

DK-LOK

Fittings & Valves

DK-Lok UHP Fittings

No.09-01(E)
May 2017





Safe Component Selection

The selection of component for any applications or system design must be considered to ensure safe performance. Component function, material compatibility, component ratings, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. DK-Lok accepts no liability for any improper selection, installation, operation or maintenance.

Clean Weld Fittings

Micro Elbow
WML 05



Micro Tee
WMT 05



Micro Cross Tee
WMX 05



Micro Tribow
WMTB 06



Micro Half Elbow
WMHL 06



Micro Reducing Elbow
WMRL 06



Micro Reducing Tee
WMRT 07



Micro Reducer
WMR 07



Long Elbow
WL 08



Long Tee
WT 08



Long Reducing Tee
WRT 08



Long Cross Tee
WX 09



Long Reducer
WR 09



Auto Butt Weld Long Elbow
WLA 09



Auto Butt Weld Long Tee
WTA 10



Auto Butt Weld Long Cross Tee
WXA 10



Auto Butt Weld Long Reducing Tee
WRTA 10



Auto Butt Weld Union
WUA 11



Auto Butt Weld Reducing Union
WRUA 11



Metal Gasket Face-Seal Fittings

Short Gland
SG 13



Long Gland
LG 13



Auto Butt Weld Short Gland
SGA 14



Auto Butt Weld Long Gland
LGA 14



Male Gland
GM 15



Socket Weld Long Gland
GSL 15



Socket Weld Reducing Long Gland
GSR 15



Socket Weld Short Gland
GSS 16



Tube Adapter Gland
GT 16



Blind Gland
BG 16



Female Nut
FN 16



Male Nut
MN 17



Cap
CP 17



Plug
PG 17



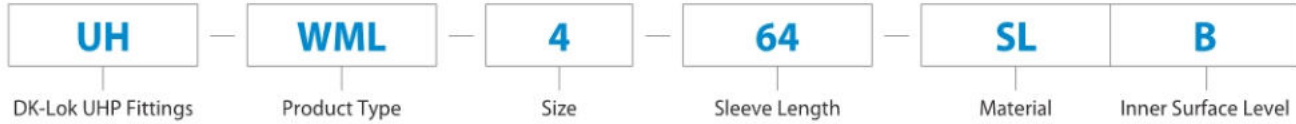
Gasket
GK 18



| | | | | | | | | |
|--|---|----|--|--|----|---|---|----|
| Gasket Retainer GKT |  | 18 | Union Elbow L |  | 22 | High Flow Female Nut HFN |  | 26 |
| Gasket Blind GKB |  | 18 | Union Tee T |  | 22 | High Flow Male Nut HMN |  | 26 |
| Double Male Union MU |  | 19 | Union Cross Tee X |  | 23 | Tube Fitting to Auto Butt Weld Connector DATW |  | 26 |
| Double Male Reducing Union MRU |  | 19 | Male NPT Elbow ML-N |  | 23 | Welded Assembly Fittings | | |
| Bulkhead Union BHU |  | 19 | Coupling C |  | 23 | Swivel Female/Male Union SFMU |  | 27 |
| Tube Fitting Connector DC |  | 20 | High Flow Fittings | | | Swivel Female Union SFU |  | 27 |
| Tube Fitting Bulkhead Connector DBHC |  | 20 | High Flow Gland HG |  | 24 | Swivel Male NPT Connector SMC-N |  | 27 |
| Male NPT Connector MC-N |  | 20 | High Flow Reducer HR |  | 24 | Swivel Female NPT Connector SFC-N |  | 28 |
| Female NPT Connector FC-N |  | 21 | Auto Butt Weld High Flow Reducer HRA |  | 24 | Swivel Tube Fitting Connector SDC |  | 28 |
| Bulkhead Male NPT Connector BHMC-N |  | 21 | High Flow Bulkhead Reducer HBR |  | 25 | Swivel Elbow SL |  | 28 |
| Tube Butt Weld Bulkhead Connector BHTW |  | 21 | High Flow Union Elbow HL |  | 25 | Swivel Tee ST |  | 29 |
| Straight Thread O-Ring Seal Male Connector MC-UO |  | 22 | High Flow Union Tee HT |  | 25 | | | |

Ordering Information

DK-Lok Weld Fittings and Metal Face Seal Fittings are ordered by product code shown below.



| Size | Sleeve Length | Material | Inner Surface Level |
|-----------|---------------|-------------------------------|---------------------|
| 4 : 1/4" | 64 : 6.4mm | SL : 316L Stainless Steel | B : BA |
| 6 : 3/8" | 91 : 9.1mm | DL : 316L Stainless Steel VAR | P : EP |
| 8 : 1/2" | 96 : 9.6mm | | |
| 12 : 3/4" | 191 : 19.1mm | | |
| 16 : 1" | 244 : 24.4mm | | |

| Product Type | | | |
|--------------------------------|---------------------------------|--------------------|--|
| Micro Fittings | | Face Seal Fittings | |
| WML | Micro 90° Elbow | FN | Female Nut |
| WMT | Micro Tee | MN | Male Nut |
| WMX | Micro Cross Tee | CP | Cap |
| WMTB | Micro Tribow | PG | Plug |
| WMHL | Micro 45° Elbow | GK | Gasket |
| WMRL | Micro Reducing Elbow | GKT | Gasket Retainer |
| WMRT | Micro Reducing Tee | GKB | Gasket Blind |
| WMR | Micro Reducer | MU | Double Male Union |
| Tube Butt Weld Fittings | | BHU | Bulkhead Union |
| WL | Long Elbow | DC | DK-Lok Tube Fitting Connector |
| WRL | Long Reducing Elbow | DBHC | DK-Lok Bulkhead Tube Fitting Connector |
| WT | Long Tee | MC-N | Male NPT Connector |
| WRT | Long Reducing Tee | FC-N | Female NPT Connector |
| WX | Long Cross Tee | BHMC-N | Bulkhead Male NPT Connector |
| WR | Long Reducer | BHTW | TBW Bulkhead Connector |
| Face Seal Fittings | | MC-UO | O-ring Seal Male Connector |
| SG | Female Gland | L | Union Elbow |
| LG | Male Gland | T | Union Tee |
| SGA | Automatic Female Gland | X | Union Cross Tee |
| LGA | Automatic Male Gland | C | Coupling |
| GM | Male Weld Gland | HG | High Flow Gland |
| GSL | Socket Weld Long Gland | HR | High Flow Reducer |
| GSR | Socket Weld Reducing Long Gland | HRA | Automatic High Flow Reducer |
| GSS | Socket Weld Short Gland | HFN | High Flow Female Nut |
| GT | Tube Adapter Gland | HMN | High Flow Male Nut |
| BG | Blind Gland | DATW | Tube Fitting to Auto Butt Weld Connector |

Pressure Rating

The pressure ratings provided in this catalogue are obtained by the calculation with the allowable stress of 20,000 psig (1,378 bar) of stainless steel 316 at -20°F (-28°C) to 100°F (37°C) according to ASME B31.3 and B31.1 code.

Pressure derating factors are driven by temperatures greater than 100°F (37°C). They are determined from these pressure code listed in the table 1 and in accordance with ASME B31.3 and B31.1 code. Multiply the applicable pressure rating in this catalogue by the factor in the table 1 to determine the working pressure.

Table 1. Derating Factor

| Material | SS 316 | SS 316L |
|----------------------|-----------------|---------|
| Temperature °F (°C) | Derating Factor | |
| -20 (-28) ~ 100 (37) | 1.00 | 1.00 |
| ~ 200 (93) | 1.00 | 0.83 |
| ~ 400 (204) | 0.96 | 0.77 |
| ~ 600 (315) | 0.85 | 0.67 |
| ~ 800 (426) | 0.79 | 0.62 |
| ~ 1000 (537) | 0.76 | 0.56 |

Material

| Material | Designation | Specification | |
|--------------------------|-------------|----------------|------------|
| | | Bar stock | Forging |
| 316L Stainless Steel | SL | ASME SA479 | ASME SA182 |
| 316L Stainless Steel VAR | DL | ASTM A479/A276 | ASME A182 |

Cleaning & Packing

Passivation is done in accordance with ASTM A380, Ultra-sonic cleaning in a class 100 clean room environment, implemented with resistivity over 18MΩ D.I water after finishing the passivation for precision cleaning. After cleaning, the product receives double packaging in a clean room environment using anti-static polyethylene bags and high purity nitrogen inclusion.

Surface Roughness

| Grade | Designation | Surface Level | |
|-------|-------------|----------------|----------------|
| BA | B | R_a : 10 µin | R_y : 3.0 µm |
| EP | P | R_a : 5 µin | R_y : 0.7 µm |

Feature

- Accommodates the miniature tubing system
- Allows close parts spacing
- Flow capacity to be equivalent to the conventional big size welding fitting

Rounded Edge : all edges of the product are rounded for safe handling and to help prevent damage the other products

Material Heat code : marked on the product for easy raw material traceability

Laser Marking : shows the manufacturer, material / grade, heat code and process number on the body for easy identification

10 µin. R_a and 5 µin. R_a are standard surface finish

For automatic tube butt welding, integral filler ring is provided for proper alignment

Sharp and burr-free tube end :

Radiused Junction : pockets and entrapment zones in the junction portion are eliminated for a smooth flow transition

Accurately machined diameter dimension conforms to tube diameter



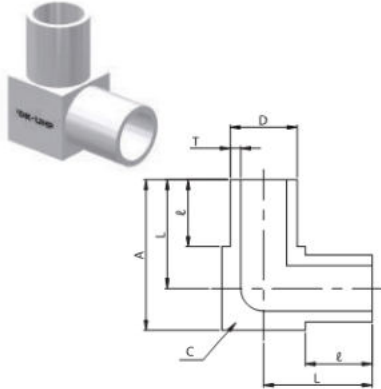
For Tees, the run (1 to 2) shall precede the branch(3)

For Crosses, the run (1 to 2) shall precede the branch(3 to 4)

Clean Weld Fittings

Micro Elbow

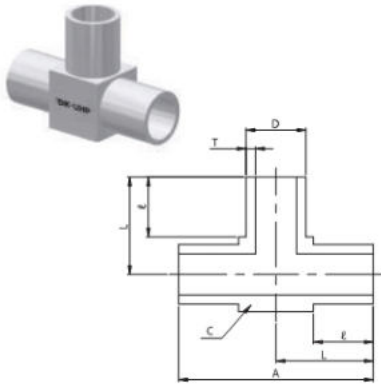
WML



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | A | | C Body Cube | Working Pressure psig(bar) |
|---------------|------------|-----------------------|------|------|------|------|-----|------|-------|-------------|-------------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/8 | UH-WML-2 | 0.028 | 0.7 | 0.41 | 10.4 | 0.25 | 6.4 | 0.56 | 14.40 | 5/16 | 8500(585) |
| 1/4 | UH-WML-4 | 0.035 | 0.8 | 0.41 | 10.4 | 0.25 | 6.4 | 0.56 | 14.40 | 5/16 | 5100(351) |
| 3/8 | UH-WML-6 | 0.035 | 0.8 | 0.47 | 11.9 | 0.25 | 6.4 | 0.69 | 17.40 | 7/16 | 3300(227) |
| 1/2 | UH-WML-8 | 0.049 | 1.24 | 0.53 | 13.5 | 0.25 | 6.4 | 0.81 | 20.60 | 9/16 | 3700(254) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WML-6M | 1.0 | | 0.41 | 10.4 | 0.25 | 6.4 | 0.56 | 14.40 | 5/16 | 6100(420) |
| 8M | UH-WML-8M | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.69 | 17.40 | 7/16 | 4500(310) |
| 10M | UH-WML-10M | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.69 | 17.40 | 7/16 | 3500(240) |
| 12M | UH-WML-12M | 1.0 | | 0.53 | 13.5 | 0.25 | 6.4 | 0.81 | 20.60 | 9/16 | 2900(200) |

Micro Tee

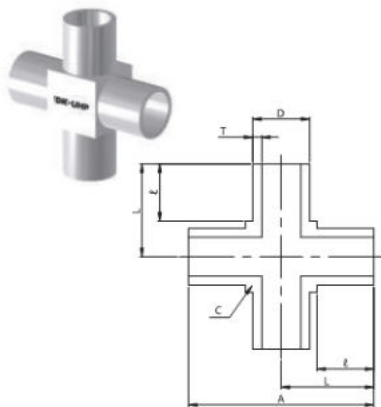
WMT



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | A | | C Body Cube | Working Pressure psig(bar) |
|---------------|------------|-----------------------|------|------|------|------|-----|------|-------|-------------|-------------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/8 | UH-WMT-2 | 0.028 | 0.7 | 0.41 | 10.4 | 0.25 | 6.4 | 0.82 | 20.80 | 5/16 | 8500(585) |
| 1/4 | UH-WMT-4 | 0.035 | 0.8 | 0.41 | 10.4 | 0.25 | 6.4 | 0.82 | 20.80 | 5/16 | 5100(351) |
| 3/8 | UH-WMT-6 | 0.035 | 0.8 | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.80 | 7/16 | 3300(227) |
| 1/2 | UH-WMT-8 | 0.049 | 1.24 | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27.00 | 9/16 | 3700(254) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WMT-6M | 1.0 | | 0.41 | 10.4 | 0.25 | 6.4 | 0.82 | 20.80 | 5/16 | 6100(420) |
| 8M | UH-WMT-8M | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.80 | 7/16 | 4500(310) |
| 10M | UH-WMT-10M | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.80 | 7/16 | 3500(240) |
| 12M | UH-WMT-12M | 1.0 | | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27.00 | 9/16 | 2900(200) |

Micro Cross Tee

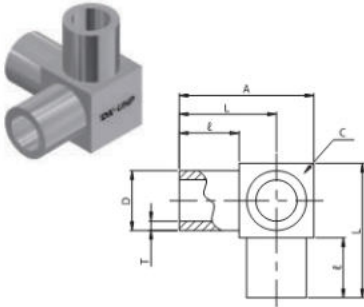
WMX



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | A | | C Body Cube | Working Pressure psig(bar) |
|---------------|------------|-----------------------|------|------|------|------|-----|------|-------|-------------|-------------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/8 | UH-WMX-2 | 0.028 | 0.7 | 0.41 | 10.4 | 0.25 | 6.4 | 0.82 | 20.80 | 5/16 | 8500(585) |
| 1/4 | UH-WMX-4 | 0.035 | 0.8 | 0.41 | 10.4 | 0.25 | 6.4 | 0.82 | 20.80 | 5/16 | 5100(351) |
| 3/8 | UH-WMX-6 | 0.035 | 0.8 | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.80 | 7/16 | 3300(227) |
| 1/2 | UH-WMX-8 | 0.049 | 1.24 | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27.00 | 9/16 | 3700(254) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WMX-6M | 1.0 | | 0.41 | 10.4 | 0.25 | 6.4 | 0.82 | 20.80 | 5/16 | 6100(420) |
| 8M | UH-WMX-8M | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.80 | 7/16 | 4500(310) |
| 10M | UH-WMX-10M | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.80 | 7/16 | 3500(240) |
| 12M | UH-WMX-12M | 1.0 | | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27.00 | 9/16 | 2900(200) |

Micro Tribow

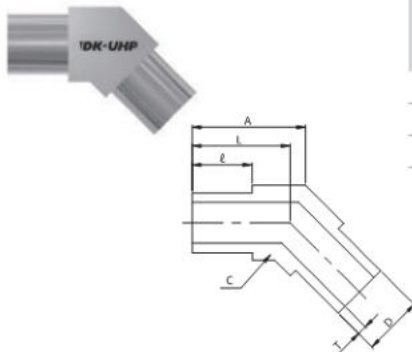
WMTB



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | A | | C Body Cube | Working Pressure |
|---------------|-----------|-----------------------|------|------|------|------|-----|------|------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WMTB-4 | 0.035 | 0.8 | 0.41 | 10.4 | 0.25 | 6.4 | 0.56 | 14.4 | 5/16 | 5100(351) |
| 3/8 | UH-WMTB-6 | 0.035 | 0.8 | 0.47 | 11.9 | 0.25 | 6.4 | 0.69 | 17.4 | 7/16 | 3300(227) |
| 1/2 | UH-WMTB-8 | 0.049 | 1.24 | 0.53 | 13.5 | 0.25 | 6.4 | 0.81 | 20.6 | 9/16 | 3700(254) |

Micro Half Elbow

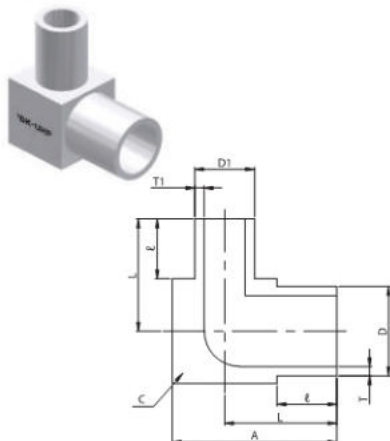
WMHL



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | A | | C Body Cube | Working Pressure |
|---------------|-----------|-----------------------|------|------|------|------|-----|------|-------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WMHL-4 | 0.035 | 0.8 | 0.41 | 10.4 | 0.25 | 6.4 | 0.47 | 12.0 | 5/16 | 5100(351) |
| 3/8 | UH-WMHL-6 | 0.035 | 0.8 | 0.47 | 11.9 | 0.25 | 6.4 | 0.56 | 14.2 | 7/16 | 3300(227) |
| 1/2 | UH-WMHL-8 | 0.049 | 1.24 | 0.53 | 13.5 | 0.25 | 6.4 | 0.64 | 16.46 | 9/16 | 3700(254) |

Micro Reducing Elbow

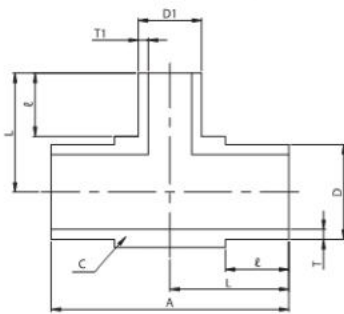
WMRL



| Size (D) | Size (D1) | Part No. | Thickness(Wall) T | | Thickness(Wall) T1 | | L | | ℓ | | A | | C Body Cube | Working Pressure |
|----------|-----------|----------------|-------------------|------|--------------------|-----|------|------|------|-----|------|------|-------------|------------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 3/8 | 1/4 | UH-WMRL-6X4 | 0.035 | 0.8 | 0.035 | 0.8 | 0.47 | 11.9 | 0.25 | 6.4 | 0.69 | 17.4 | 7/16 | 3300(227) |
| 1/2 | 1/4 | UH-WMRL-8X4 | 0.049 | 1.24 | 0.035 | 0.8 | 0.53 | 13.5 | 0.25 | 6.4 | 0.81 | 20.6 | 9/16 | 3700(254) |
| 1/2 | 3/8 | UH-WMRL-8X6 | 0.049 | 1.24 | 0.035 | 0.8 | 0.53 | 13.5 | 0.25 | 6.4 | 0.81 | 20.6 | 9/16 | 3300(227) |
| Metric | | Part No. | mm | | mm | | in. | | mm | | in. | | mm | psig(bar) |
| 8M | 6M | UH-WMRL-8MX6M | 1.0 | | 1.0 | | 0.47 | | 11.9 | | 0.25 | | 6.4 | 4500(310) |
| 10M | 6M | UH-WMRL-10MX6M | 1.0 | | 1.0 | | 0.47 | | 11.9 | | 0.25 | | 6.4 | 3500(240) |
| 12M | 6M | UH-WMRL-12MX6M | 1.0 | | 1.0 | | 0.53 | | 13.5 | | 0.25 | | 6.4 | 2900(200) |
| 12M | 8M | UH-WMRL-12MX8M | 1.0 | | 1.0 | | 0.53 | | 13.5 | | 0.25 | | 6.4 | 2900(200) |

Micro Reducing Tee

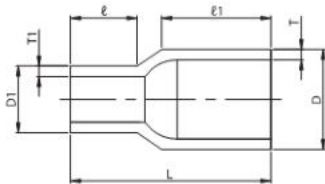
WMRT



| Size (D) | Size (D1) | Part No. | Thickness(Wall) T | | Thickness(Wall) T1 | | L | | e | | A | | C Body Cube | Working Pressure |
|----------|-----------|----------------|-------------------|------|--------------------|-----|------|------|------|-----|------|------|-------------|------------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 3/8 | 1/4 | UH-WMRT-6X4 | 0.035 | 0.8 | 0.035 | 0.8 | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.8 | 7/16 | 3300(227) |
| 1/2 | 1/4 | UH-WMRT-8X4 | 0.049 | 1.24 | 0.035 | 0.8 | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27 | 9/16 | 3700(254) |
| 1/2 | 3/8 | UH-WMRT-8X6 | 0.049 | 1.24 | 0.035 | 0.8 | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27 | 9/16 | 3300(227) |
| Metric | | Part No. | mm | | mm | | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 8M | 6M | UH-WMRT-8MX6M | 1.0 | | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.8 | 7/16 | 4500(310) |
| 10M | 6M | UH-WMRT-10MX6M | 1.0 | | 1.0 | | 0.47 | 11.9 | 0.25 | 6.4 | 0.94 | 23.8 | 7/16 | 3500(240) |
| 12M | 6M | UH-WMRT-12MX6M | 1.0 | | 1.0 | | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27 | 9/16 | 2900(200) |
| 12M | 8M | UH-WMRT-12MX8M | 1.0 | | 1.0 | | 0.53 | 13.5 | 0.25 | 6.4 | 1.06 | 27 | 9/16 | 2900(200) |

Micro Reducer

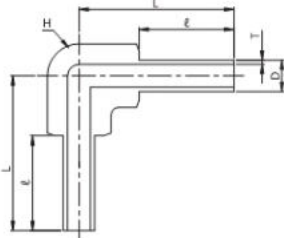
WMR



| Size (D) | Size (D1) | Part No. | Thickness(Wall) T | | Thickness(Wall) T1 | | L | | e | | e1 | | Working Pressure |
|----------|-----------|---------------|-------------------|------|--------------------|-----|------|------|------|-----|------|------|------------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| 1/4 | 1/8 | UH-WMR-4X2 | 0.035 | 0.8 | 0.028 | 0.7 | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 5100(351) |
| 3/8 | 1/4 | UH-WMR-6X4 | 0.035 | 0.8 | 0.035 | 0.8 | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 3300(227) |
| 1/2 | 1/4 | UH-WMR-8X4 | 0.049 | 1.24 | 0.035 | 0.8 | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 3700(254) |
| 1/2 | 3/8 | UH-WMR-8X6 | 0.049 | 1.24 | 0.035 | 0.8 | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 3300(227) |
| Metric | | Part No. | mm | | mm | | in. | mm | in. | mm | in. | mm | psig(bar) |
| 8M | 6M | UH-WMR-8MX6M | 1.0 | | 1.0 | | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 4500(310) |
| 10M | 6M | UH-WMR-10MX6M | 1.0 | | 1.0 | | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 3500(240) |
| 12M | 6M | UH-WMR-12MX6M | 1.0 | | 1.0 | | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 2900(200) |
| 12M | 8M | UH-WMR-12MX8M | 1.0 | | 1.0 | | 0.75 | 19.1 | 0.25 | 6.4 | 0.41 | 10.7 | 2900(200) |

Long Elbow

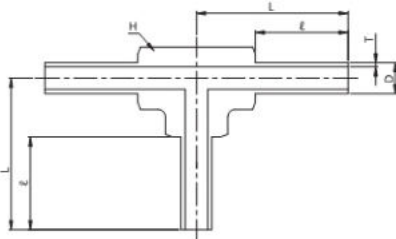
WL



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | H Body Cube | Working Pressure |
|---------------|---------------|-----------------------|-----|------|------|------|------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WL-4-191 | 0.035 | 0.8 | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 5100(351) |
| 3/8 | UH-WL-6-191 | 0.035 | 0.8 | 1.20 | 30.5 | 0.75 | 19.1 | 7/16 | 3300(227) |
| 1/2 | UH-WL-8-191 | 0.049 | 1.2 | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 3700(254) |
| 3/4 | UH-WL-12-191 | 0.049 | 1.2 | 1.46 | 37.1 | 0.75 | 19.1 | 15/16 | 2400(165) |
| 1 | UH-WL-16-244 | 0.065 | 1.6 | 1.85 | 47.0 | 0.94 | 24.4 | 1 1/4 | 2400(165) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WL-6M-191 | 1.0 | | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 6100(420) |
| 8M | UH-WL-8M-191 | 1.0 | | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 4500(310) |
| 10M | UH-WL-10M-191 | 1.0 | | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 3500(240) |
| 12M | UH-WL-12M-191 | 1.0 | | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 2900(200) |
| 18M | UH-WL-18M-191 | 1.5 | | 1.48 | 37.6 | 0.75 | 19.1 | 15/16 | 2900(200) |

Long Tee

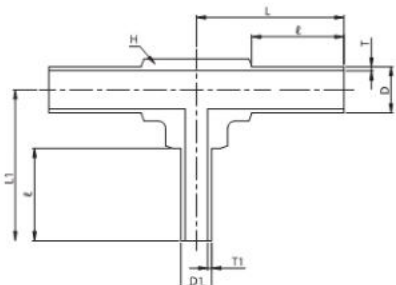
WT



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | H Body Cube | Working Pressure |
|---------------|---------------|-----------------------|-----|------|------|------|------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WT-4-191 | 0.035 | 0.8 | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 5100(351) |
| 3/8 | UH-WT-6-191 | 0.035 | 0.8 | 1.20 | 30.5 | 0.75 | 19.1 | 7/16 | 3300(227) |
| 1/2 | UH-WT-8-191 | 0.049 | 1.2 | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 3700(254) |
| 3/4 | UH-WT-12-191 | 0.049 | 1.2 | 1.46 | 37.1 | 0.75 | 19.1 | 15/16 | 2400(165) |
| 1 | UH-WT-16-244 | 0.065 | 1.6 | 1.85 | 47.0 | 0.94 | 24.4 | 1 1/4 | 2400(165) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WT-6M-191 | 1.0 | | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 6100(420) |
| 8M | UH-WT-8M-191 | 1.0 | | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 4500(310) |
| 10M | UH-WT-10M-191 | 1.0 | | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 3500(240) |
| 12M | UH-WT-12M-191 | 1.0 | | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 2900(200) |
| 18M | UH-WT-18M-191 | 1.5 | | 1.48 | 37.6 | 0.75 | 19.1 | 15/16 | 2900(200) |

Long Reducing Tee

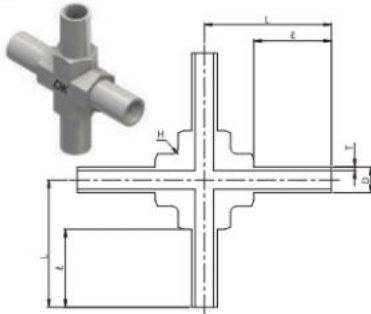
WRT



| Size (D) | Size (D1) | Part No. | Thickness(Wall) T | | Thickness(Wall) T1 | | L | | L1 | | ℓ | | H Body Cube | Working Pressure |
|----------|-----------|-------------------|-------------------|-----|--------------------|------|------|------|------|------|------|-------|-------------|------------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 3/8 | 1/4 | UH-WRT-6X4-191 | 0.035 | 0.8 | 0.035 | 0.8 | 1.20 | 30.5 | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 3300(227) |
| 1/2 | 1/4 | UH-WRT-8X4-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.34 | 34.0 | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 3700(254) |
| 1/2 | 3/8 | UH-WRT-8X6-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.34 | 34.0 | 1.35 | 34.3 | 0.75 | 19.1 | 11/16 | 3300(227) |
| 3/4 | 1/4 | UH-WRT-12X4-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.46 | 37.1 | 1.48 | 37.6 | 0.75 | 19.1 | 15/16 | 2400(165) |
| 3/4 | 3/8 | UH-WRT-12X6-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.46 | 37.1 | 1.48 | 37.6 | 0.75 | 19.1 | 15/16 | 2400(165) |
| Metric | Part No. | mm | | mm | | in. | mm | in. | mm | in. | mm | in. | mm | psig(bar) |
| 8M | 6M | UH-WRT-8MX6M-191 | | 1.0 | | 1.23 | 31.2 | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 4500(310) | |
| 10M | 6M | UH-WRT-10MX6M-191 | | 1.0 | | 1.34 | 34.0 | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 3500(240) | |
| 10M | 8M | UH-WRT-10MX8M-191 | | 1.0 | | 1.34 | 34.0 | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 2900(200) | |
| 12M | 6M | UH-WRT-12MX6M-191 | | 1.0 | | 1.34 | 34.0 | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 2900(200) | |
| 12M | 8M | UH-WRT-12MX8M-191 | | 1.0 | | 1.34 | 34.0 | 1.34 | 34.0 | 0.75 | 19.1 | 11/16 | 2900(200) | |

Long Cross Tee

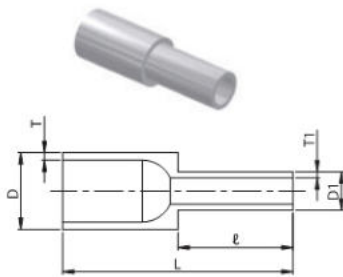
WX



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | e | | H Body Cube | Working Pressure |
|---------------|---------------|-----------------------|-----|------|------|------|------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WX-4-191 | 0.035 | 0.8 | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 5100(351) |
| 3/8 | UH-WX-6-191 | 0.035 | 0.8 | 1.20 | 30.5 | 0.75 | 19.1 | 7/16 | 3300(227) |
| 1/2 | UH-WX-8-191 | 0.049 | 1.2 | 1.31 | 33.2 | 0.75 | 19.1 | 5/8 | 3700(254) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WX-6M-191 | 1.0 | | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 6100(420) |
| 8M | UH-WX-8M-191 | 1.0 | | 1.23 | 31.2 | 0.75 | 19.1 | 7/16 | 4500(310) |
| 10M | UH-WX-10M-191 | 1.0 | | 1.28 | 32.4 | 0.75 | 19.1 | 5/8 | 3500(240) |
| 12M | UH-WX-12M-191 | 1.0 | | 1.28 | 32.4 | 0.75 | 19.1 | 5/8 | 2900(200) |

Long Reducer

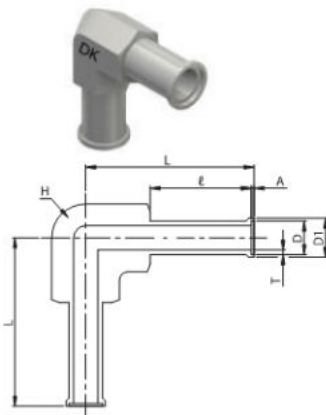
WR



| Size (D) | Size (D1) | Part No. | Thickness(Wall) T | | Thickness(Wall) T1 | | L | | e | | Working Pressure |
|----------|-----------|-------------------|-------------------|-----|--------------------|-----|-----|------|------|-----------|------------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | |
| 3/8 | 1/4 | UH-WR-6X4-191 | 0.035 | 0.8 | 0.035 | 0.8 | 1.5 | 38.1 | 0.75 | 19.1 | 3300(227) |
| 1/2 | 1/4 | UH-WR-8X4-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.5 | 38.1 | 0.75 | 19.1 | 3700(254) |
| 1/2 | 3/8 | UH-WR-8X6-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.5 | 38.1 | 0.75 | 19.1 | 3300(227) |
| 3/4 | 1/2 | UH-WR-12X8-191 | 0.049 | 1.2 | 0.049 | 1.2 | 1.5 | 38.1 | 0.75 | 19.1 | 2400(165) |
| 1 | 1/2 | UH-WR-16X8-191 | 0.065 | 1.6 | 0.049 | 1.2 | 1.5 | 38.1 | 0.75 | 19.1 | 2400(165) |
| 1 | 3/4 | UH-WR-16X12-191 | 0.065 | 1.6 | 0.049 | 1.2 | 1.5 | 38.1 | 0.75 | 19.1 | 2400(165) |
| Metric | Part No. | mm | | mm | | in. | mm | in. | mm | psig(bar) | |
| 10M | 6M | UH-WR-10MX6M-191 | | 1.0 | | 1.0 | 1.5 | 38.1 | 0.75 | 19.1 | 3500(240) |
| 10M | 8M | UH-WR-10MX8M-191 | | 1.0 | | 1.0 | 1.5 | 38.1 | 0.75 | 19.1 | 3500(240) |
| 12M | 6M | UH-WR-12MX6M-191 | | 1.0 | | 1.0 | 1.5 | 38.1 | 0.75 | 19.1 | 2900(200) |
| 12M | 8M | UH-WR-12MX8M-191 | | 1.0 | | 1.0 | 1.5 | 38.1 | 0.75 | 19.1 | 2900(200) |
| 12M | 10M | UH-WR-12MX10M-191 | | 1.0 | | 1.0 | 1.5 | 38.1 | 0.75 | 19.1 | 2900(200) |
| 18M | 6M | UH-WR-18MX6M-191 | | 1.5 | | 1.0 | 1.5 | 38.1 | 0.75 | 19.1 | 2900(200) |
| 18M | 12M | UH-WR-18MX12M-191 | | 1.5 | | 1.0 | 1.5 | 38.1 | 0.75 | 19.1 | 2900(200) |

Auto Butt Weld Long Elbow

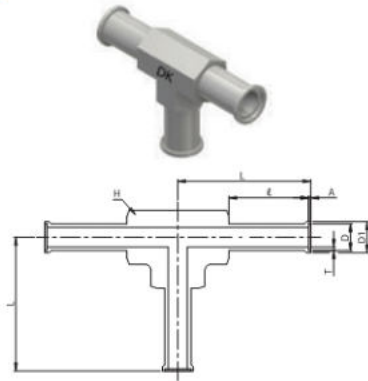
WLA



| Size (D) | Part No. | Thickness (Tube Wall) | | L | | e | | A | | D1 | | H Body Cube | Working Pressure |
|----------|----------------|-----------------------|-----|------|------|------|------|------|------|------|------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WLA-4-191 | 0.035 | 0.8 | 1.25 | 31.8 | 0.75 | 19.1 | 0.02 | 0.51 | 0.29 | 7.4 | 7/16 | 5100(351) |
| 3/8 | UH-WLA-6-191 | 0.035 | 0.8 | 1.23 | 31.2 | 0.75 | 19.1 | 0.03 | 0.76 | 0.41 | 10.4 | 7/16 | 3300(227) |
| 1/2 | UH-WLA-8-191 | 0.049 | 1.2 | 1.38 | 35.1 | 0.75 | 19.1 | 0.04 | 1.0 | 0.55 | 14.0 | 11/16 | 3700(254) |
| 3/4 | UH-WLA-12-191 | 0.049 | 1.2 | 1.50 | 38.1 | 0.75 | 19.1 | 0.04 | 1.0 | 0.80 | 20.3 | 15/16 | 2400(165) |
| 1 | UH-WLA-16-244 | 0.065 | 1.6 | 1.89 | 48.0 | 0.94 | 24.4 | 0.04 | 1.0 | 1.06 | 26.9 | 1 1/4 | 2400(165) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WLA-6M-191 | 1.0 | | 1.25 | 31.8 | 0.75 | 19.1 | 0.02 | 0.51 | 0.27 | 6.9 | 7/16 | 6100(420) |
| 8M | UH-WLA-8M-191 | 1.0 | | 1.26 | 32.0 | 0.75 | 19.1 | 0.03 | 0.76 | 0.35 | 8.9 | 7/16 | 4500(310) |
| 10M | UH-WLA-10M-191 | 1.0 | | 1.37 | 34.8 | 0.75 | 19.1 | 0.03 | 0.76 | 0.43 | 10.9 | 11/16 | 3500(240) |
| 12M | UH-WLA-12M-191 | 1.0 | | 1.38 | 35.1 | 0.75 | 19.1 | 0.04 | 1.0 | 0.52 | 13.2 | 11/16 | 2900(200) |
| 18M | UH-WLA-18M-191 | 1.5 | | 1.52 | 38.6 | 0.75 | 19.1 | 0.04 | 1.0 | 0.76 | 19.3 | 15/16 | 2900(200) |

Auto Butt Weld Long Tee

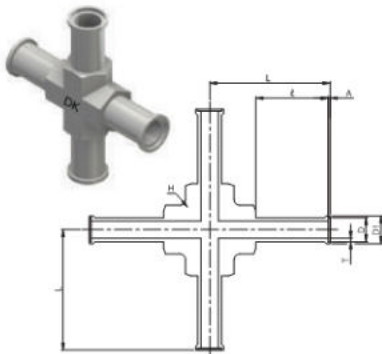
WTA



| Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | A | | D1 | | H Body Cube | Working Pressure |
|----------|----------------|-----------------------|------|------|------|------|------|------|------|------|-------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WTA-4-191 | 0.035 | 0.8 | 1.25 | 31.8 | 0.75 | 19.1 | 0.02 | 0.51 | 0.29 | 7.4 | 7/16 | 5100(351) |
| 3/8 | UH-WTA-6-191 | 0.035 | 0.8 | 1.23 | 31.2 | 0.75 | 19.1 | 0.03 | 0.76 | 0.41 | 10.4 | 7/16 | 3300(227) |
| 1/2 | UH-WTA-8-191 | 0.049 | 1.2 | 1.38 | 35.1 | 0.75 | 19.1 | 0.04 | 1.0 | 0.55 | 14.0 | 11/16 | 3700(254) |
| 3/4 | UH-WTA-12-191 | 0.049 | 1.2 | 1.50 | 38.1 | 0.75 | 19.1 | 0.04 | 1.0 | 0.80 | 20.3 | 15/16 | 2400(165) |
| 1 | UH-WTA-16-244 | 0.065 | 1.6 | 1.89 | 48.0 | 0.94 | 24.4 | 0.04 | 1.0 | 1.06 | 26.9 | 1 1/4 | 2400(165) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WTA-6M-191 | 1.0 | 1.25 | 31.8 | 0.75 | 19.1 | 0.02 | 0.51 | 0.27 | 6.8 | 7/16 | 6100(420) | |
| 8M | UH-WTA-8M-191 | 1.0 | 1.26 | 32.0 | 0.75 | 19.1 | 0.03 | 0.76 | 0.35 | 8.9 | 7/16 | 4500(310) | |
| 10M | UH-WTA-10M-191 | 1.0 | 1.37 | 34.8 | 0.75 | 19.1 | 0.03 | 0.76 | 0.43 | 10.9 | 11/16 | 3500(240) | |
| 12M | UH-WTA-12M-191 | 1.0 | 1.38 | 35.1 | 0.75 | 19.1 | 0.04 | 1.0 | 0.52 | 13.2 | 11/16 | 2900(200) | |
| 18M | UH-WTA-18M-191 | 1.5 | 1.52 | 38.6 | 0.75 | 19.1 | 0.04 | 1.0 | 0.76 | 19.3 | 15/16 | 2900(200) | |

Auto Butt Weld Long Cross Tee

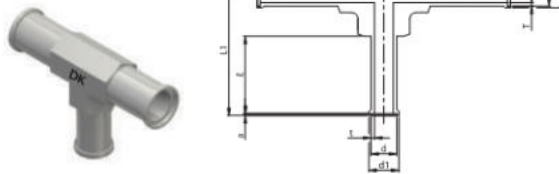
WXA



| Size (D) | Part No. | Thickness (Tube Wall) | | L | | ℓ | | A | | D1 | | H Body Cube | Working Pressure |
|----------|----------------|-----------------------|------|------|------|------|------|------|------|------|------|-------------|------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| 1/4 | UH-WXA-4-191 | 0.035 | 0.8 | 1.25 | 31.8 | 0.75 | 19.1 | 0.02 | 0.51 | 0.29 | 7.4 | 7/16 | 5100(351) |
| 3/8 | UH-WXA-6-191 | 0.035 | 0.8 | 1.23 | 31.2 | 0.75 | 19.1 | 0.03 | 0.76 | 0.41 | 10.4 | 7/16 | 3300(227) |
| 1/2 | UH-WXA-8-191 | 0.049 | 1.2 | 1.35 | 34.3 | 0.75 | 19.1 | 0.04 | 1.0 | 0.55 | 14.0 | 5/8 | 3700(254) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 6M | UH-WXA-6M-191 | 1.0 | 1.25 | 31.8 | 0.75 | 19.1 | 0.02 | 0.51 | 0.27 | 6.8 | 7/16 | 6100(420) | |
| 8M | UH-WXA-8M-191 | 1.0 | 1.25 | 31.8 | 0.75 | 19.1 | 0.03 | 0.76 | 0.35 | 8.9 | 7/16 | 4500(310) | |
| 10M | UH-WXA-10M-191 | 1.0 | 1.23 | 31.2 | 0.75 | 19.1 | 0.03 | 0.76 | 0.43 | 10.9 | 5/8 | 3500(240) | |
| 12M | UH-WXA-12M-191 | 1.0 | 1.34 | 34.0 | 0.75 | 19.1 | 0.04 | 1.0 | 0.52 | 13.2 | 5/8 | 2900(200) | |

Auto Butt Weld Long Reducing Tee

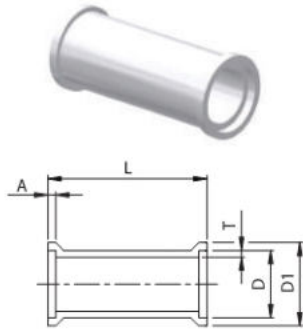
WRTA



| Size (D) | Size (d) | Part No. | Thickness(Wall) T | | Thickness(Wall) t | | L | | L1 | | ℓ | | D1 | | d1 | | A | | a | | H Body Cube | Working Pressure | |
|----------|----------|--------------------|-------------------|-----|-------------------|------|------|------|------|-------|------|-------|------|------|------|------|------|------|-------|-----------|-------------|------------------|-----------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | | |
| 3/8 | 1/4 | UH-WRTA-6X4-191 | 0.035 | 0.8 | 0.035 | 0.8 | 1.23 | 31.2 | 1.25 | 31.8 | 0.75 | 19.10 | 0.41 | 10.4 | 0.29 | 7.4 | 0.03 | 0.76 | 0.02 | 0.51 | 7/16 | 3300(227) | |
| 1/2 | 1/4 | UH-WRTA-8X4-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.38 | 35.1 | 1.38 | 35.1 | 0.75 | 19.10 | 0.55 | 14.0 | 0.29 | 7.4 | 0.04 | 1.0 | 0.02 | 0.51 | 11/16 | 3700(254) | |
| 1/2 | 3/8 | UH-WRTA-8X6-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.38 | 35.1 | 1.37 | 34.8 | 0.75 | 19.10 | 0.55 | 14.0 | 0.41 | 10.4 | 0.04 | 1.0 | 0.03 | 0.76 | 11/16 | 3300(227) | |
| 3/4 | 3/8 | UH-WRTA-12X6-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.50 | 38.1 | 1.50 | 38.1 | 0.75 | 19.10 | 0.80 | 20.3 | 0.41 | 10.4 | 0.04 | 1.0 | 0.03 | 0.76 | 15/16 | 2400(165) | |
| 3/4 | 1/2 | UH-WRTA-12X8-191 | 0.049 | 1.2 | 0.049 | 1.2 | 1.50 | 38.1 | 1.50 | 38.1 | 0.75 | 19.10 | 0.80 | 20.3 | 0.55 | 14.0 | 0.04 | 1.0 | 0.04 | 1.0 | 15/16 | 2400(165) | |
| Metric | Part No. | mm | | mm | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | psig(bar) |
| 12M | 6M | UH-WRTA-12MX6M-191 | 1.0 | 1.0 | 1.38 | 35.1 | 1.36 | 34.5 | 0.75 | 19.10 | 0.52 | 13.2 | 0.27 | 6.8 | 0.02 | 0.51 | 0.02 | 0.51 | 11/16 | 2900(200) | | | |

Auto Butt Weld Union

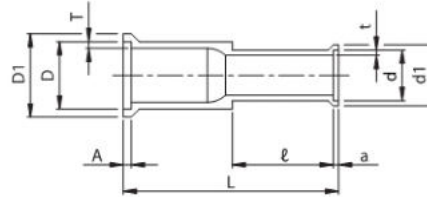
WUA



| Tube Size (D) | Part No. | Thickness (Tube Wall) | | L | | A | | D1 | | Working Pressure psig(bar) |
|---------------|------------|-----------------------|-----|------|------|------|------|------|------|-------------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | |
| 1/4 | UH-WUA-4 | 0.035 | 0.8 | 1.0 | 25.4 | 0.02 | 0.51 | 0.29 | 7.4 | 5100(351) |
| 3/8 | UH-WUA-6 | 0.035 | 0.8 | 1.0 | 25.4 | 0.03 | 0.76 | 0.41 | 10.4 | 3300(227) |
| 1/2 | UH-WUA-8 | 0.049 | 1.2 | 1.0 | 25.4 | 0.04 | 1.0 | 0.55 | 14.0 | 3700(254) |
| 3/4 | UH-WUA-12 | 0.049 | 1.2 | 1.0 | 25.4 | 0.04 | 1.0 | 0.80 | 20.3 | 2400(165) |
| 1 | UH-WUA-16 | 0.065 | 1.6 | 1.25 | 31.8 | 0.04 | 1.0 | 1.06 | 26.9 | 2400(165) |
| Metric | Part No. | mm | | in. | mm | in. | mm | in. | mm | psig(bar) |
| 6M | UH-WUA-6M | 1.0 | | 1.25 | 31.8 | 0.02 | 0.51 | 0.27 | 6.8 | 6100(420) |
| 8M | UH-WUA-8M | 1.0 | | 1.25 | 31.8 | 0.03 | 0.76 | 0.35 | 8.9 | 4500(310) |
| 10M | UH-WUA-10M | 1.0 | | 1.25 | 31.8 | 0.03 | 0.76 | 0.43 | 10.9 | 3500(240) |
| 12M | UH-WUA-12M | 1.0 | | 1.25 | 31.8 | 0.04 | 1.0 | 0.52 | 13.2 | 2900(200) |
| 18M | UH-WUA-18M | 1.5 | | 1.25 | 31.8 | 0.04 | 1.0 | 0.76 | 19.3 | 2900(200) |

Auto Butt Weld Reducing Union

WRUA



| Size (D) | Size (d) | Part No. | Thickness(Wall) T | | Thickness(Wall) t | | L | | l | | D1 | | d1 | | A | | a | | Working Pressure psig(bar) |
|----------|----------|--------------------|-------------------|-----|-------------------|-----|------|------|------|------|------|------|------|------|------|------|------|------|-------------------------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| 3/8 | 1/4 | UH-WRUA-6x4-191 | 0.035 | 0.8 | 0.035 | 0.8 | 1.58 | 40.1 | 0.75 | 19.1 | 0.41 | 10.4 | 0.29 | 7.4 | 0.03 | 0.76 | 0.02 | 0.51 | 3300(227) |
| 1/2 | 1/4 | UH-WRUA-8x4-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.58 | 40.1 | 0.75 | 19.1 | 0.55 | 14.0 | 0.29 | 7.4 | 0.04 | 1.0 | 0.02 | 0.51 | 3700(254) |
| 1/2 | 3/8 | UH-WRUA-8x6-191 | 0.049 | 1.2 | 0.035 | 0.8 | 1.58 | 40.1 | 0.75 | 19.1 | 0.55 | 14.0 | 0.41 | 10.4 | 0.04 | 1.0 | 0.03 | 0.76 | 3300(227) |
| 3/4 | 1/2 | UH-WRUA-12x8-191 | 0.049 | 1.2 | 0.049 | 1.2 | 1.62 | 41.1 | 0.75 | 19.1 | 0.80 | 20.3 | 0.55 | 14.0 | 0.04 | 1.0 | 0.04 | 1.0 | 2400(165) |
| Metric | | Part No. | mm | | mm | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | psig(bar) |
| 8M | 6M | UH-WRUA-8Mx6M-191 | 1.0 | | 1.0 | | 1.57 | 39.9 | 0.75 | 19.1 | 0.35 | 8.9 | 0.27 | 6.9 | 0.03 | 0.76 | 0.02 | 0.51 | 4500(310) |
| 12M | 6M | UH-WRUA-12Mx6M-191 | 1.0 | | 1.0 | | 1.58 | 40.1 | 0.75 | 19.1 | 0.52 | 13.2 | 0.27 | 6.9 | 0.04 | 1.0 | 0.02 | 0.51 | 2900(200) |
| 12M | 8M | UH-WRUA-12Mx8M-191 | 1.0 | | 1.0 | | 1.59 | 40.4 | 0.75 | 19.1 | 0.52 | 13.2 | 0.35 | 8.9 | 0.04 | 1.0 | 0.03 | 0.76 | 2900(200) |

Pressure Rating

All pressure rating follow the calculation as to ASME B31.3 Process Piping code and ASME B31.1 Power Piping code.

The working pressure rating at the room temperature is determined by the material of gasket and the allowable temperature range per the materials is listed in Table 2.

Table 2. Temperature range

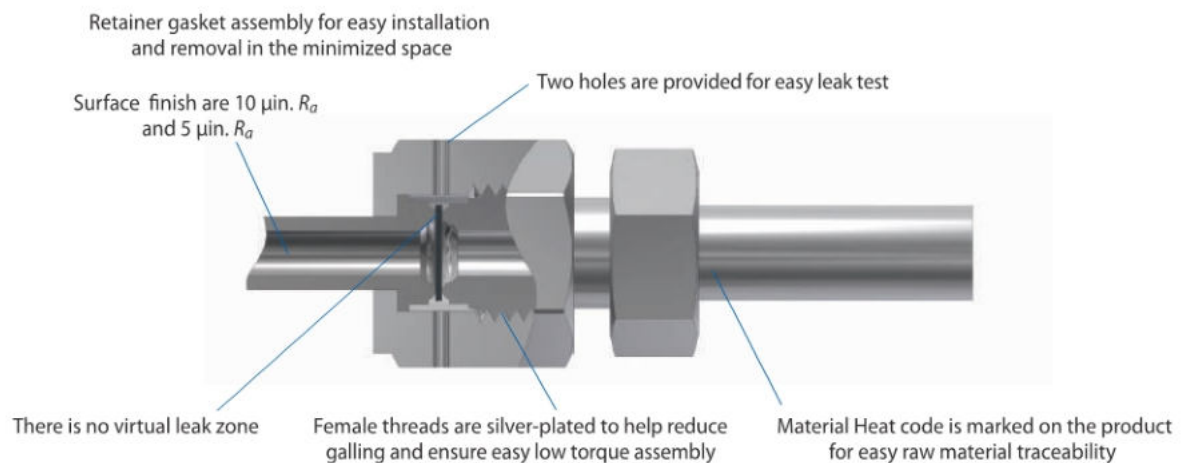
| Part | Material | Temperature °F (°C) |
|---------|--------------------------|---------------------|
| Fitting | 316L Stainless Steel | 1000 (537) |
| | 316L Stainless Steel VAR | |
| Gasket | 316L Stainless Steel | 1000 (537) |
| | Nickel | 600 (315) |

Material

| Material | Designation | Specification | |
|--------------------------|----------------------|----------------|------------|
| | | Bar stock | Forging |
| 316L Stainless Steel | SL | ASME SA479 | ASME SA182 |
| 316L Stainless Steel VAR | DL | ASTM A479/A276 | ASTM A182 |
| Gasket | 316L Stainless Steel | ASTM A167 | |
| | Nickel | ASTM B162 | |

Feature

- Leak-tight service provided from vacuum to positive pressure application
- Minimized space is needed for installation and or removal



Cleaning & Packing

Passivation is done in accordance with ASTM A380, Ultra-sonic cleaning is performed in a class 100 environment with resistivity over 18MΩ D.I water after finishing the passivation for precision cleaning. After cleaning, all product is double packed in the clean room using anti-static polyethylene bags where high purity nitrogen inclusion.

Surface Roughness

| Grade | Designation | Surface Level | |
|-------|-------------|------------------------|------------------------|
| BA | B | $R_a : 10\mu\text{in}$ | $R_y : 3.0\mu\text{m}$ |
| EP | P | $R_a : 5\mu\text{in}$ | $R_y : 0.7\mu\text{m}$ |

Plating

The internal surface of the female-threaded nut are silver plated to help reduce galling and reduces the pull-up torque.

Note : In the event of the damage or removal of the silver plating, thread galling may occur damaging the fitting components and preventing against proper sealing performance.

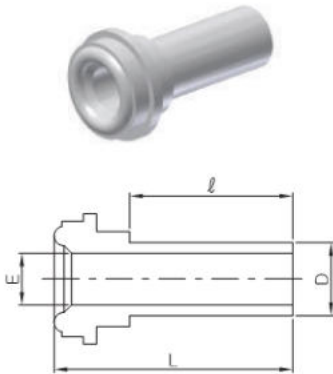
Testing

DCR Fittings are rated to a helium leak rate of less than 1×10^{-9} mbar.l/sec and tested in accordance with SEMI F1-96 and SEMA-90120391B-STD.

Metal Gasket Face-Seal Fittings

Short Gland

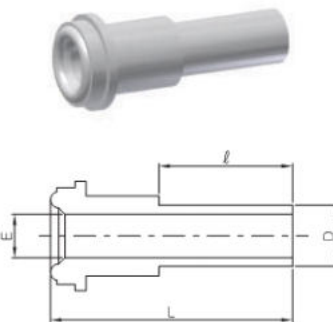
SG



| Part No. | Head Size (in.) | Tube Size (D) | | L | | ℓ | | E | | Working Pressure (psig)(bar) |
|------------------|-----------------|---------------|------------|-----------|------------|-----------|-----------|-----------|------------------|------------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-SG-2-191 | 1/8 | 1/8 | 3.17 | 1.08 | 27.40 | 0.75 | 19.1 | 0.06 | 1.5 | 8500(585) |
| UH-SG-4-64 | 1/4 | 1/4 | 6.35 | 0.6 | 15.20 | 0.25 | 6.4 | 0.18 | 4.6 | 5100(350) |
| UH-SG-4-96 | 1/4 | 1/4 | 6.35 | 0.72 | 18.30 | 0.38 | 9.6 | 0.18 | 4.6 | 5100(350) |
| UH-SG-4-191 | 1/4 | 1/4 | 6.35 | 1.1 | 27.95 | 0.75 | 19.1 | 0.18 | 4.6 | 5100(350) |
| UH-SG-6-64 | 1/2 | 3/8 | 9.53 | 0.62 | 15.80 | 0.25 | 6.4 | 0.31 | 7.9 | 3300(227) |
| UH-SG-6-191 | 1/2 | 3/8 | 9.53 | 1.12 | 28.50 | 0.75 | 19.1 | 0.31 | 7.9 | 3300(227) |
| UH-SG-8-64 | 1/2 | 1/2 | 12.7 | 0.62 | 15.80 | 0.25 | 6.4 | 0.40 | 10.2 | 3500(241) |
| UH-SG-8-96 | 1/2 | 1/2 | 12.7 | 0.74 | 18.80 | 0.38 | 9.6 | 0.40 | 10.2 | 3500(241) |
| UH-SG-8-191 | 1/2 | 1/2 | 12.7 | 1.12 | 28.50 | 0.75 | 19.1 | 0.40 | 10.2 | 3500(241) |
| UH-SG-8X4-191 | 1/2 | 1/4 | 6.35 | 1.12 | 28.50 | 0.75 | 19.1 | 0.18 | 4.6 | 4300(296) |
| Metric | in. | mm | in. | mm | in. | mm | mm | mm | psig(bar) | |
| UH-SG-4X6M-191 | 1/4 | 6.0 | 1.16 | 29.5 | 0.75 | 19.1 | 4.0 | 6800(468) | | |
| UH-SG-4X8M-191 | 1/4 | 8.0 | 1.16 | 29.5 | 0.75 | 19.1 | 6.0 | 4900(337) | | |
| UH-SG-8X10M-191 | 1/2 | 10.0 | 1.16 | 29.5 | 0.75 | 19.1 | 8.0 | 3500(241) | | |
| UH-SG-8X12M-191 | 1/2 | 12.0 | 1.16 | 29.5 | 0.75 | 19.1 | 10.0 | 3100(213) | | |
| UH-SG-12X18M-191 | 3/4 | 18.0 | 1.22 | 31.0 | 0.75 | 19.1 | 15.0 | 3000(206) | | |

Long Gland

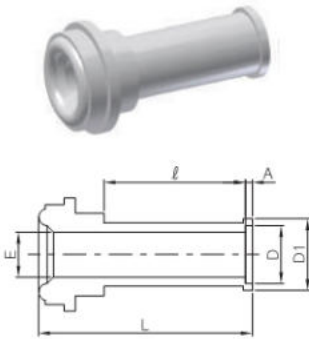
LG



| Part No. | Head Size (in.) | Tube Size (D) | | L | | ℓ | | E | | Working Pressure (psig)(bar) |
|------------------|-----------------|---------------|------------|-----------|------------|-----------|-----------|-----------|------------------|------------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-LG-2-191 | 1/8 | 1/8 | 3.17 | 1.42 | 36.1 | 0.75 | 19.1 | 0.06 | 1.5 | 8500(585) |
| UH-LG-4-64 | 1/4 | 1/4 | 6.35 | 1.20 | 30.5 | 0.25 | 6.4 | 0.18 | 4.6 | 5100(350) |
| UH-LG-4-91 | 1/4 | 1/4 | 6.35 | 1.31 | 33.3 | 0.36 | 9.1 | 0.18 | 4.6 | 5100(349) |
| UH-LG-4-96 | 1/4 | 1/4 | 6.35 | 1.32 | 33.5 | 0.38 | 9.6 | 0.18 | 4.6 | 5100(350) |
| UH-LG-4-191 | 1/4 | 1/4 | 6.35 | 1.70 | 43.2 | 0.75 | 19.1 | 0.18 | 4.6 | 5100(350) |
| UH-LG-6-64 | 1/2 | 3/8 | 9.53 | 1.29 | 32.8 | 0.25 | 6.4 | 0.31 | 7.9 | 3300(227) |
| UH-LG-6-191 | 1/2 | 3/8 | 9.53 | 1.79 | 45.5 | 0.75 | 19.1 | 0.31 | 7.9 | 3300(227) |
| UH-LG-8-64 | 1/2 | 1/2 | 12.7 | 1.29 | 32.8 | 0.25 | 6.4 | 0.40 | 10.2 | 3500(241) |
| UH-LG-8-96 | 1/2 | 1/2 | 12.7 | 1.41 | 35.8 | 0.38 | 9.6 | 0.40 | 10.2 | 3500(241) |
| UH-LG-8-191 | 1/2 | 1/2 | 12.7 | 1.79 | 45.5 | 0.75 | 19.1 | 0.40 | 10.2 | 3500(241) |
| UH-LG-8X4-191 | 1/2 | 1/4 | 6.35 | 1.80 | 45.7 | 0.75 | 19.1 | 0.18 | 4.6 | 4300(296) |
| UH-LG-12-191 | 3/4 | 3/4 | 19.05 | 2.03 | 51.6 | 0.75 | 19.1 | 0.65 | 16.5 | 2400(165) |
| UH-LG-16-191 | 1 | 1 | 25.4 | 2.32 | 58.9 | 0.75 | 19.1 | 0.87 | 22.1 | 2400(165) |
| Metric | in. | mm | in. | mm | in. | mm | mm | mm | psig(bar) | |
| UH-LG-4X6M-191 | 1/4 | 6.0 | 1.70 | 43.2 | 0.75 | 19.1 | 4.0 | 6800(468) | | |
| UH-LG-4X8M-191 | 1/4 | 8.0 | 1.70 | 43.2 | 0.75 | 19.1 | 6.0 | 4900(337) | | |
| UH-LG-8X10M-191 | 1/2 | 10.0 | 1.79 | 45.5 | 0.75 | 19.1 | 8.0 | 3500(241) | | |
| UH-LG-8X12M-191 | 1/2 | 12.0 | 1.79 | 45.5 | 0.75 | 19.1 | 10.0 | 3100(213) | | |
| UH-LG-12X18M-191 | 3/4 | 18.0 | 2.03 | 51.6 | 0.75 | 19.1 | 15.0 | 3000(206) | | |

Auto Butt Weld Short Gland

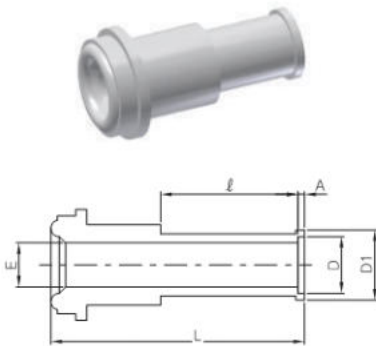
SGA



| Part No. | Tube Size (D) | | Head Size (in.) | D1 | | E | | A | | L | | ℓ | | Working Pressure psig(bar) |
|----------------|---------------|------------|-----------------|-----------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-------------------------------|
| | in. | mm | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-SGA-4-64 | 1/4 | 6.35 | 1/4 | 0.29 | 7.4 | 0.18 | 4.6 | 0.02 | 0.5 | 0.62 | 15.7 | 0.25 | 6.4 | 5100(351) |
| UH-SGA-4-191 | 1/4 | 6.35 | 1/4 | 0.29 | 7.4 | 0.18 | 4.6 | 0.02 | 0.5 | 1.12 | 28.4 | 0.75 | 19.1 | 5100(351) |
| UH-SGA-6-64 | 3/8 | 9.53 | 1/2 | 0.41 | 10.4 | 0.31 | 7.9 | 0.03 | 0.8 | 0.65 | 16.6 | 0.25 | 6.4 | 3300(227) |
| UH-SGA-6-191 | 3/8 | 9.53 | 1/2 | 0.41 | 10.4 | 0.31 | 7.9 | 0.03 | 0.8 | 1.15 | 29.2 | 0.75 | 19.1 | 3300(227) |
| UH-SGA-8-64 | 1/2 | 12.7 | 1/2 | 0.55 | 14.0 | 0.40 | 10.2 | 0.04 | 1.0 | 0.66 | 16.8 | 0.25 | 6.4 | 3500(241) |
| UH-SGA-8-191 | 1/2 | 12.7 | 1/2 | 0.55 | 14.0 | 0.40 | 10.2 | 0.04 | 1.0 | 1.16 | 29.5 | 0.75 | 19.1 | 3500(241) |
| Metric | mm | in. | in. | mm | mm | in. | mm | in. | mm | in. | mm | in. | mm | psig(bar) |
| UH-SGA-6M-191 | 6.0 | 1/4 | 0.27 | 6.8 | 4.0 | 0.02 | 0.5 | 1.18 | 30.0 | 0.75 | 19.1 | 6800(468) | | |
| UH-SGA-8M-191 | 8.0 | 1/4 | 0.35 | 8.9 | 6.0 | 0.03 | 0.8 | 1.19 | 30.2 | 0.75 | 19.1 | 4900(337) | | |
| UH-SGA-10M-191 | 10.0 | 1/2 | 0.43 | 10.9 | 8.0 | 0.03 | 0.8 | 1.22 | 31.0 | 0.75 | 19.1 | 3500(241) | | |
| UH-SGA-12M-191 | 12.0 | 1/2 | 0.52 | 13.2 | 10.0 | 0.04 | 1.0 | 1.20 | 30.5 | 0.75 | 19.1 | 3100(213) | | |

Auto Butt Weld Long Gland

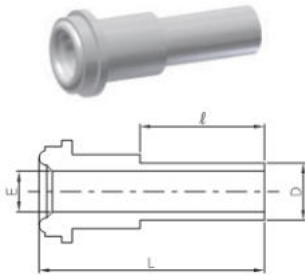
LGA



| Part No. | Head Size (in.) | Tube Size (D) | | D1 | | E | | A | | L | | ℓ | | Working Pressure psig(bar) |
|----------------|-----------------|---------------|------------|-----------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|-------------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-LGA-4-191 | 1/4 | 1/4 | 6.35 | 0.29 | 7.4 | 0.18 | 4.6 | 0.02 | 0.5 | 1.72 | 43.7 | 0.75 | 19.1 | 5100(351) |
| UH-LGA-8X4-191 | 1/2 | 1/4 | 6.35 | 0.29 | 7.4 | 0.18 | 4.6 | 0.02 | 0.5 | 1.82 | 46.2 | 0.75 | 19.1 | 3500(241) |
| UH-LGA-6-191 | 1/2 | 3/8 | 9.53 | 0.41 | 10.4 | 0.31 | 7.9 | 0.03 | 0.8 | 1.82 | 46.2 | 0.75 | 19.1 | 3300(227) |
| UH-LGA-8-191 | 1/2 | 1/2 | 12.7 | 0.55 | 14.0 | 0.40 | 10.2 | 0.04 | 1.0 | 1.83 | 46.5 | 0.75 | 19.1 | 3500(241) |
| UH-LGA-12-191 | 3/4 | 3/4 | 19.05 | 0.8 | 20.3 | 0.65 | 16.5 | 0.04 | 1.0 | 2.07 | 52.6 | 0.75 | 19.1 | 2400(165) |
| UH-LGA-16-244 | 1 | 1 | 25.4 | 1.06 | 26.9 | 0.87 | 22.1 | 0.04 | 1.0 | 2.57 | 65.3 | 0.96 | 24.4 | 2400(165) |
| Metric | in. | mm | in. | mm | mm | in. | mm | in. | mm | in. | mm | in. | mm | psig(bar) |
| UH-LGA-6M-191 | 1/4 | 6.0 | 0.27 | 6.8 | 4.0 | 0.02 | 0.5 | 1.72 | 43.7 | 0.75 | 19.1 | 6800(468) | | |
| UH-LGA-8M-191 | 1/4 | 8.0 | 0.35 | 8.9 | 6.0 | 0.03 | 0.8 | 1.73 | 43.9 | 0.75 | 19.1 | 4900(337) | | |
| UH-LGA-10M-191 | 1/2 | 10.0 | 0.43 | 10.9 | 8.0 | 0.03 | 0.8 | 1.83 | 46.5 | 0.75 | 19.1 | 3500(241) | | |
| UH-LGA-12M-191 | 1/2 | 12.0 | 0.52 | 13.2 | 10.0 | 0.04 | 1.0 | 1.83 | 46.5 | 0.75 | 19.1 | 3100(213) | | |
| UH-LGA-18M-191 | 3/4 | 18.0 | 0.76 | 19.3 | 15.0 | 0.04 | 1.0 | 2.07 | 52.6 | 0.75 | 19.1 | 3000(206) | | |

Male Gland

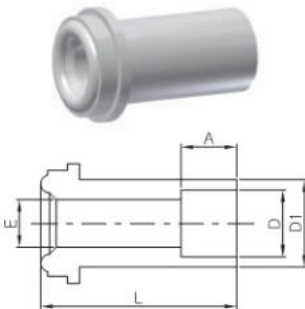
GM



| Part No. | Head Size (in.) | Tube Size (D) | | E | | L | | ℓ | | Working Pressure psig(bar) |
|-----------|-----------------|---------------|-------|------|------|------|------|------|------|----------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-GM-2 | 1/8 | 1/8 | 3.17 | 0.06 | 1.5 | 0.70 | 17.8 | 0.28 | 7.1 | 11200(771) |
| UH-GM-4X2 | 1/4 | 1/8 | 3.17 | 0.06 | 1.5 | 1.31 | 33.3 | 0.28 | 7.1 | 10000(689) |
| UH-GM-4 | 1/4 | 1/4 | 6.35 | 0.12 | 3.0 | 1.31 | 33.3 | 0.41 | 10.4 | 10000(689) |
| UH-GM-6 | 1/2 | 3/8 | 9.53 | 0.28 | 7.1 | 1.50 | 38.1 | 0.41 | 10.4 | 4300(296) |
| UH-GM-8 | 1/2 | 1/2 | 12.7 | 0.4 | 10.2 | 1.50 | 38.1 | 0.50 | 12.7 | 3500(241) |
| UH-GM-8X4 | 1/2 | 1/4 | 6.35 | 0.12 | 3.0 | 1.50 | 38.1 | 0.41 | 10.4 | 4300(296) |
| UH-GM-12 | 3/4 | 3/4 | 19.05 | 0.53 | 13.5 | 2.00 | 50.8 | 0.62 | 15.7 | 3700(254) |
| UH-GM-16 | 1 | 1 | 25.4 | 0.75 | 19.1 | 2.22 | 56.4 | 0.81 | 20.6 | 3000(206) |

Socket Weld Long Gland

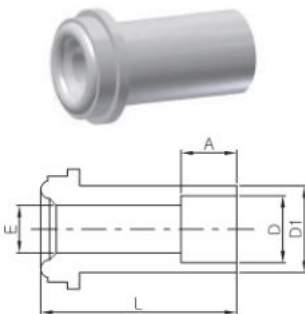
GSL



| Part No. | Tube Size (D) | | Head Size (in.) | D1 | | E | | L | | A | | Working Pressure psig(bar) |
|-----------|---------------|-------|-----------------|------|------|------|------|------|------|------|------|----------------------------|
| | in. | mm | | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-GSL-2 | 1/8 | 3.17 | 1/8 | 0.20 | 5.1 | 0.09 | 2.3 | 0.70 | 17.8 | 0.10 | 2.5 | 7100(489) |
| UH-GSL-4 | 1/4 | 6.35 | 1/4 | 0.35 | 8.9 | 0.18 | 4.6 | 1.31 | 33.3 | 0.28 | 7.1 | 5500(378) |
| UH-GSL-6 | 3/8 | 9.53 | 1/2 | 0.60 | 15.2 | 0.28 | 7.1 | 1.50 | 38.1 | 0.31 | 7.9 | 4300(291) |
| UH-GSL-8 | 1/2 | 12.7 | 1/2 | 0.60 | 15.2 | 0.40 | 10.2 | 1.50 | 38.1 | 0.38 | 9.6 | 3000(206) |
| UH-GSL-12 | 3/4 | 19.05 | 3/4 | 0.88 | 22.4 | 0.62 | 15.7 | 2.00 | 50.8 | 0.44 | 11.2 | 2800(192) |
| UH-GSL-16 | 1 | 25.4 | 1 | 1.19 | 30.2 | 0.87 | 22.1 | 2.22 | 56.4 | 0.62 | 15.7 | 3000(206) |

Socket Weld Reducing Long Gland

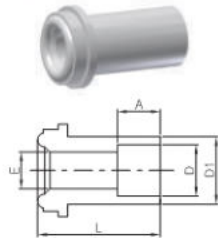
GSR



| Part No. | Head Size (in.) | Tube Size (D) | | D1 | | E | | L | | A | | Working Pressure psig(bar) |
|------------|-----------------|---------------|------|------|------|------|-----|------|------|------|-----|----------------------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-GSR-4X2 | 1/4 | 1/8 | 3.17 | 0.35 | 8.9 | 0.09 | 2.3 | 1.31 | 33.3 | 0.10 | 2.5 | 8000(551) |
| UH-GSR-8X4 | 1/2 | 1/4 | 6.35 | 0.60 | 15.2 | 0.18 | 4.6 | 1.50 | 38.1 | 0.28 | 7.1 | 3500(241) |

Socket Weld Short Gland

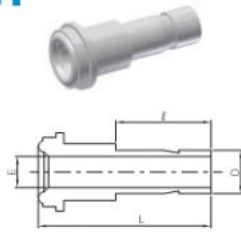
GSS



| Part No. | Tube Size (D) | | Head Size (in.) | D1 | | E | | L | | A | | Working Pressure psig(bar) |
|-------------|---------------|------|-----------------|------|-----|------|-----|------|------|------|-----|-------------------------------|
| | in. | mm | | in. | mm | in. | mm | in. | mm | in. | mm | |
| UH-GSS-4 | 1/4 | 6.35 | 1/4 | 0.35 | 8.9 | 0.18 | 4.6 | 0.50 | 12.7 | 0.28 | 7.1 | 5500(378) |
| UH-GSS-4-19 | | | | | | | | 0.75 | 19.1 | | | |

Tube Adapter Gland

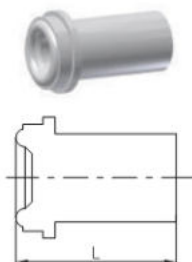
GT



| Part No. | Tube Size (D) | | Head Size (in.) | E | | L | | ℓ | | Working Pressure psig(bar) |
|----------|---------------|------|-----------------|------|-----|------|------|------|------|-------------------------------|
| | in. | mm | | in. | mm | in. | mm | in. | mm | |
| UH-GT-4 | 1/4 | 6.35 | 1/4 | 0.17 | 4.3 | 1.62 | 41.0 | 0.64 | 16.2 | 10000 |
| UH-GT-6 | 3/8 | 9.53 | 1/2 | 0.27 | 6.8 | 1.81 | 46.0 | 0.70 | 17.8 | 4300 |
| UH-GT-8 | 1/2 | 12.7 | | 0.37 | 9.4 | 1.94 | 49.3 | 0.96 | 24.4 | 4300 |

Blind Gland

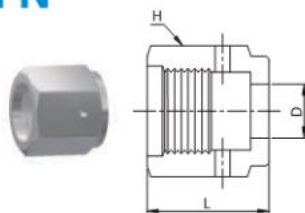
BG



| Part No. | Tube Size (D) | | Head Size (in.) | L | |
|----------|---------------|-------|-----------------|------|------|
| | in. | mm | | in. | mm |
| UH-BG-2 | 1/8 | 3.17 | 1/8 | 0.70 | 17.8 |
| UH-BG-4 | 1/4 | 6.35 | 1/4 | 1.31 | 33.3 |
| UH-BG-8 | 1/2 | 12.7 | 1/2 | 1.50 | 38.1 |
| UH-BG-12 | 3/4 | 19.05 | 3/4 | 2.00 | 50.8 |
| UH-BG-16 | 1 | 25.4 | 1 | 2.22 | 56.4 |

Female Nut

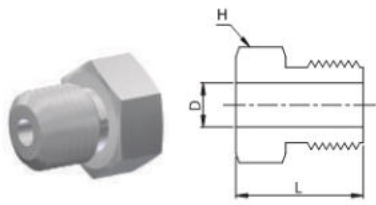
FN



| Part No. | Size (in.) | L | | D | | H Hex (in.) |
|----------|------------|------|------|------|------|-------------|
| | | in. | mm | in. | mm | |
| U-FN-2 | 1/8 | 0.53 | 13.5 | 0.21 | 5.3 | 7/6 |
| U-FN-4 | 1/4 | 0.81 | 20.6 | 0.36 | 9.1 | 3/4 |
| U-FN-8 | 1/2 | 0.88 | 22.4 | 0.61 | 15.5 | 1 1/16 |
| U-FN-12 | 3/4 | 1.12 | 28.4 | 0.89 | 22.6 | 1 1/2 |
| U-FN-16 | 1 | 1.34 | 34.0 | 1.20 | 30.5 | 1 3/4 |

Male Nut

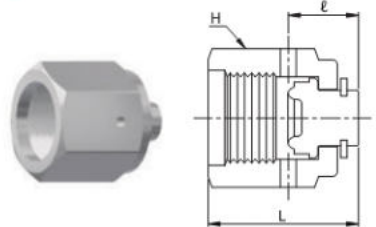
MN



| Part No. | Size (in.) | L | | D | | H Hex (in.) |
|----------|------------|------|------|------|------|-------------|
| | | in. | mm | in. | mm | |
| U-MN-2 | 1/8 | 0.50 | 12.7 | 0.21 | 5.3 | 3/8 |
| U-MN-4 | 1/4 | 0.71 | 18.0 | 0.36 | 9.1 | 5/8 |
| U-MN-8 | 1/2 | 0.81 | 20.6 | 0.61 | 15.5 | 15/16 |
| U-MN-12 | 3/4 | 1.00 | 25.4 | 0.89 | 22.6 | 1 5/16 |
| U-MN-16 | 1 | 1.19 | 30.2 | 1.20 | 30.5 | 1 5/8 |

Cap

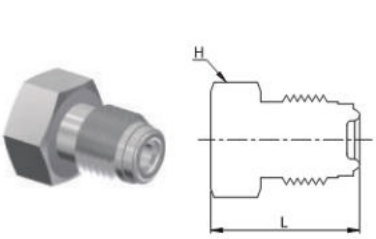
CP



| Part No. | Size (in.) | L | | ℓ | | H Hex (in.) |
|----------|------------|------|------|------|------|-------------|
| | | in. | mm | in. | mm | |
| U-CP-2 | 1/8 | 0.63 | 16.0 | 0.30 | 7.6 | 7/16 |
| U-CP-4 | 1/4 | 0.94 | 23.9 | 0.44 | 11.2 | 3/4 |
| U-CP-8 | 1/2 | 1.01 | 25.6 | 0.45 | 11.4 | 1 1/16 |
| U-CP-12 | 3/4 | 1.29 | 32.8 | 0.54 | 13.7 | 1 1/2 |
| U-CP-16 | 1 | 1.54 | 39.1 | 0.63 | 16.0 | 1 3/4 |

Plug

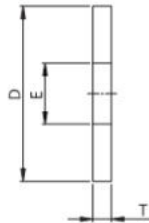
PG



| Part No. | Size (in.) | L | | H Hex (in.) |
|----------|------------|------|------|-------------|
| | | in. | mm | |
| U-PG-2 | 1/8 | 0.68 | 17.3 | 3/8 |
| U-PG-4 | 1/4 | 0.92 | 23.4 | 5/8 |
| U-PG-8 | 1/2 | 1.08 | 27.4 | 15/16 |
| U-PG-12 | 3/4 | 1.43 | 36.3 | 1 5/16 |
| U-PG-16 | 1 | 1.52 | 38.6 | 1 5/8 |

Gasket

GK



| Part No. | Size (in.) | T | | D | | E | |
|----------|------------|-------|-----|------|------|------|------|
| | | in. | mm | in. | mm | in. | mm |
| U-GK-2 | 1/8 | 0.028 | 0.7 | 0.26 | 6.6 | 0.09 | 2.3 |
| U-GK-4 | 1/4 | 0.028 | 0.7 | 0.50 | 12.7 | 0.22 | 5.6 |
| U-GK-8 | 1/2 | 0.028 | 0.7 | 0.78 | 19.8 | 0.44 | 11.2 |
| U-GK-12 | 3/4 | 0.028 | 0.7 | 1.14 | 29.0 | 0.66 | 16.7 |
| U-GK-16 | 1 | 0.028 | 0.7 | 1.40 | 35.8 | 1.89 | 22.6 |

Gasket Retainer

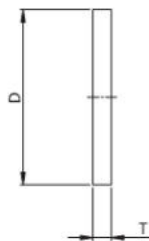
GKT



| Part No. | Size (in.) | T | | D | | E | |
|----------|------------|-------|-----|------|-------|------|------|
| | | in. | mm | in. | mm | in. | mm |
| U-GKT-4 | 1/4 | 0.028 | 0.7 | 0.47 | 11.85 | 0.22 | 5.6 |
| U-GKT-8 | 1/2 | 0.028 | 0.7 | 0.76 | 19.27 | 0.44 | 11.2 |
| U-GKT-12 | 3/4 | 0.028 | 0.7 | 1.10 | 27.90 | 0.66 | 16.7 |
| U-GKT-16 | 1 | 0.028 | 0.7 | 1.34 | 34.20 | 0.89 | 22.6 |

Gasket Blind

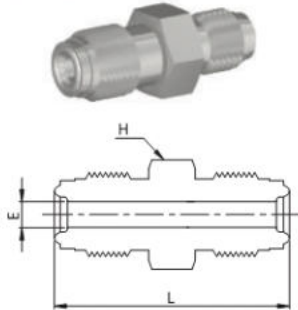
GKB



| Part No. | Size (in.) | T | | D | |
|----------|------------|-------|-----|------|------|
| | | in. | mm | in. | mm |
| U-GKB-2 | 1/8 | 0.028 | 0.7 | 0.26 | 6.6 |
| U-GKB-4 | 1/4 | 0.028 | 0.7 | 0.50 | 12.7 |
| U-GKB-8 | 1/2 | 0.028 | 0.7 | 0.78 | 19.8 |
| U-GKB-12 | 3/4 | 0.028 | 0.7 | 1.14 | 29.0 |
| U-GKB-16 | 1 | 0.028 | 0.7 | 1.40 | 35.8 |

Double Male Union

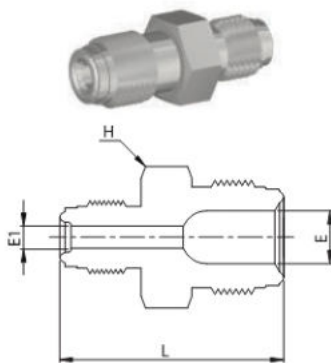
MU



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) |
|----------|-----------------|------|------|------|------|-------------|
| | | in. | mm | in. | mm | |
| UH-MU-2 | 1/8 | 1.13 | 28.7 | 0.09 | 2.3 | 3/8 |
| UH-MU-4 | 1/4 | 1.55 | 39.4 | 0.18 | 4.6 | 5/8 |
| UH-MU-8 | 1/2 | 1.84 | 46.7 | 0.40 | 10.2 | 15/16 |
| UH-MU-12 | 3/4 | 2.44 | 62 | 0.62 | 15.7 | 1 5/16 |
| UH-MU-16 | 1 | 2.59 | 65.8 | 0.87 | 22.1 | 1 5/8 |

Double Male Reducing Union

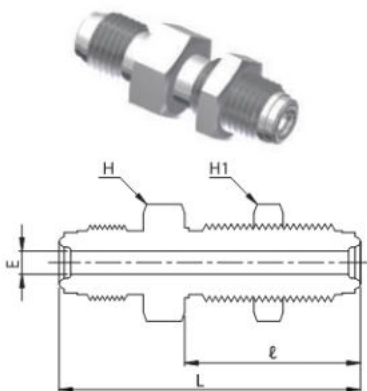
MRU



| Part No. | Head Size (in.) | Head Size (in.) | L | | E | | E1 | | H Hex (in.) |
|------------|-----------------|-----------------|------|------|-----|------|------|-----|-------------|
| | | | in. | mm | in. | mm | in. | mm | |
| UH-MRU-8X4 | 1/2 | 1/4 | 1.71 | 43.4 | 0.4 | 10.2 | 0.18 | 4.6 | 15/16 |

Bulkhead Union

BHU

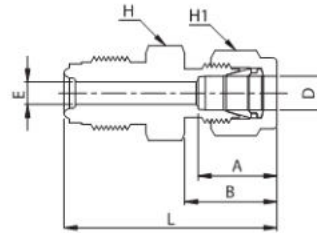


| Part No. | Head Size (in.) | L | | ℓ | | E | | H Hex (in.) | H1 Hex (in.) |
|--------------|-----------------|------|------|------|------|------|------|-------------|--------------|
| | | in. | mm | in. | mm | in. | mm | | |
| UH-BHU-4 | 1/4 | 2.23 | 56.6 | 1.30 | 33.0 | 0.18 | 4.6 | 3/4 | 3/4 |
| UH-BHU-4-462 | 1/4 | 1.82 | 46.2 | 0.99 | 25.1 | 0.18 | 4.6 | 3/4 | 3/4 |
| UH-BHU-8 | 1/2 | 2.57 | 65.3 | 1.48 | 37.6 | 0.40 | 10.2 | 1 1/16 | 1 1/16 |
| UH-BHU-8-544 | 1/2 | 2.14 | 54.4 | 1.11 | 28.2 | 0.40 | 10.2 | 1 1/16 | 1 1/16 |

Metal Gasket Face-Seal Fittings

Tube Fitting Connector

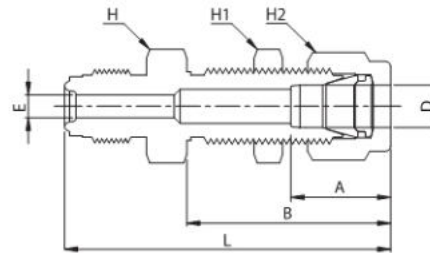
DC



| Part No. | Head Size (in.) | Tube Size (D) | L | | B | | A | | E | | H Hex (in.) | H1 Hex (in.) |
|-----------|-----------------|---------------|------|------|------|------|------|------|------|------|-------------|--------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| UH-DC-4X2 | 1/4 | 1/8 | 1.53 | 38.9 | 0.60 | 15.2 | 0.5 | 12.7 | 0.09 | 2.3 | 5/8 | 7/16 |
| UH-DC-4 | 1/4 | 1/4 | 1.62 | 41.1 | 0.70 | 17.8 | 0.6 | 15.2 | 0.18 | 4.6 | 5/8 | 9/16 |
| UH-DC-8X6 | 1/2 | 3/8 | 1.84 | 46.7 | 0.76 | 19.3 | 0.66 | 16.8 | 0.28 | 7.1 | 15/16 | 11/16 |
| UH-DC-8 | 1/2 | 1/2 | 1.95 | 49.5 | 0.86 | 21.8 | 0.9 | 22.9 | 0.4 | 10.2 | 15/16 | 7/8 |

Tube Fitting Bulkhead Connector

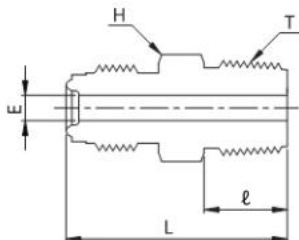
DBHC



| Part No. | Head Size (in.) | Tube Size (D) | L | | B | | A | | E | | H Hex (in.) | H1 Hex (in.) | H2 Hex (in.) |
|---------------|-----------------|---------------|------|------|------|------|------|------|------|------|-------------|--------------|--------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | | | |
| UH-DBHC-4 | 1/4 | 1/4 | 2.25 | 57.2 | 1.32 | 33.5 | 0.6 | 15.2 | 0.18 | 4.6 | 5/8 | 5/8 | 9/16 |
| UH-DBHC-4-478 | 1/4 | 1/4 | 1.88 | 47.8 | 1.05 | 26.7 | 0.6 | 15.2 | 0.18 | 4.6 | 5/8 | 5/8 | 9/16 |
| UH-DBHC-8X6 | 1/2 | 3/8 | 2.54 | 64.5 | 1.45 | 36.8 | 0.66 | 16.8 | 0.28 | 7.1 | 15/16 | 3/4 | 11/16 |
| UH-DBHC-8 | 1/2 | 1/2 | 2.74 | 69.6 | 1.65 | 41.9 | 0.9 | 22.9 | 0.4 | 10.2 | 15/16 | 15/16 | 7/8 |

Male NPT Connector

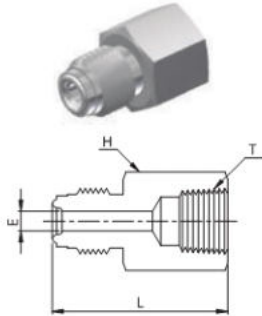
MC-N



| Part No. | Head Size (in.) | Size NPT T | L | | ℓ | | E | | H Hex (in.) |
|-------------|-----------------|------------|------|------|------|------|------|------|-------------|
| | | | in. | mm | in. | mm | in. | mm | |
| UH-MC4-2N | 1/4 | 1/8 | 1.31 | 33.3 | 0.38 | 9.6 | 0.18 | 4.6 | 5/8 |
| UH-MC4-4N | 1/4 | 1/4 | 1.49 | 37.8 | 0.56 | 14.2 | 0.18 | 4.6 | 5/8 |
| UH-MC8-4N | 1/2 | 1/4 | 1.65 | 41.9 | 0.56 | 14.2 | 0.28 | 7.1 | 15/16 |
| UH-MC8-6N | 1/2 | 3/8 | 1.65 | 41.9 | 0.56 | 14.2 | 0.38 | 9.6 | 15/16 |
| UH-MC8-8N | 1/2 | 1/2 | 1.84 | 46.7 | 0.75 | 19.1 | 0.40 | 10.2 | 15/16 |
| UH-MC12-12N | 3/4 | 3/4 | 2.19 | 55.6 | 0.75 | 19.1 | 0.62 | 15.7 | 1 5/16 |
| UH-MC16-16N | 1 | 1 | 2.47 | 62.7 | 0.94 | 23.9 | 0.87 | 22.1 | 1 5/8 |

Female NPT Connector

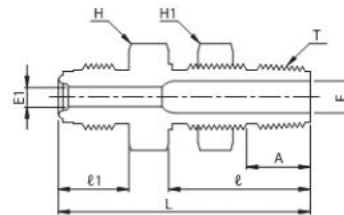
FC-N



| Part No. | Head Size (in.) | Size NPT T | L | | E | | H Hex (in.) |
|-------------|-----------------|------------|------|------|------|------|-------------|
| | | | in. | mm | in. | mm | |
| UH-FC4-2N | 1/4 | 1/8 | 1.41 | 35.8 | 0.18 | 4.6 | 5/8 |
| UH-FC4-4N | 1/4 | 1/4 | 1.54 | 39.1 | 0.18 | 4.6 | 3/4 |
| UH-FC8-6N | 1/2 | 3/8 | 1.76 | 44.7 | 0.40 | 10.2 | 15/16 |
| UH-FC8-8N | 1/2 | 1/2 | 1.99 | 50.5 | 0.40 | 10.2 | 1 1/16 |
| UH-FC12-12N | 3/4 | 3/4 | 2.36 | 59.9 | 0.62 | 15.7 | 1 5/16 |
| UH-FC16-16N | 1 | 1 | 2.51 | 63.8 | 0.87 | 22.1 | 1 5/8 |

Bulkhead Male NPT Connector

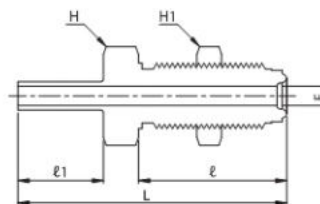
BHMC-N



| Part No. | Head Size (in.) | Size NPT T | L | | ℓ1 | | A | | E | | E1 | | ℓ | | H Hex (mm) | H1 Hex (mm) |
|-------------|-----------------|------------|------|------|------|------|------|------|------|-----|------|------|------|------|------------|-------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| UH-BHMC4-4N | 1/4 | 1/4 | 2.21 | 56.1 | 0.62 | 15.7 | 0.56 | 14.2 | 0.28 | 7.1 | 0.18 | 4.6 | 1.24 | 31.5 | 20.63 | 20.63 |
| UH-BHMC8-4N | 1/2 | 1/4 | 2.34 | 59.4 | 0.75 | 19.1 | 0.56 | 14.2 | 0.28 | 7.1 | 0.4 | 10.2 | 1.24 | 31.5 | 23.81 | 20.63 |

Tube Butt Weld Bulkhead Connector

BHTW

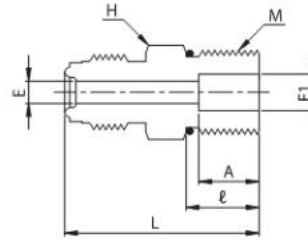


| Part No. | Head Size (in.) | L | | ℓ | | ℓ1 | | E | | H Hex (in.) | H1 Hex (in.) |
|---------------|-----------------|------|------|------|------|------|------|------|-----|-------------|--------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| UH-BHTW-4 | 1/4 | 2.36 | 59.9 | 1.3 | 33 | 0.75 | 19.1 | 0.18 | 4.6 | 3/4 | 3/4 |
| UH-BHTW-4-495 | 1/4 | 1.95 | 49.5 | 0.99 | 25.1 | 0.75 | 19.1 | 0.18 | 4.6 | 3/4 | 3/4 |

Metal Gasket Face-Seal Fittings

Straight Thread O-Ring Seal Male Connector

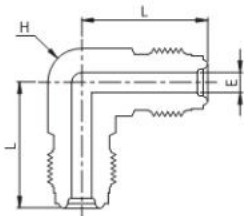
MC-UO



| Part No. | Head Size (in.) | L | | ℓ | | A | | E | | E1 | | H Hex (in.) | M |
|------------|-----------------|------|------|------|------|------|------|------|-----|------|-----|-------------|-------------|
| | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| UH-MC4-6U | 1/4 | 1.33 | 33.8 | 0.39 | 9.9 | 0.25 | 6.4 | 0.18 | 4.6 | 0.28 | 7.1 | 3/4 | 9/16-18 UNF |
| UH-MC8-6U | 1/2 | 1.48 | 37.6 | 0.39 | 9.9 | - | - | 0.28 | 7.1 | 0.28 | 7.1 | 15/16 | 9/16-18 UNF |
| UH-MC8-10U | 1/2 | 1.66 | 42.2 | 0.5 | 12.7 | 0.4 | 10.2 | 0.28 | 7.1 | 0.59 | 15 | 1 | 7/8-14 UNF |

Union Elbow

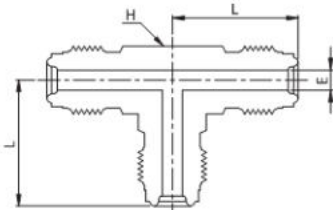
L



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) |
|----------|-----------------|------|------|------|------|-------------|
| | | in. | mm | in. | mm | |
| UH-L-4 | 1/4 | 1.07 | 27.2 | 0.18 | 4.6 | 1/2 |
| UH-L-8 | 1/2 | 1.45 | 36.8 | 0.40 | 10.2 | 13/16 |
| UH-L-12 | 3/4 | 1.92 | 48.8 | 0.62 | 15.7 | 1 1/4 |
| UH-L-16 | 1 | 2.00 | 50.8 | 0.87 | 22.1 | 1 11/16 |

Union Tee

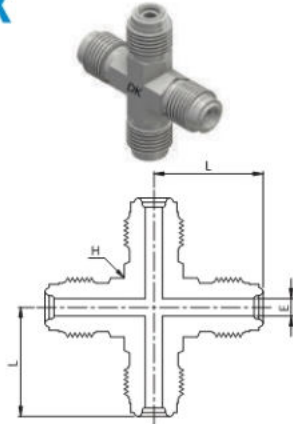
T



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) |
|----------|-----------------|------|------|------|------|-------------|
| | | in. | mm | in. | mm | |
| UH-T-4 | 1/4 | 1.07 | 27.2 | 0.18 | 4.6 | 1/2 |
| UH-T-8 | 1/2 | 1.45 | 36.8 | 0.40 | 10.2 | 13/16 |
| UH-T-12 | 3/4 | 1.92 | 48.8 | 0.62 | 15.7 | 1 1/4 |
| UH-T-16 | 1 | 2.00 | 50.8 | 0.87 | 22.1 | 1 11/16 |

Union Cross Tee

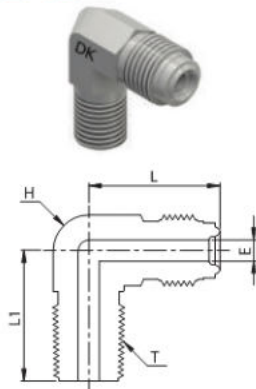
X



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) |
|----------|-----------------|------|------|------|------|-------------|
| | | in. | mm | in. | mm | |
| UH-X-4 | 1/4 | 1.07 | 27.2 | 0.18 | 4.6 | 1/2 |
| UH-X-8 | 1/2 | 1.45 | 36.8 | 0.40 | 10.2 | 13/16 |
| UH-X-12 | 3/4 | 1.92 | 48.8 | 0.62 | 15.7 | 1 1/4 |
| UH-X-16 | 1 | 2.00 | 50.8 | 0.87 | 22.1 | 1 11/16 |

Male NPT Elbow

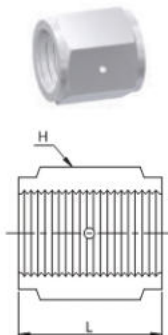
ML-N



| Part No. | Head Size (in.) | Size NPT T | L | | L1 | | E | | H Hex (in.) |
|-----------|-----------------|------------|------|------|------|------|------|------|-------------|
| | | | in. | mm | in. | mm | in. | mm | |
| UH-ML4-2N | 1/4 | 1/8 | 1.07 | 27.2 | 0.87 | 22.1 | 0.18 | 4.6 | 1/2 |
| UH-ML4-4N | 1/4 | 1/4 | 1.07 | 27.2 | 1.05 | 26.7 | 0.18 | 4.6 | 1/2 |
| UH-ML8-6N | 1/2 | 3/8 | 1.45 | 36.8 | 1.26 | 32.0 | 0.4 | 10.2 | 13/16 |
| UH-ML8-8N | 1/2 | 1/2 | 1.45 | 36.8 | 1.45 | 36.8 | 0.4 | 10.2 | 13/16 |

Coupling

C

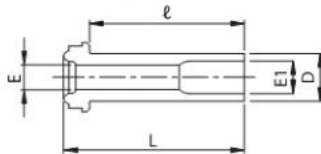


| Part No. | Size (in.) | L | | H Hex (in.) |
|----------|------------|------|------|-------------|
| | | in. | mm | |
| U-C-2 | 1/8 | 0.66 | 16.8 | 7/16 |
| U-C-4 | 1/4 | 1.19 | 30.2 | 3/4 |
| U-C-8 | 1/2 | 1.31 | 33.3 | 1 1/16 |
| U-C-12 | 3/4 | 1.68 | 42.7 | 1 1/2 |
| U-C-16 | 1 | 2.04 | 51.8 | 1 3/4 |

High Flow Fittings

High Flow Gland

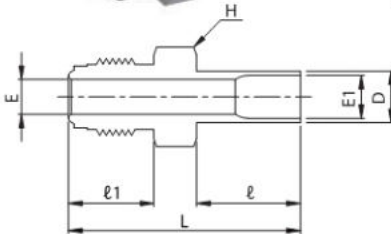
HG



| Part No. | Head Size (in.) | D | E1 | | E | | L | | l | |
|----------|-----------------|-----|------|-----|------|-----|------|------|------|------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm |
| U-HG-4X6 | 1/4 | 3/8 | 0.31 | 7.9 | 0.25 | 6.4 | 1.31 | 33.3 | 1.12 | 28.4 |

High Flow Reducer

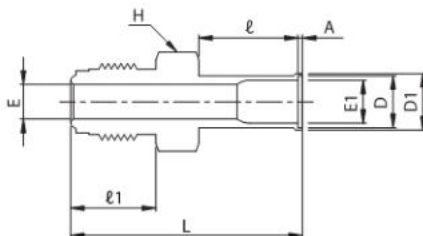
HR



| Part No. | Head Size (in.) | D | L | | l | | l1 | | E | | E1 | | H Hex (in.) |
|----------|-----------------|-----|------|------|------|------|------|------|------|-----|------|-----|-------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | |
| U-HR-4X6 | 1/4 | 3/8 | 1.68 | 42.7 | 0.75 | 19.1 | 0.62 | 15.7 | 0.25 | 6.4 | 0.31 | 7.9 | 5/8 |

Auto Butt Weld High Flow Reducer

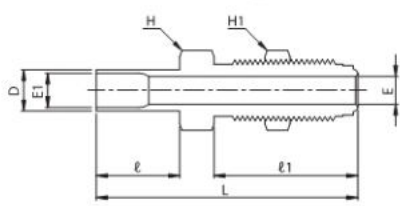
HRA



| Part No. | Head Size (in.) | D | L | | l | | l1 | | A | | E | | E1 | | D1 | | H Hex (in.) |
|-----------|-----------------|-----|------|------|------|------|------|------|------|-----|------|-----|------|-----|------|------|-------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | | |
| U-HRA-4X6 | 1/4 | 3/8 | 1.71 | 43.4 | 0.75 | 19.1 | 0.62 | 15.7 | 0.03 | 0.8 | 0.25 | 6.4 | 0.31 | 7.9 | 0.41 | 10.4 | 5/8 |

High Flow Bulkhead Reducer

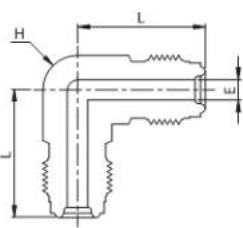
HBR



| Part No. | Head Size (in.) | D | L | | l | | l1 | | E | | E1 | | H Hex (in.) | H1 Hex (in.) |
|-----------|-----------------|-----|------|------|------|------|-----|----|------|-----|------|-----|-------------|--------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| U-HBR-4X6 | 1/4 | 3/8 | 2.36 | 59.9 | 0.75 | 19.1 | 1.3 | 33 | 0.25 | 6.4 | 0.31 | 7.9 | 3/4 | 3/4 |

High Flow Union Elbow

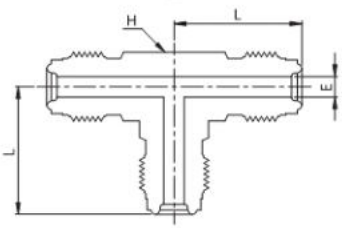
HL



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) |
|----------|-----------------|------|------|------|-----|-------------|
| | | in. | mm | in. | mm | |
| U-HL-4 | 1/4 | 1.07 | 27.2 | 0.25 | 6.4 | 1/2 |

High Flow Union Tee

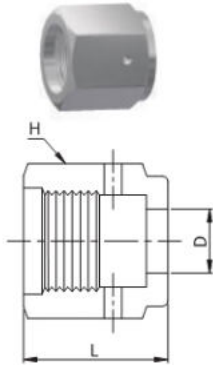
HT



| Part No. | Head Size (in.) | L | | E | | H Hex (mm) |
|----------|-----------------|------|------|------|-----|------------|
| | | in. | mm | in. | mm | |
| U-HT-4 | 1/4 | 1.07 | 27.2 | 0.25 | 6.4 | 12.7 |

High Flow Female Nut

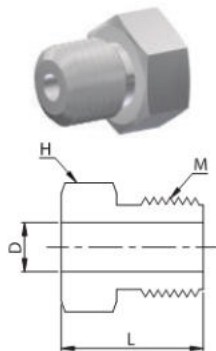
HFN



| Part No. | Head Size (in.) | L | | D | | H Hex (in.) |
|----------|-----------------|------|------|------|-----|-------------|
| | | in. | mm | in. | mm | |
| U-HFN-4 | 1/4 | 0.81 | 20.6 | 0.39 | 9.9 | 3/4 |

High Flow Male Nut

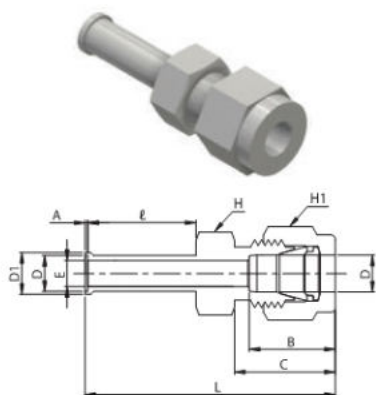
HMN



| Part No. | Head Size (in.) | L | | D | | H Hex (in.) | M |
|----------|-----------------|------|------|------|-----|-------------|-------------|
| | | in. | mm | in. | mm | | |
| U-HMN-4 | 1/4 | 0.71 | 18.0 | 0.39 | 9.9 | 5/8 | 9/16-18 UNF |

Tube Fitting to Auto Butt Weld Connector

DATW

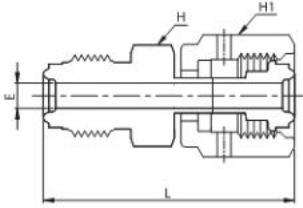


| Part No. | Head Size (in.) | D | D1 | | L | | ℓ | | A | | B | | C | | E | | H Hex (in.) | H1 Hex (in.) |
|------------|-----------------|-----|------|------|------|------|------|------|------|-----|------|------|------|------|------|-----|-------------|--------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | | |
| U-DATW-4X4 | 1/4 | 1/4 | 0.29 | 7.4 | 1.74 | 44.2 | 0.75 | 19.1 | 0.02 | 0.5 | 0.60 | 15.2 | 0.70 | 17.8 | 0.18 | 4.6 | 1/2 | 9/16 |
| U-DATW-6X6 | 3/8 | 3/8 | 0.41 | 10.4 | 1.84 | 46.7 | 0.75 | 19.1 | 0.02 | 0.5 | 0.22 | 16.8 | 0.76 | 19.3 | 0.31 | 7.9 | 5/8 | 11/16 |

Welded Assembly Fittings

Swivel Female / Male Union

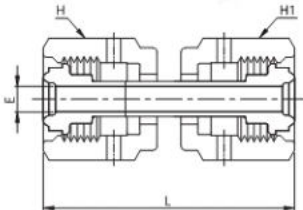
SFMU



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) | H1 Hex (in.) |
|----------|-----------------|------|------|------|-----|-------------|--------------|
| | | in. | mm | in. | mm | | |
| U-SFMU-4 | 1/4 | 1.78 | 45.3 | 0.18 | 4.6 | 5/8 | 3/4 |

Swivel Female Union

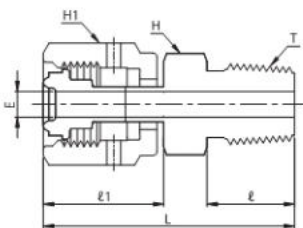
SFU



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) | H1 Hex (in.) |
|----------|-----------------|------|------|------|------|-------------|--------------|
| | | in. | mm | in. | mm | | |
| U-SFU-4 | 1/4 | 1.71 | 43.4 | 0.18 | 4.6 | 3/4 | 3/4 |
| U-SFU-8 | 1/2 | 1.84 | 46.7 | 0.40 | 10.2 | 1 1/16 | 1 1/16 |

Swivel Male NPT Connector

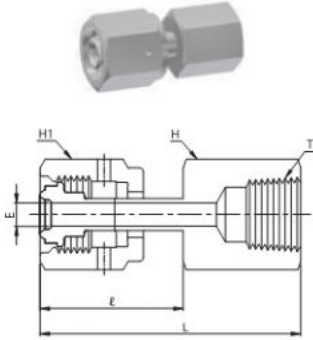
SMC-N



| Part No. | Head Size (in.) | Size NPT T | L | | l | | l1 | | E | | H Hex (in.) | H1 Hex (in.) |
|-----------|-----------------|------------|------|------|------|------|------|------|------|------|-------------|--------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | | |
| U-SMC4-2N | 1/4 | 1/8 | 1.58 | 40.1 | 0.38 | 9.6 | 0.95 | 24.1 | 0.18 | 4.6 | 7/16 | 3/4 |
| U-SMC4-4N | 1/4 | 1/4 | 1.79 | 45.5 | 0.56 | 14.2 | 0.92 | 23.4 | 0.18 | 4.6 | 9/16 | 3/4 |
| U-SMC8-6N | 1/2 | 3/8 | 1.89 | 48.0 | 0.56 | 14.2 | 1.0 | 25.4 | 0.40 | 10.2 | 11/16 | 1 1/16 |
| U-SMC8-8N | 1/2 | 1/2 | 2.09 | 53.1 | 0.75 | 19.1 | 1.01 | 25.6 | 0.40 | 10.2 | 7/8 | 1 1/16 |

Swivel Female NPT Connector

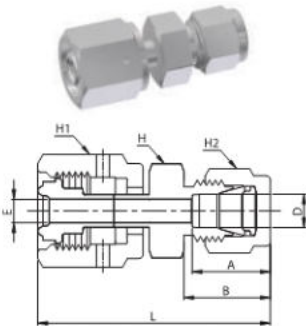
SFC-N



| Part No. | Head Size (in.) | Size NPT T | L | | ℓ | | E | | H Hex (in.) | H1 Hex (in.) |
|-----------|-----------------|------------|------|------|------|------|------|------|-------------|--------------|
| | | | in. | mm | in. | mm | in. | mm | | |
| U-SFC4-4N | 1/4 | 1/4 | 1.77 | 45.0 | 0.92 | 23.4 | 0.18 | 4.6 | 3/4 | 3/4 |
| U-SFC8-6N | 1/2 | 3/8 | 1.95 | 49.5 | 1.06 | 26.9 | 0.40 | 10.2 | 7/8 | 1 1/16 |
| U-SFC8-8N | 1/2 | 1/2 | 2.18 | 55.4 | 1.04 | 26.4 | 0.40 | 10.2 | 1 1/16 | 1 1/16 |

Swivel Tube Fitting Connector

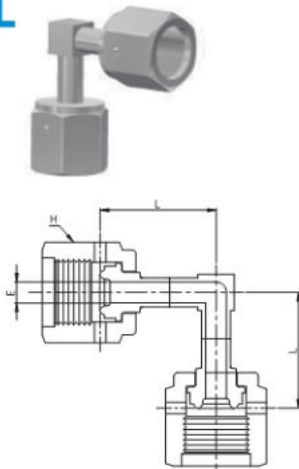
SDC



| Part No. | Head Size (in.) | Size NPT D | L | | A | | B | | E | | H Hex (in.) | H1 Hex (in.) | H2 Hex (in.) |
|----------|-----------------|------------|------|------|------|------|------|------|------|-----|-------------|--------------|--------------|
| | | | in. | mm | in. | mm | in. | mm | in. | mm | | | |
| U-SDC-4 | 1/4 | 1/4 | 1.94 | 49.3 | 0.60 | 15.2 | 0.70 | 17.8 | 0.18 | 4.6 | 1/2 | 3/4 | 9/16 |

Swivel Elbow

SL



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) |
|----------|-----------------|-----|------|------|-----|-------------|
| | | in. | mm | in. | mm | |
| U-SL-4 | 1/4 | 1.0 | 25.4 | 0.18 | 4.6 | 3/4 |

Swivel Tee

ST



| Part No. | Head Size (in.) | L | | E | | H Hex (in.) |
|----------|-----------------|-----|------|------|-----|-------------|
| | | in. | mm | in. | mm | |
| U-ST-4 | 1/4 | 1.0 | 25.4 | 0.18 | 4.6 | 3/4 |

