3/4	15.74	1-3/8	34.92	1-1/8	28.58	24.38	21.84	34.54	44.70	31.75
OFE 14-12N	7/8	22.22	3/4	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	31.75
OFE 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	31.75
OFE 16-16N	1	25.40	1	22.35	1-11/16	42.86	1-1/2	38.10	31.24	26.41	41.40	50.29	38.10

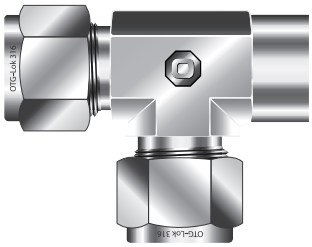
Connects metric tube to male NPT thread

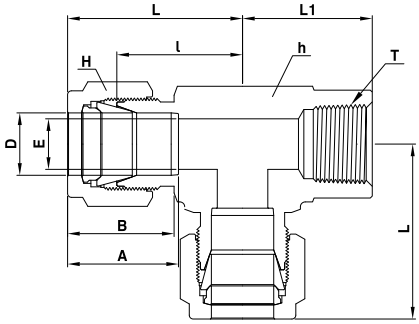
Part No.	Tube O.D D	T NPT	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OFE 6M-2N	6	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.00
OFE 6M-4N	6	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.40
OFE 6M-6N	6	3/8	4.8	20.64	14	15.3	17.7	24.4	31.7	22.40
OFE 6M-8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.6	28.40
OFE 8M-2N	8	1/8	6.4	15.87	16	16.2	18.6	23.1	29.9	19.00
OFE 8M-4N	8	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.40
OFE 8M-8N	8	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.40
OFE 10M-2N	10	1/8	7.9	17.46	19	17.2	19.5	23.9	31.5	19.00
OFE 10M-4N	10	1/4	7.9	17.46	19	17.2	19.5	25.9	33.5	22.35
OFE 10M-6N	10	3/8	7.9	20.64	19	17.2	19.5	25.9	33.5	22.40
OFE 10M-8N	10	1/2	7.9	25.40	19	17.2	19.5	28.7	36.1	28.40
OFE 12M-4N	12	1/4	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
OFE 12M-6N	12	3/8	9.5	20.64	22	22.8	22.0	25.9	36.2	22.35
OFE 12M-8N	12	1/2	9.5	25.40	22	22.8	22.0	28.7	38.8	28.40
OFC 16M-8N	16	1/2	12.7	26.98	25	24.4	22.0	29.7	39.5	28.40

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OFRT

Female Run Tee





Connects fractional tube to male NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OFRT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.63	19.05
OFRT 2-4N	1/8	3.17	1/4	2.28	11/16	17.46	7/16	11.11	12.70	15.24	20.82	27.43	22.35
OFRT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	19.05
OFRT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	19.05
OFRT 4-4N	1/4	6.35	1/4	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.86	29.71	22.35
OFRT 4-6N	1/4	6.35	3/8	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.38	31.75	22.35
OFRT 4-8N	1/4	6.35	1/2	4.82	1	25.40	9/16	14.28	15.24	17.78	27.17	34.54	28.44
OFRT 5-2N	5/16	7.94	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
OFRT 5-4N	5/16	7.94	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
OFRT 6-2N	3/8	9.52	1/8	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	19.05
OFRT 6-4N	3/8	9.52	1/4	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	22.35
OFRT 6-6N	3/8	9.52	3/8	6.35	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	22.35
OFRT 6-8N	3/8	9.52	1/2	7.11	1	25.40	11/16	17.46	16.76	19.30	28.70	36.06	28.44
OFRT 8-4N	1/2	12.70	1/4	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	22.35
OFRT 8-6N	1/2	12.70	3/8	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	22.35
OFRT 8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	29.71	39.78	28.44
OFRT 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	27.94	38.10	22.35
OFRT 10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	29.71	39.87	28.44
OFRT 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	39.87	28.44
OFRT 12-12N	3/4	19.05	3/4	15.74	1-3/8	34.92	1-1/8	28.58	24.38	21.84	34.54	44.70	31.75
OFRT 14-12N	7/8	22.22	3/4	18.28	1-3/8	34.92	1-1/4	31.75	25.9	21.84	34.54	44.70	31.75
OFRT 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	31.75
OFRT 16-16N	1	25.40	1	22.35	1-11/16	42.86	1-1/2	38.10	31.24	26.41	41.40	50.29	38.10

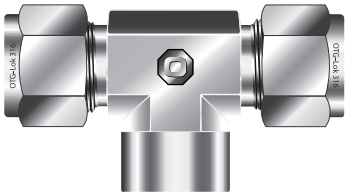
Connects metric tube to male NPT thread

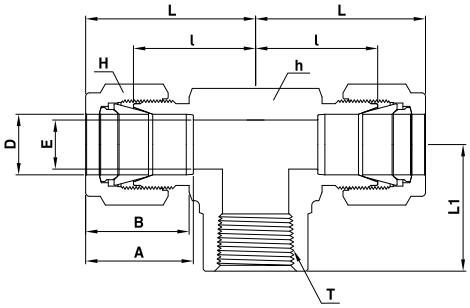
Part No.	Tube O.D D	T NPT	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OFRT 6M-2N	6	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.00
OFRT 6M-4N	6	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.40
OFRT 6M-6N	6	3/8	4.8	20.64	14	15.3	17.7	24.4	31.7	22.40
OFRT 6M-8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.5	28.40
OFRT 8M-2N	8	1/8	6.4	15.87	16	16.2	18.6	23.1	29.9	19.00
OFRT 8M-4N	8	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.40
OFRT 8M-6N	8	3/8	6.4	20.64	16	16.2	18.6	25.2	32.4	22.40
OFRT 8M-8N	8	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.40
OFRT 10M-2N	10	1/8	7.9	17.46	19	17.2	19.5	23.9	31.5	19.00
OFRT 10M-4N	10	1/4	7.9	20.64	19	17.2	19.5	25.9	33.6	22.40
OFRT 10M-6N	10	3/8	7.9	20.64	19	17.2	19.5	25.9	33.6	22.40
OFRT 10M-8N	10	1/2	7.9	25.40	19	17.2	19.5	26.2	33.6	28.40
OFRT 12M-4N	12	1/4	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
OFRT 12M-6N	12	3/8	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
OFRT 12M-8N	12	1/2	9.5	25.40	22	22.8	22.0	29.7	40.0	28.40
OFRT 16M-8N	16	1/2	12.7	25.40	25	24.4	22.0	29.7	40.0	28.40

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OFBT

Female Branch Tee





Connects fractional tube to male NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat				A	B	l	L	L1
					h		H						
	in.	mm			in.	mm	in.	mm					
OFBT 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.38	19.05
OFBT 2-4N	1/8	3.17	1/4	2.28	11/16	17.46	7/16	11.11	12.70	15.24	20.82	27.43	22.35
OFBT 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	19.05
OFBT 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	19.05
OFBT 4-4N	1/4	6.35	1/4	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	22.35
OFBT 4-6N	1/4	6.35	3/8	4.82	13/16	20.64	9/16	14.28	15.24	17.78	24.38	31.75	22.35
OFBT 4-8N	1/4	6.35	1/2	4.82	1	25.40	9/16	14.28	15.24	17.78	27.17	34.54	28.44
OFBT 5-2N	5/16	7.94	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
OFBT 5-4N	5/16	7.94	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
OFBT 6-2N	3/8	9.52	1/8	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	19.05
OFBT 6-4N	3/8	9.52	1/4	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	22.35
OFBT 6-6N	3/8	9.52	3/8	6.35	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	22.35
OFBT 6-8N	3/8	9.52	1/2	7.11	1	25.40	11/16	17.46	16.76	19.30	28.70	36.06	28.44
OFBT 8-4N	1/2	12.70	1/4	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	22.35
OFBT 8-6N	1/2	12.70	3/8	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	36.06	22.35
OFBT 8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	29.71	39.87	28.44
OFBT 10-6N	5/8	15.87	3/8	12.70	15/16	23.81	1	25.40	24.38	21.84	27.94	38.10	22.35
OFBT 10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	29.71	39.87	28.44
OFBT 12-8N	3/4	19.05	1/2	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	39.87	28.44
OFBT 12-12N	3/4	19.05	3/4	15.74	1-3/8	34.92	1-1/8	28.58	24.38	21.84	34.54	44.70	31.75
OFBT 14-12N	7/8	22.22	3/4	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	34.54	44.70	31.75
OFBT 16-12N	1	25.40	3/4	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	31.75
OFBT 16-16N	1	25.40	1	22.35	1-11/16	42.86	1-1/2	38.10	31.24	26.41	41.40	50.29	38.10

Connects metric tube to male NPT thread

Part No.	Tube O.D D	T NPT	E Min.	Width across flat		A	B	l	L	L1
				h	H					
OFBT 6M-2N	6	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.00
OFBT 6M-4N	6	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.40
OFBT 6M-6N	6	3/8	4.8	20.64	14	15.3	17.7	24.4	31.7	22.40
OFBT 6M-8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.5	28.40
OFBT 8M-2N	8	1/8	6.4	15.87	16	16.2	18.6	23.1	29.9	19.00
OFBT 8M-4N	8	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.40
OFBT 8M-6N	8	3/8	6.4	20.64	16	16.2	18.6	25.2	32.4	22.40
OFBT 8M-8N	8	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.40
OFBT 10M-2N	10	1/8	7.9	17.46	19	17.2	19.5	23.9	31.5	19.00
OFBT 10M-4N	10	1/4	7.9	20.64	19	17.2	19.5	25.9	33.6	22.40
OFBT 10M-6N	10	3/8	7.9	20.64	19	17.2	19.5	25.9	33.5	22.40
OFBT 10M-8N	10	1/2	9.5	25.40	19	17.2	19.5	26.2	33.6	28.40
OFBT 12M-4N	12	1/4	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
OFBT 12M-6N	12	3/8	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
OFBT 12M-8N	12	1/2	9.5	25.40	22	22.8	22.0	29.7	40.0	28.40
OFBT 16M-8N	16	1/2	12.7	25.40	25	24.4	22.0	29.7	40.0	28.70

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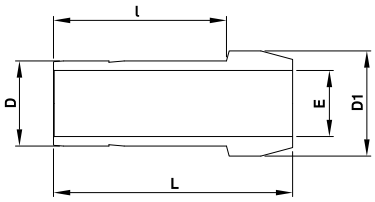
OPC

Port Connector



Connects fractional **OTG-LOK** tube fitting ports

Part No.	Tube O.D D		E Min.	D1	l	L
	in.	mm				
OPC-1	1/16	1.59	1.00	3.30	10.66	13.72
OPC-2	1/8	3.17	1.77	6.09	15.75	22.35
OPC-4	1/4	6.35	4.57	9.39	18.79	24.64
OPC-5	5/16	7.93	6.35	10.92	20.06	25.90
OPC-6	3/8	9.52	7.11	12.70	20.32	26.16
OPC-8	1/2	12.70	9.90	15.74	25.90	35.81
OPC-12	3/4	19.05	14.98	22.09	27.68	37.33
OPC-16	1	25.40	20.06	28.44	34.54	48.00

Connects metri **OTG-LOK** tube fitting ports

Part No.	Tube O.D D	E Min.	D1	l	L
OPC-3M	3	2.1	6.0	15.70	22.20
OPC-4M	4	2.2	7.0	16.67	25.81
OPC-6M	6	4.4	9.0	18.70	24.60
OPC-8M	8	6.2	11.0	20.00	25.90
OPC-10M	10	8.2	13.1	20.20	26.10
OPC-12M	12	9.1	15.0	26.00	35.80
OPC-15M	15	12.7	19.0	27.78	37.40
OPC-16M	16	12.7	19.0	27.60	37.40
OPC-18M	18	13.9	21.0	27.91	37.40
OPC-20M	20	15.1	23.0	29.20	38.90
OPC-22M	22	17.9	24.97	29.30	39.20
OPC-25M	25	19.8	28.0	34.50	48.00
OPC-28M	28	23.8	34.3	48.30	63.50
OPC-32M	32	27.4	39.5	52.40	69.70
OPC-38M	38	33.3	47.1	61.40	81.90

Port Connector

Apply port connector where two tube ports are required close connection.

Figure 1

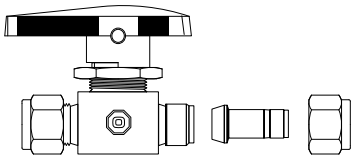


Figure 2

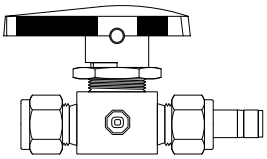
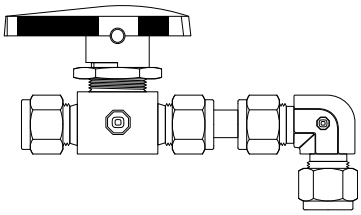
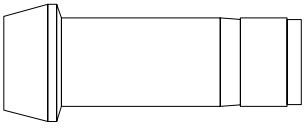


Figure 3



machined ferrule end

Notched Tube adapter End



Port connectors are designed with two different ends.
These two ends require different installation

Installation Instruction

Machined Ferrule End

1. Gently insert machined ferrule end into tube port. (Figure 1)
2. Place nut only over the machined ferrule. (Figure 1)
3. Finger tighten the nut. (Figure 2)
4. Wrench-tighten the nut 1/4 turn beyoud the finger-tighten position. (Figure 2)

Machined Ferrule End

1. Insert tube adapter end into the OTG-LOK Tube fitting. (Figure 3)
2. Follow OTG-LOK tube fitting's standard installation instruction. (Figure 3)

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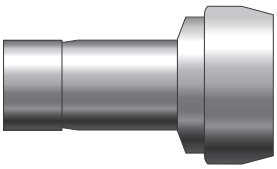
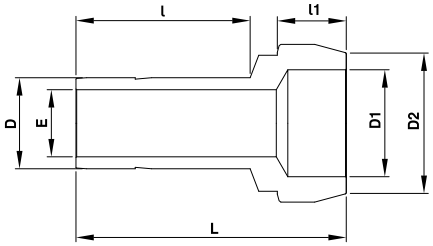
ORPC

Reducing Port Connector





Connects fractional **OTG-LOK** tube fitting ports

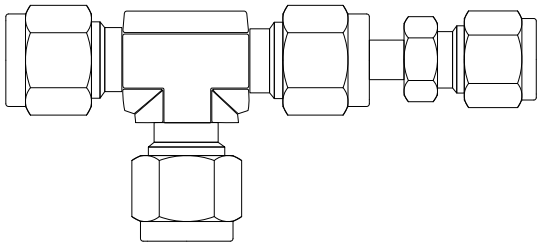
Part No.	Tube O.D				E Min.	D2	l	l1	L
	D1		D						
	in.	mm	in.	mm					
ORPC 2-1	1/8	3.17	1/16	1.59	1.00	6.10	8.64	2.03	17.27
ORPC 4-2	1/4	6.35	1/8	3.17	2.28	9.39	13.45	3.30	22.60
ORPC 6-2	3/8	9.52	1/8	3.17	2.28	12.70	13.45	3.81	23.11
ORPC 6-4	3/8	9.52	1/4	6.35	4.82	12.70	15.75	3.30	24.89
ORPC 8-4	1/2	12.70	1/4	6.35	4.82	15.74	15.75	3.81	29.21
ORPC 8-6	1/2	12.70	3/8	9.52	7.11	15.74	17.67	3.30	30.48
ORPC 12-8	3/4	19.05	1/2	12.70	9.90	22.09	23.20	3.81	37.85
ORPC 16-8	1	25.40	1/2	12.70	9.90	28.40	24.47	4.82	42.67
ORPC 16-12	1	25.40	3/4	19.05	14.98	28.40	25.90	4.06	43.43

Connects metric **OTG-LOK** tube fitting ports

Part No.	Tube O.D		E Min.	D2	l	l1	L
	D1	D					
ORPC 6M-3M	6	3	2.2	9.0	13.50	3.2	22.60
ORPC 8M-6M	8	6	4.6	11.0	15.70	3.1	24.70
ORPC 10M-6M	10	6	4.6	13.1	15.70	3.4	25.00
ORPC 10M-8M	10	8	6.4	13.1	16.80	3.1	26.00
ORPC 12M-6M	12	6	4.6	15.0	15.70	3.6	29.10
ORPC 12M-8M	12	8	6.4	15.0	16.80	3.4	29.80
ORPC 12M-10M	12	10	7.7	15.0	15.70	3.1	30.40
ORPC 16M-6M	16	6	4.6	19.0	15.75	3.6	30.40
ORPC 16M-12M	16	12	9.1	19.0	23.10	3.4	36.20
ORPC 28M-25M	28	25	19.8	34.3	33.00	8.2	56.50
ORPC 32M-25M	32	25	19.8	39.5	33.00	9.9	60.30
ORPC 38M-25M	38	25	19.8	47.1	33.00	12.3	65.80

Port Reducer

Solution for reducing the Port OD size of an existing port



By using the port reducer,
you may reduce an existing OTG-LOK Tube Fitting Port OD size

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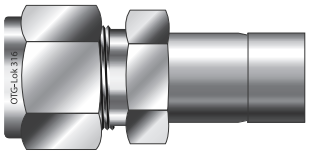
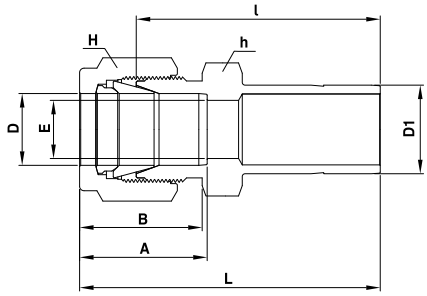
OR

Reducer





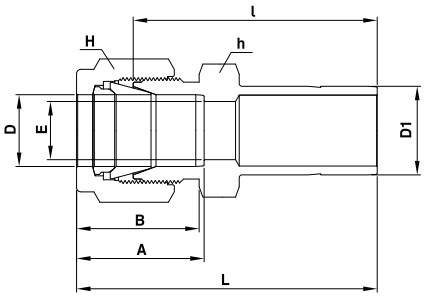
Connects fractional tube to fractional **OTG-LOK** tube fitting ports

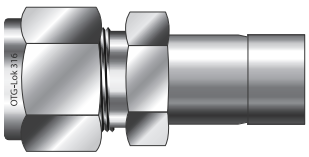
Part No.	Tube O.D				E Min.	Width across flat				A	B	l	L
	D		D1			h		H					
	in.	mm	in.	mm		in.	mm	in.	mm				
OR 1-2	1/16	1.59	1/8	3.17	1.27	5/16	7.93	5/16	7.93	8.63	10.92	25.40	**29.21**
OR 1-4	1/16	1.59	1/4	6.35	1.27	5/16	7.93	5/16	7.93	8.63	10.92	27.68	31.49
OR 2-1	1/8	3.17	1/16	1.59	1.76	7/16	11.11	7/16	11.11	12.70	15.24	22.35	28.95
OR 2-2	1/8	3.17	1/8	3.17	2.03	7/16	11.11	7/16	11.11	12.70	15.24	26.92	33.52
OR 2-3	1/8	3.17	3/16	4.76	2.28	7/16	11.11	7/16	11.11	12.70	15.24	27.68	34.29
OR 2-4	1/8	3.17	1/4	6.35	2.28	7/16	11.11	7/16	11.11	12.70	15.24	29.46	36.06
OR 2-6	1/8	3.17	3/8	9.52	2.28	7/16	11.11	7/16	11.11	12.70	15.24	30.98	37.59
OR 2-8	1/8	3.17	1/2	12.70	2.28	9/16	14.28	7/16	11.11	12.70	15.24	37.59	44.19
OR 3-2	3/16	4.76	1/8	3.17	2.03	7/16	11.11	1/2	12.70	13.71	16.00	28.19	34.79
OR 3-4	3/16	4.76	1/4	6.35	3.04	7/16	11.11	1/2	12.70	13.71	16.00	30.48	37.08
OR 4-2	1/4	6.35	1/8	3.17	2.03	1/2	12.70	9/16	14.28	15.24	17.78	29.46	36.83
OR 4-3	1/4	6.35	3/16	4.76	3.04	1/2	12.70	9/16	14.28	15.24	17.78	30.22	37.59
OR 4-4	1/4	6.35	1/4	6.35	4.82	1/2	12.70	9/16	14.28	15.24	17.78	31.75	39.11
OR 4-5	1/4	6.35	5/16	7.93	4.82	1/2	12.70	9/16	14.28	15.24	17.78	32.51	39.87
OR 4-6	1/4	6.35	3/8	9.52	4.82	1/2	12.70	9/16	14.28	15.24	17.78	33.27	40.64
OR 4-8	1/4	6.35	1/2	12.70	4.82	9/16	14.28	9/16	14.28	15.24	17.78	38.86	46.22
OR 4-10	1/4	6.35	5/8	15.87	4.82	11/16	17.46	9/16	14.28	15.24	17.78	40.64	48.00
OR 4-12	1/4	6.35	3/4	19.05	4.82	13/16	20.64	9/16	14.28	15.24	17.78	40.38	47.75
OR 5-6	5/16	7.93	3/8	9.52	6.35	9/16	14.28	5/8	15.87	16.25	18.54	34.54	41.91
OR 5-8	5/16	7.93	1/2	12.70	6.35	9/16	14.28	5/8	15.87	16.25	18.54	40.13	47.49
OR 6-4	3/8	9.52	1/4	6.35	4.82	5/8	15.87	11/16	17.46	16.76	19.30	34.03	41.40
OR 6-6	3/8	9.52	3/8	9.52	7.11	5/8	15.87	11/16	17.46	16.76	19.30	35.81	43.18
OR 6-8	3/8	9.52	1/2	12.70	7.11	5/8	15.87	11/16	17.46	16.76	19.30	41.14	45.81
OR 6-10	3/8	9.52	5/8	15.87	7.11	11/16	17.46	11/16	17.46	16.76	19.30	42.92	50.29
OR 6-12	3/8	9.52	3/4	19.05	7.11	13/16	20.64	11/16	17.46	16.76	19.30	42.92	50.29
OR 8-4	1/2	12.70	1/4	6.35	4.82	13/16	20.64	7/8	22.22	22.86	21.84	34.79	44.95
OR 8-6	1/2	12.70	3/8	9.52	7.11	13/16	20.64	7/8	22.22	22.86	21.84	36.57	46.73
OR 8-8	1/2	12.70	1/2	12.70	9.90	13/16	20.64	7/8	22.22	22.86	21.84	42.16	52.32
OR 8-10	1/2	12.70	5/8	15.87	10.41	13/16	20.64	7/8	22.22	22.86	21.84	43.68	53.84
OR 8-12	1/2	12.70	3/4	19.05	10.41	13/16	20.64	7/8	22.22	22.86	21.84	43.68	53.84
OR 8-16	1/2	12.70	1	25.40	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	50.03	60.19
OR 10-12	5/8	15.87	3/4	19.05	12.70	15/16	23.81	1	25.40	24.38	21.84	44.45	54.61
OR 10-14	5/8	15.87	7/8	22.22	12.70	15/16	23.81	1	25.40	24.38	21.84	45.97	56.13
OR 10-16	5/8	15.87	1	25.40	12.70	1-1/16	26.98	1	25.40	24.38	21.84	50.80	60.96
OR 12-8	3/4	19.05	1/2	12.70	9.90	1-1/16	26.98	1-1/8	28.57	24.38	21.84	44.45	54.61
OR 12-16	3/4	19.05	1	25.40	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	52.32	62.48
OR 16-20	1	25.40	1-1/4	31.75	22.35	1-3/8	34.93	1-1/2	38.10	31.24	26.41	68.32	80.51
OR 16-24	1	25.40	1-1/2	38.10	22.35	1-5/8	41.28	1-1/2	38.10	31.24	26.41	76.96	89.51
OR 16-32	1	25.40	2	50.80	22.35	2-1/8	53.98	1-1/2	38.10	31.24	26.41	100.33	112.52
OR 20-24	1-1/4	31.75	1-1/2	38.10	27.68	1-7/8	47.63	1-7/8	57.15	41.14	38.86	82.04	104.14
OR 20-32	1-1/4	31.75	2	50.80	27.68	1-7/8	47.63	1-7/8	76.20	41.14	38.86	103.12	125.22
OR 24-32	1-1/2	38.10	2	50.80	34.03	2-1/4	57.15	2-1/4	76.20	50.03	45.21	104.14	131.31

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OR

Reducer





Connects metric tube to fractional OTG-LOK tube fitting port

Part No.	Tube O.D			E Min.	Width across flat		A	B	l	L
	D	D1								
		in.	mm		h	H				
OR 2M-2	2	1/8	3.17	1.7	12	12	12.9	15.3	26.9	33.5
OR 3M-2										
OR 3M-4	3	1/4	6.35	2.4	12	12	12.9	15.3	29.5	36.1
OR 4M-4										
OR 6M-2	6	1/8	3.17	2.0	14	14	15.3	17.7	29.5	36.9
OR 6M-4										
OR 6M-5	6	5/16	7.93	4.8	14	14	15.3	17.7	32.5	39.9
OR 6M-6										
OR 6M-8	6	1/2	12.70	4.8	14	14	15.3	17.7	38.9	46.3
OR 8M-6										
OR 8M-8	8	1/2	12.70	6.4	15	16	16.2	18.6	40.1	47.6
OR 10M-6										
OR 10M-8	10	1/2	12.70	7.9	18	19	17.2	19.5	42.2	49.8
OR 12M-8										
OR 12M-12	12	3/4	19.05	9.5	22	22	22.8	22.0	43.7	53.8
OR 18M-12										
OR 18M-16	18	1	25.40	15.1	27	30	24.4	22.0	52.3	62.4
OR 25M-16	25	1	25.40	20.2	35	38	31.3	26.5	57.2	69.5

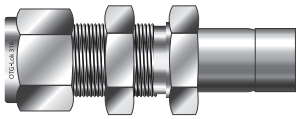
Connects metric tube to metric OTG-LOK tube fitting port

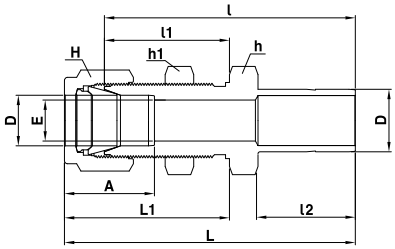
Part No.	Tube O.D		E Min.	Width across flat		A	B	l	L
	D1	D		h	H				
OR 2M-3M	2	3	1.7	12	12	12.9	15.3	26.9	35.3
OR 3M-4M	3	4	2.4	12	12	12.9	15.3	28.4	35.0
OR 3M-6M	3	6	2.4	12	12	12.9	15.3	29.5	36.1
OR 3M-10M	3	10	2.4	12	12	12.9	15.3	31.8	38.4
OR 4M-6M	4	6	2.4	12	12	13.7	16.1	30.5	37.1
OR 6M-3M	6	3	1.8	14	14	15.3	17.7	29.5	36.9
OR 6M-8M	6	8	4.8	14	14	15.3	17.7	32.5	39.9
OR 6M-10M	6	10	4.8	14	14	15.3	17.7	33.3	40.7
OR 6M-12M	6	12	4.8	14	14	15.3	17.7	38.9	46.3
OR 8M-6M	8	6	4.6	15	16	16.2	18.6	32.8	40.3
OR 8M-10M	8	10	6.4	15	16	16.2	18.6	34.5	42.0
OR 8M-12M	8	12	6.4	15	16	16.2	18.6	40.1	47.6
OR 10M-6M	10	6	4.6	18	19	17.2	19.5	34.8	42.4
OR 10M-12M	10	12	7.9	18	19	17.2	19.5	42.2	49.8
OR 10M-15M	10	15	7.9	18	19	17.2	19.5	43.7	51.3
OR 10M-18M	10	18	7.9	19	19	17.2	19.5	43.7	51.3
OR 12M-6M	12	6	4.6	22	22	22.8	22.0	34.8	44.9
OR 12M-10M	12	10	7.7	22	22	22.8	22.0	36.6	46.7
OR 12M-16M	12	16	9.5	22	22	22.8	22.0	43.7	53.8
OR 12M-18M	12	18	9.5	22	22	22.8	22.0	43.7	53.8
OR 12M-20M	12	20	9.5	22	22	22.8	22.0	46.0	56.1
OR 12M-22M	12	22	9.5	24	22	22.8	22.0	46.0	56.1
OR 12M-25M	12	25	9.5	27	22	22.8	22.0	52.3	62.4
OR 16M-12M	16	12	9.1	24	25	24.4	22.0	42.9	53.0
OR 18M-12M	18	12	9.1	27	30	24.4	22.0	44.5	54.6
OR 18M-16M	18	16	12.7	27	30	24.4	22.0	46.0	56.1
OR 18M-20M	18	20	15.1	27	30	24.4	22.0	47.5	57.6
OR 18M-22M	18	22	15.1	27	30	24.4	22.0	47.5	57.6
OR 18M-25M	18	25	15.1	27	30	24.4	22.0	52.3	62.4
OR 20M-16M	20	16	12.7	30	32	26.0	22.0	47.8	57.9
OR 20M-18M	20	18	13.9	30	32	26.0	22.0	47.8	57.9
OR 20M-22M	20	22	15.8	30	32	26.0	22.0	49.3	59.4
OR 20M-25M	20	25	15.8	30	32	26.0	22.0	54.1	64.2
OR 22M-18M	22	18	13.9	30	32	26.0	22.0	47.8	57.9
OR 22M-20M	22	20	15.1	30	32	26.0	22.0	49.3	59.4
OR 22M-25M	22	25	18.3	30	32	26.0	22.0	54.1	64.2
OR 25M-18M	25	18	13.9	35	38	31.3	26.5	50.8	63.1
OR 25M-20M	25	20	15.1	35	38	31.3	26.5	52.3	64.6

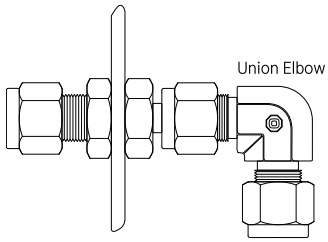
All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OBA

Bulkhead Adapter







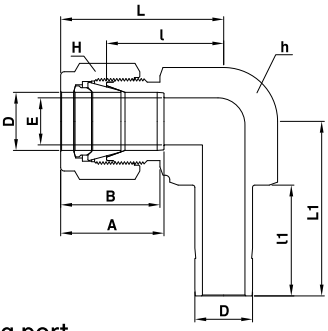
Bulkhead adapter helps set a direction through panel

Connects fractional tube to fractional **OTG-LOK** tube fitting port

Part No.	Tube O.D D		E Min.	Width across flat				A	l	l1	l2	L	L1	Panel Hole Drill size	Panel Max Tickness
				h		H									
	in.	mm		in.	mm	in.	mm								
OBA 2-2	1/8	3.17	2.03	1/2	12.70	7/16	11.11	12.70	42.92	24.63	13.45	49.53	31.24	8.33	12.70
OBA 4-4	1/4	6.35	4.82	5/8	15.87	9/16	14.28	15.24	48.51	26.16	15.74	55.88	33.52	11.50	10.16
OBA 6-6	3/8	9.52	7.11	3/4	19.05	11/16	17.46	16.76	53.84	29.46	17.50	61.21	36.83	14.68	11.17
OBA 8-8	1/2	12.70	10.41	15/16	23.81	7/8	22.22	22.86	62.73	31.75	23.11	72.89	41.91	19.44	12.70
OBA 10-10	5/8	15.87	12.70	1-1/16	26.98	1	25.40	24.38	65.02	32.51	24.70	75.18	42.67	22.62	12.70
OBA 16-16	1	25.40	20.32	1-5/8	41.28	1-1/2	38.10	31.24	88.13	45.21	31.70	100.33	57.40	33.73	19.05
OBA 20-20	1-1/4	31.75	27.68	1-7/8	47.63	1-7/8	47.63	41.14	102.07	47.75	40.00	124.17	69.85	41.67	19.05
OBA 24-24	1-1/2	38.10	34.03	2-1/4	57.15	2-1/4	57.15	50.03	118.33	49.27	51.50	145.51	76.45	49.61	19.05
OBA 32-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	148.79	56.38	68.40	185.82	93.71	57.94	19.05

OEA

Elbow Adapter



Connects fractional tube to fractional **OTG-LOK** tube fitting port

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	l1	L	L1
				h		H							
	in.	mm		in.	mm	in.	mm						
OEA-4	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.24	17.78	19.55	15.75	27.0	25.00
OEA-6	3/8	9.52	7.10	5/8	15.87	11/16	17.46	16.76	19.30	23.11	17.50	31.5	29.10
OEA-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	23.10	36.0	37.3
OEA-12	3/4	19.05	16.00	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	24.70	38.8	42.6
OEA-16	1	25.40	22.30	1-3/8	34.92	1-1/2	38.10	31.24	26.41	46.83	31.70	42.6	54.40

Connects metric tube to metric **OTG-LOK** tube fitting port

Part No.	Tube O.D D	E Min.	Width across flat		A	B	l	l1	L	L1
			h	H						
OEA-6M	6	4.6	12.7	14	15.3	17.7	19.6	15.7	27.0	25.0
OEA-8M	8	6.4	15.8	16	16.2	18.6	21.3	16.8	28.8	27.05
OEA-10M	10	7.7	17.4	19	17.2	19.5	23.9	17.5	31.5	30.0
OEA-12M	12	9.1	20.6	22	22.8	22.0	25.9	23.1	36.0	37.3
OEA-14M	14	11.1	25.4	25	24.4	22.0	28.7	24.6	38.8	41.5
OEA-15M	15	11.9	25.4	25	24.4	22.0	28.7	24.65	38.8	41.55
OEA-16M	16	12.7	25.4	25	24.4	22.0	28.7	24.6	38.8	41.5
OEA-18M	18	13.9	26.9	30	24.4	22.0	29.7	24.6	39.8	42.5
OEA-20M	20	15.1	31.8	32	26.0	22.0	32.5	26.2	42.6	47.0
OEA-22M	22	18.3	31.8	32	26.0	22.0	32.5	26.6	42.6	47.15
OEA-25M	25	19.8	34.9	38	31.3	26.5	36.8	31.7	49.1	55.2
OEA-28M	28	21.8	41.0	46	36.6	36.6	43.2	37.5	64.0	64.9

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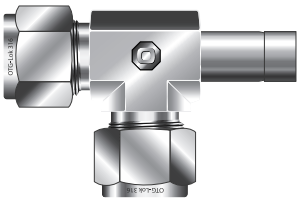
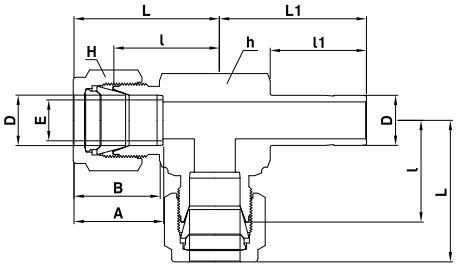
ORTA

Run Tee Adapter





Connects fractional tube to fractional **OTG-LOK** tube fitting port

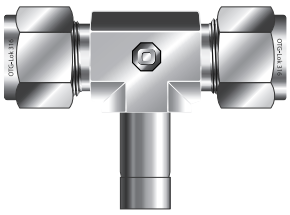
Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	l1	L	L1
				h		H							
	in.	mm		in.	mm	in.	mm						
ORTA-4	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.24	17.78	19.55	15.75	27.0	25.00
ORTA-6	3/8	9.52	7.10	5/8	15.87	11/16	17.46	16.76	19.30	23.11	17.50	31.5	29.10
ORTA-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	23.10	36.0	37.3
ORTA-12	3/4	19.05	16.00	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	24.70	38.8	42.6
ORTA-16	1	25.40	22.30	1-3/8	34.92	1-1/2	38.10	31.24	26.41	46.83	31.70	42.6	54.40

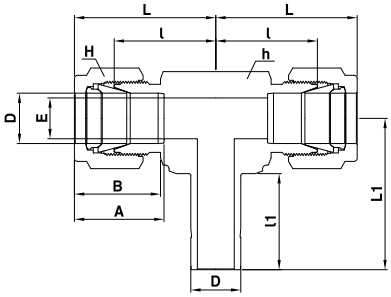
Connects metric tube to metric **OTG-LOK** tube fitting port

Part No.	Tube O.D D	E Min.	Width across flat		A	B	l	l1	L	L1
			h	H						
ORTA-8M	8	6.4	15.8	16	16.2	18.6	21.3	16.8	28.8	27.5
ORTA-10M	10	7.9	17.4	19	17.2	19.5	23.9	17.5	31.5	30.0

OBTA

Branch Tee Adapter





Connects fractional tube to fractional **OTG-LOK** tube fitting port

Part No.	Tube O.D D		E Min.	Width across flat				A	B	l	l1	L	L1
				h		H							
	in.	mm		in.	mm	in.	mm						
OBTA-4	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.24	17.78	19.55	15.75	27.0	25.00
OBTA-6	3/8	9.52	7.10	5/8	15.87	11/16	17.46	16.76	19.30	23.11	17.50	31.5	29.10
OBTA-8	1/2	12.70	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	23.10	36.0	37.3
OBTA-12	3/4	19.05	16.00	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	24.70	38.8	42.6
OBTA-16	1	25.40	22.30	1-3/8	34.92	1-1/2	38.10	31.24	26.41	46.83	31.70	42.6	54.40

Connects metric tube to metric **OTG-LOK** tube fitting port

Part No.	Tube O.D D	E Min	Width across flat		A	B	l	l1	L	L1
			h	H						
ORTA-8M	8	6.4	15.8	16	16.2	18.6	21.3	16.8	28.8	27.5

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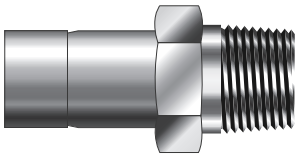
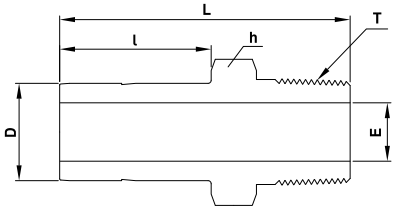
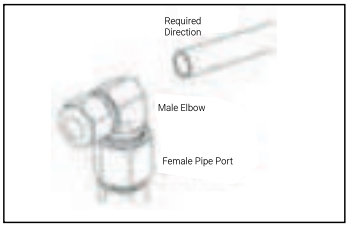
OMA-N

Male NPT Adapter

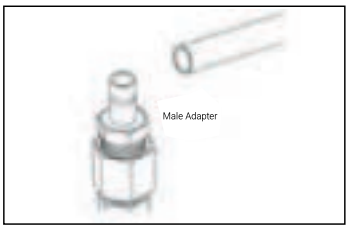




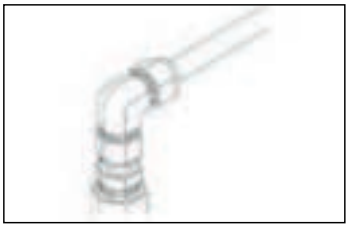
Male Adapter



Male elbow is tightened in the wrong direction.

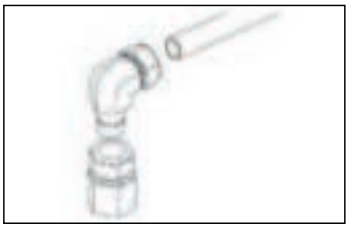


As a solution, Male adapter is tightened into female port.



Connect union elbow to the male adapter, and set the direction. Follow OTG-LOK tube fitting's standard installation Instruction.

Elbow Adapter Another Solution



Elbow adapter on OTG-LOK Tube Fitting Port eliminates alignment problem.

Connects fractional tube to fractional **OTG-LOK** tube fitting ports to female NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat h		l	L
	in.	mm			in.	mm		
OMA 2-2N	1/8	3.17	1/8	2.03	7/16	11.11	13.45	29.50
OMA 2-4N	1/8	3.17	1/4	2.03	9/16	14.28	13.45	34.80
OMA 3-2N	3/16	4.76	1/8	3.04	7/16	11.11	14.20	30.22
OMA 3-4N	3/16	4.76	1/4	3.04	9/16	14.28	14.20	35.56
OMA 4-2N	1/4	6.35	1/8	4.31	7/16	11.11	15.75	31.80
OMA 4-4N	1/4	6.35	1/4	4.31	9/16	14.28	15.75	37.08
OMA 4-6N	1/4	6.35	3/8	4.31	11/16	17.46	15.75	37.84
OMA 4-8N	1/4	6.35	1/2	4.31	7/8	22.22	15.75	43.43
OMA 5-2N	5/16	7.93	1/8	5.58	7/16	11.11	16.80	32.76
OMA 5-4N	5/16	7.93	1/4	5.58	9/16	14.28	16.80	38.10
OMA 6-2N	3/8	9.52	1/8	4.80	7/16	11.11	17.50	33.50
OMA 6-4N	3/8	9.52	1/4	6.86	9/16	14.28	17.50	38.90
OMA 6-6N	3/8	9.52	3/8	6.86	11/16	17.46	17.50	39.60
OMA 6-8N	3/8	9.52	1/2	6.86	7/8	22.22	17.50	45.20
OMA 8-4N	1/2	12.70	1/4	7.11	9/16	14.28	23.20	44.50
OMA 8-6N	1/2	12.70	3/8	9.4	11/16	17.46	23.20	45.20
OMA 8-8N	1/2	12.70	1/2	9.4	7/8	22.22	23.20	50.50
OMA 10-6N	5/8	15.87	3/8	9.6	11/16	17.46	24.70	47.40
OMA 10-8N	5/8	15.87	1/2	11.9	7/8	22.22	24.70	52.30
OMA 10-12N	5/8	15.87	3/4	12.7	1-1/16	26.98	24.70	52.30
OMA 12-8N	3/4	19.05	1/2	11.9	7/8	22.22	24.70	52.30
OMA 12-12N	3/4	19.05	3/4	14.73	1-1/16	26.98	24.70	52.30
OMA 12-16N	3/4	19.05	1	14.73	1-3/8	34.92	24.70	57.91
OMA 14-12N	7/8	22.22	3/4	15.8	1-1/16	26.98	26.70	54.30
OMA 16-12N	1	25.40	3/4	15.8	1-1/16	26.98	31.70	58.70
OMA 16-16N	1	25.40	1	20.3	1-3/8	34.92	31.70	66.00
OMA 20-20N	1-1/4	31.75	1-1/4	25.9	1-3/4	44.45	40.00	80.26
OMA 24-24N	1-1/2	38.10	1-1/2	31.75	2-1/8	53.98	51.50	94.48
OMA 32-32N	2	50.80	2	43.7	2-3/4	69.85	68.40	119.38

Connects metric **OTG-LOK** tube fitting port to female NPT thread

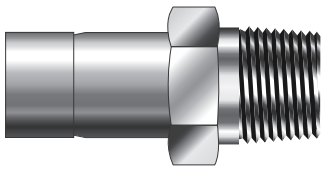
Part No.	Tube O.D D	T NPT	E Min.	Width across flat h	l	L
OMA 3M-2N	3	1/8	1.8	12	13.15	29.4
OMA 6M-2N	6	1/8	4.1	12	15.75	32.8
OMA 6M-4N	6	1/4	4.1	14	15.75	38.1
OMA 8M-4N	8	1/4	5.6	14	16.50	39.1
OMA 10M-4N	10	1/4	7.1	14	17.50	39.9
OMA 10M-6N	10	3/8	7.1	17	17.50	40.6
OMA 10M-8N	10	1/2	7.1	22	17.50	45.2
OMA 12M-4N	12	1/4	7.1	14	23.50	46.5
OMA 12M-6N	12	3/8	8.8	17	23.50	46.5
OMA 12M-8N	12	1/2	8.8	22	23.50	51.8
OMA 18M-8N	18	1/2	11.9	22	24.90	53.2
OMA 18M-12N	18	3/4	13.9	27	24.90	53.2
OMA 28M-16N	28	1	22.2	35	31.70	74.7
OMA 28M-20N	28	1-1/4	24.3	46	31.70	76.2
OMA 32M-20N	32	1-1/4	26.5	46	40.00	81.0
OMA 38M-24N	38	1-1/2	31.6	55	51.50	92.2

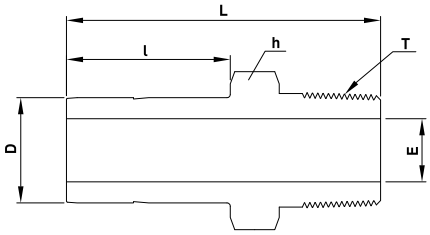
The E dimension is the minimum nominal opening.
These fittings may have a larger opening at the pipe / straight thread end.

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OMA-R

Male ISO Tapered Adapter





Connects fractional **OTG-LOK** tube fitting port to female ISO tapered thread

Part No.	Tube O.D D		T (PT)	E Min.	Width across flat h		l	L
	in.	mm			in.	mm		
OMA 2-2R	1/8	3.17	1/8	2.03	7/16	11.11	13.45	29.50
OMA 2-4R	1/8	3.17	1/4	2.03	9/16	14.28	13.45	34.80
OMA 4-2R	1/4	6.35	1/8	4.31	7/16	11.11	15.75	31.80
OMA 4-4R	1/4	6.35	1/4	4.31	9/16	14.28	15.75	37.08
OMA 4-6R	1/4	6.35	3/8	4.31	11/16	17.46	15.75	37.84
OMA 6-4R	3/8	9.52	1/4	6.86	9/16	14.28	17.50	38.90
OMA 6-6R	3/8	9.52	3/8	6.86	11/16	17.46	17.50	39.60
OMA 6-8R	3/8	9.52	1/2	6.86	7/8	22.22	17.50	45.20
OMA 8-4R	1/2	12.70	1/4	7.11	9/16	14.28	23.20	44.50
OMA 8-6R	1/2	12.70	3/8	9.4	11/16	17.46	23.20	45.20
OMA 8-8R	1/2	12.70	1/2	9.4	7/8	22.22	23.20	50.50
OMA 8-12R	1/2	12.70	3/4	9.4	1-1/16	26.98	23.10	50.70
OMA 12-8R	3/4	19.05	1/2	11.9	7/8	22.22	24.70	52.30
OMA 12-12R	3/4	19.05	3/4	14.73	1-1/16	26.98	24.70	52.30

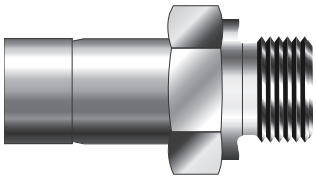
Connects metric **OTG-LOK** tube fitting port to female ISO tapered thread

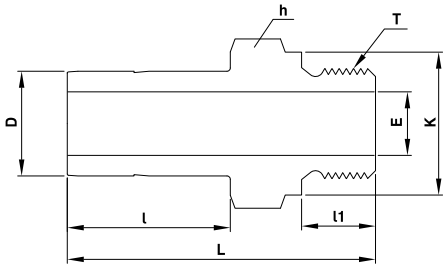
Part No.	Tube O.D D	T (PT)	E Min.	Width across flat h	l	L
OMA 3M-2R	3	1/8	1.8	12	13.15	29.4
OMA 6M-2R	6	1/8	4.1	12	15.75	32.8
OMA 6M-4R	6	1/4	4.1	14	15.75	38.1
OMA 8M-4R	8	1/4	5.6	14	16.50	39.1
OMA 10M-4R	10	1/4	7.1	14	17.50	39.9
OMA 10M-6R	10	3/8	7.1	17	17.50	40.6
OMA 10M-8R	10	1/2	7.1	22	17.50	45.2
OMA 12M-4R	12	1/4	7.1	14	23.50	46.5
OMA 12M-6R	12	3/8	8.8	17	23.50	46.5
OMA 12M-8R	12	1/2	8.8	22	23.50	51.8
OMA 18M-8R	18	1/2	11.9	22	24.90	53.2
OMA 18M-12R	18	3/4	13.9	27	24.90	53.2
OMA 25M-16R	25	1	19.8	35	31.70	66.0
OMA 28M-16R	28	1	22.2	35	31.70	74.7
OMA 28M-20R	28	1-1/4	24.3	46	31.70	76.2
OMA 30M-20R	30	1-1/4	24.6	46	40.60	80.0
OMA 32M-20N	32	1-1/4	26.5	46	40.6	81.0
OMA 38M-24R	38	1-1/2	31.6	55	51.50	92.2

The E dimension is the minimum nominal opening.
These fittings may have a larger opening at the pipe / straight thread end.

OMA-G

Male Gauge Adapter





Connects fractional **OTG-LOK** tube fitting port to female ISO tapered thread

Part No.	Tube O.D D		T (PF)	E Min.	Width across flat h		l	l1	L	K
	in.	mm			in.	mm				
OMA 2-2G	1/8	3.17	1/8	2.03	9/16	14.28	13.45	7.10	40.0	13.8
OMA 2-4G	1/8	3.17	1/4	2.03	3/4	19.05	13.45	11.2	35.8	18.0
OMA 4-2G	1/4	6.35	1/8	4.1	9/16	14.28	15.75	7.10	33.27	13.8
OMA 4-4G	1/4	6.35	1/4	4.3	3/4	19.05	15.75	11.2	38.1	18.0
OMA 6-4G	3/8	9.52	1/4	5.9	3/4	19.05	17.50	11.2	39.8	18.0
OMA 6-6G	3/8	9.52	3/8	6.9	7/8	22.22	17.50	11.2	40.64	21.8
OMA 8-4G	1/2	12.70	1/4	5.9	3/4	19.05	23.10	11.2	45.5	18.0
OMA 8-6G	1/2	12.70	3/8	7.9	7/8	22.22	23.10	11.2	46.2	21.8
OMA 8-8G	1/2	12.70	1/2	9.4	1-1/16	26.98	23.10	14.2	49.3	26.0
OMA 12-12G	3/4	19.05	3/4	14.7	1-5/16	33.33	24.70	15.7	54.86	32.0
OMA 16-16G	1	25.40	1	20.3	1-5/8	41.28	31.7	18.3	64.5	39.0

Connects metric **OTG-LOK** tube fitting port to female ISO tapered thread

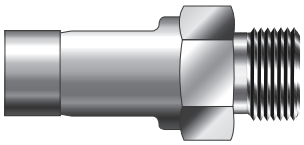
Part No.	Tube O.D D	T (PF)	E Min.	Width across flat h	l	l1	L	K
OMA 6M-2G	6	1/8	4.0	14	15.7	7.1	34.3	13.8
OMA 6M-4G	6	1/4	4.1	19	15.7	11.2	39.1	18.0
OMA 8M-4G	8	1/4	5.6	19	16.8	11.2	40.1	18.0
OMA 10M-4G	10	1/4	5.9	19	17.5	11.2	40.9	18.0
OMA 10M-6G	10	3/8	7.1	22	17.5	11.2	41.7	21.8
OMA 10M-8G	10	1/2	7.1	27	17.5	14.2	44.7	26.0
OMA 12M-4G	12	1/4	5.9	19	23.1	11.2	46.7	18.0
OMA 12M-6G	12	3/8	7.9	22	23.1	11.2	47.2	21.8
OMA 12M-8G	12	1/2	8.8	27	23.1	14.2	50.5	26.0
OMA 18M-8G	18	1/2	11.9	27	24.6	14.2	52.1	26.0
OMA 18M-12G	18	3/4	13.9	35	24.6	15.7	56.1	32.0
OMA 22M-12G	22	3/4	15.9	35	26.6	15.7	57.4	32.0
OMA 25M-16G	25	1	19.8	41	31.7	18.3	67.1	39.0
OMA 28M-16G	28	1	19.8	41	37.5	18.3	72.9	39.0
OMA 28M-20G	28	1-1/4	22.5	50	37.5	19.8	77.0	49.0
OMA 30M-20G	30	1-1/4	24.3	50	40.66	19.8	80.8	49.0
OMA 32M-20G	32	1-1/4	26.5	50	40.0	19.8	81.8	49.0
OMA 38M-24G	38	1-1/2	31.6	55	50.4	22.1	94.5	54.7

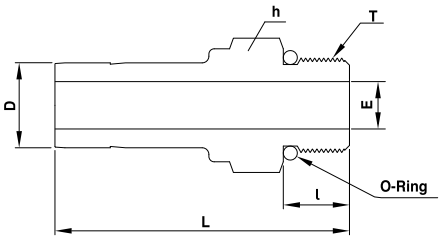
The E dimension is the minimum nominal opening.
These fittings may have a larger opening at the pipe / straight thread end.

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OMA-U

Male SAE Tube Adapter





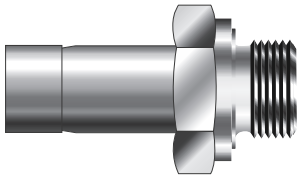
Connects fractional **OTG-LOK** tube fitting port to SAE staight thread boss

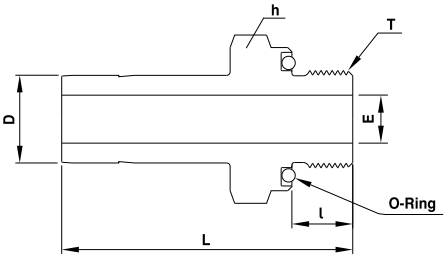
Part No.	Tube O.D D		T (U)	E Min.	Width across flat h		l	L	O-Ring Uniform Size Number
	in.	mm			in.	mm			
OMA 2-2U	1/8	3.17	5/16-24	2.03	7/16	11.11	7.62	30.48	-902
OMA 4-4U	1/4	6.35	7/16-20	4.31	9/16	14.28	9.14	35.30	-904
OMA 6-4U	3/8	9.52	7/16-20	5.08	9/16	14.28	9.14	37.08	-904
OMA 6-6U	3/8	9.52	9/16-18	6.85	11/16	17.46	9.90	38.60	-906
OMA 6-8U	3/8	9.52	3/4-16	6.85	7/8	22.22	11.17	40.64	-908
OMA 8-6U	1/2	12.70	9/16-18	7.11	11/16	17.46	9.90	44.20	-906
OMA 8-8U	1/2	12.70	3/4-16	9.4	7/8	22.22	11.17	46.22	-908
OMA 12-12U	3/4	19.05	1-1/16-12	14.7	1-1/4	31.75	14.98	53.35	-912
OMA 16-16U	1	25.40	1-5/16-12	20.31	1-1/2	38.1	14.98	61.21	-916

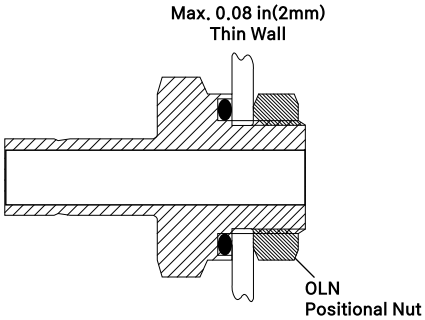
The E dimension is the minimum nominal opening.
These fittings may have a larger opening at the pipe / straight thread end.

OMA-UO

Male O-seal Tube Adapter







Unique Application
On thin wall tanks or vessls or vessels, O-Seal fitting work as a leak-tight bulkhead fitting along with a positionable nut-**OLN** without branzing welding

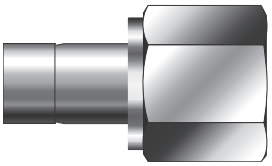
Connects fractional **OTG-LOK** tube fitting port to female SAE staight thread boss

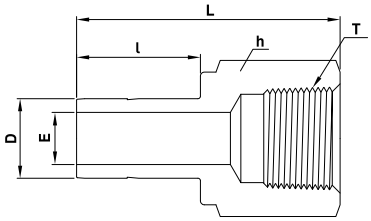
Part No.	Tube O.D D		T (U)	E Min.	Width across flat h		l	L	O-Ring Uniform Size Number
	in.	mm			in.	mm			
OMA 2-2UO	1/8	3.17	5/16-24	2.03	9/16	14.28	8.63	32.51	-011
OMA 3-3UO	3/16	4.76	3/8-24	3.05	5/8	15.87	9.65	35.05	-012
OMA 4-4UO	1/4	6.35	7/16-20	4.32	3/4	19.05	10.41	39.11	-013
OMA 5-5UO	5/16	7.52	1/2-20	5.59	7/8	22.22	11.17	41.65	-112
OMA 6-6UO	3/8	9.52	9/16-18	6.85	15/16	23.81	11.93	43.18	-113
OMA 8-8UO	1/2	12.70	3/4-16	9.40	1-1/8	28.57	11.93	49.53	-116

The E dimension is the minimum nominal opening.
These fittings may have a larger opening at the pipe / straight thread end.

OFA-N

Male Gauge Adapter





Connects fractional **OTG-LOK** tube fitting port to male NPT thread

Part No.	Tube O.D D		T NPT	E Min.	Width across flat h		l	L
	in.	mm			in.	mm		
OFA 2-2N	1/8	3.17	1/8	1.77	9/16	14.28	13.45	31.50
OFA 2-4N	1/8	3.17	1/4	1.77	3/4	19.05	13.45	35.30
OFA 3-2N	3/16	4.76	1/8	3.04	9/16	14.28	14.20	32.00
OFA 3-4N	3/16	4.76	1/4	3.04	3/4	19.05	14.20	35.81
OFA 4-2N	1/4	6.35	1/8	4.57	9/16	14.28	15.75	33.02
OFA 4-4N	1/4	6.35	1/4	4.57	3/4	19.05	15.75	37.10
OFA 4-6N	1/4	6.35	3/8	4.57	7/8	22.22	15.75	39.37
OFA 4-8N	1/4	6.35	1/2	4.57	1-1/16	26.98	15.75	45.40
OFA 5-2N	5/16	7.93	1/8	6.35	9/16	14.28	16.80	34.29
OFA 5-4N	5/16	7.93	1/4	6.35	3/4	19.05	16.80	37.59
OFA 6-2N	3/8	9.52	1/8	7.11	9/16	14.28	17.50	34.29
OFA 6-4N	3/8	9.52	1/4	7.11	3/4	19.05	17.50	38.10
OFA 6-6N	3/8	9.52	3/8	7.11	7/8	22.22	17.50	40.38
OFA 6-8N	3/8	9.52	1/2	7.11	1-1/16	26.98	17.50	46.73
OFA 8-4N	1/2	12.70	1/4	9.90	3/4	19.05	23.20	43.43
OFA 8-6N	1/2	12.70	3/8	9.90	7/8	22.22	23.20	45.46
OFA 8-8N	1/2	12.70	1/2	9.90	1-1/16	26.98	23.20	51.80
OFA 10-6N	5/8	15.87	3/8	12.70	7/8	22.22	24.70	48.26
OFA 10-8N	5/8	15.87	1/2	12.70	1-1/16	26.98	24.70	53.84
OFA 10-12N	5/8	15.87	3/4	12.70	1-5/16	33.33	24.70	55.37
OFA 12-8N	3/4	19.05	1/2	14.98	1-1/16	26.98	24.70	52.83
OFA 12-12N	3/4	19.05	3/4	14.98	1-5/16	33.33	24.70	54.86
OFA 12-16N	3/4	19.05	1	14.98	1-5/8	41.27	24.70	58.42
OFA 14-12N	7/8	22.22	3/4	17.27	1-5/16	33.33	26.70	57.15
OFA 16-12N	1	25.40	3/4	20.06	1-5/16	33.33	31.70	60.70
OFA 16-16N	1	25.40	1	20.06	1-5/8	41.27	31.70	64.26
OFA 20-20N	1-1/4	31.75	1-1/4	27.68	2-1/8	53.98	40.00	77.27
OFA 24-24N	1-1/2	38.10	1-1/2	33.27	2-3/8	60.33	51.50	88.90
OFA 32-32N	2	50.80	2	44.45	2-7/8	73.03	68.40	107.44

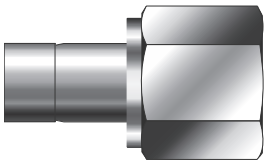
Connects metric **OTG-LOK** tube fitting port to male NPT thread

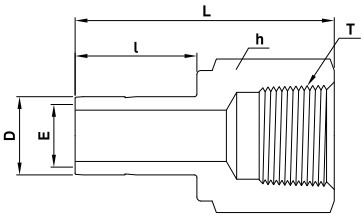
Part No.	Tube O.D D	T NPT	E Min.	Width across flat h	l	L
OFA 6M-2N	6	1/8	4.1	14	15.70	32.50
OFA 6M-4N	6	1/4	4.1	19	15.70	37.10
OFA 8M-4N	8	1/4	5.6	19	16.80	37.60
OFA 10M-4N	10	1/4	7.1	19	17.50	38.10
OFA 10M-6N	10	3/8	7.1	22	17.50	40.10
OFA 10M-8N	10	1/2	7.1	27	17.50	46.50
OFA 12M-4N	12	1/4	8.8	19	23.10	43.70
OFA 12M-6N	12	3/8	8.8	22	23.10	46.00
OFA 12M-8N	12	1/2	8.8	27	23.10	52.30

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OFA-R

Female ISO Tapered Adapter





Connects fractional **OTG-LOK** tube fitting port to male ISO tapered thread

Part No.	Tube O.D D		T (PT)	E Min.	Width across flat h		l	L
	in.	mm			in.	mm		
OFA 4-2R	1/4	6.35	1/8	4.57	9/16	14.28	15.75	33.02
OFA 4-4R	1/4	6.35	1/4	4.57	3/4	19.05	15.75	37.10
OFA 6-4R	3/8	9.52	1/4	7.11	3/4	19.05	17.50	38.10
OFA 6-6R	3/8	9.52	3/8	7.11	7/8	22.22	17.50	40.38
OFA 8-4R	1/2	12.70	1/4	9.90	3/4	19.05	23.20	43.43
OFA 8-6R	1/2	12.70	3/8	9.90	7/8	22.22	23.20	45.46
OFA 8-8R	1/2	12.70	1/2	9.90	1-1/16	26.98	23.20	51.80
OFA 10-8R	5/8	15.87	1/2	12.70	1-1/16	26.98	24.70	53.84
OFA 12-8R	3/4	19.05	1/2	14.98	1-1/16	26.98	24.70	52.83
OFA 12-12R	3/4	19.05	3/4	14.98	1-5/16	33.33	24.70	54.86
OFA 16-16R	1	25.40	1	20.06	1-5/8	41.27	31.70	64.26

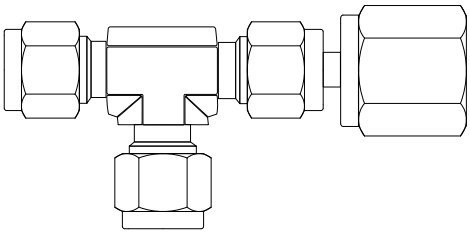
Connects metric **OTG-LOK** tube fitting port to male ISO tapered thread

Part No.	Tube O.D D	T (PT)	E Min.	Width across flat h	l	L
OFA 6M-2R	6	1/8	4.1	14	15.70	32.50
OFA 6M-4R	6	1/4	4.1	19	15.70	37.10
OFA 8M-4R	8	1/4	5.6	19	16.80	37.60
OFA 10M-4R	10	1/4	7.1	19	17.50	38.10
OFA 10M-6R	10	3/8	7.1	22	17.50	40.10
OFA 12M-4R	12	1/4	8.8	19	23.10	43.70
OFA 12M-6R	12	3/8	8.8	22	23.10	46.00
OFA 12M-8R	12	1/2	8.8	27	23.10	52.30

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

Female Tube Adapter

Adapters help reduce inventories

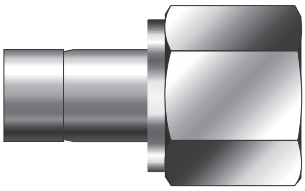


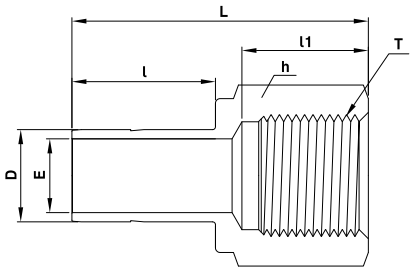
Female and Male Tube adapter covert Union Tee to Female Run Tee or Male Run Tee. Tube Adapters eliminate the need for stocking pipe thread tees.

Tube Adapter also converts Male or Female End to a tube adapter end.

OFA-GZ

Female ISO Parallel Thread Adapter





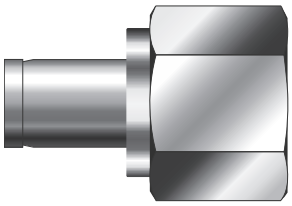
Connects fractional **OTG-LOK** tube fitting port to male ISO parallel thread

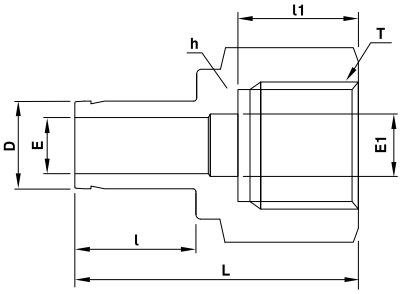
Part No.	Tube O.D D		T G(PF)	E Min.	Width across flat h		l	l1	L
	in.	mm			in.	mm			
OFA 4-2GZ	1/4	6.35	1/8	4.32	9/16	14.28	15.75	13.0	31.75
OFA 4-4GZ	1/4	6.35	1/4	4.32	3/4	19.05	15.75	18.5	38.10
OFA 6-4GZ	3/8	9.52	1/4	6.86	3/4	19.05	17.50	18.5	39.40
OFA 6-6GZ	3/8	9.52	3/8	6.86	15/16	23.81	17.50	18.5	39.40
OFA 8-8GZ	1/2	12.70	1/2	9.65	1-1/16	26.98	23.20	22.1	49.50

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OGA-GG

Female ISO Parallel Thread Gauge Adapter



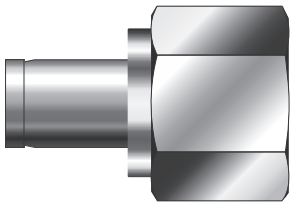


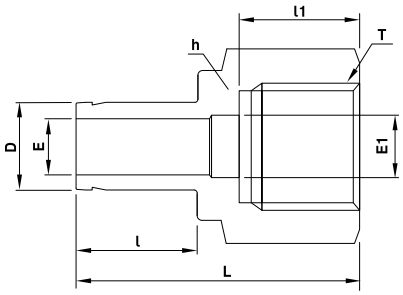
Connects fractional **OTG-LOK** tube fitting port to Gauge (male ISO parallel thread)

Part No.	Tube O.D D		T G(PF)	E Min.	E1	Width across flat h		l	l1	L
	in.	mm				in.	mm			
OGA 4-2GG	1/4	6.35	1/8	4.32	4.32	9/16	14.28	15.75	12.0	32.00
OGA 4-4GG	1/4	6.35	1/4	4.32	5.5	3/4	19.05	15.75	12.9	35.30
OGA 6-6GG	3/8	9.52	3/8	6.6	6.5	15/16	23.81	17.50	14.1	39.37
OGA 8-8GG	1/2	12.70	1/2	9.65	7.0	1-1/16	26.98	23.10	18.9	45.72

OGA-GG

Female ISO Parallel Thread Gauge Adapter





Gauge Adapter helps set
a gauge-facing direction.

Connects metric **OTG-LOK** tube fitting port to female ISO parallel thread

Part No.	Tube O.D D	T G(PF)	E Min.	E1	Width across flat h	l	l1	L
OGA 6M-2GG	6M	1/8	4.1	4.1	14	15.7	12.0	32.0
OGA 6M-4GG	6M	1/4	4.1	5.5	19	15.7	13.0	35.3
OGA 6M-6GG	6M	3/8	4.1	6.5	24	15.7	14.22	38.4
OGA 6M-8GG	6M	1/2	4.1	7.0	27	15.7	18.9	42.9
OGA 8M-4GG	8M	1/4	5.5	5.5	19	16.8	13.0	33.0
OGA 8M-6GG	8M	3/8	5.5	6.5	24	16.8	14.22	39.3
OGA 8M-8GG	8M	1/2	5.5	7.0	27	16.8	18.9	43.7
OGA 10M-4GG	10M	1/4	7.7	5.5	19	17.5	13.0	34.5
OGA 10M-6GG	10M	3/8	7.7	6.5	24	17.5	14.22	39.3
OGA 10M-8GG	10M	1/2	7.7	7.0	27	17.5	18.9	40.1
OGA 12M-4GG	12M	1/4	9.1	5.5	19	23.1	13.0	40.1
OGA 12M-6GG	12M	3/8	9.1	6.5	24	23.1	14.22	44.9
OGA 12M-8GG	12M	1/2	9.1	7.0	27	23.1	18.9	48.8
OGA 15M-8GG	15M	1/2	12.0	7.0	27	24.65	18.9	49.0
OGA 16M-8GG	16M	1/2	12.0	7.0	27	24.6	18.9	49.0
OGA 18M-8GG	18M	1/2	13.9	7.0	27	24.9	18.9	49.3
OGA 22M-8GG	22M	1/2	18.3	7.0	27	26.6	18.9	52.0
OGA 25M-8GG	25M	1/2	19.8	7.0	30	31.7	18.9	56.1

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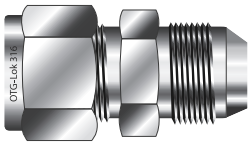
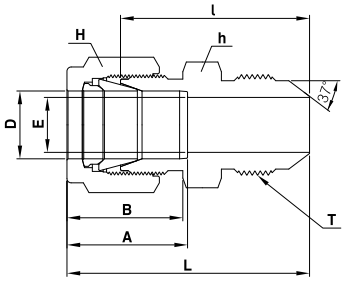
OAU

AN Union

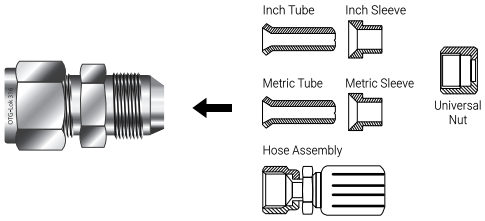




Connects fractional tube to AN flare tube

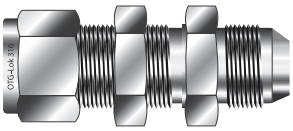
Part No.	Tube O.D D		AN Tube Flare Size		Straight Thread T(U)	E Min.	Width across flat				A	B	l	L
							h		H					
	in.	mm	in.	mm			in.	mm	in.	mm				
OAU 1-2	1/16	1.59	1/8	3.17	5/16-24	1.27	7/16	11.11	5/16	7.93	8.63	10.92	23.36	27.17
OAU 2-2	1/8	3.17	1/8	3.17	5/16-24	1.52	7/16	11.11	7/16	11.11	12.70	15.24	24.89	31.49
OAU 2-4	1/8	3.17	1/4	6.35	7/16-20	2.28	1/2	12.70	7/16	11.11	12.70	15.24	28.44	35.05
OAU 4-4	1/4	6.35	1/4	6.35	7/16-20	4.31	1/2	12.70	9/16	14.28	15.24	17.78	30.22	37.59
OAU 5-5	5/16	7.93	5/16	7.93	1/2-20	5.84	9/16	14.28	5/8	15.87	16.25	18.54	30.98	38.35
OAU 6-4	3/8	9.52	1/4	6.35	7/16-20	4.31	5/8	15.87	11/16	17.46	16.76	19.30	32.25	39.62
OAU 6-6	3/8	9.52	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.25	39.62
OAU 8-8	1/2	12.70	1/2	12.70	3/4-16	9.90	13/16	20.64	7/8	22.22	22.86	21.84	35.81	45.97
OAU 12-12	3/4	19.05	3/4	19.05	1-1/16-12	15.49	1-1/8	28.58	1-1/8	28.58	24.38	21.84	43.18	53.34
OAU 16-16	1	25.40	1	25.40	1-5/16-12	21.33	1-3/8	34.92	1-1/2	38.10	31.24	26.41	49.27	61.46
OAU 20-20	1-1/4	31.75	1-1/4	31.75	1-5/8-12	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.86	55.46	77.56
OAU 24-24	1-1/2	38.10	1-1/2	38.10	1-7/8-12	34.03	2-1/8	53.97	2-1/4	57.15	50.03	45.21	63.07	90.25
OAU 32-32	2	50.80	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	62.73	83.24	120.57

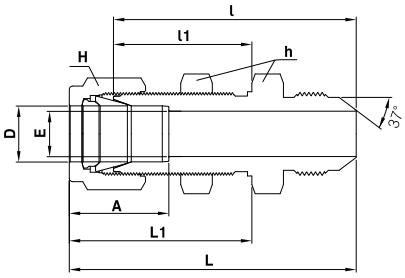
37˚ Flare AN End is designed to SAE J514 and ISO 8434-2 standards.
AN is derived form **A**ir Force and Nave 37˚ flare fitting standards.
On **AN** port, you can bulid up fluid power tubing system.



OABU

AN Buikhead Union





Connects fractional tube to AN flare tube

Part No.	Tube O.D D		AN Tube Flare Size		Straight Thread T(U)	E Min.	Width across flat				A	l	l1	L	L1	Panel Hole Drill Size	Panel Max Thickness
							h		H								
	in.	mm	in.	mm			in.	mm	in.	mm							
OABU 2-2	1/8	3.17	1/8	3.17	5/16-24	1.77	1/2	12.70	7/16	11.11	13.71	40.85	24.63	47.45	31.23	8.33	12.70
OABU 4-4	1/4	6.35	1/4	6.35	7/16-20	4.31	5/8	15.87	9/16	14.28	15.24	46.48	26.16	53.84	33.52	11.50	10.16
OABU 6-6	3/8	9.52	3/8	9.52	9/16-18	7.11	3/4	19.05	11/16	17.46	16.76	49.78	29.46	57.15	36.83	14.68	11.17
OABU 8-8	1/2	12.70	1/2	12.70	3/4-16	9.90	5/16	23.81	7/8	22.22	22.86	55.62	31.75	65.78	41.91	19.44	12.70
OABU 12-12	3/4	19.05	3/4	19.05	1-1/16-12	15.49	1-3/16	30.16	1-1/8	28.58	24.38	68.83	37.33	78.99	47.49	25.79	16.76
OABU 16-16	1	25.40	1	25.40	1-5/16-12	21.33	1-5/8	41.27	1-1/2	38.10	31.24	80.26	45.21	92.45	57.40	33.73	19.05
OABU 20-20	1-1/4	31.75	1-1/4	31.75	1-5/8-12	27.68	1-7/8	47.63	1-7/8	47.63	41.14	86.37	47.75	108.47	69.85	41.67	19.05
OABU 24-24	1-1/2	38.10	1-1/2	38.10	1-7/8-12	34.03	2-1/4	57.15	2-1/4	57.15	50.03	94.33	49.27	121.51	76.45	49.61	19.05
OABU 32-32	2	50.80	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	114.29	56.38	151.62	93.71	16.27	19.05

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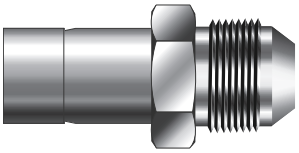
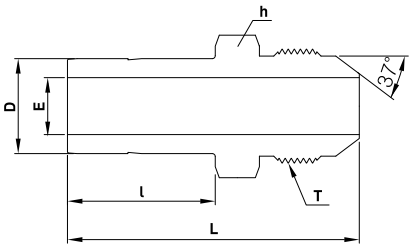
OMAA

Male AN Adapter



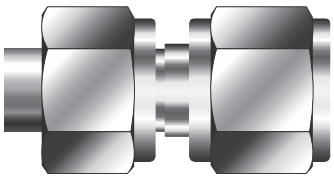


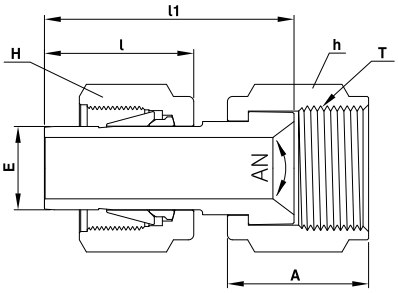
Connects fractional **OTG-LOK** port to AN flare tube

Part No.	Tube O.D D		AN Tube Flare Size		Straight Thread T(U)	E Min.	Width across flat h		l	L
	in.	mm	in.	mm			in.	mm		
OMAA 4-4	1/4	6.35	1/4	6.35	7/16-20	4.32	1/2	12.7	15.75	37.1
OMAA 6-6	3/8	9.52	3/8	9.52	9/16-18	6.86	5/8	15.87	17.5	39.63
OMAA 8-6	1/2	12.70	3/8	9.52	9/16-18	6.86	5/8	15.87	23.1	45.7
OMAA 8-8	1/2	12.70	1/2	12.70	3/4-16	9.4	13/16	20.64	23.1	48.52
OMAA 8-10	1/2	12.70	5/8	15.87	7/8-14	9.4	15/16	23.81	23.1	52.0
OMAA 10-10	5/8	15.87	5/8	15.87	7/8-14	12.3	15/16	23.81	27.68	56.13
OMAA 12-12	3/4	19.05	3/4	19.05	1-1/16-12	14.73	1-1/8	28.58	24.7	56.13
OMAA 16-16	1	25.40	1	25.40	1-5/16-12	20.3	1-3/8	34.92	31.7	65.33

OAA

AN Adapter





Connects fractional **OTG-LOK** tube fitting port to AN male

Part No.	Tube O.D D		AN Tube Flare Size		Straight Thread T(U)	Width across flat h		Width across flat H		A	l	l1
	in.	mm	in.	mm		in.	mm	in.	mm			
OAA 2-2	1/8	3.17	1/8	3.17	5/16-24	3/8	9.52	7/16	11.11	13.71	13.46	18.54
OAA 2-4	1/8	3.17	1/4	6.35	7/16-20	9/16	14.28	7/16	11.11	15.74	13.46	19.05
OAA 4-4	1/4	6.35	1/4	6.35	7/16-20	9/16	14.28	9/16	14.28	15.74	15.74	21.33
OAA 6-6	3/8	9.52	3/8	9.52	9/16-18	11/16	17.46	11/16	17.46	18.28	17.52	24.89
OAA 8-8	1/2	12.70	1/2	12.70	3/4-16	7/8	22.22	7/8	22.22	21.59	23.11	31.75

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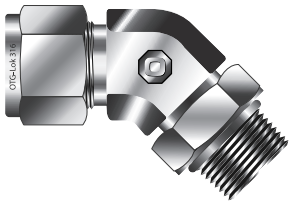
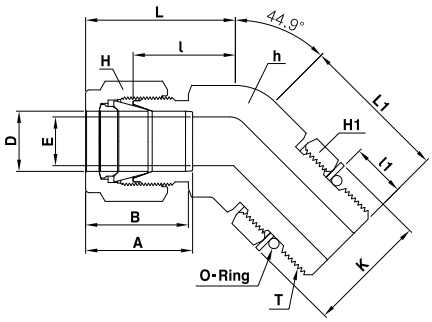
OSME45-UP

SAE Male Elbow 45°



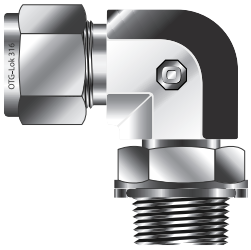


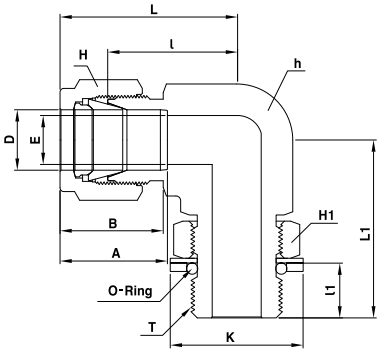
Connects fractional tube to female SAE staight thread boss

Part No.	Tube O.D D		Straight Thread T(U)	E Min.	Width across flat						A	B	l	l1	L	L1	K	O-Ring Uniform Size Number
					h		H		H1									
	in.	mm			in.	mm	in.	mm	in.	mm								
OSME45-4-4UP	1/4	6.35	7/16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	18.28	9.90	25.65	25.65	16.51	-904
OSME45-6-6UP	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	20.57	11.17	27.94	28.19	20.06	-906
OSME45-8-8UP	1/2	12.70	3/4-16	10.41	13/16	20.64	7/8	22.22	7/8	22.22	22.86	21.84	21.84	12.70	32.00	32.25	25.65	-908
OSME45-12-12UP	3/4	19.05	1-1/16-12	15.74	1-1/8	28.58	1-1/8	28.58	1-1/4	31.75	24.38	21.84	29.71	16.76	39.87	47.24	36.57	-912
OSME45-16-16UP	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	35.30	16.76	47.49	50.54	43.94	-916

OSME-GR

Positionable Male ISO Parallel Thread Elbow





Connects fractional tube to ISO parallel thread

Part No.	Tube O.D D		T G(PF)	E Min.	Width across flat						A	B	l	l1	L	L1	K	O-Ring Uniform Size Number
					h		H		H1									
	in.	mm			in.	mm	in.	mm	in.	mm								
OSME 4-2GR	1/4	6.35	1/8	4.06	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	19.6	8.12	26.92	26.42	15.20	P8
OSME 4-4GR	1/4	6.35	1/4	4.82	5/8	15.87	11/16	17.46	3/4	19.05	15.24	17.78	21.6	9.14	28.95	32.30	20.30	-111
OSME 6-4GR	3/8	9.52	1/4	5.84	5/8	15.87	11/16	17.46	3/4	19.05	16.76	19.30	23.1	9.14	30.48	32.30	20.30	-111
OSME 6-6GR	3/8	9.52	3/8	7.11	13/16	20.64	11/16	17.46	3/4	19.05	16.76	19.30	25.9	9.39	33.27	37.10	24.40	-113
OSME 8-4GR	1/2	12.70	1/4	5.84	13/16	20.64	7/8	22.22	7/8	22.22	22.86	21.84	25.9	9.14	36.06	35.10	20.30	-111
OSME 8-6GR	1/2	12.70	3/8	7.87	13/16	20.64	7/8	22.22	7/8	22.22	22.86	21.84	25.9	9.39	36.06	37.10	24.40	-113
OSME 8-8GR	1/2	12.70	1/2	10.41	15/16	23.81	7/8	22.22	1-1/16	26.98	22.86	21.84	27.9	12.95	38.10	43.40	29.50	P18
OSME 12-8GR	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	1-1/16	26.98	24.38	21.84	29.7	12.95	39.87	42.51	29.50	P18
OSME 12-12GR	3/4	19.05	3/4	15.74	1-1/16	26.93	1-1/8	28.57	1-3/8	34.92	24.38	21.84	29.7	12.95	39.87	48.77	36.30	-119
OSME 16-16GR	1	25.40	1	19.81	1-3/8	34.92	1-1/2	38.10	1-5/8	41.28	31.24	26.41	36.8	13.97	49.02	53.60	46.20	-217

Connects metric tube to ISO parallel thread

Part No.	Tube O.D D	T G(PF)	E Min.	Width across flat			A	B	l	l1	L	L1	K	O-Ring Uniform Size Number
				h	H	H1								
OSME 6M-2GR	6	1/8	4.0	12.7	14	14.28	15.3	17.7	19.6	8.1	27.0	26.4	15.20	P8
OSME 6M-4GR	6	1/4	4.8	15.8	14	19.05	15.3	17.7	21.6	9.1	29.0	32.3	20.30	-111
OSME 6M-4GR	6	3/8	4.8	20.6	14	22.22	15.3	17.7	24.4	9.4	31.8	37.1	24.40	-113
OSME 8M-2GR	8	1/8	4.0	14.2	16	14.28	16.2	18.6	21.3	8.1	28.8	27.4	15.20	P8
OSME 8M-4GR	8	1/4	5.9	15.8	16	19.05	16.2	18.6	22.4	9.1	29.9	32.2	20.30	-111
OSME 10M-4GR	10	1/4	5.9	20.6	19	19.05	17.2	19.5	25.9	9.1	33.5	35.0	20.30	-113
OSME 10M-6GR	10	3/8	7.9	20.6	19	22.22	17.2	19.5	25.9	9.4	33.5	37.1	24.40	-111
OSME 12M-4GR	12	1/4	5.9	20.6	22	19.05	22.8	22.0	25.9	9.1	36.0	35.0	20.30	-113
OSME 12M-6GR	12	3/8	7.9	20.6	22	22.22	22.8	22.0	25.9	9.4	36.0	37.1	24.40	-113
OSME 12M-8GR	12	1/2	9.5	23.8	22	26.98	22.8	22.0	27.9	13.0	38.0	43.3	29.50	P18

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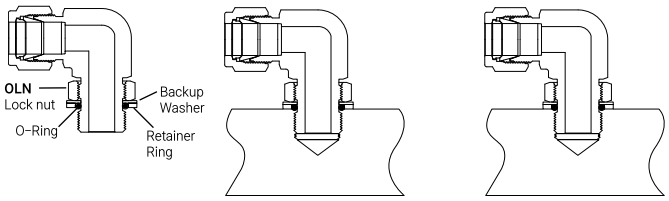
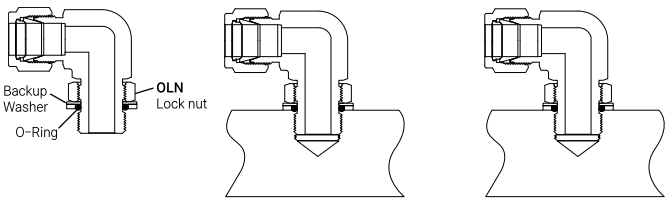
Installation Instruction for Positionable Fittings

Thread Designator “GR”– ISO parallel pipe thread with O–ring



1. Lubricate O–ring compatible with system fluid.
2. Slip retainer ring over the O–ring.
3. Screw fitting in the port until retainer ring bottoms.
4. To adjust direction, turn the fitting back to a maximum of one full turn.
5. Position the direction and hand–tighten locknut.
6. Holding the fitting in the desired direction and wrench–tight the locknut.

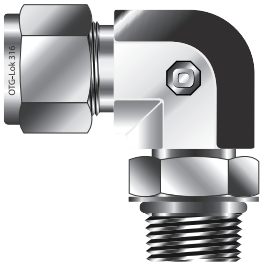
Thread Designator “UP”– Unified thread with O–ring

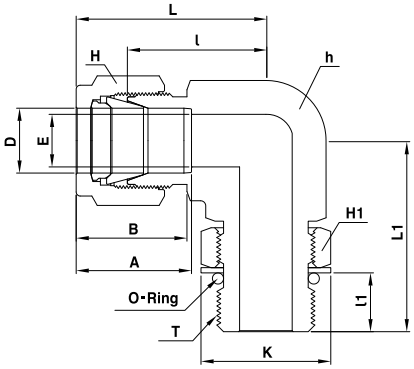


1. Lubricate O–ring compatible with system fluid.
2. Move back locknut to a maximum position.
3. Screw fitting in the port until O–ring is compressed in the chamber at the top of the port.
4. To adjust direction, turn the fitting back to a maximum of one full turn.
5. Position the direction and hand–tighten locknut.
6. Holding the fitting in the desired direction and wrench–tight the the locknut until washer contacts the face of the port.

OSME-UP

Positionable SAE Male Elbow





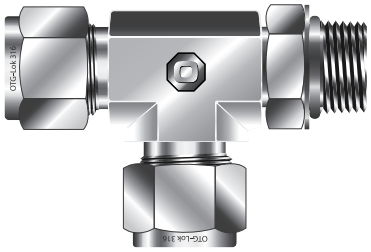
Connects fractional tube to SAE straight thread boss

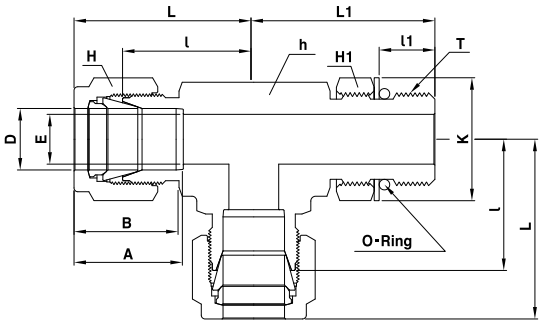
Part No.	Tube O.D D		Straight Thread T(U)	E Min.	Width across flat						A	B	l	l1	L	L1	K	O-Ring Uniform Size Number
					h		H		H1									
	in.	mm			in.	mm	in.	mm	in.	mm								
OSME 4-4UP	1/4	6.35	7/16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	21.08	9.90	28.44	28.44	16.51	-904
OSME 5-5UP	5/16	7.93	1/2-20	5.84	9/16	14.28	5/8	15.87	5/8	15.87	16.25	18.54	22.86	9.90	30.22	29.46	18.28	-905
OSME 6-6UP	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	24.63	11.17	32.00	32.25	20.06	-906
OSME 6-8UP	3/8	9.52	3/4-16	7.11	13/16	20.64	11/16	17.46	7/8	22.22	16.76	19.30	27.43	12.70	34.79	37.84	25.65	-908
OSME 8-8UP	1/2	12.70	3/4-16	10.41	13/16	20.64	7/8	22.22	7/8	22.22	22.86	21.84	27.43	12.70	37.59	37.84	25.65	-908
OSME 10-10UP	5/8	15.87	7/8-14	12.70	1	25.40	1	25.40	1	25.40	24.38	21.84	29.46	14.22	39.62	43.43	29.46	-910
OSME 12-12UP	3/4	19.05	1-1/16-12	15.74	1-1/16	26.98	1-1/8	28.57	1-1/4	31.75	24.38	21.84	31.24	16.76	41.40	48.76	36.57	-912
OSME 14-14UP	7/8	22.22	1-3/16-12	18.28	1-1/4	31.75	1-1/4	31.75	1-3/8	34.92	25.90	21.84	33.02	16.76	43.18	50.54	40.38	-914
OSME 16-16UP	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	38.35	16.76	50.54	53.59	43.94	-916
OSME 20-20UP	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.76	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.16	54.86	-920
OSME 24-24UP	1-1/2	38.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45	62.23	-924
OSME 32-32UP	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

OSRT-UP

Positionable SAE Male Run Tee



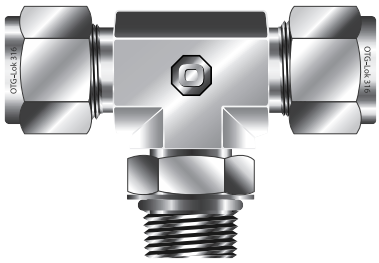


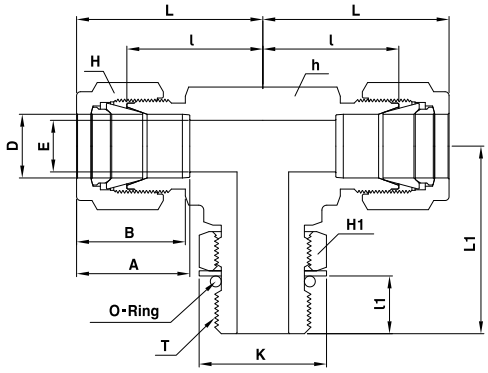
Connects fractional tube to SAE straight thread boss

Part No.	Tube O.D D		Straight Thread T(U)	E Min.	Width across flat						A	B	l	l1	L	L1	K	O-Ring Uniform Size Number
					h		H		H1									
	in.	mm			in.	mm	in.	mm	in.	mm								
OSRT 4-4UP	1/4	6.35	7/16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	21.08	9.90	28.44	28.44	16.51	-904
OSRT 6-6UP	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	24.63	11.17	32.00	32.25	20.06	-906
OSRT 8-8UP	1/2	12.70	3/4-16	10.41	13/16	20.64	7/8	22.22	7/8	22.22	22.86	21.84	27.43	12.70	37.59	37.84	25.65	-908
OSRT 12-12UP	3/4	19.05	1-1/16-12	15.74	1-1/16	26.98	1-1/8	28.58	1-1/4	31.75	24.38	21.84	31.24	16.76	41.40	48.76	36.57	-912
OSRT 16-16UP	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	38.35	16.76	50.54	53.59	43.94	-916
OSRT 20-20UP	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.16	54.86	-920
OSRT 24-24UP	1-1/2	38.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45	62.23	-924
OSRT 32-32UP	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

OSBT-UP

Positionable SAE Male Branch Tee





Connects fractional tube to SAE straight thread boss

Part No.	Tube O.D D		Straight Thread T(U)	E Min.	Width across flat						A	B	l	l1	L	L1	K	O-Ring Uniform Size Number
					h		H		H1									
	in.	mm			in.	mm	in.	mm	in.	mm								
OSBT 4-4UP	1/4	6.35	7/16-20	4.82	1/2	12.70	9/16	14.28	9/16	14.28	15.24	17.78	21.08	9.90	28.44	28.44	16.51	-904
OSBT 6-6UP	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	16.76	19.30	24.63	11.17	32.00	32.25	20.06	-906
OSBT 8-8UP	1/2	12.70	3/4-16	10.41	13/16	20.64	7/8	22.22	7/8	22.22	22.86	21.84	27.43	12.70	37.59	37.84	25.65	-908
OSBT 12-12UP	3/4	19.05	1-1/16-12	15.74	1-1/16	26.98	1-1/8	28.58	1-1/4	31.75	24.38	21.84	31.24	16.76	41.40	48.76	36.57	-912
OSBT 16-16UP	1	25.40	1-5/16-12	22.35	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.24	26.41	38.35	16.76	50.54	53.59	43.94	-916
OSBT 20-20UP	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.16	54.86	-920
OSBT 24-24UP	1-1/2	38.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45	62.23	-924
OSBT 32-32UP	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

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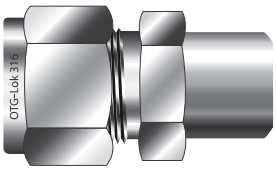
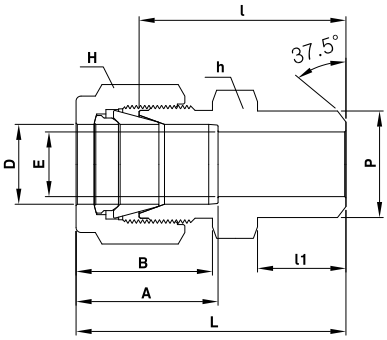
OBWC

Male Pipe Butt Weld Connector





Connects fractional tube to pipe

Part No.	Tube O.D D		Male Pipe Size P		E Min.	Width across flat				A	B	l	l1	L
						h		H						
	in.	mm	Nom	O.D		in.	mm	in.	mm					
OBWC 2-2P	1/8	3.17	1/8	10.29	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.87	9.65	31.24
OBWC 3-2P	3/16	4.76	1/8	10.29	3.04	7/16	11.11	1/2	12.70	13.71	16.00	24.63	9.65	31.24
OBWC 4-2P	1/4	6.35	1/8	10.29	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	9.65	32.76
OBWC 4-4P	1/4	6.35	1/4	13.72	4.82	9/16	14.28	9/16	14.28	15.24	17.78	30.48	14.22	37.84
OBWC 5-2P	5/16	7.93	1/8	10.29	5.08	9/16	14.28	5/8	15.87	16.25	18.54	26.67	9.65	34.03
OBWC 5-4P	5/16	7.93	1/4	13.72	6.35	9/16	14.28	5/8	15.87	16.25	18.54	31.24	14.22	38.60
OBWC 6-4P	3/8	9.52	1/4	13.72	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.51	14.22	39.87
OBWC 6-6P	3/8	9.52	3/8	17.15	7.11	11/16	17.46	11/16	17.46	16.76	19.30	32.51	14.22	39.87
OBWC 6-8P	3/8	9.52	1/2	21.34	7.11	7/8	22.22	11/16	17.46	16.76	19.30	38.86	11.05	43.23
OBWC 8-6P	1/2	12.70	3/8	17.15	10.41	13/16	20.64	7/8	22.22	22.86	21.84	33.27	14.22	43.43
OBWC 8-8P	1/2	12.70	1/2	21.34	10.41	7/8	22.22	7/8	22.22	22.86	21.84	38.86	19.05	49.02
OBWC 8-12P	1/2	12.70	3/4	26.67	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	40.38	19.05	50.54
OBWC 10-8P	5/8	15.87	1/2	21.34	12.70	15/16	23.81	1	25.40	24.38	21.84	38.86	19.05	49.02
OBWC 12-12P	3/4	19.05	3/4	26.67	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	40.38	19.05	50.54
OBWC 16-16P	1	25.40	1	33.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	50.03	23.87	62.23
OBWC 20-20P	1-1/4	31.75	1-1/4	42.16	27.68	1-3/4	44.45	2	50.80	41.14	38.86	55.11	23.87	77.21
OBWC 24-24P	1-1/2	38.10	1-1/2	48.26	34.03	2-1/8	53.98	2-1/4	57.15	50.03	45.21	61.72	26.16	88.90
OBWC 32-32P	2	50.80	2	60.33	47.75	2-3/4	69.85	3	76.20	67.56	62.73	76.20	26.92	113.53

Connects metric tube to pipe

❖These figures are for reference purposes only

Part No.	Tube O.D D	Male Pipe Size P		E Min.	Width across flat		A	B	l	l1	L
		Nom	O.D		h	H					
OBWC 3M-2P	3	1/8	10.29	2.4	12	12	12.9	15.3	23.1	9.7	29.7
OBWC 4M-2P	4	1/8	10.29	2.4	12	12	13.7	16.1	24.1	9.7	30.7
OBWC 6M-2P	6	1/8	10.29	4.8	14	14	15.3	17.7	25.4	9.7	32.8
OBWC 6M-4P	6	1/4	13.72	4.8	14	14	15.3	17.7	30.2	14.2	37.6
OBWC 8M-2P	8	1/8	10.29	5.1	15	16	16.2	18.6	26.7	9.7	34.2
OBWC 8M-4P	8	1/4	13.72	6.4	15	16	16.2	18.6	31.2	14.2	38.7
OBWC 8M-8P	8	1/2	21.34	6.4	22	16	16.2	18.6	37.3	19.0	44.8
OBWC 10M-4P	10	1/4	13.72	7.1	18	19	17.2	19.5	33.3	14.2	40.9
OBWC 10M-6P	10	3/8	17.15	7.9	18	19	17.2	19.5	32.5	14.2	40.1
OBWC 10M-8P	10	1/2	21.34	7.9	22	19	17.2	19.5	38.1	19.0	45.7
OBWC 12M-4P	12	1/4	13.72	7.1	22	22	22.8	22.0	33.3	14.2	43.4
OBWC 12M-6P	12	3/8	17.15	9.5	22	22	22.8	22.0	33.3	14.2	43.4
OBWC 12M-8P	12	1/2	21.34	9.5	22	22	22.8	22.0	38.1	19.0	48.2
OBWC 14M-6P	14	3/8	17.15	10.3	24	25	24.4	22.0	34.0	14.2	44.1
OBWC 15M-8P	15	1/2	21.34	11.9	24	25	24.4	22.0	38.9	19.0	49.0
OBWC 16M-8P	16	1/2	21.34	12.7	24	25	24.4	22.0	38.9	19.0	49.0
OBWC 18M-8P	18	1/2	21.34	13.5	27	30	24.4	22.0	40.4	19.0	50.5
OBWC 32M-20P	32	1-1/4	42.16	28.6	46	50	42.0	41.6	56.6	23.9	79.6
OBWC 38M-24P	38	1-1/2	48.26	33.7	55	60	49.4	47.9	64.0	26.2	91.6

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Welding Information

OTG-LOK Tube Fitting butt weld ends are constructed to SCH 80 or greater.

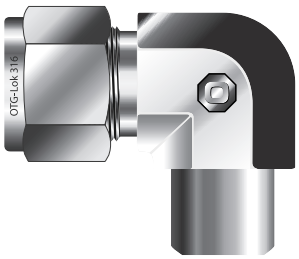
Prior to weld, remove nut and ferrules from OTG-LOK Tube Fitting.
- This protects the nut and ferrules from weld heat.

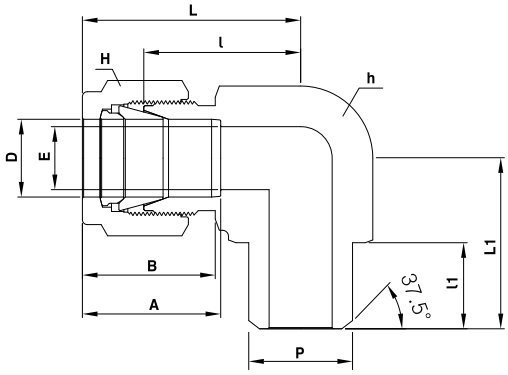
Cover the OTG-LOK Tube Fitting Port with a protective device such as port plug.
- This protects threads and sealing surface of fitting port from weld splatter.
- Finger-tighten the port plug so that it can be used many times.

After welding, replace the port plug with the nut and ferrules.

OBWE

Male Pipe Butt Weld Elbow



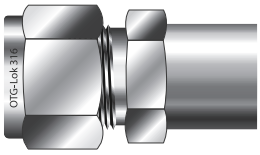


Connects fractional tube to pipe

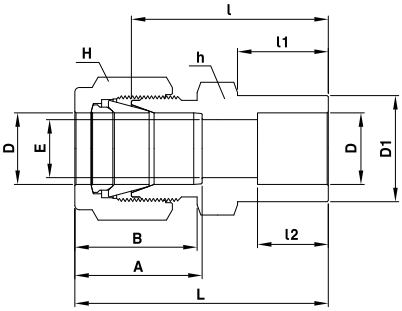
Part No.	Tube O.D D		Male Pipe Size P		E Min.	Width across flat h		Width across flat H		A	B	l	l1	L	L1
	in.	mm	Nom	O.D		in.	mm	in.	mm						
OBWE 2-2P	1/8	3.17	1/8	10.29	2.28	1/2	12.70	7/16	11.11	12.7	15.24	18.30	9.65	24.63	18.79
OBWE 4-4P	1/4	6.35	1/4	13.72	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	14.22	26.92	23.36
OBWE 6-4P	3/8	9.52	1/4	13.72	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	14.22	30.48	25.40
OBWE 8-8P	1/2	12.70	1/2	21.34	10.41	13/16	20.64	7/8	22.22	22.86	21.84	25.90	19.05	36.06	33.02
OBWE 12-12P	3/4	19.05	3/4	26.67	15.74	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	19.05	39.87	36.83

OSWC

Tube Socket Weld Connector



Tube Socket Weld Port
designed to ASME B16.11.



Connects fractional tubes

Part No.	Tube O.D D		E Min.	D1	Width across flat h		Width across flat H		A	B	l	l1	l2	L
	in.	mm			in.	mm	in.	mm						
OSWC 2-2P	1/8	3.17	2.28	7.87	7/16	11.11	7/16	11.11	12.70	15.24	22.35	8.63	6.35	28.95
OSWC 4-4P	1/4	6.35	4.82	11.17	1/2	12.70	9/16	14.28	15.24	17.78	26.16	10.41	7.87	33.52
OSWC 6-6P	3/8	9.52	7.11	15.74	5/8	15.87	11/16	17.46	16.76	19.30	30.22	11.93	9.65	37.59
OSWC 8-8P	1/2	12.70	10.41	19.05	13/16	20.64	7/8	22.22	22.86	21.84	30.98	11.93	12.70	41.14
OSWC 12-12P	3/4	19.05	15.74	26.67	1-1/16	26.98	1-1/8	28.58	24.38	21.84	33.27	11.93	14.22	43.43
OSWC 16-16P	1	25.40	22.35	33.27	1-3/8	34.92	1-1/2	38.10	31.24	26.41	40.38	14.22	19.05	52.57

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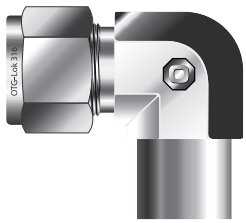
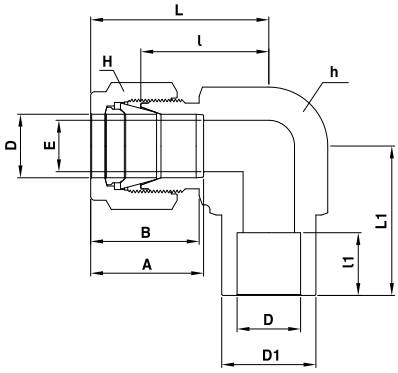
OSWE

Tube Socket Weld Elbow



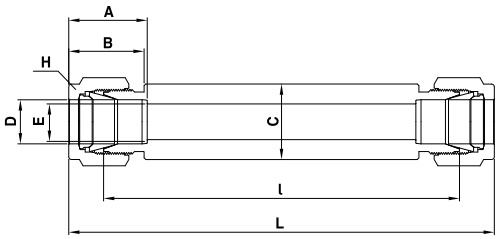


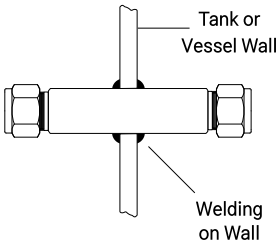
Connects fractional tubes

Part No.	Tube O.D D		E Min.	D1	Width across flat				A	B	l	l1	l2	L
					h		H							
	in.	mm			in.	mm	in.	mm						
OSWE 4-4	1/4	6.35	4.82	12.70	1/2	12.70	9/16	14.28	15.24	17.78	19.55	7.87	26.92	19.55
OSWE 6-6	3/8	9.52	7.11	15.74	5/8	15.87	11/16	17.46	16.76	19.30	23.11	9.65	30.48	23.11
OSWE 8-8	1/2	12.70	10.41	20.57	13/16	20.64	7/8	22.22	22.86	21.84	25.90	12.70	36.06	25.90
OSWE 12-12	3/4	19.05	15.74	26.92	1-1/16	26.98	1-1/8	28.58	24.38	21.84	29.71	14.22	39.87	29.71
OSWE 16-16	1	25.40	22.35	35.05	1-3/8	34.93	1-1/2	38.10	31.24	26.41	36.83	19.05	49.02	36.83

OWBU

Weld Bulkhead Union





Connects fractional tubes

Part No.	Tube O.D D		E Min.	A Diameter	Width across flat		l	L
					H			
	in.	mm			in.	mm		
OWBU-4	1/4	6.35	4.8	14.0	9/16	14.28	80.0	115.4
OWBU-6	3/8	9.52	7.1	19.0	11/16	17.46	80.0	118.4
OWBU-8	1/2	12.70	10.41	23.0	7/8	22.22	80.0	124.0

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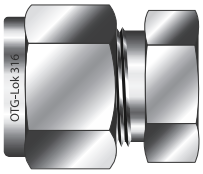
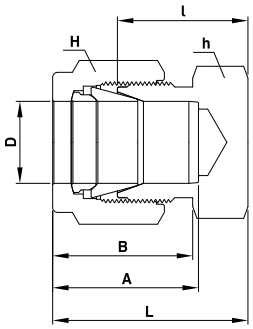
OC

Cap





Connects fractional tube end

Part No.	Tube O.D D		Width across flat				A	B	l	L
			h		H					
	in.	mm	in.	mm	in.	mm				
OC-1	1/16	1.59	5/16	7.93	5/16	7.93	8.63	10.92	11.20	14.18
OC-2	1/8	3.17	7/16	11.11	7/16	11.11	12.70	15.24	13.46	20.06
OC-3	3/16	4.76	7/16	11.11	1/2	12.70	13.71	16.00	14.73	21.33
OC-4	1/4	6.35	1/2	12.70	9/16	14.28	15.24	17.78	16.00	23.26
OC-5	5/16	7.93	9/16	14.28	5/8	15.87	16.25	18.54	17.01	24.38
OC-6	3/8	9.52	5/8	15.87	11/16	17.46	16.76	19.30	18.28	25.65
OC-8	1/2	12.70	13/16	20.63	7/8	22.22	22.86	21.84	19.05	29.21
OC-10	5/8	15.87	15/16	23.81	1	25.40	24.38	21.84	19.81	29.97
OC-12	3/4	19.05	1-1/16	26.98	1-1/8	28.57	24.38	21.84	21.33	31.49
OC-14	7/8	22.22	1-3/16	30.16	1-1/4	31.75	25.90	21.84	23.87	34.03
OC-16	1	25.40	1-3/8	34.92	1-1/2	38.10	31.24	26.41	26.16	38.35
OC-20	1-1/4	31.75	1-3/4	44.45	1-7/8	47.68	41.14	38.86	31.24	53.34
OC-24	1-1/2	38.10	2-1/8	53.97	2-1/4	57.15	50.15	45.21	37.33	64.51
OC-32	2	50.80	2-3/4	69.85	3	76.20	67.56	62.73	49.27	86.61

Connects metric tube end

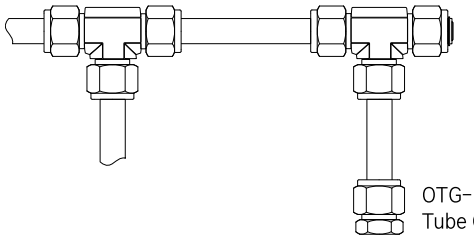
Part No.	Tube O.D D	Width across flat		A	B	l	L
		h	H				
OC-2M	2	12	12	12.9	15.3	13.5	20.1
OC-3M	3	12	12	12.9	15.3	13.5	20.1
OC-4M	4	12	12	13.7	16.1	14.7	21.3
OC-6M	6	14	14	15.3	17.7	15.7	23.1
OC-8M	8	15	16	16.2	18.6	17.0	24.5
OC-10M	10	18	19	17.2	19.5	19.0	26.6
OC-12M	12	22	22	22.8	22.0	19.0	29.1
OC-15M	15	24	25	24.4	22.0	19.8	29.9
OC-16M	16	24	25	24.4	22.0	19.8	29.9
OC-18M	18	27	30	24.4	22.0	21.3	31.4
OC-20M	20	30	32	26.0	22.0	23.9	34.0
OC-22M	22	30	32	26.0	22.0	23.9	34.0
OC-25M	25	35	38	31.3	26.5	26.2	38.5
OC-28M	28	41	46	36.6	36.6	27.7	48.5
OC-32M	32	46	50	42.0	41.6	32.8	55.8
OC-38M	38	55	60	49.4	47.9	37.8	65.4

- For installation, follow the standard OTG-LOK Tube Fitting installation instruction.

  Application : Tube Cap & Port Plug

  In tubing system, it is necessary to install either port plugs or tube caps for test ports or future runs.

  - Tube cap for closing off tube end.
  - Port plug for closing off an existing fitting port



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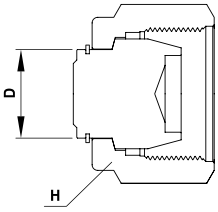
OP

Plug



Plugs fractional OTG-LOK Tube fitting Port

Part No.	Tube O.D D		Width across flat H	
	in.	mm	in.	mm
OP-1	1/16	1.59	5/16	7.93
OP-2	1/8	3.17	7/16	11.11
OP-3	3/16	4.76	1/2	12.70
OP-4	1/4	6.35	9/16	14.28
OP-5	5/16	7.93	5/8	15.87
OP-6	3/8	9.52	11/16	17.46
OP-8	1/2	12.70	7/8	22.22
OP-10	5/8	15.87	1	25.40
OP-12	3/4	19.05	1-1/8	28.58
OP-14	7/8	22.22	1-1/4	31.75
OP-16	1	25.40	1-1/2	38.10
OP-20	1-1/4	31.75	1-7/8	47.63
OP-24	1-1/2	38.10	2-1/4	57.15
OP-32	2	50.80	3	76.20

Plugs metric OTG-LOK Tube fitting Port

Part No.	Tube O.D D	Width across flat H
OP-2M	2	12
OP-3M	3	12
OP-4M	4	12
OP-6M	6	14
OP-8M	8	16
OP-10M	10	19
OP-12M	12	22
OP-15M	15	25
OP-16M	16	25
OP-18M	18	30
OP-20M	20	32
OP-22M	22	32
OP-25M	25	38
OP-28M	28	46
OP-32M	32	50
OP-38M	38	60

Port Plug Installation Instructions

1. Remove the nut and ferrules from the existing OTG-LOK Tube Fitting port.
2. Finger-tighten the port plug on to the OTG-LOK Tube Fitting port.
3. Wrench-tighten the port plug 1/4 turn beyond the finger-tight position, keeping the fitting body steady a backup wrench.

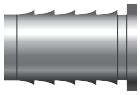
- Do not tighten 1 1/4 turns. Be aware that plug has the machined ferrule not the standard ferrule.
- Fittings for smaller than 1/4 in. OD (6mm OD), tighten 1/8 turn.

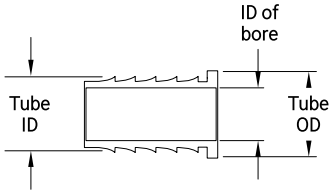
OI

Tube Insert

Fractional Nylon or Soft Plastic Tubing

Part No.	Tube O.D OD		Tube O.D ID		Bore ID
	in.	mm	in.	mm	
OI 3-2	3/16	4.76	1/8	3.17	2.28
OI 4-2	1/4	6.35	1/8	3.17	2.28
OI 4-3	1/4	6.35	3/16	4.76	3.55
OI 5-2	5/16	7.93	1/8	3.17	2.28
OI 5-3	5/16	7.93	3/16	4.76	3.04
OI 5-4	5/16	7.93	1/4	6.35	4.82
OI 6-3	3/8	9.52	3/16	4.76	3.04
OI 6-4	3/8	9.52	1/4	6.35	4.82
OI 8-4	1/2	12.7	1/4	6.35	4.82
OI 8-6	1/2	12.7	3/8	9.52	7.87
OI 10-6	5/8	15.87	3/8	9.52	7.87
OI 10-8	5/8	15.87	1/2	12.70	11.17
OI 12-8	3/4	19.05	1/2	12.70	11.17
OI 12-10	3/4	19.05	5/8	15.87	14.22
OI 16-12	1	25.4	3/4	19.05	17.52





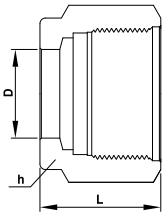
Metric Nylon or Soft Plastic Tubing

Part No.	Tube O.D OD	Tube O.D ID	Bore ID
OI 6M-4M	6	4	2.8
OI 8M-6M	8	6	4.4
OI 10M-8M	10	8	6.4
OI 12M-8M	12	8	6.4
OI 12M-10M	12	10	8.3

Nylon or soft plastic tubing is pliable. They require tube insert to prevent the tubing from collapsing.
For installation, follow the standard OTG-LOK Tube Fitting installation instruction.

ON

Nut



Fractional

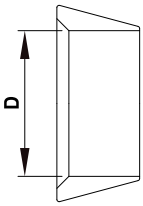
Part No.	Tube O.D D		Width across flat h		L
	in.	mm	in.	mm	
ON-1	1/16	1.59	5/16	9.73	7.90
ON-2	1/8	3.17	7/16	11.11	11.93
ON-3	3/16	4.76	1/2	12.70	11.93
ON-4	1/4	6.35	9/16	14.28	12.70
ON-5	5/16	7.93	5/8	15.87	13.46
ON-6	3/8	9.52	11/16	17.46	14.22
ON-8	1/2	12.70	7/8	22.22	17.52
ON-10	5/8	15.87	1	25.40	17.52
ON-12	3/4	19.05	1-1/8	28.57	17.52
ON-14	7/8	22.22	1-1/4	31.75	17.52
ON-16	1	25.40	1-1/2	38.10	20.57
ON-20	1-1/4	31.75	1-7/8	47.63	31.75
ON-24	1-1/2	38.10	2-1/4	57.15	38.10
ON-32	2	50.80	3	76.20	52.32

Metric

Part No.	Tube O.D	Width across flat	L
	D	h	
ON-2M	2	12	11.90
ON-3M	3	12	11.90
ON-4M	4	12	11.90
ON-6M	6	14	12.70
ON-8M	8	16	13.50
ON-10M	10	19	15.10
ON-12M	12	22	17.40
ON-15M	15	25	17.40
ON-16M	16	25	17.40
ON-18M	18	30	17.40
ON-20M	20	32	17.40
ON-22M	22	32	17.40
ON-25M	25	38	20.60
ON-28M	28	46	30.60
ON-32M	32	50	34.40
ON-38M	38	60	40.60

OFF

Front Ferrule



Fractional

Part No.	Tube O.D D	
	in.	mm
OFF-1	1/16	1.59
OFF-2	1/8	3.17
OFF-3	3/16	4.76
OFF-4	1/4	6.35
OFF-5	5/16	7.93
OFF-6	3/8	9.52
OFF-8	1/2	12.70
OFF-10	5/8	15.87
OFF-12	3/4	19.05
OFF-14	7/8	22.22
OFF-16	1	25.40
OFF-20	1-1/4	31.75
OFF-24	1-1/2	38.10
OFF-32	2	50.80

Metric

Part No.	Tube O.D
	D
OFF-2M	2
OFF-3M	3
OFF-4M	4
OFF-6M	6
OFF-8M	8
OFF-10M	10
OFF-12M	12
OFF-15M	15
OFF-16M	16
OFF-18M	18
OFF-20M	20
OFF-22M	22
OFF-25M	25
OFF-28M	28
OFF-32M	32
OFF-38M	38

NOTE :

Stinless Steel over 1 in. and 25mm OD fittings are supplied with stainless steel ferrules coated with PFA.
For applicationbeyond 450˚F (232 ℃) silver-plated front ferrule are supplied.

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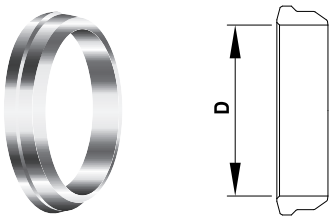
OBF

Back Ferrule



Fractional

Part No.	Tube O.D D	
	in.	mm
OBF-1	1/16	1.59
OBF-2	1/8	3.17
OBF-3	3/16	4.76
OBF-4	1/4	6.35
OBF-5	5/16	7.93
OBF-6	3/8	9.52
OBF-8	1/2	12.70
OBF-10	5/8	15.87
OBF-12	3/4	19.05
OBF-14	7/8	22.22
OBF-16	1	25.40
OBF-20	1-1/4	31.75
OBF-24	1-1/2	38.10
OBF-32	2	50.80

Metric

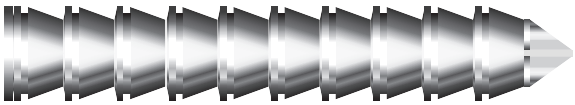
Part No.	Tube O.D D
OBF-2M	2
OBF-3M	3
OBF-4M	4
OBF-6M	6
OBF-8M	8
OBF-10M	10
OBF-12M	12
OBF-15M	15
OBF-16M	16
OBF-18M	18
OBF-20M	20
OBF-22M	22
OBF-25M	25
OBF-28M	28
OBF-32M	32
OBF-38M	38

NOTE :

Stinless Steel over 1 in. and 25mm OD fittings are supplied with stainless steel ferrules coated with PFA.
For application beyond 450˚F (232 ℃) uncoated back ferrule are supplied.

OFS

Ferrule Set



Fractional

Part No.	Tube O.D D	
	in.	mm
OFS-1	1/16	1.59
OFS-2	1/8	3.17
OFS-3	3/16	4.76
OFS-4	1/4	6.35
OFS-5	5/16	7.93
OFS-6	3/8	9.52
OFS-8	1/2	12.70
OFS-10	5/8	15.87
OFS-12	3/4	19.05
OFS-14	7/8	22.22
OFS-16	1	25.40
OFS-20	1-1/4	31.75
OFS-24	1-1/2	38.10
OFS-32	2	50.80

Metric

Part No.	Tube O.D D
OFS-2M	2
OFS-3M	3
OFS-4M	4
OFS-6M	6
OFS-8M	8
OFS-10M	10
OFS-12M	12
OFS-15M	15
OFS-16M	16
OFS-18M	18
OFS-20M	20
OFS-22M	22
OFS-25M	25
OFS-28M	28
OFS-30M	30
OFS-32M	32
OFS-38M	38

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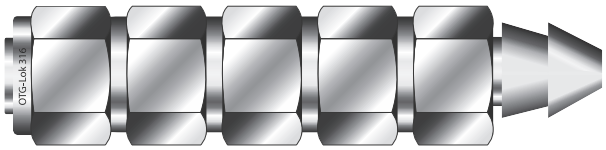
ONFS

Nut-Ferrule Set



Fractional

Part No.	Tube O.D (in.)
ONFS-1	1/16
ONFS-2	1/8
ONFS-3	3/16
ONFS-4	1/4
ONFS-5	5/16
ONFS-6	3/8
ONFS-8	1/2
ONFS-10	5/8
ONFS-12	3/4
ONFS-14	7/8
ONFS-16	1
ONFS-20	1-1/4
ONFS-24	1-1/2
ONFS-32	2

Metric

Part No.	Tube O.D D
ONFS-2M	2
ONFS-3M	3
ONFS-4M	4
ONFS-6M	6
ONFS-8M	8
ONFS-10M	10
ONFS-12M	12
ONFS-15M	15
ONFS-16M	16
ONFS-18M	18
ONFS-20M	20
ONFS-22M	22
ONFS-25M	25
ONFS-28M	28
ONFS-30M	30
ONFS-32M	32
ONFS-38M	38

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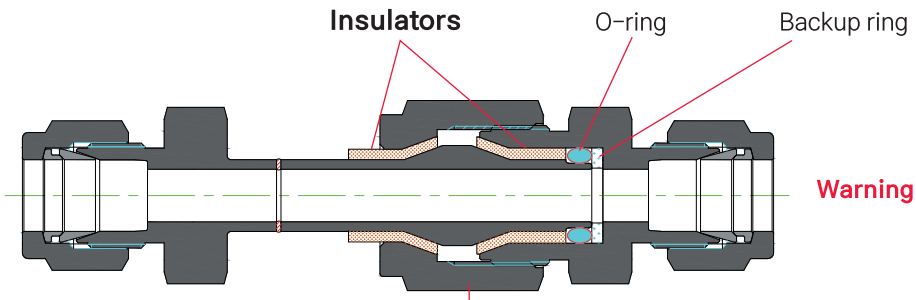
ODU

Dielectric Fittings

OTG-Lok Dielectric fittings are designed to interrupt the electrical current flowing through a pipe or tubing in order to protect vital instruments and metering equipment while permitting fluid flow.
Widely used in the natural gas transmission industry, the dielectric fitting prevent current flow, static electricity or even lightning strikes from reaching the monitoring station equipment.
If the current flow is not interrupted before reaching the monitoring station, sensitive equipment could be damaged or rendered inaccurate.
By using OTG-Lok Dielectric Fitting on impulse lines between the pipeline and the monitoring station, current flow is interrupted while full fluid flow is permitted.
OTG-Lok Two Ferrule system provides outstanding sealing in the impulse line.

Features

- Metal components are 316 stainless steel for use in rugged environments.
- Interruption on electrical current while permitting fluid flow.
- Fitting interrupts cathodic current flow.



Warning : The warning label below is placed over the insulation section hex on every dielectric fitting.
Do not disconnect at this point!

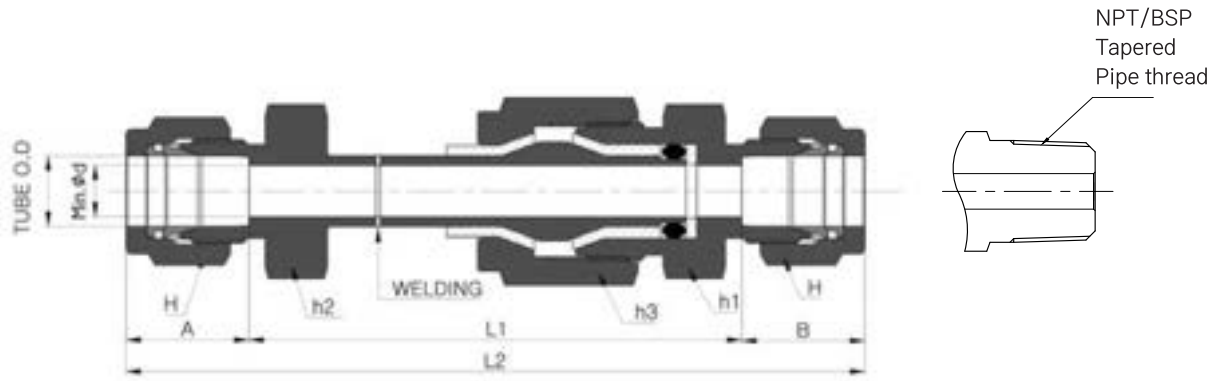
CAUTION : Do not wrench this hex nor disassemble this connection

Technical Data

- Pressure rating up to 5.000psi (344bar) @70˚F(20˚C)
- Temperature rating: -40 to -200˚F(-40 to -93˚C)
- Electrical resistance: 10 x 10^6 Ω@10 Volts DC, voltage breakdown resistance 3,000 Volts DC.

Materials

Description		Materials
1	Body	316 stainless steel
2	Insulators	PEEK
3	O-ring	70 durometer fluorocarbon FKM
4	Backup ring	Virgin PTFE



Ordering Information

Ordering Number	Tube O.D D	Pipe Thread	d Min. mm (in.)	Dimensions, mm (in)							
				L	L1	A	B	H	h1	h2	h3
ODU-4-SS	1/4″	-	4.8 (0.19)	100.8(3.97)	70.3(2.77)	15.24(0.6)	15.24(0.6)	14.28(9/16)	20.64 (13/16)	12.7(1/2)	22.22 (7/8)`
ODU-6-SS	3/8″	-	7.1 (0.28)	104.3(4.1)	70.8(2.79)	16.76(0.66)	16.76(0.66)	17.46(11/16)		15.87(5/8)	
ODU-8-SS	1/2″	-		110.9(4.36)	65.2(2.57)	22.86(0.9)	22.86(0.9)	22.22(7/8)		20.6(13/16)	
ODU-12M-SS	12mm	-		112.3(4.42)	66.7(2.62)	22.8(0.9)	22.8(0.9)	22mm		22mm	
ODMC6-4N-SS	3/8″	1/4″ male NPT		99.7(3.92)	-	16.76(0.66)	-	17.46(11/16)		15.87(5/8)	
ODU-16-SS	1″		17.4 (0.69)	155.2(6.11)	92.7(3.65)	31.24(1.23)	31.24(1.23)	38.1(1-1/2)	34.9(1-3/8)	34.9(1-3/8)	38.1(1-1/2)

Causion

Safe Product Selection

Proper installation, material compatibility, operation and maintenance of the production is the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.

TUBE FITTING & VALVE

OTG lok

Precision Instrument

Pipe Fittings

02

Features

- OTG precision instruments pipe fitting are designed in accordance with ASME B31.3 for instrumentation and process control 1/8″ to 1″
- Every fitting is cleaned to remove particle and oil at the precision equipment.
- Compact design for high pressure application.
- Male pipe threads are capped for protection.
- Straight fittings are manufactured form quality bar stock for strength.
- NPT threads are based on requirement of ASME B1. 20. 1

Fitting Cleaning and Surface Protection

Fittings are cleaned to remove surface contamination, loose particles, iron partcles out of cutting tools, and oil from cutting fluid.
Fittings are further processed for the surface protection to enhance its corrosion-resistance in service.

Material	Surface Protection
Stainless steel 316	Passivation
Carbon steel	White Zinc Plating
Brass	Acid cleaning

Materials of Construction

Material	Fitting Designator	Bar Stock	Forgings
Stainless steel 316	SS	ASTM A479 Type 316 ASTM A276 Type 316	ASTM A182 F316
Carbon steel	CS	ASTM A108 JIS G4051 S20C - S45C	ASTM A105 / JIS G4051 S20C
Brass	BS	ASTM B16 UNS C36000 JIS H3250 C3604	ASTM B283 C37700 JIS H3250 C3771

Temperature Rating

Fittings with O-ring, or gasket may be limited in temperature ratings.

Fitting Material	Maximum Temperature ℃ (℉)
Stainless steel 316	537 (1000)
Carbon steel	204 (400)
Brass	190 (375)

Component	Material	Temperature ℃ (℉)	
		Minimum	Maximum
SAE O-Rings	FKM	-28 (-20)	204 (400)
Bonded Seal Gasket	NBR	-25 (-13)	110 (230)
	FKM	-15 (5)	204 (400)
Copper Gasket	Copper	-198 (-325)	204 (400)

Pressure Ratings Basis

Pressure ratings are based on ASME Code for pressure Pipeing B31.3 Process Piping, at ambient temperature of 37℃ (100℃)

Material	Allow Stress Value
Stainless steel 316	20,000psig (1378bar)
Carbon steel	20,000psig (1378bar
Brass	10,000psig (689bar)

Pipe End Pressure Rating

Size Designator	ISO / NPT Pipe Size	Stainless Steel 316 / Carbon Steel				Brass			
		Male		Female		Male		Female	
		bar	psig	bar	psig	bar	psig	bar	psig
2	1/8	689	10,000	440	6,500	345	5,000	220	3,200
4	1/4	550	8,000	455	6,600	275	4,000	227	3,300
6	3/8	538	7,800	365	5,300	269	3,900	179	2,600
8	1/2	531	7,700	338	4,900	262	3,800	165	2,400
12	3/4	503	7,300	317	4,600	248	3,600	158	2,300
16	1	365	5,300	303	4,400	179	2,600	152	2,200

Temperature De-rating Factors

The de-rating factors for the allowable working pressure at a specific temperature are as per the requirements of ASME B31.3 process piping code.

Temperature	℃	38	93	149	204	260	316	371	427	482	537	649
	℉	100	200	300	400	500	600	700	800	900	1000	1200
De-rating Factors	Stainless steel 316	1.00	1.00	1.00	0.97	0.90	0.85	0.82	0.80	0.78	0.77	0.49
	Carbon steel	1.00	0.94	0.90	0.86	–	–	–	–	–	–	–
	Brass	1.00	0.78	0.69	0.13	–	–	–	–	–	–	–

Threads

Thread Designator and Standards

Designator	Description in catalog	Industrial Symbol	Thread	Standard
N	NPT	NPT	Tapered Pipe Thread	ANSI / ASME B1.20.1, SAE AS71051
R	ISO Tapered	BSPT, PT	Tapered Pipe Thread	ISO 7-1, DIN 2999, BS21(BSPT), JIS B0203(PT)
G	ISO Parallel	BSPP, PF	Parallel Pipe Thread	ISO 228-1, BS 2779 (BSPP), JIS B0202(PF)
GG	Gauge ISO Paralle	BSPP, PF	Parallel Pipe Thread	ISO 228-1, BS 2779 (BSPP), JIS B0202(PF)
U	Female SAE Straight Thread	UNF, SAE	Unified Thread	ASME B1.1
UO	Male SAE Straight Thread	UNF, SAE	Unified Thread	ASME B1.1

Pipe Thread Size Designator

Nominal Pipe Size, IN.	1/16	1/8	1/4	3/8	1/2	3/4	1
Size Designator	1	2	4	6	8	12	16
NPT	1N	2N	4N	6N	8N	12N	16N
ISO Tapered	1R	2R	4R	6R	8R	12R	16R
ISO Parallel	–	2G	4G	6G	8G	12G	16G
Gauge ISo Parallel	–	–	4GG	6GG	8GG		

SAE straight Thread Designator / Application O-Ring Number

SAE Thread Size, In.	Corresponding Tube OD, In.	Designator		AS568 O-Ring Number	Female
		Male JIC(AN) Tube Flare Port	Male SAE Straight Thread with O-Ring		Designator
5/16 - 24	1/8	2T	2UO	902	2U
7/16 - 20	1/4	4T	4UO	904	4U
1/2 - 20	5/16	5T	5UO	905	5U
9/16 - 20	3/8	6T	6UO	906	6U
3/4 - 16	1/2	8T	8UO	908	8U
1 1/6 - 12	3/4	12T	12UO	912	12U
1 5/16 - 12	1	16T	16UO	916	16U

How to order

Select the desired fitting basic part number and add a material designator.

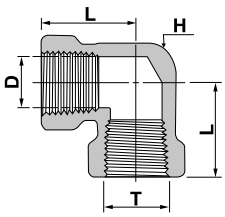
Example : I-PHN-4N-SS

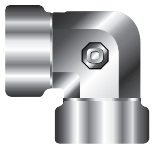
Precision Instrument **Pipe Fittings**

CONTENTS

I-PE

Elbow(Female NPT both ends)

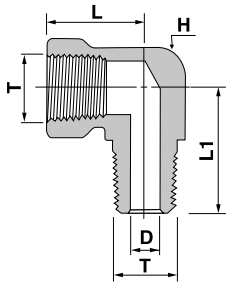




Part Number	NPT Size T	L	D	H Wrench Flat
I-PE-2N	1/8	24.1	8.9	12.7
I-PE-4N	1/4	29.0	11.7	17.5
I-PE-6N	3/8	34.5	15.0	20.6
I-PE-8N	1/2	37.0	18.7	25.4
I-PE-12N	3/4	46.5	23.5	31.8
I-PE-16N	1	48.5	29.7	42.9
Heavy Wall 10,000psig				
I-PE-4N-10K	1/4	37.0	11.4	25.4
I-PE-8N-10K	1/2	49.2	18.5	42.9

I-PSE

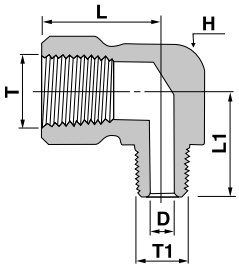
Street Elbow(Female to male NPT)

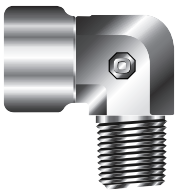


Part Number	NPT Size T	L	L1	D	H Wrench Flat
I-PSE-2N	1/8	24.1	22.1	4.8	12.7
I-PSE-4N	1/4	29.0	29.0	7.1	17.5
I-PSE-6N	3/8	34.5	32.0	9.6	20.6
I-PSE-8N	1/2	37.0	37.0	11.9	25.4
I-PSE-12N	3/4	46.5	42.4	15.7	31.8
I-PSE-16N	1	48.5	49.3	22.4	42.9

I-PRSE

Reducing Street Elbow(Female to male NPT)

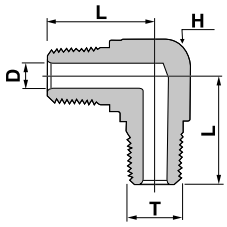




Part Number	Female NPT Size T	Male NPT Size T1	L	L1	D	H Wrench Flat
I-PRSE-4-2N	1/4	1/8	29.0	25.4	4.8	17.5
I-PRSE-6-4N	3/8	1/4	34.5	32.0	7.1	20.6
I-PRSE-8-4N	1/2	1/4	37.0	35.1	7.1	25.4
I-PRSE-8-6N	1/2	3/8	37.0	35.1	9.6	25.4
I-PRSE-12-8N	3/4	1/2	46.5	41.6	11.9	31.8
I-PRSE-16-8N	1	1/2	48.5	45.5	11.9	42.9

I-PME

Male Elbow(Male NPT both ends)



Part Number	NPT Size T	L	D	H Wrench Flat
I-PME-2N	1/8	22.4	4.8	12.7
I-PME-4N	1/4	24.5	7.1	12.7
I-PME-6N	3/8	29.0	9.6	17.5
I-PME-8N	1/2	33.2	11.9	20.6
I-PME-12N	3/4	35.3	15.7	25.4
I-PME-16N	1	44.5	22.4	31.8

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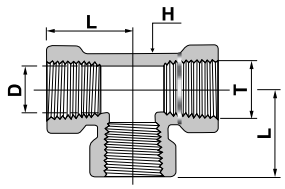
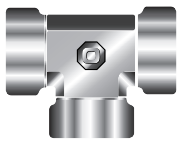
I-PT

Tee(Female NPT)

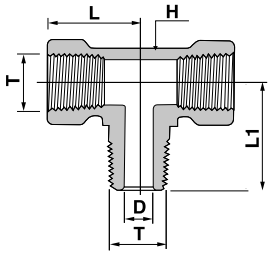


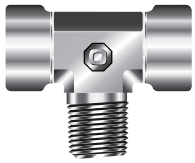


Part Number	NPT Size T	L	D	H Wrench Flat
I-PT-2N	1/8	24.1	8.9	12.7
I-PT-4N	1/4	29.0	11.7	17.5
I-PT-6N	3/8	34.5	15.0	20.6
I-PT-8N	1/2	37.0	18.7	25.4
I-PT-12N	3/4	46.5	23.5	31.8
I-PT-16N	1	48.5	29.7	42.9
Heavy Wall 10,000psig				
I-PT-4N-10K	1/4	37.0	11.4	25.4
I-PT-8N-10K	1/2	49.3	18.5	42.9

I-PBT

Branch Tee(Female to male to male NPT)

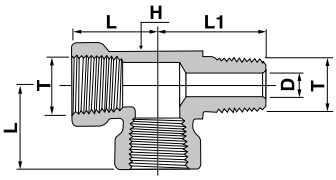


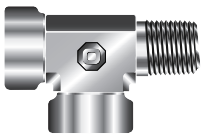


Part Number	NPT Size T	L	L1	D	H Wrench Flat
I-PBT-2N	1/8	24.1	22.4	4.8	12.7
I-PBT-4N	1/4	29.0	29.0	7.1	17.5
I-PBT-6N	3/8	34.5	32.0	9.6	20.6
I-PBT-8N	1/2	37.0	37.0	11.9	25.4
I-PBT-12N	3/4	46.5	42.4	15.7	31.8
I-PBT-16N	1	48.5	49.3	22.4	42.9

I-PRT

Run Tee(Female to male to Female NPT)

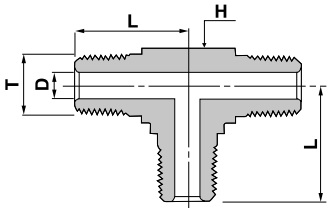


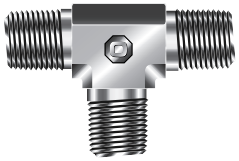


Part Number	NPT Size T	L	L1	D	H Wrench Flat
I-PRT-2N	1/8	24.1	22.4	4.8	12.7
I-PRT-4N	1/4	29.0	29.0	7.1	17.5
I-PRT-6N	3/8	34.5	32.0	9.6	20.6
I-PRT-8N	1/2	37.0	37.0	11.9	25.4
I-PRT-12N	3/4	46.5	42.4	15.7	31.8
I-PRT-16N	1	48.5	49.3	22.4	42.9

I-PMT

Male Tee(Male NPT)





Part Number	NPT Size T	L	D	H Wrench Flat
I-PMT-2N	1/8	22.4	4.8	12.7
I-PMT-4N	1/4	24.5	7.1	12.7
I-PMT-6N	3/8	29.0	9.6	17.5
I-PMT-8N	1/2	33.2	11.9	20.6
I-PMT-12N	3/4	35.3	15.7	25.4
I-PMT-16N	1	44.5	22.4	31.8

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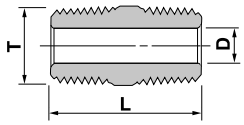
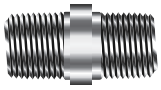
I-PCN

Close Nipple(Male NPT both ends)

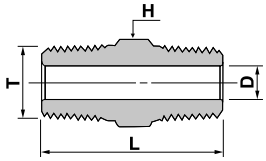


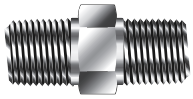


Part Number	NPT Size T	L	D
I-PCN-2N	1/8	19.05	4.8
I-PCN-4N	1/4	28.4	7.1
I-PCN-6N	3/8	28.4	9.6
I-PCN-8N	1/2	38.1	11.9
I-PCN-12N	3/4	38.1	15.7
I-PCN-16N	1	47.8	22.4

I-PHN

Hex Nipple(Male NPT both ends)

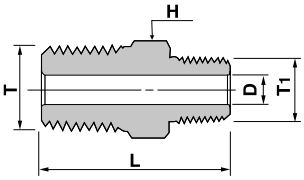


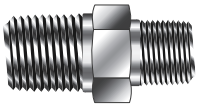


Part Number	NPT Size T	L	D	H Wrench Flat
I-PHN-2N	1/8	25.0	4.8	11.1
I-PHN-4N	1/4	35.5	7.1	14.2
I-PHN-6N	3/8	36.3	9.6	17.4
I-PHN-8N	1/2	46.7	11.9	22.2
I-PHN-12N	3/4	46.7	15.7	26.9
I-PHN-16N	1	58.9	22.4	34.9
Heavy Wall 10,000psig				
I-PHN-4N-10K	1/4	35.6	5.8	14.2
I-PHN-8N-10K	1/2	46.7	9.9	22.2

I-PHRN

Hex Reducing Nipple(Male NPT to reduced male NPT)

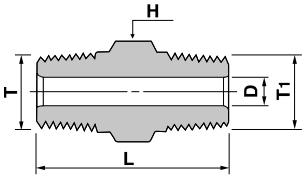


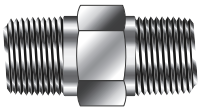


Part Number	NPT Size T	Reduced NPT Size T1	L	D	H Wrench Flat
I-PHRN-4-2N	1/4	1/8	31.0	4.8	14.2
I-PHRN-4-2N	3/8	1/8	31.8	4.8	17.4
I-PHRN-4-4N	3/8	1/4	36.3	7.1	17.4
I-PHRN-4-2N	1/2	1/8	37.2	4.8	22.2
I-PHRN-4-4N	1/2	1/4	41.9	7.1	22.2
I-PHRN-4-6N	1/2	3/8	41.9	9.6	22.2
I-PHRN-4-4N	3/4	1/4	41.9	7.1	26.9
I-PHRN-4-6N	3/4	1/2	46.7	11.9	26.9
I-PHRN-4-4N	1	1/4	49.3	7.1	34.9
I-PHRN-4-8N	1	1/2	54.1	11.9	34.9
Heavy Wall 10,000psig					
I-PHRN-8-4N-10K	1/2	1/4	41.9	5.8	22.2

I-PHN-NR

Hex Nipple(Male NPT to ISO tapered)





Part Number	NPT Size T	PT Size T1	L	D	H Wrench Flat
I-PHN-2NR	1/8	1/8	25.6	4.8	11.1
I-PHN-4NR	1/4	1/4	35.6	7.1	14.2
I-PHN-6NR	3/8	3/8	36.3	9.6	17.4
I-PHN-8NR	1/2	1/2	46.7	11.9	22.2
I-PHN-12NR	3/4	3/4	46.7	15.7	26.9
I-PHN-16NR	1	1	58.9	22.4	34.9

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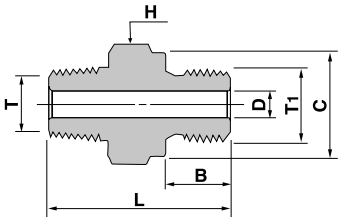
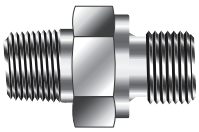
I-PHN-NG

Hex Nipple(Male NPT to male ISO parallel)

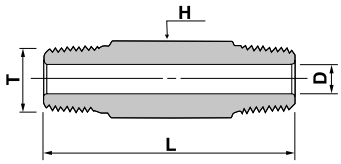




Part Number	NPT Size T	PF Size T1	L	B	C	D	H Wrench Flat
I-PHN-2NG	1/8	1/8	27.7	8.1	13.7	4.1	14.2
I-PHN-4NG	1/4	1/4	36.8	11.9	17.8	5.8	19.05
I-PHN-6NG	3/8	3/8	37.6	11.9	21.8	7.9	22.2
I-PHN-8NG	1/2	1/2	44.4	14.0	25.9	11.9	26.9
I-PHN-12NG	3/4	3/4	49.0	16.0	31.8	15.7	33.3
I-PHN-16NG	1	1	56.6	18.0	38.9	19.8	41.2

I-PHLN

Hex Long Nipple(Male NPT both ends)

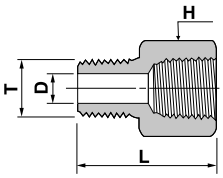


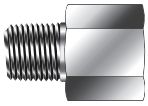
Part Number	NPT Size T	L	D	H Wrench Flat
I-PHLN-2N	1/8	★	4.8	11.1
I-PHLN-4N	1/4	★	7.1	14.2
I-PHLN-6N	3/8	★	9.6	17.4
I-PHLN-8N	1/2	★	11.9	22.2
I-PHLN-12N	3/4	★	15.7	26.9
I-PHLN-16N	1	★	22.4	34.9

★ Conifigure to order

I-PMFA

Adapter(Male NPT to Female NPT)

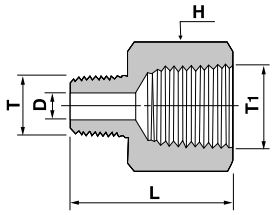


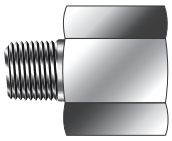


Part Number	NPT Size T	L	D	H Wrench Flat
I-PMFA-2N	1/8	27.9	4.8	14.2
I-PMFA-4N	1/4	35.6	7.1	19.05
I-PMFA-6N	3/8	38.4	9.6	22.2
I-PMFA-8N	1/2	49.3	11.9	26.9
I-PMFA-12N	3/4	51.3	15.7	33.3
I-PMFA-16N	1	58.0	22.4	41.2
Heavy Wall 10,000psig				
I-PMFA-4N-10K	1/4	36.3	5.8	25.4
I-PMFA-8N-10K	1/2	51.3	9.9	38.1

I-PMFRA

Reducing Adapter(Male NPT to reduced female NPT)



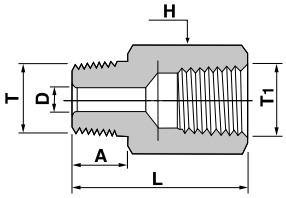


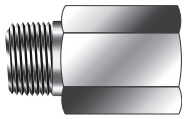
Part Number	NPT Size T	NPT Size T1	L	D	H Wrench Flat
I-PMRFA-2-4N	1/8	1/4	32.0	4.8	19.05
I-PMRFA-2-6N	1/8	3/8	33.5	4.8	22.2
I-PMRFA-4-6N	1/4	3/8	37.8	7.1	22.2
I-PMRFA-2-8N	1/8	1/2	40.0	4.8	26.9
I-PMRFA-4-8N	1/4	1/2	44.5	7.1	26.9
I-PMRFA-6-8N	3/8	1/2	44.5	9.6	26.9
I-PMRFA-4-12N	1/4	3/4	45.7	7.1	33.3
I-PMRFA-6-12N	3/8	3/4	45.7	9.6	33.3
I-PMRFA-8-12N	1/2	3/4	51.1	11.9	33.3
I-PMRFA-4-16N	1/4	1	49.8	7.1	41.2
I-PMRFA-8-16N	1/2	1	54.9	11.9	41.2
I-PMRFA-12-12N	3/4	1	55.1	15.7	41.2
Heavy Wall 10,000psig					
I-PMRFA-8-4N-10K	1/2	1/4	46.0	5.8	38.1

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

I-PMFA-RN

Adapter(Male ISO tapered to Female NPT)

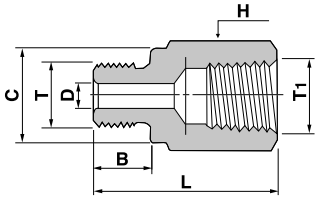


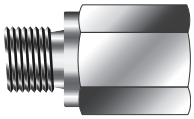


Part Number	PT Size T	NPT Size T1	L	A	D	H Wrench Flat
I-PMFA-2RN	1/8	1/8	27.4	9.7	4.8	14.2
I-PMFA-4RN	1/4	1/4	35.6	14.2	7.1	19.05
I-PMFA-6RN	3/8	3/8	38.4	14.2	9.6	22.2
I-PMFA-8RN	1/2	1/2	49.3	19.1	11.9	26.9
I-PMFA-12RN	3/4	3/4	51.3	19.1	15.7	33.3
I-PMFA-16-8N	1	1	58.0	23.9	22.4	41.2

I-PMFA-GN

Adapter(Male ISO paralled to Female NPT)

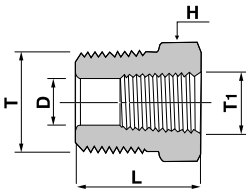


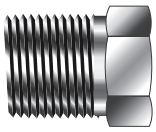


Part Number	PF Size T	NPT Size T1	L	B	C	D	H Wrench Flat
I-PMFA-2GN	1/8	1/8	24.9	8.1	13.7	4.1	14.2
I-PMFA-4GN	1/4	1/4	33.3	11.9	17.8	5.8	19.05
I-PMFA-6GN	3/8	3/8	35.8	11.9	21.8	7.9	22.2
I-PMFA-8GN	1/2	1/2	44.2	14.0	26.1	11.9	26.9
I-PMFA-12GN	3/4	3/4	48.0	16.0	31.5	15.7	33.3
I-PMFA-16GN	1	1	53.1	18.0	38.9	19.8	41.2

I-PHB

Reducing Hex Bushing(Male NPT to reduced famale NPT)





Part Number	Male NPT Size T	Female NPT Size T1	L	D	H Wrench Flat	Pressure Rasting, psig(bar)	
						316SS / Carbon Steel	Brass
I-PHB-4-2N	1/4	1/8	26.7	7.1	14.2	6,500(447)	3,300(227)
I-PHB-6-2N	3/8	1/8	21.8	8.5	17.2	9,200(633)	4,700(323)
I-PHB-6-4N	3/8	1/4	30.0	9.6	19.05	6,600(454)	3,300(227)
I-PHB-8-2N	1/2	1/8	27.4	8.5	22.2	12,200(840)	6,200(427)
I-PHB-8-4N	1/2	1/4	27.4	11.7	22.2	8,300(571)	4,400(303)
I-PHB-8-6N	1/2	3/8	35.6	11.9	22.2	5,300(365)	2,600(179)
I-PHB-12-4N	3/4	1/4	27.4	11.4	26.9	12,000(826)	6,000(413)
I-PHB-12-6N	3/4	3/8	27.4	15.0	26.9	8,200(564)	4,300(296)
I-PHB-12-8N	3/4	1/2	41.4	15.7	26.9	4,900(337)	2,400(165)
I-PHB-16-4N	1	1/4	34.8	11.4	34.9	14,500(999)	7,400(509)
I-PHB-16-6N	1	3/8	34.8	15.0	34.9	11,600(799)	5,900(406)
I-PHB-16-8N	1	1/2	34.8	18.5	34.9	8,600(592)	4,300(296)
I-PHB-16-12N	1	3/4	47.0	22.4	34.9	5,300(365)	2,600(179)

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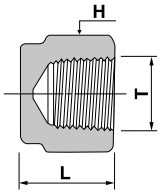
I-PC

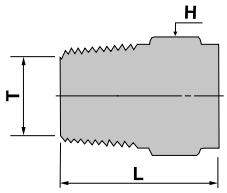
Pipe Cap(Female NPT)

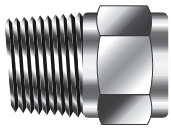


Part Number	NPT Size T	L	H Wrench Flat
I-PC-2N	1/8	19.1	14.2
I-PC-4N	1/4	22.9	19.05
I-PC-6N	3/8	26.2	22.2
I-PC-8N	1/2	34.0	26.9
I-PC-12N	3/4	36.6	33.3
I-PC-16N	1	41.1	41.2
Heavy Wall 10,000psig			
I-PC-4N-10K	1/4	28.2	25.4
I-PC-8N-10K	1/2	40.1	38.1

I-PP

Pipe Plug(Male NPT)

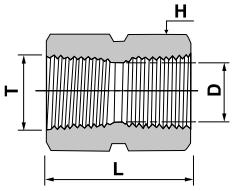


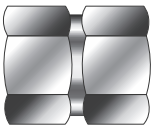


Part Number	NPT Size T	L	H Wrench Flat
I-PP-2N	1/8	19.05	11.1
I-PP-4N	1/4	24.1	14.2
I-PP-6N	3/8	25	17.4
I-PP-8N	1/2	30.5	22.2
I-PP-12N	3/4	30.5	26.9
I-PP-16N	1	38.1	34.9

I-PHC

Hex Coupling(Female NPT both ends)

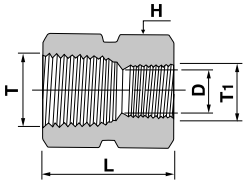


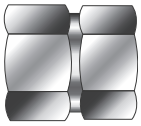


Part Number	NPT Size	L	D	H Wrench Flat
I-PHC-2N	1/8	20.3	8.9	14.2
I-PHC-4N	1/4	30.0	11.7	19.05
I-PHC-6N	3/8	33.0	15.0	22.2
I-PHC-8N	1/2	39.4	18.7	26.9
I-PHC-12N	3/4	41.0	23.9	33.3
I-PHC-16N	1	50.5	29.7	41.2
Heavy Wall 10,000psig				
I-PHC-4N-10K	1/4	30.2	11.4	25.4
I-PHC-8N-10K	1/2	39.6	18.5	38.1

I-PHRC

Hex Reducing Coupling(Female NPT reduced famale NPT)





Part Number	NPT Size T	Reduced NPT Size T1	L	D	H Wrench Flat
I-PHRC-4-2N	1/4	1/8	31.2	8.9	19.05
I-PHRC-6-4N	3/8	1/4	35.1	11.7	22.2
I-PHRC-8-2N	1/2	1/8	39.4	8.7	26.9
I-PHRC-8-4N	1/2	1/4	44.2	11.7	26.9
I-PHRC-8-6N	1/2	3/8	45.0	15.0	26.9
I-PHRC-12-4N	3/4	1/4	45.7	11.7	33.3
I-PHRC-12-8N	3/4	1/2	52.0	18.7	33.3
I-PHRC-16-4N	1	1/4	50.8	11.7	41.2
I-PHRC-16-8N	1	1/2	55.4	18.7	41.2
I-PHRC-16-12N	1	3/4	57.0	23.9	41.2
Heavy Wall 10,000psig					
I-PHRC-8-4N-10K	1/2	1/4	44.4	11.7	38.1

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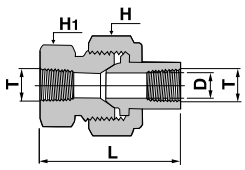
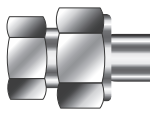
I-PUJ

Union Ball Joint(Female NPT both ends)

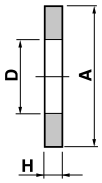




Part Number	NPT Size T	L	D	H Wrench Flat	H Wrench Flat
I-PUJ-2N	1/8	45.7	6.9	28.6	23.8
I-PUJ-4N	1/4	59.4	9.1	34.9	30.2
I-PUJ-6N	3/8	63.5	13.2	38.1	33.3
I-PUJ-8N	1/2	68.6	15.7	44.5	41.3
I-PUJ-12N	3/4	79.2	22.4	50.8	47.6
I-PUJ-16N	1	90.4	26.2	63.5	60.3

R-CG

ISO Parallel Copper Gasket



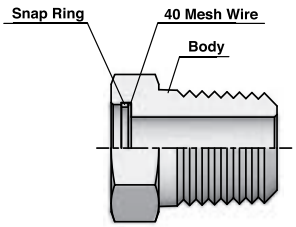
Part Number	ISO Paraller Thread	D	H	A
R-CG-2-CU	1/8	10.2	1.0	15.0
R-CG-4-CU	1/4	13.3	2	18.0
R-CG-6-CU	3/8	16.7	2	22.0
R-CG-8-CU	1/2	21.2	2	27.0
R-CG-12-CU	3/4	26.7	2.0	33.0
R-CG-16-CU	1	33.6	2.0	42.0

PVP - Vent Protector

Features

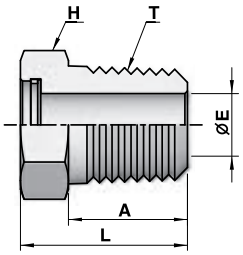
- **OTG-Lok** vent protectors, more commonly known as mud dauber fittings, protect open ends of instrument, tubing, outlet vent and bleed-off lines.
- The mesh wire screen prevents foreign object, such as mud insects, form entering and clogging various systems and causing damage.
- Vent protectors are available in stainless steel and brass.
- Dimensions are for reference only and are subject to change without prior notice

Materials of Construction



No	Parts Name	Material
1	Body	316 Stainless steel or Brass
2	Wire Screen	316 Stainless steel
3	Snap Ring	Stainless steel

Dimensions



Basic Ordering Number	NPT Size T	A	E	L	H
I-PVP-4N	1/4	14	7.1	19.8	14.28
I-PVP-6N	3/8	15	10.4	20.6	17.46
I-PVP-8N	1/2	19	12.7	26.2	22.22
I-PVP-12N	3/4	19	18.3	26.9	26.9

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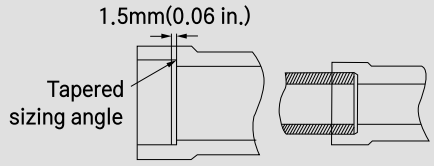
Instruments Weld Fittings

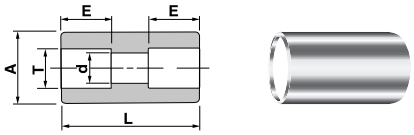
Features

- **OTG-Lok** instriment weld fittings are designed in accordance with ASME B16.11 welding connections.
- All socket weld port have a tapered shape at the end that hold tubing properly and consistent alinment.
- The inside diameter of the tube socket port have approximately 1.5mm(0.06 in.) welding gap as specified in ANSI / ASME B16.11 standard.
- The tapered sizing angle eliminates welder's effort in attempt to have the gap physically in the fitting.
- The feature allow consistent welding assembly as well as preassembly of many tubing-runs before welding.



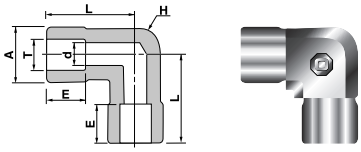
Pressure rating shown in the dimensional data chart are calculated in accordance with ASME B31. 1 with safety factor=4 Stainless steel 316

I-PSWU Union(Socket weld Ends)



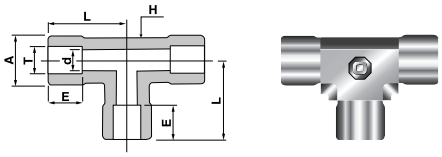
Part Number	Tube O. D T	d	A	E	L	Pressure Ratings SS316	
						Psig	bar
I-PSWU-4T	1/4	4.6	13.0	7.1	19.0	10,000	689
I-PSWU-6T	3/8	7.1	15.8	7.9	22.4	7,600	523
I-PSWU-8T	1/2	10.2	19.0	9.7	26.9	6,200	427
I-PSWU-10T	5/8	12.7	24.0	10.4	30.2	6,400	440
I-PSWU-12T	3/4	15.7	26.9	11.2	33.3	5,500	378
I-PSWU-16T	1	22.1	35.0	15.7	36.6	5,200	358

I-PSWE Union Elbow(Socket weld Ends)



Part Number	Tube O. D T	d	A	E	H Wrench Flat	L	Pressure Ratings SS316	
							Psig	bar
I-PSWE-4T	1/4	4.6	13.4	7.1	12.7	21.8	11,300	778
I-PSWE-6T	3/8	7.1	15.8	7.9	12.7	24.5	8,400	578
I-PSWE-8T	1/2	10.2	20.6	9.7	17.5	29.0	7,800	537
I-PSWE-10T	5/8	12.7	23.8	10.4	20.6	34.5	6,700	461
I-PSWE-12T	3/4	15.7	28.6	11.2	25.4	37.0	6,700	461
I-PSWE-16T	1	22.1	35.0	15.7	31.8	46.5	6,100	420

I-PSWT Union Tee(Socket weld Ends)



Part Number	Tube O. D T	d	A	E	H Wrench Flat	L	Pressure Ratings SS316	
							Psig	bar
I-PSWT-2T	1/8	2.3	13.4	2.5	12.7	15.0	11,800	813
I-PSWT-4T	1/4	4.6	13.4	7.1	12.7	21.8	11,300	778
I-PSWT-6T	3/8	7.1	15.8	7.9	12.7	24.5	8,400	578
I-PSWT-8T	1/2	10.2	20.6	9.7	17.4	29.0	7,800	537
I-PSWT-10T	5/8	12.7	23.8	10.4	20.6	34.5	6,700	461
I-PSWT-12T	3/4	15.7	28.6	11.2	25.4	37.0	6,700	461
I-PSWT-16T	1	22.1	35.0	15.7	31.8	46.5	6,100	420

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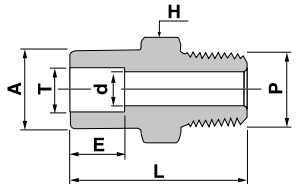
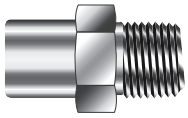
I-PSWMC

Male Connector

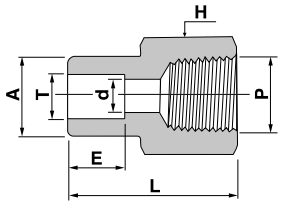


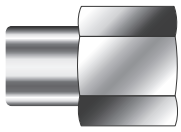


Part Number	Tube O. D T	P - NPT	d	A	E	H Wrench Flat	L	Pressure Ratings SS316	
								Psig	bar
I-PSWMC-4T-4N	1/4	1/4	4.6	12.2	7.1	14.2	29.2	7,500	516
I-PSWMC-6T-4N	3/8	1/4	7.1	15.8	7.9	15.8	31.8	7,500	516
I-PSWMC-6T-6N	3/8	3/8	7.1	15.8	7.9	17.4	31.8	7,300	502
I-PSWMC-6T-8N	3/8	1/2	7.1	15.8	7.9	22.2	37.3	7,200	496
I-PSWMC-8T-4N	1/2	1/4	7.1	18.5	9.7	19.05	33.3	6,200	427
I-PSWMC-8T-6N	1/2	3/8	9.4	18.5	9.7	19.05	33.3	6,200	427
I-PSWMC-8T-8N	1/2	1/2	10.2	18.5	9.7	22.2	38.9	6,200	427

I-PSWFC

Famale Connector

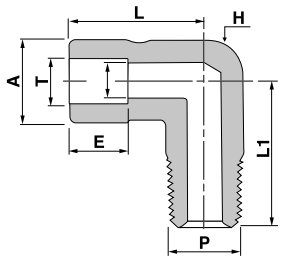


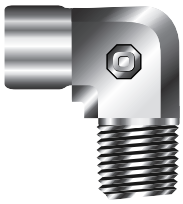


Part Number	Tube O. D T	Female pipe size P - NPT	d	A	E	H Wrench Flat	L	Pressure Ratings SS316	
								Psig	bar
I-PSWFC-2T-2N	1/8	1/8	2.3	7.4	2.5	14.2	21.1	6,100	420
I-PSWFC-4T-2N	1/4	1/8	4.6	12.2	7.1	14.2	26.7	6,100	420
I-PSWFC-4T-4N	1/4	1/4	4.6	12.2	7.1	19.05	30.0	6,200	427
I-PSWFC-6T-4N	3/8	1/4	7.1	15.8	7.9	19.05	31.5	6,200	427
I-PSWFC-8T-6N	1/2	3/8	10.2	18.5	9.7	22.2	34.5	5,000	344
I-PSWFC-8T-8N	1/2	1/2	10.2	18.5	9.7	26.9	40.4	4,600	316
I-PSWFC-10T-8N	5/8	1/2	12.7	23.4	10.4	26.9	41.9	4,600	316
I-PSWFC-12T-12N	3/4	3/4	15.7	26.9	11.2	33.3	43.9	4,300	296

I-PSWME

Male Elbow



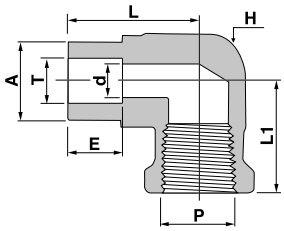


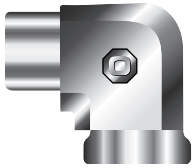
Part Number	Tube O. D T	Male pipe size P - NPT	d	A	E	H Wrench Flat	L	L1	Pressure Ratings SS316	
									Psig	bar
I-PSWME-4T-4N	1/4	1/4	4.6	15.8	7.1	12.7	20.1	24.5	7,500	516
I-PSWME-6T-4N	3/8	1/4	7.1	15.8	7.9	12.7	24.1	24.5	7,500	516
I-PSWME-6T-6N	3/8	3/8	7.1	20.6	7.9	17.5	24.6	29.0	7,300	502
I-PSWME-6T-8N	3/8	1/2	7.1	23.8	7.9	20.6	25.9	34.5	7,200	496
I-PSWME-8T-8N	1/2	1/2	10.2	23.8	9.7	20.6	27.4	34.5	6,200	427
I-PSWME-12T-12N	3/4	3/4	15.7	28.6	11.2	25.4	37.0	37.0	6,700	461

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

I-PSWFE

Female Elbow

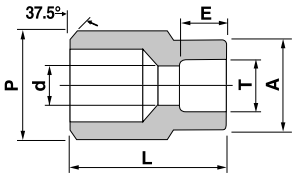


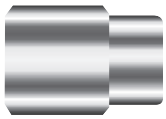


Part Number	Tube O. D T	P-NPT	d	A	E	H Wrench Flat	L	L1	Pressure Ratings SS316	
									Psig	bar
I-PSWFE-4T-4N	1/4	1/4	4.6	12.2	7.1	17.5	22.9	29.7	6,200	427
I-PSWFE-6T-4N	3/8	1/4	7.1	15.8	7.9	17.5	25.1	29.7	7,000	482
I-PSWFE-6T-8N	3/8	1/2	7.1	15.8	7.9	25.4	28.7	37.0	5,400	372
I-PSWFE-8T-8N	1/2	1/2	10.2	18.5	9.7	25.4	30.2	37.0	5,400	372

I-PWSR

Pipe Weld to Tube Socket Weld

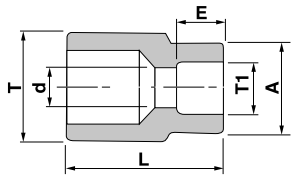


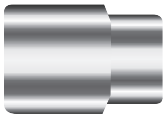


Part Number	Pipe size P	Tube socket size T	d	A	E	L	Pressure Ratings SS316	
							Psig	bar
I-PWSR-4P-4T	1/4	1/4	4.6	13.7	7.1	22.4	9,600	661
I-PWSR-6P-6T	3/8	3/8	7.1	15.3	7.9	26.2	7,600	523
I-PWSR-6P-8T	3/8	1/2	10.2	18.5	9.7	27.9	6,200	427
I-PWSR-8P-4T	1/2	1/4	4.6	12.2	7.1	28.4	7,300	502
I-PWSR-8P-6T	1/2	3/8	7.1	15.3	7.9	28.4	7,300	502
I-PWSR-8P-8T	1/2	1/2	10.2	18.5	9.7	30.2	6,200	427
I-PWSR-12P-6T	3/4	3/8	7.1	15.3	7.9	38.1	6,200	427
I-PWSR-12P-8T	3/4	1/2	10.2	18.5	9.7	38.1	6,200	427

I-PWSR

Tube Weld to Tube Socket Weld





Part Number	Tube O. D T	Tube socket size T1	d	A	E	L	Pressure Ratings SS316	
							Psig	bar
I-PWSR-4T-2T	1/4	1/8	2.3	7.4	2.5	14.2	11,800	813
I-PWSR-6T-4T	3/8	1/4	4.6	12.2	7.1	19.1	7,700	530
I-PWSR-8T-4T	1/2	1/4	4.6	12.7	7.1	22.4	7,000	482
I-PWSR-8T-6T	1/2	3/8	8.1	15.7	7.9	22.4	7,000	482
I-PWSR-12T-8T	3/4	1/2	10.2	18.5	9.7	28.4	5,900	406
I-PWSR-16T-8T	1	1/2	10.2	18.5	9.7	35.1	5,600	344

All dimensions are in millimeters unless otherwise specified and only for reference. / All dimensions are subjected to change.

TUBE FITTING & VALVE

OTG lok

Ball Valves

- OHBV Series Hex Ball Valves
- OBV3 Series One-piece Instrumentatioin Ball Valves
- OBV6 Series General Service Ball Valves
- OFBV6 Series Forged High Pressure Ball Valves

03

OHBV Series - Hex Ball Valves

- For use from 1/4" to "1" (6 to 25mm O.D) Tubing and Piping System
- Working pressure up to 1000psig(69bar) and 2000psig(138bar).
- Stainless Steel, Brass

Standard Bar Handle

Butterfly handle valves

Dielectric handle valves

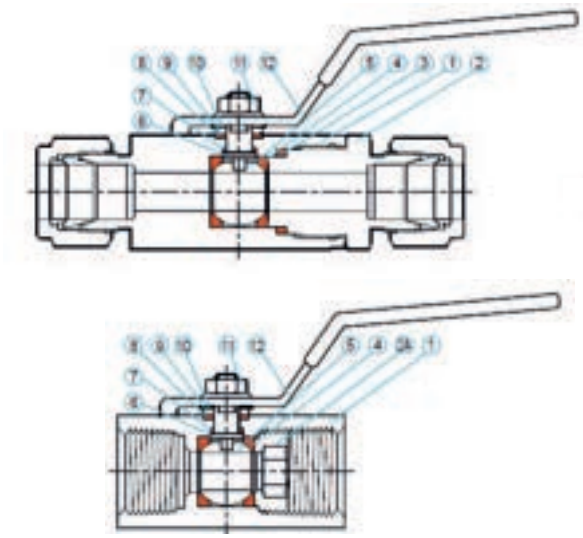
Tube adapter End

Features

- Compact design with one piece hexagon body construction.
- 2-way straight pattern.
- Free floating ball design provides seat wear compensation.
- Micro-finished ball provides a leak-tight seal.
- Low torque quarter turn on-off control.
- Various end connections: reliable OTG-LOK, NPT & ISO male & female Threads.
- Butterfly handle and locking device handle is available as option
- Tube adapter ends allow tubing connection in any direction.

Working Pressure

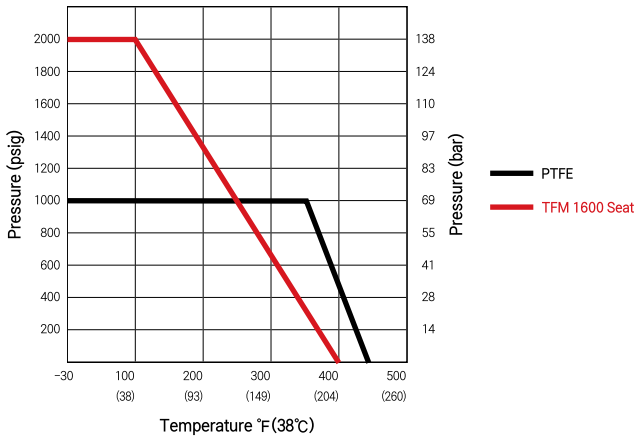
- Stainless & Brass with PTFE seats: 1000 psig (68.9 barg) at 100°F(38°C).
- Stainless with TFM seats: 2000 psig (137 barg) at 100°F(38°C).
- Valve with Butterfly Handle is not applicable TFM Seats.



Materials of Construction

Item	Description	Material/ ASTM Specification	
		Stainless Steel	Brass
1	Body	S316/A479, A276	Brass / B16
2	End Connector	S316/A479, A276	Brass / B16
2A	Insert	SS316	
3	Connector Packing	Reinforced PTFE	
4	Seat	Reinforced PTFE, Optional TFM 1600	
5	Ball	S316/A479	
6	Ball Stem	SS316	
7	Lower Packing	Reinforced PTFE	
8	Upper Packing	Reinforced PTFE	
9	Grand	SS304	
10	Grand Washer	SS304	
11	Flange Nut	SS304	
12	Handle	SS304 Lever Handle with blue PVC sleeve Optional ZINC/ ASTM B240 Butterfly handle, Nickel-plate	

Pressure-Temperature Ratings



Applications

- Water, Oil, Gas
- Fuel Lines
- Refineries
- Petrochemical Plants
- Steel mills
- Heavy Vehicles
- General duty applications

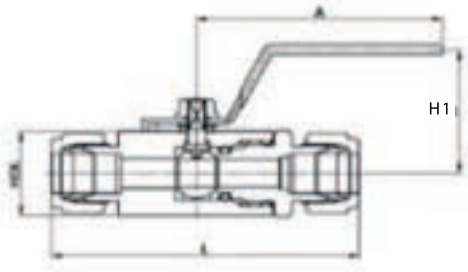
Factory Test

- Every valve is factory tested with Nitrogen@600psig(41bar) for leakage at the seat to a maximum allowable leak of 0.1 scc/min.
- The stem packing is tested for no detectable leakage

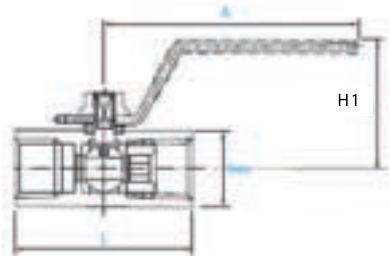
Cleaning and Packing

- All valves are cleaned and packaged in accordance with OTG-LOK standard cleaning and packaging procedures.

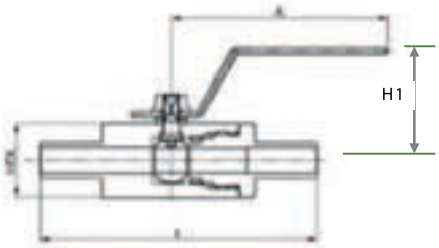
OTG-Lok Tube Fitting Ends



Female Thread Ends



Tube Adapter Ends



Ordering Information and Dimensions

Basic Ordering Number		Orifice mm (in.)	Cv	End Connections Inlet/Outlet	Dimensions, mm (in.)			
					L	H1	H (Hex)	A
OHBVA	O-4T	5.0 (0.2)	1.25	1/4" OTG-LOK	79 (3.11)	30 (1.18)	17.0 (11/16)	68.5 (2.7)
	O-4TA			1/4" OD Tube Adapter	103.3 (4.07)			
	O-6M			6mm OTG-LOK	79 (3.11)			
	F-4N		1.35	1/4" Female NPT	42 (1.65)			
OHBVB	O-6T	7.5 (0.3)	2.5	3/8" OTG-LOK	91.2 (3.59)	33 (1.3)	20.64 (13/16)	82 (3.23)
	O-6TA			3/8" OD Tube Adapter	112.2 (4.42)			
	O-10M			10mm OTG-LOK	91.2 (3.59)			
	F-6N			3/8" Female NPT	45 (1.77)			
OHBVC	O-8T	9.0 (0.35)	9.25	1/2" OTG-LOK	99 (3.9)	33.5 (1.32)	27.0 (1-1/16)	
	O-8TA			1/2" OD Tube Adapter	116.9 (4.6)			
	O-12M			12mm OTG-LOK	99 (3.9)			
	F-8N			1/2" Female NPT	54.5 (2.15)			
OHBVD	O-1OT	12.5 (0.49)	10.6	5/8" OTG-LOK	109 (4,29)	46 (1.81)	32.0 (1-1/4)	100 (3.94)
	O-12T		12.65	3/4" OTG-LOK	110 (4.33)			
	O-12TA			3/4" OD Tube Adapter	123.6 (4.87)			
	O-16M		10.6	16mm OTG-LOK	109 (4.29)			
	F-12N		12,65	3/4" Female NPT	61 (2.4)			
OHBVE	O-16T	16.0 (0.63)	17.35	1" OTG-LOK	131.6 (5.18)	50 (1.97)	38.1 (1-1/2)	
	O-16TA			1" OD Tube Adapter	139.3 (5.48)			
	F-16N			1" Female NPT	76 (2.99)			

Dimensions with OTG-Lok nuts are in finger-tight position.

How to Order

Dimensions are for reference only and are subject to change.
Select a basic ordering number, and applicable options.

OHBVC–O–8T – TF - BF – LD – SS
1 2 3 4

1.Seat Material	2. Handle	3. Option	4.Body Material
●Nill: Standard PTFE seats for 1000psi(68.9bar) ●TF: Optional TFM1600 seats for 2000psi (138bar). **NOTE**: TFM 1600 Seat is not applicable to Brass valve	●Nill : Standard Bar Handle ●BF: Butterfly Handle ●DY: Dielectric Handle **NOTE**: BF handle is not applicable to the valve with TFM Seats.	●LD: Locking Device **NOTE**: Locking device is only applicable to the valve with bar handle.	●SS: SS316 ●BS: Brass

SAFETY in VALVE SELETION

The system design, application must be taken into consideration to ensure optimal performance and safety. Selections of valve function and rating, proper installation, material compatibility, operation and maintenance of these valve are the responsibility of the system designer and the user. OTG accepts no liability for any improper selection, installation, operation or maintenance.

OBV3 Series - One-piece Instrumentatioin Ball Valves

Features

- Working pressure Up to 3000 psig (206 bar)
- Temperatures from –65 to 300°F (–53 to 148°C)
- 1/8 to 1/2 in. (3 to 12 mm OD)
- Stainless Steel, Brass

OBV3G Series

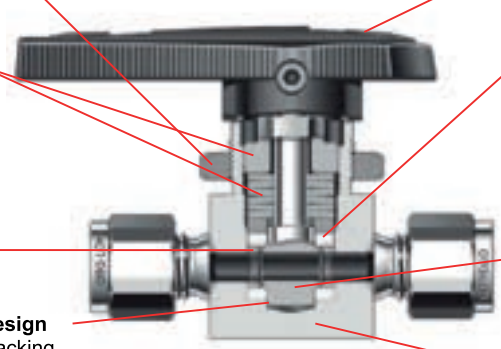
One-Piece Packing for OBV3GA & OBV3GB

Panel mounting nut
provides ability to mount valve to control panel or actuator.

Top-loaded, live-loaded disc springs design
- maintain load to packing to seal and reduces need for packing adjustment
- allows adjustment with the valve in-line
- compensates for wear
- improves thermal cycle performance.

Discs and rings
prevent the packing from deformation.

Balanced trunnion design
- supports packing, reducing the need for packing adjustment
- reduces packing volume, minimizing thermal effects
- minimizes packing extrusion
- improves thermal cycle performance.



Directional handle
with double-flat Arrow indicates flow direction.

Single-piece, encapsulated packing
- fills voids between body and ball allowing no fluid entrapment.
- reduces potential leak points
- does not require system pressure to seal
- allows bidirectional flow
- is easily cleaned and purged.

One-piece ball stem
prevents backlash during valve actuation and ensures alignment of stem and orifice.

One piece body
reduces potential leak path.

Material of Construction

Components	Valve Body Material	
	Stainless Steel	Brass
	Material Grade / ASTM Specification	
1. Body	SS316/A276 or A479	Brass C3604/JIS H3250, C36000/B16
2. Panel nut		
3. Side disc (2)	PTFE coated Powered SS 300 Series / B783	
4. Side ring (2)		
5. One-piece Packing	Modified PTFE/D1710 type 1, Grade 1, Class B or PFA/D3307	
6. Ball Stem	SS316/A276	
7. Gland		
8. Disc springs (8), (6)	S17400/A693, OBV3GA Series 8 springs; OBV3GB Series 6 springs	
9. Packing bolt	SS316/A276, A479	Brass C3604/JIS H3250, C36000/B16
10. Set screw	SS304/A276	
11. Handle	Nylon with Zinc insert	
Wetted part lubricant	Silicon-based	
Non-wetted part lubricant	Molybdenum disulfide with hydrocarbon binder coating	

- Wetted parts listed in Orange color.

- Wetted p

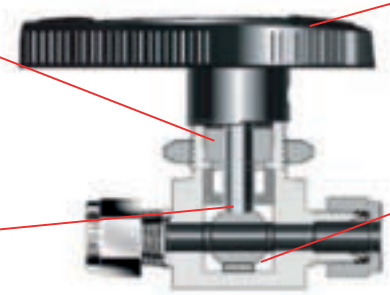
Pressure & Temperature Ratings

Unit: psig (bar)

Valve Series/ Size (Configuration)		OBV3GA	OBV3GB	
		Straight, Angle, 3-way	Straight	Angle, 3-way
Temperature		Working Pressure, psig (bar)		
°F	°C			
-65 to 50	-53 to 10	2500 (172)	3000 (206)	2500 (172)
50 to 150	65			
200	93		2800 (193)	
250	121		2650 (182)	
300	148		2500 (172)	

OBV3 Series

Two-Piece Capsule Packing



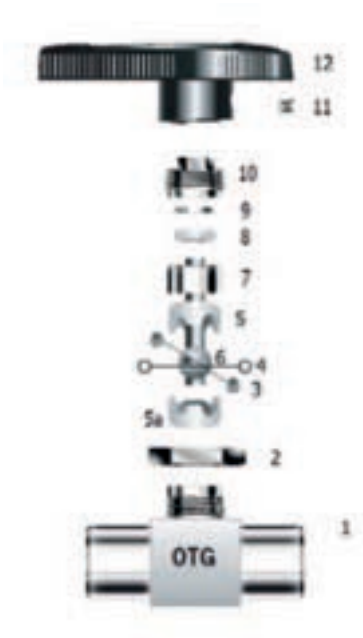
Top-loaded design
allows adjustment with the valve in-line

Directional handle
with double-flat Arrow indicates flow direction.

One-piece ball stem
prevents backlash during valve actuation and ensures alignment of stem and orifice.

Two-piece, capsule seat packing
- is constructed of PTFE
- does not require system pressure to seal
- allows bidirectional flow
- is easily cleaned and purged.
- allowing no fluid entrapment.
- has virtually no dead space

Materials of Construction



Components	Valve Body Material	
	Stainless Steel	Brass
	Material Grade / ASTM Specification	
1. Body	SS316/A276 or A479	Brass C3604/JIS H3250, C36000/B16
2. Panel nut		
3. Side disc (2)	PTFE coated Powered SS 300 Series / B783	
4. Side ring (2)		
5. Upper Packing	PTFE/D1710	
5a. Lower Packing		
6. Ball Stem	SS316/A276	Brass C3604/JIS H3250, C36000/B16
7. Gland		
8. Bushing	PTFE/D1710	
9. Upper gland	SS316/A276	
10. Packing bolt	SS316/A276, A479	Brass C3604/JIS H3250, C36000/B16
11. Set screw	SS304/A276	
12. Handle	Nylon with Zinc insert	
Wetted part lubricant	Silicon-based	
Non-wetted part lubricant	Molybdenum disulfide with hydrocarbon binder coating	

- Wetted parts listed in Orange color.

Pressure & Temperature Ratings

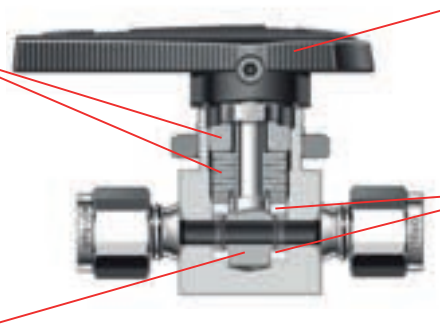
Unit: psig (bar)

Valve Series/ Size		OBV3A	OBV3B		OBV3C & OBV3D	
Configuration		Straight, Angle, 3-way	Straight	Angle, 3-way	Straight	Angle, 3-way
Temperature °F	Temperature °C	Working Pressure, psig (bar)				
-65 to 50	-53 to 10	—	—	—	—	—
50 to 150	65	2500 (172)	3000 (206)	2500 (172)	2500 (172)	1500 (103)
200	93	—	—	—	—	—
250	121	—	—	—	—	—
300	148	—	—	—	—	—

OBV3T Series

Two-Piece Capsule Packing

Top-loaded,
live-loaded disc springs design
- maintain load to packing to seal and reduces need for packing adjustment
- allows adjustment with the valve in-line
- compensates for wear
- improves thermal cycle performance.

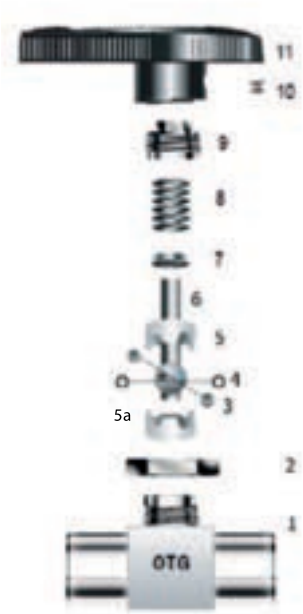


Directional handle
with double-flat Arrow indicates flow direction.

Two-piece, capsule seat packing
- is constructed of PTFE
- does not require system pressure to seal
- allows bidirectional flow
- is easily cleaned and purged.
- allowing no fluid entrapment.
- has virtually no dead space

One-piece ball stem
prevents backlash during valve actuation and ensures alignment of stem and orifice.

Materials of Construction



Components	Valve Body Material	
	Stainless Steel	Brass
	Material Grade / ASTM Specification	
1. Body	SS316/A276 or A479	Brass C3604/JIS H3250, C36000/B16
2. Panel nut		
3. Side disc (2)	PTFE coated Powered SS 300 Series / B783	
4. Side ring (2)		
5. Upper Packing	Modified PTFE/D1710, PFA	
5a. Lower Packing		
6. Ball Stem	SS316/A276	Brass C3604/JIS H3250, C36000/B16
7. Gland		
8. Disc springs (8), (6), (4)	Molybdenum disulfide coated S17400/A693, OBV3TA Series 8 springs; OBV3TB Series 6 springs OBV3TC & OBV3TD Series 4 springs	
9. Packing bolt	SS316/A276, A479	Brass C3604/JIS H3250, C36000/B16
10. Set screw	SS304/A276	
11. Handle	Nylon with Zinc insert	
Wetted part lubricant	Silicon-based	
Non-wetted part lubricant	Molybdenum disulfide with hydrocarbon binder coating	

- Wetted parts listed in Orange color.

Pressure-Temperature Rating

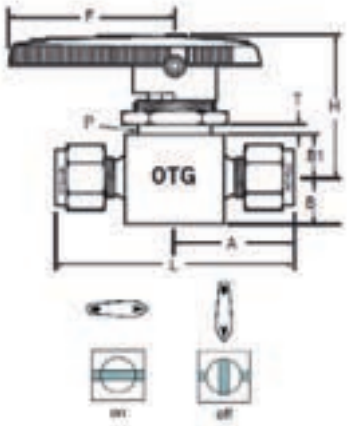
Unit: psig (bar)

Valve Series/ Size		OBV3TA	OBV3TB		OBV3TC & OBV3TD	
Configuration		Straight, Angle, 3-way	Straight	Angle, 3-way	Straight	Angle, 3-way
Temperature °F	Temperature °C	Working Pressure, psig (bar)				
-65 to 50	-53 to 10	2500 (172)	3000 (206)	2500 (172)	2500 (172)	1500 (103)
50 to 150	65	2500 (172)	3000 (206)	2500 (172)	2500 (172)	1500 (103)
200	93	—	—	—	—	—
250	121	—	—	—	—	—
300	148	—	—	—	—	—

OBV3 Series 2-Way On-off Ball Valves

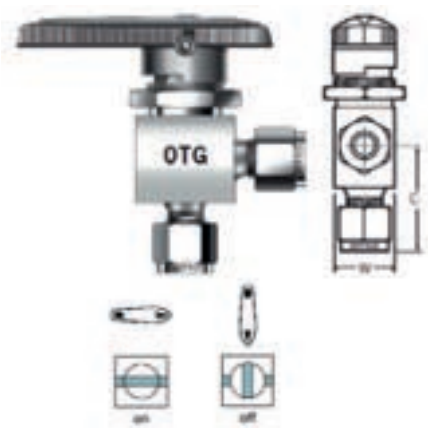
90° Actuation Valves

Straight Pattern



Handle indicates flow direction

Angle Pattern



Handle indicates flow direction

P panel hole

Valve Series	Unit: mm (in.)
OBV3A	15.1 (19/32)
OBV3B	19.8 (25/32)
OBV3C	28.6 (1 1/8)
OBV3D	38.1 (1 1/2)

T Max panel thickness

Valve Series	Unit: mm (in.). max.	min
OBV3A	6.4 (1/4)	3.2 (1/8)
OBV3B	4.8 (3/16)	3.2 (1/8)
OBV3C	9.5 (3/8)	3.2 (1/8)
OBV3D	9.5 (3/8)	3.2 (1/8)

To order an angle-pattern valve, add **-A** to Basic ordering number of a valve with the dimension listed.
Examples: OBV3A-O-4T-**A**-SS
OBV3GB-O-4T-**A**-SS

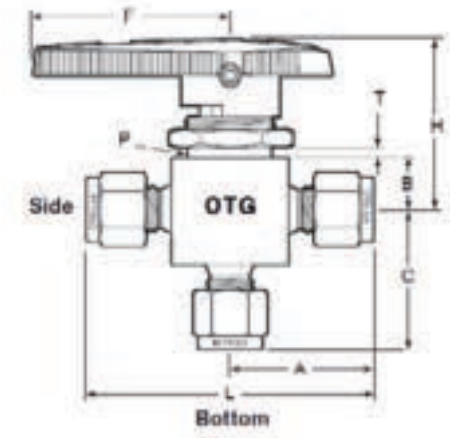
Ordering Information and Dimensions

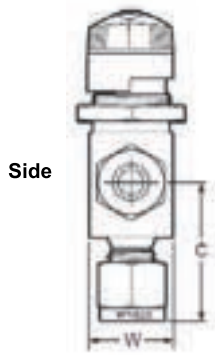
Basic Ordering Number		End Connections Inlet	End Connections Outlet	Orifice mm (in.)	Cv Straight	Cv Angle	Dimensions mm (in.) L	A	B	B1	C	F	H	W
OBV3A-OBV3GA-OBV3TA-	O-2T-	1/8 in. OD OTG-Lok		2.36 (0.93)	0.2	0.15	51.1 (2.01)	25.6 (1.01)	7.1 (0.28)	8.6 (0.34)	24.6 (0.97)	28.4 (1.12)	34.5 (1.36)	14.7 (0.58)
	O-4T-	1/4 in OD OTG-Lok		3.18 (0.125)	0.6	0.35	56.1 (2.21)	28.1 (1.10)			27.2 (1.07)			
	O-3M-	3mm OD OTG-Lok		2.36 (0.093)	0.2	0.15	51.1 (2.01)	25.7 (1.01)			24.6 (0.97)			
	O-6M-	6mm OD OTG-Lok		3.18 (0.125)	0.6	0.35	56.1 (2.21)	28.1 (1.10)			27.2 (1.07)			
	F-2N-	1/8 in Female NPT			0.5	0.3	41.4 (1.63)	20.6 (0.81)			20.6 (0.81)			
OBV3B-OBV3GB-OBV3TB-	O-4T-	1/4 in OD OTG-Lok		4.75 (0.187)	1.4	0.9	60.7 (2.39)	30.4(1.20)	9.7 (0.38)	11.2 (0.44)	29.7 (1.17)	38.9 (1.53)	37.3 (1.47)	19.8 (0.78)
	O-6T-	3/8 in OD OTG-Lok			1.5	0.9	65.5 (2.58)	32.8 (1.29)			32.8 (1.29)			
	O-6M-	6mm OD OTG-Lok			1.4	0.9	60.7 (2.39)	30.5 (1.20)			29.7 (1.17)			
	O-8M-	8mm OD OTG-Lok			1.5	0.9	62.5 (2.46)	31.2 (1.23)			30.5 (1.2)			
	F-2N-	1/8 in Female NPT			1.2	0.7	50.8 (2.0)	25.4 (1.0)			25.4 (1.0)			
	F-4N-	1/4 in Female NPT			0.9	0.75	52.3 (2.06)	26.2 (1.03)			26.2 (1.03)			
	F-4R-	1/4 in ISO Female tapered												
	M-4N-	1/4 in Male NPT			1.2	0.75	50.8 (2.0)	25.4 (1.0)						
	MO-4N4T-	1/4 in Male NPT to 1/4 in. OD OTG-Lok			1.6	0.75	55.9 (2.2)	30.5 (1.20)						
OBV3C-OBV3TC-	O-6T-	3/8 in OD OTG-Lok		7.14 (0.281)	6.0	2.0	77.5 (3.05)	38.6 (1.52)	14.2 (0.56)	14.2 (0.56)	36.3 (1.43)	50.8 (2.0)	52.6 (2.07)	28.4 (1.12)
	O-10M	10mm OD OTG-Lok					78.0 (3.07)	38.9 (1.53)			36.3 (1.43)			
	F-4N-	1/4 in Female NPT			3.0	1.7	63.5 (2.5)	31.8 (1.25)			31.8 (1.25)			
	F-6N-	3/8 in Female NPT			2.6	1.5								
	F-6R-	3/8 in ISO Female tapered												
OBV3D-OBV3TD-	O-8T-	1/2 in OD OTG-Lok		10.3 (0.406)	12.0	4.6	99.6 (3.92)	49.8 (1.96)	17.5 (0.69)	17.5 (0.69)	44.2 (1.74)	76.2 (3.0)	61.7 (2.43)	38.1 (1.5)
	O-12T-	3/4 in OD OTG-Lok			6.4	3.8								
	O-12M-	12mm OD OTG-Lok			12.0	4.6								
	F-8N-	1/2 in Female NPT			6.3	3.5	79.2 (3.12)	39.6 (1.56)			39.6 (1.56)			
	F-8R-	1/2 in ISO Female tapered												

All dimensions shown are for reference only and are subject to change.
Dimensions with OTG-Lok Fitting nuts are in finger-tight position.

OBV33 Series 3-Way Switching Valves

180° Actuation Valves





P panel hole

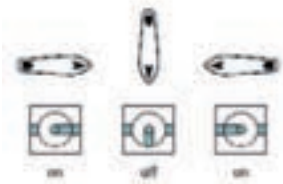
Valve Series Unit: mm (in.)

OBV33A	15.1 (19/32)
OBV33B	19.8 (25/32)
OBV33C	28.6 (1 1/8
OBV33D	38.1 (1 1/2)

T Max panel thickness

Valve Series Unit: mm (in.).

	max.	min
OBV33A	6.4 (1/4)	3.2 (1/8)
OBV33B	4.8 (3/16)	3.2 (1/8)
OBV33C	9.5 (3/8)	3.2 (1/8)
OBV33D	9.5 (3/8)	3.2 (1/8)



Handle indicates flow direction

Ordering Information and Dimensions

Basic Ordering Number		End connections	Orifice mm (in.)	Cv	Dimensions mm (in.) L	A	B	C	F	H	W
OBV33A-- OBV33GA- OBV33TA-	O-2T-	1/8 in OD OTG-Lok	2.4 (0.093)	0.15	51.1(2.01)	25.6(1.01)	8.6 (0.34)	24.6 (0.97)	28.7 (1.13)	34.5 (1.36)	14.7 (0.58)
	O-4T-	1/4 in OD OTG-Lok	3.10 (0.125)	0.35	56.1(2.21)	27.9(1.10)		27.2 (1.07)			
	O-3M-	3mm OD OTG-Lok	2.36 (0.093)	0.15	51.1(2.01)	25.6(1.01)		24.6 (0.97)			
	O-6M-	6mm OD OTG-Lok	3.10 (0.125)	0.35	56.1(2.21)	27.9(1.10)		27.2 (1.07)			
	F-2N-	1/8 in Female NPT		0.3	41.4(1.63)	20.6(0.81)		20.6 (0.81)			
OBV33B- OBV33GB- OBV33TB-	O-4T-	1/4 in OD OTG-Lok	4.75 (0.187)	0.9	60.7(2.39)	30.5(1.20)	11.2 (0.44)	29.7 (1.17)	38.9 (1.53)	37.3 (1.47)	19.8 (0.78)
	O-6M-	6mm OD OTG-Lok									
	O-8M-	8mm OD OTG-Lok		0.8	62.5(2.46)	31.2(1.23)		30.5 (1.20)			
	F-4N-	1/4 in Female NPT		0.75	52.3(2.06)	26.2 (1.03)		26.2 (1.03)			
	MO-4N4T-	1/4 in Male NPT to 1/4 in. OD OTG-Lok		0.8	60.7 (2.39)	30.5 (1,20)					
	F-4R-	1/4 in ISO Female Tapered		0.75	52.3(2.06)	26.2 (1.03)					
OBV33C- OBV33TC-	O-6T-	3/8 in OD OTG-Lok	7.10 (0.281)	2.0	73.4(2.89)	36.8(1.45)	14.2 (0.56)	36.3 (1.43)	50.8 (2.00)	52.6 (2.07)	28.4 (1.12)
	O-10M-	10mm OD OTG-Lok									
	F-4N-	1/4 OD OTG-Lok		1.7	63.5(2.50)	31.8(1.25)		31.8 (1.25)			
	F-6N-	3/8 in Female NPT		1.5							
	F-6R-	3/8 in ISO Female Tapered									
OBV33D- OBV33TD-	O-8T-	1/2 in OD OTG-Lok	10.3 (0.406)	4.6	88.4(3.48)	44.2(1.74)	17.5 (0.69)	44.2 (1.74)	76.2 (3.00)	61.7 (2.43)	38.1 (1.50)
	O-12T-	3/4 in OD OTG-Lok		3.8							
	O-12M-	12mm OD OTG-Lok		4.6							
	F-8N-	1/2 in Female NPT		3.5	79.5(3.13)	39.6(1.56)		39.6 (1.56)			
	F-8R-	1/2 in ISO Female Tapered									

All dimensions shown are for reference only and are subject to change.
Dimensions with OTG-Lok Fitting nuts are in finger-tight position.

Flow Data @ 20°C (70°F)

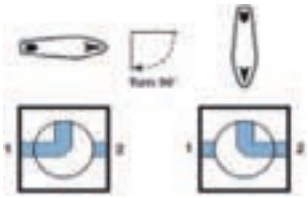
(Cv)	Water Flow U.S.gal/min. (std L/min). Pressure Drop to Atmosphere (Δ p), psi (bar)			Air Flow std ft³/min (std L/min.) Pressure Drop to Atmosphere (Δ p), psi (bar)			(Cv)	Water Flow U.S.gal/min. (std L/min). Pressure Drop to Atmosphere (Δ p), psi (bar)			Air Flow std ft³/min (std L/min.) Pressure Drop to Atmosphere (Δ p), psi (bar)		
	10 (0.69)	50 (3.45)	100 (6.9)	10 (0.69)	50 (3.45)	100 (6.9)		10 (0.69)	50 (3.45)	100 (6.9)	10 (0.69)	50 (3.45)	100 (6.9)
0.07	0.2 (0.7)	0.5 (1.8)	0.7 (2.6)	0.8 (22)	2.1 (59)	3.7 (100)	1.5	4.7 (17)	11 (41)	15 (56)	17 (480)	45 (1200)	80 (2200)
0.08	0.3 (1.1)	0.6 (2.2)	0.8 (3.0)	0.9 (25)	2.4 (67)	4.3 (120)	1.6	5.0 (18)	11 (41)	16 (60)	18 (500)	48 (1300)	85 (2400)
0.10	0.3 (1.1)	0.7 (2.6)	1.0 (3.7)	1.1(31)	3.0(84)	5.3(150)	1.7	5.3 (20)	12 (45)	17 (64)	19 (530)	51 (1400)	90 (2500)
0.15	0.4 (1.5)	1.0 (3.7)	1.5 (5.6)	1.7 (48)	4.5 (120)	8.0 (220)	2.0	6.3 (23)	14 (52)	20 (75)	22 (620)	60 (1600)	100 (2800)
0.20	0.6 (2.2)	1.4 (5.2)	2.0 (7.5)	2.3 (65)	6.0 (160)	11 (310)	2.4	7.6 (28)	17 (64)	24 (90)	27 (760)	72 (2000)	120 (3300)
0.30	0.9 (3.4)	2.1 (7.9)	3.0 (11)	3.4 (96)	9.0 (250)	16 (450)	2.6	8.2 (31)	18 (68)	26 (98)	29 (820)	78 (2200)	140 (3900)
0.35	1.1 (4.1)	2.4 (9.0)	3.5 (13)	4.0 (110)	10 (280)	19 (530)	3	9.5 (35)	21 (79)	30 (110)	34 (960)	90 (2500)	160 (4500)
0.50	1.6 (6.0)	3.5 (13)	5.0 (18)	5.6 (150)	15 (420)	27 (760)	3.5	11 (41)	25 (94)	35 (130)	39 (1100)	100 (2800)	180 (5000)
0.60	1.9 (7.1)	4.2 (15)	6.0 (22)	6.8 (190)	18 (500)	32 (900)	3.8	12 (45)	27 (100)	38 (140)	43 (1200)	110 (3100)	200 (5600)
0.70	2.2 (8.3)	4.9 (18)	7.0 (26)	7.9 (220)	21 (590)	37 (1000)	4.6	15 (56)	33 (120)	46 (170)	52 (1400)	140 (3900)	240 (6700)
0.80	2.5(9.4)	5.6(21)	8.0(30)	9.0(250)	24(670)	42(1100)	6.0	19 (71)	42 (150)	60 (220)	68 (1900)	180 (5000)	320 (9000)
0.90	2.8 (10)	6.4 (24)	9 (34)	10 (280)	27 (760)	48 (1300)	6.3	20 (75)	45 (170)	63 (230)	71 (2000)	190 (5300)	330 (9300)
1.2	3.8 (14)	8.5 (32)	12 (45)	14 (390)	36 (1000)	64 (1800)	12	38(140)	85(320)	120(450)	130(3600)	360(10 000)	640(18 000)

Flow Paths Options

2-Way Straight Pattern

Standard Straight porting

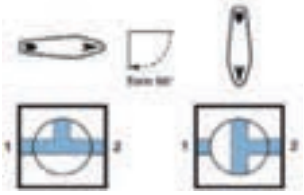
Optional L Flow porting



Off-trap sample from port1 — Switch-transfer sample to port 2

Applicable Valve Series	L porting Designator	Orifice mm (in.)	Pressure Ratings, psig (bar)
OBV3A	L	1.2 (0.047)	2500 (172)
OBV3B		1.6 (0.062)	
OBV3C		3.2 (0.125)	1500 (103)
OBV3D		7.1 (0.281)	

Optional T porting



On — Off

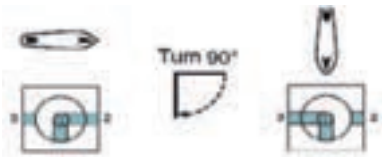
T porting is used when fluid must not be trapped in the valve path.

Applicable Valve Series	T porting Designator	Orifice in. (mm)	Pressure Ratings psig (bar)
OBV3A	T	3.2 (0.125)	2500 (172)
OBV3B		4.75 (0.187)	
OBV3C		7.1 (0.281)	1500 (103)
OBV3D		10.3 (0.406)	

3-Way Valves

Standard porting

Optional L porting



Switching port 1 to port 2 — Switching port 1 to port 3

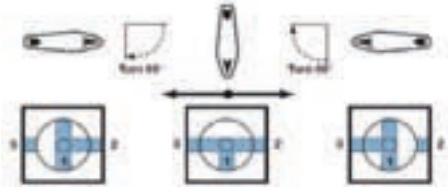
Applicable Valve Series	L porting Designator	Orifice mm (in.)	Pressure Ratings psig (bar)
OBV33A	L	3.1 (0.125)	2500 (172)
OBV33B		4.75 (0.187)	
OBV33C		7.14 (0.281)	1500 (103)
OBV33D		10.3 (0.406)	

Optional H porting

Ports 1,2, and 3 in open position at the same time — Ports 1,2, and 3 in closed position at the same time

Applicable Valve Series	H porting Designator	Orifice mm (in.)	Pressure Ratings psig (bar)
OBV33A	H	3.1 (0.125)	2500 (172)
OBV33B		4.75 (0.187)	
OBV33C		7.14 (0.281)	1500 (103)
OBV33D		10.3 (0.406)	

Optional T porting



Open ports 1 and 2 — Open ports 1,2, and 3 — Open ports 1 and 3

Applicable Valve Series	T porting Designator	Orifice mm (in.)	Pressure Ratings psig (bar)
OBV33A	T	3.1 (0.125)	2500 (172)
OBV33B		4.75 (0.187)	
OBV33C		7.1 (0.281)	1500 (103)
OBV33D		10.3 (0.406)	

Special Flow Path Ordering Information

To order, suffix the applicable designator of special flow path to the valve ordering number. Example: OBV33A-A4T-**L**-SS

Vented Valves

Vented Valve Series			Body Vent Hole Size, mm (in.)
2-way pattern		3-way	
Straight	Angle		
OBV3A		OBV33A	1.02 (0.040)
OBV3B		OBV33B	
OBV3C		OBV33C	1.24 (0.049)
OBV3D		OBV33D	2.36 (0.093)

Vented valves are supplied with a small hole drilled in the side of valve body.
To order, insert **VT** into the valve Series number.
Example: OBV3B-O-4T-**VT**-SS

Pressure Rating for vented valve is 500 psig (34.4 bar).

Warning: Cross-vent flow may occur in vented valves.

Function of Vented Valves

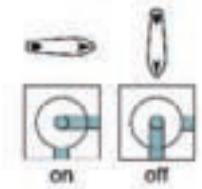
2-Way Straight Valves

The valve in off position, the downstream port vents to atmosphere through the vent hole drilled in the side of the valve body.

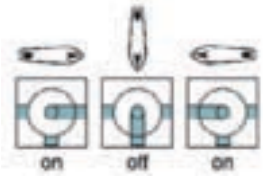
2-Way and 3-Way Angle-Pattern Valves

The valve in off position, the bottom port vents to atmosphere through the vent hole drilled in the side of the valve body.

2-Way



3-Way Angle-Pattern



Handle Options

Metal Handle Designator

Handle Material	Designator
Stainless Steel	-BH
Aluminum	-AH

Metal Handle
2-Way Straight, Angle Pattern, and 3-Way

Metal handle is useful for actuating valve in an elevated temperature. Stainless steel or Aluminum materials are available.

To order factory-assembled metal handle on the valve, add **–BH** or **– AH** to the valve Basic ordering number.
Example: OBV3B-O-4T-**BH**-SS

Aluminum handle is supplied with Black anodized.

Packing Adjustment Procedure

- Packing adjustment may be periodically required to prevent leakage and to increase service life.
- Live loaded packing disc springs allow the packing adjustment with the valve in-line.

1. Depressurize the system.
2. Cycle and purge the valve
3. Using the Allen Hex Key corresponding to the size of Set Screw Hollow Hex as indicated in the table below, turn on the handle counter-clockwise and remove the handle from the valve.

Valve Series			Set Screw Hollow Hex, in.
2-way pattern		3-way	
Straight	Angle		
OBV3A		OBV33A	5/64
OBV3B		OBV33B	3/32
OBV3C		OBV33C	9/64
OBV3D		OBV33D	5/32

4. To adjust the packing, turn the packing bolt clockwise in 1/16 turn increment until the valve achieves the leak-tight performance.

Valve Series			Set Screw Hollow Hex, in.
2-way pattern		3-way	
Straight	Angle		
OBV3A		OBV33A	5/16
OBV3B		OBV33B	3/8
OBV3C		OBV33C	1/2
OBV3D		OBV33D	5/8

5. Re-assemble the handle back in the valve.

Factory Test and Cleaning

- Every valve is factory tested with nitrogen @t 1000 psig (69 bar) for leakage at packing to a maximum allowable leak rate fo 0.1 std cm^3/min.

- Every valve is cleaned and packaged in accordance with OTG cleaning standard of CS-01. Special cleaning standard of CS-11 in compliance with ASTM G93 Level C is optional.

Application

- Analytical industry requires a valve with the lowest dead volume to prevent fluid entrapment minimizing contamination.
- Control sampling system and process instrumentation require a valve with compact size, high flow capacity and directional indication of flow.

Operation

- OBV3 series valves are designed to control fluid in full open and full close position; using the valves to throttle the flow may reduce the valve service life.
- Valves that have not been actuated for a period of time may have a higher initial actuation torque.
- The working pressure of every valve is adjusted for factory test at 1000 psig (69 bar) @ 21°C (70°F). For use in higher pressure, the valve packing may be required for re-adjustment.

How to Order

Select applicable valve pattern, options and body material from the designators listed below.

OBV3A-O-4T — A — L — NL — SC — BH — SG — SS

Valve Series Basic ordering number

OBV3 Series
OBV3A OBV33A
OBV3B OBV33B
OBV3C OBV33C
OBV3D OBV33D
OBV3G Series
OBV3GA OBV33GA
OBV3GB OBV33GB
OBV3T Series
OBV3TA OBV33TA
OBV3TB OBV33TB
OBV3TC OBV33TC
OBV3TD OBV33TD

Flow Pattern
- Nil: 2-Way Straight
- A: Angle Pattern

Special Ball Porting
- **Nil**: Standard

2-Way valve
- **L-**
- **T-**

3-Way valve
- **L-**
- **H-**
- **T-**

No Lubrication
- **Nil**: Standard
- **NL-**: No Lubrication

Special Cleaning
- **Nil**: Standard
- **SC**: Oxygen Cleaning

Bar Handle
- **Nil**: Standard
- **BH**: Stainless S316
- **AH**: Aluminum Handle

Sour Gas Service
- **Nil**: Standard
- **SG**: Sour Gas Service

Body Material
- SS: SS316
- BS: Brass

Special Cleaning

Valves are cleaned, packed, and labeled in accordance with the requirements of ASTM G93 Level C.
OTG Oxygen cleaning standard of OCS-005 is established to meet the requirements. The wetted parts of the valves are lubricated with non-hydrocarbon lubricant. To order, add **SC** to the valve ordering number.
Specially cleaned 2-Way and 3-Way valves change the low temperature rating.

Applicable Valve Series			Change of Low Temperature Ratings	
2-Way pattern		3-Way		
Straight	Angle		From	To
OBV3A		OBV33A	-65°F (-53°C)	-30°F (-34°C)
OBV3B		OBV33B		
OBV3C		OBV33C	No Change	
OBV3D		OBV33D		

Valve with no lubrication

Valves assembled with no lubrication are cleaned and packed in accordance with OTG Oxygen cleaning standard of OCS-05 in compliance with ASTM G93 Level C. To order, add **NL** to the valve ordering number.
Valves assembled with no lubrication changes the pressure rating

Applicable Valve Series			Pressure Ratings, psi (bar)
2-way pattern		3-way	
Straight	Angle		
OBV3A		OBV33A	500 (34.3)
OBV3B		OBV33B	
OBV3C		OBV33C	200 (13.7)
OBV3D		OBV33D	

Note: Valves assembled with no lubrication have a significantly higher actuation torque than valves with lubricant.

Sour Gas Service

Stainless Steel OBV3 Series ball valves for service in sour gas application are available. Valve's wetted parts are selected to the requirements Of NACE MR0175/ISO 15156 for sulfide stress cracking resistant materials. To order, add **SG** to the valve ordering number.

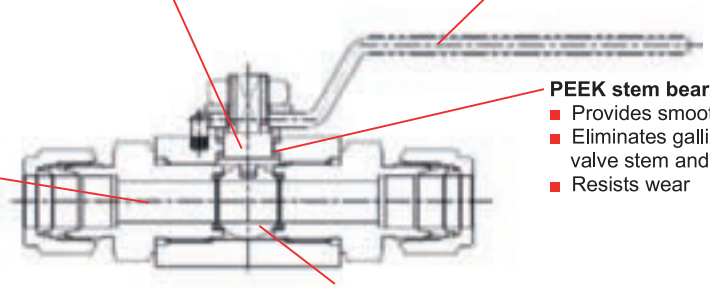
Safe Valve Selection

The selection of a valve for any application or system must be considered to ensure safe performance. Valve rating, valve function, material compatibility, proper installation, operation, and maintenance remain the sole responsibility of the system designer and the user. OTG Corporation accepts no liability for any improper selection, compatibility, installation, operation, or maintenance.

OBV6 Series - General Service Ball Valves

Features

- Pressure rating up to 10,000psig (690bar)@70°F(21°C).
- Temperature rating from -22°F(-30°C) to 265°F(130°C) with PVDF seat
  from -65°F(-54°C) to 500°F(260°C) with PEEK seat
- OTG-Lok tube fitting end connections in fractional (1/4 in. to 1 in.) and metric (6 mm to 25 mm), female pipe end connections in fractional (1/4 in. to 1 in.)
- Cold drawn bar construction.
- Panel mounting and locking devices are available as options.
- Optional NACE MR0175-2001 for Sour Gas.
- Outstanding sealing performance across the pressure range.

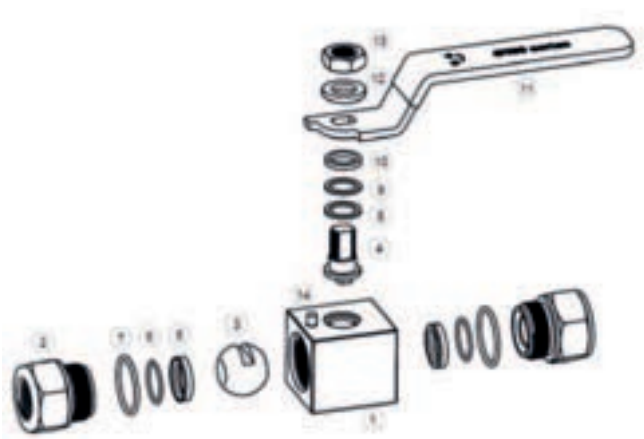


Application

- Provide quick turn on-off control of fluids in process, power and instrumentation applications.
- All ports are suitable as inlets in full operation pressure of the valve.
- A broad selection of valve body, seat, and seal materials provide a wide range of pressure and temperatures at which the valve may be used.
- Designed for gas, liquid, and vacuum service provides a reliable sealing performance in wide range high duty applications.

Operation

- 2-way valves are designed to control fluid bi-directionally in full open and full close position.
- Valves that have not been actuated for a period of time may have a higher actuation torque



Materials of Construction

Components	Valve Body Material Stainless Steel Material Grade/ASTM Specification
1. Body	SS316 / A276, A479
2. End Connector	
3. Ball	S316 / A276
4. Stem	
5. Seats	PCTFE optional PEEK
6. Seat Seal	Fluorocarbon FKM O-ring not applicable to OBV6A Series
7. End Connector Seals	Fluorocarbon FKM O-ring
8. Lower Packing	PEEK
9. Upper Packing	PTFE/D1710
10. Grand	SS316 / A276
11. Handle	S304 with PVC Coating
12. Spring Washer	Stainless Steel
13. Lock Nut	
14. Stop Pin	

Note: Wetted parts are listed in orange color.
Lubricant is silicone based.

2 - Way

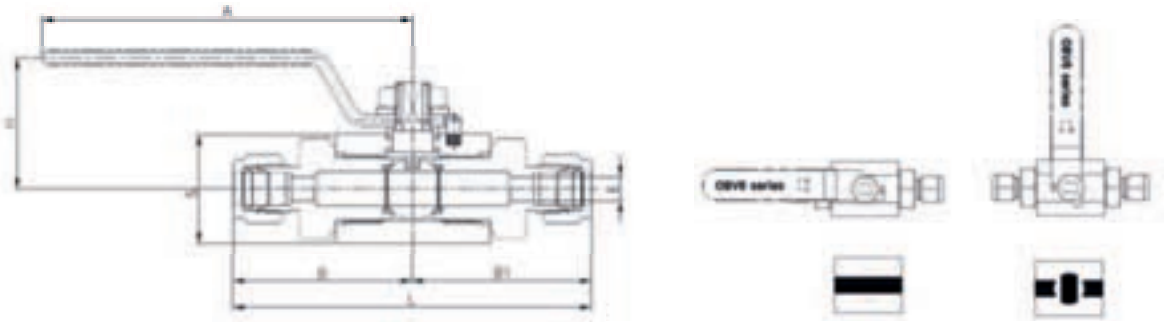


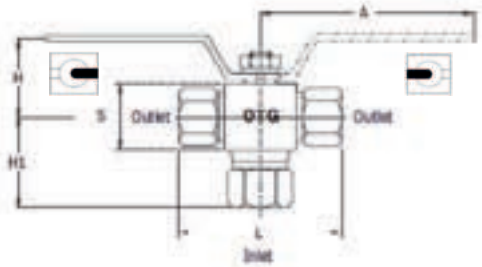
Table of Dimensions

Basic Ordering Number		End Connections Inlet / Outlet	Orifice mm(in.) E	Cv	Dimensions, mm (in.) S	B	B1	L	H	A
OBV6A-	O-4T	1/4" OTG-Lok	4.8(0.19)	1.2	32.0 (1.26)	48.0 (1.89)	48 (1.89)	96.0 (3.78)	39.0 (1.53)	108.0 (4.25)
	O-6T	3/8" OTG-Lok	7.1(0.28)	3.7		51.0 (2.0)	51.0 (2.0)	102.0 (4.0)		
	O-8T	1/2" OTG-Lok	10.0(0.39)	7.5		53.5 (4.1)	53.5 (4.1)	107.0 (4.2)		
	F-4N	1/4" Female NPT				37.0 (1.46)	37.0 (1.46)	74.0 (2.91)		
	F-6N	3/8" Female NPT				38.5 (1.52)	38.5 (1.52)	77.0 (3.03)		
	F-8N	1/2" Female NPT				42.5 (1.67)	42.5 (1.67)	85.0 (3.35)		
	M-4N	1/4" Male NPT	7.1(0.28)	3.7		47.5 (1.87)	47.5 (1.87)	95.0 (3.74)		
	M-6N	3/8" Male NPT	9.7(0.38)	7.2						
	M-8N	1/2" Male NPT	10.0(0.39)	7.5		50.0 (1.97)	50.0 (1.97)	100 (3.94)		
OBV6B-	O-10T	5/8" OTG-Lok	12.7(0.50)	10.1	40.0 (1.57)	57.0 (2.24)	57.0 (2.24)	114.0 (4.49)	51.0 (2.00)	149.0 (5.87)
	O-12T	3/4" OTG-Lok				57.5 (2.26)	57.5 (2.26)	115.0 (4.52)		
	F-8N	1/2" Female NPT				44.5 (1.75)	44.5 (1.75)	89.0 (3.50)		
	F-12N	3/4" Female NPT				45.0 (1.77)	45.0 (1.77)	90.0 (3.54)		
	M-12N	3/4" Male NPT				54.5 (2.15)	54.5 (2.15)	109.0 (4.29)		
OBV6C-	O-12T	3/4" OTG-Lok	15.8(0.62)	19.0	50.0 (1.97)	62.5 (2.46)	62.5 (2.46)	125.0 (4.92)	56.0 (2.20)	
	O-16T	1" OTG-Lok	19.0(0.75)	30.0		67.0 (2.64)	67.0 (2.64)	134.0 (5.27)		
	F-12N	3/4" Female NPT				48.0 (1.89)	48.0 (1.89)	96.0 (3.78)		
	F-16N	1" Female NPT				55.5 (2.19)	55.5 (2.19)	111.0 (4.37)		
	M-12N	3/4" Male NPT	15.8(0.62)	19.0		59.5 (2.34)	59.5 (2.34)	119.0 (4.68)		
	M-16N	1" Male NPT	19.0(0.75)	30.0		64.5 (2.54)	64.5 (2.54)	129.0 (5.07)		

All dimensions shown are for reference only and are subject to change.
Dimensions with OTG-Lok Fitting nuts are in finger-tight position.

3 – Way Bottom Port Inlet (3B)

180° Turn



3 – Wav Side Port Inlet (3S)

90° Turn

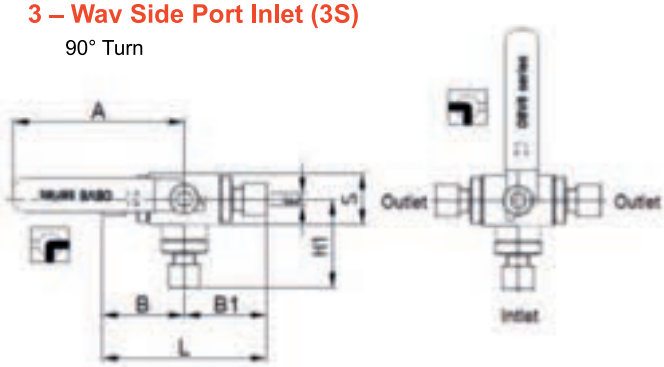


Table of Dimensions

Basic Ordering Number		End Connections Inlet & Outlet	Orifice mm(in.)	Dimensions, mm (in.) S	B	B1	L	H	H`1	A
OBV6A -3B- -3S-	O-4T-	1/4" OTG-Lok	4.8(0.19)	32.0 (1.26)	48.0 (1.89)	48.0 (1.89)	96.0 (3.78)	39.0 (1.53)	50.9 (2.00)	108.0 (4.25)
	O-6T-	3/8" OTG-Lok	7.1(0.28)		51.0 (2.0)	51.0 (2.0)	102.0 (4.0)		53.0 (2.09)	
	O-8T-	1/2" OTG-Lok	10.0(0.39)		53.5 (4.1)	53.5 (4.1)	107.0 (4.2)		55.8 (2.20)	
	F-4N-	1/4" Female NPT			37.0 (1.46)	37.0 (1.46)	74.0 (2.91)		40.0 (1.57)	
	F-6N-	3/8" Female NPT			38.5 (1.52)	38.5 (1.52)	77.0 (3.03)		41.5 (1.64)	
	F-8N-	1/2" Female NPT			42.5 (1.67)	42.5 (1.67)	85.0 (3.35)		45.5 (1.79)	
OBV6B-3B- -3S-	O-10T-	5/8" OTG-Lok	12.7(0.50)	40.0 (1.57)	57.0 (2.24)	57.0 (2.24)	114.0 (4.49)	51.0 (2.00)	67.2 (2.65)	149.0 (5.87)
	O-12T-	3/4" OTG-Lok			57.5 (2.26)	57.5 (2.26)	115.0 (4.52)		67.7 (2.66)	
	F-8N-	1/2" Female NPT			44.5 (1.75)	44.5 (1.75)	89.0 (3.50)		55.0 (2.17)	
	F-12N-	3/4" Female NPT			45.0 (1.77)	45.0 (1.77)	90.0 (3.54)			
OBV6C-3B- -3S-	O-12T-	3/4" OTG-Lok	15.8(0.62)	50.0 (1.97)	62.5 (2.46)	62.5 (2.46)	125.0 (4.92)	56.0 (2.20)	75.3 (2.96)	
	O-16T-	1" OTG-Lok	19.0(0.75)		67.0 (2.64)	67.0 (2.64)	134.0 (5.27)		80.0 (3.15)	
	F-12N-	3/4" Female NPT			48.0 (1.89)	48.0 (1.89)	96.0 (3.78)		59.5 (2.34)	
	F-16N-	1" Female NPT			55.5 (2.19)	55.5 (2.19)	111.0 (4.37)		67.0 (2.64)	

All dimensions shown are for reference only and are subject to change.
Dimensions with OTG-Lok Fitting nuts are in finger-tight position.

Pressure and Temperature Rating

2 – Way

Valve Series	Seat Material	Pressure Rating @ 21°C (70°F)	Temperature Rating °C (°F)
OBV6A	PCTFE	6,000 psig (413 bar)	-30 to 180°C (-22°C to 355°F)
	PEEK	10,000 psig (689 bar)	-40 to 230°C (-40°C to 446°F)
OBV6B OBV6C	PCTFE	5,000 psig (344 bar)	-30 to 160°C (-22 to 320°F)
	PEEK	6,000 psig (413 bar)	-40 to 210°C (-40°C to 410°F)

3 - Way

Valve Series	Seat Material	Pressure Rating @21°C (70°F)	Temperature Rating °C (°F)
OBV6A	PCTFE	4,000 psig (275 bar)	-30 to 180°C (-22°C to 355°F)
	PEEK	6,000 psig (413 bar)	-40 to 230°C (-40 to 446°F)
OBV6B OBV6C	PCTFE	3000 psig (206 bar)	-30 to 160°C (-22 to 320°F)
	PEEK	4,000 psig (275bar)	-40 to 210°C (-40 to 410°F)

Note:
- The rated pressure shown above is the maximum allowable pressure to the seat. If the system requires higher pressure to test, the valve must be in open position before and during test so as not to damage the seat.
- Pressure ratings of valves are sometimes limited to the maximum working pressure of pipe ends and tubing connected. The working pressure of tubing must be considered in the calculation of total system working pressure.

Panel mounting option

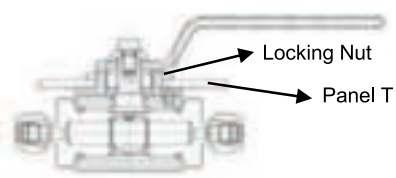
Ordering designator: **PS**

PS - Screw Hole Panel Mount

Unit: mm (in.)

Valve Series	A	B	H	t
SBV1H	34.0 (1.34)	23.0 (0.91)	30.0 (1.18)	M4
SBV2H	36.0 (1.42)	29.0 (1.14)	38.1 (1.5)	M5
SBV3H	40.0 (1.57)	35.0 (1.38)		M6

Ordering designator: **PN**



PN - Locking Nut Panel Mount

Unit: mm (in.)

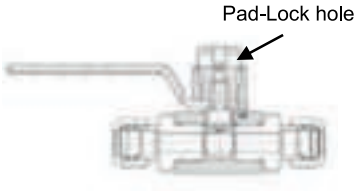
Valve Series	Panel Hole	Max T
SBV1H	30 (1.18)	Max. 4.0 (0.157)
SBV2H	38.1 (1.5)	
SBV3H		

Locking device option

Ordering designator: **LD**

Locking device option is applicable to 2-way and 3-way valve.

The valve with locking device is manually locked out in the valve open or close position. For additional security, apply padlock.



The padlock applicable hole is 7.2 mm (0.28 in.) and is constructed above the upper lock detent.

Note:LD option applicable to 2-way valves.

Sour Gas Service

- Is provided to meet NACE Standard MR0175/ISO 15156-3. To order valve for sour gas application, insert "**SG**" to the valve basic ordering number. Example: OVC6A-O-4T-**SG**-SS

Testing and Cleaning

- Every valve is factory tested with nitrogen @ 1000 psig (69 bar)) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM.
- The packing is tested with nitrogen for no detectable leakage.
- Every valve is cleaned and packaged in accordance with OTG cleaning standard.

Ordering Information

Selection the applicable options from designators listed below

OBV6A-O-4T - PC - PN - LD - SG - SS

Seat Material
- **Nil**: Standard PCTFE
- **PK**: PEEK

Panel Mounting
- **Nil**: Standard
- **PS**: Screw hole panel mounting
- **PN**: Lock nut panel mounting

Locking Device
- **Nil**: Standard
- **LD**: Locking Device

Locking Device
- **Nil**: Standard
- **SG**: Sour Gas Service

Body Material
- **SS**: SS316

Safety in Valve Selection

The selection of a valve for any application or system must be considered to ensure safe performance. Valve rating, valve function, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user.
OTG Corporation accepts no liability for any improper selection, compatibility, installation, operation, or maintenance.

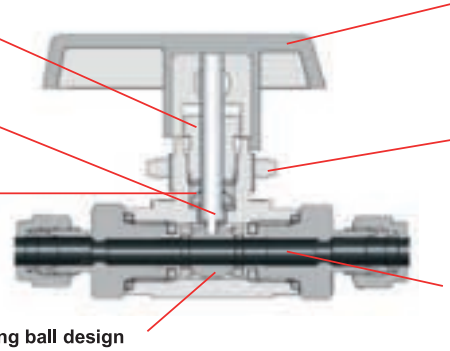
OFBV6 Series - Forged High Pressure Ball Valves

Features

- Pressure rating up to 6,000psig (413bar) @70°F(21°C).
- Temperature rating from -65°F(-54°C) to 350°F(177°C) with Standard PCTFE seat.

Application

- Gas
- Water
- Oil
- Petrochemical



Top-loaded design
allows adjustment with the valve in-line

Blow out proof design
with internally loaded stem.

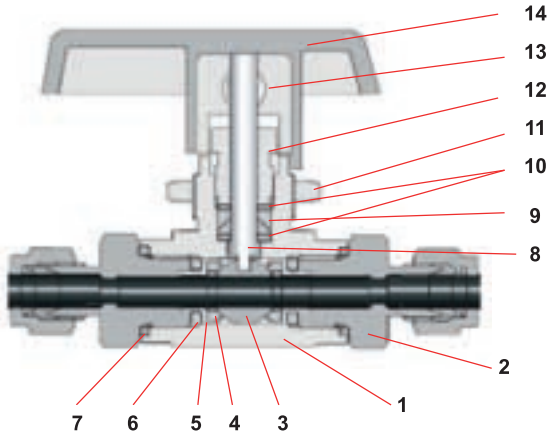
Chevron packing
standard for positive leak tight.

Directional handle
- with double-flat Arrow indicates flow direction.
- Low operating torques, and positive handle stops.

Panel mounting nut
provides ability to mount valve to control panel or actuator.

Bi-Directional flow
- Straight through flow path for minimum pressure drop.

Free floating ball design
- provides seat wear compensation,
- ensures leak proof shut-off at high pressure.
- Micro-finished ball provides a positive seal.



Materials of Construction

Components	Grade / ASTM Specification
1. Body	A182F316
2. End Connector	SS316 / A276, A479
3. Ball	SS316 / A276, A479
4. Seats	PCTFE, Optional PEEK, PTFE
5. Retainer	SS316 / A276, A479
6. Retainer Seal	PTFE
7. End Connector Seals	PTFE
8. Stem	SS316 / A276, A479
9. Chevron Packing (2)	PTFE
10. Support Grand (2)	Stainless Steel
11. Lock Nut	SS316 / A276, A479
12. Packing Bolt ①	
13. Set Screw	Stainless Steel
14.Handle	Black Nylon

① Molybdenum disulfide with hydrocarbon coating
Note: *wetted parts are listed in orange color.
*Lubricant is Silicon-based.

Operation

2-Way valves are designed to isolate fluid in off position, 3-Way valves are to divert fluid taking it from bottom inlet port

- Valves provide excellent performance in gas, liquid and vacuum in process control and instrumentation application.
- Valves are designed to control fluid in full open or in full closed position; using the valve to throttle the fluid may reduce valve cycle life.
- Valves that have not been actuated for a period of time may have a higher initial actuation torque.

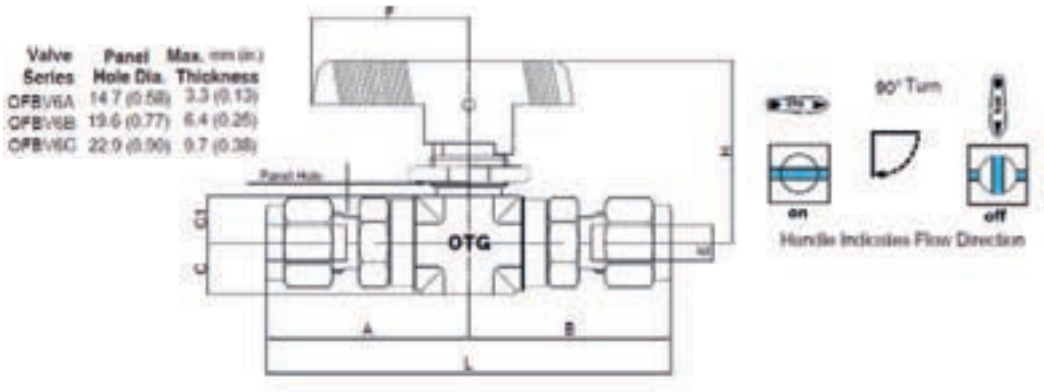
Pressure-Temperature Ratings

Valve Series		Seat Materials	Pressure Rating 21°C (70°F)	Temperature Rating
2-Way	OFBV6A OFBV6B OFBV6C OFBV63A	PCTFE	6000 psig (413 bar)	-65°F to 350°F (-54°C to 177°C)
		PEEK	6000 psig (413 bar)	-65°F to 450°F (-54°C to 232°C)
3-Way		PTFE	1500 psig (103 bar)	-65°F to 350°F (-54°C to 177°C)
3-Way	OFBV63B OFBV63C	PCTFE	4000 psig (276 bar)	-65°F to 350°F (-54°C to 177°C)
		PEEK	6000 psig (413 bar)	-65°F to 450°F (-54°C to 232°C)
		PTFE	1500 psig (103 bar)	-65°F to 350°F (-54°C to 177°C)

Testing and Cleaning

- Every valve is factory tested with nitrogen @ 1000 psig (69 bar)) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM.
- The packing is tested with nitrogen for no detectable leakage.
- Every valve is cleaned and packaged in accordance with OTG cleaning standard.

2 – Way (Shut-Off Valve)



Ordering Information and Dimensions

Basic Ordering Number		End Connections Inlet & Outlet	Orifice E mm (in.)	Cv	Dimensions mm (in.) L	A	B	C	C1	F	H
OFBV6A-	O-2T	1/8" OTG-Lok	2.4 (0.093)	0.21	69.0 (2.72)	34.5 (1.36)		8.4 (0.33)	9.5 (0.37)	29.0 (1.14)	34.3 (1.35)
	O-4T	1/4" OTG-Lok	4.2 (0.165)	0.43	75.20 (2.96)	37.6 (1.48)					
	O-6M	6mm OTG-Lok	2.2 (0.086)	0.18	69.60 (2.74)	34.8 (1.37)					
	F-2N	1/8" Female NPT	4.2 (0.165)	0.43	54.40 (2.14)	27.2 (1.07)					
	M-2N	1/8" Male NPT			60.0 (2.36)	30.0 (1.18)					
	M-4N	1/4" Male NPT			68.60 (2.70)	34.3 (1.35)					
OFBV6B-	O-2T	1/8" OTG-Lok	2.4 (0.093)	0.26	83.80 (3.3)	41.9 (1.65)		10.7 (0.42)	11.9 (0.47)	38.1 (1.5)	50.8 (2.0)
	O-4T	1/4" OTG-Lok	4.7 (0.187)	1.04	88.40 (3.48)	44.2 (1.74)					
	O-6T	3/8" OTG-Lok	6.4 (0.25)	2.34	91.40 (3.60)	45.7 (1.8)					
	O-6M	6mm OTG-Lok	4.7 (0.187)	1.04	89.0 (3.50)	44.50 (1.75)					
	O-8M	8mm OTG-Lok	6.4 (0.25)	2.34	90.40 (3.56)	45.20 (1.78)					
	O-10M	10mm OTG-Lok			92.0 (3.62)	46.00 (1.81)					
	F-4N	1/4" Female NPT			76.80 (3.02)	38.40 (1.51)					
	M-4N	1/4" Male NPT			82.20 (3.24)	41.10 (1.62)					
	M-6N	3/8" Male NPT									
	MF-4N	1/4" Male/Female NPT			79.50 (3.13)	38.4 (1.51)	41.1 (1.62)				
	FO-4N4T	1/4" Female NPT/ 1/4" OTG-Lok	4.7 (0.187)	1.04	82.60 (3.25)	44.2 (1.74)	38.4 (1.51)				
	FO-4N6T	1/4" Female NPT/ 3/8" OTG-Lok	6.4 (0.25)	2.34	84.10 (3.31)	45.7 (1.8)	38.4 (1.51)				
	MO-4N4T	1/4" Male NPT/ 1/4" OTG-Lok	4.7 (0.187)	1.04	85.30 (3.36)	44.2 (1.74)	41.1 (1.62)				
	MO-4N6T	1/4" Male NPT/ 3/8" OTG-Lok	6.4 (0.25)	2.34	86.80 (3.42)	45.7 (1.8)					
OFBV6C-	O-8T	1/2" OTG-Lok	10.3 (0.406)	6.42	118.80 (4.68)	59.40 (2.34)		17.5 (0.69)	17.8 (0.70)	63.5 (2.5)	62.0 (2.44)
	O-12T	3/4" OTG-Lok			118.40 (4.66)	59.20 (2.33)					
	O-12M	12mm OTG-Lok	9.5 (0.375)	5.57							
	O-16M	16mm OTG-Lok	10.3 (0.406)	6.42							
	F-6N	3/8" Female NPT			99.0 (3.90)	49.50 (1.95)					
	F-8N	1/2" Female NPT			109.20 (4.30)	54.60 (2.15)					
	M-8N	1/2" Male NPT			112.80 (4.44)	56.40 (2.22)					

Dimensions are for reference only and are subject to change.
Dimensions with OTG-Lok nuts are in finger-tight position.

Flow Calculations with 1000psig (69bar) inlet pressure

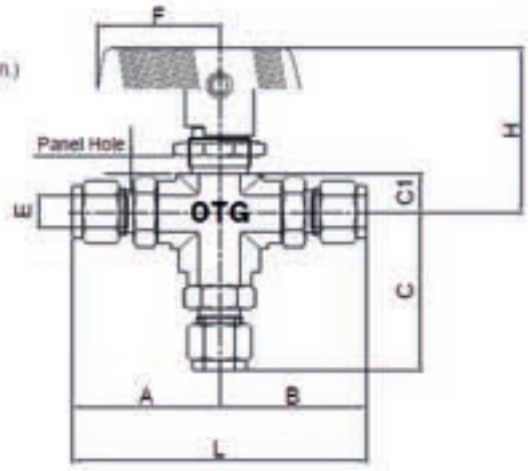
Pressure Drop(Δp) to Atmosphere		Cv 0.06	0.18	0.21	0.26	0.43	0.93	1.04	2.34	5.57	6.42
Air SCFM @70°F(21°C)	10psi	5.9	17.7	20.7	25.6	42.3	91.5	102.4	230.3	548.2	631.9
	50psi	13.2	39.6	46.2	57.2	94.6	204.7	228.9	515.0	1225.9	1413.0
	100psi	18.7	56.0	65.4	80.9	133.8	289.5	323.7	728.3	1733.7	1998.3
Water US GPM @60°F(16°C)	10psi	0.2	0.6	0.7	0.8	1.3	2.9	3.3	7.4	17.6	20.3
	50psi	0.4	1.3	1.5	1.8	3.0	6.6	7.4	16.5	39.4	45.4
	100psi	0.6	1.8	2.1	2.6	4.3	9.3	10.4	23.4	55.7	64.2

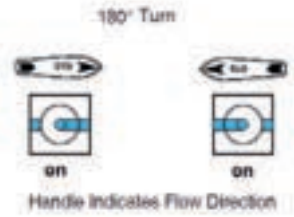
*To determine m^3/hr, multiply GPM by 0.227 and SCFM by 1.69.

3 – Way (Switching Valve)

3-way Ball Valve is designed to switch media through the bottom port and direct it to out of two outlet ports.

Valve Series	Panel Hole Dia.	Max. mm (in.) Thickness
OFBV63A	14.7 (0.58)	3.3 (0.13)
OFBV63B	19.6 (0.77)	6.4 (0.25)
OFBV63C	22.9 (0.90)	9.7 (0.38)





Ordering Information and Dimensions

Basic Ordering Number		End Connections Inlet / Outlet	Orifice E mm (in.)	Cv	Dimensions mm (in.) L	A	B	C	C1	F	H
OFBV63A-	O-2T	1/8" OTG-Lok	2.4 (0.093)	0.21	69.0 (2.72)	34.5 (1.36)		36.8(1.45)	8.4 (0.33)	29.0 (1.14)	34.3 (1.35)
	O-4T	1/4" OTG-Lok	4.2 (0.165)	0.63	75.20 (2.96)	37.6 (1.48)		39.6(1.56)			
	F-2N	1/8" Female NPT			54.40 (2.14)	27.2 (1.07)		29.2(1.15)			
	M-2N	1/8" Male NPT		0.59	60.0 (2.36)	30.0 (1.18)		32.0(1.26)			
	M-4N	1/4" Male NPT			68.60 (2.70)	34.3 (1.35)		36.3(1.43)			
OFBV63B-	O-2T	1/8" OTG-Lok	2.4 (0.093)	0.21	83.80 (3.3)	41.9 (1.65)		45.5(1.79)	11.9 (0.47)	38.1 (1.5)	50.8 (2.0)
	O-4T	1/4" OTG-Lok	4.7 (0.187)	0.7	88.40 (3.48)	44.2 (1.74)		47.8(1.88)			
	O-6T	3/8" OTG-Lok	5.0 (0.196)	0.87	91.40 (3.60)	45.7 (1.8)		49.3(1.94)			
	O-6M	6mm OTG-Lok	4.7 (0.187)	0.7	89.0 (3.50)	44.50 (1.75)		47.8(1.88)			
	O-8M	8mm OTG-Lok	5.0 (0.196)	0.87	90.40 (3.56)	45.20 (1.78)		48.5(1.91)			
	O-10M	10mm OTG-Lok			92.0 (3.62)	46.00 (1.81)		49.5(1.95)			
	F-4N	1/4" Female NPT			76.80 (3.02)	38.40 (1.51)		41.9(1.65)			
	M-4N	1/4" Male NPT			82.20 (3.24)	41.10 (1.62)		44.7(1.76)			
	M-6N	3/8" Male NPT									
OFBV63C-	O-8T	1/2" OTG-Lok	10.3 (0.406)	3.62	118.80 (4.68)	59.40 (2.34)		68.1(2.68)	17.8 (0.70)	63.5 (2.5)	62.0 (2.44)
	O-12T	3/4" OTG-Lok									
	O-12M	12mm OTG-Lok	9.5 (0.375)	3.46							
	O-16M	16mm OTG-Lok	10.3 (0.406)	3.62							
	F-6N	3/8" Female NPT			99.0 (3.90)	49.50 (1.95)		58.2(2.29)			
	F-8N	1/2" Female NPT			109.20 (4.30)	54.60 (2.15)		63.2(2.49)			
	M-8N	1/2" Male NPT			112.80 (4.44)	56.40 (2.22)		65.8(2.59)			

Dimensions are for reference only and are subject to change.
Dimensions with OTG-Lok nuts are in finger-tight position.

Flow Calculations with 1000psig (69bar) inlet pressure

Pressure Drop(Δp) to Atmosphere in psi		Cv 0.06	0.18	0.21	0.59	0.63	0.7	0.87	0.93	2.34	3.46	3.62	6.42
Air SCFM @70°F(21°C)	10psi	5.9	17.7	20.7	58.1	62.0	68.9	85.6	91.5	230.3	340.6	356.3	631.9
	50psi	13.2	39.6	46.2	129.8	138.7	154.1	191.5	204.7	515.0	761.5	796.7	1413.0
	100psi	18.7	56.0	65.4	183.6	196.1	217.9	270.8	289.5	728.3	1077.0	1126.8	1998.3
Water US GPM @60°F(16°C)	10psi	0.2	0.6	0.7	1.8	2.0	2.2	2.8	2.9	7.4	10.9	11.4	20.3
	50psi	0.4	1.3	1.5	4.1	4.5	4.9	6.2	6.6	16.5	24.5	25.6	45.4
	100psi	0.6	1.8	2.1	5.9	6.3	7.0	8.7	9.3	23.4	34.6	36.2	64.2

*To determine m^3/hr, multiply GPM by 0.227 and SCFM by 1.69.

Packing Adjustment Procedure

Packing adjustment may be periodically required to prevent leakage.

1. Depressurize the system.
2. Cycle and purge the valve.
3. Remove the handle from the valve.
4. Turn the packing bolt clockwise in 1/16-turn increment until the valve achieves the leak-tight performance.
5. Re-assemble the handle back in the valve.

Sour Gas Service

Valve materials are selected in accordance with NACE MR0175/ISO 15156-3.
To order valve for sour gas application, insert **"SG"** to the valve basic ordering number. Example: OFBV6A-O-4T-**SG**-SS

Ordering Information

To order, select the valve basic ordering number. Example: OFBV6A-O-4T-SS
To order the valve with an optional seat material, insert the seat designator to the valve ordering number. Example: OFBV6A-O-4T-**PK**-SS

OFBV6A- O - 4T - [PC] - [SG] - [SS]

Seat Material Designator

- **Nil**: Standard
- **PC**: PCTFE
- **PK**: PEEK
- **TE**: PTFE

Sour Gas Designator

- **Nil**: Standard
- **SG**: Sour Gas Service

Body Material

- **SS**: SS316

Safe Valve Selection

The selection of a valve for any application or system must be considered to ensure safe performance. Valve rating, valve function, material compatibility, proper installation, operation, and maintenance remain the sole responsibility of the system designer and the user.
OTG Corporation accepts no liability for any improper selection, compatibility, installation, operation, or maintenance.

TUBE FITTING & VALVE

OTG lok

Needle Valves

- ONV5 Series Integral-Bonnet Needle Valves
- OBNV6 Series Bar-Stock Needle Valves
- OHNV10 Series High Pressure Needle Valves
- OUNV6 & OUNV10 Series
  Severe-Service Union Bonnet Needle Valves

ONV5 Series - Integral-Bonnet Needle Valves

Working Pressure: 5,000(345bar)@100°F (37°C)

Features

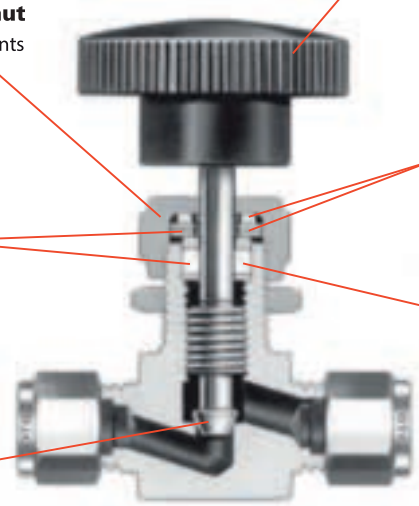
Stem Designs

- Vee-all series
- Soft-seat-all series
- Regulating series-ONV1&2, ONV3, ONV4

Flow Patterns

- 2-Way Straight Pattern
- 2-Way Angle Pattern
- 3-Way Flow Pattern

Live -Loaded Packing System



Round handle
shown; bar handle available

Packing nut
enables easy external adjustments

Live-Loaded Disc Springs

- Maintains load on packing for sealing and compensate for thermal cycles.
- Reduces the need for packing adjustment

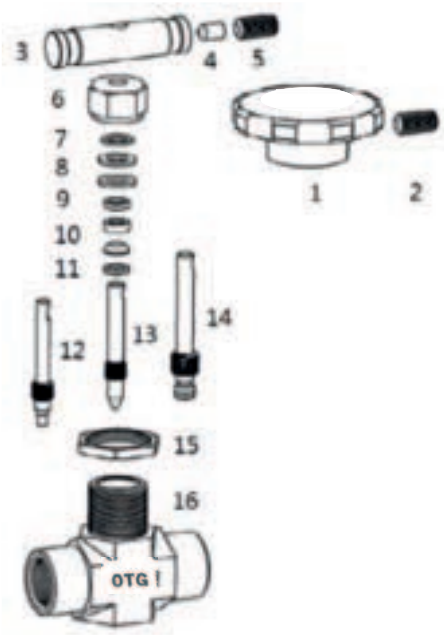
Fully supported packing
reduces need for adjustment

2-piece chevron packing with disc springs

- improves seal
- reduces friction wear
- compensates for wear
- reduces operating torque

Choices of Stem Tips
Vee stem shown; regulating stem and soft-seat stem with PCTFE tip available

Materials of Construction



Components		Valve Body Material		
		Stainless Steel	Brass	Alloy 400
		Material Grade / ASTM Standard		
1	Round Handle	Glass Nylon with Brass insert		
2	Set Screw	Stainless Steel		
3	Optional Bar Handle	SS316/A276		
4	Handle Pin	Stainless Steel		
5	Set Screw	Stainless Steel		
6	Packing Nut	SS316 / A276	C36000/B16 C3604/JIS H3250	Alloy R-405/B164
7	Gland	304 SS/A240, A167		
8	Disc Spring (2)(3)	SUS304 CP / JIS G4305 2 Springs: ONV5A, ONV5B Series 3 Springs: ONV5C, ONV5D Series		
9	Packing Gland	SS316 / A276		
10	Chevron Packing (2)	PTFE / D1710		
11	Lower Gland	SS316 / A276		Alloy R-405/B164
12	Regulating Stem	Hard Chrome-plated SS316/A276	SS316 / A276	Alloy R-405/B164
13	Vee Stem			
14	Soft-Seat Stem			
	Non-rotating Stem Tip	PCTFE/D1430		
15	Panel Nut	SS316 / A276	C36000/B16 C3604/JIS H3250	SS316
16	Body	F316 / A182	C37700/B283 C3771/JIS H3250	Alloy 400/B564

- Wetted parts listed in **orange color**.
- **Wetted parts** are lubricated with Fluorocarbon-based lubricant.

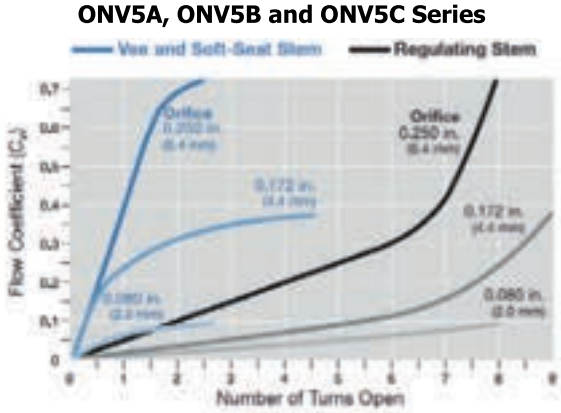
Pressure & Temperature Ratings

- Valve with PCTFE Soft-Seat Stem reduce the maximum temperature rating to 200°F(93°C).
- The standard PTFE packing valve with Regulating or Vee Stem has no change in the temperature rating.
- 600°F (315°C) max with PEEK packing.

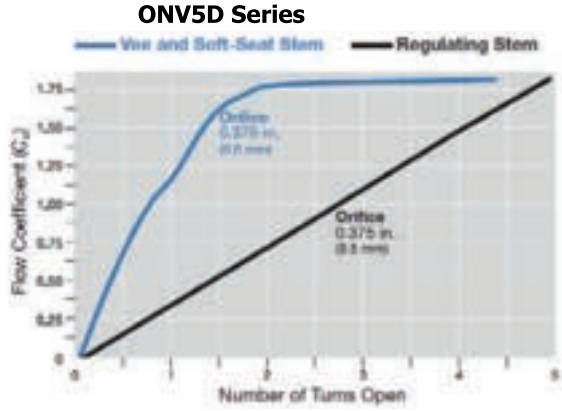
Material		SS316	Brass	Alloy 400
ASME Material Group		TABLE 2-2.2	N/A	N/A
ASME CLASS Rating		2080	N/A	N/A
Temperature		Working Pressure, psig (bar)		
°F	°C			
- 65 to -20	-53 to -28	5000 (345)	3000 (207)	3000 (207)
-20 to 100	-28 to 37	5000 (345)	3000 (207)	3000 (207)
200	93	4293 (296)	2353 (162)	2640 (181)
300	148	3877 (267)	2059 (142)	2470 (170)
350	176	3719 (256)	1471 (101)	2430 (167)
400	204	3562 (246)	392 (27)	2390 (164)
450	232	3437 (237)	-	2380 (163)
500	260	3310(228)	-	2375 (163)
600	315	3130(215)	-	-

Flow Data at 100°F (37°C)
Flow Coefficient at Turns Open

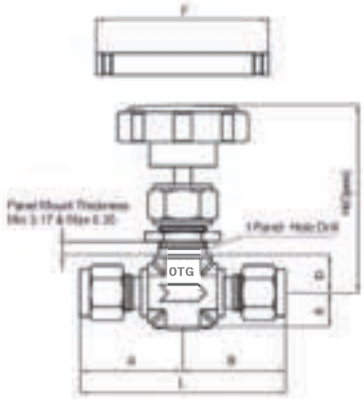
ONV5A, ONV5B and ONV5C Series

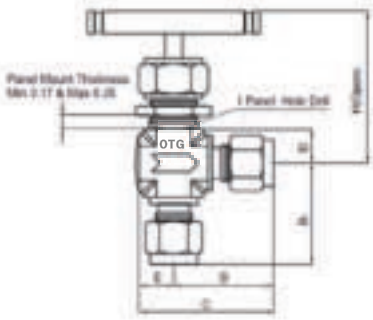


ONV5D Series



Straight Pattern





Angle Pattern

Ordering Information and Dimensions

Basic Ordering Number		End Connections Inlet/Outlet	Cv	Orifice, mm (in.)	Dimensions, mm (in.) L	A & B	B1	C	H	E	D	F	I
ONV5A-	O-2T-	1/8 in. OTG-Lok	0.09	2.0 (.080)	49.3 (1.94)	24.9 (0.98)		32.8 (1.29)	63.5 (2.50)	7.9 (0.31)	11.2 (0.44)	25.4 (1.00)	11.9 (0.47)
	O-3M-	3 mm OTG-Lok											12.2 (0.48)
	F-2N-	1/8 in. Female NPT			47.8 (1.88)	23.9 (0.94)		31.8 (1.25)					11.9 (0.47)
	M-2N-	1/8 in. Male NPT			38.1 (1.50)	19.1 (0.75)		26.9 (1.06)					
	MO-2N2T-	1/8 in. Male NPT to 1/8 in. OTG-Lok			43.9 (1.73)	24.9 (0.98)	19.1 (0.75)	32.8 (1.29)					
ONV5B-	O-4T-	1/4 in. OTG-Lok	0.37	4.4 (.172)	57.6 (2.27)	28.7 (1.13)		38.4 (1.51)	63.5 (2.50)	9.7 (0.38)	11.2 (0.44)	35.1 (1.38)	13.5 (0.53)
	O-6M-	6 mm OTG-Lok											
	O-8M-	8 mm OTG-Lok			59.4 (2.34)	29.7 (1.17)		39.1 (1.54)					
	F-2N-	1/8 in. Female NPT			41.1 (1.62)	20.6 (0.81)		30.2 (1.19)					
	M-2N-	1/8 in. Male NPT											
	M-4N-	1/4 in. Male NPT			50.0 (1.97)	24.9 (0.98)		34.5 (1.36)					
	MO-4N4T-	1/4 in. Male NPT to 1/4 in. OTG-Lok			49.5 (1.95)	28.7 (1.13)	24.9 (0.98)	38.4 (1.51)					
ONV5C-	O-6T-	3/8 in. OTG-Lok	0.73	6.4 (.250)	65.5 (2.58)	32.8 (1.29)		45.5 (1.79)	75.4 (2.97)	12.7 (0.50)	14.0 (0.55)	47.8 (1.88)	19.8 (0.78)
	O-8T-	1/2 in. OTG-Lok			71.1 (2.80)	35.6 (1.40)		48.3 (1.90)					
	O-10M-	10 mm OTG-Lok			66.0 (2.60)	33.0 (1.30)		45.7 (1.80)					
	O-12M-	12 mm OTG-Lok			71.1 (2.80)	35.6 (1.40)		48.3 (1.90)					
	F-4N-	1/4 in. Female NPT			53.8 (2.12)	26.9 (1.06)		39.6 (1.56)					
	F-4R-	1/4 in. Female ISO Tapered											
	M-6N-	3/8 in. Male NPT			62.5 (2.25)	28.4 (1.12)		41.1 (1.62)					
	MO-4N6T-	1/4 in. Male NPT to 3/8 in. OTG-Lok			61.5 (2.42)	32.8 (1.29)	28.4 (1.12)	45.5 (1.79)					
	MO-6N6T-	3/8 in. Male NPT to 3/8 in. OTG-Lok											
	MO-6N8T-	3/8 in. Male NPT to 1/2 in. OTG-Lok			64.0 (2.52)	35.6 (1.40)		48.3 (1.90)					
	MF-4N-	1/4 in. Male NPT to 1/4 in. Female NPT			55.6 (2.19)	26.9 (1.06)		39.6 (1.56)					
ONV5D-	O-8T-	1/2 in. OTG-Lok	1.8	9.5 (.375)	96.5 (3.80)	48.3 (1.90)		67.3 (2.65)	99.3 (3.91)	19.1 (0.75)	19.1 (0.75)	76.2 (3.00)	26.2 (1.03)
	O-12T-	3/4 in. OTG-Lok											
	O-12M-	1/2 mm OTG-Lok											
	O-18M-	18mm OTG-Lok											
	F-6N-	3/8 in. Female NPT			76.2 (3.00)	38.1 (1.50)		57.2 (2.25)	98.6 (3.88)				
	F-6R-	3/8 in. Female ISO Tapered											
	F-8N-	1/2 in. Female NPT											
	F-8R-	1/2 in. Female ISO Tapered											
	M-8N-	1/2 in. Male NPT											
	MF-8N-	1/2 in. Male NPT to 1/2 in. Female NPT											

* Dimensions are shown with OTG-Lok nuts finger-tight.
Dimensions are for reference only and are subject to change.

Ordering Information

Select applicable valve pattern, options and body material form the designators listed below.

ONV5C — O — 8T — A — R — BH — SS

Valve Series

Connection Type

Connection Size

Flow Pattern
- Nil: Straight Pattern
- A: Angle Pattern

Stem Type
- Nil: Standard Vee Stem
- R: Regulating Stem
- K: PCTFE Soft Seat Stem

Option
- Nil: Standard
- BH: Bar Handle
- PK: PEEK Packing
- SG: Sour Gas Service

Body Material
- SS: SS316
- BS: Brass
- MO: Alloy 400

OBNV6 Series - Bar Stock Neelde Valves

Working Pressure: 6,000(413bar)@100°F (37°C)

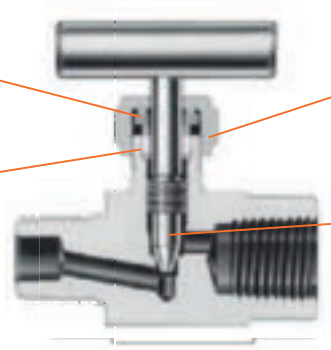
Features

Integral Bonnet Body
- One-Piece construction out of cold drawn bar.
- Compact design.
- High pressure application.

Flow Patterns
- 2-Way Straight Pattern.
- 2-Way Angle Pattern.

Live-Loaded Disc Springs
- Maintains load on packing for sealing and compensates for thermal cycles.
- Reduce the need for packing adjustment.

Chevron Packing
- 2-Piece packing on stem improves sealing integrity.

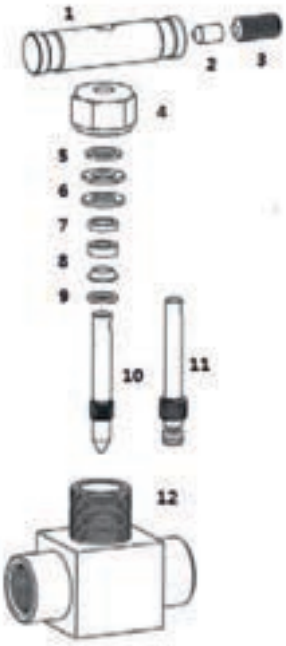


Packing Nut
- Allows external packing adjustment.

Choices of Stem Tips
- Standard Vee Stem.
- Soft-Seat Stem with PCTFE tip available.

Materials of Construction

Components		Valve Body Material
		Stainless Steel
		Material Grade / ASTM Standard
1	Bar Handle	SS316 / A276
2	Handle Pin	Steel / A108
3	Set Screw	Stainless Steel
4	Packing Nut	SS316 / A276
5	Gland	SS316 / A276
6	Disc Spring (2)(3)	S17700/A693 OBNV6A Series:2 Springs OBNV6B Series: 3 springs
7	Upper Gland	SS316 / A276
8	Chevron Packing (2)	PTFE / D1710 (Optional PEEK)
9	Lower Gland	SS316 / A276
10	Vee Stem	Hard Chrome-plated SS316/A276
11	Soft-Seat Stem	
	Non-rotating Stem Tip	PCTFE/D1430
12	Body	SS316 / A276



Wetted parts listed in orange color.
Wetted parts are lubricated with Fluorocarbon-based.

Pressure-Temperature Ratings

- Valves with PCTFE Soft-Seat Stem reduce the maximum temperature rating to 200 °F (93 °C).
- The standard PTFE packing valve with Regulating or Vee Stem has no change in the temperature rating.

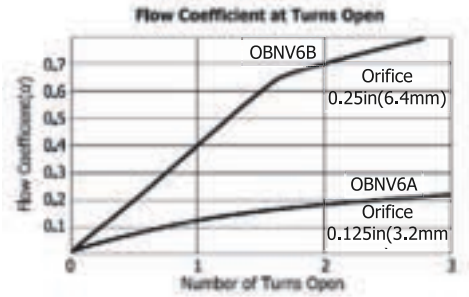
Material		SS316
ASME Material Group		TABLE 2-2.2
ASME CLASS Rating		2500
Temperature		Working Pressure, psig (bar)
°F	°C	
- 65 to 100	-53 to 37	6000 (413)
200	93	5160 (355)
300	148	4660 (321)
350	176	4470 (307)
400	204	4280 (294)
450	232	4130 (284)

Flow Data

Cv are measured at the valve. Therefore restrictions at end connections may reduce flow.

Number of Handle Turns - Cv

@100 °F (37 °C)



Ordering Information and Dimensions

Basic Ordering Number		End Connections Inlet/Outlet	Cv	Orifice, mm (in.)	Dimensions, mm (in.) L	B	B1	B2	C	H	E	F
OBNV6A-	O-4T-SS	1/4 in. OTG-Lok	0.21	3.2 (.125)	62.5 (2.46)	31.2 (1.23)	28.7 (1.13)	29.5 (1.16)	39.9 (1.57)	42.2 (1.66)	10.7 (0.42)	44.4 (1.75)
	F-4N-SS	1/4 in. Female NPT			47.8 (1.88)	23.9 (1.25)	25.4 (1.00)	25.4 (1.00)	36.6 (1.44)			
	F-4R-SS	1/4 in. ISO Female Tapered										
	M-4N-SS	1/4 in. Male NPT			49.3 (1.94)	24.6 (0.97)	-	-	-			
	MF-4N-SS	1/4 in. Male NPT to Female NPT			48.5 (1.91)	24.3 (0.96)	25.4 (1.00)	26.2 (1.03)	36.6 (1.44)			
	MO-4N4T-SS	1/4 in. Male NPT to 1/4 in. OTG-Lok			-	-	28.7 (1.13)	25.4 (1.00)	39.9 (1.57)		-	
OBNV6B-	O-6T-SS	3/8 in. OTG-Lok	0.73	6.4 (.250)	78.2 (3.08)	39.1 (1.54)	-	-	-	58.7 (2.31)	16.8 (0.66)	63.5 (2.50)
	O-8T-SS	1/2 in. OTG-Lok			83.8 (3.30)	41.9 (1.65)	-	-	-			
	F-6N-SS	3/8 in. Female NPT			63.5 (2.50)	31.8 (1.25)	-	-	-			
	F-8N-SS	1.2 in. Female NPT					35.8 (1.41)	35.8 (1.41)	52.3 (2.06)			
	F-8R-SS	1/2 in. ISO Female Tapered										
	MF-6N-SS	3/8 in. Male NPT to Female NPT					35.8 (1.41)	31.0 (1.22)	52.3 (2.06)			
	MF-8N-SS	1/2 in. Male NPT to Female NPT			64.8 (2.55)	32.4 (1.28)		35.8 (1.41)				
	MF-12N8N-SS	3/4 in. Male NPT to 1/2 in. Female NPT			63.5 (2.50)	31.8 (1.25)	-	-	-			

* Dimensions are shown with OTG-Lok nuts finger-tight.
Dimensions are for reference only and are subject to change.

Ordering Information

To complete your ordering number, insert the designator of options into the basic ordering number.

OBNV6A — O — 4T — A — K — SG — SS

- **Valve Series**: OBNV6A
- **Connection Type**: O
- **Connection Size**: 4T
- **Flow Pattern**: A
  - Nil: Straight Pattern
  - A: Angle Pattern
- **Stem Type**: K
  - Nil: Standard Vee Stem
  - K: PCTFE Soft Seat Stem
- **Option**: SG
  - Nil: Standard
  - PK: PEEK Packing
  - SG: Sour Gas Service
- **Body Material**: SS
  - SS: SS316

OHNV10 Series - High Pressure Neelde Valves

Working Pressure: 10,000 psig (689 bar) @100° F (37° C)

Features

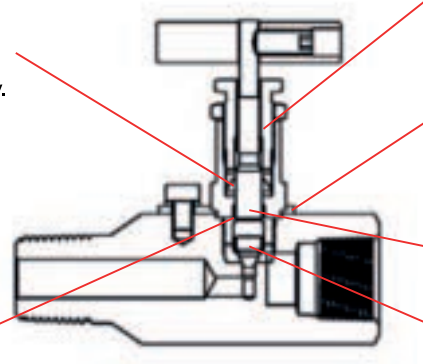
Temperature rating from -54"C (-65 ° F) to 232 ° C (450 ° F) with standard PTFE packaging and up to 648 ° C (1200 ° F) with optional Graphite packing.

Body Construction
Construction out of robust cold-drawn Hex bar.

Bar handle
Allows low-torque valve actuation.

Packing Bolt
Permits external packing adjustment maintaining the valve in-line.

Packing Below Stem Threads
Isolates stem threads from system fluid and lubricant washout.
Two-Piece Chevron PTFE Packing Design
Provides highly qualified sealing maintain ability.



Sturdy Locking Plate
Holds the bonnet valve to the body at the factory-fastened level.

Stem Back Seating Design
- provides positive back stop and back sealing in valve full open position.
- Prevents stem blowout.
- In valve in full open position, prevents a leakage through the bonnet when packing fails.

Roll Stem Threads and Hard-Chrome Plated
- Enhances cycle life.
- Low torque actuation.

Non-Rotating Vee Stem
- Ensures repetitive leak-tight shutoff. Non-rotating stem tip at closure is used for long-life and leak-tight shutoff.
- Protects the valve seat from damage.

Grafoil Packing
Grafoil is a high temperature packing material that requires a load to seal.
Grafoil is rated to the maximum of 973 °F (523 °C) for air service. In steam, it is rated to the maximum temperature of 1200 °F (648 °C).
Grafoil packing is not for use with pneumatic actuating valves.

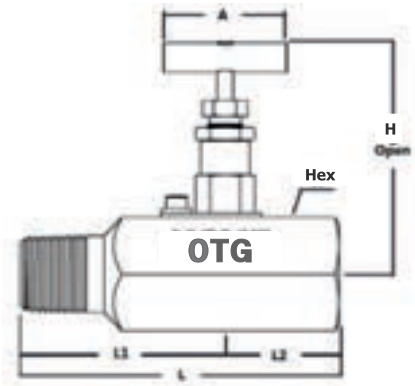
Materials of Construction

Components		Valve Body Material
		Stainless Steel
		Material Grade / ASTM Standard
1	Bar Handle	SS316 / A276
2	Set Screw	Stainless Steel
3	Packing Bolt	SS316 / A276
4	Locking Nut	
5	Upper Gland	
6	**Packing**	Standard Chevron PTFE / D1710 Optional Grafoil®
7	**Lower Gland**	SS316/A276
8	**Bonnet**	SS316/A276
9	**Vee Stem**	Hard Chrome-plate SS316/A276
	Non-Rotating Stem Tip	SS630/A564 (17-4PH)
10	Locking Plate	Stainless Steel
11	Locking Bolt	
12	**Hex Body**	SS316 / A276

Wetted components and lubricants are listed in **Orange color**.
Lubricant: Fluorocarbon-based.

Pressure-Temperature Ratings

Body Material		SS316		Steel
Packing Materal		Grafoil	PTFE	PTFE
Temperature		Working Pressure, psig (bar)		
°F	°C			
- 65 to -20	-53 to -28	10000 (689)	10000 (689)	-
-20 to 100	-28 to 37	10000 (689)	10000 (689)	10000 (689)
200	93	9290 (640)	9290 (640)	9290 (640)
300	148	8390 (578)	8390 (578)	8390 (578)
350	176	8045 (554)	8045 (554)	8045 (554)
400	204	7705 (530)	7705 (530)	-
450	232	7435(512)	7435 (512)	-
500	260	7165 (493)	-	-
600	315	6770 (466)	-	-
700	371	6480 (446)	-	-
800	426	6230 (429)	-	-
900	482	5905 (406)	-	-
1000	537	5450 (375)	-	-
1100	593	4835 (333)	-	-
1200	648	3085 (212)	-	-



Ordering Information and Dimensions

Basic Ordering No.		End Connection Inlet / Outlet	Orifice mm (in.)	Cv	Dimensions, mm (in.) L	L1	L2	Hex	A	H
OHNV10A-	O-4T-SS	1/4 in. OTG-Lok	3.2 (0.126)	0.21	83.0 (3.27)	41.5 (1.63)	41.5 (1.63)	32.00 (1.26)	45.0 (1.77)	67.2 (2.65)
	O-6T-SS	3/8 in. OTG-Lok			86.2 (3.39)	43.1 (1.70)	43.1 (1.70)			
	O-8T-SS	1/2 in. OTG-Lok			92.0 (3.62)	46.0 (1.81)	46.0 (1.81)			
	F-4N-SS	1/4 in. Female NPT			62.0 (2.44)	31.0 (1.22)	31.0 (1.22)			
	F-6N-SS	3/8 in. Female NPT			70.0 (2.76)	35.0 (1.38)	35.0 (1.38)			
	F-8N-SS	1/2 in. Female NPT			76.2 (3.00)	38.1 (1.50)	38.1 (1.50)			
	MF-8N-SS	1/2 in. Male to 1/2 in. Female NPT			88.9 (3.50)	44.45 (1.75)	44.45 (1.75)			
	MF-12N8N-SS	3/4 in. Male to 1/2 in. Female NPT								
OHNV10B-	F-12N-SS	3/4 in. Female NPT	5.0 (0.196)	0.6	93.9 (3.70)	46.95 (1.85)	46.95 (1.85)	41.0 (1.62)	50.0 (1.97)	83.9 (3.3)
OHNV10C-	F-16N-SS	1 in. Female NPT						46.0 (1.81)		92.9 (3.66)

* Dimensions are shown with OTG-Lok nuts finger-tight.
Dimensions are for reference only and are subject to change.

Ordering Information

To complete your ordering number, insert the designator of options into the basic ordering number.

OHNV10A — O — 4T — GF — SG — SS

- **Valve Series**
- **Connection Type**
- **Connection Size**
- **Packing Material**
  - Nil: Standard PTFE
  - GF: Grafoil Packing
- **Option**
  - Nil: Standard
  - SG: Sour Gas Service
- **Body Material**
  - SS: SS316

Factory Test and Cleaning

- Every valve is factory tested with nitrogen @1000 psig (69 bar) for leakage at the seat to a max. allowable leak rate of 0.1 std cm3/min.
- Packing seal is tested to no detectable leakage with a liquid leak detector.
- Every valve is cleaned and packaged in accordance with OTG's cleaning standard OCS-01.

Operation

- Valves that have not been cycled for a period of time may have a higher initial actuation torque.
- Packing adjustment may be required in service, especially for soft-seat stem to compensate its physical compression.
- Soft seat stem is recommended for gaseous and low density fluids, the shut-off torque should not exceed 7.9 Um. (70lb. in.).

Options

Sour Gas Service

The materials of wetted components are selected in accordance with NACE MR0175/ISO 15156-2/3 or NACE MR0103 depending on the application. To order, add "SG" to the valve ordering number.

Grafoil Packing

Grafoil is a high temperature packing material that requires a load to seal.
Grafoil is rated to the maximum of 973 °F (523 °C) for air service. In steam, it is rated to the maximum temperature of 1200 °F (648 °C).
Grafoil packing is not for use with pneumatic actuating valves.

Safe Valve Selection

The selection of a valve for any application or system must be considered to ensure safe performance. Valve rating, valve function, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. OTG Corporation accepts no liability for any improper selection, compatibility, installation, operation or maintenance.

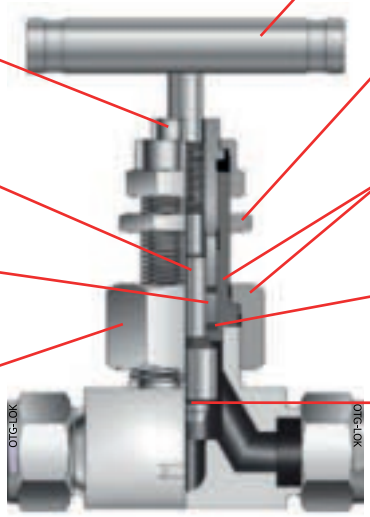
OUNV6 & OUNV10 Series

Severe-Service Union Bonnet Needle Valves

Working pressure up to 6000 psig (689 bar) @ 100°F (38 °C): OUNV6 Series
Working pressure up to 10,000 psig (689 bar) @ 100°F (38 °C): OUNV10 Series

Features

- Temperatures from –65 to 450°F (–53 to 232°C) with PTFE packing; up to 1200°F (648°C) with optional Grafoil® packing
- 316 stainless steel; Alloy C276 Materials.
- 100% factory tested.



External Packing bolt design permits packing adjustment without the valve disassembly.

Roll threaded and hard chrome plated stem- is for long valve life.

Stem Packing below the threads- prevents media contamination and thread lubricant washout.

Union Nut- prevents accidental disassembly of the valve in service.

Handle- Standard SS316 bar handle, optional aluminum bar handle.

Panel Mounting Nut- is standard and permits valve to panel or actuator.

Union-bonnet construction- prevents accidental valve disassembly.

Safety Stem Back Seating- in fully open position

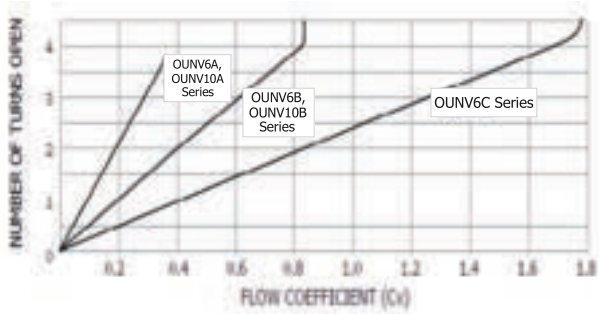
Non-Rotating Stem Disc at Closure- is for maximum metal seat life and positive seal.

Pressure-Temperature Ratings

- Ratings are based on graphite packing.
- Max. 450 °F (232 °C) for valve with standard PTFE packing.

OUNV6 Series			OUNV10 Series
ASME Class	2500		N/A
Material Group	2.2	3.8	N/A
Material Name	SS316	C276	S316
Temperature, °F (°C)	Working Pressure psig (bar)		
-65 to 100 (-53 to 37)	6000 (413)	6000 (413)	10 000 (689)
200 (93)	5160 (355)	6000 (413)	9290(640)
300 (148)	4660 (321)	6000 (413)	8390(578)
400 (204)	4280 (294)	5880(405)	7705(530)
500 (260)	3980 (274)	5540(381)	7165(493)
600 (315)	3760 (259)	5040(347)	6770(466)
700 (371)	3620 (249)	4730(326)	6480(446)
800 (426)	3460 (238)	4230 (291)	6230 (429)
900 (482)	3280 (225)	3745 (258)	5905 (406)
1000 (537)	3030 (208)	3030 (208)	5450 (375)
1100 (593)	2685 (184)	2685 (184)	4835 (333)
1200 (648)	1715 (118)	1545 (106)	3085 (212)

Number of Handle Turns - Cv



Globe and Ball Disc
Valve with standard globe and ball disc is designed for use in a fully open or fully closed position.
Refer to Cv in the ordering information and dimensions table on Page 3.

Cv reduction
Valve flow may be reduced by the restriction of pipe and tubing connected.

Packing and Body Materials vs Temperature and Pressure Rating

Packing Material	Body Materials	Temperature	Pressure Rating @ Max. Temp.
PTFE (Standard)	316 Stainless Steel	-65 °F ~ 450 °F (-54 °C ~ 232 °C)	4130psig (284bar)
	Alloy C276		5710psig (393bar)
PEEK	316 Stainless Steel	-65 °F ~ 600 °F (-54 °C ~ 315 °C)	3760psig (259bar)
	Alloy C276	-65 °F ~ 500 °F (-54 °C ~ 262 °C)	5540psig (381bar)
Graphite	316 Stainless Steel	-65 °F ~ 1200 °F (-54 °C ~ 648 °C)	1715psig (118bar)
	Alloy C276	-65 °F ~ 1200 °F (-54 °C ~ 648 °C)	1545psig (106bar)

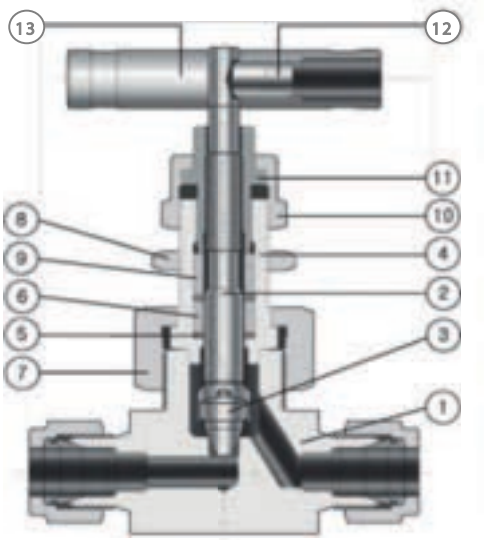
Sour Gas Valves

Valves for use in sour gas are available. Valve wetted components are selected to the requirements of NACE MR0175 for sulfide stress cracking resistant materials. To order, insert **-SG** in the basic ordering number.

Grafoil packing information

Grafoil is a high temperature packing material that requires a load on the material to generate a seal.
In air, Grafoil maximum temperature is 973°F (523°C), in steam, Grafoil goes up to the maximum temperature of 1200°F (648° C). Grafoil packing is not for use with pneumatic actuating valves.

Materials of Construction



Components		Valve Body Materials	
		Stainless Steel	Alloy C276
		Material Grade/ ASTM Specification	
1	Body	SS316/A479, A276	Alloy C276/B574
2	Stem	SS316/A276 or A479 hard chrome-plated	
3	Stem tip	SS630/A564 (17-4PH)	
4	Bonnet	SS316/A276 or A479	
5	Packing Support	Glass-filled PTFE	
6	Packing	PTFE/D1710, optional Graphite	
7	Union Nut	SS316/A276 or A479	
8	Panel Nut		
9	Gland	SS316/A276	Alloy C276/B574
10	Cap Nut	SS316/A276 or A479	
11	Packing Bolt	SS316/A276	
12	Set Screw	Stainless Steel	
13	Bar Handle	SS316/A276, optional black-anodized aluminum handle	

Wetted components listed in orange color.

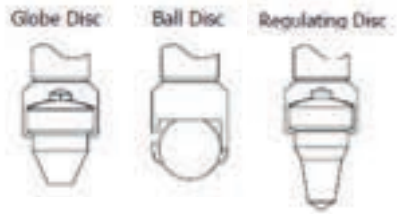
Lubrication:

- Wetted parts are lubricated with Nickel anti-seize lubricant.
- Ball disc: hydrocarbon-based.

Packing adjustment and actuation torque

Extreme temperature fluctuations while valve in service may require packing adjustment. Valves that have not been actuated for a period of time may have a higher initial actuation torque.

Non-Rotating Stem tip Design:



Testing

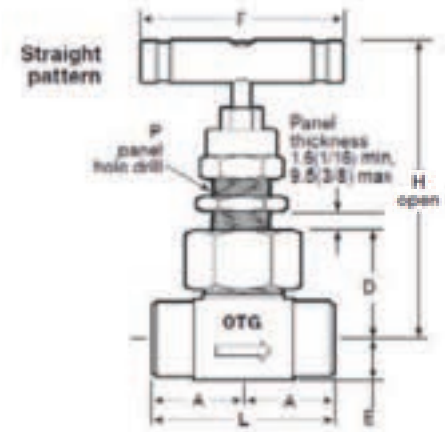
Every OUNV6 series and OHUNV10 series needle valve is factory tested with nitrogen at 1000 psig (69 bar). Seats have a maximum allowable leak rate of 0.1 std cm3/min. Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

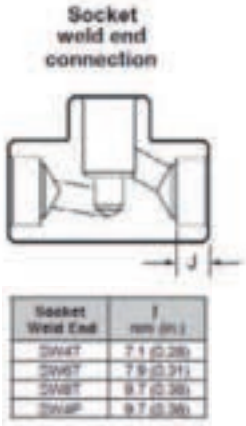
Cleaning

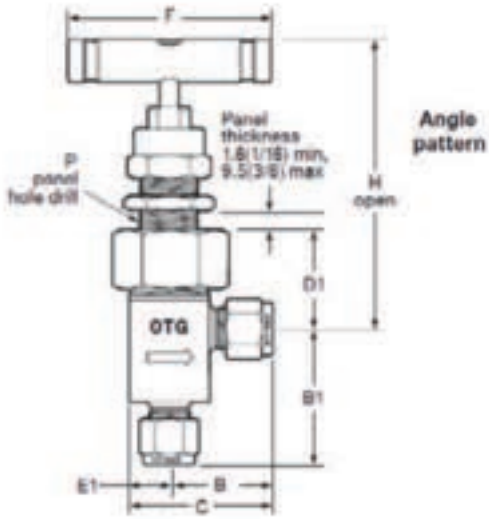
Every valve is cleaned and packaged in accordance with OTG cleaning standard OCS-01.

SAFETY in VALVE SELECTION

Proper installation, material compatibility, operation and maintenance of the valve is the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.





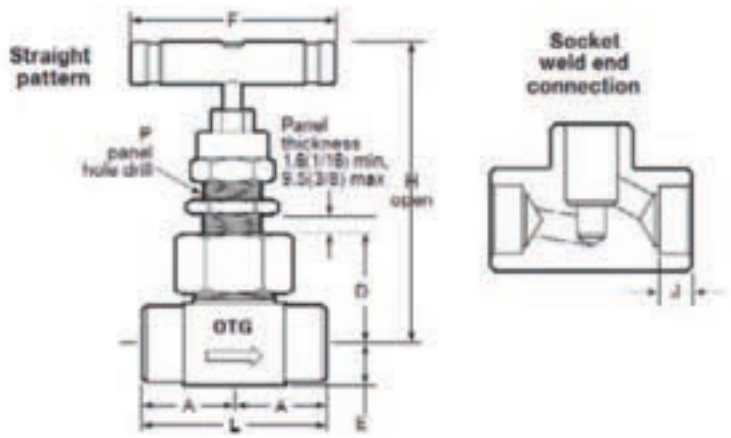


Ordering Information and Dimensions

OUNV6 Series

Basic Ordering Number		End Connection Inlet/Outlet	Orifice mm (in)	Cv	Dimensioms, in. (mm) L	A	B	B1	C	D	D1	E	E1	F	P	H
OUNV6A-	O-4T	1/4" OTG-Lok	4.0 (0.156)	0.30	61.0(2.40)	30.5 (1.20)	29.5(1.16)	37.6 (1.48)	39.1 (1.54)	27.7 (1.09)	27.7 (1.09)	9.7 (0.38)	9.7 (0.38)	44.4 (1.75)	15.1 (19/32)	77.2 (3.04)
	O-6M	6mm OTG-Lok														
	O-8M	8mm OTG-Lok					—	—	—		—					
	F-2N	1/8" Female NPT			50.8(2.00)	25.4(1.00)	22.6(0.89)	25.4 (1.00)	32.3 (1.27)		32.5 (1.28)					
	F-4N	1/4" Female NPT			52.3(2.06)	26.2(1.03)										
	M-4N	1/4" Male NPT			50.8(2.00)	25.4(1.00)	25.4(1.00)		35.1 (1.38)		27.7 (1.09)					
	MF-4N	1/4" Male to Female NPT			51.6(2.03)	25.8(1.16)	22.6(0.89)		32.3 (1.27)		32.5 (1.28)					
	SW-4T	1/4" Tube Socket weld			46.2(1.82)	23.1(0.91)	22.4(0.88)	30.2 (1.19)	31.8 (1.25)		27.7 (1.09)					
OUNV6B-	O-6T	3/8" OTG-Lok	6.4 (0.250)	0.86	71.9(2.83)	35.8(1.41)	32.8(1.29)	42.2 (1.66)	45.5 (1.79)	34.0 (1.34)	31.0 (1.22)	12.7 (0.50)	12.7 (0.50)	63.5 (2.50)	19.8 (25/32)	94.0 (3.70)
	O-8T	1/2" OTG-Lok			77.2(3.04)	38.6(1.52)	35.6(1.40)	41.9 (1.65)	48.3 (1.90)		34.0 (1.34)					
	O-10M	10mm OTG-Lok			72.4(2.85)	36.1(1.42)	33.0(1.30)	39.4 (1.55)	45.7 (1.80)		34.3 (1.35)					
	O-12M	12mm OTG-Lok			77.2(3.04)	38.6(1.52)	35.6(1.40)	41.9 (1.65)	48.3 (1.90)		34.0 (1.34)					
	F-4N	1/4" Female NPT			57.2(2.25)	28.4(1.12)	25.4(1.00)	28.4 (1.12)	38.1 (1.50)		37.3 (1.47)					
	F-6N	3/8" Female NPT														
	SW-6T	3/8" Tube Socket weld						38.1 (1.50)			34.0 (1.34)					
	SW-8T	1/2" Tube Socket weld									35.6 (1.40)					
	SW-4P	1/4" Pipe Socket weld									37.3 (1.47)					
OUNV6C-	O-8T	1/2" OTG-Lok	11.1 (0.437)	2.10	99.6(3.92)	49.8(1.96)	42.7(1.68)	52.8 (2.08)	60.2 (2.37)	46.2 (1.82)	47.8 (1.88)	15.7 (0.62)	17.5 (0.69)	88.9 (3.50)	26.2 (1 1/32)	121 (4.78)
	O-12T	3/4" OTG-Lok		2.40												
	O-16T	1" OTG-Lok			104.0(4.09)	51.8(2.04)	—	—	—	47.8 (1.88)	—	17.5 (0.69)	—			
	O-12M	12mm OTG-Lok		1.90	99.6(3.92)	49.8(1.96)	42.7(1.68)	52.8(2.08)	60.2 (2.37)	46.2 (1.82)	47.8 (1.88)	15.7 (0.62)	17.5 (0.69)			
	F-8N	1/2" Female NPT		2.40	79.2(3.12)	39.6(1.56)	33.3(1.31)	39.6 (1.56)	50.8 (2.00)	46.2 (1.82)	50.8 (2.00)					
	F-12N	3/4" Female NPT			82.6(3.25)	41.1(1.62)	—	—	—	48.5 (1.91)	—	19.8 (0.78)	—			124 (4.88)
	F-16N	1" Female NPT			91.9(3.62)	46.0(1.81)	—	—	—	54.1 (2.13)	—	25.4 (1.00)	—			129 (5.10)
	MF-8N	1/2" Male to Female NPT		1.90	79.2(3.12)	39.6(1.56)	33.3(1.31)	39.6 (1.56)	50.8 (2.00)	46.2 (1.82)	50.8 (2.00)	15.7 (0.62)	17.5 (0.69)			121 (4.78)
	MF-12N	3/4" Male to Female NPT			82.6(3.25)	41.1(1.62)	—	—	—	48.5 (1.91)	—	19.8 (0.78)	—			124 (4.88)
	MF-16N	1" Male to Female NPT			91.9(3.62)	46.0(1.81)	—	—	—	54.1 (2.13)	—	25.4 (1.00)	—			129 (5.10)
	SW-8T	1/2" Tube Socket weld		2.20	79.2(3.12)	39.6(1.56)	33.3(1.31)	42.9 (1.69)	50.8 (2.00)	46.2 (1.82)	47.8 (1.88)	15.7 (0.62)	17.5 (0.69)			121 (4.78)
	SW-12T	3/4" Tube Socket weld					—	—	—		—		—			
	SW-8P	1/2" Pipe Socket weld		2.40			33.3(1.31	39.6 (1.56)	50.8 (2.00)	47.8 (1.88)	50.8 (2.00)	17.5 (0.69)	17.5 (0.69)			123 (4.85)

Dimensions are for reference only, subject to change.



OUNV10 Series

Basic Ordering Number		End Connection Inlet/Outlet	Orifice mm (in)	Cv	Dimensions, mm (in)							
					L	A	D	E	F	P	H	J
OUNV10A-	O-4T	1/4" OTG-Lok	4.0 (0.156)	0.35	71.6 (2.82)	35.8 (1.41)	35.1 (1.38)	12.7 (0.50)	63.5 (2.50)	20.6 (0.81)	84.1 (3.31)	—
	F-2N	1/8" Female NPT			57.2 (2.25)	28.7 (1.13)						
	F-4N	1/4" Female NPT										
	M-4N	1/4" Male NPT										
	MF-4N	1/4" Male to Female NPT										
	SW-4T	1/4" Tube Socket Weld										7.1(0.28)
OUNV10B-	F-4N	1/4" Female NPT	6.4 (0.250)	0.86	79.5 (3.13)	39.6 (1.56)	16.0 (0.63)	16.0 (0.63)	88.9 (3.50)	26.9 (1.06)	105 (4.13)	—
	F-8N	1/2" Female NPT			82.6 (3.25)	41.4 (1.63)	19.8 (0.78)	19.8 (0.78)			108 (4.25)	
	M-8N	1/2" Male NPT			79.5 (3.13)	39.6 (1.56)	16.0 (0.63)	16.0 (0.63)			105 (4.13)	
	MF-8N	1/2" Male to Female NPT			82.6 (3.25)	41.4 (1.63)	19.8 (0.78)	19.8 (0.78)			108 (4.25)	

Ordering Information

To complete your ordering number, insert the designator of options into the basic ordering number.

OUNV6 — O — 4T — A — GF — R — AH — SG — SS

Valve Series

Connection Type

Connection Size

Flow Pattern
- Nil: Straight Pattern
- A: Angle Pattern

Packing Material
- Nil: Standard
- PK: PEEK Packing
- GF: Grafoil

Stem Type
- Nil: Standard Glove Stem
- R: Regulating Stem
- B: Ball

Handle
- Nil: SS316 Bar Handle
- AH: Aluminum Bar Handle

Option
- Nil: Standard
- SG: Sour Gas Service

Body Material
- SS: SS316
- HC: Alloy C-276

TUBE FITTING & VALVE

OTG lok

Check & Relief Valves

- OCV, OHCV6, OPCV3, OACV3, OPACV3, OLCV6 Series
- ORV Series - Liquid and Gas Service Proportional Relief Valves

Features

- Pressure rating up to 3000psi (206bar) and 6000psi (413bar)
- Materials: Standard SS316 and Brass.

Design

- OCV Series Check Valves are designed to prevent reverse flow and keep the fluid in one direction.
- Valves provide bubble tight in the flow reverse direction.
- Adjustable & fixed cracking pressure and lift check valves are available.

- Fixed Cracking Pressure Valves: From 1/3 to 25psi (0.03 to 1.8 bar)

- **OCV3 Series** 3000psi (206bar) Poppet check valves
- **OPCV3 Series** 3000psi (206bar) One-piece check valves
- **OHCV6 Series** 6000psi (413bar) High pressure check valves

- Adjustable Cracking Pressure Valves: From 3 to 600psi (0.21 to 41.4 bar)

- **OPACV3 Series** 3000psi (206bar) One-piece Adjustable Check Valves
- **OACV3 Series** 3000psi (206bar) In-line Adjustable Check Valves

- OLCV6 Series 6000psi (413bar) Lift Check Valves:

Operation

Upstream (Inlet) pressure pushes the poppet from a closed to open position when upstream pressure is greater than downstream (Outlet) pressure plus the spring force. The only time downstream pressure can be greater than upstream pressure is when the valve is in closed position. In a static condition, where equal pressure is present at both upstream and downstream, the valve would be in closed due to the force of the spring.

Technical Data

Cracking, Reseal and Back Pressure

- **Cracking pressure** : The inlet pressure at which the first indication of flow occurs (steady stream of bubbles).
  The Check valve is actuated when the pressure difference between the inlet and the outlet reaches the range of cracking pressure.

- **Reseal pressure** : The pressure at which there is no indication of flow.
  The Check valves that have higher cracking pressure can be resealed to bubble-tight by the spring. The reseal pressure is the pressure at the same flow direction, but lower than the cracking pressure.

- **Back pressure** : The differential pressure between the inlet and outlet pressures.
  The check valves that have cracking pressure 5 psig(0.34bar) and lower may not be able to return to the bubble-tight seal. This may require back pressure to press the seal to form a bubble-tight contact in addition to the spring force.

NOTE: **When the check valve is not actuated for a period of time, it may require initially crack at higher than the above cracking pressure ranges. Check valves are designed for directional flow control only.**

TEST

Every valve is factory tested for cracking and resealing performance with a liquid leak detector.

- Fixed cracking pressure valves are tested cracking and resealing performance minimum 3 times.
- Adjustable cracking pressure valves are tested at minimum and maximum cracking pressure of the spring in the valve.
- All valves at room temperature ensure resealing within 5 seconds at the appropriate reseal pressure.

Cleaning and Packaging

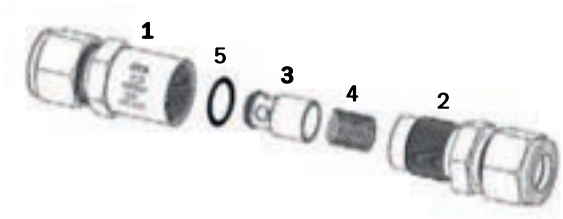
- Every valve is cleaned and packaged in accordance with OTG cleaning standard.

OCV3 Series Poppet Check Valves

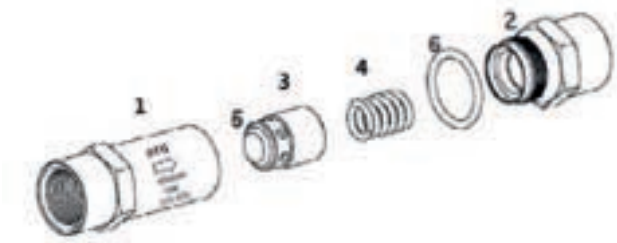
Festures

- Working Pressure rating up to 3.000psi (206bar) @100°F(38°C)
- Stainless steel and Brass

OCV3A, 3B, 3C& 3D Series



OCV3E & 3F Series



Materials of Construction

Description	Valve Body Materials	
	SS316	Brass
1 Body	SS316	Brass
2 Connector		
3 Poppet	SS316/ A276, A479	Brass/B16
4 Spring	S302/A313	
5 Poppet O-ring	FKM	
6 Connector O-ring	FKM	

Lubrication:
- Silicone-based Lubricant for poppet O-ring.
- Wetted parts are listed in orange color.

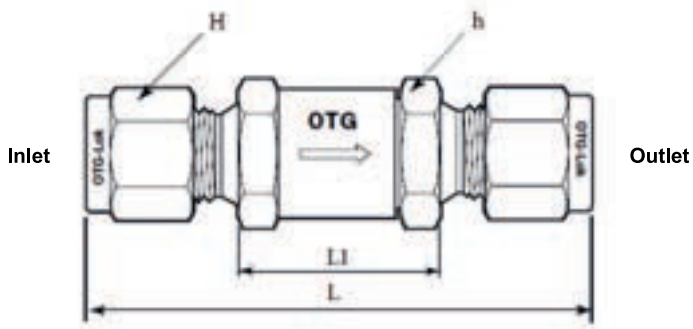
Pressure-Temperature Ratings

Valve Series	OCV3A, OCV3B, SCV3 and OCV3D Series		OCV3E, OCV3F Series	
Valve Material	SS316	Brass	SS316	Brass
O-Ring Material	FKM	NBR	FKM	NBR
Temperature, °F (°C)	Working Pressure, psig (bar)			
-10 to 100 (-23 to 37)	3000(206)	3000(206)	2000(137)	1500(103)
200 (93)	2575(177)	2600(179)	1715(118)	1300(89.6)
250 (121)	2450(168)	2405(165)	1630(112)	1250(82.7)
300 (148)	2325(160)	-	1545(106)	-
350(176)	2232(153)	-	1481(102)	-
375 (190)	2185(150)	-	1450(99.9)	-

Spring Designator/Cracking and Reseal Pressure @ 70°F(21℃)

Nominal Cracking Pressure		Cracking Pressure Ranges				Reseal Pressure
		Min. Pressure		Max. Pressure		
Designator	psig (bar)	psi	bar	psi	bar	psi (bar)
1/3	1/3 (0.03)	0	0	3	0.21	Up to 6 (0.42) back pressure
1	1 (0.07)	0	0	4	0.28	Up to 6 (0.42) back pressure
3	3 (0.21)	2	0.14	7	0.48	Up to 4 (0.28) back pressure
10	10 (0.69)	7	0.48	15	1.03	Minimum 3 (0.21) inlet pressure
25	25 (1.8)	20	1.38	30	2.07	Minimum 17 (1.17) inlet pressure
50	50 (3.45)	50	2.76	60	4.14	Minimum 35 (2.41) inlet pressure

OCV3 Series Poppet Check Valves



Ordering Information and Dimensions

Basic Ordering No		End Connections Inlet / Outlet	Orifice mm (in.)	Cv	Dimensions mm(in) L	L1	H (Hex)	h (Hex)
OCV3A-	O-2T	1/8 in. OTG-Lok	4.8 (0.19)	0.47	55.6 (2.19)	25.0 (0.98)	7/16	5/8
	O-4T	1/4 in. OTG-Lok			60.0 (2.36)		9/16	
	O-6M	6mm OTG-Lok					14mm	
	F-2N	1/8 in. Female NPT			45.6 (1.83)		-	
	M-2N	1/8 in. Male NPT			44.4 (1.75)		-	
	M-4N	1/4 in. Male NPT			53.4 (2.10)		-	
	MO-4N4T	1/4 in. Male NPT/ 1/4 in. OTG-Lok			56.4 (2.22)		9/`6	
OCV3B-	O-6T	3/8 in. OTG-Lok	7.1 (0.28)	1.48	65.5 (2.58)	27.1 (1.07)	11/16	3/4
	O-10M	10mm OTG-Lok					19mm	
	F-4N	1/4 in. Female NPT			56.8 (2.24)		-	
	M-6N	3/8 in. Male NPT			55.5)2.19)		-	
OCV3C-	O-8T	1/2 in. OTG-Lok	10.0 (0.39)	1.68	80.2 (3.16)	36.2 (1.43)	7/8	7/8
	O-12M	12mm in OTG-Lok					22mm	
	F-6N	3/8 in. Female NPT			63.8 (2.51)		-	
	M-8N	1/2 in. Male NPT			74.4 (2.93)		-	
OCV3D-	O-10T	5/8 in OTG-Lok	13.5 (0.53)	2.6	91.8 (3.61)	48.1 (1.89)	1	1 1/8
	F-8N	1/2 in. Female NPT			84.7 (3.33)		-	
OCV3E-	O-12T	3/4 in. OTG-Lok	16.0 (0.63)	5.2	110.7 (4.35)	67.0 (2.64)	1 1/8	1 1/4
	F-12N	3/4 in. Female NPT			103.0 (4.06)		-	
	M-12N	3/4 in. Male NPT			105.3 (4.15)		-	
OCV3F-	O-16T	1 in. OTG-Lok	18.0 (0.71)	8.0	120.8 (4.75)	68.4 (2.69)	1 1/2	1 3/8
	F-16N	1 in. Female NPT			111.4 (4.39)		-	
	M-16N	1 in. Male NPT			114.8 (4.52)		-	1 5/8

Dimensions are for reference only, subject to change.

How To order

Follow the steps below.

Step 1. Select a valve basic ordering number.

Step 2. Select an applicable spring designator and add it to the basic ordering number:

Step 3. Suffix an applicable body material designator to the ordering number:
Body Material: SS316: **SS**, Brass: **BS**

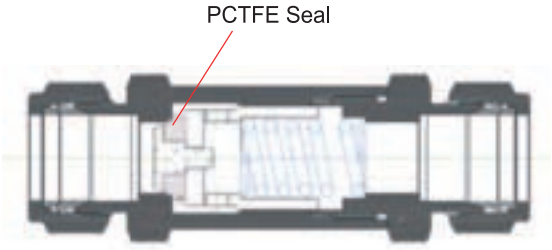
Example:
OCV3A-O-4T-
OCV3A-O-4T-**1/3**-.
OCV3A-O-4T-1/3-**SS**

Option

Cryogenic Service

The OTG Check valve with PCTFE seal provides leak tight shutoff for Cryogenic service.
Temperature Rating: - 113°F (-80.5°C) ~ 356°F (180°C)
Cracking pressure: 10psig (0.69bar)
Reseal pressure: 3psi (0.21bar)
Reverse flow coefficient less than 0.1 % of forward flow coefficient

To order a Check valve for Cryogenic Service, add CG to the basic ordering number.
Example: OCV3E-O-12T-**CG**-SS

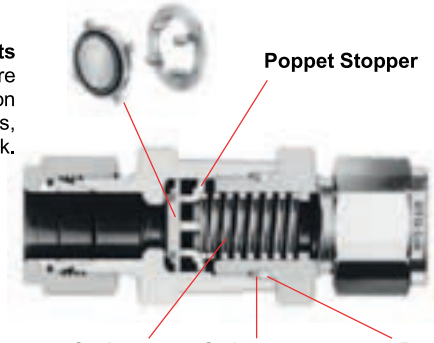


OHCV6 Series High Pressure Check Valves

Features

- Pressure rating up to 6000psi (413bar) @ 70°F(21°C)
- Temperature rating up to 375°F (191°C) with standard FKM O-ring.
- S316 Stainless steel body as standard.
- Suitable for gas and liquids.
- Cracking pressures include: 1/3, 1, 3, 10, 25 psi.

Design



Materials of Construction

Component	Valve Body Materials Material Grade / ASTM Specification
1 Body	SS316 / A276, A479
2 Connector	
3 Poppet	FKM-bonded SS316 / A276
4 Poppet Stopper	SS316 / A240
5 Spring	SS302 / A313
6 O-ring	Fluorocarbon FKM
7 Back up ring	PTFE / D1710

Lubrication:
- Silicone-based Lubricant for poppet.
- Wetted parts are listed in orange color.

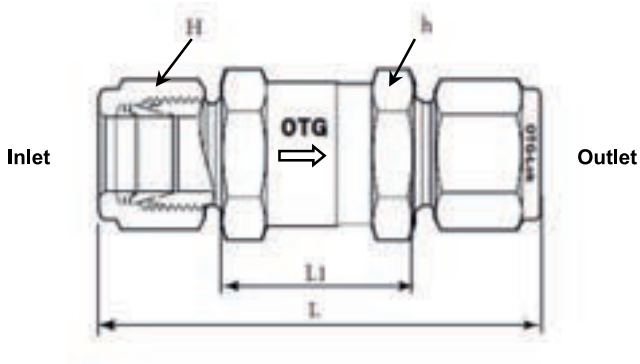
Pressure-Temperature Ratings

Valve Series	OHCV6A, OHCV6B Series	OHCV6C Series
Valve Material	SS316	
Seal Material	FKM	
Temperature, °F (°C)	Working Pressure, psig (bar)	
-10 to 100 (-23 to 37)	6000 (413)	5000(344)
200 (93)	5160 (355)	4290(295)
250 (121)	4910 (338)	4080(281)
300 (148)	4660 (321)	3875(266)
375 (190)	4280 (294)-	3560(245)-

Spring Designator / Cracking and Reseal Pressure at @ 70°F(21°C)

Nominal Spring Cracking Pressure		Cracking Pressure Range		Reseal Pressure
		Min. Pressure	Max. Pressure	
Designator	psig (bar)	psi (bar)	psi (bar)	Psi (bar)
1/3	1/3 (0.03)	0 (0)	3 (0.21)	Up to 6 (0.42) Back pressure
1	1 (0.07)	0 (0)	4 (0.28)	Up to 5 (0.35) Back pressure
5	5 (0.35)	3 (0.21)	9 (0.63)	Up to 2 (0.14) Back pressure
10	10 (0.69)	7 (0.49)	15 (1.1)	Minimum 3 (0.21) inlet pressure
25	25 (1.8)	20 (1.4)	30 (2.1)	Minimum 17 (1.2) inlet pressure

OHCV6 Series High Pressure Check Valves



Ordering Information and Dimensions

Basic Ordering Number		End Connection Inlet / Outlet	Orifice mm	Cv	Pressure Rating at 100°F (37℃) psig (bar)	Dimensions mm (in.) L	L1	H	h
OHCV6A-	O-2T	1/8 in. OTG-Lok	4.8	0.67	6000 (413)	57.7(2.27)	26.4(1.04)-	7/16	11/16
	O-4T	1/4 in. OTG-Lok				61.7(2.43)		9/16	
	O-6M	6mm OTG-Lok						14.0mm	
	F-4N	1/4 in. Female NPT				54.1(2.13)	-	-	
	M-2N	1/8 in. Male NPT				45.5(1.79)	-	-	
	M-4N	1/4 in. Male NPT				55.1(2.17)	26.4(1.04)-	-	
OHCV6B-	O-6T	3/8 in. OTG-Lok	7.8	1.8	6000 (413)	69.9(2.75)	31.2(1.23)	11/16	1
	O-8T	1/2 in. OTG-Lok				75.2(2.96)		7/8	
	O-8M	8mm OTG-Lok				68.6(2.70)		16mm	
	O-10M	10mm OTG-Lok				71.1(2.80)		19mm	
	O-12M	12mm OTG-Lok				75.2(2.96)		22mm	
	F-6N	3/8 in. Female NPT			5300 (365)	64.8(2.55)	-		
	F-8N	1/2 in. Female NPT			4900 (337)	77.0(3.03)	-		1-1/16
	M-6N	3/8 in. Male NPT			6000 (413)	59.9(2.36)	31.2(1.23)	-	1
	M-8N	1/2 in. Male NPT				69.3(2.73)		-	
OHCV6C-	O-12T	3/4 in. OTG-Lok	15.0	4.7	5000 (345)	89.4(3.52)	45.2(1.78)	1-1/8	1-5/8
	O-16T	1 in. OTG-Lok			4700 (323)	98.6(3.88)	45.5(1.79)	1-1/2	
	O-22M	22mm OTG-Lok			4900 (337)	88.4(3.48)		32mm	
	O-25M	25mm OTG-Lok			4600 (316)	98.6(3.88)		40mm	
	F-12N	3/4 in. Female NPT				82.0(3.23)	82.0(3.23)	-	
	F-16N	1 in. Female NPT			4400 (303)	97.3(3.83)	97.3(3.83)	-	
	M-12N	3/4 in. Male NPT			5000 (345)	83.6(3.29)	45.5(1.79)	-	
	M-16N	1 in. Male NPT				93.2(3.67)	45.7(1.80)	-	

Dimensions are for reference only, subject to change.

How to Order

Select a valve basic ordering number. Select an applicable spring designator and add it to the basic ordering number:

Follow the steps below.
Step 1. Select a valve basic ordering number.
Step 2. Select an applicable spring designator and add it to the basic ordering number:
Step 3. Suffix an applicable body material designator to the ordering number:
Body Material: SS316 - **SS**

Example:
OHCV6A-O-4T-
OHCV6A-O-4T-**1/3-**.
OHCV6A-O-4T-1/3-**SS**

OPCV3 Series One-Piece Check Valves

Features

- Pressure rating up to 3000psi (206bar) @ 70°F(21°C).
- Temperature rating up to 375°F (191°C) with standard FKM O-ring.
- Choice of materials: Standard SS316 and Brass.
- Cracking pressures include: 1/3, 1, 10, 25 psi.

Design

Spring Designator / Cracking and Reseal Pressure @ 70°F(21°C)

Nominal Spring Cracking Pressure		Cracking Pressure Range		Reseal Pressure
		Min. Pressure	Max. Pressure	
Designator	psig (bar)	psi (bar)	psi (bar)	Psi (bar)
1/3	1/3 (0.03)	0 (0)	3 (0.21)	Up to 20 (1.4) Back pressure
1	1 (0.07)	0 (0)	4 (0.28)	Up to 20 (1.4) Back pressure
10	10 (0.69)	7 (0.49)	15 (1.1)	Up to 10 (0.69) Back pressure
25	25 (1.8)	20 (1.4)	30 (2.1)	Minimum 5(0.35) inlet pressure

Pressure-Temperature Ratings

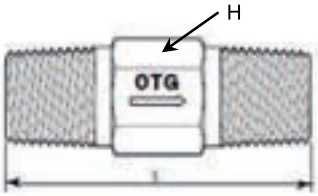
Valve Material	SS316	Brass
O-Ring Material	FKM	NBR
Temperature, °F (°C)	Working Pressure, psig (bar)	
-10 to 100 (-23 to 37)	3000 (206)	3000 (206)
200 (93)	2575 (177)	2600(179)
250 (121)	2450 (168)	2405(165)
300 (148)	2325 (160)	-
375 (190)	2185 (150)	=

Materials of Construction

Components	Valve Body Materials	
	SS316	Brass
	Material Grade / ASTM	
1 Body	SS316 / A276, A479	Brass 360/B16, C3604/JIS H3250
2 Poppet		
3 Insert		
4 Locking Screw		
5 Spring	S302/A313	
6 O-ring	FKM	NBR

*Silicone-based Lubricant for poppet
Wetted parts are listed in orange color.

Ordering Information and Dimensions



Basic Ordering No		End Connections Inlet / Outlet	Cv	Dimensions mm (in.) L	H
OPCV3A-	M-4N-	1/4 in. Male NPT	0.35	41.1 (1.62)	14.28 (9/16)
	M-4R-	1/4 in. ISO Male Tapered			
	F-4N-	1/4 in. Female NPT		61.2 (2.41)	19.05 (3/4)
	F-4R-	1/4 in. ISO Female Tapered		64.5 (2.54)	
	MF-4N-	1/4 in. Male NPT / 1/4 in. Female NPT		44.4 (1.75)	
	FM-4N-	1/4 in. Female NPT / 1/4 in. Male NPT		57.9 (2.28)	
OPCV3B-	M-8N-	1/2 in. Male NPT	1.20	57.9 (2.28)	22.22 (7/8)
	F-8N-	1/2 in. Female NPT		94.2 (3.71)	26.98 (1-1/16)
	MF-8N-	1/2 in. Male NPT / 1/2 in. Female NPT		71.9 (2.83)	

All dimensions shown are for reference only and are subject to change.

How to Order,

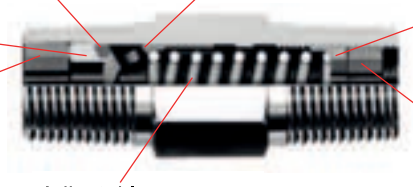
Add a cracking pressure range designator to the basic ordering number and then specify valve material designator.
Body Material: SS316- **SS** Brass – **BS** Example: OPCV3A-M-4N-**1/3-SS**

OPACV3 Series One-Piece Adjustable Check Valves

Features

- Pressure rating up to 3000psi (206bar) @ 70°F(21°C)
- Temperature rating up to 375°F (191°C) with standard Viton O-ring.
- Choice of materials: Standard SS316 and Brass.
- Cracking pressures include: 3, 50, 150, 350, 600 psig.

Design



Spring Designator / Cracking and Reseal Pressure @ 70°F(21°C)

Designator	Cracking Pressure	
	psi	bar
3	3 to 50	0.21 to 3.5
50	50 to 150	3.5 to 10.4
150	150 to 350	10.4 to 24.2
350	350 to 600	24.2 to 41.4

Pressure-Temperature Ratings

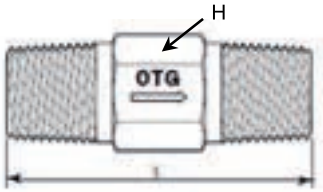
Valve Material	SS316	Brass
O-Ring Material	FKM	NBR
Temperature, °F (°C)	Working Pressure, psig (bar)	
-10 to 100 (-23 to 37)	3000 (206)	3000 (206)
200 (93)	2575 (177)	2600(179)
250 (121)	2450 (168)	2405(165)
300 (148)	2325 (160)	-
375 (190)	2185 (150)	-

Materials of Construction

Component	Valve Body Materials	
	S316	Brass
	Material Grade / ASTM	
1. Body	SS316/A276, A479	Brass 360/B16, C3604/JIS H3250
2. Poppet		
3. Insert		
4. Insert Lock Screw		
5. Adjusting Screw		
6. Locking Screw		
7. Spring	SS302/A313	
8. O-ring	FKM	NBR

Wetted parts are listed in orange color.
*Silicone-based Lubricant for poppet O-ring.

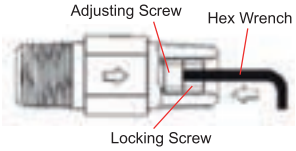
Ordering Information and Dimensions



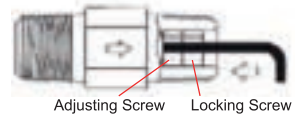
Basic Ordering Number		End Connection Inlet / Outlet	Cv	Dimensions, mm (in.) L	H
OPACV3A-	F-4N-	1/4 in. Female NPT	0.35	75.7 (2.98)	3/4
	M-4N-	1/4 in. Male NPT		41.1 (1.62)	9/16
	M-4R-	1/4 in. ISO Male Tapered		41.1 (1.62)	9/16
OPACV3B-	M-8N-	1/2 in. Male NPT	1.2	65.0 (2.56)	7/8
	M-8R-	1/2 in. ISO Male Tapered		65.0 (2.56)	7/8

All dimensions shown are for reference only and are subject to change.

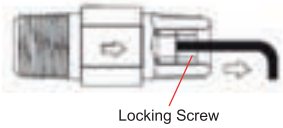
Cracking-Pressure Adjustment Procedure



1. Slightly unscrew locking screw by turning counterclockwise.



2. Gently slide hex wrench into adjusting screw.
3. Turn both locking & adjusting screws, to increase clockwise or to decrease counter-clockwise.



4. Pull out hex wrench into locking screw and tighten clockwise to lock.
5. Verify the adjusted cracking pressure.

Hex Wrench

Valve Series	Hex Wrench
OACV3	5/32 in.
OPACV3A	
OPACV3B	5/16 in.

How to Order,

Add a cracking pressure range designator to the basic ordering number and then specify valve material designator.
Body Material: SS316- **SS** Brass – **BS** Example: OPACV3A-M-4N-**3-SS**

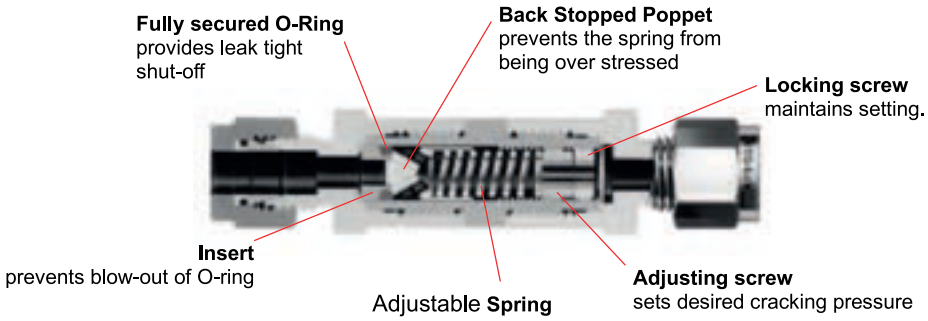
OACV3 Series In-Line Adjustable Check Valves

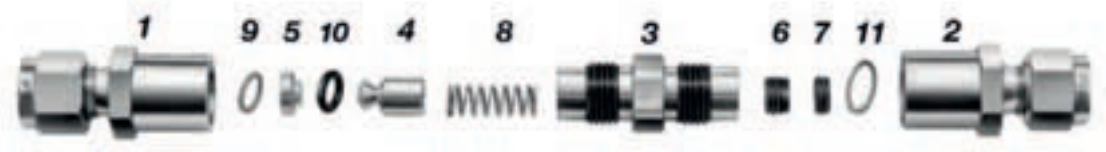
Features

Adjustable cracking pressure valves are designed for Two Ferrule OTG-Lok Tube Fitting ends.
Internal components: poppet, spring, adjusting screw, and locking screw are intermixable with OPACV3 Series.

- Pressure rating up to 3000psi (206bar) @ 70°F(21°C)
- Temperature rating up to 375°F (191°C) with standard Viton O-ring.
- Choice of materials: Standard SS316 and Brass.
- Cracking pressures include: 3 ,50 , 150 ,350 ,600 psig .

Design





Spring Designator / Cracking and Reseal Pressure @ 70°F(21°C)

Designator	Cracking Pressure	
	psi	bar
3	3 to 50	0.21 to 3.5
50	50 to 150	3.5 to 10.4
150	150 to 350	10.4 to 24.2
350	350 to 600	24.2 to 41.4

Pressure-Temperature Ratings

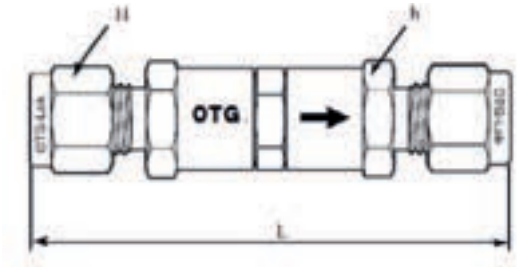
Valve Material	SS316	Brass
O-Ring Material	FKM	NBR
Temperature, °F (°C)	Working Pressure, psig (bar)	
-10 to 100 (-23 to 37)	3000 (206)	3000 (206)
200 (93)	2575 (177)	2600(179)
250 (121)	2450 (168)	2405(165)
300 (148)	2325 (160)	-
375 (190)	2185 (150)	-

Materials of Construction

Component	Valve Body Materials	
	S316	Brass
	Material Grade / ASTM	
1. Inlet Body	SS316/A276, A479	Brass 360/B16, C3604/JIS H3250
2. Outlet Body		
3. Center body		
4. Poppet		
5. Insert		
6. Adjusting Screw		
7. Locking Screw		
8. Spring	SS302/A313	
9. Inlet Gasket	PTFE Coated SS316/A240	PTFE-coated aluminum/B209
10. O-ring	FKM	NBR
11.Outlet Gasket	PTFE-coated 316 SS/A240	

Wetted parts are listed in orange color.
*Silicone-based Lubricant for poppet O-ring

Ordering Information and Dimensions



Basic Ordering Number		End Connection Inlet / Outlet	Cv	Dimensions, mm (in.) L	H	h
OACV3-	O-4T	1/4 in. OTG-Lok	0.37	82.0 (3.23)	9/16	5/8
	O-6M-	6mm OTG-Lok			14mm	
	O-8M-	6mm OTG-Lok		84.3 (3.32)	16mm	
	MO-4N4T-	1/4 in. Male NPT/ 1/4 in. OTG-Lok		79.2 (3.12)	9/16	

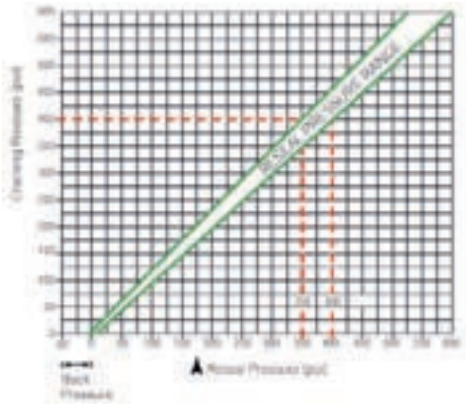
All dimensions shown are for reference only and are subject to change.

How to Order,

Add a cracking pressure range designator to the basic ordering number and then specify valve material designator.
Body Material: SS316- **SS** Brass – **BS** Example: OACV3-O-4T-**3-SS**

Cracking and Reseal Pressure @ 70 °F (21 °C)

OPACV3 & OACV3 Series
Adjustable Cracking Pressure Valves



How to Use Graph

The adjustable valve is set to crack at 400 psi, the minimum 350 psi upstream pressure would need to reseal the valve.

O-Ring Seal Materials

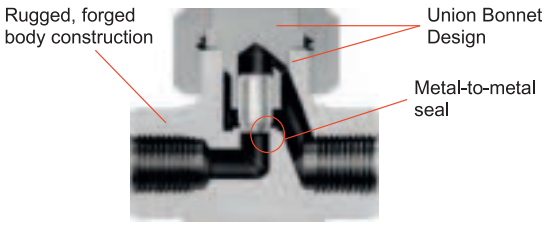
Viton is standard for S316 valves and NBR is standard for Brass valves.

Material	Designator	Temperature Rating °C (°F)	Application
NBR	BN	-23°C to 121°C (-10°F to 250°F)	Petroleum-based hydraulic and lubricating oils, animals and vegetable oils, acetylene, alcohols, air, alkalis, fuel oils and many other media.
FKM	VT	-23°C to 190°C (-10°F to 375°F)	High- quality compounds for high temperatures, Synthetic and hydraulic fluids; a wide range of chemicals, heavily oxidizing acids, suitable for vacuum.
EPDM	EP	-45°C to 148°C (-50°F to 300°F)	Chemical resistance: nonflammable hydraulic fluids (Skydrol, Pydraul, Lindol, Cellulube 150, phosphoric esters), pure aniline, fire extinguisher liquids (chlorobromo-methane), acid; excellent resistance to hot water and steam.

OLCV6 Series Lift Check Valves

Features

- OTG Lift Check Valve has been designed for a wide variety of temperature extremes found in power, chemical, petrochemical, oil & gas, and laboratory applications.
- Pressure rating up to 6.000psi (413bar) @100°F(38°C)
- Temperature up to 900°F(482°C)
- SS316 stainless steel construction.
- No spring or elastomers.



Operation

- Forward flow lifts the poppet, opening the valve.
- Reverse flow seats the poppet against the orifice, closing the valve.
- Reverse flow coefficient less than 0.1 % of forward flow coefficient.
- **The lift check valve is gravity assisted poppet uses back pressure to achieve a seal and must be mounted horizontally, with bonnet nut on top.**

Pressure-Temperature Ratings

ASME Class	2500
Material Group	2.2
Material Name	SS316
Temperature, °F(°C)	Working Pressure psig (bar)
-65 to 100 (-53 to 37)	6000 (413)
200 (93)	5160 (355)
250 (121)	4910 (338)
300 (148)	4660 (321)
350 (176)	4470 (307)
400 (204)	4280 (294)
450 (232)	4130 (284)
500 (260)	3980 (274)
600 (315)	3760 (259)
650 (343)	3700 (254)
700 (371)	3600 (248)
750 (398)	3520 (242)
800 (426)	3460 (238)
850 (454)	3380 (232)
900 (482)	3280 (225)

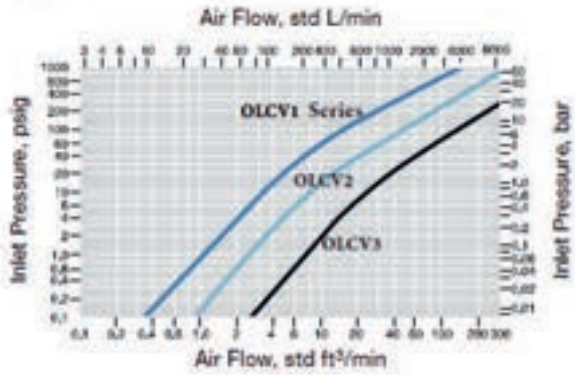
Materials of Construction

Description		Material Grade/ ASTM Specification
1	Body	SS316/A479, A276
2	Bonnet	
3	Bonnet Nut	
4	Poppet	Type630/A564

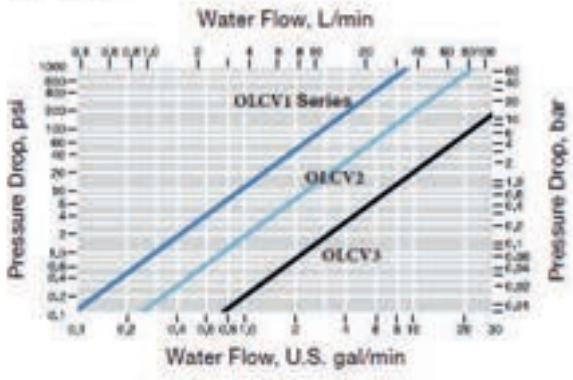
Wetted components listed in orange color.
Lubricant is Molybdenum-based.

Flow Data at 100°F(37°C)

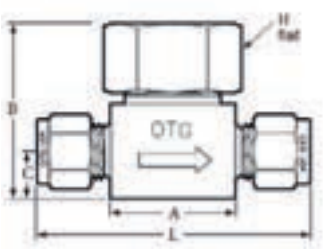
Air



Water



Ordering Information



Basic Ordering Number		End Connection Inlet/Outlet	Orifice mm (in.)	Cv	Dimensions, mm (in.) L	A	B	C	H(flat)
OLCV6A-	O-4T	1/4" OTG-Lok	4.0 (0.156)	0.30	61.0(2.40)	25.7(1.01)	37.3 (1.47)	9.9 (0.39)	22.2 (7/8)
	O-6M	6mm OTG-Lok							
	F-2N	1/8" Female NPT			50.8(2.0)	25.4(1.00)			
	F-4N	1/4" Female NPT			52.3(2.06)	23.9(0.94)			
	OF-4T4N	1/4" OTG-Lok / 1/4" Female NPT			56.6(2.23)	24.6(0.97)			
	SW-4T	1/4" Tube Socket weld			46.0(1.81)	22.9(0.90)			
OLCV6B-	O-6T	3/8" OTG-Lok	6.4 (0.250)	0.64	71.9(2.83)	33.3(1.31)	47.0 (1.85)	12.7 (0.5)	31.8 (1 1/4)
	F-4N	1/4" Female NPT			52.3(2.06)	23.9(0.94)			
	SW-6T	3/8" Tube Socket weld			57.2(2.25)	31.8(1.25)			
	SW-8T	1/2" Tube Socket weld							
OLCV6C-	O-8T	1/2" OTG-Lok	11.1 (0.437)	2.20	99.6(3.92)	55.6(2.19)	62.0 (2.44)	15.7 (0.62)	38.1 (1 1/2)
	O-12T	3/4" OTG-Lok							
	F-6N	3/8" Female NPT			79.2(3.12)	47.2(1.86)			
	F-8N	1/2" Female NPT							
	SW-8T	1/2" Tube Socket weld			79.5(3.13)	47.8(1.88)			

Dimensions are for reference only, subject to change.

How to Order

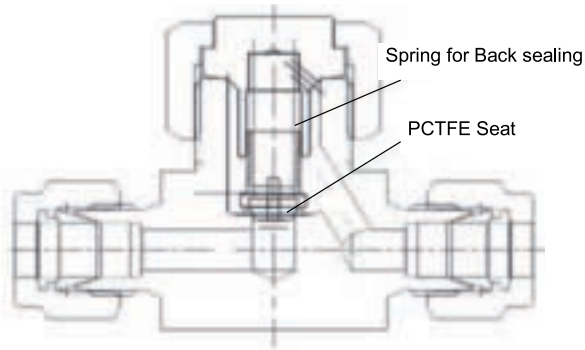
To order, add the valve body material as a suffix to the basic ordering number.
Ex) Stainless: **-SS**

Option

Cryogenic Service

The OTG Lift Check valve with PCTFE seat provides leak tight shutoff for Cryogenic service.
Temperature Rating: - 238°F(-150°C) ~ 356°F(180°C)
Cracking Pressure : 10psig (0.69bar)

To order a Lift Check valve for Cryogenic Service, add **CS** to the basic ordering number. Example: OLCV3-O-8T-**CS**-SS



Factory Test

Every valve is tested for open and reseal performance using hydraulic fluid.

Causion

SAFETY in VALVE SELECTION
Proper installation, material compatibility, operation and maintenance of the valve is the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety.

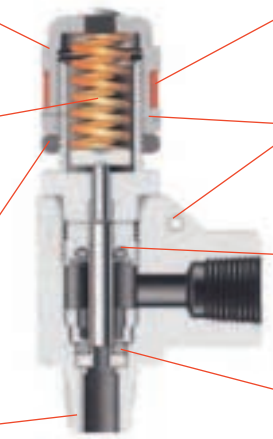
ORV Series

Liquid and Gas Service Proportional Relief Valves

Catalog No : ORV-01
Mar. 2023

Features

- Set pressures from 10 to 6000 psig (0.68 to 413 bar)
- 1/4 and 1/2 in. and 6 to 12 mm end connections.
- SS316 stainless steel construction.



ORV3 Series Low-Pressure Valves

- Service up to 300 psig (20.6 bar)
- One spring for the full set pressure range: 10 to 225 psig (0.68 to 15.5 bar)
- Orifice: 4.8 mm (0.19 in.)
- 1/4 in. and 6- and 8-mm end connections—ORV3A series
- 1/2 in. and 12 mm end connections—ORV3B series

ORV6 Series High-Pressure Valves

- Service up to 6000 psig (413 bar)
- Multiple springs for a selection of set pressure ranges
- Orifice: 3.4 mm (0.19 in.)
- 1/4 in. and 6- and 8-mm end connections—ORV6A series
- 1/2 in. and 12 mm end connections—ORV6B series

ORV3 Series
Low-Pressure Valves

ORV6 Series
High-Pressure Valves

Applications

ORV series relief Valves are designed to protect gauges, instruments, and devices from over-pressure.
Valves are proportional relief valves that open gradually as the pressure increases. Consequently, they do not have a capacity rating at a given pressure rise (accumulation). they are not certified to ASME or any other codes.

- Caution

Some system applications require relief valves to meet specific safety codes. The system designer and user must determine when such codes apply and whether these relief valves conform to them.

Operation

ORV series relief valves OPEN when system pressure reaches the set pressure and CLOSE when system pressure falls below the set pressure.
Valves are designed to open at pre-set pressure and direct fluids through the outlet port that discharges to a different location in the system.
Valve mounting position is vertical with the cap on top.

- High-pressure ORV6 series—select and install the spring that covers the required set pressure; apply the matching label to the cap.
- Low-pressure ORV3 series—the spring is already installed.

- For valves not actuated for a period of time, initial relief pressure may be higher than the set pressure.

Technical Data

Valve Series	ORV3 Series	ORV6 Series
Working Pressure	300 psig (20.6 barg)	6000 psig (413 barg)
Orifice	4.8 mm (0.19 in.)	3.4 mm (0.13 in.)
Cv	0.6	0.41
Set Pressure Range	One Spring	Multiple Springs
	10 to 250 psig (0.68 to 17.2 barg)	50 to 6000 psig 3.4 to 413 barg)

Seal Material Temperature Ratings

■ **FKM** seal is standard.

Seal Material	Designator	Temperature Rating, °C (°F)
FKM	VT	-12 to 135 (10 to 275)
NBR	BN	-23 to 148 (-10 to 298)
EPDM	EP	-40 to 148 (-40 to 298)
NEOPRENE	NE	-23 to 148 (-9 to 298)

Pressure-Temperature Ratings

The temperature rating of Stainless-Steel ORV Series valves is -40 to 148 °C (-40 to 300 °F).
When combining seal material, the temperature rating of the seal may become the limiting factor on the valve's temperature rating.

Series	ORV3 Series				ORV6 (4T,6M,8M,1/4N,3/8NPT)				ORV6 (8T,12M,1/2NPT)			
Working Pressure at 70°F (20℃)	psig300 (20.6 bar)				6000 psig (413 bar); up to 8000 psig (551 bar) during relief				6000 psig (413 bar)			
Set Pressure	10 to 225 psig (0.68 to 15.5 bar)				50 to 6000 psig (3.4 to 413 bar)				50 to 1500 psig (3.4 to 103 bar)			
Outlet Pressure	225 psig (15.5 bar)				1500 psig (103 bar)				2500 psig (172 bar)			
Seal Material	Fluoro-carbon FKM	Buna N	Neoprene	Ethylene-propylene	Fluoro-carbon FKM	Buna N	Neoprene	Ethylene-propylene	Fluoro-carbon FKM	Buna N	Neoprene	Ethylene-propylene
Temperature, °C (°F)	Maximum Set Pressure, psig (bar)											
−40 (−40)	—	—	—	225 (15.5)	—	—	—	—	—	—	—	—
−34 (−30)												
−23 (−10)		225 (15.5)					6000 (413)					
−17 (0)						6000 (413)						
−12 (10)	225 (15.5)											
−4 (25)					6000 (413)				1500 (103)			
−1 (30)								6000 (413)				
10 (50)										1500 (103)	1500 (103)	1500 (103)
65 (150)					5580 (384)	5580 (384)	5580 (384)	5580 (384)				
93 (200)					5160 (355)	5160 (355)	5160 (355)	5160 (355)				
121 (250)					4910 (338)	4910 (338)	4910 (338)	4910 (338)				
135 (275)					—	—	4660 (321)	—			—	—
148 (298)	—											

Set Pressure (Cracking Pressure)

Set pressure is the upstream pressure at which the first indication of flow occurs. Set pressure of each valve after initial relief is repeatable within ± 5 % at room temperature.

Optional Set-Pressure at Factory

To set valve to a specific cracking pressure at factory, select valve ordering number, specify the spring designator and the desired set-pressure either in bar or in psig in the valve ordering number. Example: ORV6-A6T-**RS2-50BAR**-SS
The valves are set at factory for the desired cracking pressure and supplied with wire clamped; locknut locked out, labeled, and marking indicating the set pressure on the body.

Resealing Pressure

Valves are resealed by the spring force when the inlet cracking pressure falls down below the set pressure.
Resealing pressure is the upstream pressure at which there is no indication of flow. Resealing pressure is always lower than set pressure.
Refer to Table page4 for reseal pressure information.

Back Pressure

High-Pressure Valves (ORV6A and ORV6B Series)

The effect of system back pressure is minimized by the design of these high-pressure valves.

ORV3 Series Back Pressure

Back pressure (backflow from outlet) may press the seat to form a seal in addition to the spring force in ORV3 Series Valves.
System back pressure increases the set pressure of the valve.
To compensate ORV3 Series valve properly, follow the steps below.

Step 1. Identify valve set pressure and system back pressure.
Example: Valve set pressure is 150 psig and the system back pressure is 30 psig.
Step 2. Multiply back pressure by 0.8: 30 psig x 0.8 = 24 psig.
Step 3. Subtract it from the valve set pressure : 250 psig – 24 psig = 226 psig.
Step 4. Pre-set the relief valve to 226 psig

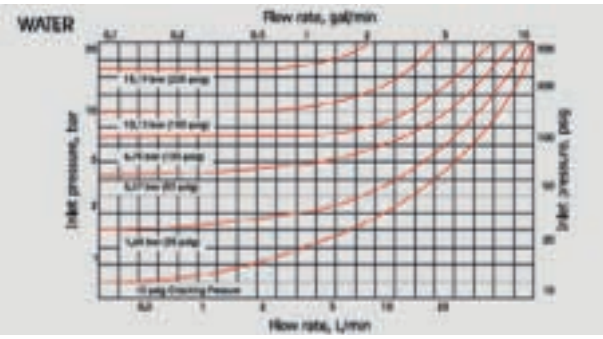
Materials of Construction

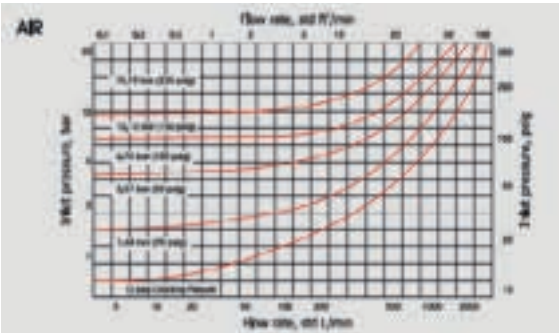
Components		Stainless Steel Body Material	
		Materials Group / ASTM Standard	
		Valve Series	
		ORV3	ORV6
1	Body	F316 /A182	
2	Gasket Ring	PFFE/D1710	-
3	Gasket	SS316/A276	-
4	Insert	-	SS316/A276, A479
5, 8	Seat O-ring	FKM, Optional NBR, EPDM, NEOPRENE	
6	Seat	SS316/A276	-
7	Seat retainer	-	SS316/A276
9	Stem Disc	SS316/A276	-
10	Stem	SS316/A276, A479	
11	Seal Retainer		
12	Quad Seal	PTFE-coated fluorocarbon FKM, Optional NBR, EPDM, NEOPRENE	
13	Bonnet Seal	FKM	
14	Bonnet	SS316/A276, A479	
15	Lock Nut		
16	Spring Lower Support		
17	Spring	SS17700 Type 631/A313	
18	Spring Upper Support	SS316/A276, A479	
19	Cap		
20	Plug	Polypropylene	
21	Label	Yellow Polyester	Red Polyester

Wetted components listed in orange color.
Lubricant is Molybdenum-based dry film and paste; silicone-based.

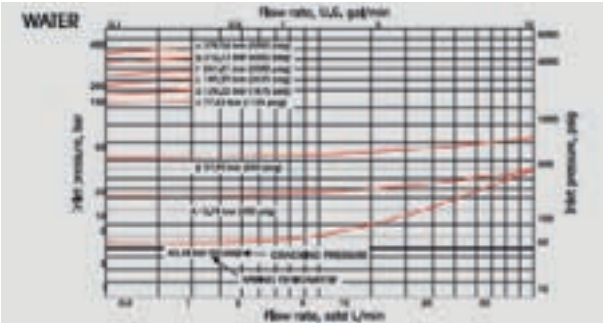
Flow Data

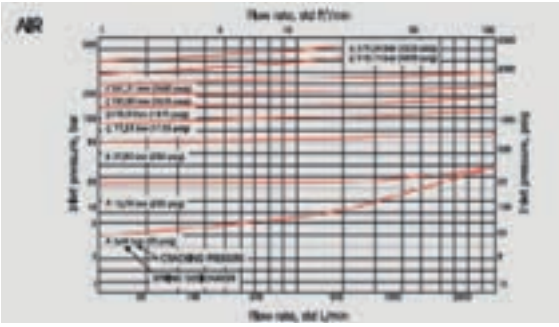
ORV3 Series

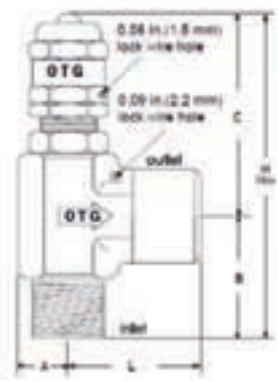




ORV6 Series







Spring Designator

ORV3 Series Spring Designator

Spring Designator	Set Pressure Range psig (bar)	Color Code	Spring Kit Number
RVS0	10 to 225 (0.68 to 15.5)	Clear	**MK-RVS0**

ORV6Series Spring Designator

Spring Designator	Set Pressure Range psig (bar)	Color Code	Spring Kit Number
RVS1	50 to 350 (3.4 to 24)	Blue	**MK-RVS1**
RVS2	350 to 750 (24 to 51.6)	Yellow	**MK-RVS2**
RVS3	750 to 1500 (51.6 to 103)	Purple	**MK-RVS3**
RVS4	1500 to 2250 (103 to 155)	Orange	**MK-RVS4**
RVS5	2250 to 3000 (155 to 206)	Brown	**MK-RVS5**
RVS6	3000 to 4000 (206 to 275)	White	**MK-RVS6**
RVS7	4000 to 5000 (275 to 344)	Red	**MK-RVS7**
RVS8	5000 to 6000 (344 to 413)	Green	**MK-RVS8**

Ordering Information and Dimensions

Ordering Number		End Connections Inlet / Outlet		Orifice, mm (in.)	Dimensions, mm (in.) L	A	B	C	H
ORV3- & ORV6-	**O-4T-**	1/4 in. OTG-Lok		ORV3 Series: 4.8 (0.19)	40.6 (1.60)	10.9 (0.43)	36.3 (1.43)	62.0 (2.44)	98.3 (3.87)
	O-6M-	6mm OTG-Lok							
	O-8M-	8mm OTG-Lok							
	O-8T-	1/2 in. OTG-Lok			46.5 (1.83)	12.7 (0.50)	46.5 (1.83)		108.5 (4.27)
	O-12M-	12mm OTG-Lok							
	MO-8N8T-	1/2 in. Male NPT	1/2 in. OTG-Lok				36.3 (1.43)		98.3 (3.87)
	MO-8N12M-	1/2 in. Male NPT	12mm OTG-Lok						
	MF-4N-	1/4 in. Male/Female NPT		ORV6 Series: 3.4 (0.13)	29.7 (1.17)	10.9 (0.43)	30.2 (1.19)		92.2 (3.63)
	MF-6N-	3/8 in. Male/Female NPT			34.5 (1.36)				
	MF-8N-	1/2 in. Male/Female NPT			36.3 (1.43)	12.7 (0.50)	36.3 (1.43)		98.3 (3.87)
	MF-4R-	1/4 in. ISO Male/Female Tapered			29.7 (1.17)	10.9 (0.43)	30.2 (1.19)		92.2 (3.63)
	MF-6R-	3/8 in. ISO Male/Female Tapered			34.5 (1.36)				
	MF-8R-	1/2 in. ISO Male/Female Tapered			36.3 (1.43)	12.7 (0.50)	36.3 (1.43)		98.3 (3.87)

Set-Pressure Adjustment Procedure

1. Select and install spring that covers the required set pressure.
2. Turn lock nut on bonnet clockwise until it sits on the bottom thread of bonnet.
3. Turn cap counterclockwise until spring fully relaxes.
4. Pressurize the valve into inlet port.
5. Check the pump pressure on gauge until it reaches required set-pressure while you turn cap clockwise to compress spring.
6. Once the valve is preset to the required set-pressure, valve seat closes indicating no flow in outlet port.
7. De-pressurize the pressure thoroughly from the valve and turn lock nut counterclockwise until it locks out cap.
8. Set the wire and apply matching label to cap.

Factory Test

Every valve that contains spring is factory-tested for set pressure and resealing performance.

Series	Test Set Pressure psig (bar)	Minimum Resealing Pressure as a Percentage Of Set Pressure, %
ORV3 Series	10 to 100 (0.68 to 6.9)	50
	100 to 225 (0.68 to 6.9)	80
ORV6 Series	100 to 200 (6.8 to 13.7)	50
	500 to 1000 (34.5 to 68.9)	85

For valves that do not contain spring, the seat is tested @ 1000 psig (69 bar) nitrogen for no detectable leakage.

How to Order

ORV3 Series is supplied containing **"RVS0"** spring that is not pre-set for cracking pressure unless "set-pressure at factory" is ordered.
ORV6 Series may be supplied with spring separately. To order, Select applicable valve basic ordering number, spring designator, seal and body material from the designators listed below.

ORV3-MF-4N — **RVS0** — **EP** — **SS**

Valve Series Basic ordering number
- ORV3 Series: **ORV3-**
- ORV6 Series: **ORV6-**

Spring Designator
- Refer to Spring Designator
- **ORV3 Series:** RVS0
- **ORV6 Series:** RVS1~ RVS8

Seal Materials
- **Nill**: FKM Standard
- **BN**: NBR
- **EP**: EPDM
- **NE**: NEOPRENE

Body Material
- **SS**: Stainless S316

Example:

ORV3 Series:	ORV3-MF-4N	RS0	EP	SS	ORV3-MF-4N-RS0-EP-SS
ORV6 Series	ORV6-MF-4N	RS2	Not selected	SS	ORV6-MF-4N-RS2-SS
	ORV6-MF-4N	Not selected	Not selected	SS	ORV3-MF-4N-SS

Spring Kit

Contains spring, label, and lock wire with clamping seal.
ORV3 Series: ORV3-MK-RVS0
ORV6 Series: ORV6-MK-RVS1

TUBE FITTING & VALVE

OTG lok

Gauge Root, Bleed & Purge Valves

- OGV Series - Gauge Valves
- OBLV Series - Bleed Valves
- OPGV Series - Purge Valves

06

OGV Series - Gauge Valves

- Stainless Steel construction.
- For working pressure up to 6000psig (413bar) @ 100°F(37℃).

Features

- Nonrotating stem tip design.
- 1/2in. and 3/4in. male to 1/2in. NPT female end connections.
- 1/2 in. female gauge ports standard.
- Schedule 160 pipe wall or heavier on valve inlet fitting for strength.
- Bonnet lock plate standard

Pressure-Temperature Ratings

Body Material	SS316	
ASME Material Group	TABLE 2-2.2	
ASME CLASS Rating	2500	
Packing Material	PTFE	Grafoil
Temperature, °F(℃)	Working Pressure, psig (bar)	
–65 (–53) to 100 (37)	6000 (413)	6000 (413)
200 (93)	5160 (355)	5160 (355)
250 (121)	4910 (338)	4910 (338)
300 (148)	4660 (321)	4660 (321)
350 (176)	4470 (307)	4470 (307
400 (204)	4280(294)	4280 (294)
450 (232)	4130 (284)	4130 (284)
500 (260)	-	3980 (274)
550 (287)	-	3870 (266)
600 (315)	-	3760 (259)
650 (343)	-	3700 (254)
700 (371)	-	3600 (248)
750 (398)	-	3520 (242)
800 (426)	-	3460 (235)
850 (454)	-	3380 (232)
900 (482)	-	3280 (225)
950 (510)	-	3220 (221)
1000 (537)	-	3030 (208)
1050 (565)	-	3000 (206)
1100 (593)	-	2685 (184)
1150 (621)	-	2285 (157)
1200 (648)	-	1715 (118)

Materials of Construction

Components		Material Grade / ASTM Specification
		Valve Body: Stainless Steel
1	Body	SS316 / A276 or A479
2	Bonnet	
3	Packing bolt	
4	Upper grand	
5	Stem	Hard Chrome plated SS316/A276 or A479
6	Non-rotating Stem tip	SS630 / A564
7	Lower grand	SS316 / A276 or A479
8	Packing	Standard chevron PTFE/D1710 Optional Graphite packing
9	Locking nut	SS316/ A276 or A479
10	Locking plate	Stainless steel
11	Bar Handle	Stainless steel
12	Set screw	Stainless steel
13	Spring Washer	Stainless steel
14	Bolt	Stainless steel
	Lubricant	Fluorinated base with PTFE and tungsten disulfide
		Hydrocarbon based

Wetted components listed in orange color.

■ **Packing adjustment may be required during the valve's service life.**

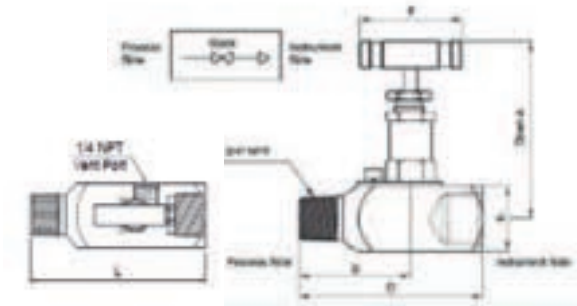
Factory Test

- Every valve is factory tested with Nitrogen@1000psig(69bar) for leakage at the seat to a maximum allowable leak of 0.1 scc/min.
- Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

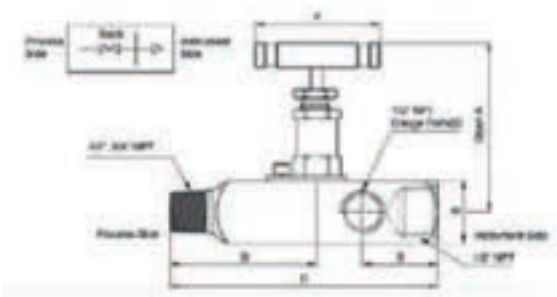
Cleaning and Packaging

- Every valves is cleaned and packaged in accordance with OTG-LOK standard cleaning and packaging procedures.

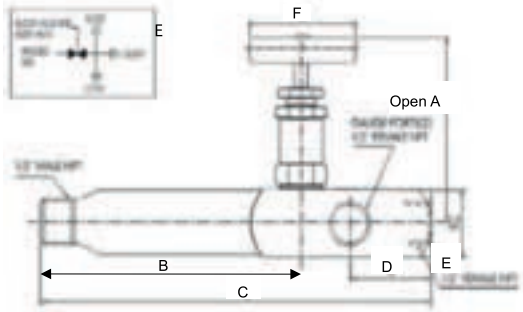
Gauge Valves- OGV



Gauge Root Valves- OGRV



Extended Gauge Root Valves- OGRLV



Gauge 2-Valves- OGV2

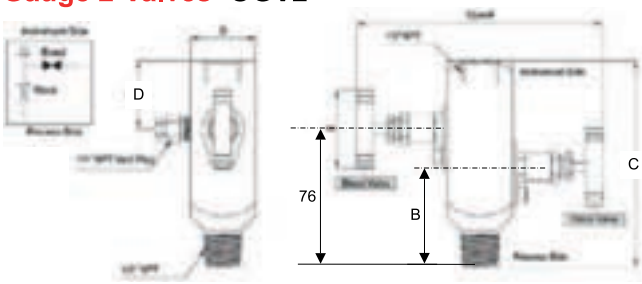


Table of Dimensions

Basic Ordering Number		Orifice mm (in.)	End Connections		Vent Port	Dimensions, mm (in.)					
			Process	Instrument		A	B	C	D	E	F
OGV	F-8N	6.4 (0.25)	1/2" Female NPT	1/2" Female NPT	-	87 (3.43)	-	84(3.3)	-	32 (1.26)	50 (1.97)
	MF-8N-4NP		1/2" Male NPT		1/4" Female NPT Plugged		50(1.97)	90(3.54)	-		
	MF-12N8N-4NP		3/4" Male NPT				50(1.97)		-		
OGRV	F-8N		1/2" Female NPT		1/2" Female NPT on 2 place		75.4(2.97)	137(5.38)	38.1(1.5)		
	MF-8N		1/2" Male NPT								
	MF-12N8N		3/4" Male NPT								
OGRLV	MF-8N		1/2" Male NPT				123(4.84)	184(7.25)			
	MF-12N8N		3/4" Male NPT								
OG2V	F-8N-4NP		1/2" Female NPT		1/4" Female NPT Plugged	174 (6.85)	50(1.97)	120(4.72)	38.1(1.5)		
	MF-8N-4NP		1/2" Male NPT					120(4.72)			

Ordering Information

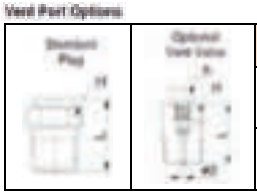
Dimensions are for reference only and are subject to change.
Select a basic ordering number, and applicable options.

OGV–MF8N – 4NP – GF – SG – SS

1 2 3

1. Plugged Vent Port	2.Packing Material	3. Sour gas service
NP : Standard Plug **VV** : Vent Valve	• **Nill** : Standard PTFE packing • **GF** : Graphite Packing	• - **SG**

Vent Port Options



Vent	Ordering Number	NPT	H	L	h	Designator
Standard Plug	I-PP-4N-SS	1/4	9/16	24.4	-	**-4NP**
	I-PP-8N-SS	1/2	7/8	30.7	-	**-8NP**
Vent Valve	OVV-4N-SS	1/4	9/16	28	12	**-4VV**
	OVV-8N-SS	1/2	7/8	32	12	**-8VV**

Sour Gas Service

Wetted components including stem and lower gland are selected in accordance with NACE MR0175/ISO 15156-2/3 or NACE MR0103 depending on the application. To order, add "SG" to the valve ordering number.

SAFETY in VALVE SELETION

The system design, application must be taken into consideration to ensure optimal performance and safety.
Selections of valve function and rating, proper installation, material compatibility, operation and maintenance of these valve are the responsibility of the system designer and the user.
OTG accepts no liability for any improper selection, installation, operation or maintenance.

OBLV Series - Bleed Valves

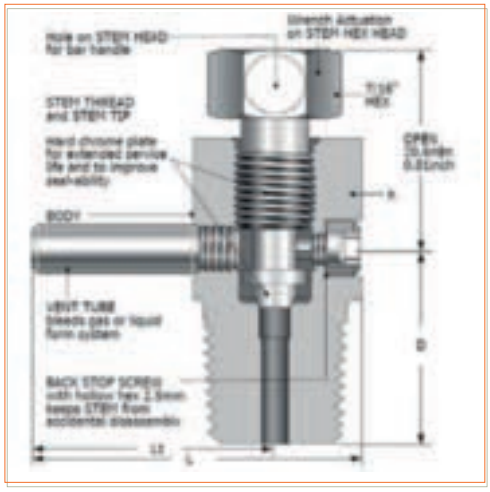
Features

- Pressure rating up to 10.000psi (689bar) @100°F(38°C)
- Temperature up to 850°F(454°C)
- Size range from 1/8" to 1/2" Tubing and piping system.
- Back stop screw prevents accident remove of stem
- Stem is hard chrome-plated for maximum service life.
- Variety of End connections include OTG-Lok, NPT & ISO threads Male / Female
- 316 stainless steel, carbon steel, or alloy 400 materials

Applications

- OTG bleed valve is designed to use on instrumental Fluid handling apparatus such as manifolds and gage root valves in order to vent signal line pressure to atmosphere before disassemble of an instrument or to facilitate in calibration

Design



Materials of Construction

Description	Body Materials / ASTM and JIS Spec.		
	S316	Carbon Steel	Alloy 400
Body	S316/A479	S45C	Monel400/B164
Stem		316/A479	
Back stop screw			
Vent tube	S316/A213		Monel400/B165

· Carbon steel bodies are white zinc plated for corrosion resistance.

Technical Data

Material	Temperature Rating	Pressure Rating
S316	-65°F to 850°F (-54°C to 454°C)	10,000psi (689bar) at -100°(38°C)
Carbon Steel	-20°F to 450°F (-29°C to 232°C)	
Alloy 400	-65°F to 500°F (-54°C to 260°C)	

Ordering Information

Basic Ordering Number	End Connection		Oriffice (mm) (Cv)	Dimensions inch(mm)				
	Inlet	Outlet		L	L1	D	h	Bar handle
OBLV-M-2N	1/8" Male NPT	O.D 3/16" Tube Stud	3.2 (0.25)	1.34(34.0)	0.94(23.87)	0.75(19.05)	5/8"(15.88)	2.0(50.8)
OBLV-M-4N	1/4" Male NPT							
OBLV-M-6N	3/8" Male NPT			1.47(37.3)	1.03(26.16)	0.87(22.1)	7/8"(22.2)	
OBLV-M-8N	1/2" Male NPT			1.47(37.3)	1.03(26.16)			

Dimensions are for reference only, subject to change.

How to Order

To order, add the valve body material as a suffix to the basic ordering number. Stainless: SS, Carbon Steel: CS, Alloy 400: MO

Option

- **Bar handle**
  Bar handle ordering number : - BH
- **Barbed Vent Tube**
  To order add designator BV as a suffix to the basic ordering number.
  Example: OBLV-M-8N-BV

Factory Test

Every valve is tested with nitrogen at 1000psi(69bar) to maximum leak rate of 0.1 scc/min.

Causion

These valves do not have a stem seal. It is imperative to open the valve slowly and direct the vent tube away from persons operating or near the valve. Because of the absence of a stem seal, small amounts of fluid will go through the stem thread area when the valves are opened.

OPGV Series - Purge Valves

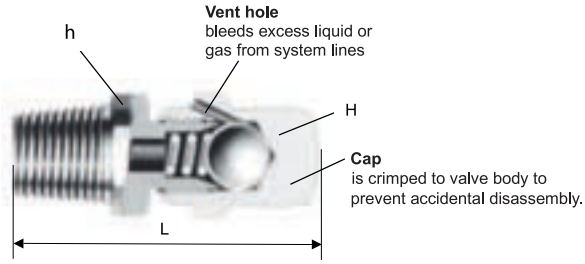
Features

- Working pressures up to 4000 psig (275 bar)
- Temperatures up to 600°F (315°C)
- 316 stainless steel, brass, or carbon steel materials.
- Compact for convenient installation
- Size range from 1/8" to 1/2" Tubing and piping system.
- Variety of End connections include OTG-Lok, NPT & ISO threads Male / Female.

Operation

- OTG purge valves are manual bleed, vent, or drain valves. The knurled cap is permanently assembled to the valve body for safety.
- One-quarter turn with a wrench from finger-tight obtains Leak tight closure on first makeup. Snugging with a wrench ensures closure to the rated pressure with subsequent makeups.

Design



Materials of Construction

Description	Body Materials / ASTM Spec.		
	S316	Carbon Steel	Brass
Body	S316/A479, A276	S45C	Brass/B16 JIS H3250
Cap			
Poppet, Ball		SS316/A276	
Spring	S302/A313		

· Wetted components listed in orange color.
· Carbon Steel bodies are white zinc plated for corrosion resistance.
· Male SAE body has fluorocarbon FKM O-ring.
· SS316 valves contain a poppet, brass and carbon steel valves contain a Ball.

Pressure-Temperature Ratings

ASME Class	1660	N/A	
Material	SS316	Brass	Steel
Temperature, °F(℃)	Working Pressure, psig (bar)		
-65 to 100 (-53 to 37)	4000 (275)	3000 (206)	3000 (206)
150 (65)	3720 (256)	2800 (192)	3000 (206)
200 (93)	3440 (237)	2600 (179)	3000 (206)
300 (148)	3105 (213)	2210 (152)	3000 (206)
350 (176)	2975 (204)	1480 (101)	2985 (205)
400 (204)	2850 (196)	740 (50.9)	-
450 (232)	2750 (189)	-	-
500 (260)	2650 (182)	-	-
600 (315)	2500 (172)	-	-

Rating limited to:

- -20°F(-28℃) min steel.
- 450°F(232℃) max with SAE end connections using fluorocarbon FKM O-ring.

Ordering Information

Basic Ordering Number		Inlet End Connector	Dimensions, mm (in)		
			L	h	H
OPGV-	O-2T	1/8" OTG-Lok	45.2 (1.78)	1/2	5/8
	O-4T	1/4" OTG-Lok	47.8 (1.88)		
	O-6T	3/8" OTG-Lok	50.0 (1.97)	5/8	
	O-8T	1/2" OTG-Lok	54.1 (2.13)	13/16	
	O-6MM	6MM OTG-Lok	47.8 (1.88)	14 mm	
	O-8MM	8MM OTG-Lok	49.3 (1.94)	15 mm	
	F-2N	1/8" Female NPT	38.1 (1.5)	9/16	
	F-4N	1/4" Female NPT	42.9 (1.69)	3/4	
	F-6N	3/8" Female NPT	44.5 (1.75)	7/8	
	F-8N	1/2" Female NPT	48.8 (1.92)	1 1/16	
	M-2N	1/8" Male NPT	39.6 (1.56)	1/2	
	M-4N	1/4" Male NPT	44.5 (1.75)	9/16	
	M-6N	3/8" Male NPT	45.2 (1.78)	11/16	
	M-8N	1/2" Male NPT	51.6 (2.03)	7/8	
	T-4TA	1/4" Tube Adapter	46.0 (1.81)	1/2	
	T-6TA	3/8 Tube Adapter	47.8 (1.88)		
	T-8TA	1/2 Tube Adapter	53.1 (2.09)	9/16	

Dimensions are for reference only, subject to change.

How to Order

To order, add the valve body material as a suffix to the basic ordering number.
Stainless: **SS**, Carbon Steel: **CS**, Brass: **BS**

Option

The OTG purge valve with PTFE ball provides leak tight shutoff with finger pressure and features a removable cap for easy ball replacement.
Pressure Rating: 200 psig at 100°F (13.7 bar at 37°C)
Temperature Rating: 350°F (176°C).
To order a OTG purge valve with PTFE ball, add -TE to the ordering number. Example: OPGV-M-8N-**TE**-SS

Factory Test

Every valve is tested with nitrogen at 1000psi(69bar) to maximum leak rate of 0.1 std ㎤/min. The valve with PTFE ball is tested at 0.69bar (10psi) for leakage at the seat to maximum leak rate 0.1 std ㎤/min.

Caution

When installing a OTG purge valve, position the vent hole to direct system fluid away from operating personnel. The vent hole rotates with the cap, changing the direction of discharge as the cap is turned.
Always open purge valves slowly. These valves contain no packing, so some fluid weepage will occur when the valves are opened.
Operating personnel must protect themselves from exposure to system fluids.

TUBE FITTING & VALVE

OTG lok

Instrumentation

Quick Connects

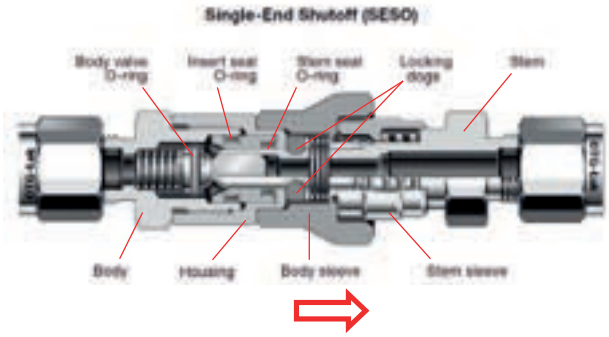
07

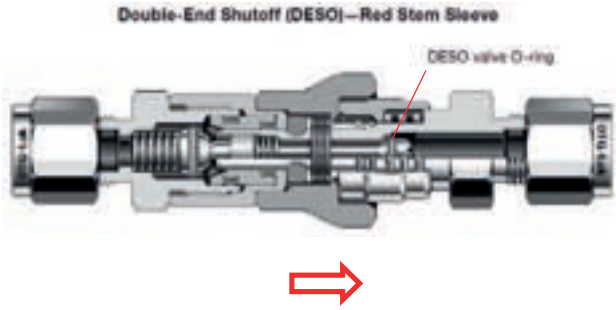
OQC Series

- Working pressure up to 3,000psig (206bar)
- Temperature rating -10 °F ~ 400 °F (-23 °C ~ 204 °C) with FKM O-Ring.
- Stainless Steel, Brass Construction
- End Connection Size from 1/4" to 1/2"

Features

- Compact design.
- Quick and easy operation with Push-to-connect coupling
- No turn or tool is required when coupling and uncoupling.
- Wide variety of options are available for end connection.
- Single-end shutoff (SESO), double-end shutoff (DESO), and full-flow mode.
  - SESO Stems have no valve and open while uncoupled from the body.
  - DESO Stems have valves and shut off while uncoupled from the body.
- SS316 and Brass Construction.





Materials of Construction

Components		QCB Series Body	
		SS316	Brass
		Material/ ASTM Specification	
1	Body	SS316/ A276	Brass C3604/ /JIS H3250
2	Housing		
3	Valve		
4	Insert		
5	Body Sleeve		
6	Snap Ring	SS302/ASTM A313	
7	Valve Spring		
8	Valve O-ring	FKM	NBR
9	Insert O-ring		
10	Stem seal O-ring		
11	Locking Dog	Xylan TM coated Powered SS316	
12	Sleeve Spring	SS302/ASTM A313	
Lubricant		Silicon-based	
Lubricant		PTFE-based	

Wetted components indicated in .
Identification: Valved Stem is visually identifiable with the **red sleeve**

Components		QCS & QCSV Series Stem	
		SS316	Brass
		Material/ ASTM Specification	
1	Stem	SS316/,A276	Brass C3604/ /JIS H3250
2	Stem Sleeve		
3	Sleeve Spring	SS302/ASTM A313	
4	Snap Ring		
5	Stem Tip	SS316/,A276	
6	Valve O-ring	FKM	NBR
7	Valve	SS316/,A276	
8	Valve Spring	SS302/ASTM A313	
9	Valve Tip	SS316/,A276	

Insertion Depth

To calculate overall length in the coupled position, subtract the insertion depth from any overall stem and body combination length.

Series	Depth mm (in.)		
	OQC A	OQC B	OQC C
SESO	27.7 (1.09)	30.0 (1.18)	37.6 (1.48)
DESO	29.2 (1.15)	33.0 (1.3)	42.7 (1.68)

Pressure-Temperature Ratings

QC Series Stem & Body	SS316 with FKM O-ring			Brass with NBR O-ring		
	QCA	QCB	QCC	QCA	QCB	QCC
Temperature, °F(℃)	Pressure Rating, psig (bar)					
SESO / DESO Coupled						
100 (37)	3000 (206)	1500 (103)	750 (51.6)	2000 (137)	1000 (68.9)	500 (34.4)
150 (65)	2750 (189)	1350 (93)	680 (464)	1300 (89.5)	700 (48.2)	400 (27.5)
200 (93)	2300 (158)	1150 (79.2)	600 (41.3)	700 (48.2)	450 (31.0)	350 (24.1)
250 (121)	1850 (127)-	970 (66.8)	520 (35.8)	300 (20.6)		
300 (148)	1400 (96.4)	750 (51.6)	440 (30.3)	-		
350 (176)	950 (65.4)	580 (39.9)	360 (24.8)	-		
400 (204)	500 (34.4)	400 (27.5)	300 (20.6)	-		
DESO in Uncoupled and while Coupling and Uncoupling						
70 (21)	250(17.2)					

Maximum Flow Rate at 70°F (20℃)

Series	Water Flow U.S gal/min (L/min)
QCA	4(15)
QCB	6(22)
QCC	10(37)

O-ring Material & Temperature Ratings

Series	Temperature Rating, °F(℃)	Designator
FKM	10 (-12) to 400 (204)	VT
FFKM	60 (15) to 500 (260)	KM
EPDM	-50 (-45) to 300 (148)	EP
NBR	0 (-17) to 250 (121)	NBR

Fluorocarbon FKM O-rings are standard for 316 SS bodies and DESO stems; for other materials, add an O-ring material designator to the Basic ordering number. **Examples:** QCSA-O-4T-**KM**-SS

Spillage and Air Inclusion

Series	Spillage cm^3	Air Inclusion cm^3
QCA	0.3	0.3
QCB	1.0	1.0
QCC	3.0	3.0

- Spillage is the system fluid amount escaping while DESO is uncoupled.
- Air inclusion is the amount of air entering the system while DESO is coupled.

Operation

- ■ Use filters ahead of quick-connects.
- ■ Use body and stem protectors or dust caps on uncoupled bodies and stems.
- ■ For coupling and uncoupling, align body and stem.
- ■ Perform coupling and uncoupling at room temperature.
- ■ Couple and uncouple quick-connects during system cleaning operations.
- ■ Support hanging hoses or other equipment to prevent side load.
- ■ Relubricate stem seal O-rings periodically.

▲ **Caution:**

- ■ Do not uncouple single-end shutoff stem under pressure.
- ■ Do not couple or uncouple at pressure exceeding 250 psig (17.2 bar).
- ■ Do not rotate quick connects while coupling and uncoupling
- ■ Do not insert foreign objects into uncoupled bodies or stems.

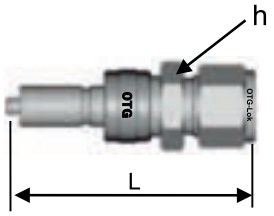
Ordering Information and Dimensions

Dimensions are for reference only and are subject to change.
Select a Basic Ordering Number, add “SS” for SS316 or “BS” for Brass as a suffix.

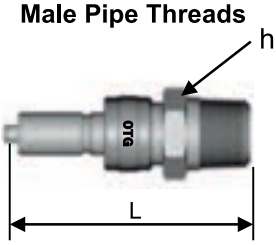
Examples : QCSA-O-4T-**SS**
QCBA-O-4T-**BS**

Stems

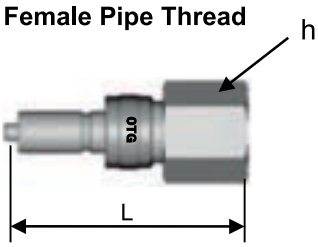
OTG-LOK Tube Fitting



Male Pipe Threads

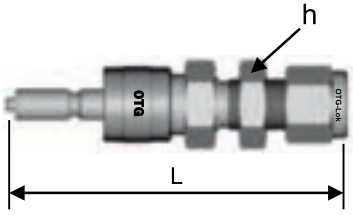


Female Pipe Thread



Series	Basic Ordering Number		End Connections	Cv			Dimensions, mm(in.)		
							L		h, in.
	SESO	DESO		SESO	DESO	Full Flow	SESO	DESO	
QC A	QCSA-O-2T	QCSVA-O-2T	"1/8" OTG-LOK	0.08	0.08	0.08	58.9 (2.32)	70.4 (2.77)	5/8
	QCSA-O-4T	QCSVA-O-4T	"1/4" OTG-LOK	0.3	0.2	0.4	59.9 (2.36)	61.5 (2.42)	
	QCSA-O-6M	QCSVA-O-6M	6mm OTG-LOK				59.9 (2.36)	61.5 (2.42)	
	QCSA-O-8M	QCSVA-O-8M	8mm OTG-LOK				63.8 (2.51)	65.4 (2.57)	
	QCSA-M-2N	QCSVA-M-2N	1/8" Male NPT				52.5(2.07)	54.1(2.13)	
	QCSA-M-4N	QCSVA-M-4N	1/4" Male NPT				56.3(2.22)	57.9(2.28)	
	QCSA-F-2N	QCSVA-F-2N	1/8" Female NPT				51.0(2.01)	52.6(2.07)	
	QCSA-F-4N	QCSVA-F-4N	1/4" Female NPT				57.4(2.26)	58.9(2.32)	3/4
QC B	QCSB-O-6T	QCSVB-O-6T	"3/8" OTG-LOK	1.0	0.5	1.5	64.0(2.52)	67.2(2.64)	
	QCSB-O-10M	QCSVB-O-10M	10mm OTG-LOK				67.3(2.65)	70.5(2.77)	
	QCSB-M-4N	QCSVB-M-4N	1/4" Male NPT	0.9			58.9 (2.32)	62.1(2.44)	
	QCSB-M-6N	QCSVB-M-6N	"3/8" Male NPT	0.8		1.6	59.7(2.35)	62.9(2.47)	
	QCSB-F-4N	QCSVB-F-4N	"1/4" Female NPT	0.9		1.5			
	QCSB-F-6N	QCSVB-F-6N	"3/8" Female NPT	0.8		1.6			7/8
QC C	QCSC-O-8T	QCSVC-O-8T	"1/2" OTG-LOK	2.4	1.5	3.3	75.2(2.96)	80.2(3.16)	15/16
	QCSC-O-12M	QCSVC-O-12M	12mm OTG-LOK	2.2			75.2(2.96)	80.2(3.16)	
	QCSC-M-8N	QCSVC-M-8N	1/2" Male NPT	2.0	1.3	3.1	72.3(2.84)	77.2(3.04)	
	QCSC-F-8N	QCSVC-F-8N	1/2" Female NPT				71.7(2.82)	76.7(3.02)	1 1/16

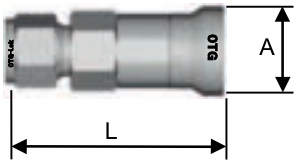
Bulkhead Stems



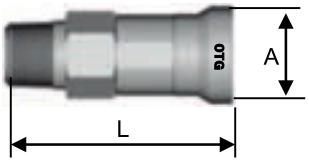
S·ries	Basic Ordering Number		End Connection	Dimensions, mm(in.)				
				Max Panel Thickness mm(in.)	Min Panel Hole Dia mm(in.)	L		h, in.
	SESO	DESO				SESO	DESO	
QC A	QCSA-BH-O-4T	QCSVA-BH-O-4T	"1/4" OTG-LOK	6.4(0.25)	11.9(15/32)	69.6 (2.74)	71.1*2.80)	5/8
	QCSA-BH-O-6M	QCSVA-BH-O-6M	6mm OTG-LOK		11.5(29/64)			
QC B	QCSB-BH-O-6T	QCSVB-BH-O-6T	"3/8" OTG-LOK	6.9(0.27)	15.1(19/32)	74.2 (2.92)	78.0(3.07)	3/4
	QCSB-BH-O-10M	QCSVB-BH-O-10M	10mm OTG-LOK		16.7(21/32)	77.7 (3.06)	78.7(3.1)	
QC C	QCSC-BH-O-8T	QCSVC-BH-O-8T	"1/2" OTG-LOK	6.6(0.26)	19.8(25/32)	87.1 (3.43)	92.2(3.63)	15/16
	QCSC-BH-O-12M	QCSVC-BH-O-12M	12mm OTG-LOK		19.6(49/64)			

Bodies

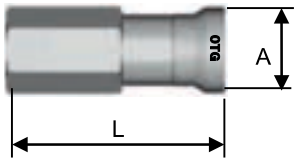
OTG-LOK Tube Fitting



Male Pipe Threads

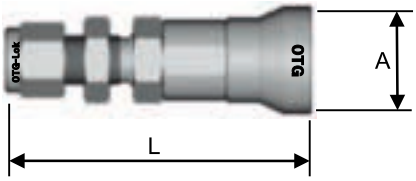


Female Pipe Thread



Series	Basic Ordering Number	End Connections	Dimensions, mm (in.)	
			L	A
QC A	QCBA-O-2T	"1/8" OTG-LOK	57.4 (2.26)	23.1 (0.91)
	QCBA-O-4T	"1/4" OTG-LOK	58.4 (2.30)	
	QCBA-O-6M	6mm OTG-LOK		
	QCBA-O-8M	8mm OTG-LOK	62.3 (2.45)	
	QCBA-M-2N	1/8" Male NPT	51.1(2.01)	
	QCBA-M-4N	1/4" Male NPT	54.9(2.16)	
	QCBA-F-2N	1/8" Female NPT		
	QCBA-F-4N	1/4" Female NPT	61.5(2.42)	26.2 (1.03)
QC B	QCBB-O-6T	"3/8" OTG-LOK	65.5(2.58)	
	QCBB-O-10M	10mm OTG-LOK	68.1(2.68)	
	QCBB-M-4N	1/4" Male NPT	60.5 (2.38)	
	QCBB-M-6N	"3/8" Male NPT		
	QCBB-F-4N	"1/4" Female NPT	64.5 (2.54)	
	QCBB-F-6N	"3/8" Female NPT	65.3 (2.57)	
QC C	QCBC-O-8T	"1/2" OTG-LOK	78.5 (3.09)	30.7 (1.21)
	QCBC-O-12M	12mm OTG-LOK		
	QCBC-M-8N	1/2" Male NPT	75.4 (2.97)	
	QCBC-F-8N	1/2" Female NPT	81.8 (3.22)	

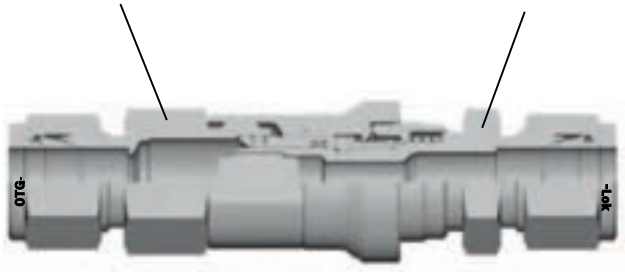
Bulkhead Bodies



Series	Basic Ordering Number	End Connections	Dimensions, mm(in.)			
			Max Panel Thickness mm(in.)	Min Panel Hole Dia mm(in.)	L	A
QC A	QCBA-BH-O-4T	"1/4" OTG-LOK	6.4(0.25)	11.9(15/32)	67.8(2.67)	23.1 (0.91)
	QCBA-BH-O-6M	6mm OTG-LOK		11.5(29/64)		
QC B	QCBB-BH-O-6T	"3/8" OTG-LOK	6.9(0.27)	15.1(19/32)	75.7(2.98)	26.2 (1.03)
	QCBB-BH-O-10M	10mm OTG-LOK		16.7(21/32)	75.9(2.99)	
QC C	QCBC-BH-O-8T	"1/2" OTG-LOK	6.6(0.26)	19.8(25/32)	90.4(3.56)	30.7 (1.21)
	QCBC-BH-O-12M	12mm OTG-LOK		19.6(49/64)		

Full Flow Quick Connectors

Full-Flow Body **Single-End Shut-Off (SESO)Stem**



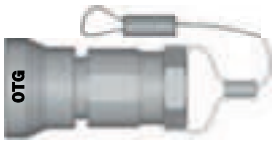
- OQC Series Full-Flow quick connector consists of a single-end shut-off (SESO) stem and Full-Flow body.
- Full-Flow quick connectors are not automatically shutoff, must be depressurized prior to disconnection.
- To order a full flow body, select an applicable Basic Ordering Number, add **"FF"** and a material designator.

Options, OQC Series

Stem & Body Protectors

- Stem and body protectors guard against damage and contaminants when bodies and stems are uncoupled.
- Protectors are not pressure-containing devices.
- Protectors include stainless steel lanyard and lanyard clamp.

Standard Stem Protector

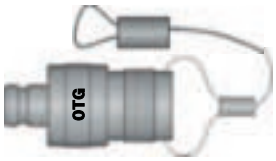


Keyed Stem Protector

Materials

Component	Materials
Protector	SS316 or plated Brass C3604
Lanyard	SS304
Lanyard clamps	SS304

Standard Body Protector



Keyed Body Protector

Series	Basic Ordering Number	
	Stem Protector	Body Protector
QCA	QSA-P	QBA-P
QCB	QSB-P	QBB-P
QCC	QSC-P	QBC-P

Select a Basic Ordering Number and add **"SS"** for SS316 or **"BS"** for Brass.

Ex) QSA-P-**SS**
QBA-P-**BS**

Keyed Protectors

To order a keyed protector, add a key designator from the table on page 7 to the ordering number.

Ex) QSA-P-**K2**-SS
QBA- P-K2-BS

Keyed Quick Connector

OQC keyed quick-connects provide a mechanical lockout system to prevent accidents caused by intermixing of different lines in multifluid or multipressure systems.

Features

- Applicable to control of multi-fluid and multi-pressure system.
- Keyed quick-connects are not coupled with any other OQC keyed quick-connects.
- If an attempt is made to couple unlike keys, the valve system will not open.
- Stems and bodies are eight color coded and own key numbered for easy identification.

Keyed OQC Series Operation

- Select keyed stem and body in the identical OQC Series.
- For coupling, push the stem into the body until it clicks.
- For uncoupling, pull the body sleeve toward stem, and remove stem.

Ordering Key Number and Sleeve Outside Diameter

Key Color	Key Ordering Number	Sleeve Outside Diameter, in. (mm)					
		OQC A		OQC B		OQC C	
		Body	Stem	Body	Stem	Body	Stem
Black	K1	0.96 (24.4)	0.82 (20.8)	1.13 (28.7)	0.99 (25.1)	1.26 (32.0)	1.10 (27.9)
Orange	K2	0.99 (25.1)	0.85 (21.6)	1.16 (29.5)	1.02 (25.9)	1.29 (32.8)	1.14 (29.0)
Green	K3	1.02 (25.9)	0.88 (22.4)	1.19 (30.2)	1.05 (26.7)	1.32 (33.5)	1.17 (29.7)
Yellow	K4	1.05 (26.7)	0.91 (23.1)	1.22 (31.0)	1.08 (27.4)	1.35 (34.3)	1.20 (30.5)
Blue	K5	1.08 (27.4)	0.94 (23.9)	1.24 (31.5)	1.11 (28.2)	1.38 (35.1)	1.23 (31.2)
White	K6	1.11 (28.2)	0.97 (24.6)	1.28 (32.5)	1.14 (29.0)	1.41 (35.8)	1.26 (32.0)
Purple	K7	1.14 (29.0)	1.00 (25.4)	1.31 (33.3)	1.17 (29.7)	1.44 (36.6)	1.29 (32.8)
Brown	K8	1.17 (29.7)	1.03 (26.2)	1.34 (34.0)	1.20 (30.5)	1.47 (37.3)	1.32 (33.5)

How to Order

To order, add a key number to quick connector Basic ordering number.

Ex) Stem : OQCSA-O-4T-**K2**-SS
Body : OQCB-O-4T-**K2**-SS

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