

TOM JOINT FITTINGS





TOM JOINT FITTINGS

Components are ordered by product code as listed in this catalogue

DESIGNATIONS PART NUMBER SYSTEM

| | | | | | |
|----------|-----------|----------|----------|-----------|-----------|
| T | LG | 8 | S | 19 | BA |
| ① | ② | ③ | ④ | ⑤ | ⑥ |

| | | |
|----------|---|------------------------|
| ① Series | T | Tom Joint (Metal Seal) |
|----------|---|------------------------|

| | | | | |
|-----------|-----------|------------------------|---------------------|-------------------------------|
| ② Product | SG | Female Gland | UT | Reducing Union Tee |
| | LG | Male Gland | UC | Union Cross |
| | MG | Male Weld Gland | FN | Female Nut |
| | TA | Tube Adapter | MN | Male Nut |
| | MU | Double Male Union | PG | Plug |
| | BU | Bulkhead Union | CP | Cap |
| | TB | TBW Body | GR | Gasket w/ Retainer |
| | TBC | TBW Bulkhead Connector | GT | Gasket |
| | TFC | Tube Fitting Connector | BG | Blind Gasket |
| | MCR | Male Connector (PT) | HMN | HVCR Male Nut |
| | MCN | Male Connector (NPT) | HFN | HVCR Female Nut |
| | MCS | Male Connector (ST) | HLG | HVCR Long Gland |
| | FCR | Female Connector (PT) | WMCR | Welded Male Connector (PT) |
| | FCN | Female Connector (NPT) | WMCN | Welded Male Connector (NPT) |
| | UE | Union Elbow | WFCR | Welded Female Connector (PT) |
| | MER | Male Elbow (PT) | WFCN | Welded Female Connector (NPT) |
| | MEN | Male Elbow (NPT) | WLC | Welded Lok Connector |
| UT | Union Tee | WFU | Welded Female Union | |

| | | |
|--------|----|---------|
| ③ Size | 2 | 1/8" OD |
| | 4 | 1/4" OD |
| | 6 | 3/8" OD |
| | 8 | 1/2" OD |
| | 12 | 3/4" OD |
| | 16 | 1" OD |

| | | |
|------------|---|-----------------------|
| ④ Material | S | Single Melt (316L) |
| | V | Double Melt (VIM+VAR) |

| | | |
|--------------|----|-------------------------|
| ⑤ Gland Type | 6 | 6.35mm (Micro Type) |
| | 10 | 10mm (Short Type) |
| | 19 | 19.05mm (Standard Type) |

| | | |
|-------------|----|------------|
| ⑥ Finishing | BA | Ry < 3.0μm |
| | EP | Ry < 0.7μm |

TOM JOINT Fittings



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TOM JOINT FITTING

- 耐腐食性用の高純度ニッケル材とハステロイ C-22 の対応が可能。
- メスナットは施工時の締付荷重を減少させ、供回りを予防します。

■ 素材 (Materials)

| Glands, Bodies and Nuts | | |
|--|----------------------------|--|
| Material | Ordering Number Designator | Applicable Specification |
| 316L stainless steel Single Melt | S | bar stock : ASME SA479, ASTM A276 forgings : ASTM A182 |
| 316L (VIM+VAR) stainless steel Double Melt | V | bar stock : ASME SA479, ASTM A276 forgings : ASTM A182 |

■ Some Configurations

| Gaskets | | |
|------------------------------------|----------------------------|--------------------------|
| Material | Ordering Number Designator | Applicable Specification |
| Nickel | NI | ASTM B162 |
| 316L stainless steel | US | ASTM A167 |
| Silver plated 316L stainless steel | SS | ASTM A167 |

■ 仕様 (Specifications)

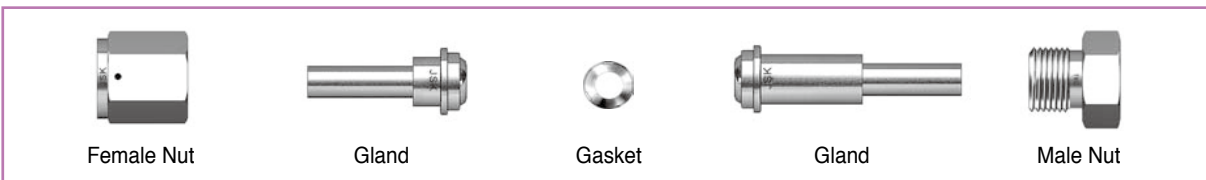
- **圧力レーティングは VCR アセンブリを使用して行われた試験に基づいています。** 全ての定格は ANSI コードの Pressure Piping B31.3 の計算に適合しています。
- **運用圧力は周囲温度で見積もられ 4 から 1 のデザイン要素に基づいています。** ANSI B31.1 に適合した圧力定格を決定するためには運用圧力に 0.94 を掛けてください。
- **温度レーティング**
 フィッティング：ステンレス鋼 316、316L 1,000°F(537°C)
 ガスケット：高純度ニッケル 600°F(315°C)
 ステンレス鋼：1,000°F(537°C)
- **寸法は参考値であり、変化することがあります。**
- **めっき**：メスナットは銀メッキされています。メッキ部分を取り除くような清掃や、電解研磨、表面不活性化 (passivation) で使用する化学

処理は避けてください。もしメッキが損傷したり取り除かれた場合、ねじかじりが起こりフィッティング部品が傷ついたり、適切に密封できなくなる可能性があります。

- **試験**：ヘリウムリークテストの漏れ量は 1×10^{-9} atm cc/sec.
- **内部表面処理**：部品は BA 表面処理と EP 電解研磨した表面処理が入手可能です。
- **洗浄と包装**：全ての部品についてクラス 100 クリーンルームで超高純度の洗浄と包装を行っています。

| Designator | Surface Finish | |
|------------|------------------------|--------------------------|
| | (Ry) | (Ra) |
| EP | $\leq 0.7 \mu\text{m}$ | $\leq 5 \mu\text{inch}$ |
| BA | $\leq 3.0 \mu\text{m}$ | $\leq 10 \mu\text{inch}$ |

■ Typical Face Seal Fittings



Female Nut

Gland

Gasket

Gland

Male Nut



GLAND

□: BA or EP

Female Gland (TSG)

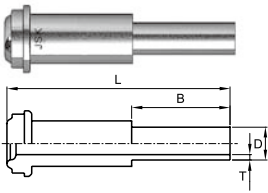
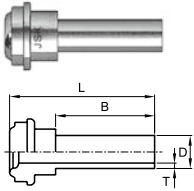
| Head Size | Tube Size(OD) | Ordering Number | D | T | B | L | ANS (Inch) |
|-----------|---------------|-----------------|-------|------|-------|-------|------------|
| 1/8" | 1/8" | TSG2S19□ | 3.18 | 0.70 | 19.05 | 27.40 | 1/8 |
| 1/4" | 1/4" | TSG4S6□ | 6.35 | 1.00 | 6.35 | 15.24 | 1/4 |
| 1/4" | 1/4" | TSG4S10□ | 6.35 | 1.00 | 10.00 | 18.89 | 1/4 |
| 1/4" | 1/4" | TSG4S19□ | 6.35 | 1.00 | 19.05 | 27.94 | 1/4 |
| 1/2" | 3/8" | TSG6S6□ | 9.53 | 1.00 | 6.35 | 15.75 | 1/2 |
| 1/2" | 3/8" | TSG6S10□ | 9.53 | 1.00 | 10.00 | 19.40 | 1/2 |
| 1/2" | 3/8" | TSG6S19□ | 9.53 | 1.00 | 19.05 | 28.45 | 1/2 |
| 1/2" | 1/2" | TSG8S6□ | 12.70 | 1.24 | 6.35 | 15.75 | 1/2 |
| 1/2" | 1/2" | TSG8S10□ | 12.70 | 1.24 | 10.00 | 19.40 | 1/2 |
| 1/2" | 1/2" | TSG8S19□ | 12.70 | 1.24 | 19.05 | 28.45 | 1/2 |
| 3/4" | 3/4" | TSG12S19□ | 19.05 | 1.65 | 19.05 | 55.90 | 3/4 |
| 1" | 1" | TSG16S19□ | 25.40 | 1.65 | 19.05 | 63.20 | 1 |
| 1/4" | 1/8" | TSG42S10□ | 3.18 | 0.70 | 10.00 | 18.89 | 1/4 |
| 1/2" | 1/4" | TSG84S6□ | 6.35 | 1.00 | 6.35 | 15.75 | 1/2 |
| 1/2" | 1/4" | TSG84S10□ | 6.35 | 1.00 | 10.00 | 19.40 | 1/2 |
| 1/2" | 1/4" | TSG84S19□ | 6.35 | 1.00 | 19.05 | 28.45 | 1/2 |

ANS : AVAILABLE NUT SIZE

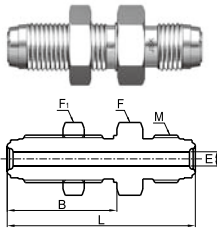
Male Gland (TLG)

| Head Size | Tube Size(OD) | Ordering Number | D | T | B | L | ANS (Inch) |
|-----------|---------------|-----------------|-------|------|-------|-------|------------|
| 1/8" | 1/8" | TLG2S19□ | 3.18 | 0.70 | 19.05 | 36.00 | 1/8 |
| 1/4" | 1/4" | TLG4S6□ | 6.35 | 1.00 | 6.35 | 30.48 | 1/4 |
| 1/4" | 1/4" | TLG4S10□ | 6.35 | 1.00 | 10.00 | 34.13 | 1/4 |
| 1/4" | 1/4" | TLG4S19□ | 6.35 | 1.00 | 19.05 | 43.18 | 1/4 |
| 1/2" | 3/8" | TLG6S6□ | 9.53 | 1.00 | 6.35 | 32.77 | 1/2 |
| 1/2" | 3/8" | TLG6S10□ | 9.53 | 1.00 | 10.00 | 36.42 | 1/2 |
| 1/2" | 3/8" | TLG6S19□ | 9.53 | 1.00 | 19.05 | 45.47 | 1/2 |
| 1/2" | 1/2" | TLG8S6□ | 12.70 | 1.24 | 6.35 | 32.77 | 1/2 |
| 1/2" | 1/2" | TLG8S10□ | 12.70 | 1.24 | 10.00 | 36.42 | 1/2 |
| 1/2" | 1/2" | TLG8S19□ | 12.70 | 1.24 | 19.05 | 45.47 | 1/2 |
| 3/4" | 3/4" | TLG12S19□ | 19.05 | 1.65 | 19.05 | 51.56 | 3/4 |
| 1" | 1" | TLG16S19□ | 25.40 | 1.65 | 19.05 | 58.93 | 1 |
| 1/4" | 1/8" | TLG42S10□ | 3.18 | 0.70 | 10.00 | 34.13 | 1/4 |
| 1/2" | 1/4" | TLG84S6□ | 6.35 | 1.00 | 6.35 | 32.77 | 1/2 |
| 1/2" | 1/4" | TLG84S10□ | 6.35 | 1.00 | 10.00 | 36.42 | 1/2 |
| 1/2" | 1/4" | TLG84S19□ | 6.35 | 1.00 | 19.05 | 45.47 | 1/2 |

ANS : AVAILABLE NUT SIZE

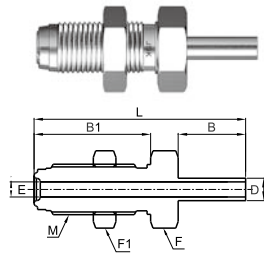


UNION


Bulkhead Union (TBU)

| Head Size | Ordering Number | E | B | L | F Body Cube | F ₁ Body Cube | M |
|-----------|-----------------|-------|-------|-------|-------------|--------------------------|---------------|
| 1/4" | TBU4S□ | 4.35 | 33.00 | 56.60 | 19.05 | 15.88 | 9/16-18 UNF |
| 1/2" | TBU8S□ | 10.22 | 37.60 | 65.25 | 26.90 | 23.81 | 7/8-14 UNF |
| 3/4" | TBU12S□ | 15.75 | 43.40 | 79.00 | 38.10 | 33.34 | 1 1/4-18 UNEF |
| 1" | TBU16S□ | 22.10 | 47.10 | 86.00 | 44.40 | 41.28 | 1 1/2-20 UN |

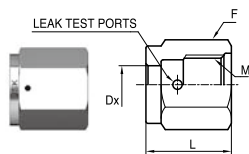
CONNECTOR


TBW Bulkhead Connector (TTBC)

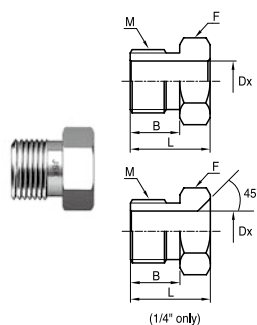
| Head Size | Tube Size(OD) | Ordering Number | D | E | B | B ₁ | L | F Body Cube | F ₁ Body Cube | M |
|-----------|---------------|-----------------|-------|-------|-------|----------------|-------|-------------|--------------------------|---------------|
| 1/4" | 1/4" | TTBC44S□ | 6.35 | 4.35 | 19.05 | 33.00 | 59.85 | 19.05 | 15.88 | 9/16-18 UNF |
| 1/2" | 1/2" | TTBC88S□ | 12.70 | 10.22 | 19.05 | 37.60 | 65.25 | 26.90 | 23.81 | 7/8-14 UNF |
| 3/4" | 3/4" | TTBC1212S□ | 19.05 | 15.75 | 19.05 | 43.25 | 71.30 | 38.10 | 33.34 | 1 1/4-18 UNEF |



NUT, PLUG & CAP

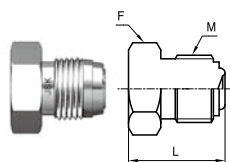


| Female Nut (TFN) | | | | | | |
|------------------|-----------------|------|------------|-------|---------------|--|
| Head Size | Ordering Number | L | F Hex Flat | DX | M | |
| 1/8" | TFN2S | 13.5 | 11.11 | 5.30 | 5/16-24 UNF | |
| 1/4" | TFN4S | 20.5 | 19.05 | 9.10 | 9/16-18 UNF | |
| 1/2" | TFN8S | 22.3 | 26.99 | 15.50 | 7/8-14 UNF | |
| 3/4" | TFN12S | 28.4 | 38.10 | 22.60 | 1 1/4-18 UNEF | |
| 1" | TFN16S | 34.0 | 44.45 | 30.50 | 1 1/2-20 UN | |



| Male Nut (TMN) | | | | | | |
|----------------|-----------------|------|------|------------|-------|---------------|
| Head Size | Ordering Number | L | B | F Hex Flat | DX | M |
| 1/8" | TMN2S | 12.7 | 8.2 | 9.52 | 5.30 | 5/16-24 UNF |
| 1/4" | TMN4S | 18.0 | 11.0 | 15.88 | 9.10 | 9/16-18 UNF |
| *1/4" | TMN4S.54 | 13.7 | 11.0 | 15.88 | 9.10 | 9/16-18 UNF |
| 1/2" | TMN8S | 20.5 | 12.7 | 23.81 | 15.50 | 7/8-14 UNF |
| 3/4" | TMN12S | 25.4 | 16.0 | 33.34 | 22.60 | 1 1/4-18 UNEF |
| 1" | TMN16S | 30.2 | 20.0 | 41.28 | 30.50 | 1 1/2-20 UN |

*TMN4S.54 : Short Male Nut 1/4 Only



| Plug (TPG) | | | | | |
|------------|-----------------|-------|------------|---------------|--|
| Head Size | Ordering Number | L | F Hex Flat | M | |
| 1/8" | TPG2S□ | 17.30 | 9.52 | 5/16-24 UNF | |
| 1/4" | TPG4S□ | 23.37 | 15.88 | 9/16-18 UNF | |
| 1/2" | TPG8S□ | 27.43 | 23.81 | 7/8-14 UNF | |
| 3/4" | TPG12S□ | 36.32 | 33.34 | 1 1/4-18 UNEF | |
| 1" | TPG16S□ | 38.61 | 41.28 | 1 1/2-20 UN | |



| Cap (TCP) | | | | | |
|-----------|-----------------|-------|-------|------------|---------------|
| Head Size | Ordering Number | L | B | F Hex Flat | M |
| 1/8" | TCP2S□ | 16.00 | 7.60 | 11.11 | 5/16-24 UNF |
| 1/4" | TCP4S□ | 24.20 | 11.18 | 19.05 | 9/16-18 UNF |
| 1/2" | TCP8S□ | 25.65 | 11.43 | 26.99 | 7/8-14 UNF |
| 3/4" | TCP12S□ | 32.77 | 13.72 | 38.10 | 1 1/4-18 UNEF |
| 1" | TCP16S□ | 39.12 | 16.00 | 44.45 | 1 1/2-20 UN |

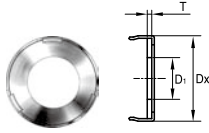
□: BA or EP

TOM
JOINT
Fittings

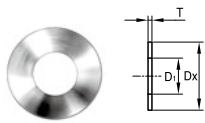


GASKET

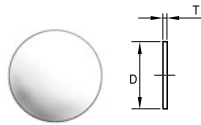
□ = NI, US, SS
 NI : Nickel EP
 US : Original 316L EP
 SS : Silver plated 316L EP



| Gasket w/ Retainer (TGR) | | | | |
|--------------------------|-----------------|-----|------|-------|
| Head Size | Ordering Number | T | D1 | DX |
| 1/4" | TGR4□ | 0.8 | 5.6 | 11.85 |
| 1/2" | TGR8□ | 0.8 | 11.2 | 19.27 |
| 3/4" | TGR12□ | 0.8 | 16.8 | 27.90 |
| 1" | TGR16□ | 0.8 | 22.6 | 34.20 |

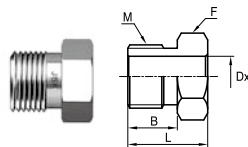


| Gasket (TGT) | | | | |
|--------------|-----------------|-----|------|------|
| Head Size | Ordering Number | T | D1 | DX |
| 1/8" | TGT2□ | 0.8 | 2.3 | 6.6 |
| 1/4" | TGT4□ | 0.8 | 5.6 | 11.9 |
| 1/2" | TGT8□ | 0.8 | 11.2 | 19.8 |
| 3/4" | TGT12□ | 0.8 | 16.8 | 29.0 |
| 1" | TGT16□ | 0.8 | 22.6 | 35.8 |

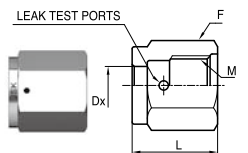


| Blind Gasket (TBG) | | | | |
|--------------------|-----------------|------|-----|--|
| Head Size | Ordering Number | D | T | |
| 1/4" | TBG4□ | 11.9 | 0.8 | |
| 1/2" | TBG8□ | 19.8 | 0.8 | |
| 3/4" | TBG12□ | 28.9 | 0.8 | |
| 1" | TBG16□ | 35.5 | 0.8 | |

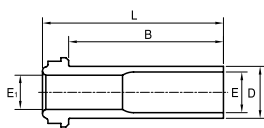
HI-FLOW



| HVCR Male Nut (THMN) | | | | | | |
|----------------------|-----------------|------|-------|------------|-----|-------------|
| Head Size | Ordering Number | B | L | F Hex Flat | DX | M |
| 1/4" | THMN4S | 11.0 | 18.03 | 15.88 | 9.9 | 9/16-18 UNF |



| HVCR Female Nut (THFN) | | | | | |
|------------------------|-----------------|-------|------------|------|-------------|
| Head Size | Ordering Number | L | F Hex Flat | Dx | M |
| 1/4" | THFN4S | 20.57 | 19.05 | 9.90 | 9/16-18 UNF |

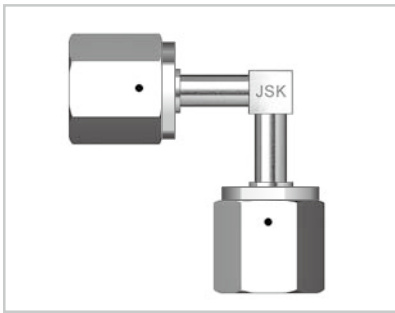


| HVCR Long Gland (THLG) | | | | | | | |
|------------------------|---------------|-----------------|------|------|------|-----|------|
| Head Size | Tube Size(OD) | Ordering Number | D | B | L | E | E1 |
| 1/4" | 3/8" | THLG46S□ | 9.53 | 28.4 | 33.2 | 7.5 | 6.28 |

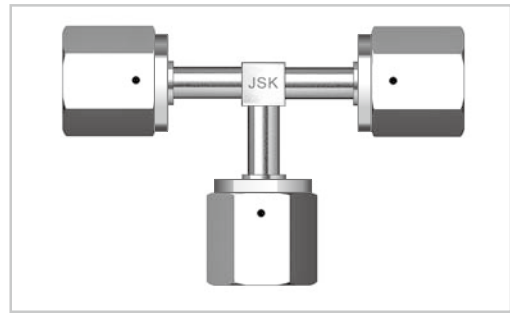


■ Female Elbow Union Welded Assembly

■ Female Tee Union Welded Assembly



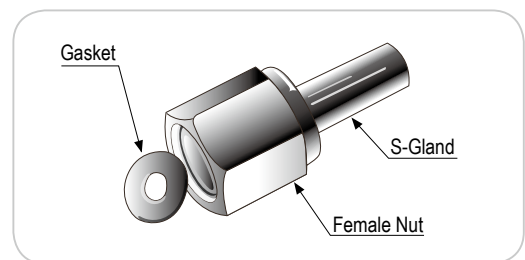
Ordering Number / TFEU4S□



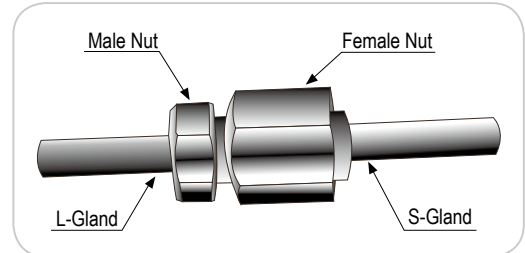
Ordering Number / TFTU4S□

■ 組み立て方

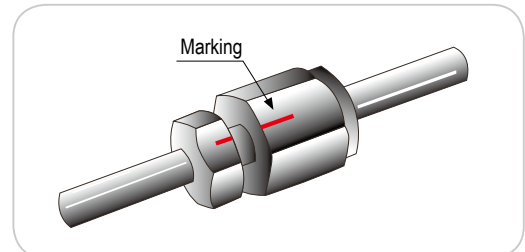
1: メスナットの中にガスケットを置き、確実にガスケットが正しい位置に設置されていることを確認する。



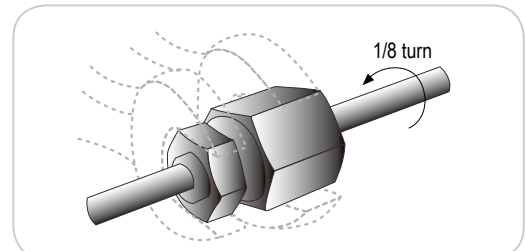
2: 右図のように部品を組み立て、きつく締める。



3: オスナットとメスナットが締められていることを確認し、オスナットとメスナットの六角を合わせる。



4: 最終的な締める作業にはレンチやスパナ等の工具が必要です。オスナットを工具で押さえ、メスナットを 1/8 回転させる。



注意:

必要以上に締めすぎると VCR 加工部の表面を損傷し、漏れを引き起こす可能性があります。

