



C l e a n n e s s   b y   P u r p o s e

U.S.A. Ver.



# VF Fitting

## METAL GASKET FACE SEAL FITTING

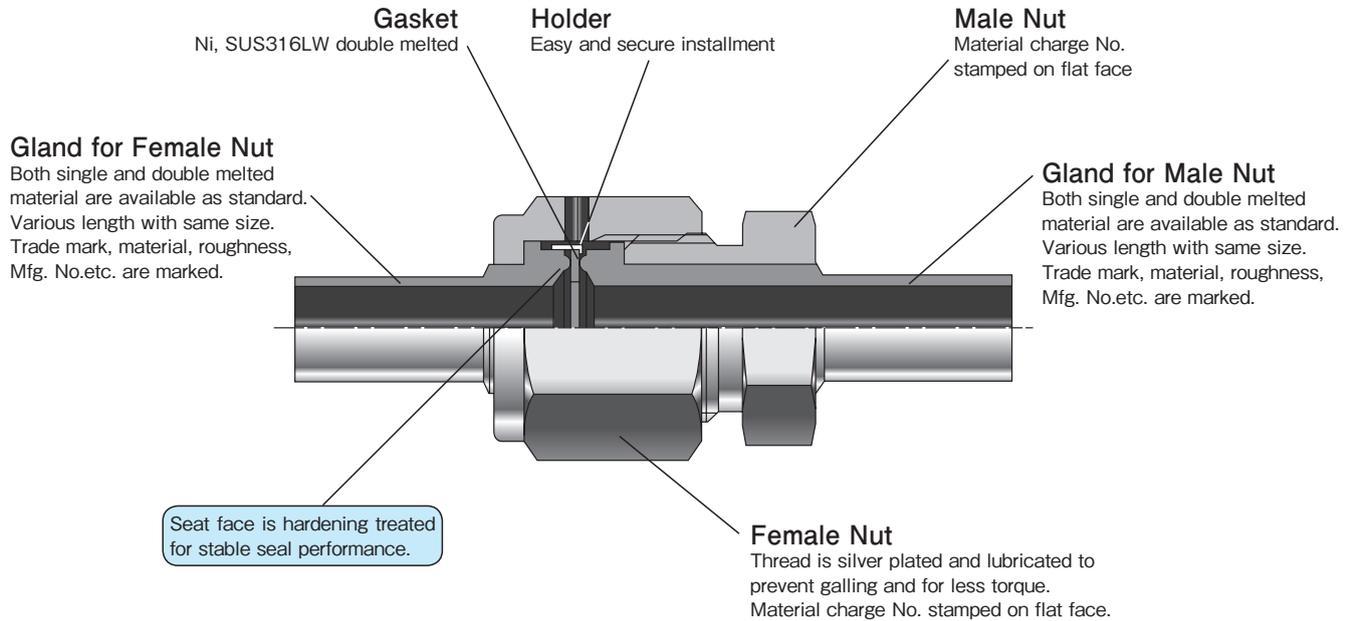


*IHARA SCIENCE CORPORATION*

# NUT TYPE METAL GASKET SEAL FITTINGS : VTF SERIES

Ihara Technology can be found in every single fitting in our fluid conveyance system! We bring you VTF products that are reliable and easy to use.

< Standard Assembly >



## ◆Features

1. Wide range applications from ultra high vacuum to high pressure, lower and higher temperature through metal gasket seal.
2. Spacing when install and uninstall can be minimized.
3. As the nut thread is silver plated and lubricated, tightening torque is reduced and also free from galling.
4. Thrust washer (VSTW) and thrust bearing (VTJR) are available for the protection from co-rotation of the tube when tightening female nut.
5. Material of the parts to be welded is SUS316 and is machined highly accurate.
6. For customers demanding high purity and ultra-high performance fittings, we offer products that come standard with W melt (VIM+VAR) materials, double melt material with almost no non-metallic inclusion and very low impurities such as Mn.
7. After the precision cleaning, protect seal surface of the fitting and vacuum packed one by one inside clean room.
8. Identification label showing product type, part symbol, inner roughness etc. is put on each product package.

## ◆Specification of Fitting

### Material used

Part No	Material
Gland Tube butt weld Connector Tube butt weld Elbow Tube butt weld Tee	SUS316L Single melt material Double melt material Hastelloy® C22
Connector, Union Coupling, Adapter Elbow, Tee, Cross Nut, Plug	SUS316 Hastelloy® C22
Gasket / Holder	Ni, C22, SUS316L (double melt) / SUS316
Thrust Washer	Metal mesh+Fluorine resin
Thrust Bearing	SUS304 · SUS440C

### Working Pressure

Vacuum	VAC ~ 0 Pa
Positive	0 ~ 20.6 Mpa

\* As the temperature rises, allowable service pressure may decrease.

### Working Temperature Range

Gland, etc.	- 269 ~ 450°C
Connector, etc.	- 253 ~ 450°C
Gasket Ni	- 196 ~ 315°C
Gasket SUS316L	- 269 ~ 450°C
Thrust Washer	- 196 ~ 180°C
Thrust Bearing	- 196 ~ 350°C

## ◆ Nomenclature

**VTF-GD 8-4T-43A -07W**

Weld display  
W: for only welded parts

Type

Shape

Symbol	Size	Symbol	Size
2	1/8"	8	1/2"
4	1/4"	12	3/4"
6	3/8"	16	1"

\*Gland size of gasket side is indicated first, then tube side follows.

**\*For US-based tube wall specification, please add "T" to TUBE SIZE, such as; 1/4" (0.035") = 4T or 3/8" (0.035") = 6T**

Double Melt  
When double melt is used = W  
When Hastelloy C22 is used = HC

Symbol	Internal Roughness	Stainless Tube
32	Ra 0.8	Equir. to BA tube
07	Ra 0.18	Equir. to EP tube
04*	Ra 0.1	Equiv.

\*Option

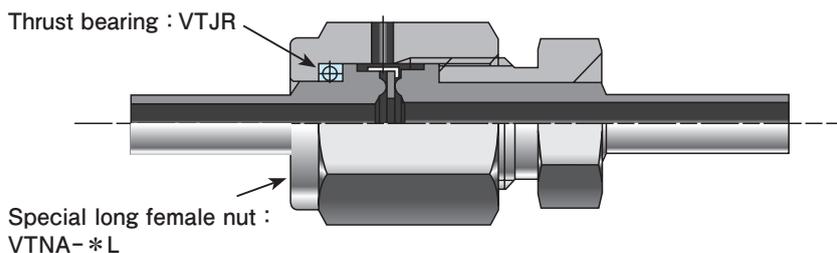
Length  
\*For only A, B, C Type.

## ◆ Types

To ensure that our customers are satisfied with the applications and cost performance of our products, we also offer the three types beyond our standard combination.

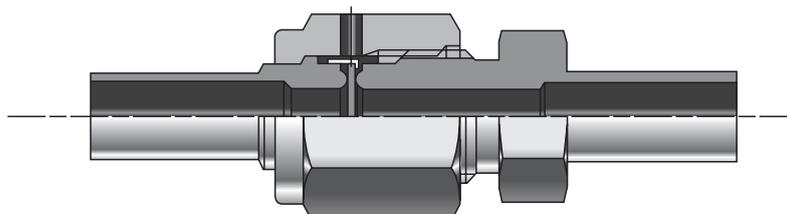
### ① Thrust bearing inserted type

Smooth tightening keeps tightening torque low for the female nut. Useful for preventing co-rotation with the gland, and minimal twisting during piping work.



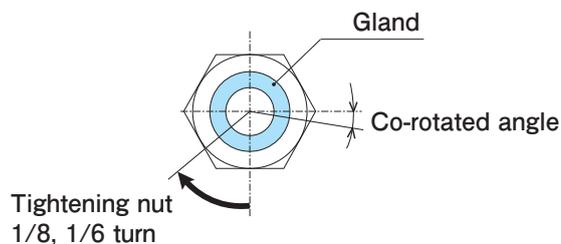
### ② Compact (High flow) type

Very compact, but realized high flow.



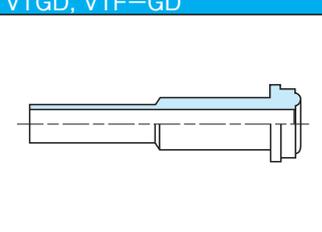
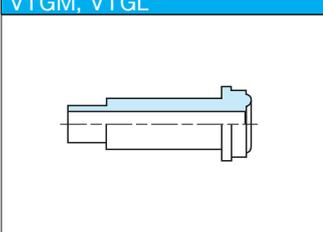
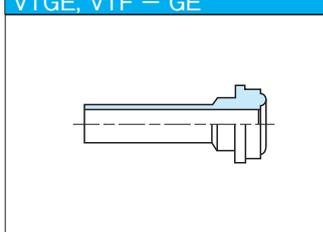
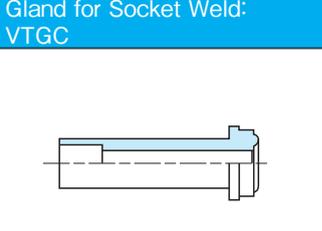
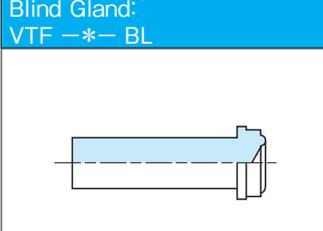
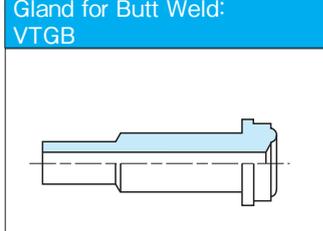
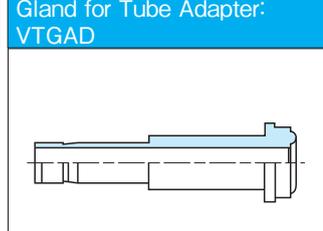
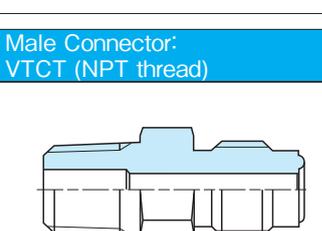
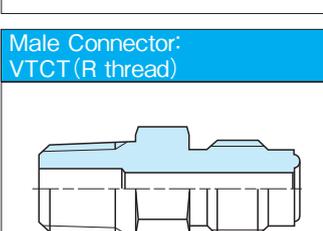
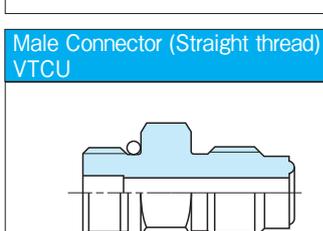
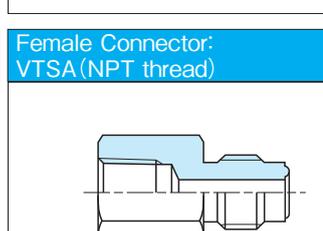
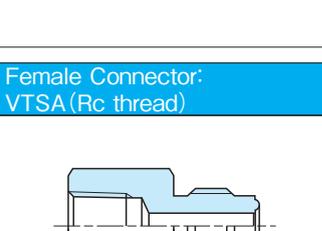
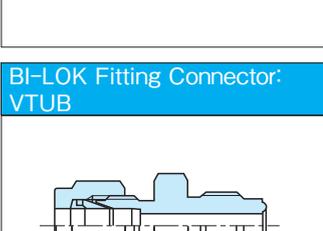
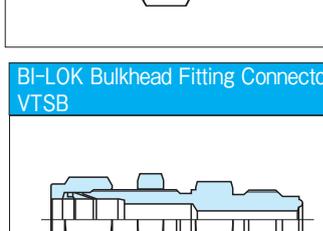
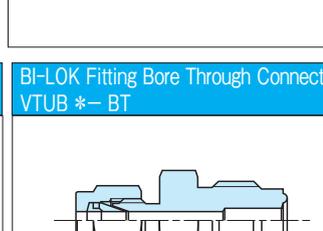
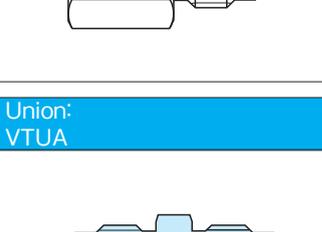
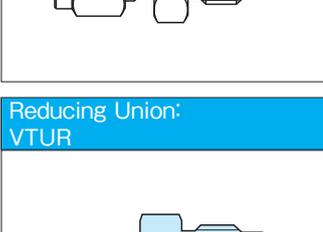
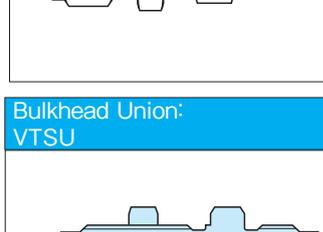
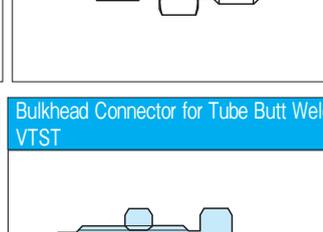
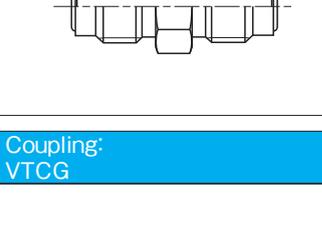
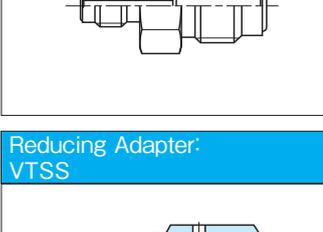
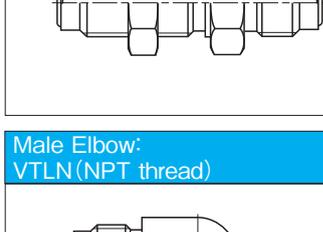
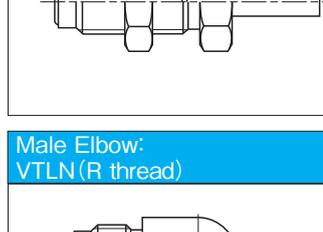
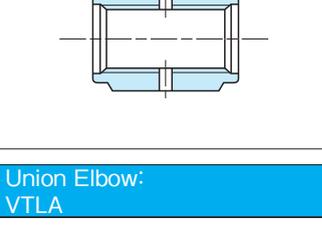
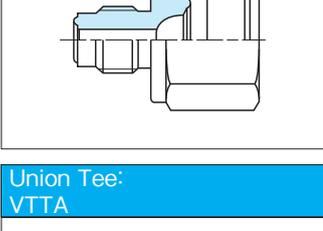
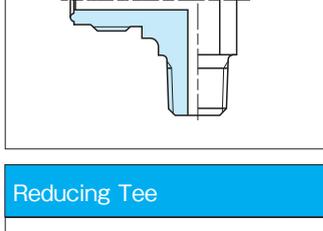
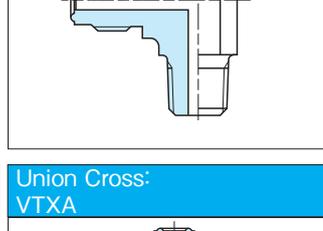
\* Reference: Data of gland co-rotation (in-house test data)

	Standard	Thrust washer/bearing inserted
	Tightened 1/8 turn	Tightened 1/6 turn
1/4"	2° ~ 2°30'	0°18' ~ 0°30'
1/2"	2°30' ~ 3°	0°30' ~ 1°



Any type of customized products are available, for instance, with less fittings and less welding. Feel free to inquire your customized requirement.

# VTF FITTINGS VISUAL INDEX

<p>Long Gland for Male Nut: VTGD, VTF—GD</p> 	<p>Short Gland for Male Nut: VTGM, VTGL</p> 	<p>Long Gland for Female Nut: VTGE, VTF — GE</p> 	<p>Short Gland for Female Nut: VTGN, VTGT</p> 
<p>Gland for Socket Weld: VTGC</p> 	<p>Blind Gland: VTF —*— BL</p> 	<p>Gland for Butt Weld: VTGB</p> 	<p>Gland for Tube Adapter: VTGAD</p> 
<p>Male Connector: VTCT (NPT thread)</p> 	<p>Male Connector: VTCT (R thread)</p> 	<p>Male Connector (Straight thread) : VTCU</p> 	<p>Female Connector: VTSA (NPT thread)</p> 
<p>Female Connector: VTSA (Rc thread)</p> 	<p>BI-LOK Fitting Connector: VTUB</p> 	<p>BI-LOK Bulkhead Fitting Connector: VTSB</p> 	<p>BI-LOK Fitting Bore Through Connector: VTUB *— BT</p> 
<p>Union: VTUA</p> 	<p>Reducing Union: VTUR</p> 	<p>Bulkhead Union: VTSU</p> 	<p>Bulkhead Connector for Tube Butt Weld: VTST</p> 
<p>Coupling: VTCG</p> 	<p>Reducing Adapter: VTSS</p> 	<p>Male Elbow: VTLN (NPT thread)</p> 	<p>Male Elbow: VTLN (R thread)</p> 
<p>Union Elbow: VTLA</p> 	<p>Union Tee: VTTA</p> 	<p>Reducing Tee</p> 	<p>Union Cross: VTXA</p> 

# VTF FITTINGS VISUAL INDEX

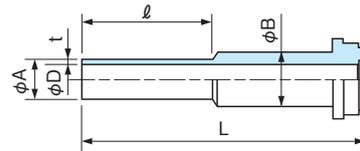
Connector for Resin tube fitting VTEP	Elbow for Butt Weld: VTLT	Tee for Butt Weld: VTTT	Tee for Butt Weld: VTKT
Tee for Butt Weld: VTNT			
<b>Welded Parts</b>	Welded Male Connector: WVTCT (R thread)	Welded Male Connector: WVTCT (R thread)	Welded Female Connector: WVTSA (Rc thread)
	Welded Female Connector: WVTSA (Rc thread)	Welded BI-LOK Tube Fitting Connector: WWTUB	Closed Coupling: WVTGE
Welded Female Elbow: WVTLA	Welded Female Tee: WVTTA	Welded Female Cross: WVTXA	Welded Male - Female Elbow: WVTLS
Welded Male - Female Tee: WVTTS	Welded Connector for resin tube fitting: WVTEP-M	Welded Elbow for resin tube fitting: WVTEP-L	
<b>NW Flange Welded Parts</b>	Female Nut Adapter with NW Flange Welded: VTF - NW *-* VF	Male Nut Adapter with NW Flange Welded: VTF - NW *-* VM	Tube - end Adapter with NW Flange Welded: VTF - NW *-* TW

# VTF FITTINGS VISUAL INDEX

Female Nut: VTNA	Male Nut: VTNB	Short Male Nut: VTNB * S	Rock Nut: VTNN
Cap: VTCA	Plug: VTBA	Gasket: VTGP, VTGP * RN	Blind Gasket: VTBP
Orifice Gasket: VTOP	Gasket with Holder: VTGR	Blind Gasket with Holder VTBR	Orifice Gasket with Holder VTOR
<b>Thrust Bearing Inserted Type</b>	Thrust Bearing: VTJR	Female Nut for Thrust Bearing: VTNA -* L	Long Gland for Thrust Bearing Female Nut: VTF - GE -* * L
Short Gland for Thrust Bearing Female Nut: VTF - GN -* * L	Thrust Bearing Cap: VTCA * J		
<b>Compact (High Flow) Type</b>	Compact Coupling: VTGF	Gland for Compact Female Nut: VTGH, VTF - GH	Gland for Compact Male Nut: VTF - GK
Compact Female Nut: VTNC	Compact Male Nut: VTND		

Long Gland for Male Nut

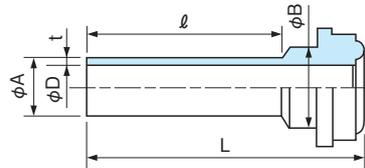
VTF-GD



Parts numbers	φ A	t	φ D	φ B	L	ℓ	Pressure Rating	
							psig (bar)	MPa
VTF-GD2T-36C	1/8 (3.18)	0.028 (0.71)	0.07 (1.74)	0.20 (5.10)	1.42 (36.1)	0.75 (19.1)	8485 (585)	58.5
VTF-GD4T-43C	1/4 (6.35)	0.035 (0.89)	0.18 (4.57)	0.35 (8.80)	1.70 (43.2)	0.75 (19.1)	5091 (351)	35.1
VTF-GD8-4T-46C	1/4 (6.35)	0.035 (0.89)	0.18 (4.57)	0.59 (15.10)	1.80 (45.7)	0.75 (19.1)	4293 (296)	29.6
VTF-GD8-6T-45C	3/8 (9.53)	0.035 (0.89)	0.31 (7.75)	0.59 (15.10)	1.79 (45.5)	0.75 (19.1)	3292 (227)	22.7
VTF-GD8-45C	1/2 (12.70)	0.049 (1.24)	0.40 (10.20)	0.59 (15.10)	1.79 (45.5)	0.75 (19.1)	3495 (241)	24.1

Long Gland for Female Nut

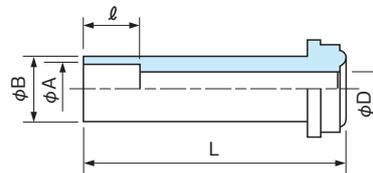
VTF-GE



Parts numbers	φ A	t	φ D	φ B	L	ℓ	Pressure Rating	
							psig (bar)	MPa
VTF-GE2T-27C	1/8 (3.18)	0.028 (0.71)	0.07 (1.75)	0.20 (5.1)	1.08 (27.4)	0.75 (19.1)	8485 (585)	58.5
VTF-GE4T-28C	1/4 (6.35)	0.035 (0.89)	0.18 (4.57)	0.35 (8.8)	1.10 (27.9)	0.75 (19.1)	5091 (351)	35.1
VTF-GE8-4T-28C	1/4 (6.35)	0.035 (0.89)	0.18 (4.57)	0.59 (15.1)	1.12 (28.4)	0.75 (19.1)	4293 (296)	29.6
VTF-GE8-6T-28C	3/8 (9.53)	0.035 (0.89)	0.31 (7.75)	0.59 (15.1)	1.12 (28.4)	0.75 (19.1)	3292 (227)	22.7
VTF-GE8-28C	1/2 (12.70)	0.049 (1.24)	0.40 (10.20)	0.59 (15.1)	1.12 (28.4)	0.75 (19.1)	3495 (241)	24.1

Gland for Socket Weld

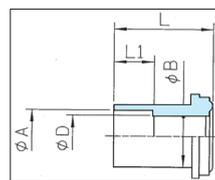
VTGC



Parts numbers	φ A	φ D	φ B	L	ℓ	Pressure Rating	
						psig (bar)	MPa
VTGC4-4	1/4 (6.35)	0.17 (4.35)	0.35 (8.8)	1.31 (33.3)	0.28 (7.1)	5482 (378)	37.8
VTGC8-6	3/8 (9.53)	0.30 (7.50)	0.59 (15.1)	1.50 (38.1)	0.31 (7.9)	4293 (296)	29.6
VTGC8-8	1/2 (12.70)	0.40 (10.20)	0.59 (15.1)	1.50 (38.1)	0.38 (9.7)	2988 (206)	20.6
VTGC12-12	3/4 (19.05)	0.62 (15.70)	0.87 (22.2)	2.00 (50.8)	0.44 (11.2)	2785 (192)	19.2
VTGC16-16	1 (25.40)	0.87 (22.10)	1.19 (30.2)	2.22 (56.4)	0.62 (15.7)	2988 (206)	20.6

Short Gland for Socket Weld

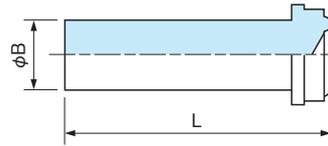
SVTGC



Parts numbers	φ A	φ D	φ B	L	ℓ	Pressure Rating	
						psig (bar)	MPa
SVTGC4-4	1/4 (6.35)	0.17 (4.35)	0.35 (8.8)	0.75 (19.1)	0.28 (7.1)	5482 (378)	37.8

**Blind Gland**

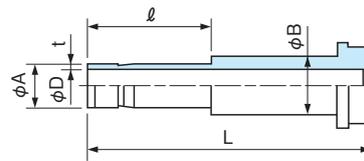
VTF- \* -BL



Parts numbers	$\phi B$	L
VTF-GC2-BL	0.20 (5.1)	0.70 (17.8)
VTF-GC4-BL	0.35 (8.8)	1.31 (33.3)
VTF-GC8-BL	0.59 (15.1)	1.50 (38.1)
VTF-GC12-BL	0.87 (22.2)	2.00 (50.8)
VTF-GC16-BL	1.19 (30.2)	2.22 (56.4)

**Gland for Tube Adapter**

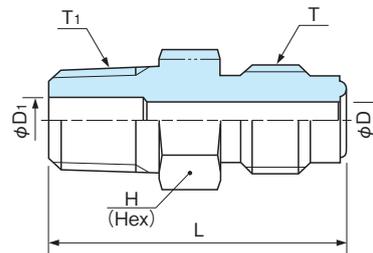
VTGAD



Parts numbers	$\phi A$	t	$\phi D$	$\phi B$	L	l	Pressure Rating	
							psig (bar)	MPa
VTGAD4-4	1/4 (6.35)	0.039 (1.00)	0.17 (4.35)	0.35 (8.8)	1.61 (41.0)	0.64 (16.20)	9993 (689)	68.9
VTGAD8-6	3/8 (9.53)	0.054 (1.36)	0.27 (6.80)	0.59 (15.1)	1.81 (46.0)	0.70 (17.80)	4293 (296)	29.6
VTGAD8-8	1/2 (12.70)	0.065 (1.65)	0.37 (9.40)	0.59 (15.1)	1.94 (49.3)	0.96 (24.40)	4293 (296)	29.6

**Male Connector (NPT)**

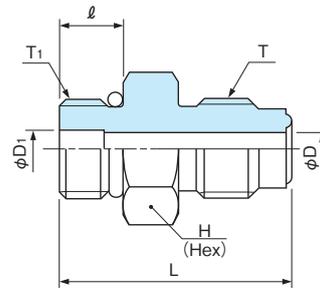
VTCT (NPT thread)



Parts numbers	T	T1	$\phi D$	$\phi D1$	H (Hex)	L	Pressure Rating	
							psig (bar)	MPa
VTCT2-1C	5/16-24	1/16	0.09 (2.30)	0.09 (2.30)	3/8 (9.52)	1.07 (27.2)	8992 (620)	62.0
VTCT2-2C	5/16-24	1/8	0.09 (2.30)	0.17 (4.40)	7/16 (11.11)	1.07 (27.2)	8992 (620)	62.0
VTCT4-2C	9/16-18	1/8	0.17 (4.35)	0.17 (4.35)	5/8 (15.88)	1.31 (33.3)	9993 (689)	68.9
VTCT4-4	9/16-18	1/4	0.17 (4.35)	0.24 (6.00)	5/8 (15.88)	1.49 (37.8)	9993 (689)	68.9
VTCT8-4C	7/8-14	1/4	0.40 (10.20)	0.24 (6.00)	15/16 (23.81)	1.65 (41.9)	4293 (296)	29.6
VTCT8-6C	7/8-14	3/8	0.40 (10.20)	0.38 (9.70)	15/16 (23.81)	1.65 (41.9)	4293 (296)	29.6
VTCT8-8C	7/8-14	1/2	0.40 (10.20)	0.40 (10.20)	15/16 (23.81)	1.84 (46.7)	4293 (296)	29.6
VTCT12-12C	1 1/4-18	3/4	0.62 (15.75)	0.62 (15.75)	1 5/16 (33.33)	2.19 (55.6)	3684 (254)	25.4
VTCT16-16	1 1/2-20	1	0.87 (22.10)	0.87 (22.10)	1 5/8 (41.27)	2.46 (62.6)	2988 (206)	20.6

**Male Connector (Straight thread)**

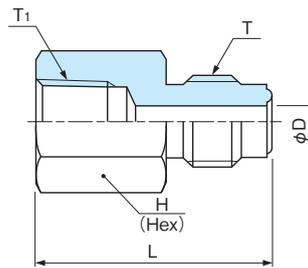
VTCU



Parts numbers	T	T1	φ D	φ D1	ℓ 1	ℓ	H (Hex)	L	O リング (AS568)	Pressure Rating	
										psig (bar)	MPa
VTCU4-6	9/16-18	9/16-18	0.17 (4.35)	0.28 (7.1)	0.25 (6.4)	0.39 (9.9)	3/4 (19.05)	1.33 (33.8)	-906	4496 (310)	31.0
VTCU8-6	7/8-14	9/16-18	0.30 (7.50)	0.30 (7.5)	-	0.39 (9.9)	15/16 (23.81)	1.48 (37.6)	-906	3495 (241)	24.1
VTCU8-10	7/8-14	7/8-16	0.30 (7.50)	0.59 (15.0)	0.40 (10.2)	0.50 (12.7)	1 (25.40)	1.66 (42.2)	-910	3495 (241)	24.1

**Female Connector (NPT)**

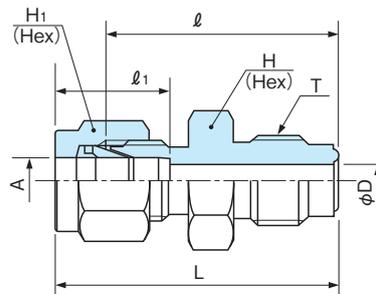
VTSA (NPT thread)



Parts numbers	T	T1	φ D	H (Hex)	L	Pressure Rating	
						psig (bar)	MPa
VTSA2-2	5/16-24	1/8	0.09 (2.30)	9/16 (14.28)	1.19 (30.2)	6483 (447)	44.7
VTSA4-2	9/16-18	1/8	0.17 (4.35)	5/8 (15.87)	1.41 (35.8)	7992 (551)	55.1
VTSA4-4C	9/16-18	1/4	0.17 (4.35)	3/4 (19.05)	1.41 (35.8)	6585 (454)	45.4
VTSA8-6C	7/8-14	3/8	0.40 (10.20)	15/16 (23.81)	1.76 (44.7)	4293 (296)	29.6
VTSA8-8C	7/8-14	1/2	0.40 (10.20)	1 1/16 (26.99)	1.99 (50.5)	4293 (296)	29.6
VTSA12-12C	1 1/4-18	3/4	0.62 (15.75)	1 5/16 (33.34)	2.36 (59.9)	3684 (254)	25.4
VTSA16-16	1 1/2-20	1	0.87 (22.10)	1 5/8 (41.27)	2.51 (63.8)	2988 (206)	20.6

**BI-Lok Fitting Connector**

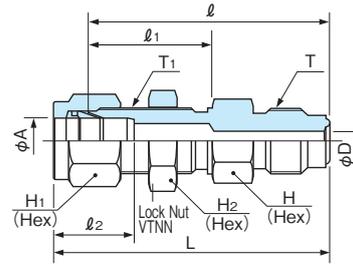
VTUB



Parts numbers	T	φ D	H (Hex)	φ A	H1 (Hex)	ℓ 1	ℓ	L	Pressure Rating	
									psig (bar)	MPa
VTUB4-4C	9/16-18	0.17 (4.35)	5/8 (15.88)	0.25 (6.35)	9/16 (14.29)	0.31 (7.95)	1.32 (33.6)	1.62 (41.1)	9993 (689)	68.9
VTUB8-6C	7/8-14	0.30 (7.50)	15/16(23.81)	0.38 (9.53)	11/16 (17.46)	0.38 (9.55)	1.54 (39.2)	1.84 (46.7)	4293 (296)	29.6
VTUB8-8C	7/8-14	0.40 (10.20)	15/16(23.81)	0.50 (12.70)	7/8 (22.23)	0.50 (12.70)	1.54 (39.2)	1.95 (49.5)	4293 (296)	29.6

**BI-Lok Bulkhead Fitting Connector**

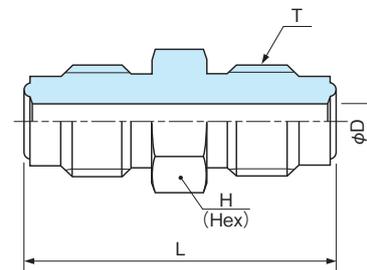
**VTSB**



Parts numbers	T	T1	φ D	H (Hex)	φ A	H1 (Hex)	ℓ 1	ℓ 2	H1 (Hex)	ℓ	L	Pressure Rating	
												psig (bar)	MPa
VTSB4-4	9/16-18	7/16-20	0.17 (4.35)	5/8 (15.88)	0.25 (6.35)	0.56 (14.29)	1.03 (26.2)	0.61 (15.37)	5/8 (15.88)	1.97 (50.0)	2.26 (57.4)	9993 (689)	68.9
VTSB4-4S	9/16-18	7/16-20	0.17 (4.35)	5/8 (15.88)	0.25 (6.35)	0.56 (14.29)	1.05 (26.7)	0.61 (15.37)	5/8 (15.88)	1.60 (40.6)	1.89 (48.0)	9993 (689)	68.9
VTSB8-6	7/8-14	7/16-20	0.30 (7.50)	15/16(23.81)	0.38 (9.53)	0.69 (17.46)	1.16 (29.5)	0.66 (16.88)	3/4 (19.05)	2.26 (57.4)	2.55 (64.7)	4293 (296)	29.6
VTSB8-8	7/8-14	3/4-20	0.40 (10.20)	15/16(23.81)	0.50 (12.70)	0.88 (22.23)	1.25 (31.8)	0.88 (22.34)	15/16 (23.81)	2.35 (59.7)	2.73 (69.3)	4293 (296)	29.6

**Union**

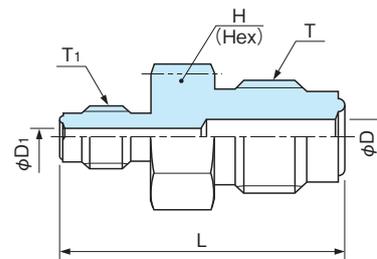
**VTUA**



Parts numbers	T	φ D	H (Hex)	L	Pressure Rating	
					psig (bar)	MPa
VTUA2	5/16-24	0.09 (2.30)	3/8 (9.52)	1.09 (27.7)	11182 (771)	77.1
VTUA4	9/16-18	0.17 (4.35)	5/8 (15.88)	1.53 (38.9)	9993 (689)	68.9
VTUA8	7/8-14	0.40 (10.20)	15/16 (23.81)	1.81 (46.0)	4293 (296)	29.6
VTUA12	1 1/4-18	0.62 (15.75)	1 5/16 (33.34)	2.38 (60.5)	3684 (254)	25.4
VTUA16	1 1/2-20	0.87 (22.10)	1 5/8 (41.27)	2.54 (64.6)	2988 (206)	20.6

**Reducing Union**

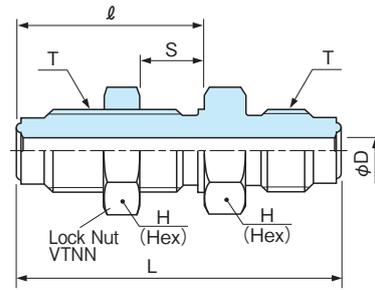
**VTUR**



Parts numbers	T	T1	φ D	φ D1	H (Hex)	L	Pressure Rating	
							psig (bar)	MPa
VTUR4-2	9/16-18	5/16-24	0.17 (4.35)	0.09 (2.30)	5/8 (15.88)	1.38 (35.1)	9993 (689)	68.9
VTUR8-4	7/8-14	9/16-18	0.30 (7.50)	0.17 (4.35)	15/16 (23.81)	1.71 (43.4)	4293 (296)	29.6

**Bulkhead Connector for Tube**

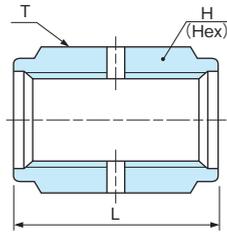
VTSU



Parts numbers	T	φ D	l	Smax	H (Hex)	L	Panel Hole Diameter	Pressure Rating	
								psig (bar)	MPa
VTSU4	9/16-18	0.17 (4.35)	1.25 (31.80)	0.44 (11.20)	3/4 (19.05)	2.16 (54.9)	0.59 (15.0)	9993 (689)	68.9
VTSU8	7/8-14	0.40 (10.20)	1.48 (37.60)	0.50 (12.70)	1 1/16 (26.99)	2.57 (65.3)	0.91 (23.0)	4293 (296)	29.6

**Coupling**

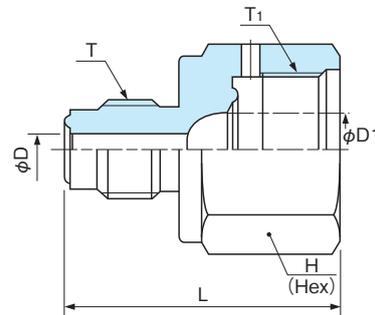
VTCG



Parts numbers	T	H (Hex)	L
VTCG2	5/16-24	7/16 (11.11)	1.09 (27.7)
VTCG4	9/16-18	3/4 (19.05)	1.53 (38.9)
VTCG8	7/8-14	11/16 (17.46)	1.81 (46.0)
VTCG12	1 1/4-18	1 1/2 (38.10)	2.38 (60.5)
VTCG16	1 1/2-20	1 3/4 (44.45)	2.54 (64.6)

**Reducing Adapter**

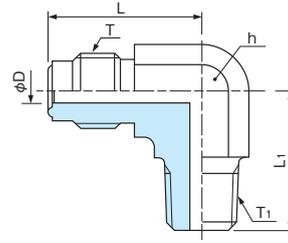
VTSS



Parts numbers	T	T1	φ D	H (Hex)	L	φ D1	Pressure Rating	
							psig (bar)	MPa
VTSS2-4	5/16-24	9/16-18	0.09 (2.30)	3/4 (19.05)	1.19 (30.2)	—	9993 (689)	68.9
VTSS4-8	9/16-18	7/8-14	0.17 (4.35)	1 1/16 (26.99)	1.52 (38.5)	0.40 (10.2)	4293 (296)	29.6

**Male Elbow (NPT)**

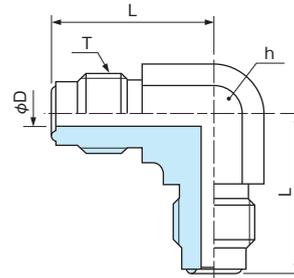
VTLN



Parts numbers	T	T1	phi D	h (Flat)	L	L1	Pressure Rating		
							psig (bar)	MPa	
VTLN4-2	9/16-18	1/8	0.17 (4.35)	11/16 (17.46)	1.13 (28.7)	0.88 (22.4)	9993 (689)	68.9	
VTLN4-4	9/16-18	1/4	0.17 (4.35)	11/16 (17.46)	1.13 (28.7)	1.06 (26.9)	7992 (551)	55.1	
VTLN8-6	7/8-14	3/8	0.40 (10.20)	13/16 (20.64)	1.31 (33.3)	1.11 (28.2)	4293 (296)	29.6	
VTLN8-8	7/8-14	1/2	0.40 (10.20)	13/16 (20.64)	1.31 (33.3)	1.31 (33.3)	4293 (296)	29.6	

**Union Elbow**

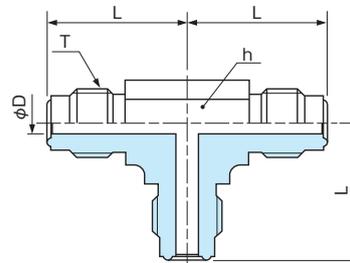
VTF-LA



Parts numbers	T	phi D	h (Flat)	L	Pressure Rating		
					psig (bar)	MPa	
VTF-LA2	5/16-24	0.09 (2.30)	7/16 (11.11)	0.89 (22.6)	11182 (771)	77.1	
VTF-LA4	9/16-18	0.17 (4.35)	11/16 (17.46)	1.07 (27.2)	9993 (689)	68.9	
VTF-LA8	7/8-14	0.40 (10.20)	0.98 (25.00)	1.45 (36.8)	4293 (296)	29.6	
VTLA12	1 1/4-18	0.62 (15.75)	1 1/4 (31.75)	1.81 (46.0)	3684 (254)	25.4	

**Union Tee**

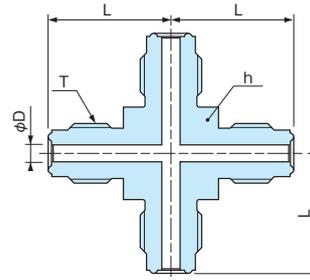
VTF-TA



Parts numbers	T	phi D	h (Flat)	L	Pressure Rating		
					psig (bar)	MPa	
VTF-TA2	5/16-24	0.09 (2.30)	7/16 (11.11)	0.89 (22.6)	11182 (771)	77.1	
VTF-TA4	9/16-18	0.17 (4.35)	11/16 (17.46)	1.07 (27.2)	9993 (689)	68.9	
VTF-TA8	7/8-14	0.40 (10.20)	0.98 (25.00)	1.45 (36.8)	4293 (296)	29.6	

**Union Cross**

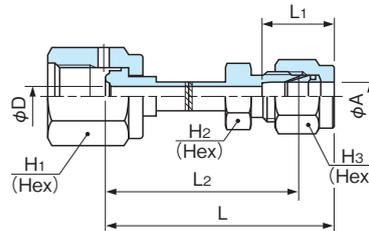
VTF - XA



Parts numbers	T	φ D	h (Flat)	L	Pressure Rating		
					psig (bar)		MPa
VTF-XA2	5/16-24	0.09 (2.30)	7/16 (11.11)	0.89 (22.6)	11182 (771)	77.1	
VTF-XA4	9/16-18	0.17 (4.35)	11/16 (17.46)	1.07 (27.2)	9993 (689)	68.9	
VTF-XA8	7/8-14	0.40 (10.20)	0.98 (25.00)	1.45 (36.8)	4293 (296)	29.6	

**Welded BI-Lok Tube Fitting Connector**

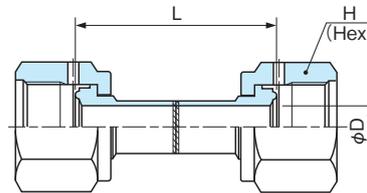
WVTUB



Parts numbers	φ D	φ A	H1 (Hex)	H2 (Hex)	H3 (Hex)	L1	L2	L	Pressure Rating	
									psig (bar)	MPa
WVTUB4-4	0.17 (4.35)	0.25 (6.35)	3/4 (19.05)	1/2 (12.70)	9/16 (14.29)	0.61 (15.37)	1.64 (41.75)	1.94 (49.3)	9993 (689)	68.9
WVTUB4-6	0.17 (4.35)	0.38 (9.53)	3/4 (19.05)	5/8 (15.88)	11/16 (17.46)	0.66 (16.88)	1.67 (42.50)	1.96 (49.8)	6483 (447)	44.7
WVTUB8-8	0.40 (10.20)	0.75 (19.05)	1 1/16 (26.99)	13/16 (20.64)	7/8 (22.22)	0.88 (22.34)	1.85 (47.00)	2.22 (56.3)	4293 (296)	29.6

**Closed Coupling**

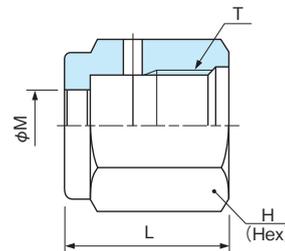
WVTGE



Parts numbers	φ D	H (Hex)	L	Pressure Rating	
				psig (bar)	MPa
WVTGE4-4	0.17 (4.35)	3/4 (19.05)	1.71 (43.4)	9993 (689)	68.9
WVTGE8-8	0.40 (10.20)	1 1/16 (26.99)	1.85 (47.0)	4293 (296)	29.6

**Female Nut**

VTNA

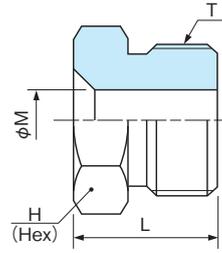


Parts numbers	T	φ M	H (Hex)	L
VTNA2	5/16-24	0.20 (5.15)	7/16 (11.10)	0.53 (13.5)
VTNA4	9/16-18	0.36 (9.10)	3/4 (19.05)	0.81 (20.6)
VTNA8	7/8-14	0.61 (15.50)	1 1/16 (26.99)	0.88 (22.4)
VTNA12	1 1/4-18	0.89 (22.60)	1 1/2 (38.10)	1.12 (28.4)
VTNA16	1 1/2-20	1.20 (30.50)	1 3/4 (44.45)	1.34 (34.0)

Some products in the catalog are manufactured upon ordered. Inquire with us for details.  
 ※ Indicate the grade in the end

**Male Nut**

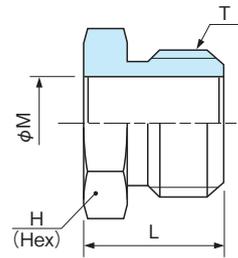
VTNB



Parts numbers	T	φ M	H (Hex)	L
VTNB2	5/16-24	0.20 (5.15)	3/8 (9.52)	0.50 (12.7)
VTNB4	9/16-18	0.35 (8.90)	5/8 (15.88)	0.72 (18.3)
VTNB8	7/8-14	0.60 (15.20)	15/16 (23.81)	0.81 (20.6)
VTNB12	1 1/4-18	0.88 (22.40)	1 5/16 (33.34)	1.00 (25.4)
VTNB16	1 1/2-20	1.20 (30.50)	1 5/8 (41.27)	1.19 (30.2)

**Short Male Nut**

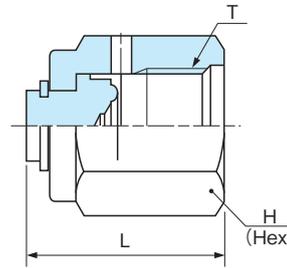
VTNB



Parts numbers	T	φ M	H (Hex)	L
VTNB4S	9/16-18	0.35 (8.90)	5/8 (15.88)	0.54 (13.7)

**CAP**

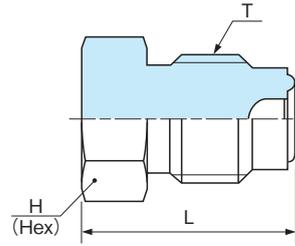
VTCA



Parts numbers	T	H (Hex)	L
VTCA2	5/16-24	7/16 (11.11)	0.62 (15.7)
VTCA4	9/16-18	3/4 (19.05)	0.93 (23.5)
VTCA8	7/8-14	1 1/16 (26.99)	1.01 (25.7)
VTCA12	1 1/4-18	1 1/2 (38.10)	1.31 (33.2)
VTCA16	1 1/2-20	1 3/4 (44.45)	1.54 (39.1)

**Plug**

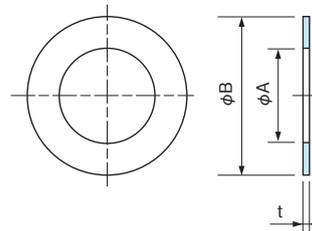
VTBA



Parts numbers	T	H (Hex)	L
VTBA2	5/16-24	3/8 (9.52)	0.68 (17.3)
VTBA4	9/16-18	5/8 (15.88)	0.91 (23.1)
VTBA8	7/8-14	15/16 (23.81)	1.08 (27.4)
VTBA12	1 1/4-18	1 5/16 (33.34)	1.41 (35.8)
VTBA16	1 1/2-20	1 5/8 (41.28)	1.52 (38.6)

**Gasket**

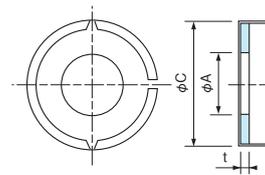
VTGP



Parts numbers	$\phi A$	$\phi B$	t
VTGP2	0.09 (2.30)	0.25 (6.40)	0.02 (0.5)
VTGP4	0.22 (5.60)	0.44 (11.30)	0.03 (0.8)
VTGP8	0.44 (11.20)	0.73 (18.55)	0.03 (0.8)
VTGP12	0.66 (16.80)	1.08 (27.50)	0.03 (0.8)
VTGP16	0.88 (22.35)	1.34 (34.00)	0.03 (0.8)

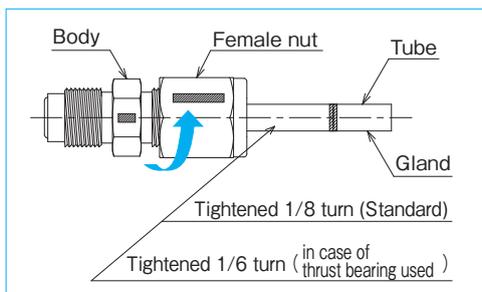
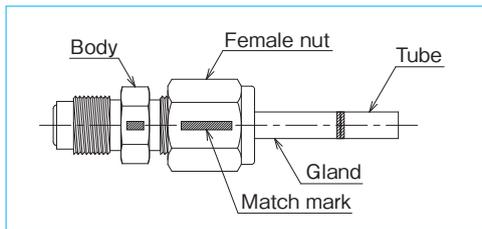
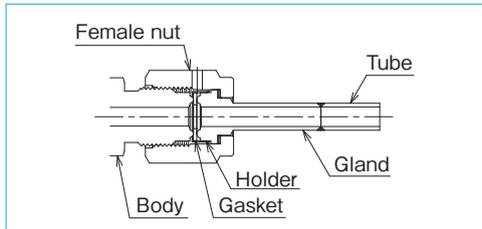
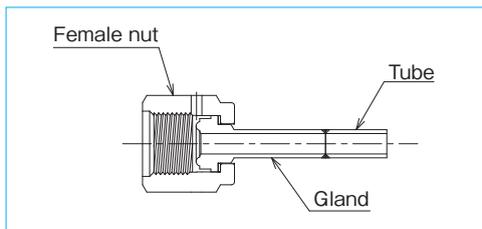
**Gasket with Holder**

VTGR



Parts numbers	$\phi A$	$\phi C$	t
VTGR4	0.22 (5.60)	0.46 (11.70)	0.03 (0.8)
VTGR8	0.44 (11.20)	0.75 (19.10)	0.03 (0.8)
VTGR12	0.66 (16.80)	1.10 (28.05)	0.03 (0.8)

## ◆ Assembly Procedure



1. Attach the female nut to the gland.
2. Remove the protection cap from the gland.  
Pay attention not to damage bead face.
3. Weld gland and tube.
4. Affix the gasket with the holder to the gland that was welded to the tube.
5. Remove the bead protection cap on the mating side such as the connector body.
6. Fix tightly fitting body or male nut, and finger tighten the female nut until the gasket contacts the mating bead surface.
7. At this position, draw matching marks on fitting body and female nut with ink.
8. Hold the body tightly with back up wrench. Then tighten the female nut by 1/8 turn from the matching marks.  
In case of using a thrust bearing, however, tighten by 1/6 turn.

## ◆ Remaking Procedure

### ① When no replacing both the Gasket and the Thrust washer

In remaking, it will be sufficient to only slightly additionally tighten (5~10°) the female nut with the spanner. Note that the finger tight position in the remake will not be same as the finger tight position before disassembly. The same applies to the fixtures that do not use a thrust washer.

### ② When replacing only the Gasket

After finger tighten, put new match marks on the body and the nut, then tighten 1/8 turn (45°) with spanner. The difference of rotation from above par.9 will depend upon whether there has been initial deformation of the washer.

**Note: As stated above, nut rotation for remaking is different when replace only gasket.**

**Replacing together with the thrust washer is recommended from tightening control.**

## ◆ Replacement of Gasket

Gasket can be repeatedly used several times (4 ~ 5 times). However, in the case of used for severe special gas, it is recommended that the gasket is replaced with a new one at each disassembly.

## ◆ Handle With Care

① For protection of the bead, keep on the protection cap during storage, transportation, and weld preparation.

② All the parts are packed under clean room atmosphere after precisely cleaned.

In application where fat and oil present problems, jigs and tools have to be degreased and washed clean prior to use. Also workers had better wear the dust-proof gloves not to touch the parts with bare hand.

## Related Products

### Tube Cutter



This machine cuts the stainless tube precisely without contamination the clean atmosphere. As no outer burr is generated, it's ready to automatic weld just after cutting without end surface finish.

### AWF



This type of fitting is for Ultra high purity gas services of semiconductor, liquid crystal manufacturing facilities, etc.. Clean stainless material which is vacuum treated is used and vacuum packaged in double in a clean room.

### Diaphragm Valves



Outer sealing with metal diaphragm realize high airtightness, high durability and dead space free. Suitable for high purity fluid.

### Bellows Valves



Outer sealing with metal bellows realize higher airtightness. As the leakage from the gland can be avoided, this type is ideal for such a poisonous gas service that is required higher leak-proof performance.

**⚠ WARNING** If you don't select and handle fittings, valves and related accessories in an adequate manner, it may damage human beings and applicable systems. Within the responsibility and authorization of users and piping designers, fittings, valves and related accessories shall be adequately selected, assembled, used and maintained based on the applicable conditions and product conformity to the system to be applied. Please read carefully our operation manual and feel free to contact with Ihara if you have any question or request.



ISO9001, ISO14001 Certified Office  
Certified office for high-pressure gas facility testing and manufacturing.  
certified office for N valves and N-II fittings

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