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Catalog No. H - 230TF
May 2016.01

24° Tube Fittings - DIN 2353 & ISO 8434 -1

with Ball & Non Return Valves

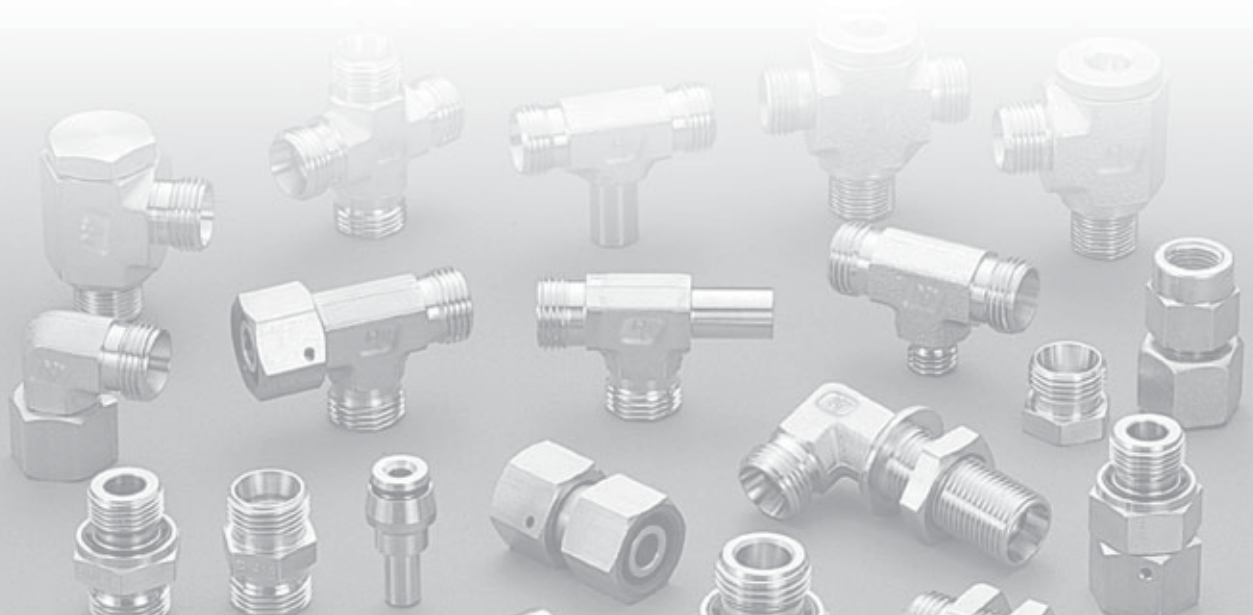
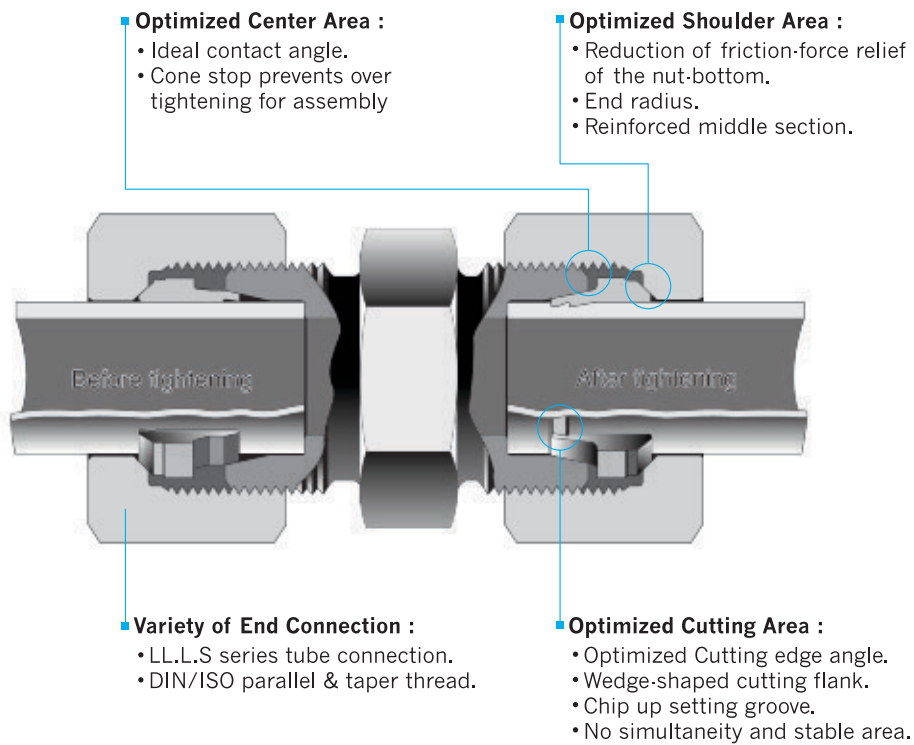


HY-LOK CORPORATION

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Features

- **Pressure** range up to 800 bar at 120°C
- **Constructive** design of the cutting-geometry.
- **Less effort.**
- **Force-increase** is perceptible.
- **Secure holding**-function is guaranteed.
- **Materials** are Stainless steel, Carbon steel and Brass.



General

Hy-Lok Corp. DIN fittings based on Standard DIN 3851 have been improved to comply with current standard requirements. They conform to installation standard ISO 8434 part1 and DIN 2353 and all constituent parts are interchangeable with other brands. Hy-Lok Corp. has many years of experience in the manufacture of precision products which is in conjunction with stringent quality control from the starting material up to the finished component determines the quality of Hy-Lok Corp. fittings.

Fitting materials

Hy-Lok Corp. Fittings are machined from drawn steel bar or steel forgings.

Materials are according to DIN 3859 (technical specifications for tube fittings).

Nuts are either cold or hot pressed.

Fittings made of stainless steel X6CrNiMoTi 17122 to DIN 17440, material No. 1.4571, or ASTM A479 type 316 are also available for supply.

Caution! *The use of steel is permissible up to 120°C max. For any temperature higher than 120°C, use material 1.4571.*

Stressability of pressure and temperature for Hy-Lok tube fittings

Pressure specification

The pressure specifications, given in our catalog relate to steel fittings with a static load at a temperature up to 120°C and refer to

- Nominal pressure (PN) according to DIN 2401.
The rated pressure has a safety factor of 4(DIN 3859)
- Permissible working pressure (PB) of the operating pressure is according to DIN 2401. The safety factor for PB is 2,5 or 1.5 respectively.

Pressure Range

| Series | Pressure |
|--------|---------------|
| LL | Up to 100 bar |
| L | Up to 500 bar |
| S | Up to 800 bar |

Allowable working temperatures (TB)

A) For fitting materials

| Material | Temperature |
|-----------------|--------------------------------|
| Steel | -40°C up to +120°C (DIN 3859) |
| Brass | -60°C up to +175°C |
| Stainless Steel | -60°C up to +400°C (DIN 17440) |

Please refer to the information given in the section "Reduction of Pressure"

B) For seal materials

| Material | Temperature |
|--------------------|--------------------|
| NBR(e.g.Perbunan®) | -35°C up to +100°C |
| FPM(e.g.Vitor®) | -25°C up to +200°C |
| PTFE(e.g.Teflon®) | -60°C up to +240°C |

Caution! *If different fitting and sealing material is used, the lowest temperature as indicated for each material is applicable!*

Pressure reduction with temperature

The reduction of pressure is necessary for operating at lower or higher temperature.

| Materials of fittings | Temperature range | Reduction of pressure |
|-----------------------|--------------------|-----------------------|
| Steel | -40°C up to +120°C | - |
| Brass | -60°C up to +175°C | 35% |
| 1.4571 | -60°C up to +20°C | - |
| 1.4571 | -60°C up to +50°C | 4% |
| 1.4571 | +100°C | 11% |
| 1.4571 | +200°C | 20% |
| 1.4571 | +300°C | 29% |
| 1.4571 | +400°C | 33% |

For different material of tubes and fittings, tubes must be tested separately considering the allowed temperature range and the required reduction of pressure.

Surface protection

All range of fittings are CR(VI) - free Surface treatment.
All weldable fittings are phosphated.
Carbon steel can be plated with nickel on request.

Fluids

Hy-Lok Corp. DIN fittings are designed for the use of commercial hydraulic oils. If it is special fluids, please contact our technical support team.

24° Tube Fittings-DIN 2353 & ISO 8434-1

Tubing guide

Seamless precision steel tube St 37.4

We recommend the use of seamless precision steel tubes with dimensions to DIN 2391, part 1, material conforming St. 37.4 to DIN 1630, NBK.

| Tube O.D (D) | Tolerance | Wall* Thickness (t) | Weight | Design Pressure | |
|--------------|-----------|---------------------|--------|-----------------|-----|
| | | | | DIN 2413 | |
| | | | | I | III |
| mm | mm | mm | kg/m | bar | bar |
| 4 | ±0,1 | 0,5 | 0,047 | 313 | 274 |
| 4 | | 0,75 | 0,060 | 409 | 391 |
| 4 | | 1 | 0,074 | 522 | 500 |
| 6 | ±0,1 | • 0,75 | 0,103 | 333 | 289 |
| 6 | | 1 | 0,123 | 389 | 372 |
| 6 | | 1,5 | 0,166 | 549 | 526 |
| 6 | | 2 | 0,197 | 692 | 662 |
| 6 | | 2,25 | 0,208 | 757 | 725 |
| 8 | ±0,1 | 1 | 0,173 | 333 | 288 |
| 8 | | 1,5 | 0,240 | 431 | 412 |
| 8 | | 2 | 0,296 | 549 | 526 |
| 8 | | 2,5 | 0,339 | 658 | 630 |
| 10 | ±0,1 | 1 | 0,222 | 282 | 248 |
| 10 | | 1,5 | 0,314 | 373 | 357 |
| 10 | | 2 | 0,395 | 478 | 458 |
| 10 | | 2,5 | 0,462 | 576 | 551 |
| 10 | | 3 | 0,518 | 666 | 638 |
| 12 | ±0,08 | • 1 | 0,271 | 235 | 209 |
| 12 | | 1,5 | 0,389 | 353 | 303 |
| 12 | | 2 | 0,493 | 409 | 391 |
| 12 | | 2,5 | 0,586 | 495 | 474 |
| 12 | | 3 | 0,606 | 576 | 551 |
| 12 | 3,5 | 0,734 | 651 | 624 | |
| 15 | ±0,08 | • 1 | 0,345 | 188 | 171 |
| 15 | | 1,5 | 0,499 | 282 | 248 |
| 15 | | 2 | 0,641 | 336 | 321 |
| 15 | | 2,5 | 0,771 | 409 | 391 |
| 15 | | 3 | 0,888 | 478 | 458 |
| 16 | ±0,08 | • 1 | 0,370 | 176 | 160 |
| 16 | | 1,5 | 0,536 | 264 | 234 |
| 16 | | 2 | 0,691 | 353 | 303 |
| 16 | | 2,5 | 0,832 | 386 | 370 |
| 16 | | 3 | 0,962 | 452 | 433 |
| 18 | ±0,08 | • 1 | 0,419 | 157 | 143 |
| 18 | | 1,5 | 0,610 | 235 | 209 |
| 18 | | 2 | 0,789 | 313 | 273 |
| 18 | | 2,5 | 0,956 | 348 | 333 |
| 18 | | 3 | 1,110 | 409 | 391 |

Reinforced tube inserts are recommended where thin-wall tubes are subject to severe strains.

* Permissible variation in wall thickness (DIN 2391)

■ Calculation Pressures :

- Calculated pressures to DIN 2413 part I for primarily static load conditions.
- Yield point (K) : 235 N/mm² (to DIN 1630)
- Safety factor (S) : 1.5
- Allowance factor (C)

$$P = \frac{20 \cdot K \cdot t \cdot c}{S \cdot D} \text{ (bar)}$$

| Tube O.D (D) | Tolerance | Wall* Thickness (t) | Weight | Design Pressure | |
|--------------|-----------|---------------------|--------|-----------------|-----|
| | | | | DIN 2413 | |
| | | | | I | III |
| mm | mm | mm | kg/m | bar | bar |
| 20 | ±0,08 | • 1,5 | 0,684 | 212 | 191 |
| 20 | | 2 | 0,888 | 282 | 249 |
| 20 | | 2,5 | 1,08 | 353 | 303 |
| 20 | | 3 | 1,26 | 373 | 357 |
| 20 | | 3,5 | 1,424 | 426 | 408 |
| 20 | 4 | 1,578 | 478 | 458 | |
| 22 | ±0,08 | • 1 | 0,518 | 128 | 118 |
| 22 | | 1,5 | 0,758 | 192 | 174 |
| 22 | | 2 | 0,986 | 256 | 227 |
| 22 | | 2,5 | 1,202 | 320 | 278 |
| 22 | 3 | 1,406 | 343 | 328 | |
| 25 | ±0,08 | 2 | 1,134 | 226 | 201 |
| 25 | | 2,5 | 1,387 | 282 | 248 |
| 25 | | 3 | 1,628 | 338 | 292 |
| 25 | | 4 | 2,072 | 394 | 378 |
| 25 | | 4,5 | 2,275 | 437 | 418 |
| 25 | 5 | 2,466 | 478 | 458 | |
| 28 | ±0,08 | 1,5 | 0,980 | 151 | 139 |
| 28 | | 2 | 1,282 | 201 | 181 |
| 28 | | 2,5 | 1,572 | 252 | 223 |
| 28 | | 3 | 1,850 | 302 | 264 |
| 28 | | 4 | 2,368 | 357 | 342 |
| 28 | 5 | 2,836 | 434 | 415 | |
| 30 | ±0,08 | • 2 | 1,381 | 188 | 171 |
| 30 | | 2,5 | 1,695 | 235 | 210 |
| 30 | | 3 | 2,00 | 282 | 248 |
| 30 | | 4 | 2,57 | 336 | 321 |
| 30 | | 5 | 3,08 | 409 | 391 |
| 35 | ±0,08 | 2 | 1,63 | 161 | 147 |
| 35 | | 2,5 | 2,00 | 201 | 181 |
| 35 | | 3 | 2,37 | 242 | 215 |
| 35 | | 4 | 3,06 | 322 | 280 |
| 35 | | 5 | 3,69 | 357 | 342 |
| 35 | | 6 | 4,29 | 419 | 401 |
| 38 | ±0,15 | • 2,5 | 2,189 | 186 | 168 |
| 38 | | 3 | 2,589 | 223 | 200 |
| 38 | | 4 | 3,35 | 297 | 260 |
| 38 | | 5 | 4,07 | 332 | 318 |
| 38 | | 6 | 4,74 | 390 | 373 |
| 38 | | 7 | 5,35 | 446 | 427 |
| 42 | | ±0,2 | • 2 | 1,973 | 134 |
| 42 | 3 | | 2,89 | 201 | 181 |
| 42 | 4 | | 3,75 | 269 | 237 |

- Calculated pressures to DIN 2413 part III for dynamic load conditions
- Yield point (K) : 225 N/mm² (DIN 2413 4.2.8)
- Safety factor (S) : 1.5

$$P = \frac{20 \cdot K \cdot t \cdot c}{S \cdot (D + t \cdot c)} \text{ (bar)}$$

Factor for consideration of wall thickness divergence for static and dynamic stress

| Tube Range | 4mm / 5mm | 6mm / 8mm | Larger |
|------------|-----------|-----------|--------|
| Factor(c) | 0.8 | 0.85 | 0.9 |

■ Note

For a diameter ratio of O.D / I.D > 1.35, calculation was made to DIN 2413 part III and based on a pulsating fatigue limit of 235 N/mm²

- Temperature range : -40°C to + 120°C without reduction in pressure.

Seamless precision stainless steel 1.4571

Stainless steel tubes (e.g. 1.4571), code X6CrNiMoTi 17122, must be cold-drawn seamless and heat-treated without formation of scale to Din 17458 with tolerances to DIN 2391, part 1.

The following tube wall thickness are suitable for use :

| Tube O.D (D) | Tolerance | Wall* Thickness (t) | Weight | Design Pressure | |
|--------------|-----------|---------------------|--------|-----------------|-----|
| | | | | DIN 2413 | |
| | | | | I | III |
| mm | mm | mm | kg/m | bar | bar |
| 4 | ±0.1 | 0.75 | 0.061 | 391 | 376 |
| 4 | | 1 | 0.075 | 500 | 480 |
| 6 | ±0.1 | 1 | 0.125 | 372 | 357 |
| 6 | | 1.5 | 0.168 | 526 | 505 |
| 6 | | 2 | 0.200 | 662 | 637 |
| 6 | | 2.25 | 0.211 | 725 | 696 |
| 8 | ±0.1 | 1 | 0.175 | 347 | 277 |
| 8 | | 1.5 | 0.244 | 412 | 396 |
| 8 | | 2 | 0.300 | 526 | 505 |
| 8 | | 2.5 | 0.344 | 630 | 604 |
| 10 | ±0.1 | 1 | 0.225 | 294 | 238 |
| 10 | | 1.5 | 0.319 | 357 | 343 |
| 10 | | 2 | 0.401 | 458 | 439 |
| 10 | | 2.5 | 0.469 | 551 | 529 |
| 10 | | 3 | 0.525 | 638 | 612 |
| 12 | ±0.08 | •1 | 0.275 | 245 | 201 |
| 12 | | 1.5 | 0.394 | 368 | 291 |
| 12 | | 2 | 0.501 | 391 | 376 |
| 12 | | 2.5 | 0.594 | 474 | 455 |
| 12 | | 3 | 0.615 | 551 | 529 |
| 12 | | 3.5 | 0.744 | 624 | 599 |
| 15 | ±0.08 | 1.5 | 0.507 | 294 | 238 |
| 15 | | 2 | 0.651 | 321 | 309 |
| 15 | | 2.5 | 0.782 | 391 | 376 |
| 15 | | 3 | 0.901 | 458 | 439 |
| 16 | ±0.08 | 2 | 0.701 | 368 | 291 |
| 16 | | 2.5 | 0.845 | 370 | 355 |
| 16 | | 3 | 0.977 | 433 | 416 |
| 18 | ±0.08 | •1.5 | 0.620 | 245 | 201 |
| 18 | | 2 | 0.801 | 327 | 262 |
| 18 | | 2.5 | 0.967 | 333 | 320 |
| 18 | | 3 | 1.126 | 391 | 376 |

| Tube O.D (D) | Tolerance | Wall* Thickness (t) | Weight | Design Pressure | |
|--------------|-----------|---------------------|--------|-----------------|-----|
| | | | | DIN 2413 | |
| | | | | I | III |
| mm | mm | mm | kg/m | bar | bar |
| 20 | ±0.08 | 2.5 | 1.095 | 368 | 291 |
| 20 | | 3 | 1.277 | 357 | 343 |
| 20 | | 3.5 | 1.443 | 408 | 392 |
| 20 | | 4 | 1.600 | 458 | 439 |
| 22 | ±0.08 | •2 | 1.002 | 267 | 218 |
| 22 | | 2.5 | 1.220 | 334 | 267 |
| 22 | | 3 | 1.426 | 328 | 315 |
| 25 | ±0.08 | •2.5 | 1.152 | 235 | 193 |
| 25 | | 2.5 | 1.408 | 294 | 238 |
| 25 | | 3 | 1.635 | 353 | 281 |
| 25 | | 4 | 2.092 | 378 | 363 |
| 25 | | 4.5 | 2.307 | 418 | 402 |
| 25 | 5 | 2.501 | 458 | 439 | |
| 28 | ±0.08 | 2 | 1.302 | 210 | 174 |
| 28 | | 2.5 | 1.594 | 263 | 214 |
| 28 | | 3 | 1.874 | 315 | 253 |
| 28 | | 4 | 2.402 | 342 | 328 |
| 28 | | 5 | 2.876 | 415 | 399 |
| 30 | ±0.08 | 3 | 2.028 | 294 | 238 |
| 30 | | 4 | 2.605 | 321 | 309 |
| 30 | | 5 | 3.400 | 391 | 376 |
| 35 | ±0.15 | 2 | 1.644 | 168 | 141 |
| 35 | | 2.5 | 2.018 | 210 | 174 |
| 35 | | 3 | 2.392 | 252 | 206 |
| 35 | | 4 | 3.086 | 336 | 269 |
| 35 | | 5 | 3.742 | 342 | 328 |
| 35 | | 6 | 4.351 | 401 | 385 |
| 38 | ±0.15 | 4 | 3.405 | 309 | 249 |
| 38 | | 5 | 4.131 | 318 | 305 |
| 38 | | 6 | 4.807 | 373 | 358 |
| 38 | | 7 | 5.426 | 427 | 410 |
| 42 | ±0.2 | 3 | 2.930 | 210 | 174 |
| 42 | | 4 | 3.798 | 280 | 227 |

- Reinforced tube inserts are recommended where thin-wall tubes are subject to severe strains.

* Permissible variation in wall thickness (DIN 2391)

■ Calculation Pressures :

- Calculated pressures to DIN 2413 part I for primarily static load conditions.
- Yield point (K) : 245 N/mm² (to DIN 17458)
- Safety factor (S) : 1.5
- Allowance factor (C)

$$P = \frac{20 \cdot K \cdot t \cdot c}{S \cdot D} \text{ (bar)}$$

- Calculated pressures to DIN 2413 part III for dynamic load conditions
- Yield point (K) : 216 N/mm² (assumed value)
- Safety factor (S) : 1.5

$$P = \frac{20 \cdot K \cdot t \cdot c}{S \cdot (D + t \cdot c)} \text{ (bar)}$$

Factor for consideration of wall thickness divergence for static and dynamic stress

| Tube Range | 4mm / 5mm | 6mm / 8mm | Larger |
|------------|-----------|-----------|--------|
| Factor(c) | 0.8 | 0.85 | 0.9 |

■ Note

For a diameter ratio of O.D / I.D > 1.35, calculation was made to DIN 2413 part III and based on a pulsating fatigue limit of 225 N/mm²

- Temperature range : -60°C to + 400°C

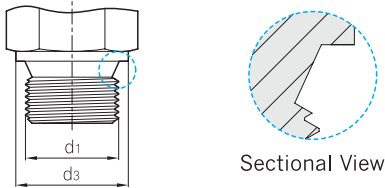
Reduction in pressure for higher temperatures (See page 3)

Stud Ends & Tapped Hole Forms for tube Fittings

This standard specifies dimensions for stud ends and tapped holes with metric fine pitch thread and pipe thread for use with compression fittings, valves and screw plugs.

Forms of Stud Ends

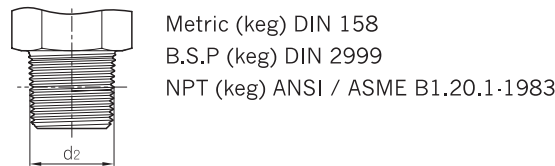
Form A (DIN 3852 Part 1+2)
with sealing by washer



Form B (DIN 3852 Part 1+2)
with sealing by compression
against face of body



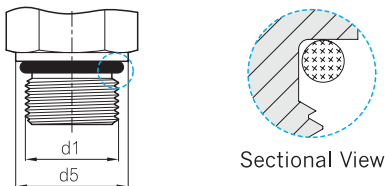
Form C (DIN 3852 Part 1+2)
with sealing in tapered thread



Form E (DIN 3852 Part 11)
with sealing by DIN 3869 ring seals (*ED-Ring)



Form F (DIN 3852 Part 3)
with sealing by *O-Ring



| Thread size | | d ₃ | d ₄ ^{0/-0.2} | d ₅ ±0.1 |
|---|---------------------------------|----------------|----------------------------------|---------------------|
| Form A,B and E,F stud ends d ₁ | Form C stud ends d ₂ | | | |
| M 8 x 1.0 | M 8 x 1.0 keg. | - | - | 10.9 |
| M10 x 1.0 | M10 x 1.0 keg. | 14 | 13.9 | 12.9 |
| M12 x 1.5 | M12 x 1.5 keg. | 17 | 16.9 | 16.9 |
| M14 x 1.5 | M14 x 1.5 keg. | 19 | 18.9 | 18.9 |
| M16 x 1.5 | M16 x 1.5 keg. | 21 | 21.9 | 20.9 |
| M18 x 1.5 | M18 x 1.5 keg. | 23 | 23.9 | 22.9 |
| M20 x 1.5 | M20 x 1.5 keg. | 25 | 25.9 | 24.9 |
| M22 x 1.5 | M22 x 1.5 keg. | 27 | 26.9 | 26.9 |
| M26 x 1.5 | - | 31 | 31.9 | 30.9 |
| M27 x 2.0 | - | 32 | 31.9 | 31.9 |
| M33 x 2.0 | - | 39 | 39.9 | 37.9 |
| M42 x 2.0 | - | 49 | 49.9 | 47.9 |
| M48 x 2.0 | - | 55 | 54.9 | 54.9 |
| G 1/8 | 1/8 NPT | 14 | 13.9 | - |
| G 1/4 | 1/4 NPT | 18 | 18.9 | - |
| G 3/8 | 3/8 NPT | 22 | 21.9 | - |
| G 1/2 | 1/2 NPT | 26 | 26.9 | - |
| G 3/4 | 3/4 NPT | 32 | 31.9 | - |
| G 1 | 1 NPT | 39 | 39.9 | - |
| G 1 1/4 | 1 1/4 NPT | 49 | 49.9 | - |
| G 1 1/2 | 1 1/2 NPT | 55 | 54.9 | - |
| 7/16 - 20UNF | R 1/8 keg. | - | - | 14.4 |
| 9/16 - 18UNF | R 1/4 keg. | - | - | 17.6 |
| 3/4 - 16UNF | R 3/8 keg. | - | - | 22.3 |
| 7/8 - 14UNF | R 1/2 keg. | - | - | 25.5 |
| 1 1/16 - 12UN | R 3/4 keg. | - | - | 31.9 |
| 1 5/16 - 12UN | R 1 keg. | - | - | 38.2 |
| 1 5/8 - 12UN | R 1 1/4 keg. | - | - | 47.7 |
| - | R 1 1/2 keg. | - | - | - |

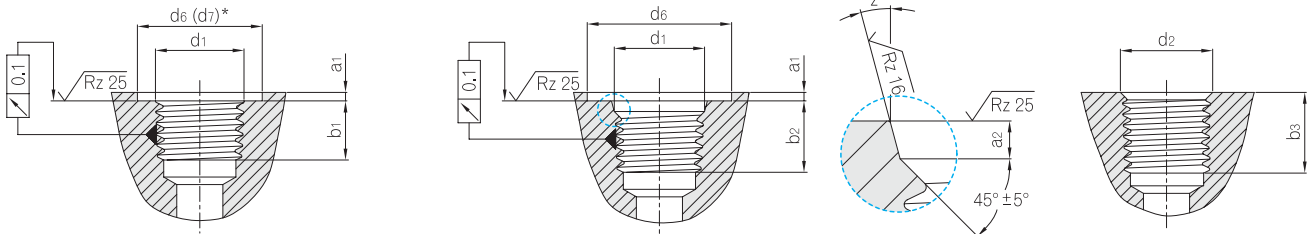
* ED-Ring & O-Ring Seals are made in compliance with NBR Standard (-20°C to 90°C)
Viton is available on request (-20°C to 200°C)

Forms of Tapped Holes

Form X (DIN 3852 Part 1+2)
for parallel Stud Ends. (Form A,B)
* d₇ is for Stud Ends Form E

Form W (DIN 3852 Part 3)
for Stud Ends with O-Ring. (Form F)

Form Z (DIN 3852 Part 1+2)
for tapered thread Stud Ends.



| Thread size | | d ₆ | d ₇ | a ₁ | a ₂ ^{+0.4} ₀ | b ₁ | b ₂ | b ₃ | α [°] _{±1°} |
|--|--|----------------|----------------|----------------|---|----------------|----------------|----------------|-------------------------------|
| Form X,W Tapped Holes d ₁ | Form Z Tapped Holes d ₂ | min | | max | | min | min | min | |
| M 8 x 1.0 | M 8 x 1.0 keg. | 13 | - | 1.0 | 1.6 | - | 10.0 | 5.5 | 12 |
| M10 x 1.0 | M10 x 1.0 keg. | 15 | 15 | 1.0 | 1.6 | 8 | 10.0 | 5.5 | 12 |
| M12 x 1.5 | M12 x 1.5 keg. | 18 | 18 | 1.5 | 2.4 | 12 | 11.5 | 8.5 | 12 |
| M14 x 1.5 | M14 x 1.5 keg. | 20 | 20 | 1.5 | 2.4 | 12 | 11.5 | 8.5 | 15 |
| M16 x 1.5 | M16 x 1.5 keg. | 22 | 23 | 1.5 | 2.4 | 12 | 13.0 | 8.5 | 15 |
| M18 x 1.5 | M18 x 1.5 keg. | 24 | 25 | 2.0 | 2.4 | 12 | 14.5 | 8.5 | 15 |
| M20 x 1.5 | M20 x 1.5 keg. | 26 | 27 | 2.0 | 2.4 | 14 | 14.0 | 10.5 | 15 |
| M22 x 1.5 | M22 x 1.5 keg. | 28 | 28 | 2.5 | 2.4 | 14 | 15.5 | 10.5 | 15 |
| M26 x 1.5 | - | 32 | 33 | 2.5 | 3.1 | 16 | 16.0 | - | 15 |
| M27 x 2.0 | - | 33 | 33 | 2.5 | 3.1 | 16 | 19.0 | - | 15 |
| M33 x 2.0 | - | 40 | 41 | 2.5 | 3.1 | 18 | 19.0 | - | 15 |
| M42 x 2.0 | - | 50 | 51 | 2.5 | 3.1 | 20 | 19.5 | - | 15 |
| M48 x 2.0 | - | 56 | 56 | 2.5 | 3.1 | 22 | 22 | - | 15 |
| G 1/8 | 1/8 NPT | 15 | 15 | 1.0 | - | 8 | - | 6.9 | - |
| G 1/4 | 1/4 NPT | 19 | 20 | 1.5 | - | 12 | - | 10.0 | - |
| G 3/8 | 3/8 NPT | 23 | 23 | 2.0 | - | 12 | - | 10.3 | - |
| G 1/2 | 1/2 NPT | 27 | 28 | 2.5 | - | 14 | - | 13.6 | - |
| G 3/4 | 3/4 NPT | 33 | 33 | 2.5 | - | 16 | - | 14.1 | - |
| G 1 | 1 NPT | 40 | 41 | 2.5 | - | 18 | - | 16.8 | - |
| G 1 1/4 | 1 1/4 NPT | 50 | 51 | 2.5 | - | 20 | - | 17.3 | - |
| G 1 1/2 | 1 1/2 NPT | 56 | 56 | 2.5 | - | 22 | - | 17.3 | - |
| 7/16 - 20UNF | R 1/8 keg. | 21 | - | 1.6 | 2.4 | - | 11.5 | 5.5 | 12 |
| 9/16 - 18UNF | R 1/4 keg. | 25 | - | 1.6 | 2.5 | - | 12.7 | 8.5 | 12 |
| 3/4 - 16UNF | R 3/8 keg. | 30 | - | 2.4 | 2.5 | - | 14.3 | 8.5 | 15 |
| 7/8 - 14UNF | R 1/2 keg. | 34 | - | 2.4 | 2.5 | - | 16.7 | 10.5 | 15 |
| 1 1/16 - 12UN | R 3/4 keg. | 41 | - | 2.4 | 3.3 | - | 19.0 | 13.0 | 15 |
| 1 5/16 - 12UN | R 1 keg. | 49 | - | 3.2 | 3.3 | - | 19.0 | 16.0 | 15 |
| 1 5/8 - 12UN | R 1 1/4 keg. | 58 | - | 3.2 | 3.3 | - | 19.0 | 17.0 | 15 |
| - | R 1 1/2 keg. | - | - | - | - | - | - | 17.0 | - |

24° Tube Fittings-DIN 2353 & ISO 8434-1

Tightening Torques for Studs

- Recommend tightening torques MA
The table below shows the Nm value for studs to avoid leakages.
- Sealing of taper thread
Taper threads are not self-sealing. To achieve a leakproof seal an additional sealant is necessary.
A well-established sealing-medium is PTFE-tape(e.g.Teflon)
- Note
The quoted figures relate to fittings out of steel(galvanized) and to counterpart made of steel.
Lubricate stud with hydraulic oil before screwing in.

unit : MA(Nm)

| BSPP straight port connections | | | Straight male stud fittings with port tapping | | | | | Banjo fittings | | Adjustable ends | | Blanking plugs | | Non-return valves |
|--------------------------------|----------|---------------|---|------------------|------------------------|----------------------------|--|----------------|-------|---------------------------|--------|--------------------------|---------------------|-------------------|
| Series | Tube O.D | T Thread Size | Form A for sealing washer | Form B with face | Form E with ED sealing | Form F with O-ring sealing | O-ring with sealing and retaining ring | DWH / DTH | DSWVE | O-ring and retaining ring | O-ring | DVSTI-ED with ED sealing | DCV with ED sealing | |
| L | 6 | 1/8 | 9 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 13 | 18 | |
| | 8 | 1/4 | 35 | 35 | 35 | 35 | 35 | 45 | 40 | 35 | 35 | 30 | 35 | |
| | 10 | 1/4 | 35 | 35 | 35 | 35 | 35 | 45 | 40 | 35 | 35 | | 35 | |
| | 12 | 3/8 | 45 | 70 | 70 | 70 | 70 | 70 | 65 | 70 | 70 | 60 | 50 | |
| | 15 | 1/2 | 65 | 140 | 140 | 90 | 90 | 120 | 90 | 110 | 110 | 80 | 85 | |
| | 18 | 1/2 | 65 | 100 | 100 | 90 | 90 | 120 | 90 | 110 | 110 | | 65 | |
| | 22 | 3/4 | 90 | 180 | 180 | 180 | 180 | 230 | 125 | 180 | 180 | 140 | 140 | |
| | 28 | 1 | 150 | 330 | 330 | 310 | 310 | 320 | | 310 | 310 | 200 | 190 | |
| | 35 | 1 1/4 | 240 | 540 | 540 | 450 | 450 | 540 | | 450 | 450 | 400 | 360 | |
| 42 | 1 1/2 | 290 | 630 | 630 | 540 | 540 | 700 | | 540 | 540 | 450 | 540 | | |
| S | 6 | 1/4 | 35 | 55 | 40 | 40 | | 45 | 40 | 55 | 55 | | 45 | |
| | 8 | 1/4 | 35 | 55 | 40 | 40 | | 45 | 40 | 55 | 55 | | 45 | |
| | 10 | 3/8 | 45 | 90 | 80 | 80 | | 70 | 65 | 90 | 90 | | 60 | |
| | 12 | 3/8 | 45 | 90 | 80 | 80 | | 70 | 65 | 90 | 90 | | 60 | |
| | 14 | 1/2 | 65 | 150 | 115 | 115 | | 120 | 90 | 110 | 110 | | 145 | |
| | 16 | 1/2 | 65 | 130 | 115 | 115 | | 120 | 90 | 110 | 110 | | 100 | |
| | 20 | 3/4 | 90 | 270 | 180 | 180 | | 230 | 125 | 115 | 115 | | 145 | |
| | 25 | 1 | 150 | 340 | 310 | 310 | | 320 | | 420 | 420 | | 260 | |
| | 30 | 1 1/4 | 240 | 540 | 450 | 450 | | 540 | | 550 | 550 | | 360 | |
| 38 | 1 1/2 | 290 | 700 | 540 | 540 | | 700 | | 600 | 600 | | 540 | | |

unit : MA(Nm)

| Metric straight port connections | | | Straight male stud fittings with port tapping | | | | | Banjo fittings | | Adjustable ends | | Blanking plugs | | Non-return valves |
|----------------------------------|----------|-------------|---|------------------|------------------------|----------------------------|--|----------------|-------|---------------------------|--------|--------------------------|---------------------------|---------------------|
| Series | Tube O.D | Thread Size | Form A for sealing washer | Form B with face | Form E with ED sealing | Form F with O-ring sealing | O-ring with sealing and retaining ring | DWH / DTH | DSWVE | O-ring and retaining ring | O-ring | DVSTI-ED with ED sealing | DVSTI with O-ring sealing | DCV with ED sealing |
| L | 6 | M10x1.0 | 9 | 18 | 18 | 15 | 18 | 18 | 18 | 18 | 15 | 12 | 20 | 18 |
| | 8 | M12x1.5 | 20 | 30 | 25 | 25 | 35 | 45 | 35 | 35 | 25 | 25 | | 25 |
| | 10 | M14x1.5 | 35 | 45 | 45 | 35 | 45 | 55 | 50 | 45 | 35 | 35 | | 35 |
| | 12 | M16x1.5 | 45 | 65 | 55 | 40 | 55 | 80 | 60 | 55 | 40 | 50 | | 50 |
| | 15 | M18x1.5 | 55 | 80 | 70 | 45 | 70 | 100 | 80 | 70 | 45 | 65 | | 70 |
| | 18 | M22x1.5 | 65 | 140 | 125 | 60 | 160 | 140 | 120 | 180 | 60 | 90 | | 125 |
| | 22 | M26x1.5 | 90 | 190 | 180 | 100 | 250 | 320 | 130 | 180 | 100 | 135 | | 145 |
| | 28 | M33x2.0 | 150 | 340 | 310 | 160 | 310 | 360 | | 310 | 160 | 225 | | 210 |
| | 35 | M42x2.0 | 240 | 500 | 450 | 210 | 450 | 540 | | 450 | 210 | 360 | | 360 |
| 42 | M48x2.0 | 290 | 630 | 540 | 260 | 540 | 700 | | 600 | 260 | 360 | | 540 | |
| S | 6 | M12x1.5 | 20 | 35 | 40 | 35 | | 45 | 35 | 35 | 35 | | 35 | 35 |
| | 8 | M14x1.5 | 35 | 55 | 40 | 45 | | 55 | 50 | 60 | 45 | | 45 | 45 |
| | 10 | M16x1.5 | 45 | 70 | 70 | 55 | | 80 | 60 | 95 | 55 | | 55 | 55 |
| | 12 | M18x1.5 | 55 | 110 | 90 | 70 | | 100 | 80 | 120 | 90 | | 70 | 70 |
| | 14 | M20x1.5 | 55 | 150 | 125 | 80 | | 125 | 110 | | | 80 | 80 | 100 |
| | 16 | M22x1.5 | 65 | 170 | 135 | 100 | | 135 | 120 | 190 | 100 | | 100 | 125 |
| | 20 | M27x2.0 | 90 | 270 | 180 | 170 | | 320 | 135 | 190 | 170 | | 170 | 135 |
| | 25 | M33x2.0 | 150 | 410 | 310 | 310 | | 360 | | 500 | 310 | | 310 | 210 |
| | 30 | M42x2.0 | 240 | 540 | 450 | 330 | | 540 | | 600 | 330 | | 330 | 360 |
| 38 | M48x2.0 | 290 | 700 | 540 | 420 | | 700 | | 600 | 420 | | 420 | 540 | |

Ordering Information

Example 1. Tube to Tube Connection

DT - 12 S - S316
 ① ② ③ ⑥

Example 3. Tube to Tube Port

DEW - 16 S - S316
 ① ② ③ ⑥

Example 5. Banjo Fitting

DWH - 16 S - 04G - S316
 ① ② ③ ④ ⑥

Example 2. Tube to Thread Connection

DMC - 10 L - 02G ED - S316
 ① ② ③ ④ ⑤ ⑥

Example 4. Tube Port to Female Port

DMC - 16 S - 04G ED - STEL
 ① ② ③ ④ ⑤ ⑥

Example 6. Male / Female Adapter

MFAE - 04G . 03G - STEL
 ① ④ ⑥

- ① Name of Fitting : "Refer to Index"
- ② Tube O.D : See Tube O.D Designator
- ③ Series : See Series Designator
- ④ Thread Connection : See Thread Designator
- ⑤ Elastomer Seal : ED-Ring (Refer to seal materials)
- ⑥ Material : See Material Designator

Tube O.D Designator

| | | | | | | |
|------------|-----|-----|-----|-------|------|------|
| Tube O.D | 4mm | 6mm | 8mm | | 38mm | 42mm |
| Identifier | 04 | 06 | 08 | | 38 | 42 |

Series Designator

| | | | |
|------------|------------|-------|-------|
| Series | Very Light | Light | Heavy |
| Identifier | LL | L | S |

Thread Designator (Pipe Thread)

| | | | | | | | | | |
|--------------|-------------------------------------|------|------|------|------|------|-----|--------|--------|
| Nominal Size | | 1/8" | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" |
| Identifier | ANSI / ASME B1.20.1 NPT | 01N | 02N | 03N | 04N | 06N | 08N | 10N | 12N |
| | DIN-ISO228(DIN 259) BSP/Parallel | 01G | 02G | 03G | 04G | 06G | 08G | 10G | 12G |
| | DIN-2999 BSP Tapered | 01R | 02R | 03R | 04R | 06R | 08R | 10R | 12R |

Thread Designator (Metric Thread)

| | | | | | | | | | | |
|-------------|------------------------|----------|-----------|-----------|-----------|-------|-----------|-----------|-----------|-----------|
| Metric Size | | M8 x 1.0 | M10 x 1.0 | M12 x 1.5 | M14 x 1.5 | | M27 x 2.0 | M33 x 2.0 | M42 x 2.0 | M48 x 2.0 |
| Identifier | DIN 158 Taper (Keg) | M8K | M10K | M12K | M14K | | | | | |
| | DIN-13 Parallel | M8 | M10 | M12 | M14 | | M27 | M33 | M42 | M48 |










Thread Designator (Unified)

| | | | | | | | |
|------------|------------|------------|-----------|-----------|-------------|-------------|------------|
| Size | 7/16-20UNF | 9/16-18UNF | 3/4-16UNF | 7/8-14UNF | 1 1/16-12UN | 1 5/16-12UN | 1 5/8-12UN |
| Identifier | 04U | 06U | 08U | 10U | 12U | 16U | 20U |

Material Designator

| | | | | |
|------------|-------------------------|--------------------|--------------------|-------|
| Material | Carbon Steel (DIN 3859) | Stainless Steel | | Brass |
| | | DIN 17440 / 1.4571 | ASTM A479 TYPE 316 | |
| Identifier | STEL | 4571 | S316 | BRAS |

24° Tube Fittings-DIN 2353 & ISO 8434-1

| Tube to Tube | | Page | EO | EMB | VOLZ | VOSS | WALPRO |
|---|--|------|-----|-----|------|------------------|--------|
|  | DU 15 Straight Union | 15 | G | E | G-V | 111... 112... | P-GV |
|  | DL 15 Union Elbow | 15 | W | F | W-V | 119... 120... | P-WV |
|  | DUR 16 Reducing Union | 16 | GR | ER | GR-V | | P-GV |
|  | DT 17 Union Tee | 17 | T | G | T-V | 133... 134... | P-TV |
|  | DC 17 Union Cross | 17 | K | H | K-V | 135... 136... | P-KV |
|  | DTR 18 Reducing Tee | 18 | TR | GR | | | P-TV |
|  | DBU 19 Bulkhead Union | 19 | SV | K | GS-V | 137... | P-GSV |
|  | DBUW 19 Welding Bulkhead Union | 19 | ESV | N | ES-V | 141... | P-ESV |
|  | DBL 20 Bulkhead Union Elbow | 20 | WSV | L | WS-V | 138... | P-WSV |

Tube to Female Port










| | | | | | | |
|---|--|--------------------|-----------------------|----------------|------------------------------|-------------------------|
|  | DOM-U / M 21 Male Connector (UNF / Metric) with O-Ring | GE-UNF / UN GEO | A / UNF / UN A / O | | 182... | P-GEV.U P-GEV.M-FO.F |
|  | DMC-G 22 Male Connector (ISO/BSP Tapered) | GE-R | AP-R | GE-V..RK | 103...104... | P-GEV..RK |
|  | DMC-R 23 Male Connector (ISO/BSP Parallel) | GE-R | A-R | GE-V..R | 110... | P-GEV..R |
|  | DMC-M 24 Male Connector (Metric) | GE-M | A-M | GE-V..M | 109... | P-GEV..M |
|  | DMC-GED 25 Male Connector (ISO/BSP Parallel) with ED-Ring | GE-R-ED | A-RWD | GE-V..RWD | 184... | P-GEV..R-WD |
|  | DMC-MED 26 Male Connector (Metric) with ED-Ring | GE-M-ED | A-MWD | GE-V..MWD | 184... | P-GEV..M-WD |
|  | DMC-N 27 Male Connector (NPT) | GE-NPT | A/NPT | GE-V..NPT | 105...106 | P-GEV..NPT |
|  | DLM-R / M 28 Male Elbow (ISO/BSP Tapered / Metric) | WE-R -M | B-R -M | WE-V..R ..M | 115...116... 113...114... | P-WEV..RK ..MK |

Illustration chart for reference only

Tube to Male Thread

| | Page | EO | EMB | VOLZ | VOSS | WALPRO |
|--|------|-------------|------------|----------------|------------------|-----------------|
|  DFC-G / M 29 Female Connector (ISO/BSP Parallel / Metric) | 29 | GAI-R -M | AL-R -M | GAIV..R ..M | 144... 143... | P-GAV..R ..M |

Tube to Tube Port (Adjustable Fittings)

| | | | | | | |
|--|----|-----|----------------|-------|----------|-----------|
|  DLA 30 Adjustable Elbow | 30 | EVW | VB | EW-V | 158... | P-EWV-SV |
|  DBTA 30 Adjustable Branch Tee | 30 | EVT | VC | ET-V | 160... | P-ETV-SV |
|  DRTA 31 Adjustable Run Tee | 31 | EVL | VD | EL-V | 162... | P-ELV-SV |
|  DEW 31 Swivel Adjustable Elbow | 31 | EW | VBDKO | EWVD | | P-EWVD |
|  DET 32 Swivel Adjustable Branch Tee | 32 | ET | VCDKO | ETVD | | P-ETVD |
|  DEL 32 Swivel Adjustable Run Tee | 32 | EL | VDDKO | ELVD | | P-ELVD |
|  DKOR 33 Stand Pipe Reducer | 33 | KOR | RL,RS | | | |
|  DR 34 Reducer | 34 | KOR | | KOR-V | 148...78 | P-REDV-SV |
|  DRED 35 Swivel Reducing Tube Adaptor | 35 | RED | RLDKO RSDKO | REDV | | P-REDVD |

Tube Port To Female Port









| | | | | | | |
|--|----|--------------------|------------------|---------------------|------------------|------------------------------|
|  DA-GED / MED 36 Adaptor (ISO/BSP Parallel / Metric) with ED-Ring | 36 | EVGE-R-ED -M-ED | VA-RWD -MWD | EG-V ..RWD ..MWD | 177... 174... | P-EGES..R-WD-SV ..M-WD-SV |
|  DEGE-G / M 37 Swivel Adaptor (ISO/BSP Parallel / Metric) with ED-Ring | 37 | EGE-R-ED -M-ED | VADKO-RWD MWD | EGVD ..RWD ..MWD | | EGESD..R-WD ..M..WD |

Illustration chart for reference only

24° Tube Fittings-DIN 2353 & ISO 8434-1

| Tube Port to Tube Port | | Page | EO | EMB | VOLZ | VOSS | WALPRO |
|---|-------------------------------------|------|----|------|------|------|--------|
|  | DUE 38 Swivel Union | | GE | EDKO | EDKV | | SNV |

Banjo Fittings

| | | | | | | |
|---|---|--------------|-------------|-------------------|--------------------------------|------------------|
|  | DSWVE-G / M 39 Banjo Fitting (ISO/BSP Parallel / Metric) | SWVE-R -M | SBD-R -M | | 152.../153... 150.../151... | |
|  | DWH-G / M 40 High Pressure Banjo Fitting (ISO/BSP Parallel / Metric) | WH-R -M | SBE-R -M | EWHV...R -...M | 157... 155... | P-RSWV..R ..M |
|  | DTH-G / M 41 High Pressure Banjo Fitting (ISO/BSP Parallel / Metric) | TH-R -M | SGE-R -M | ETHV...R -...M | | P-RSTV..R ..V |
|  | DSVW-G / M 42 Throttlefree Banjo Fitting (ISO/BSP Parallel / Metric) | DSVW-R -M | SB-R -B | | | |
|  | DSVT-G / M 43 Throttlefree Banjo Fitting (ISO/BSP Parallel / Metric) | DSVT-R -M | SG-R -M | | | |

Gauge Connector & Test Couplings














| | | | | | | |
|---|---|------|-------|----------|--------|---------------|
|  | DGC-G 44 Pressure Gauge Connector (ISO/BSP Parallel) | MAV | O | MA-V...R | 142... | V-MAV...R |
|  | DGE-G 44 Swivel Gauge Adaptor (ISO/BSP Parallel) | MAVE | VODKO | MAVD...R | | EMASD... |
|  | DGA-G 44 Gauge Adaptor (ISO/BSP Parallel) | | | MAEV...R | | P-EMAS...R-SV |
|  | DGMA 45 Tee Test Coupling with Threaded Connection M16 | GMA3 | | | | |
|  | DEMA 45 Test Coupling with Threaded Connection M16 | EMA3 | | | | |





Illustration chart for reference only

| Weld Fittings | | Page | EO | EMB | VOLZ | VOSS | WALPRO |
|---|--|------|------|------|----------|--------|--------|
|  | DAS 46 Welding Connector | 46 | AS | V | GAS-V | 139... | P-ASV |
|  | DASK 46 Welding Connector | 46 | ASK | ESNO | ASKK..OD | | |
|  | DAK 47 Welding Nipple | 47 | SKA | SNO | SK-A..OD | 070... | SN |
|  | DAK 47 Reducing Welding Nipple | 47 | SKAR | SNR | | | |

Male & Female Adaptors

| | | | | | | | |
|---|---|----|-------|-------|----------|--------|----------|
|  | H-MFAD 49 Male Female Adaptor | 49 | RI | RI | RIAS | 149... | RED |
|  | H-MFAE 49 Male Female Adaptor | 49 | RI | RI | RIBS | 149... | RED |
|  | H-MFAD-ED 50 Male Female Adaptor with ED-Ring | 50 | RI-ED | RI-WD | RIAS..WD | | RED...WD |
|  | H-MFAE-ED 50 Male Female Adaptor with ED-Ring | 50 | RI-ED | RI-WD | RIBS..WD | | RED...WD |

Plugs and Caps

| | | | | | | | |
|---|---|----|-------------------|-------------------|-----------|--------|-------|
|  | DVSTI-GED/MED 51 Blanking Plug (ISO/BSP Parallel / Metric) with ED-Ring for ports | 51 | VSIT R-ED M-ED | VSCH ·RWD ·MWD | VSCH..WD | 189... | |
|  | DVSTI 51 Blanking Plug (Metric) with O-Ring for ports | 51 | VSIT M-OR | | | | |
|  | DVKA 52 Blanking Plug with O-Ring | 52 | VKA | STO-O | VSTO...OD | | VS... |
|  | DCA 52 Tube Cap | 52 | ROV | VSCHK | EVSV | | |

Plugs and Caps














| | | | | | | | |
|---|---|----|----|-----|------|--------|----|
|  | DIL 53 Tube Insert | 53 | VH | VSH | VS-H | 020... | EH |
|  | N- 53 Bulkhead Lock Nut | 53 | GM | GM | G-M | 080... | |

Illustration chart for reference only

24° Tube Fittings-DIN 2353 & ISO 8434-1

| Spare Parts | | Page | EO | EMB | VOLZ | VOSS | WALPRO |
|---|---|------|------|------|------|--------|------------|
|  | DKA 54 Sealing Ring for DWH / DTH and DSWVE | | DKA | DKA | DKRA | 080... | |
|  | DKAZ 54 Sealing Ring for DSVW and DSVT | | DKAZ | DKAD | | 081... | |
|  | DKI 54 Sealing Ring for DGC / DGE and DGA | | DKI | DKI | DKRI | 080... | DKR |
|  | KP-B-S 54 ED-Ring | | ED | | WD-R | | |
|  | KP-B-DS 54 O-Ring | | OR | | OD-R | | |
|  | DN 55 Nut | | M | M | U-M | 004 | M |
|  | DS 55 Cutting Ring | | DPR | S | S-DR | 007... | S-R P-R |
|  | DFSR 56 Functional Soft Sealing Ring | | FM | | | | |
|  | DSRR 56 Soft Sealing Ring (with Retaining Ring) | | | | | | |

Ball Valves

| | | | | | | | |
|---|---|----------|--|--|--|--|----------|
|  | BVDT-L/S 58 Ball Valves | KH... | | | | | P-KHV... |
|  | BVDF-G 58 Ball Valves | KH... | | | | | KH-R... |
|  | BVDF-N 58 Ball Valves | KH...NPT | | | | | |

Non Return Valves




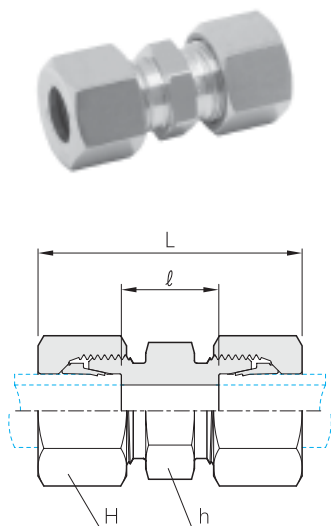
| | | | | | | |
|---|--|-------------------|----------------|---------------------|------------------|-------------------------|
|  | DCV 59 Non Return Valves | RHD | RD | RS-V | 600... | P-RV |
|  | DCV-GED-L/S MED-L/S 60 Non Return Valves | RHV-R-ED -M-ED | RV-RWD -MWD | RSVV...RWD ..MWD | 602... 601... | P-RVV...R-WD ...M-WD |
|  | DCV-L/S-GED L/S-MED 61 Non Return Valves | RHZ-R-ED -M-ED | RZ-RWD -MWD | RSVZ...RWD ..MWD | 604... 603... | P-RVZ...R-WD ...M-WD |

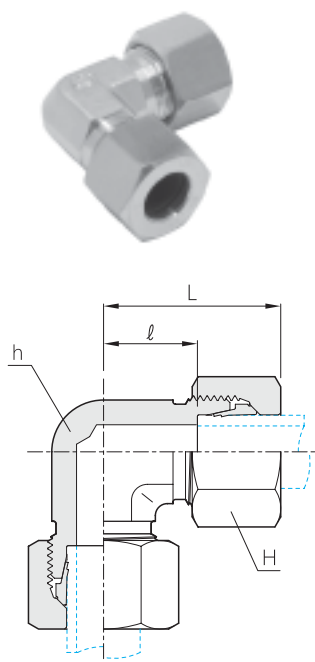
Illustration chart for reference only

Straight Union
DU



| Series | Part No. | Tube O.D. | H | h | L | ℓ | PN(bar) | | |
|--------|-----------|-----------|----|----|----|----|---------|-------|-------|
| | | | | | | | C.Steel | SS316 | BRASS |
| LL | DU - 04LL | 4 | 10 | 9 | 31 | 12 | 100 | 100 | 63 |
| | DU - 06LL | 6 | 12 | 11 | 32 | 9 | 100 | 100 | 63 |
| | DU - 08LL | 8 | 14 | 12 | 35 | 12 | 100 | 100 | 63 |
| | DU - 10LL | 10 | 17 | 14 | 35 | 12 | 100 | 100 | 63 |
| | DU - 12LL | 12 | 19 | 17 | 35 | 11 | 100 | 100 | 63 |
| L | DU - 06L | 6 | 14 | 12 | 39 | 10 | 500 | 315 | 200 |
| | DU - 08L | 8 | 17 | 14 | 40 | 11 | 500 | 315 | 200 |
| | DU - 10L | 10 | 19 | 17 | 42 | 13 | 500 | 315 | 200 |
| | DU - 12L | 12 | 22 | 19 | 43 | 14 | 400 | 315 | 200 |
| | DU - 15L | 15 | 27 | 24 | 46 | 16 | 400 | 315 | 200 |
| | DU - 18L | 18 | 32 | 27 | 48 | 16 | 400 | 315 | 200 |
| | DU - 22L | 22 | 36 | 32 | 52 | 20 | 250 | 160 | 100 |
| | DU - 28L | 28 | 41 | 41 | 54 | 21 | 250 | 160 | 100 |
| | DU - 35L | 35 | 50 | 46 | 63 | 20 | 250 | 160 | 100 |
| | DU - 42L | 42 | 60 | 55 | 66 | 21 | 250 | 160 | 100 |
| S | DU - 06S | 6 | 17 | 14 | 45 | 16 | 800 | 630 | 400 |
| | DU - 08S | 8 | 19 | 17 | 47 | 18 | 800 | 630 | 400 |
| | DU - 10S | 10 | 22 | 19 | 49 | 17 | 800 | 630 | 400 |
| | DU - 12S | 12 | 24 | 22 | 51 | 19 | 630 | 630 | 400 |
| | DU - 14S | 14 | 27 | 24 | 57 | 22 | 630 | 630 | 400 |
| | DU - 16S | 16 | 30 | 27 | 57 | 21 | 630 | 400 | 250 |
| | DU - 20S | 20 | 36 | 32 | 66 | 23 | 420 | 400 | 250 |
| | DU - 25S | 25 | 46 | 41 | 74 | 26 | 420 | 400 | 250 |
| | DU - 30S | 30 | 50 | 46 | 80 | 27 | 420 | 400 | 250 |
| | DU - 38S | 38 | 60 | 55 | 90 | 29 | 420 | 315 | 200 |

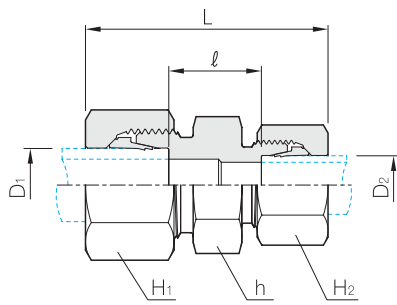
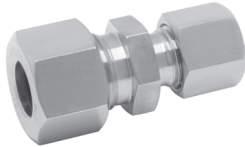
Union Elbow
DL



| Series | Part No. | Tube O.D. | H | h | L | ℓ | PN(bar) | | |
|--------|-----------|-----------|----|----|----|------|---------|-------|-------|
| | | | | | | | C.Steel | SS316 | BRASS |
| LL | DL - 04LL | 4 | 10 | 9 | 21 | 11.0 | 100 | 100 | 63 |
| | DL - 06LL | 6 | 12 | 9 | 21 | 9.5 | 100 | 100 | 63 |
| | DL - 08LL | 8 | 14 | 12 | 23 | 11.5 | 100 | 100 | 63 |
| | DL - 10LL | 10 | 17 | 14 | 24 | 12.5 | 100 | 100 | 63 |
| | DL - 12LL | 12 | 19 | 17 | 25 | 13.0 | 100 | 100 | 63 |
| L | DL - 06L | 6 | 14 | 12 | 27 | 12.0 | 500 | 315 | 200 |
| | DL - 08L | 8 | 17 | 12 | 29 | 14.0 | 500 | 315 | 200 |
| | DL - 10L | 10 | 19 | 14 | 30 | 15.0 | 500 | 315 | 200 |
| | DL - 12L | 12 | 22 | 17 | 32 | 17.0 | 400 | 315 | 200 |
| | DL - 15L | 15 | 27 | 19 | 36 | 21.0 | 400 | 315 | 200 |
| | DL - 18L | 18 | 32 | 24 | 40 | 23.5 | 400 | 315 | 200 |
| | DL - 22L | 22 | 36 | 27 | 44 | 27.5 | 250 | 160 | 100 |
| | DL - 28L | 28 | 41 | 36 | 47 | 30.5 | 250 | 160 | 100 |
| | DL - 35L | 35 | 50 | 41 | 56 | 34.5 | 250 | 160 | 100 |
| | DL - 42L | 42 | 60 | 50 | 63 | 40.0 | 250 | 160 | 100 |
| S | DL - 06S | 6 | 17 | 12 | 31 | 16.0 | 800 | 630 | 400 |
| | DL - 08S | 8 | 19 | 14 | 32 | 17.0 | 800 | 630 | 400 |
| | DL - 10S | 10 | 22 | 17 | 34 | 17.5 | 800 | 630 | 400 |
| | DL - 12S | 12 | 24 | 17 | 38 | 21.5 | 630 | 630 | 400 |
| | DL - 14S | 14 | 27 | 19 | 40 | 22.0 | 630 | 630 | 400 |
| | DL - 16S | 16 | 30 | 24 | 43 | 24.5 | 630 | 400 | 250 |
| | DL - 20S | 20 | 36 | 27 | 48 | 26.5 | 420 | 400 | 250 |
| | DL - 25S | 25 | 46 | 36 | 54 | 30.0 | 420 | 400 | 250 |
| | DL - 30S | 30 | 50 | 41 | 62 | 35.5 | 420 | 400 | 250 |
| | DL - 38S | 38 | 60 | 50 | 72 | 41.0 | 420 | 315 | 200 |

Dimensions are given for approximate length with tightened nut, All dimensions are in millimeters for reference only, subject to change.

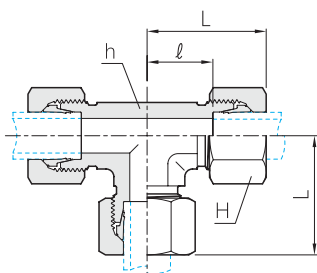
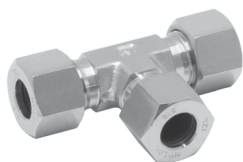
Reducing Union
DUR



| Series | Part No. | Tube O.D. | | H ₁ | H ₂ | h | L | ℓ | PN(bar) | | |
|--------|---------------|----------------|----------------|----------------|----------------|----|----|------|---------|-------|-------|
| | | D ₁ | D ₂ | | | | | | C.Steel | SS316 | BRASS |
| L | DUR 08L - 06L | 8 | 6 | 17 | 14 | 14 | 40 | 11.0 | 500 | 315 | 200 |
| | DUR 10L - 06L | 10 | 6 | 19 | 14 | 17 | 41 | 12.0 | 500 | 315 | 200 |
| | DUR 10L - 08L | 10 | 8 | 19 | 17 | 17 | 41 | 12.0 | 500 | 315 | 200 |
| | DUR 12L - 06L | 12 | 6 | 22 | 14 | 19 | 42 | 13.0 | 400 | 315 | 200 |
| | DUR 12L - 08L | 12 | 8 | 22 | 17 | 19 | 42 | 13.0 | 400 | 315 | 200 |
| | DUR 12L - 10L | 12 | 10 | 22 | 19 | 19 | 43 | 14.0 | 400 | 315 | 200 |
| | DUR 15L - 10L | 15 | 10 | 27 | 19 | 24 | 45 | 15.0 | 400 | 315 | 200 |
| | DUR 15L - 12L | 15 | 12 | 27 | 22 | 24 | 45 | 15.0 | 400 | 315 | 200 |
| | DUR 18L - 10L | 18 | 10 | 32 | 19 | 27 | 46 | 15.5 | 400 | 315 | 200 |
| | DUR 18L - 12L | 18 | 12 | 32 | 22 | 27 | 46 | 15.5 | 400 | 315 | 200 |
| | DUR 18L - 15L | 18 | 15 | 32 | 27 | 27 | 48 | 16.5 | 400 | 315 | 200 |
| | DUR 22L - 12L | 22 | 12 | 36 | 22 | 32 | 48 | 17.5 | 250 | 160 | 100 |
| | DUR 22L - 15L | 22 | 15 | 36 | 27 | 32 | 50 | 18.5 | 250 | 160 | 100 |
| | DUR 22L - 18L | 22 | 18 | 36 | 32 | 32 | 50 | 18.0 | 250 | 160 | 100 |
| | DUR 28L - 18L | 28 | 18 | 41 | 32 | 41 | 52 | 19.0 | 250 | 160 | 100 |
| | DUR 28L - 22L | 28 | 22 | 41 | 36 | 41 | 54 | 21.0 | 250 | 160 | 100 |
| | DUR 35L - 22L | 35 | 22 | 50 | 36 | 46 | 59 | 21.0 | 250 | 160 | 100 |
| | DUR 35L - 28L | 35 | 28 | 50 | 41 | 46 | 59 | 21.0 | 250 | 160 | 100 |
| S | DUR 08S - 06S | 8 | 6 | 19 | 17 | 17 | 47 | 18.0 | 800 | 630 | 400 |
| | DUR 10S - 06S | 10 | 6 | 22 | 17 | 19 | 48 | 17.5 | 800 | 630 | 400 |
| | DUR 10S - 08S | 10 | 8 | 22 | 19 | 19 | 48 | 17.5 | 800 | 630 | 400 |
| | DUR 12S - 06S | 12 | 6 | 24 | 17 | 22 | 50 | 19.5 | 630 | 630 | 400 |
| | DUR 12S - 08S | 12 | 8 | 24 | 19 | 22 | 50 | 19.5 | 630 | 630 | 400 |
| | DUR 12S - 10S | 12 | 10 | 24 | 22 | 22 | 51 | 19.0 | 630 | 630 | 400 |
| | DUR 14S - 10S | 14 | 10 | 27 | 22 | 24 | 54 | 20.5 | 630 | 630 | 400 |
| | DUR 14S - 12S | 14 | 12 | 27 | 24 | 24 | 54 | 20.5 | 630 | 630 | 400 |
| | DUR 16S - 12S | 16 | 12 | 30 | 24 | 27 | 54 | 20.0 | 630 | 400 | 250 |
| | DUR 16S - 14S | 16 | 14 | 30 | 27 | 27 | 57 | 21.5 | 630 | 400 | 250 |
| | DUR 20S - 10S | 20 | 10 | 36 | 22 | 32 | 60 | 22.0 | 420 | 400 | 250 |
| | DUR 20S - 12S | 20 | 12 | 36 | 24 | 32 | 60 | 22.0 | 420 | 400 | 250 |
| | DUR 20S - 16S | 20 | 16 | 36 | 30 | 32 | 63 | 23.0 | 420 | 400 | 250 |
| | DUR 25S - 16S | 25 | 16 | 46 | 30 | 41 | 68 | 25.0 | 420 | 400 | 250 |
| | DUR 25S - 20S | 25 | 20 | 46 | 36 | 41 | 71 | 25.5 | 420 | 400 | 250 |
| | DUR 30S - 20S | 30 | 20 | 50 | 36 | 46 | 74 | 26.0 | 420 | 400 | 250 |
| | DUR 30S - 25S | 30 | 25 | 50 | 46 | 46 | 77 | 26.5 | 420 | 400 | 250 |
| | DUR 38S - 30S | 38 | 30 | 60 | 50 | 55 | 87 | 29.5 | 420 | 315 | 200 |

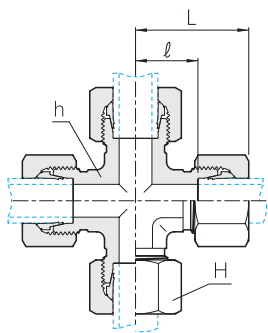
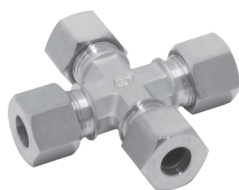
Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Union Tee
DT



| Series | Part No. | Tube O.D. | H | h | L | ℓ | PN(bar) | | |
|--------|-----------|-----------|----|----|----|------|---------|-------|-------|
| | | | | | | | C.Steel | SS316 | BRASS |
| LL | DT - 04LL | 4 | 10 | 9 | 21 | 11.0 | 100 | 100 | 63 |
| | DT - 06LL | 6 | 12 | 9 | 21 | 9.5 | 100 | 100 | 63 |
| | DT - 08LL | 8 | 14 | 12 | 23 | 11.5 | 100 | 100 | 63 |
| | DT - 10LL | 10 | 17 | 14 | 24 | 12.5 | 100 | 100 | 63 |
| | DT - 12LL | 12 | 19 | 14 | 27 | 15.0 | 100 | 100 | 63 |
| L | DT - 06L | 6 | 14 | 12 | 27 | 12.0 | 500 | 315 | 200 |
| | DT - 08L | 8 | 17 | 12 | 29 | 14.0 | 500 | 315 | 200 |
| | DT - 10L | 10 | 19 | 14 | 30 | 15.0 | 500 | 315 | 200 |
| | DT - 12L | 12 | 22 | 17 | 32 | 17.0 | 400 | 315 | 200 |
| | DT - 15L | 15 | 27 | 19 | 36 | 21.0 | 400 | 315 | 200 |
| | DT - 18L | 18 | 32 | 24 | 40 | 23.5 | 400 | 315 | 200 |
| | DT - 22L | 22 | 36 | 27 | 44 | 27.5 | 250 | 160 | 100 |
| | DT - 28L | 28 | 41 | 36 | 47 | 30.5 | 250 | 160 | 100 |
| | DT - 35L | 35 | 50 | 41 | 56 | 34.5 | 250 | 160 | 100 |
| | DT - 42L | 42 | 60 | 50 | 63 | 40.0 | 250 | 160 | 100 |
| S | DT - 06S | 6 | 17 | 12 | 31 | 16.0 | 800 | 630 | 400 |
| | DT - 08S | 8 | 19 | 14 | 32 | 17.0 | 800 | 630 | 400 |
| | DT - 10S | 10 | 22 | 17 | 34 | 17.5 | 800 | 630 | 400 |
| | DT - 12S | 12 | 24 | 17 | 38 | 21.5 | 630 | 630 | 400 |
| | DT - 14S | 14 | 27 | 19 | 40 | 22.0 | 630 | 630 | 400 |
| | DT - 16S | 16 | 30 | 24 | 43 | 24.5 | 630 | 400 | 250 |
| | DT - 20S | 20 | 36 | 27 | 48 | 26.5 | 420 | 400 | 250 |
| | DT - 25S | 25 | 46 | 36 | 54 | 30.0 | 420 | 400 | 250 |
| | DT - 30S | 30 | 50 | 41 | 62 | 35.5 | 420 | 400 | 250 |
| | DT - 38S | 38 | 60 | 50 | 72 | 41.0 | 420 | 315 | 200 |

Union Cross
DC

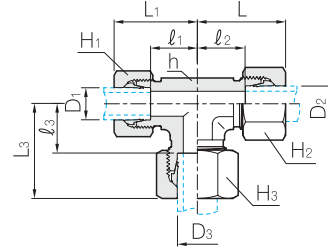


| Series | Part No. | Tube O.D. | H | h | L | ℓ | PN(bar) | | |
|--------|-----------|-----------|----|----|----|------|---------|-------|-------|
| | | | | | | | C.Steel | SS316 | BRASS |
| LL | DC - 04LL | 4 | 10 | 9 | 21 | 11.0 | 100 | 100 | 63 |
| | DC - 06LL | 6 | 12 | 9 | 21 | 9.5 | 100 | 100 | 63 |
| | DC - 08LL | 8 | 14 | 12 | 23 | 11.5 | 100 | 100 | 63 |
| | DC - 10LL | 10 | 17 | 14 | 24 | 12.5 | 100 | 100 | 63 |
| | DC - 12LL | 12 | 19 | 17 | 27 | 15.0 | 100 | 100 | 63 |
| L | DC - 06L | 6 | 14 | 12 | 27 | 12.0 | 315 | 315 | 200 |
| | DC - 08L | 8 | 17 | 12 | 29 | 14.0 | 315 | 315 | 200 |
| | DC - 10L | 10 | 19 | 14 | 30 | 15.0 | 315 | 315 | 200 |
| | DC - 12L | 12 | 22 | 17 | 32 | 17.0 | 315 | 315 | 200 |
| | DC - 15L | 15 | 27 | 19 | 36 | 21.0 | 315 | 315 | 200 |
| | DC - 18L | 18 | 32 | 24 | 40 | 23.5 | 315 | 315 | 200 |
| | DC - 22L | 22 | 36 | 27 | 44 | 27.5 | 160 | 160 | 100 |
| | DC - 28L | 28 | 41 | 36 | 47 | 30.5 | 160 | 160 | 100 |
| | DC - 35L | 35 | 50 | 41 | 56 | 34.5 | 160 | 160 | 100 |
| | DC - 42L | 42 | 60 | 50 | 63 | 40.0 | 160 | 160 | 100 |
| S | DC - 06S | 6 | 17 | 12 | 31 | 16.0 | 630 | 630 | 400 |
| | DC - 08S | 8 | 19 | 14 | 32 | 17.0 | 630 | 630 | 400 |
| | DC - 10S | 10 | 22 | 17 | 34 | 17.5 | 630 | 630 | 400 |
| | DC - 12S | 12 | 24 | 17 | 38 | 21.5 | 630 | 630 | 400 |
| | DC - 14S | 14 | 27 | 19 | 40 | 22.0 | 400 | 400 | 250 |
| | DC - 16S | 16 | 30 | 24 | 43 | 24.5 | 400 | 400 | 250 |
| | DC - 20S | 20 | 36 | 27 | 48 | 26.5 | 315 | 315 | 200 |
| | DC - 25S | 25 | 46 | 36 | 54 | 30.0 | 315 | 315 | 200 |
| | DC - 30S | 30 | 50 | 41 | 62 | 35.5 | 315 | 315 | 200 |
| | DC - 38S | 38 | 60 | 50 | 72 | 41.0 | 315 | 315 | 200 |

Dimensions are given for approximate length with tightened nut, All dimensions are in millimeters for reference only, subject to change.

24° Tube Fittings-DIN 2353 & ISO 8434-1

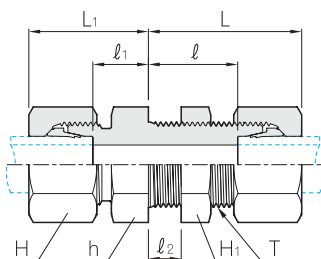
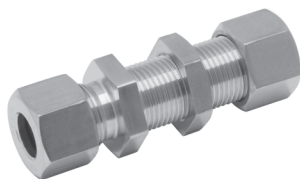
Reducing Tee DTR



| Series | Part No. | Tube O.D. | | | H ₁ | H ₂ | H ₃ | h | L ₁ | L ₂ | L ₃ | l ₁ | l ₂ | l ₃ | PN(bar) | | |
|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|----------------|----------------|----------------|----------------|---------|-------|-------|
| | | D ₁ | D ₂ | D ₃ | | | | | | | | | | | C.Steel | SS316 | BRASS |
| L | DTR 06L-06L-08L | 6 | 6 | 8 | 14 | 14 | 17 | 14 | 29 | 29 | 29 | 14.0 | 14.0 | 14.0 | 500 | 315 | 200 |
| | DTR 08L-08L-06L | 8 | 8 | 6 | 17 | 17 | 14 | 14 | 29 | 29 | 29 | 14.0 | 14.0 | 14.0 | 500 | 315 | 200 |
| | DTR 06L-06L-10L | 6 | 6 | 10 | 14 | 14 | 19 | 14 | 30 | 30 | 30 | 15.0 | 15.0 | 15.0 | 500 | 315 | 200 |
| | DTR 08L-08L-10L | 8 | 8 | 10 | 17 | 17 | 19 | 14 | 30 | 30 | 30 | 15.0 | 15.0 | 15.0 | 500 | 315 | 200 |
| | DTR 10L-10L-06L | 10 | 10 | 6 | 19 | 19 | 14 | 14 | 30 | 30 | 30 | 15.0 | 15.0 | 15.0 | 500 | 315 | 200 |
| | DTR 10L-10L-08L | 10 | 10 | 8 | 19 | 19 | 17 | 14 | 30 | 30 | 30 | 15.0 | 15.0 | 15.0 | 500 | 315 | 200 |
| | DTR 10L-06L-10L | 10 | 16 | 10 | 19 | 14 | 19 | 14 | 30 | 30 | 30 | 15.0 | 15.0 | 15.0 | 500 | 315 | 200 |
| | DTR 08L-08L-12L | 8 | 8 | 12 | 17 | 17 | 22 | 17 | 32 | 32 | 32 | 17.0 | 17.0 | 17.0 | 400 | 315 | 200 |
| | DTR 12L-12L-06L | 12 | 12 | 6 | 22 | 22 | 14 | 17 | 32 | 32 | 32 | 17.0 | 17.0 | 17.0 | 400 | 315 | 200 |
| | DTR 12L-08L-08L | 12 | 18 | 8 | 22 | 17 | 17 | 17 | 32 | 32 | 32 | 17.0 | 17.0 | 17.0 | 400 | 315 | 200 |
| | DTR 12L-12L-08L | 12 | 12 | 8 | 22 | 22 | 17 | 17 | 32 | 32 | 32 | 17.0 | 17.0 | 17.0 | 400 | 315 | 200 |
| | DTR 12L-10L-10L | 12 | 10 | 10 | 22 | 19 | 19 | 17 | 32 | 32 | 32 | 17.0 | 17.0 | 17.0 | 400 | 315 | 200 |
| | DTR 12L-12L-10L | 12 | 12 | 10 | 22 | 22 | 19 | 17 | 32 | 32 | 32 | 17.0 | 17.0 | 17.0 | 400 | 315 | 200 |
| | DTR 12L-10L-12L | 12 | 10 | 12 | 22 | 19 | 22 | 17 | 32 | 32 | 32 | 17.0 | 17.0 | 17.0 | 400 | 315 | 200 |
| | DTR 10L-10L-15L | 10 | 10 | 15 | 19 | 19 | 27 | 19 | 36 | 36 | 36 | 21.0 | 21.0 | 21.0 | 400 | 315 | 200 |
| | DTR 12L-12L-15L | 12 | 12 | 15 | 22 | 22 | 27 | 19 | 36 | 36 | 36 | 21.0 | 21.0 | 21.0 | 400 | 315 | 200 |
| | DTR 15L-15L-06L | 15 | 15 | 6 | 27 | 27 | 14 | 19 | 36 | 36 | 36 | 21.0 | 21.0 | 21.0 | 400 | 315 | 200 |
| | DTR 15L-15L-10L | 15 | 15 | 10 | 27 | 27 | 19 | 19 | 36 | 36 | 36 | 21.0 | 21.0 | 21.0 | 400 | 315 | 200 |
| | DTR 15L-12L-12L | 15 | 12 | 12 | 27 | 22 | 22 | 19 | 36 | 36 | 36 | 21.0 | 21.0 | 21.0 | 400 | 315 | 200 |
| | DTR 15L-15L-12L | 15 | 15 | 12 | 27 | 27 | 22 | 19 | 36 | 36 | 36 | 21.0 | 21.0 | 21.0 | 400 | 315 | 200 |
| | DTR 15L-12L-15L | 15 | 12 | 15 | 27 | 22 | 27 | 19 | 36 | 36 | 36 | 21.0 | 21.0 | 21.0 | 400 | 315 | 200 |
| | DTR 12L-12L-18L | 12 | 12 | 18 | 22 | 22 | 32 | 24 | 39 | 39 | 40 | 24.0 | 24.0 | 23.5 | 400 | 315 | 200 |
| | DTR 18L-10L-10L | 18 | 10 | 10 | 32 | 19 | 19 | 24 | 40 | 39 | 39 | 23.5 | 24.0 | 24.0 | 400 | 315 | 200 |
| | DTR 18L-18L-10L | 18 | 18 | 10 | 32 | 32 | 19 | 24 | 40 | 40 | 39 | 23.5 | 23.5 | 24.0 | 400 | 315 | 200 |
| | DTR 18L-18L-12L | 18 | 18 | 12 | 32 | 32 | 22 | 24 | 40 | 40 | 39 | 23.5 | 23.5 | 24.0 | 400 | 315 | 200 |
| | DTR 18L-18L-15L | 18 | 18 | 15 | 32 | 32 | 27 | 24 | 40 | 40 | 39 | 23.5 | 23.5 | 24.0 | 400 | 315 | 200 |
| | DTR 18L-10L-18L | 18 | 10 | 18 | 32 | 19 | 32 | 24 | 40 | 39 | 40 | 23.5 | 24.0 | 23.5 | 400 | 315 | 200 |
| | DTR 22L-22L-10L | 22 | 22 | 10 | 36 | 36 | 19 | 27 | 44 | 44 | 43 | 27.5 | 27.5 | 28.0 | 250 | 160 | 100 |
| | DTR 22L-22L-12L | 22 | 22 | 12 | 36 | 36 | 22 | 27 | 44 | 44 | 43 | 27.5 | 27.5 | 28.0 | 250 | 160 | 100 |
| | DTR 22L-15L-15L | 22 | 15 | 15 | 36 | 27 | 27 | 27 | 44 | 43 | 43 | 27.5 | 28.0 | 28.0 | 250 | 160 | 100 |
| | DTR 22L-22L-15L | 22 | 22 | 15 | 36 | 36 | 27 | 27 | 44 | 44 | 43 | 27.5 | 27.5 | 28.0 | 250 | 160 | 100 |
| | DTR 22L-18L-18L | 22 | 18 | 18 | 36 | 32 | 32 | 27 | 44 | 44 | 44 | 27.5 | 27.5 | 27.5 | 250 | 160 | 100 |
| DTR 22L-22L-18L | 22 | 22 | 18 | 36 | 36 | 32 | 27 | 44 | 44 | 44 | 27.5 | 27.5 | 27.5 | 250 | 160 | 100 | |
| DTR 22L-18L-22L | 22 | 18 | 22 | 36 | 32 | 36 | 27 | 44 | 44 | 44 | 27.5 | 27.5 | 27.5 | 250 | 160 | 100 | |
| DTR 28L-28L-10L | 28 | 28 | 10 | 41 | 41 | 19 | 36 | 47 | 44 | 46 | 30.5 | 30.5 | 31.0 | 250 | 160 | 100 | |
| DTR 28L-28L-12L | 28 | 28 | 12 | 41 | 41 | 22 | 36 | 47 | 47 | 46 | 30.5 | 30.5 | 31.0 | 250 | 160 | 100 | |
| DTR 28L-28L-15L | 28 | 28 | 15 | 41 | 41 | 27 | 36 | 47 | 47 | 46 | 30.5 | 30.5 | 31.0 | 250 | 160 | 100 | |
| DTR 28L-28L-18L | 28 | 28 | 18 | 41 | 41 | 32 | 36 | 47 | 47 | 47 | 30.5 | 30.5 | 30.5 | 250 | 160 | 100 | |
| DTR 28L-22L-22L | 28 | 22 | 22 | 41 | 36 | 36 | 36 | 47 | 47 | 47 | 30.5 | 30.5 | 30.5 | 250 | 160 | 100 | |
| DTR 28L-28L-22L | 28 | 28 | 22 | 41 | 41 | 36 | 36 | 47 | 47 | 47 | 30.5 | 30.5 | 30.5 | 250 | 160 | 100 | |
| S | DTR 10S-10S-06S | 10 | 10 | 6 | 22 | 22 | 17 | 17 | 34 | 34 | 33 | 17.5 | 17.5 | 18.0 | 800 | 630 | 400 |
| | DTR 12S-08S-08S | 12 | 18 | 8 | 24 | 19 | 19 | 17 | 38 | 37 | 37 | 21.5 | 22.0 | 22.0 | 630 | 630 | 400 |
| | DTR 12S-12S-08S | 12 | 12 | 8 | 24 | 24 | 19 | 17 | 38 | 38 | 37 | 21.5 | 21.5 | 22.0 | 630 | 630 | 400 |
| | DTR 12S-12S-10S | 12 | 12 | 10 | 24 | 24 | 22 | 17 | 38 | 38 | 38 | 21.5 | 21.5 | 21.5 | 630 | 630 | 400 |
| | DTR 12S-12S-16S | 12 | 12 | 16 | 24 | 24 | 30 | 24 | 42 | 42 | 43 | 25.5 | 25.5 | 24.5 | 630 | 400 | 250 |
| | DTR 16S-16S-06S | 16 | 16 | 6 | 30 | 30 | 17 | 24 | 43 | 43 | 41 | 24.5 | 24.5 | 26.0 | 630 | 400 | 250 |
| | DTR 16S-16S-08S | 16 | 16 | 8 | 30 | 30 | 19 | 24 | 43 | 43 | 41 | 24.5 | 24.5 | 26.0 | 630 | 400 | 250 |
| | DTR 16S-16S-10S | 16 | 16 | 10 | 30 | 30 | 22 | 24 | 43 | 43 | 42 | 24.5 | 24.5 | 25.5 | 630 | 400 | 250 |
| | DTR 16S-16S-12S | 16 | 16 | 12 | 30 | 30 | 24 | 24 | 43 | 43 | 42 | 24.5 | 24.5 | 25.5 | 630 | 400 | 250 |
| | DTR 16S-16S-20S | 16 | 16 | 20 | 30 | 30 | 36 | 27 | 47 | 47 | 48 | 28.5 | 28.5 | 26.5 | 420 | 400 | 250 |
| | DTR 20S-20S-10S | 20 | 20 | 10 | 36 | 36 | 22 | 27 | 48 | 48 | 46 | 26.5 | 26.5 | 29.5 | 420 | 400 | 250 |
| | DTR 20S-20S-12S | 20 | 20 | 12 | 36 | 36 | 24 | 27 | 48 | 48 | 46 | 26.5 | 26.5 | 29.5 | 420 | 400 | 250 |
| | DTR 20S-20S-16S | 20 | 20 | 16 | 36 | 36 | 30 | 27 | 48 | 48 | 47 | 26.5 | 26.5 | 28.5 | 420 | 400 | 250 |
| | DTR 20S-20S-25S | 20 | 20 | 25 | 36 | 36 | 46 | 36 | 53 | 53 | 54 | 31.5 | 31.5 | 30.0 | 420 | 400 | 250 |
| | DTR 25S-25S-16S | 25 | 25 | 16 | 46 | 46 | 30 | 36 | 54 | 54 | 52 | 30.0 | 30.0 | 33.5 | 420 | 400 | 250 |
| | DTR 25S-25S-20S | 25 | 25 | 20 | 46 | 46 | 36 | 36 | 54 | 54 | 53 | 30.0 | 30.0 | 31.5 | 420 | 400 | 250 |
| DTR 25S-25S-30S | 25 | 25 | 30 | 46 | 46 | 50 | 41 | 61 | 61 | 62 | 37.0 | 37.0 | 35.5 | 420 | 400 | 250 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

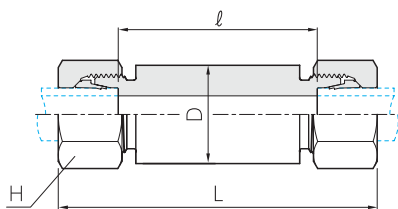
Bulkhead Union DBU



$l_2 = 16\text{mm Max.}$
 = 3mm Min (06-18L and 06-16S)
 = 4mm Min (22-42L and 20-38S)

| Series | Part No. | Tube O.D. | H | H ₁ | h | L | L ₁ | ℓ | ℓ ₁ | T | PN(bar) | | |
|--------|-----------|-----------|----|----------------|----|----|----------------|------|----------------|------------|---------|-------|-------|
| | | | | | | | | | | | C.Steel | SS316 | BRASS |
| L | DBU - 06L | 6 | 14 | 17 | 17 | 42 | 22 | 27.0 | 7.0 | M 12 X 1.5 | 500 | 315 | 200 |
| | DBU - 08L | 8 | 17 | 19 | 19 | 42 | 23 | 27.0 | 8.0 | M 14 X 1.5 | 500 | 315 | 200 |
| | DBU - 10L | 10 | 19 | 22 | 22 | 43 | 25 | 28.0 | 10.0 | M 16 X 1.5 | 500 | 315 | 200 |
| | DBU - 12L | 12 | 22 | 24 | 24 | 44 | 25 | 29.0 | 10.0 | M 18 X 1.5 | 400 | 315 | 200 |
| | DBU - 15L | 15 | 27 | 30 | 27 | 46 | 27 | 31.0 | 12.0 | M 22 X 1.5 | 400 | 315 | 200 |
| | DBU - 18L | 18 | 32 | 36 | 32 | 49 | 30 | 32.5 | 13.5 | M 26 X 1.5 | 400 | 315 | 200 |
| | DBU - 22L | 22 | 36 | 41 | 36 | 51 | 33 | 34.5 | 16.5 | M 30 X 2.0 | 250 | 160 | 100 |
| | DBU - 28L | 28 | 41 | 46 | 41 | 52 | 35 | 35.5 | 18.5 | M 36 X 2.0 | 250 | 160 | 100 |
| | DBU - 35L | 35 | 50 | 55 | 50 | 58 | 40 | 36.5 | 18.5 | M 45 X 2.0 | 250 | 160 | 160 |
| | DBU - 42L | 42 | 60 | 65 | 60 | 59 | 42 | 36.0 | 19.0 | M 52 X 2.0 | 250 | 160 | 160 |
| S | DBU - 06S | 6 | 17 | 19 | 19 | 44 | 27 | 29.0 | 12.0 | M 14 X 1.5 | 800 | 630 | 400 |
| | DBU - 08S | 8 | 19 | 22 | 22 | 44 | 28 | 29.0 | 13.0 | M 16 X 1.5 | 800 | 630 | 400 |
| | DBU - 10S | 10 | 22 | 24 | 24 | 46 | 31 | 29.5 | 14.5 | M 18 X 1.5 | 800 | 630 | 400 |
| | DBU - 12S | 12 | 24 | 27 | 27 | 47 | 31 | 30.5 | 14.5 | M 20 X 1.5 | 630 | 630 | 400 |
| | DBU - 14S | 14 | 27 | 30 | 30 | 50 | 35 | 32.0 | 17.0 | M 22 X 1.5 | 630 | 630 | |
| | DBU - 16S | 16 | 30 | 32 | 32 | 50 | 35 | 31.5 | 16.5 | M 24 X 1.5 | 630 | 400 | 250 |
| | DBU - 20S | 20 | 36 | 41 | 41 | 55 | 39 | 33.5 | 17.5 | M 30 X 2.0 | 420 | 400 | 250 |
| | DBU - 25S | 25 | 46 | 46 | 46 | 59 | 44 | 35.0 | 20.0 | M 36 X 2.0 | 420 | 400 | 250 |
| | DBU - 30S | 30 | 50 | 50 | 50 | 64 | 48 | 37.5 | 21.5 | M 42 X 2.0 | 420 | 400 | 250 |
| | DBU - 38S | 38 | 60 | 65 | 65 | 68 | 53 | 37.0 | 22.0 | M 52 X 2.0 | 420 | 315 | |

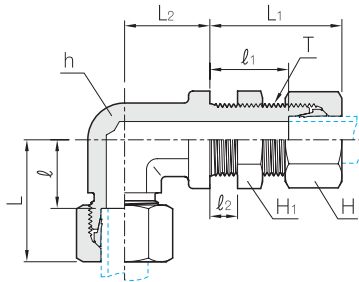
Welding Bulkhead Union DBUW



| Series | Part No. | Tube O.D. | D | H | L | ℓ | PN(bar) | |
|--------|------------|-----------|----|----|-----|----|---------|-------|
| | | | | | | | C.Steel | SS316 |
| L | DBUW - 06L | 6 | 18 | 14 | 85 | 56 | 500 | 315 |
| | DBUW - 08L | 8 | 20 | 17 | 85 | 56 | 500 | 315 |
| | DBUW - 10L | 10 | 22 | 19 | 87 | 58 | 500 | 315 |
| | DBUW - 12L | 12 | 25 | 22 | 87 | 58 | 400 | 315 |
| | DBUW - 15L | 15 | 28 | 27 | 100 | 70 | 400 | 315 |
| | DBUW - 18L | 18 | 32 | 32 | 101 | 69 | 400 | 315 |
| | DBUW - 22L | 22 | 36 | 36 | 105 | 73 | 250 | 160 |
| | DBUW - 28L | 28 | 40 | 41 | 106 | 73 | 250 | 160 |
| | DBUW - 35L | 35 | 50 | 50 | 114 | 71 | 250 | 160 |
| | DBUW - 42L | 42 | 60 | 60 | 115 | 70 | 250 | 160 |
| S | DBUW - 06S | 6 | 20 | 17 | 89 | 60 | 800 | 630 |
| | DBUW - 08S | 8 | 22 | 19 | 89 | 60 | 800 | 630 |
| | DBUW - 10S | 10 | 25 | 22 | 91 | 59 | 800 | 630 |
| | DBUW - 12S | 12 | 28 | 24 | 91 | 59 | 630 | 630 |
| | DBUW - 14S | 14 | 30 | 27 | 107 | 72 | 630 | 630 |
| | DBUW - 16S | 16 | 35 | 30 | 107 | 71 | 630 | 400 |
| | DBUW - 20S | 20 | 38 | 36 | 114 | 71 | 420 | 400 |
| | DBUW - 25S | 25 | 45 | 46 | 120 | 72 | 420 | 400 |
| | DBUW - 30S | 30 | 50 | 50 | 126 | 73 | 420 | 400 |
| | DBUW - 38S | 38 | 60 | 60 | 133 | 72 | 420 | 315 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Bulkhead Union Elbow
DBL



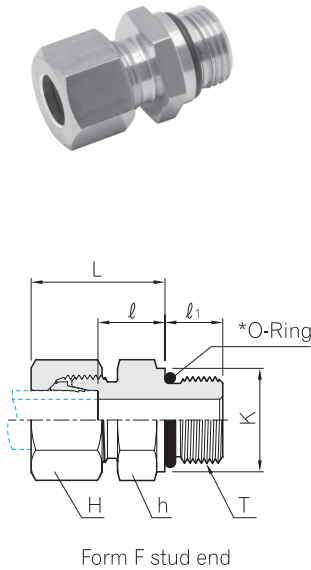
$l_2 = 16\text{mm Max.}$
 = 3mm Min (06-18L and 06-16S)
 = 4mm Min (22-42L and 20-38S)

| Series | Part No. | Tube O.D. | H | H ₁ | h | L | L ₁ | L ₂ | ℓ | ℓ ₁ | T | PN(bar) | | |
|---------|----------|-----------|----|----------------|----|----|----------------|----------------|------|----------------|------------|---------|-------|-------|
| | | | | | | | | | | | | C.Steel | SS316 | BRASS |
| L | DBL-06L | 6 | 14 | 17 | 12 | 27 | 42 | 14 | 12.0 | 27.0 | M 12 X 1.5 | 315 | 315 | 200 |
| | DBL-08L | 8 | 17 | 19 | 12 | 29 | 42 | 17 | 14.0 | 27.0 | M 14 X 1.5 | 315 | 315 | 200 |
| | DBL-10L | 10 | 19 | 22 | 14 | 30 | 43 | 18 | 15.0 | 28.0 | M 16 X 1.5 | 315 | 315 | 200 |
| | DBL-12L | 12 | 22 | 24 | 17 | 32 | 44 | 20 | 17.0 | 29.0 | M 18 X 1.5 | 315 | 315 | 200 |
| | DBL-15L | 15 | 27 | 30 | 19 | 36 | 46 | 23 | 21.0 | 31.0 | M 22 X 1.5 | 315 | 315 | 200 |
| | DBL-18L | 18 | 32 | 36 | 24 | 40 | 49 | 24 | 23.5 | 32.5 | M 26 X 1.5 | 315 | 315 | 200 |
| | DBL-22L | 22 | 36 | 41 | 27 | 44 | 51 | 30 | 27.5 | 34.5 | M 30 X 2 | 160 | 160 | |
| | DBL-28L | 28 | 41 | 46 | 36 | 47 | 52 | 34 | 30.5 | 35.5 | M 36 X 2 | 160 | 160 | |
| | DBL-35L | 35 | 50 | 55 | 41 | 56 | 58 | 39 | 34.5 | 36.5 | M 45 X 2 | 160 | 160 | |
| DBL-42L | 42 | 60 | 65 | 50 | 63 | 59 | 43 | 40.0 | 36.0 | M 52 X 2 | 160 | 160 | | |
| S | DBL-06S | 6 | 17 | 19 | 12 | 31 | 44 | 17 | 16.0 | 29.0 | M 14 X 1.5 | 630 | 630 | |
| | DBL-08S | 8 | 19 | 22 | 14 | 32 | 44 | 18 | 17.0 | 29.0 | M 16 X 1.5 | 630 | 630 | |
| | DBL-10S | 10 | 22 | 24 | 17 | 34 | 46 | 20 | 17.5 | 29.5 | M 18 X 1.5 | 630 | 630 | |
| | DBL-12S | 12 | 24 | 27 | 17 | 38 | 47 | 21 | 21.5 | 30.5 | M 20 X 1.5 | 630 | 630 | |
| | DBL-14S | 14 | 27 | 30 | 19 | 40 | 50 | 23 | 22.0 | 32.0 | M 22 X 1.5 | 630 | 630 | |
| | DBL-16S | 16 | 30 | 32 | 24 | 43 | 50 | 24 | 24.5 | 31.5 | M 24 X 1.5 | 400 | 400 | |
| | DBL-20S | 20 | 36 | 41 | 27 | 48 | 55 | 30 | 26.5 | 33.5 | M 30 X 2 | 400 | 400 | |
| | DBL-25S | 25 | 46 | 46 | 36 | 54 | 59 | 34 | 30.0 | 35.0 | M 36 X 2 | 400 | 400 | |
| | DBL-30S | 30 | 50 | 50 | 41 | 62 | 64 | 39 | 35.5 | 37.5 | M 42 X 2 | 400 | 400 | |
| DBL-38S | 38 | 60 | 65 | 50 | 72 | 68 | 43 | 41.0 | 37.0 | M 52 X 2 | 315 | 315 | | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Male Connector(Unified and Metric Parallel) with *O-Ring

DOM-U/M



for Unified

| Series | Part No. | Tube O.D. | H | h | K | L | l ₁ | l | T | PN(bar) | |
|-------------|-------------|-------------|----|----|------|------|----------------|------|-----------------|----------------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DOM 08L-04U | 8 | 17 | 17 | 14.4 | 25 | 9.0 | 10.0 | 7/16-20 UNF-2A | 315 | 315 |
| | DOM 10L-04U | 10 | 19 | 17 | 14.4 | 26 | 10.0 | 11.0 | 7/16-20 UNF-2A | 315 | 315 |
| | DOM 12L-06U | 12 | 22 | 19 | 17.6 | 26 | 10.0 | 11.0 | 9/16-18 UNF-2A | 315 | 315 |
| | DOM 12L-08U | 12 | 22 | 24 | 22.3 | 28 | 11.0 | 13.0 | 3/4-16 UNF-2A | 315 | 315 |
| | DOM 12L-10U | 12 | 22 | 27 | 25.5 | 29 | 12.7 | 14.3 | 7/8-14 UNF-2A | 315 | 315 |
| | DOM 15L-08U | 15 | 27 | 24 | 22.3 | 29 | 11.0 | 14.0 | 3/4-16 UNF-2A | 315 | 315 |
| | DOM 15L-10U | 15 | 27 | 27 | 25.5 | 30 | 12.7 | 15.3 | 7/8-14 UNF-2A | 315 | 315 |
| | DOM 18L-08U | 18 | 32 | 27 | 22.3 | 31 | 11.0 | 14.5 | 3/4-16 UNF-2A | 315 | 315 |
| | DOM 18L-10U | 18 | 32 | 27 | 25.5 | 31 | 12.7 | 14.8 | 7/8-14 UNF-2A | 315 | 315 |
| | DOM 22L-10U | 22 | 36 | 32 | 25.5 | 33 | 12.7 | 16.8 | 7/8-14 UNF-2A | 160 | 160 |
| | DOM 22L-12U | 22 | 36 | 32 | 31.9 | 33 | 15.0 | 16.5 | 1 1/16-12 UN-2A | 160 | 160 |
| | DOM 22L-16U | 22 | 36 | 41 | 38.2 | 34 | 15.0 | 17.5 | 1 5/16-12 UN-2A | 160 | 160 |
| | DOM 28L-12U | 28 | 41 | 41 | 31.9 | 34 | 15.0 | 17.5 | 1 1/16-12 UN-2A | 160 | 160 |
| | DOM 28L-16U | 28 | 41 | 41 | 38.2 | 34 | 15.0 | 17.5 | 1 5/16-12 UN-2A | 160 | 160 |
| | DOM 35L-16U | 35 | 50 | 46 | 38.2 | 39 | 15.0 | 17.5 | 1 5/16-12 UN-2A | 160 | 160 |
| | DOM 35L-20U | 35 | 50 | 50 | 47.7 | 39 | 15.0 | 17.5 | 1 5/8-12 UN-2A | 160 | 160 |
| | DOM 42L-20U | 42 | 60 | 55 | 47.7 | 42 | 15.0 | 19.0 | 1 5/8-12 UN-2A | 160 | 160 |
| | S | DOM 08S-04U | 8 | 19 | 17 | 16.0 | 30 | 9.0 | 15.0 | 7/16-20 UNF-2A | 630 |
| DOM 10S-06U | | 10 | 22 | 19 | 17.6 | 31 | 10.0 | 14.5 | 9/16-18 UNF-2A | 630 | 630 |
| DOM 12S-06U | | 12 | 24 | 22 | 17.6 | 31 | 10.0 | 14.5 | 9/16-18 UNF-2A | 630 | 630 |
| DOM 12S-08U | | 12 | 24 | 24 | 22.3 | 34 | 11.0 | 17.5 | 3/4-16 UNF-2A | 630 | 630 |
| DOM 16S-08U | | 16 | 30 | 24 | 22.3 | 34 | 11.0 | 15.5 | 3/4-16 UNF-2A | 400 | 400 |
| DOM 16S-10U | | 16 | 30 | 27 | 25.5 | 37 | 12.7 | 18.8 | 7/8-14 UNF-2A | 400 | 400 |
| DOM 20S-08U | | 20 | 36 | 32 | 22.3 | 42 | 11.0 | 20.5 | 3/4-16 UNF-2A | 400 | 400 |
| DOM 20S-10U | | 20 | 36 | 32 | 25.5 | 42 | 12.7 | 20.8 | 7/8-14 UNF-2A | 400 | 400 |
| DOM 20S-12U | | 20 | 36 | 32 | 31.9 | 42 | 15.0 | 20.5 | 1 1/16-12 UN-2A | 400 | 400 |
| DOM 25S-12U | | 25 | 46 | 36 | 31.9 | 47 | 15.0 | 23.0 | 1 1/16-12 UN-2A | 400 | 400 |
| DOM 25S-16U | | 25 | 46 | 41 | 38.2 | 47 | 15.0 | 23.0 | 1 5/16-12 UN-2A | 400 | 400 |
| DOM 30S-16U | | 30 | 50 | 46 | 38.2 | 50 | 15.0 | 23.5 | 1 5/16-12 UN-2A | 400 | 400 |
| DOM 30S-20U | | 30 | 50 | 50 | 47.7 | 50 | 15.0 | 23.5 | 1 5/8-12 UN-2A | 400 | 400 |
| DOM 38S-20U | | 38 | 60 | 55 | 47.7 | 57 | 15.0 | 26.0 | 1 5/8-12 UN-2A | 315 | 315 |

for Metric Parallel

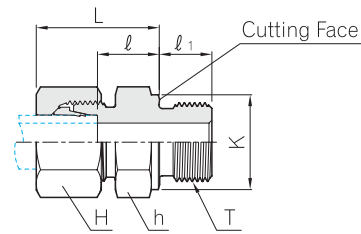
| Series | Part No. | Tube O.D. | H | h | K | L | l ₁ | l | T |
|-------------|-------------|-----------|----|----|----|------|----------------|------------|------------|
| L | DOM 06L-M10 | 6 | 14 | 14 | - | 23 | 10.0 | 8.5 | M 10 x 1.0 |
| | DOM 08L-M12 | 8 | 17 | 17 | - | 25 | 11.5 | 10.0 | M 12 x 1.5 |
| | DOM 10L-M14 | 10 | 19 | 19 | - | 26 | 11.5 | 11.0 | M 14 x 1.5 |
| | DOM 12L-M16 | 12 | 22 | 22 | - | 27 | 13.0 | 12.0 | M 16 x 1.5 |
| | DOM 15L-M18 | 15 | 27 | 24 | - | 29 | 14.5 | 13.5 | M 18 x 1.5 |
| | DOM 18L-M22 | 18 | 32 | 27 | - | 30 | 15.5 | 14.0 | M 22 x 1.5 |
| | DOM 22L-M26 | 22 | 36 | 32 | - | 32 | 16.0 | 16.0 | M 26 x 1.5 |
| | DOM 28L-M33 | 28 | 41 | 41 | 38 | 34 | 19.0 | 17.5 | M 33 x 2.0 |
| DOM 35L-M42 | 35 | 50 | 50 | 48 | 39 | 19.5 | 17.5 | M 42 x 2.0 | |
| S | DOM 06S-M12 | 6 | 17 | 17 | - | 27 | 11.5 | 12.0 | M 12 x 1.5 |
| | DOM 08S-M14 | 8 | 19 | 19 | - | 27 | 11.5 | 12.0 | M 14 x 1.5 |
| | DOM 10S-M16 | 10 | 22 | 22 | - | 29 | 13.0 | 12.5 | M 16 x 1.5 |
| | DOM 12S-M18 | 12 | 24 | 24 | - | 29 | 14.5 | 13.0 | M 18 x 1.5 |
| | DOM 16S-M22 | 16 | 30 | 27 | - | 33 | 15.5 | 15.0 | M 22 x 1.5 |
| | DOM 20S-M27 | 20 | 36 | 32 | - | 37 | 19.0 | 15.0 | M 27 x 2.0 |
| | DOM 25S-M33 | 25 | 46 | 41 | 38 | 41 | 19.0 | 17.0 | M 33 x 2.0 |
| DOM 30S-M42 | 30 | 50 | 50 | 48 | 45 | 19.5 | 18.5 | M 42 x 2.0 | |

Dimensions are given for approximate length with tightened nut, All dimensions are in millimeters for reference only, subject to change.
 * The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

24° Tube Fittings-DIN 2353 & ISO 8434-1

Male Connector (ISO/BSP Parallel)

DMC-G

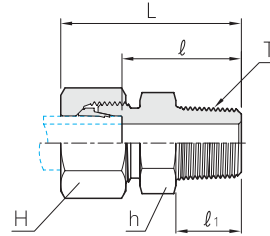


Form B stud end

| Series | Part No. | Tube O.D. | H | h | K | L | l | l ₁ | T | PN(bar) | | |
|---------------|---------------|-----------|----|----|------|------|------|----------------|-------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| L | DMC 06L - 01G | 6 | 14 | 14 | 14 | 23.0 | 8.5 | 8 | G 1/8 | 315 | 315 | 200 |
| | DMC 06L - 02G | 6 | 14 | 19 | 18 | 25.0 | 10.0 | 12 | G 1/4 | 315 | 315 | 200 |
| | DMC 06L - 03G | 6 | 14 | 22 | 22 | 26.0 | 11.5 | 12 | G 3/8 | 315 | 315 | 200 |
| | DMC 06L - 04G | 6 | 14 | 27 | 26 | 27.0 | 12.0 | 14 | G 1/2 | 315 | 315 | |
| | DMC 08L - 01G | 8 | 17 | 14 | 14 | 23.0 | 8.5 | 8 | G 1/8 | 315 | 315 | |
| | DMC 08L - 02G | 8 | 17 | 19 | 18 | 25.0 | 10.0 | 12 | G 1/4 | 315 | 315 | 200 |
| | DMC 08L - 03G | 8 | 17 | 22 | 22 | 26.0 | 11.5 | 12 | G 3/8 | 315 | 315 | 200 |
| | DMC 08L - 04G | 8 | 17 | 27 | 26 | 27.0 | 12.0 | 14 | G 1/2 | 315 | 315 | 200 |
| | DMC 10L - 02G | 10 | 19 | 19 | 18 | 26.0 | 11.0 | 12 | G 1/4 | 315 | 315 | 200 |
| | DMC 10L - 03G | 10 | 19 | 22 | 22 | 27.0 | 12.5 | 12 | G 3/8 | 315 | 315 | 200 |
| | DMC 10L - 04G | 10 | 19 | 27 | 26 | 28.0 | 13.0 | 14 | G 1/2 | 315 | 315 | 200 |
| | DMC 12L - 02G | 12 | 22 | 19 | 18 | 27.0 | 12.0 | 12 | G 1/4 | 315 | 315 | 200 |
| | DMC 12L - 03G | 12 | 22 | 22 | 22 | 27.0 | 12.5 | 12 | G 3/8 | 315 | 315 | 200 |
| | DMC 12L - 04G | 12 | 22 | 27 | 26 | 28.0 | 13.0 | 14 | G 1/2 | 315 | 315 | 200 |
| | DMC 12L - 06G | 12 | 22 | 32 | 32 | 29.0 | 14.0 | 16 | G 3/4 | 315 | 315 | |
| | DMC 15L - 03G | 15 | 27 | 24 | 22 | 29.0 | 13.5 | 12 | G 3/8 | 250 | 250 | 160 |
| | DMC 15L - 04G | 15 | 27 | 27 | 26 | 29.0 | 14.0 | 14 | G 1/2 | 250 | 250 | 160 |
| | DMC 15L - 06G | 15 | 27 | 32 | 32 | 30.0 | 15.0 | 16 | G 3/4 | 250 | 250 | |
| | DMC 18L - 03G | 18 | 32 | 27 | 22 | 29.5 | 14.0 | 12 | G 3/8 | 250 | 250 | |
| | DMC 18L - 04G | 18 | 32 | 27 | 26 | 31.0 | 14.5 | 14 | G 1/2 | 250 | 250 | 160 |
| | DMC 18L - 06G | 18 | 32 | 32 | 32 | 30.0 | 14.5 | 16 | G 3/4 | 250 | 250 | |
| | DMC 22L - 04G | 22 | 36 | 32 | 26 | 33.0 | 16.5 | 14 | G 1/2 | 160 | 160 | 100 |
| | DMC 22L - 06G | 22 | 36 | 32 | 32 | 33.0 | 16.5 | 16 | G 3/4 | 160 | 160 | 100 |
| DMC 28L - 06G | 28 | 41 | 41 | 32 | 34.0 | 17.5 | 16 | G 3/4 | 160 | 160 | | |
| DMC 28L - 08G | 28 | 41 | 41 | 39 | 34.0 | 17.5 | 18 | G 1 | 160 | 160 | 100 | |
| DMC 35L - 08G | 35 | 50 | 46 | 39 | 39.0 | 17.5 | 18 | G 1 | 160 | 160 | | |
| DMC 35L - 10G | 35 | 50 | 50 | 49 | 39.0 | 17.5 | 20 | G 1 1/4 | 160 | 160 | 100 | |
| DMC 42L - 12G | 42 | 60 | 55 | 55 | 42.0 | 19.0 | 22 | G 1 1/2 | 160 | 160 | 100 | |
| S | DMC 06S - 02G | 6 | 17 | 19 | 18 | 28.0 | 13.0 | 12 | G 1/4 | 400 | 400 | 250 |
| | DMC 06S - 04G | 6 | 17 | 27 | 26 | 33.0 | 18.0 | 14 | G 1/2 | 400 | 400 | |
| | DMC 08S - 02G | 8 | 19 | 19 | 18 | 30.0 | 15.0 | 12 | G 1/4 | 400 | 400 | 250 |
| | DMC 08S - 03G | 8 | 19 | 22 | 22 | 30.0 | 15.5 | 12 | G 3/8 | 400 | 400 | |
| | DMC 10S - 02G | 10 | 22 | 19 | 18 | 31.0 | 14.5 | 12 | G 1/4 | 400 | 400 | |
| | DMC 10S - 03G | 10 | 22 | 22 | 22 | 31.0 | 15.0 | 12 | G 3/5 | 400 | 400 | 250 |
| | DMC 10S - 04G | 10 | 22 | 27 | 26 | 34.0 | 17.5 | 14 | G 1/2 | 400 | 400 | |
| | DMC 12S - 02G | 12 | 24 | 22 | 18 | 33.0 | 16.5 | 12 | G 1/4 | 400 | 400 | |
| | DMC 12S - 03G | 12 | 24 | 22 | 22 | 33.0 | 17.0 | 12 | G 3/8 | 400 | 400 | 250 |
| | DMC 12S - 04G | 12 | 24 | 27 | 26 | 34.0 | 17.5 | 14 | G 1/2 | 400 | 400 | |
| | DMC 14S - 03G | 14 | 27 | 24 | 22 | 36.0 | 18.5 | 12 | G 3/8 | 400 | 400 | |
| | DMC 14S - 04G | 14 | 27 | 27 | 26 | 37.0 | 19.0 | 14 | G 1/2 | 400 | 400 | 250 |
| | DMC 16S - 03G | 16 | 30 | 27 | 22 | 36.0 | 18.0 | 12 | G 3/8 | 400 | 400 | |
| | DMC 16S - 04G | 16 | 30 | 27 | 26 | 37.0 | 18.5 | 14 | G 1/2 | 400 | 400 | 250 |
| | DMC 16S - 06G | 16 | 30 | 32 | 32 | 39.0 | 20.5 | 16 | G 3/4 | 400 | 400 | |
| | DMC 20S - 04G | 20 | 36 | 32 | 26 | 42.0 | 20.5 | 14 | G 1/2 | 400 | 400 | |
| | DMC 20S - 06G | 20 | 36 | 32 | 32 | 42.0 | 20.5 | 16 | G 3/4 | 400 | 400 | 250 |
| | DMC 25S - 06G | 25 | 46 | 41 | 32 | 47.0 | 23.0 | 16 | G 3/4 | 250 | 250 | 160 |
| | DMC 25S - 08G | 25 | 46 | 41 | 39 | 47.0 | 23.0 | 18 | G 1 | 250 | 250 | |
| | DMC 30S - 08G | 30 | 50 | 46 | 39 | 50.0 | 23.5 | 18 | G 1 | 160 | 160 | |
| DMC 30S - 10G | 30 | 50 | 50 | 49 | 50.0 | 23.5 | 20 | G 1 1/4 | 160 | 160 | 100 | |
| DMC 38S - 10G | 38 | 60 | 55 | 49 | 57.0 | 26.0 | 20 | G 1 1/4 | 160 | 160 | | |
| DMC 38S - 12G | 38 | 60 | 55 | 55 | 57.0 | 26.0 | 22 | G 1 1/2 | 160 | 160 | 100 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Male Connector (ISO/BSP Tapered)
DMC-R



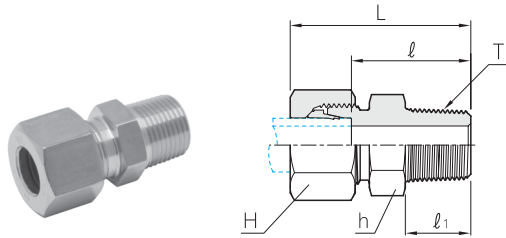
Form C stud end

| Series | Part No. | Tube O.D. | H | h | K | L | l | l ₁ | T | PN(bar) | | |
|---------------|----------------|-----------|----|----|----|------|------|----------------|-------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| LL | DMC 04LL - 01R | 4 | 10 | 11 | - | 26 | 16.0 | 8 | R 1/8 | 100 | 100 | 63 |
| | DMC 06LL - 01R | 6 | 12 | 11 | - | 26 | 14.5 | 8 | R 1/8 | 100 | 100 | 63 |
| | DMC 08LL - 01R | 8 | 14 | 12 | - | 28 | 16.5 | 8 | R 1/8 | 100 | 100 | 63 |
| | DMC 08LL - 02R | 8 | 14 | 14 | - | 32 | 20.5 | 12 | R 1/4 | 100 | 100 | 63 |
| | DMC 10LL - 02R | 10 | 17 | 14 | - | 32 | 20.5 | 12 | R 1/4 | 100 | | 63 |
| | DMC 12LL - 02R | 12 | 19 | 17 | - | 32 | 20.0 | 12 | R 1/4 | 100 | | 63 |
| | DMC 12LL - 03R | 12 | 19 | 17 | - | 32 | 20.0 | 12 | R 3/8 | 100 | | 63 |
| L | DMC 06L - 01R | 6 | 14 | 12 | - | 30 | 15.0 | 8 | R 1/8 | 315 | 315 | |
| | DMC 08L - 02R | 8 | 17 | 17 | - | 35 | 20.0 | 12 | R 1/4 | 315 | 315 | |
| | DMC 10L - 02R | 10 | 19 | 17 | - | 36 | 21.0 | 12 | R 1/4 | 315 | 315 | |
| | DMC 12L - 02R | 12 | 22 | 19 | - | 37 | 22.0 | 12 | R 1/4 | 315 | | 200 |
| | DMC 12L - 03R | 12 | 22 | 19 | - | 37 | 22.0 | 12 | R 3/8 | 315 | 315 | |
| | DMC 12L - 04R | 12 | 22 | 24 | - | 39 | 24.0 | 14 | R 1/2 | 315 | 315 | 200 |
| | DMC 15L - 03R | 15 | 27 | 24 | - | 38 | 23.0 | 12 | R 3/8 | 315 | 250 | 200 |
| | DMC 15L - 04R | 15 | 27 | 24 | - | 40 | 25.0 | 14 | R 1/2 | 315 | 315 | |
| | DMC 18L - 04R | 18 | 32 | 27 | - | 41 | 25.5 | 14 | R 1/2 | 315 | 250 | 100 |
| DMC 22L - 06R | 22 | 36 | 32 | - | 46 | 29.5 | 16 | R 3/4 | 160 | 160 | 100 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

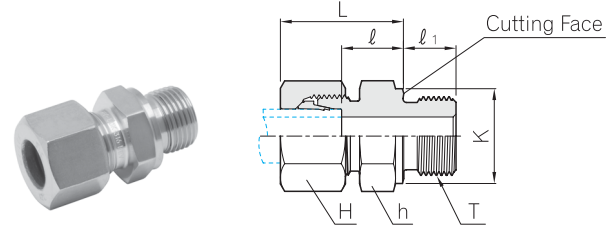
24° Tube Fittings-DIN 2353 & ISO 8434-1

Male Connector (Metric Tapered) DMC-MK



Form C stud end

Male Connector (Metric Parallel) DMC-M

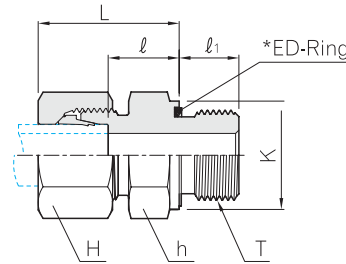
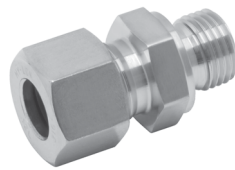


Form B stud end

| Series | Part No. | Tube O.D. | H | h | K | L | l | l ₁ | T | PN(bar) | | |
|---------------|-----------------|-----------|----|----|----|------|------|----------------|-------------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| LL | DMC 04LL - M 6K | 4 | 10 | 9 | - | 26 | 16.0 | 8 | M 6 x 1Keg | 100 | | |
| | DMC 04LL - M 8K | 4 | 10 | 10 | - | 26 | 16.0 | 8 | M 8 x 1Keg | 100 | 100 | 63 |
| | DMC 06LL - M10K | 6 | 12 | 11 | - | 26 | 14.5 | 8 | M 10 x 1Keg | 100 | 100 | 63 |
| | DMC 08LL - M10K | 8 | 14 | 12 | - | 28 | 16.5 | 8 | M 10 x 1Keg | 100 | 100 | 63 |
| L | DMC 06L - M10 | 6 | 14 | 14 | 14 | 23 | 8.5 | 8 | M 10 x 1.0 | 315 | 315 | 200 |
| | DMC 08L - M12 | 8 | 17 | 17 | 17 | 25 | 10.0 | 12 | M 12 x 1.5 | 315 | 315 | 200 |
| | DMC 08L - M18 | 8 | 17 | 24 | 23 | 26 | 11.5 | 12 | M 18 x 1.5 | 315 | 315 | |
| | DMC 10L - M14 | 10 | 19 | 19 | 19 | 26 | 11.0 | 12 | M 14 x 1.5 | 315 | 315 | 200 |
| | DMC 10L - M16 | 10 | 19 | 22 | 21 | 27 | 12.0 | 12 | M 16 x 1.5 | 315 | 315 | |
| | DMC 10L - M18 | 10 | 19 | 24 | 23 | 27 | 12.5 | 12 | M 18 x 1.5 | 315 | 315 | |
| | DMC 10L - M22 | 10 | 19 | 27 | 27 | 29 | 14.0 | 14 | M 22 x 1.5 | 315 | 315 | |
| | DMC 12L - M14 | 12 | 22 | 19 | 19 | 26 | 11.0 | 12 | M 14 x 1.5 | 315 | 315 | |
| | DMC 12L - M16 | 12 | 22 | 22 | 21 | 27 | 12.5 | 12 | M 16 x 1.5 | 315 | 315 | |
| | DMC 12L - M18 | 12 | 22 | 24 | 23 | 27 | 12.5 | 12 | M 18 x 1.5 | 315 | 315 | |
| | DMC 12L - M22 | 12 | 22 | 27 | 27 | 29 | 14.0 | 14 | M 22 x 1.5 | 315 | 315 | |
| | DMC 15L - M16 | 15 | 27 | 24 | 21 | 28 | 13.0 | 12 | M 16 x 1.5 | 250 | 250 | |
| | DMC 15L - M18 | 15 | 27 | 24 | 23 | 29 | 13.5 | 12 | M 18 x 1.5 | 250 | 250 | 100 |
| | DMC 15L - M22 | 15 | 27 | 27 | 27 | 30 | 15.0 | 14 | M 22 x 1.5 | 250 | 250 | |
| | DMC 18L - M18 | 18 | 32 | 27 | 23 | 30 | 14.0 | 12 | M 18 x 1.5 | 250 | 250 | |
| | DMC 18L - M22 | 18 | 32 | 27 | 27 | 31 | 14.5 | 14 | M 22 x 1.5 | 250 | 250 | 160 |
| | DMC 22L - M22 | 22 | 36 | 32 | 27 | 33 | 16.5 | 14 | M 22 x 1.5 | 160 | 160 | |
| | DMC 22L - M26 | 22 | 36 | 32 | 31 | 33 | 16.5 | 16 | M 26 x 1.5 | 160 | 160 | 100 |
| | DMC 28L - M33 | 28 | 41 | 41 | 39 | 34 | 17.5 | 18 | M 33 x 2.0 | 160 | 160 | 100 |
| | DMC 35L - M42 | 35 | 50 | 50 | 49 | 39 | 17.5 | 20 | M 42 x 2.0 | 160 | 160 | 100 |
| DMC 42L - M48 | 42 | 60 | 55 | 55 | 42 | 19.0 | 22 | M 48 x 2.0 | 160 | 160 | 100 | |
| S | DMC 06S - M12 | 6 | 17 | 17 | 17 | 28 | 13.0 | 12 | M 12 x 1.5 | 400 | 400 | 250 |
| | DMC 08S - M14 | 8 | 19 | 19 | 19 | 30 | 15.0 | 12 | M 14 x 1.5 | 400 | 400 | 250 |
| | DMC 10S - M16 | 10 | 22 | 22 | 21 | 31 | 15.0 | 12 | M 16 x 1.5 | 400 | 400 | 250 |
| | DMC 12S - M18 | 12 | 24 | 24 | 23 | 33 | 17.0 | 12 | M 18 x 1.5 | 400 | 400 | 250 |
| | DMC 12S - M22 | 12 | 24 | 27 | 27 | 34 | 17.5 | 14 | M 22 x 1.5 | 400 | 400 | |
| | DMC 14S - M20 | 14 | 27 | 27 | 25 | 37 | 19.0 | 14 | M 20 x 1.5 | 400 | 400 | 250 |
| | DMC 16S - M18 | 16 | 30 | 27 | 23 | 36 | 18.0 | 12 | M 18 x 1.5 | 400 | 400 | |
| | DMC 16S - M22 | 16 | 30 | 27 | 27 | 37 | 18.5 | 14 | M 22 x 1.5 | 400 | 400 | 250 |
| | DMC 20S - M27 | 20 | 36 | 32 | 32 | 42 | 20.5 | 16 | M 27 x 2.0 | 400 | 400 | 250 |
| | DMC 25S - M33 | 25 | 46 | 41 | 39 | 47 | 23.0 | 18 | M 33 x 2.0 | 250 | 250 | 160 |
| | DMC 30S - M42 | 30 | 50 | 50 | 49 | 50 | 23.5 | 20 | M 42 x 2.0 | 160 | 160 | 100 |
| | DMC 38S - M48 | 38 | 60 | 55 | 55 | 57 | 26.0 | 22 | M 48 x 2.0 | 160 | 160 | 100 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Male Connector(ISO/BSP Parallel) with *ED-Ring DMC-GED



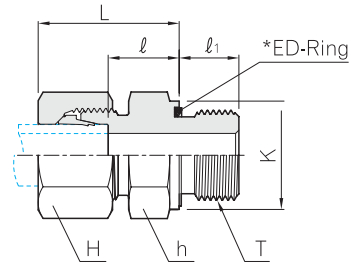
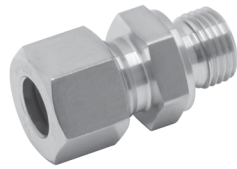
Form E stud end

| Series | Part No. | Tube O.D. | H | h | K | L | l | l ₁ | T | PN(bar) | | |
|-----------------|-----------------|-----------|----|----|----|------|------|----------------|---------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| L | DMC 06L - 01GED | 6 | 14 | 14 | 14 | 23 | 8,5 | 8 | G 1/8 | 500 | 315 | 200 |
| | DMC 06L - 02GED | 6 | 14 | 19 | 19 | 25 | 10.0 | 12 | G 1/4 | 500 | 315 | 200 |
| | DMC 08L - 01GED | 8 | 17 | 14 | 14 | 24 | 9.5 | 8 | G 1/8 | 500 | 315 | 200 |
| | DMC 08L - 02GED | 8 | 17 | 19 | 19 | 25 | 10.0 | 12 | G 1/4 | 500 | 315 | 200 |
| | DMC 08L - 03GED | 8 | 17 | 22 | 22 | 26 | 11.5 | 12 | G 3/8 | 420 | 315 | 200 |
| | DMC 10L - 02GED | 10 | 19 | 19 | 19 | 26 | 11.0 | 12 | G 1/4 | 500 | 315 | 200 |
| | DMC 10L - 03GED | 10 | 19 | 22 | 22 | 27 | 12.5 | 12 | G 3/8 | 420 | 315 | 200 |
| | DMC 10L - 04GED | 10 | 19 | 27 | 27 | 28 | 13.0 | 14 | G 1/2 | 400 | 315 | 200 |
| | DMC 12L - 02GED | 12 | 22 | 19 | 19 | 27 | 12.0 | 12 | G 1/4 | 400 | 315 | 200 |
| | DMC 12L - 03GED | 12 | 22 | 22 | 22 | 27 | 12.5 | 12 | G 3/8 | 420 | 315 | 200 |
| | DMC 12L - 04GED | 12 | 22 | 27 | 27 | 28 | 13.0 | 14 | G 1/2 | 400 | 315 | 200 |
| | DMC 15L - 03GED | 15 | 27 | 24 | 22 | 29 | 13.5 | 12 | G 3/8 | 400 | 315 | 200 |
| | DMC 15L - 04GED | 15 | 27 | 27 | 27 | 29 | 14.0 | 14 | G 1/2 | 400 | 315 | 200 |
| | DMC 18L - 04GED | 18 | 32 | 27 | 27 | 31 | 14.5 | 14 | G 1/2 | 400 | 315 | 200 |
| | DMC 18L - 06GED | 18 | 32 | 32 | 32 | 31 | 14.5 | 16 | G 3/4 | 250 | 160 | 100 |
| | DMC 22L - 06GED | 22 | 36 | 32 | 32 | 33 | 16.5 | 16 | G 3/4 | 250 | 160 | 100 |
| | DMC 28L - 08GED | 28 | 41 | 41 | 40 | 34 | 17.5 | 18 | G 1 | 250 | 160 | 100 |
| | DMC 35L - 10GED | 35 | 50 | 50 | 50 | 39 | 17.5 | 20 | G 1 1/4 | 250 | 160 | 100 |
| DMC 42L - 12GED | 42 | 60 | 55 | 55 | 42 | 19.0 | 22 | G 1 1/2 | 250 | 160 | 100 | |
| S | DMC 06S - 02GED | 6 | 17 | 19 | 19 | 28 | 13.0 | 12 | G 1/4 | 800 | 630 | 400 |
| | DMC 08S - 02GED | 8 | 19 | 19 | 19 | 30 | 15.0 | 12 | G 1/4 | 800 | 630 | 400 |
| | DMC 08S - 03GED | 8 | 19 | 22 | 22 | 30 | 15.5 | 12 | G 3/8 | 800 | 630 | |
| | DMC 10S - 02GED | 10 | 22 | 19 | 19 | 31 | 14.5 | 12 | G 1/4 | 800 | 630 | |
| | DMC 10S - 03GED | 10 | 22 | 22 | 22 | 31 | 15.0 | 12 | G 3/8 | 800 | 630 | 400 |
| | DMC 10S - 04GED | 10 | 22 | 27 | 27 | 34 | 17.5 | 14 | G 1/2 | 630 | 630 | |
| | DMC 12S - 02GED | 12 | 24 | 22 | 19 | 33 | 16.5 | 12 | G 1/4 | 630 | 630 | |
| | DMC 12S - 03GED | 12 | 24 | 22 | 22 | 33 | 17.0 | 12 | G 3/8 | 630 | 630 | 400 |
| | DMC 12S - 04GED | 12 | 24 | 27 | 32 | 34 | 17.5 | 14 | G 1/2 | 630 | 630 | |
| | DMC 14S - 04GED | 14 | 27 | 27 | 27 | 37 | 19.0 | 14 | G 1/2 | 630 | 630 | 400 |
| | DMC 16S - 03GED | 16 | 30 | 27 | 22 | 36 | 18.0 | 12 | G 3/8 | 630 | 400 | |
| | DMC 16S - 04GED | 16 | 30 | 27 | 27 | 37 | 18.5 | 14 | G 1/2 | 630 | 400 | 250 |
| | DMC 16S - 06GED | 16 | 30 | 32 | 27 | 39 | 20.5 | 16 | G 3/4 | 420 | 400 | |
| | DMC 20S - 06GED | 20 | 36 | 32 | 32 | 42 | 20.5 | 16 | G 3/4 | 420 | 400 | 250 |
| | DMC 25S - 04GED | 25 | 46 | 41 | 27 | 47 | 23.0 | 14 | G 1/2 | 420 | 400 | |
| | DMC 25S - 06GED | 25 | 46 | 41 | 32 | 47 | 23.0 | 16 | G 3/4 | 420 | 400 | |
| | DMC 25S - 08GED | 25 | 46 | 41 | 40 | 47 | 23.0 | 18 | G 1 | 420 | 400 | 250 |
| | DMC 30S - 10GED | 30 | 50 | 50 | 50 | 50 | 23.5 | 20 | G 1 1/4 | 420 | 400 | 250 |
| DMC 38S - 12GED | 38 | 60 | 55 | 55 | 57 | 26.0 | 22 | G 1 1/2 | 420 | 315 | 200 | |

Dimensions given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.
* The standard ED-Ring material is NBR(e.g. perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

24° Tube Fittings-DIN 2353 & ISO 8434-1

Male Connector(Metric Parallel) with *ED-Ring DMC-MED



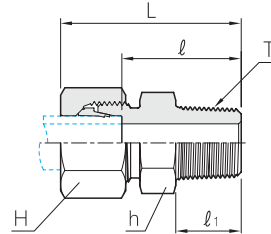
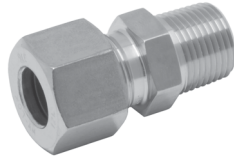
Form E stud end

| Series | Part No. | Tube O.D. | H | h | K | L | l | l ₁ | T | PN(bar) | |
|-----------------|-----------------|-----------|----|----|----|------|------|----------------|------------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DMC 06L - M10ED | 6 | 14 | 14 | 14 | 23 | 8.5 | 8 | M 10 x 1.0 | 500 | 315 |
| | DMC 08L - M12ED | 8 | 17 | 17 | 17 | 25 | 10.0 | 12 | M 12 x 1.5 | 500 | 315 |
| | DMC 10L - M14ED | 10 | 19 | 19 | 19 | 26 | 11.0 | 12 | M 14 x 1.5 | 500 | 315 |
| | DMC 12L - M16ED | 12 | 22 | 22 | 22 | 27 | 12.5 | 12 | M 16 x 1.5 | 400 | 315 |
| | DMC 12L - M18ED | 12 | 22 | 24 | 24 | 27 | 12.5 | 12 | M 18 x 1.5 | 400 | 315 |
| | DMC 12L - M22ED | 12 | 22 | 27 | 27 | 29 | 14.0 | 14 | M 22 x 1.5 | 400 | 315 |
| | DMC 15L - M18ED | 15 | 27 | 24 | 24 | 29 | 13.5 | 12 | M 18 x 1.5 | 400 | 315 |
| | DMC 15L - M22ED | 15 | 27 | 27 | 27 | 30 | 15.0 | 14 | M 22 x 1.5 | 400 | 315 |
| | DMC 18L - M22ED | 18 | 32 | 27 | 27 | 31 | 14.5 | 14 | M 22 x 1.5 | 400 | 315 |
| | DMC 22L - M26ED | 22 | 36 | 32 | 32 | 33 | 16.5 | 16 | M 26 x 1.5 | 250 | 160 |
| | DMC 28L - M33ED | 28 | 41 | 41 | 40 | 34 | 17.5 | 18 | M 33 x 2.0 | 250 | 160 |
| | DMC 35L - M42ED | 35 | 50 | 50 | 50 | 39 | 17.5 | 20 | M 42 x 2.0 | 250 | 160 |
| DMC 42L - M48ED | 42 | 60 | 55 | 55 | 42 | 19.0 | 22 | M 48 x 2.0 | 250 | 160 | |
| S | DMC 06S - M12ED | 6 | 17 | 17 | 17 | 28 | 13.0 | 12 | M 12 x 1.5 | 800 | 630 |
| | DMC 08S - M14ED | 8 | 19 | 19 | 19 | 30 | 15.0 | 12 | M 14 x 1.5 | 800 | 630 |
| | DMC 10S - M16ED | 10 | 22 | 22 | 22 | 31 | 15.0 | 12 | M 16 x 1.5 | 800 | 630 |
| | DMC 12S - M18ED | 12 | 24 | 24 | 24 | 33 | 17.0 | 12 | M 18 x 1.5 | 630 | 630 |
| | DMC 14S - M20ED | 14 | 27 | 27 | 26 | 37 | 19.0 | 14 | M 20 x 1.5 | 630 | 630 |
| | DMC 16S - M22ED | 16 | 30 | 27 | 27 | 37 | 18.5 | 14 | M 22 x 1.5 | 630 | 400 |
| | DMC 20S - M27ED | 20 | 36 | 32 | 32 | 42 | 20.5 | 16 | M 27 x 2.0 | 420 | 400 |
| | DMC 25S - M33ED | 25 | 46 | 41 | 40 | 47 | 23.0 | 18 | M 33 x 2.0 | 420 | 400 |
| | DMC 30S - M42ED | 30 | 50 | 50 | 50 | 50 | 23.5 | 20 | M 42 x 2.0 | 420 | 400 |
| | DMC 38S - M48ED | 38 | 60 | 55 | 55 | 57 | 26.0 | 22 | M 48 x 2.0 | 420 | 315 |

Dimensions given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

* The standard ED-Ring material is NBR(e.g. perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

Male Connector (NPT Tapered)
DMC-N

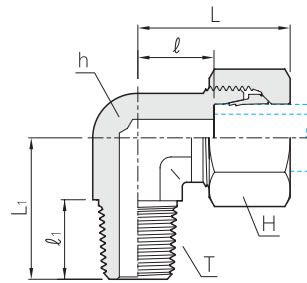


Form C stud end

| Series | Part No. | Tube O.D. | H | h | L | l | l ₁ | T | PN(bar) | | |
|---------------|----------------|-----------|----|----|------|------|------------------|------------------|---------|-------|-------|
| | | | | | | | | | C.Steel | SS316 | BRASS |
| LL | DMC 04LL - 01N | 4 | 10 | 11 | 28 | 18.5 | 9.9 | 1/8 - 27.0 NPT | 100 | 100 | |
| | DMC 06LL - 01N | 6 | 12 | 11 | 28 | 16.5 | 9.9 | 1/8 - 27.0 NPT | 100 | 100 | 63 |
| | DMC 08LL - 01N | 8 | 14 | 12 | 30 | 18.5 | 9.9 | 1/8 - 27.0 NPT | 100 | 100 | 63 |
| L | DMC 06L - 01N | 6 | 14 | 12 | 32 | 17.0 | 9.9 | 1/8 - 27.0 NPT | 315 | 315 | 200 |
| | DMC 06L - 02N | 6 | 14 | 17 | 38 | 23.0 | 14.2 | 1/4 - 18.0 NPT | 315 | 315 | 200 |
| | DMC 08L - 02N | 8 | 17 | 17 | 38 | 23.0 | 14.2 | 1/4 - 18.0 NPT | 315 | 315 | 200 |
| | DMC 10L - 02N | 10 | 19 | 17 | 39 | 24.0 | 14.2 | 1/4 - 18.0 NPT | 315 | 315 | 200 |
| | DMC 10L - 03N | 10 | 19 | 19 | 40 | 25.0 | 14.2 | 3/8 - 18.0 NPT | 315 | 315 | |
| | DMC 12L - 02N | 12 | 22 | 19 | 40 | 25.0 | 14.2 | 1/4 - 18.0 NPT | 315 | 315 | 200 |
| | DMC 12L - 03N | 12 | 22 | 19 | 40 | 25.0 | 14.2 | 3/8 - 18.0 NPT | 315 | 315 | 200 |
| | DMC 12L - 04N | 12 | 22 | 22 | 45 | 30.0 | 19.1 | 1/2 - 14.0 NPT | 315 | 315 | 200 |
| | DMC 15L - 04N | 15 | 27 | 24 | 46 | 31.0 | 19.1 | 1/2 - 14.0 NPT | 315 | 315 | 200 |
| | DMC 18L - 04N | 18 | 32 | 27 | 48 | 31.5 | 19.1 | 1/2 - 14.0 NPT | 315 | 315 | 200 |
| | DMC 22L - 06N | 22 | 36 | 32 | 50 | 33.5 | 19.1 | 3/4 - 14.0 NPT | 160 | 160 | 100 |
| | DMC 28L - 08N | 28 | 41 | 41 | 56 | 39.5 | 23.9 | 1 - 11.5 NPT | 160 | 160 | 100 |
| | DMC 35L - 10N | 35 | 50 | 46 | 62 | 40.5 | 23.9 | 1 1/4 - 11.5 NPT | 160 | 160 | |
| DMC 42L - 12N | 42 | 60 | 55 | 65 | 42.0 | 25.4 | 1 1/2 - 11.5 NPT | 160 | 160 | | |
| S | DMC 06S - 02N | 6 | 17 | 17 | 43 | 28.0 | 14.2 | 1/4 - 18.0 NPT | 630 | 630 | 400 |
| | DMC 08S - 02N | 8 | 19 | 17 | 43 | 28.0 | 14.2 | 1/4 - 18.0 NPT | 630 | 630 | 400 |
| | DMC 10S - 02N | 10 | 22 | 19 | 44 | 27.5 | 14.2 | 1/4 - 18.0 NPT | 630 | 630 | |
| | DMC 10S - 03N | 10 | 22 | 19 | 44 | 27.5 | 14.2 | 3/8 - 18.0 NPT | 630 | 630 | 400 |
| | DMC 12S - 02N | 12 | 24 | 22 | 46 | 29.5 | 14.2 | 1/4 - 18.0 NPT | 630 | 630 | |
| | DMC 12S - 03N | 12 | 24 | 22 | 46 | 29.5 | 14.2 | 3/8 - 18.0 NPT | 630 | 630 | 400 |
| | DMC 12S - 04N | 12 | 24 | 22 | 51 | 34.5 | 19.1 | 1/2 - 14.0 NPT | 630 | 630 | 400 |
| | DMC 14S - 04N | 14 | 27 | 24 | 54 | 36.0 | 19.1 | 1/2 - 14.0 NPT | 630 | 630 | 400 |
| | DMC 16S - 04N | 16 | 30 | 27 | 54 | 35.5 | 19.1 | 1/2 - 14.0 NPT | 400 | 400 | 250 |
| | DMC 20S - 06N | 20 | 36 | 32 | 59 | 37.5 | 19.1 | 3/4 - 14.0 NPT | 400 | 400 | 250 |
| | DMC 25S - 08N | 25 | 46 | 41 | 69 | 45.0 | 23.9 | 1 - 11.5 NPT | 400 | 400 | |
| | DMC 30S - 10N | 30 | 50 | 46 | 73 | 46.5 | 23.9 | 1 1/4 - 11.5 NPT | 400 | 400 | |
| DMC 38S - 12N | 38 | 60 | 55 | 80 | 49.0 | 25.4 | 1 1/2 - 11.5 NPT | 315 | 315 | | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Male Elbow (ISO/BSP Tapered / Metric Tapered)
DLM-R/M



Form C stud end

for ISO/BSP Tapered

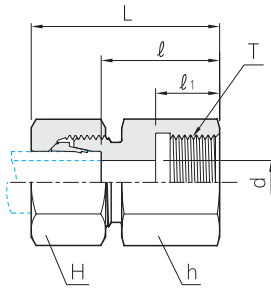
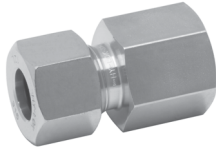
| Series | Part No. | Tube O.D. | H | h | L | L ₁ | ℓ | ℓ ₁ | T | PN(bar) | | |
|--------|----------------|-----------|----|----|----|----------------|------|----------------|-------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| LL | DLM 04LL - 01R | 4 | 10 | 9 | 21 | 17 | 11.0 | 10 | R 1/8 | 100 | 100 | 63 |
| | DLM 06LL - 01R | 6 | 12 | 9 | 21 | 17 | 9.5 | 10 | R 1/8 | 100 | 100 | 63 |
| | DLM 08LL - 01R | 8 | 14 | 12 | 23 | 20 | 11.5 | 10 | R 1/8 | 100 | 100 | 63 |
| | DLM 10LL - 02R | 10 | 17 | 14 | 24 | 23 | 12.5 | 14 | R 1/4 | 100 | | |
| | DLM 12LL - 02R | 12 | 19 | 17 | 25 | 23 | 13.0 | 14 | R 1/4 | 100 | | |
| L | DLM 06L - 01R | 6 | 14 | 12 | 27 | 20 | 12.0 | 10 | R 1/8 | 315 | 315 | 200 |
| | DLM 08L - 02R | 8 | 17 | 12 | 29 | 26 | 14.0 | 14 | R 1/4 | 315 | 315 | 200 |
| | DLM 10L - 02R | 10 | 19 | 14 | 30 | 27 | 15.0 | 14 | R 1/4 | 315 | 315 | 200 |
| | DLM 12L - 03R | 12 | 22 | 17 | 32 | 28 | 17.0 | 15 | R 3/8 | 315 | 315 | 200 |
| | DLM 15L - 04R | 15 | 27 | 19 | 36 | 34 | 21.0 | 19 | R 1/2 | 315 | 315 | 200 |
| | DLM 18L - 04R | 18 | 32 | 24 | 40 | 36 | 23.5 | 19 | R 1/2 | 315 | 315 | 200 |
| S | DLM 06S - 02R | 6 | 17 | 12 | 31 | 26 | 16.0 | 14 | R 1/4 | 400 | 400 | 250 |
| | DLM 08S - 02R | 8 | 19 | 14 | 32 | 27 | 17.0 | 14 | R 1/4 | 400 | 400 | 250 |
| | DLM 10S - 03R | 10 | 22 | 17 | 34 | 28 | 17.5 | 15 | R 3/8 | 400 | 400 | 250 |
| | DLM 12S - 03R | 12 | 24 | 17 | 38 | 28 | 21.5 | 15 | R 3/8 | 400 | 400 | 250 |
| | DLM 14S - 04R | 14 | 27 | 19 | 40 | 32 | 22.0 | 19 | R 1/2 | 400 | 400 | |
| | DLM 16S - 04R | 16 | 30 | 24 | 43 | 32 | 24.5 | 19 | R 1/2 | 400 | 400 | 250 |

for Metric Tapered

| Series | Part No. | Tube O.D. | H | h | L | L ₁ | ℓ | ℓ ₁ | T | PN(bar) | | |
|--------|-----------------|-----------|----|----|----|----------------|------|----------------|-----------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| LL | DLM 04LL - M 8K | 4 | 10 | 9 | 21 | 17 | 11.0 | 8 | M 8 x 1.0 | 100 | 100 | 63 |
| | DLM 06LL - M10K | 6 | 12 | 9 | 21 | 17 | 9.5 | 8 | M10 x 1.0 | 100 | 100 | 63 |
| | DLM 08LL - M10K | 8 | 14 | 12 | 23 | 20 | 11.5 | 8 | M10 x 1.0 | 100 | 100 | 63 |
| L | DLM 06L - M10K | 6 | 14 | 12 | 27 | 20 | 12.0 | 8 | M10 x 1.0 | 315 | 315 | 200 |
| | DLM 08L - M12K | 8 | 17 | 12 | 29 | 26 | 14.0 | 12 | M12 x 1.5 | 315 | 315 | 200 |
| | DLM 10L - M14K | 10 | 19 | 14 | 30 | 27 | 15.0 | 12 | M14 x 1.5 | 315 | 315 | 200 |
| | DLM 12L - M16K | 12 | 22 | 17 | 32 | 28 | 17.0 | 14 | M16 x 1.5 | 315 | 315 | 200 |
| | DLM 15L - M18K | 15 | 27 | 19 | 36 | 34 | 21.0 | 14 | M18 x 1.5 | 315 | 315 | 200 |
| | DLM 18L - M22K | 18 | 32 | 24 | 40 | 36 | 23.5 | 17 | M22 x 1.5 | 315 | 315 | 200 |
| S | DLM 06S - M12K | 6 | 17 | 12 | 31 | 26 | 16.0 | 12 | M12 x 1.5 | 400 | 400 | 250 |
| | DLM 08S - M14K | 8 | 19 | 14 | 32 | 27 | 17.0 | 12 | M14 x 1.5 | 400 | 400 | 250 |
| | DLM 10S - M16K | 10 | 22 | 17 | 34 | 28 | 17.5 | 12 | M16 x 1.5 | 400 | 400 | 250 |
| | DLM 12S - M18K | 12 | 24 | 17 | 38 | 28 | 21.5 | 12 | M18 x 1.5 | 400 | 400 | 250 |
| | DLM 14S - M20K | 14 | 27 | 19 | 40 | 32 | 22.0 | 14 | M20 x 1.5 | 400 | 400 | |
| | DLM 16S - M22K | 16 | 30 | 24 | 43 | 32 | 24.5 | 17 | M22 x 1.5 | 400 | 400 | 250 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Female Connector(ISO/BSP Parallel / Metric Parallel)
DFC-G/M



Form Y Tapped Hole

for ISO/BSP Parallel

| Series | Part No. | Tube O.D. | d | H | h | L | ℓ | ℓ ₁ | T | PN(bar) | | |
|---------------|---------------|-----------|----|----|----|------|------|----------------|---------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| L | DFC 06L - 01G | 6 | 4 | 14 | 14 | 34 | 19.0 | 12.0 | G 1/8 | 315 | 315 | 200 |
| | DFC 08L - 02G | 8 | 6 | 17 | 19 | 39 | 24.0 | 17.0 | G 1/4 | 315 | 315 | 200 |
| | DFC 08L - 03G | 8 | 6 | 17 | 24 | 40 | 25.0 | 17.0 | G 3/8 | 315 | 315 | 200 |
| | DFC 08L - 04G | 8 | 6 | 17 | 27 | 44 | 29.0 | 20.0 | G 1/2 | 315 | 315 | 200 |
| | DFC 10L - 02G | 10 | 8 | 19 | 19 | 40 | 25.0 | 17.0 | G 1/4 | 315 | 315 | 200 |
| | DFC 10L - 03G | 10 | 8 | 19 | 24 | 41 | 26.0 | 17.0 | G 3/8 | 315 | 315 | 200 |
| | DFC 10L - 04G | 10 | 8 | 19 | 27 | 45 | 30.0 | 20.0 | G 1/2 | 315 | 315 | 200 |
| | DFC 12L - 03G | 12 | 10 | 22 | 24 | 41 | 26.0 | 17.0 | G 3/8 | 315 | 315 | 200 |
| | DFC 12L - 04G | 12 | 10 | 22 | 27 | 45 | 30.0 | 20.0 | G 1/2 | 315 | 315 | 200 |
| | DFC 15L - 04G | 15 | 12 | 27 | 27 | 46 | 31.0 | 20.0 | G 1/2 | 315 | 315 | 200 |
| | DFC 18L - 04G | 18 | 15 | 32 | 27 | 47 | 30.5 | 20.0 | G 1/2 | 315 | 315 | 200 |
| | DFC 22L - 06G | 22 | 19 | 36 | 36 | 52 | 35.5 | 22.0 | G 3/4 | 160 | 160 | 100 |
| | DFC 28L - 08G | 28 | 24 | 41 | 41 | 55 | 38.0 | 24.5 | G 1 | 160 | 160 | 100 |
| | DFC 35L - 10G | 35 | 30 | 50 | 55 | 63 | 41.0 | 26.5 | G 1 1/4 | 160 | 160 | 100 |
| DFC 42L - 12G | 42 | 36 | 60 | 60 | 65 | 42.5 | 28.5 | G 1 1/2 | 160 | 160 | 100 | |
| S | DFC 06S - 02G | 6 | 4 | 17 | 19 | 41 | 26.0 | 17.0 | G 1/4 | 400 | 400 | |
| | DFC 08S - 02G | 8 | 5 | 19 | 19 | 41 | 26.0 | 17.0 | G 1/4 | 400 | 400 | |
| | DFC 10S - 03G | 10 | 7 | 22 | 24 | 43 | 26.5 | 17.0 | G 3/8 | 400 | 400 | |
| | DFC 12S - 03G | 12 | 8 | 24 | 24 | 43 | 26.5 | 17.0 | G 3/8 | 400 | 400 | |
| | DFC 14S - 04G | 14 | 10 | 27 | 30 | 50 | 32.0 | 20.0 | G 1/2 | 400 | 400 | |
| | DFC 16S - 04G | 16 | 12 | 30 | 30 | 50 | 31.5 | 20.0 | G 1/2 | 400 | 400 | |
| | DFC 20S - 06G | 20 | 16 | 36 | 36 | 56 | 34.5 | 22.0 | G 3/4 | 315 | 315 | |
| | DFC 25S - 08G | 25 | 20 | 46 | 41 | 62 | 37.5 | 24.5 | G 1 | 315 | 315 | |
| | DFC 30S - 10G | 30 | 25 | 50 | 55 | 69 | 42.0 | 26.5 | G 1 1/4 | 315 | 315 | |
| | DFC 38S - 12G | 38 | 32 | 60 | 60 | 74 | 43.5 | 28.5 | G 1 1/2 | 250 | 250 | |

for Metric Parallel

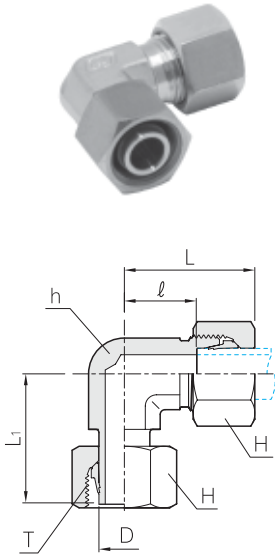
| Series | Part No. | Tube O.D. | d | H | h | L | ℓ | ℓ ₁ | T | PN(bar) | |
|--------|---------------|-----------|----|----|----|----|------|----------------|------------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DFC 06L - M10 | 6 | 4 | 14 | 14 | 34 | 19.5 | 12.5 | M 10 x 1.0 | 315 | 315 |
| | DFC 08L - M12 | 8 | 6 | 17 | 17 | 39 | 24.0 | 17.0 | M 12 x 1.5 | 315 | 315 |
| | DFC 10L - M14 | 10 | 8 | 19 | 19 | 40 | 25.0 | 17.0 | M 14 x 1.5 | 315 | 315 |
| | DFC 12L - M16 | 12 | 10 | 22 | 22 | 41 | 26.0 | 17.0 | M 16 x 1.5 | 315 | 315 |
| | DFC 15L - M18 | 15 | 12 | 27 | 24 | 43 | 28.0 | 17.0 | M 18 x 1.5 | 315 | 315 |
| | DFC 18L - M22 | 18 | 15 | 32 | 30 | 46 | 29.5 | 19.0 | M 22 x 1.5 | 315 | 315 |
| | DFC 22L - M26 | 22 | 19 | 36 | 32 | 51 | 34.5 | 21.0 | M 26 x 1.5 | 160 | 160 |
| | DFC 28L - M33 | 28 | 24 | 41 | 41 | 54 | 37.5 | 24.0 | M 33 x 2.0 | 160 | 160 |
| | DFC 35L - M42 | 35 | 30 | 50 | 55 | 62 | 40.5 | 26.0 | M 42 x 2.0 | 160 | 160 |
| | DFC 42L - M48 | 42 | 36 | 60 | 60 | 65 | 42.0 | 28.0 | M 48 x 2.0 | 160 | 160 |
| S | DFC 06S - M12 | 6 | 4 | 17 | 17 | 41 | 26.0 | 17.0 | M 12 x 1.5 | 400 | 400 |
| | DFC 08S - M14 | 8 | 5 | 19 | 19 | 41 | 26.0 | 17.0 | M 14 x 1.5 | 400 | 400 |
| | DFC 10S - M16 | 10 | 7 | 22 | 22 | 43 | 26.5 | 17.0 | M 16 x 1.5 | 400 | 400 |
| | DFC 12S - M18 | 12 | 8 | 24 | 24 | 44 | 27.5 | 17.0 | M 18 x 1.5 | 400 | 400 |
| | DFC 14S - M20 | 14 | 10 | 27 | 27 | 49 | 31.0 | 19.0 | M 20 x 1.5 | 400 | 400 |
| | DFC 16S - M22 | 16 | 12 | 30 | 30 | 49 | 30.5 | 19.0 | M 22 x 1.5 | 400 | 400 |
| | DFC 20S - M27 | 20 | 16 | 36 | 36 | 56 | 34.5 | 22.0 | M 27 x 2.0 | 315 | 315 |
| | DFC 25S - M33 | 25 | 20 | 46 | 41 | 61 | 37.0 | 24.0 | M 33 x 2.0 | 315 | 315 |
| | DFC 30S - M42 | 30 | 25 | 50 | 55 | 68 | 41.5 | 26.0 | M 42 x 2.0 | 315 | 315 |
| | DFC 38S - M48 | 38 | 32 | 60 | 60 | 74 | 43.0 | 28.0 | M 48 x 2.0 | 250 | 250 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

24° Tube Fittings-DIN 2353 & ISO 8434-1

Adjustable Elbow with Standpipe

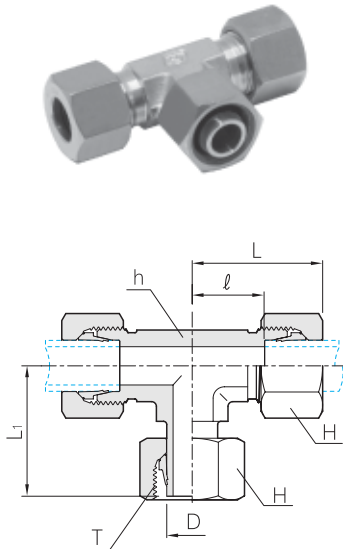
DLA



| Series | Part No. | Tube O.D. | D | H ₁ | h | L | L ₁ | l | T | | | |
|--------|-----------|-----------|----|----------------|----|----|----------------|------|------------|--|--|--|
| | | | | | | | | | | | | |
| L | DLA - 06L | 6 | 6 | 14 | 12 | 27 | 26.0 | 12.0 | M 12 x 1,5 | | | |
| | DLA - 08L | 8 | 8 | 17 | 12 | 29 | 27.5 | 14.0 | M 14 x 1,5 | | | |
| | DLA - 10L | 10 | 10 | 19 | 14 | 30 | 29.0 | 15.0 | M 16 x 1,5 | | | |
| | DLA - 12L | 12 | 12 | 22 | 17 | 32 | 29.5 | 17.0 | M 18 x 1,5 | | | |
| | DLA - 15L | 15 | 15 | 27 | 19 | 36 | 32.5 | 21.0 | M 22 x 1,5 | | | |
| | DLA - 18L | 18 | 18 | 32 | 24 | 40 | 35.5 | 23.5 | M 26 x 1,5 | | | |
| | DLA - 22L | 22 | 22 | 36 | 27 | 44 | 38.5 | 27.5 | M 30 x 2 | | | |
| | DLA - 28L | 28 | 28 | 41 | 36 | 47 | 41.5 | 30.5 | M 36 x 2 | | | |
| | DLA - 35L | 35 | 35 | 50 | 41 | 56 | 51.0 | 34.5 | M 45 x 2 | | | |
| | DLA - 42L | 42 | 42 | 60 | 50 | 63 | 56.0 | 40.0 | M 52 x 2 | | | |
| S | DLA - 06S | 6 | 6 | 17 | 12 | 31 | 27.0 | 16.0 | M 14 x 1,5 | | | |
| | DLA - 08S | 8 | 8 | 19 | 14 | 32 | 27.5 | 17.0 | M 16 x 1,5 | | | |
| | DLA - 10S | 10 | 10 | 22 | 17 | 34 | 30.0 | 17.5 | M 18 x 1,5 | | | |
| | DLA - 12S | 12 | 12 | 24 | 17 | 38 | 31.0 | 21.5 | M 20 x 1,5 | | | |
| | DLA - 14S | 14 | 14 | 27 | 19 | 40 | 35.0 | 22.0 | M 22 x 1,5 | | | |
| | DLA - 16S | 16 | 16 | 30 | 24 | 43 | 36.5 | 24.5 | M 24 x 1,5 | | | |
| | DLA - 20S | 20 | 20 | 36 | 27 | 48 | 44.5 | 26.5 | M 30 x 2 | | | |
| | DLA - 25S | 25 | 25 | 46 | 36 | 54 | 50.0 | 30.0 | M 36 x 2 | | | |
| | DLA - 30S | 30 | 30 | 50 | 41 | 62 | 55.0 | 35.5 | M 42 x 2 | | | |
| | DLA - 38S | 38 | 38 | 60 | 50 | 72 | 63.0 | 41.0 | M 52 x 2 | | | |

Adjustable Branch Tee with Standpipe

DBTA

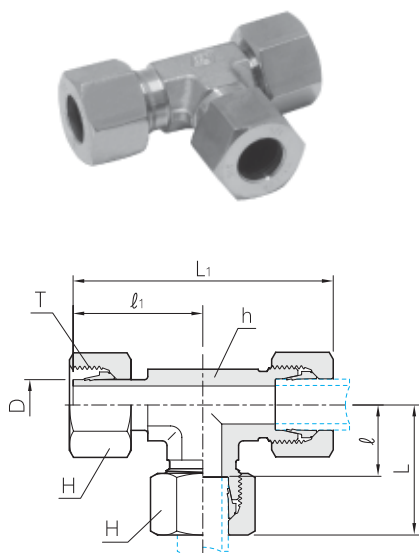


| Series | Part No. | Tube O.D. | D | H ₁ | h | L | L ₁ | l | T | | | |
|--------|------------|-----------|----|----------------|----|----|----------------|------|------------|--|--|--|
| | | | | | | | | | | | | |
| L | DBTA - 06L | 6 | 6 | 14 | 12 | 27 | 26.0 | 12.0 | M 12 x 1,5 | | | |
| | DBTA - 08L | 8 | 8 | 17 | 12 | 29 | 27.5 | 14.0 | M 14 x 1,5 | | | |
| | DBTA - 10L | 10 | 10 | 19 | 14 | 30 | 29.0 | 15.0 | M 16 x 1,5 | | | |
| | DBTA - 12L | 12 | 12 | 22 | 17 | 32 | 29.5 | 17.0 | M 18 x 1,5 | | | |
| | DBTA - 15L | 15 | 15 | 27 | 19 | 36 | 32.5 | 21.0 | M 22 x 1,5 | | | |
| | DBTA - 18L | 18 | 18 | 32 | 24 | 40 | 35.5 | 23.5 | M 26 x 1,5 | | | |
| | DBTA - 22L | 22 | 22 | 36 | 27 | 44 | 38.5 | 27.5 | M 30 x 2 | | | |
| | DBTA - 28L | 28 | 28 | 41 | 36 | 47 | 41.5 | 30.5 | M 36 x 2 | | | |
| | DBTA - 35L | 35 | 35 | 50 | 41 | 56 | 51.0 | 34.5 | M 45 x 2 | | | |
| | DBTA - 42L | 42 | 42 | 60 | 50 | 63 | 56.0 | 40.0 | M 52 x 2 | | | |
| S | DBTA - 06S | 6 | 6 | 17 | 12 | 31 | 27.0 | 16.0 | M 14 x 1,5 | | | |
| | DBTA - 08S | 8 | 8 | 19 | 14 | 32 | 27.5 | 17.0 | M 16 x 1,5 | | | |
| | DBTA - 10S | 10 | 10 | 22 | 17 | 34 | 30.0 | 17.5 | M 18 x 1,5 | | | |
| | DBTA - 12S | 12 | 12 | 24 | 17 | 38 | 31.0 | 21.5 | M 20 x 1,5 | | | |
| | DBTA - 14S | 14 | 14 | 27 | 19 | 40 | 35.0 | 22.0 | M 22 x 1,5 | | | |
| | DBTA - 16S | 16 | 16 | 30 | 24 | 43 | 36.5 | 24.5 | M 24 x 1,5 | | | |
| | DBTA - 20S | 20 | 20 | 36 | 27 | 48 | 44.5 | 26.5 | M 30 x 2 | | | |
| | DBTA - 25S | 25 | 25 | 46 | 36 | 54 | 50.0 | 30.0 | M 36 x 2 | | | |
| | DBTA - 30S | 30 | 30 | 50 | 41 | 62 | 55.0 | 35.5 | M 42 x 2 | | | |
| | DBTA - 38S | 38 | 38 | 60 | 50 | 72 | 63.0 | 41.0 | M 52 x 2 | | | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.
Pre-set nut and cutting ring for connection are provided without male stud.
Please refer to final assembly instructions on page 67.

Adjustable Run Tee with Standpipe

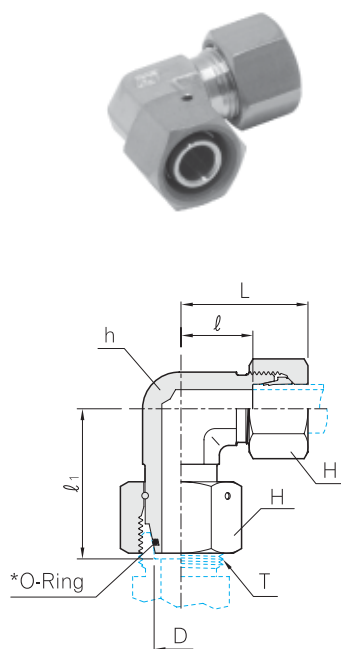
DRTA



| Series | Part No. | Tube O.D. | D | h | H | L | L ₁ | l | l ₁ | T | | | |
|------------|------------|-----------|----|----|----|-----|----------------|------|----------------|------------|--|--|--|
| L | DRTA - 06L | 6 | 6 | 12 | 14 | 27 | 53 | 12.0 | 26.0 | M 12 x 1.5 | | | |
| | DRTA - 08L | 8 | 8 | 12 | 17 | 29 | 56 | 14.0 | 27.5 | M 14 x 1.5 | | | |
| | DRTA - 10L | 10 | 10 | 14 | 19 | 30 | 59 | 15.0 | 29.0 | M 16 x 1.5 | | | |
| | DRTA - 12L | 12 | 12 | 17 | 22 | 32 | 62 | 17.0 | 29.5 | M 18 x 1.5 | | | |
| | DRTA - 15L | 15 | 15 | 19 | 27 | 36 | 69 | 21.0 | 32.5 | M 22 x 1.5 | | | |
| | DRTA - 18L | 18 | 18 | 24 | 32 | 40 | 75 | 23.5 | 35.5 | M 26 x 1.5 | | | |
| | DRTA - 22L | 22 | 22 | 27 | 36 | 44 | 83 | 27.5 | 38.5 | M 30 x 2 | | | |
| | DRTA - 28L | 28 | 28 | 36 | 41 | 47 | 91 | 30.5 | 41.5 | M 36 x 2 | | | |
| | DRTA - 35L | 35 | 35 | 41 | 50 | 56 | 111 | 34.5 | 51.0 | M 45 x 2 | | | |
| DRTA - 42L | 42 | 42 | 50 | 60 | 63 | 123 | 40.0 | 56.0 | M 52 x 2 | | | | |
| S | DRTA - 06S | 6 | 6 | 12 | 17 | 31 | 58 | 16.0 | 27.0 | M 14 x 1.5 | | | |
| | DRTA - 08S | 8 | 8 | 14 | 19 | 32 | 61 | 17.0 | 27.5 | M 16 x 1.5 | | | |
| | DRTA - 10S | 10 | 10 | 17 | 22 | 34 | 66 | 17.5 | 30.0 | M 18 x 1.5 | | | |
| | DRTA - 12S | 12 | 12 | 17 | 24 | 38 | 71 | 21.5 | 31.0 | M 20 x 1.5 | | | |
| | DRTA - 14S | 14 | 14 | 19 | 27 | 40 | 75 | 22.0 | 35.0 | M 22 x 1.5 | | | |
| | DRTA - 16S | 16 | 16 | 24 | 30 | 43 | 79 | 24.5 | 36.5 | M 24 x 1.5 | | | |
| | DRTA - 20S | 20 | 20 | 27 | 36 | 48 | 93 | 26.5 | 44.5 | M 30 x 2 | | | |
| | DRTA - 25S | 25 | 25 | 36 | 46 | 54 | 105 | 30.0 | 50.0 | M 36 x 2 | | | |
| | DRTA - 30S | 30 | 30 | 41 | 50 | 62 | 119 | 35.5 | 55.0 | M 42 x 2 | | | |
| DRTA - 38S | 38 | 38 | 50 | 60 | 72 | 138 | 41.0 | 63.0 | M 52 x 2 | | | | |

Swivel Adjustable Elbow with Cone

DEW



| Series | Part No. | Tube O.D. D | H | h | L | l | l ₁ | T | | | |
|-----------|-----------|-------------|----|----|------|------|----------------|------------|--|--|--|
| L | DEW - 06L | 6 | 14 | 12 | 27 | 12.0 | 26.0 | M 12 x 1.5 | | | |
| | DEW - 08L | 8 | 17 | 12 | 29 | 14.0 | 27.5 | M 14 x 1.5 | | | |
| | DEW - 10L | 10 | 19 | 14 | 30 | 15.0 | 29.0 | M 16 x 1.5 | | | |
| | DEW - 12L | 12 | 22 | 17 | 32 | 17.0 | 29.5 | M 18 x 1.5 | | | |
| | DEW - 15L | 15 | 27 | 19 | 36 | 21.0 | 32.5 | M 22 x 1.5 | | | |
| | DEW - 18L | 18 | 32 | 24 | 40 | 23.5 | 35.5 | M 26 x 1.5 | | | |
| | DEW - 22L | 22 | 36 | 27 | 44 | 27.5 | 38.5 | M 30 x 2 | | | |
| | DEW - 28L | 28 | 41 | 36 | 47 | 30.5 | 41.5 | M 36 x 2 | | | |
| | DEW - 35L | 35 | 50 | 41 | 56 | 34.5 | 51.0 | M 45 x 2 | | | |
| DEW - 42L | 42 | 60 | 50 | 63 | 40.0 | 56.0 | M 52 x 2 | | | | |
| S | DEW - 06S | 6 | 17 | 12 | 31 | 16.0 | 27.0 | M 14 x 1.5 | | | |
| | DEW - 08S | 8 | 19 | 14 | 32 | 17.0 | 27.5 | M 16 x 1.5 | | | |
| | DEW - 10S | 10 | 22 | 17 | 34 | 17.5 | 30.0 | M 18 x 1.5 | | | |
| | DEW - 12S | 12 | 24 | 17 | 38 | 21.5 | 31.0 | M 20 x 1.5 | | | |
| | DEW - 14S | 14 | 27 | 19 | 40 | 22.0 | 35.0 | M 22 x 1.5 | | | |
| | DEW - 16S | 16 | 30 | 24 | 43 | 24.5 | 36.5 | M 24 x 1.5 | | | |
| | DEW - 20S | 20 | 36 | 27 | 48 | 26.5 | 44.5 | M 30 x 2 | | | |
| | DEW - 25S | 25 | 36 | 36 | 54 | 30.0 | 50.0 | M 36 x 2 | | | |
| | DEW - 30S | 30 | 50 | 41 | 62 | 35.5 | 55.0 | M 42 x 2 | | | |
| DEW - 38S | 38 | 60 | 50 | 72 | 41.0 | 63.0 | M 52 x 2 | | | | |

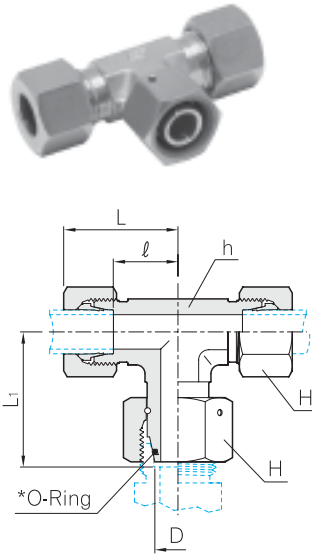
Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

O-Ring for connection is provided without male stud.

Please refer to final assembly instructions on page 67.

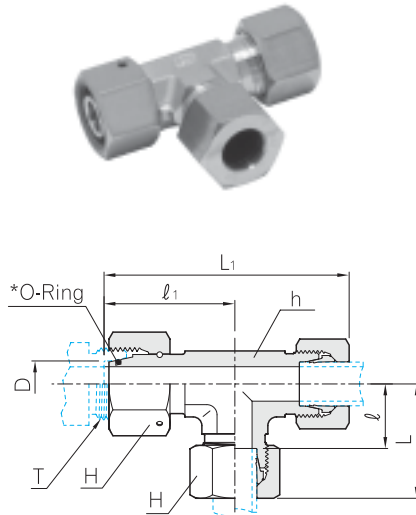
* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

Swivel Adjustable Branch Tee with Cone
DET



| Series | Part No. | Tube O.D. D | H | h | L | L ₁ | ℓ | T | PN(bar) | |
|-----------|-----------|-------------|----|----|------|----------------|----------|------------|---------|-------|
| | | | | | | | | | C.Steel | SS316 |
| L | DET - 06L | 6 | 14 | 12 | 27 | 26.0 | 12.0 | M 12 x 1.5 | 500 | 315 |
| | DET - 08L | 8 | 17 | 12 | 29 | 27.5 | 14.0 | M 14 x 1.5 | 500 | 315 |
| | DET - 10L | 10 | 19 | 14 | 30 | 29.0 | 15.0 | M 16 x 1.5 | 500 | 315 |
| | DET - 12L | 12 | 22 | 17 | 32 | 29.5 | 17.0 | M 18 x 1.5 | 400 | 315 |
| | DET - 15L | 15 | 27 | 19 | 36 | 32.5 | 21.0 | M 22 x 1.5 | 400 | 315 |
| | DET - 18L | 18 | 32 | 24 | 40 | 35.5 | 23.5 | M 26 x 1.5 | 400 | 315 |
| | DET - 22L | 22 | 36 | 27 | 44 | 38.5 | 27.5 | M 30 x 2 | 250 | 160 |
| | DET - 28L | 28 | 41 | 36 | 47 | 41.5 | 30.5 | M 36 x 2 | 250 | 160 |
| | DET - 35L | 35 | 50 | 41 | 56 | 51.0 | 34.5 | M 45 x 2 | 250 | 160 |
| DET - 42L | 42 | 60 | 50 | 63 | 56.0 | 40.0 | M 52 x 2 | 250 | 160 | |
| S | DET - 06S | 6 | 17 | 12 | 31 | 27.0 | 16.0 | M 14 x 1.5 | 800 | 630 |
| | DET - 08S | 8 | 19 | 14 | 32 | 27.5 | 17.0 | M 16 x 1.5 | 800 | 630 |
| | DET - 10S | 10 | 22 | 17 | 34 | 30.0 | 17.5 | M 18 x 1.5 | 800 | 630 |
| | DET - 12S | 12 | 24 | 17 | 38 | 31.0 | 21.5 | M 20 x 1.5 | 630 | 630 |
| | DET - 14S | 14 | 27 | 19 | 40 | 35.0 | 22.0 | M 22 x 1.5 | 630 | 630 |
| | DET - 16S | 16 | 30 | 24 | 43 | 36.5 | 24.5 | M 24 x 1.5 | 630 | 400 |
| | DET - 20S | 20 | 36 | 27 | 48 | 44.5 | 26.5 | M 30 x 2 | 420 | 400 |
| | DET - 25S | 25 | 46 | 36 | 54 | 50.0 | 30.0 | M 36 x 2 | 420 | 400 |
| | DET - 30S | 30 | 50 | 41 | 62 | 55.0 | 35.5 | M 42 x 2 | 420 | 400 |
| DET - 38S | 38 | 60 | 50 | 72 | 63.0 | 41.0 | M 52 x 2 | 420 | 315 | |

Swivel Adjustable Run Tee with Cone
DEL

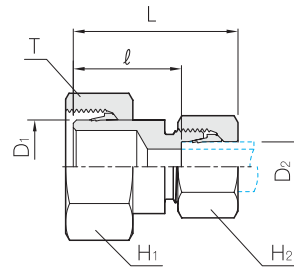


| Series | Part No. | Tube O.D. D | H | h | L | L ₁ | ℓ | ℓ ₁ | T | PN(bar) | |
|-----------|-----------|-------------|----|----|-----|----------------|------|----------------|------------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DEL - 06L | 6 | 14 | 12 | 27 | 53 | 12.0 | 26.0 | M 12 x 1.5 | 500 | 315 |
| | DEL - 08L | 8 | 17 | 12 | 29 | 56 | 14.0 | 27.5 | M 14 x 1.5 | 500 | 315 |
| | DEL - 10L | 10 | 19 | 14 | 30 | 59 | 15.0 | 29.0 | M 16 x 1.5 | 500 | 315 |
| | DEL - 12L | 12 | 22 | 17 | 32 | 61 | 17.0 | 29.5 | M 18 x 1.5 | 400 | 315 |
| | DEL - 15L | 15 | 27 | 19 | 36 | 69 | 21.0 | 32.5 | M 22 x 1.5 | 400 | 315 |
| | DEL - 18L | 18 | 32 | 24 | 40 | 75 | 23.5 | 35.5 | M 26 x 1.5 | 400 | 315 |
| | DEL - 22L | 22 | 36 | 27 | 44 | 82 | 27.5 | 38.5 | M 30 x 2 | 250 | 160 |
| | DEL - 28L | 28 | 41 | 36 | 47 | 89 | 30.5 | 41.5 | M 36 x 2 | 250 | 160 |
| | DEL - 35L | 35 | 50 | 41 | 56 | 107 | 34.5 | 51.0 | M 45 x 2 | 250 | 160 |
| DEL - 42L | 42 | 60 | 50 | 63 | 119 | 40.0 | 56.0 | M 52 x 2 | 250 | 160 | |
| S | DEL - 06S | 6 | 17 | 12 | 31 | 58 | 16.0 | 27.0 | M 14 x 1.5 | 800 | 630 |
| | DEL - 08S | 8 | 19 | 14 | 32 | 59 | 17.0 | 27.5 | M 16 x 1.5 | 800 | 630 |
| | DEL - 10S | 10 | 22 | 17 | 34 | 64 | 17.5 | 30.0 | M 18 x 1.5 | 800 | 630 |
| | DEL - 12S | 12 | 24 | 17 | 38 | 69 | 21.5 | 31.0 | M 20 x 1.5 | 630 | 630 |
| | DEL - 14S | 14 | 27 | 19 | 40 | 75 | 22.0 | 35.0 | M 22 x 1.5 | 630 | 630 |
| | DEL - 16S | 16 | 30 | 24 | 43 | 79 | 24.5 | 36.5 | M 24 x 1.5 | 630 | 400 |
| | DEL - 20S | 20 | 36 | 27 | 48 | 93 | 26.5 | 44.5 | M 30 x 2 | 420 | 400 |
| | DEL - 25S | 25 | 46 | 36 | 54 | 104 | 30.0 | 50.0 | M 36 x 2 | 420 | 400 |
| | DEL - 30S | 30 | 50 | 41 | 62 | 117 | 35.5 | 55.0 | M 42 x 2 | 420 | 400 |
| DEL - 38S | 38 | 60 | 50 | 72 | 135 | 41.0 | 63.0 | M 52 x 2 | 420 | 315 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.
Pre-set nut and cutting ring for connection are provided without male stud.
Please refer to final assembly instructions on page 67.

Tube To Tube Port (Adjustable Fittings)

Standpipe Reducer DKOR



Series L (Light)

| Part No. | Tube O.D. | | H ₁ | H ₂ | L | ℓ | T | | |
|--------------|----------------|----------------|----------------|----------------|----|------|------------|--|--|
| | D ₁ | D ₂ | | | | | | | |
| DKOR 08L-06L | 8 | 6 | 17 | 14 | 38 | 23.5 | M 14 x 1.5 | | |
| DKOR 10L-06L | 10 | 6 | 19 | 14 | 38 | 23.5 | M 16 x 1.5 | | |
| DKOR 10L-08L | | 8 | | 17 | | | | | |
| DKOR 12L-06L | 12 | 6 | 22 | 14 | 38 | 23.5 | M 18 x 1.5 | | |
| DKOR 12L-08L | | 8 | | 17 | 38 | 23.5 | | | |
| DKOR 12L-10L | | 10 | | 19 | 39 | 24.5 | | | |
| DKOR 15L-06L | 15 | 6 | 27 | 14 | 38 | 23.5 | M 22 x 1.5 | | |
| DKOR 15L-08L | | 8 | | 17 | 38 | 23.5 | | | |
| DKOR 15L-10L | | 10 | | 19 | 39 | 24.5 | | | |
| DKOR 15L-12L | | 12 | | 22 | 39 | 24.5 | | | |
| DKOR 18L-06L | 18 | 6 | 32 | 14 | 39 | 24.5 | M 26 x 1.5 | | |
| DKOR 18L-08L | | 8 | | 17 | 39 | 24.5 | | | |
| DKOR 18L-10L | | 10 | | 19 | 40 | 25.5 | | | |
| DKOR 18L-12L | | 12 | | 22 | 40 | 25.5 | | | |
| DKOR 18L-15L | | 15 | | 27 | 42 | 26.5 | | | |
| DKOR 22L-06L | 22 | 6 | 36 | 14 | 40 | 25.5 | M 30 x 2 | | |
| DKOR 22L-08L | | 8 | | 17 | 40 | 25.5 | | | |
| DKOR 22L-10L | | 10 | | 19 | 41 | 26.5 | | | |
| DKOR 22L-12L | | 12 | | 22 | 41 | 26.5 | | | |
| DKOR 22L-15L | | 15 | | 27 | 43 | 27.5 | | | |
| DKOR 22L-18L | | 18 | | 32 | 43 | 27.0 | | | |
| DKOR 28L-06L | 28 | 6 | 41 | 14 | 41 | 26.5 | M 36 x 2 | | |
| DKOR 28L-08L | | 8 | | 17 | 41 | 26.5 | | | |
| DKOR 28L-10L | | 10 | | 19 | 42 | 27.5 | | | |
| DKOR 28L-12L | | 12 | | 22 | 42 | 27.5 | | | |
| DKOR 28L-15L | | 15 | | 27 | 44 | 28.5 | | | |
| DKOR 28L-18L | | 18 | | 32 | 44 | 28.0 | | | |
| DKOR 28L-22L | | 22 | | 36 | 46 | 30.0 | | | |
| DKOR 35L-06L | 35 | 6 | 50 | 14 | 46 | 31.5 | M 45 x 2 | | |
| DKOR 35L-08L | | 8 | | 17 | 46 | 31.5 | | | |
| DKOR 35L-10L | | 10 | | 19 | 47 | 32.5 | | | |
| DKOR 35L-12L | | 12 | | 22 | 47 | 32.5 | | | |
| DKOR 35L-15L | | 15 | | 27 | 49 | 33.5 | | | |
| DKOR 35L-18L | | 18 | | 32 | 49 | 33.0 | | | |
| DKOR 35L-22L | | 22 | | 36 | 51 | 35.0 | | | |
| DKOR 35L-28L | | 28 | | 41 | 52 | 35.0 | | | |
| DKOR 42L-10L | 42 | 10 | 60 | 19 | 48 | 33.5 | M 52 x 2 | | |
| DKOR 42L-12L | | 12 | | 22 | 48 | 33.5 | | | |
| DKOR 42L-15L | | 15 | | 27 | 50 | 34.5 | | | |
| DKOR 42L-18L | | 18 | | 32 | 50 | 34.0 | | | |
| DKOR 42L-22L | | 22 | | 36 | 52 | 36.0 | | | |
| DKOR 42L-28L | | 28 | | 41 | 53 | 36.0 | | | |
| DKOR 42L-35L | | 35 | | 50 | 57 | 35.0 | | | |

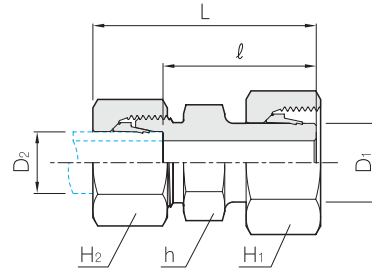
Series S (Heavy)

| Part No. | Tube O.D. | | H ₁ | H ₂ | L | ℓ | T | | |
|--------------|----------------|----------------|----------------|----------------|----|------|------------|--|--|
| | D ₁ | D ₂ | | | | | | | |
| DKOR 08S-06S | 8 | 6 | 17 | 17 | 40 | 25.0 | M 16 x 1.5 | | |
| DKOR 10S-06S | 10 | 6 | 19 | 17 | 41 | 26.0 | M 18 x 1.5 | | |
| DKOR 10S-08S | | 8 | | 19 | 41 | 26.0 | | | |
| DKOR 12S-06S | 12 | 6 | 22 | 17 | 42 | 27.0 | M 20 x 1.5 | | |
| DKOR 12S-08S | | 8 | | 19 | 42 | 27.0 | | | |
| DKOR 12S-10S | | 10 | | 22 | 43 | 26.5 | | | |
| DKOR 14S-06S | 14 | 6 | 27 | 17 | 44 | 29.0 | M 22 x 1.5 | | |
| DKOR 14S-08S | | 8 | | 19 | 44 | 29.0 | | | |
| DKOR 14S-10S | | 10 | | 22 | 45 | 28.5 | | | |
| DKOR 14S-12S | | 12 | | 24 | 45 | 28.5 | | | |
| DKOR 16S-06S | 16 | 6 | 32 | 17 | 44 | 29.0 | M 24 x 1.5 | | |
| DKOR 16S-08S | | 8 | | 19 | 44 | 29.0 | | | |
| DKOR 16S-10S | | 10 | | 22 | 45 | 28.5 | | | |
| DKOR 16S-12S | | 12 | | 24 | 45 | 28.5 | | | |
| DKOR 16S-14S | | 14 | | 27 | 48 | 30.0 | | | |
| DKOR 20S-06S | 20 | 6 | 36 | 17 | 49 | 34.0 | M 30 x 2 | | |
| DKOR 20S-08S | | 8 | | 19 | 49 | 34.0 | | | |
| DKOR 20S-10S | | 10 | | 22 | 50 | 33.5 | | | |
| DKOR 20S-12S | | 12 | | 24 | 50 | 33.5 | | | |
| DKOR 20S-14S | | 14 | | 27 | 53 | 35.0 | | | |
| DKOR 20S-16S | | 16 | | 30 | 53 | 34.5 | | | |
| DKOR 25S-06S | 25 | 6 | 41 | 17 | 52 | 37.0 | M 36 x 2 | | |
| DKOR 25S-08S | | 8 | | 19 | 52 | 37.0 | | | |
| DKOR 25S-10S | | 10 | | 22 | 53 | 36.5 | | | |
| DKOR 25S-12S | | 12 | | 24 | 53 | 36.5 | | | |
| DKOR 25S-14S | | 14 | | 27 | 55 | 37.0 | | | |
| DKOR 25S-16S | | 16 | | 30 | 55 | 36.5 | | | |
| DKOR 25S-20S | | 20 | | 36 | 59 | 37.5 | | | |
| DKOR 30S-06S | 30 | 6 | 50 | 17 | 54 | 39.0 | M 42 x 2 | | |
| DKOR 30S-08S | | 8 | | 19 | 54 | 39.0 | | | |
| DKOR 30S-10S | | 10 | | 22 | 55 | 38.5 | | | |
| DKOR 30S-12S | | 12 | | 24 | 55 | 38.5 | | | |
| DKOR 30S-14S | | 14 | | 27 | 58 | 40.0 | | | |
| DKOR 30S-16S | | 16 | | 30 | 58 | 39.5 | | | |
| DKOR 30S-20S | | 20 | | 36 | 61 | 39.5 | | | |
| DKOR 30S-25S | | 25 | | 46 | 64 | 40.0 | | | |
| DKOR 38S-06S | 38 | 6 | 60 | 17 | 58 | 43.0 | M 52 x 2 | | |
| DKOR 38S-08S | | 8 | | 19 | 58 | 43.0 | | | |
| DKOR 38S-10S | | 10 | | 22 | 59 | 42.5 | | | |
| DKOR 38S-12S | | 12 | | 24 | 59 | 42.5 | | | |
| DKOR 38S-14S | | 14 | | 27 | 62 | 44.0 | | | |
| DKOR 38S-16S | | 16 | | 30 | 62 | 43.5 | | | |
| DKOR 38S-20S | | 20 | | 36 | 65 | 43.5 | | | |
| DKOR 38S-25S | | 25 | | 46 | 68 | 44.0 | | | |
| DKOR 38S-30S | | 30 | | 50 | 71 | 44.5 | | | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change. Pre-set nut and cutting ring for connection are provided without male stud. Please refer to final assembly instructions on page 67.

24° Tube Fittings-DIN 2353 & ISO 8434-1

Reducer DR



Series L (Light)

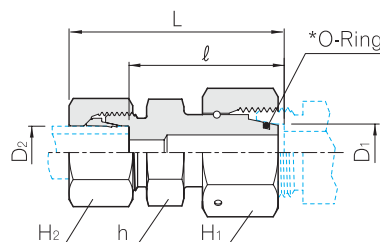
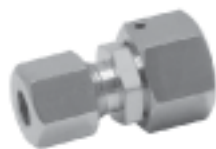
| Part No. | Tube O.D. | | H ₁ | H ₂ | h | L | ℓ | PN(bar) S316 |
|-------------|----------------|----------------|----------------|----------------|----|----|------|-----------------|
| | D ₁ | D ₂ | | | | | | |
| DR08L - 06L | 8 | 6 | 17 | 14 | 12 | 40 | 25.5 | 315 |
| DR10L - 06L | 10 | 6 | 19 | 14 | 12 | 42 | 27.5 | 315 |
| DR10L - 08L | | 8 | 19 | 17 | 14 | 43 | 27.5 | 315 |
| DR12L - 06L | 12 | 6 | 22 | 14 | 14 | 42 | 27.5 | 315 |
| DR12L - 08L | | 8 | 22 | 17 | 14 | 43 | 27.5 | 315 |
| DR12L - 10L | | 10 | 22 | 19 | 17 | 44 | 28.5 | 315 |
| DR15L - 06L | 15 | 6 | 27 | 14 | 19 | 44 | 29.0 | 315 |
| DR15L - 08L | | 8 | 27 | 17 | 19 | 44 | 29.0 | 315 |
| DR15L - 10L | | 10 | 27 | 19 | 19 | 45 | 30.0 | 315 |
| DR15L - 12L | | 12 | 27 | 22 | 19 | 45 | 30.0 | 315 |
| DR18L - 06L | 18 | 6 | 32 | 14 | 19 | 46 | 31.0 | 315 |
| DR18L - 08L | | 8 | 32 | 17 | 19 | 46 | 31.0 | 315 |
| DR18L - 10L | | 10 | 32 | 19 | 19 | 47 | 32.0 | 315 |
| DR18L - 12L | | 12 | 32 | 22 | 19 | 47 | 32.0 | 315 |
| DR18L - 15L | | 15 | 32 | 27 | 22 | 49 | 33.0 | 315 |
| DR22L - 06L | 22 | 6 | 36 | 14 | 24 | 48 | 33.0 | 160 |
| DR22L - 08L | | 8 | 36 | 17 | 24 | 48 | 33.0 | 160 |
| DR22L - 10L | | 10 | 36 | 19 | 24 | 49 | 34.0 | 160 |
| DR22L - 12L | | 12 | 36 | 22 | 24 | 49 | 34.0 | 160 |
| DR22L - 15L | | 15 | 36 | 27 | 24 | 50 | 35.0 | 160 |
| DR22L - 18L | | 18 | 36 | 32 | 27 | 51 | 34.5 | 160 |
| DR28L - 06L | 28 | 6 | 41 | 14 | 30 | 48 | 33.0 | 160 |
| DR28L - 08L | | 8 | 41 | 17 | 30 | 48 | 33.0 | 160 |
| DR28L - 10L | | 10 | 41 | 19 | 30 | 49 | 34.0 | 160 |
| DR28L - 12L | | 12 | 41 | 22 | 30 | 49 | 34.0 | 160 |
| DR28L - 15L | | 15 | 41 | 27 | 30 | 50 | 35.0 | 160 |
| DR28L - 18L | | 18 | 41 | 32 | 30 | 51 | 36.0 | 160 |
| DR28L - 22L | | 22 | 41 | 36 | 32 | 53 | 36.5 | 160 |
| DR35L - 06L | 35 | 6 | 50 | 14 | 36 | 53 | 38.5 | 160 |
| DR35L - 08L | | 8 | 50 | 17 | 36 | 53 | 38.5 | 160 |
| DR35L - 10L | | 10 | 50 | 19 | 36 | 55 | 39.5 | 160 |
| DR35L - 12L | | 12 | 50 | 22 | 36 | 55 | 39.5 | 160 |
| DR35L - 15L | | 15 | 50 | 27 | 36 | 56 | 40.5 | 160 |
| DR35L - 18L | | 18 | 50 | 32 | 36 | 56 | 40.0 | 160 |
| DR35L - 22L | | 22 | 50 | 36 | 36 | 58 | 42.0 | 160 |
| DR35L - 28L | | 28 | 50 | 41 | 36 | 59 | 42.0 | 160 |
| DR42L - 06L | 42 | 6 | 60 | 14 | 46 | 56 | 41.0 | 160 |
| DR42L - 08L | | 8 | 60 | 17 | 46 | 56 | 41.0 | 160 |
| DR42L - 10L | | 10 | 60 | 19 | 46 | 58 | 42.0 | 160 |
| DR42L - 12L | | 12 | 60 | 22 | 46 | 58 | 42.0 | 160 |
| DR42L - 15L | | 15 | 60 | 27 | 46 | 60 | 43.0 | 160 |
| DR42L - 18L | | 18 | 60 | 32 | 46 | 60 | 42.5 | 160 |
| DR42L - 22L | | 22 | 60 | 36 | 46 | 62 | 44.5 | 160 |
| DR42L - 28L | | | 60 | 41 | 46 | 64 | 44.5 | 160 |
| DR42L - 35L | | 35 | 60 | 50 | 46 | 67 | 43.5 | 160 |

Series S (Heavy)

| Part No. | Tube O.D. | | H ₁ | H ₂ | h | L | ℓ | PN(bar) S316 |
|-------------|----------------|----------------|----------------|----------------|----|----|------|-----------------|
| | D ₁ | D ₂ | | | | | | |
| DR08S - 06S | 8 | 6 | 19 | 17 | 14 | 43 | 28.0 | 630 |
| DR10S - 06S | 10 | 6 | 22 | 17 | 14 | 45 | 30.5 | 630 |
| DR10S - 08S | | 8 | 22 | 19 | 17 | 45 | 30.5 | 630 |
| DR12S - 06S | 12 | 6 | 24 | 17 | 14 | 47 | 32.5 | 630 |
| DR12S - 08S | | 8 | 24 | 19 | 17 | 47 | 32.5 | 630 |
| DR12S - 10S | | 10 | 24 | 22 | 19 | 48 | 32.0 | 630 |
| DR14S - 06S | 14 | 6 | 27 | 17 | 17 | 51 | 36.5 | 630 |
| DR14S - 08S | | 8 | 27 | 19 | 17 | 51 | 36.5 | 630 |
| DR14S - 10S | | 10 | 27 | 22 | 19 | 52 | 36.0 | 630 |
| DR14S - 12S | | 12 | 27 | 24 | 22 | 52 | 36.0 | 630 |
| DR16S - 06S | 16 | 6 | 30 | 17 | 17 | 53 | 38.5 | 400 |
| DR16S - 08S | | 8 | 30 | 19 | 17 | 53 | 38.5 | 400 |
| DR16S - 10S | | 10 | 30 | 22 | 19 | 54 | 38.0 | 400 |
| DR16S - 12S | | 12 | 30 | 24 | 22 | 55 | 38.5 | 400 |
| DR16S - 14S | | 14 | 30 | 27 | 22 | 57 | 39.5 | 400 |
| DR20S - 06S | 20 | 6 | 36 | 17 | 22 | 58 | 43.0 | 400 |
| DR20S - 08S | | 8 | 36 | 19 | 22 | 58 | 43.0 | 400 |
| DR20S - 10S | | 10 | 36 | 22 | 22 | 59 | 42.5 | 400 |
| DR20S - 12S | | 12 | 36 | 24 | 22 | 59 | 42.5 | 400 |
| DR20S - 14S | | 14 | 36 | 27 | 22 | 62 | 44.0 | 400 |
| DR20S - 16S | | 16 | 36 | 30 | 24 | 62 | 43.5 | 400 |
| DR25S - 06S | 25 | 6 | 46 | 17 | 27 | 62 | 47.5 | 400 |
| DR25S - 08S | | 8 | 46 | 19 | 27 | 62 | 47.5 | 400 |
| DR25S - 10S | | 10 | 46 | 22 | 27 | 63 | 47.0 | 400 |
| DR25S - 12S | | 12 | 46 | 24 | 27 | 63 | 47.0 | 400 |
| DR25S - 14S | | 14 | 46 | 27 | 27 | 66 | 48.5 | 400 |
| DR25S - 16S | | 16 | 46 | 30 | 27 | 66 | 48.0 | 400 |
| DR25S - 20S | | 20 | 46 | 36 | 30 | 70 | 48.0 | 400 |
| DR30S - 06S | 30 | 6 | 50 | 17 | 32 | 67 | 52.0 | 400 |
| DR30S - 08S | | 8 | 50 | 19 | 32 | 67 | 52.0 | 400 |
| DR30S - 10S | | 10 | 50 | 22 | 32 | 68 | 51.5 | 400 |
| DR30S - 12S | | 12 | 50 | 24 | 32 | 68 | 51.5 | 400 |
| DR30S - 14S | | 14 | 50 | 27 | 32 | 71 | 53.0 | 400 |
| DR30S - 16S | | 16 | 50 | 30 | 32 | 71 | 52.5 | 400 |
| DR30S - 20S | | 20 | 50 | 36 | 32 | 74 | 52.5 | 400 |
| DR30S - 25S | | 25 | 50 | 46 | 36 | 77 | 53.0 | 400 |
| DR38S - 06S | 38 | 6 | 60 | 17 | 41 | 72 | 57.0 | 315 |
| DR38S - 08S | | 8 | 60 | 19 | 41 | 72 | 57.0 | 315 |
| DR38S - 10S | | 10 | 60 | 22 | 41 | 73 | 56.5 | 315 |
| DR38S - 12S | | 12 | 60 | 24 | 41 | 73 | 56.5 | 315 |
| DR38S - 14S | | 14 | 60 | 27 | 41 | 76 | 58.0 | 315 |
| DR38S - 16S | | 16 | 60 | 30 | 41 | 76 | 57.5 | 315 |
| DR38S - 20S | | 20 | 60 | 36 | 41 | 79 | 57.5 | 315 |
| DR38S - 25S | | 25 | 60 | 46 | 41 | 82 | 58.0 | 315 |
| DR38S - 30S | | 30 | 60 | 50 | 46 | 89 | 58.5 | 315 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Swivel Reducing Adapter with Cone DRED



Series L (Light)

| Part No. | Tube O.D. | | H ₁ | H ₂ | h | L | ℓ | PN(bar) | |
|--------------|----------------|----------------|----------------|----------------|------|------|------|---------|------|
| | D ₁ | D ₂ | | | | | | C.Steel | S316 |
| DRED 08L-06L | 8 | 6 | 17 | 14 | 12.0 | 38.0 | 23.5 | 500 | 315 |
| DRED 10L-06L | 10 | 6 | 19 | 14 | 14.0 | 40.0 | 25.0 | 500 | 315 |
| DRED 10L-08L | | 8 | | 17 | | 40.0 | 25.0 | 500 | 315 |
| DRED 12L-06L | 12 | 6 | 22 | 14 | 17.0 | 40.0 | 25.0 | 400 | 315 |
| DRED 12L-08L | | 8 | | 17 | | 40.0 | 25.0 | 400 | 315 |
| DRED 12L-10L | | 10 | | 19 | | 41.0 | 26.0 | 400 | 315 |
| DRED 15L-06L | 15 | 6 | 27 | 14 | 19.0 | 43.0 | 28.5 | 400 | 315 |
| DRED 15L-08L | | 8 | | 17 | | 43.0 | 28.5 | 400 | 315 |
| DRED 15L-10L | | 10 | | 19 | | 44.0 | 29.5 | 400 | 315 |
| DRED 15L-12L | | 12 | | 22 | | 44.0 | 29.5 | 400 | 315 |
| DRED 18L-06L | 18 | 6 | 32 | 14 | 24.0 | 43.0 | 28.0 | 400 | 315 |
| DRED 18L-08L | | 8 | | 17 | | 43.0 | 28.0 | 400 | 315 |
| DRED 18L-10L | | 10 | | 19 | | 44.0 | 29.0 | 400 | 315 |
| DRED 18L-12L | | 12 | | 22 | | 44.0 | 29.0 | 400 | 315 |
| DRED 18L-15L | | 15 | | 27 | | 45.0 | 30.0 | 400 | 315 |
| DRED 22L-06L | 22 | 6 | 36 | 14 | 27.0 | 47.0 | 32.0 | 250 | 160 |
| DRED 22L-08L | | 8 | | 17 | | 47.0 | 32.0 | 250 | 160 |
| DRED 22L-10L | | 10 | | 19 | | 48.0 | 33.0 | 250 | 160 |
| DRED 22L-12L | | 12 | | 22 | | 48.0 | 33.0 | 250 | 160 |
| DRED 22L-15L | | 15 | | 27 | | 49.0 | 34.0 | 250 | 160 |
| DRED 22L-18L | | 18 | | 32 | | 50.0 | 33.5 | 250 | 160 |
| DRED 28L-06L | 28 | 6 | 41 | 14 | 32.0 | 49.0 | 34.0 | 250 | 160 |
| DRED 28L-08L | | 8 | | 17 | | 49.0 | 34.0 | 250 | 160 |
| DRED 28L-10L | | 10 | | 19 | | 50.0 | 35.0 | 250 | 160 |
| DRED 28L-12L | | 12 | | 22 | | 50.0 | 35.0 | 250 | 160 |
| DRED 28L-15L | | 15 | | 27 | | 51.0 | 36.0 | 250 | 160 |
| DRED 28L-18L | | 18 | | 32 | | 52.0 | 35.5 | 250 | 160 |
| DRED 28L-22L | | 22 | | 36 | | 54.0 | 37.5 | 250 | 160 |
| DRED 35L-06L | 35 | 6 | 50 | 14 | 41.0 | 52.0 | 37.0 | 250 | 160 |
| DRED 35L-08L | | 8 | | 17 | | 52.0 | 37.0 | 250 | 160 |
| DRED 35L-10L | | 10 | | 19 | | 53.0 | 38.0 | 250 | 160 |
| DRED 35L-12L | | 12 | | 22 | | 53.0 | 38.0 | 250 | 160 |
| DRED 35L-15L | | 15 | | 27 | | 54.0 | 39.0 | 250 | 160 |
| DRED 35L-18L | | 18 | | 32 | | 55.0 | 38.5 | 250 | 160 |
| DRED 35L-22L | | 22 | | 36 | | 57.0 | 40.5 | 250 | 160 |
| DRED 35L-28L | | 28 | | 41 | | 57.0 | 40.5 | 250 | 160 |
| DRED 42L-06L | 42 | 6 | 60 | 14 | 50.0 | 55.0 | 40.5 | 250 | 160 |
| DRED 42L-08L | | 8 | | 17 | | 55.0 | 40.5 | 250 | 160 |
| DRED 42L-10L | | 10 | | 19 | | 56.0 | 41.5 | 250 | 160 |
| DRED 42L-12L | | 12 | | 22 | | 56.0 | 41.5 | 250 | 160 |
| DRED 42L-15L | | 15 | | 27 | | 58.0 | 42.5 | 250 | 160 |
| DRED 42L-18L | | 18 | | 32 | | 58.0 | 42.0 | 250 | 160 |
| DRED 42L-22L | | 22 | | 36 | | 60.0 | 44.0 | 250 | 160 |
| DRED 42L-28L | | 28 | | 41 | | 61.0 | 44.0 | 250 | 160 |
| DRED 42L-35L | | 35 | | 50 | | 65.0 | 43.0 | 250 | 160 |

Series S (Heavy)

| Part No. | Tube O.D. | | H ₁ | H ₂ | h | L | ℓ | PN(bar) | |
|--------------|----------------|----------------|----------------|----------------|------|------|------|---------|------|
| | D ₁ | D ₂ | | | | | | C.Steel | S316 |
| DRED 08S-06S | 8 | 6 | 19 | 17 | 14.0 | 42.0 | 27.0 | 800 | 630 |
| DRED 10S-06S | 10 | 6 | 22 | 17 | 17.0 | 42.0 | 27.5 | 800 | 630 |
| DRED 10S-08S | | 8 | | 19 | | 42.0 | 27.5 | 800 | 630 |
| DRED 12S-06S | 12 | 6 | 24 | 17 | 17.0 | 44.0 | 29.0 | 630 | 630 |
| DRED 12S-08S | | 8 | | 19 | | 44.0 | 29.0 | 630 | 630 |
| DRED 12S-10S | | 10 | | 22 | | 46.0 | 29.5 | 630 | 630 |
| DRED 14S-06S | 14 | 6 | 27 | 17 | 19.0 | 46.0 | 31.5 | 630 | 630 |
| DRED 14S-08S | | 8 | | 19 | | 46.0 | 31.5 | 630 | 630 |
| DRED 14S-10S | | 10 | | 22 | | 47.0 | 31.0 | 630 | 630 |
| DRED 14S-12S | | 12 | | 24 | | 47.0 | 31.0 | 630 | 630 |
| DRED 16S-06S | 16 | 6 | 30 | 17 | 22.0 | 47.0 | 32.0 | 630 | 400 |
| DRED 16S-08S | | 8 | | 19 | | 47.0 | 32.0 | 630 | 400 |
| DRED 16S-10S | | 10 | | 22 | | 48.0 | 31.5 | 630 | 400 |
| DRED 16S-12S | | 12 | | 24 | | 48.0 | 31.5 | 630 | 400 |
| DRED 16S-14S | | 14 | | 27 | | 51.0 | 33.0 | 630 | 400 |
| DRED 20S-06S | 20 | 6 | 36 | 17 | 24.0 | 51.0 | 36.0 | 420 | 400 |
| DRED 20S-08S | | 8 | | 19 | | 51.0 | 36.0 | 420 | 400 |
| DRED 20S-10S | | 10 | | 22 | | 52.0 | 35.5 | 420 | 400 |
| DRED 20S-12S | | 12 | | 24 | | 52.0 | 35.5 | 420 | 400 |
| DRED 20S-14S | | 14 | | 27 | | 55.0 | 37.0 | 420 | 400 |
| DRED 20S-16S | | 16 | | 30 | | 55.0 | 36.5 | 420 | 400 |
| DRED 25S-06S | 25 | 6 | 46 | 17 | 36.0 | 53.0 | 38.5 | 420 | 400 |
| DRED 25S-08S | | 8 | | 19 | | 53.0 | 38.5 | 420 | 400 |
| DRED 25S-10S | | 10 | | 22 | | 54.0 | 38.0 | 420 | 400 |
| DRED 25S-12S | | 12 | | 24 | | 54.0 | 38.0 | 420 | 400 |
| DRED 25S-14S | | 14 | | 27 | | 57.0 | 39.5 | 420 | 400 |
| DRED 25S-16S | | 16 | | 30 | | 57.0 | 39.0 | 420 | 400 |
| DRED 25S-20S | | 20 | | 36 | | 61.0 | 39.0 | 420 | 400 |
| DRED 30S-06S | 30 | 6 | 50 | 17 | 32.0 | 59.0 | 44.0 | 420 | 400 |
| DRED 30S-08S | | 8 | | 19 | | 59.0 | 44.0 | 420 | 400 |
| DRED 30S-10S | | 10 | | 22 | | 60.0 | 43.5 | 420 | 400 |
| DRED 30S-12S | | 12 | | 24 | | 60.0 | 43.5 | 420 | 400 |
| DRED 30S-14S | | 14 | | 27 | | 63.0 | 45.0 | 420 | 400 |
| DRED 30S-16S | | 16 | | 30 | | 63.0 | 44.5 | 420 | 400 |
| DRED 30S-20S | | 20 | | 36 | | 66.0 | 44.5 | 420 | 400 |
| DRED 30S-25S | | 25 | | 46 | | 69.0 | 45.0 | 420 | 400 |
| DRED 38S-06S | 38 | 6 | 60 | 17 | 50.0 | 62.0 | 47.5 | 420 | 315 |
| DRED 38S-08S | | 8 | | 19 | | 62.0 | 47.5 | 420 | 315 |
| DRED 38S-10S | | 10 | | 22 | | 63.0 | 47.0 | 420 | 315 |
| DRED 38S-12S | | 12 | | 24 | | 63.0 | 47.0 | 420 | 315 |
| DRED 38S-14S | | 14 | | 27 | | 66.0 | 48.5 | 420 | 315 |
| DRED 38S-16S | | 16 | | 30 | | 66.0 | 48.0 | 420 | 315 |
| DRED 38S-20S | | 20 | | 36 | | 70.0 | 48.0 | 420 | 315 |
| DRED 38S-25S | | 25 | | 46 | | 73.0 | 48.5 | 420 | 315 |
| DRED 38S-30S | | 30 | | 50 | | 76.0 | 49.0 | 420 | 315 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

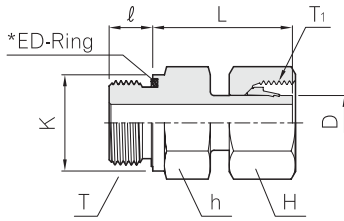
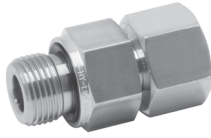
O-Ring for connection is provided without male stud.

Please refer to final assembly instructions on page 67.

* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

24° Tube Fittings-DIN 2353 & ISO 8434-1

Adapter (ISO/BSP Parallel / Metric Parallel) with *ED-Ring DA-GED/MED



Form E stud end

for ISO/BSP Paralled

| Series | Part No. | Tube O.D. D | H | h | K | L | ℓ | T | T ₁ | PN(bar) | | |
|--------------|--------------|-------------|----|----|------|------|---------|----------|----------------|---------|-------|-------|
| | | | | | | | | | | C.Steel | SS316 | BRASS |
| L | DA 06L-01GED | 6 | 14 | 14 | 14 | 24,5 | 8 | G 1/8 | M 12 x 1,5 | 315 | 315 | 200 |
| | DA 08L-02GED | 8 | 17 | 19 | 19 | 29,5 | 12 | G 1/4 | M 14 x 1,5 | 315 | 315 | 200 |
| | DA 10L-02GED | 10 | 19 | 19 | 19 | 27,5 | 12 | G 1/4 | M 16 x 1,5 | 315 | 315 | 200 |
| | DA 12L-03GED | 12 | 22 | 22 | 22 | 34,0 | 12 | G 3/8 | M 18 x 1,5 | 315 | 315 | 200 |
| | DA 15L-04GED | 15 | 27 | 27 | 27 | 32,0 | 14 | G 1/2 | M 22 x 1,5 | 315 | 315 | 200 |
| | DA 18L-04GED | 18 | 32 | 27 | 27 | 31,5 | 14 | G 1/2 | M 26 x 1,5 | 315 | 315 | 200 |
| | DA 22L-06GED | 22 | 36 | 32 | 32 | 32,5 | 16 | G 3/4 | M 30 x 2 | 160 | 160 | 100 |
| | DA 28L-08GED | 28 | 41 | 41 | 40 | 35,0 | 18 | G 1 | M 36 x 2 | 160 | 160 | |
| | DA 35L-10GED | 35 | 50 | 50 | 50 | 42,5 | 20 | G 1 1/4 | M 45 x 2 | 160 | 160 | |
| | DA 42L-12GED | 42 | 60 | 55 | 55 | 46,5 | 22 | G 1 1/2 | M 52 x 2 | 160 | 160 | |
| S | DA 06S-02GED | 6 | 17 | 19 | 19 | 27,0 | 12 | G 1/4 | M 14 x 1,5 | 630 | 630 | |
| | DA 08S-02GED | 8 | 19 | 19 | 19 | 29,5 | 12 | G 1/4 | M 16 x 1,5 | 630 | 630 | |
| | DA 10S-03GED | 10 | 22 | 22 | 22 | 32,0 | 12 | G 3/8 | M 18 x 1,5 | 630 | 630 | |
| | DA 12S-03GED | 12 | 24 | 22 | 22 | 34,0 | 12 | G 3/8 | M 20 x 1,5 | 630 | 630 | |
| | DA 12S-04GED | 12 | 24 | 27 | 27 | 34,5 | 14 | G 1/2 | M 20 x 1,5 | 630 | 630 | |
| | DA 14S-04GED | 14 | 27 | 27 | 27 | 36,5 | 14 | G 1/2 | M 22 x 1,5 | 630 | | 630 |
| | DA 16S-04GED | 16 | 30 | 27 | 27 | 37,0 | 14 | G 1/2 | M 24 x 1,5 | 400 | 400 | |
| | DA 16S-06GED | 16 | 30 | 32 | 32 | 39,0 | 16 | G 3/4 | M 24 x 1,5 | 400 | | |
| | DA 20S-06GED | 20 | 36 | 32 | 32 | 43,0 | 16 | G 3/4 | M 30 x 2 | 400 | 400 | |
| | DA 25S-08GED | 25 | 46 | 41 | 40 | 48,0 | 18 | G 1 | M 36 x 2 | 400 | 400 | |
| DA 30S-10GED | 30 | 50 | 50 | 50 | 51,0 | 20 | G 1 1/4 | M 42 x 2 | 400 | 400 | | |
| DA 38S-12GED | 38 | 60 | 55 | 55 | 60,0 | 22 | G 1 1/2 | M 52 x 2 | 315 | 315 | | |

for Metric Parallel

| Series | Part No. | Tube O.D. D | H | h | K | L | ℓ | T | T ₁ | PN(bar) | |
|--------|--------------|-------------|----|----|----|------|----|------------|----------------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DA 06L-M10ED | 6 | 14 | 14 | 14 | 24,5 | 8 | M 10 x 1,0 | M 12 x 1,5 | 315 | 315 |
| | DA 08L-M12ED | 8 | 17 | 17 | 17 | 26,5 | 12 | M 12 x 1,5 | M 14 x 1,5 | 315 | 315 |
| | DA 10L-M14ED | 10 | 19 | 19 | 19 | 27,5 | 12 | M 14 x 1,5 | M 16 x 1,5 | 315 | 315 |
| | DA 12L-M16ED | 12 | 22 | 22 | 22 | 30,5 | 12 | M 16 x 1,5 | M 18 x 1,5 | 315 | 315 |
| | DA 15L-M18ED | 15 | 27 | 24 | 24 | 31,5 | 14 | M 18 x 1,5 | M 22 x 1,5 | 315 | 315 |
| | DA 18L-M22ED | 18 | 32 | 27 | 27 | 31,5 | 14 | M 22 x 1,5 | M 26 x 1,5 | 315 | 315 |
| | DA 22L-M26ED | 22 | 36 | 32 | 32 | 32,5 | 16 | M 26 x 1,5 | M 30 x 2,0 | 160 | 160 |
| | DA 28L-M33ED | 28 | 41 | 41 | 40 | 35,0 | 18 | M 33 x 2,0 | M 36 x 2,0 | 160 | 160 |
| | DA 35L-M42ED | 35 | 50 | 50 | 50 | 42,5 | 20 | M 42 x 2,0 | M 45 x 2,0 | 160 | 160 |
| | DA 42L-M48ED | 42 | 60 | 55 | 55 | 46,5 | 22 | M 48 x 2,0 | M 52 x 2,0 | 160 | 160 |
| S | DA 06S-M10ED | 6 | 17 | 17 | 17 | 27,0 | 12 | M 12 x 1,5 | M 14 x 1,5 | 630 | 630 |
| | DA 08S-M14ED | 8 | 19 | 19 | 19 | 29,5 | 12 | M 14 x 1,5 | M 16 x 1,5 | 630 | 630 |
| | DA 10S-M16ED | 10 | 22 | 22 | 22 | 32,0 | 12 | M 16 x 1,5 | M 18 x 1,5 | 630 | 630 |
| | DA 12S-M18ED | 12 | 24 | 24 | 24 | 34,0 | 12 | M 18 x 1,5 | M 20 x 1,5 | 630 | 630 |
| | DA 14S-M20ED | 14 | 27 | 27 | 27 | 36,5 | 14 | M 20 x 1,5 | M 22 x 1,5 | 630 | 630 |
| | DA 16S-M22ED | 16 | 30 | 27 | 27 | 37,0 | 14 | M 22 x 1,5 | M 24 x 1,5 | 400 | 400 |
| | DA 20S-M27ED | 20 | 36 | 32 | 32 | 43,0 | 16 | M 27 x 2,0 | M 30 x 2,0 | 400 | 400 |
| | DA 25S-M33ED | 25 | 46 | 41 | 40 | 48,0 | 18 | M 33 x 2,0 | M 36 x 2,0 | 400 | 400 |
| | DA 30S-M42ED | 30 | 50 | 50 | 50 | 51,0 | 20 | M 42 x 2,0 | M 42 x 2,0 | 400 | 400 |
| | DA 38S-M48ED | 38 | 60 | 55 | 55 | 60,0 | 22 | M 48 x 2,0 | M 52 x 2,0 | 315 | 315 |

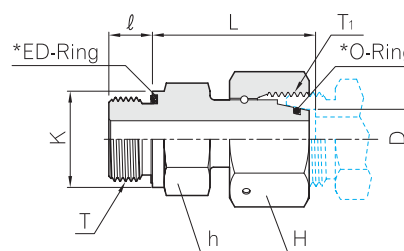
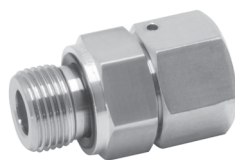
Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

O-Ring for connection is provided without male stud.

Please refer to final assembly instructions on page 67.

* The standard ED-Ring material is NBR(e.g. perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

Swivel Adapter (ISO/BSP Parallel / Metric Parallel) with Cone and *ED-Ring DEGE-G/M



Form E stud end

for ISO/BSP Parallel

| Series | Part No. | Tube O.D. D | H | h | K | L | ℓ | T | T ₁ | PN(bar) | |
|----------------|----------------|----------------|----|----|------|------|---------|------------|----------------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DEGE 06L - 01G | 6 | 14 | 14 | 14 | 24.5 | 8 | G 1/8 | M 12 x 1.5 | 500 | 315 |
| | DEGE 08L - 02G | 8 | 17 | 19 | 19 | 29.5 | 12 | G 1/4 | M 14 x 1.5 | 500 | 315 |
| | DEGE 10L - 02G | 10 | 19 | 19 | 19 | 27.5 | 12 | G 1/4 | M 16 x 1.5 | 500 | 315 |
| | DEGE 12L - 03G | 12 | 22 | 22 | 22 | 34.0 | 12 | G 3/8 | M 18 x 1.5 | 400 | 315 |
| | DEGE 15L - 04G | 15 | 27 | 27 | 27 | 32.0 | 14 | G 1/2 | M 22 x 1.5 | 400 | 315 |
| | DEGE 18L - 04G | 18 | 32 | 27 | 27 | 31.5 | 14 | G 1/2 | M 26 x 1.5 | 400 | 315 |
| | DEGE 22L - 06G | 22 | 36 | 32 | 32 | 32.5 | 16 | G 3/4 | M 30 x 2.0 | 250 | 160 |
| | DEGE 28L - 08G | 28 | 41 | 41 | 40 | 35.0 | 18 | G 1 | M 36 x 2.0 | 250 | 160 |
| | DEGE 35L - 10G | 35 | 50 | 50 | 50 | 42.5 | 20 | G 1 1/4 | M 45 x 2.0 | 250 | 160 |
| DEGE 42L - 12G | 42 | 60 | 55 | 55 | 46.5 | 22 | G 1 1/2 | M 52 x 2.0 | 250 | 160 | |
| S | DEGE 06S - 02G | 6 | 17 | 19 | 19 | 27.0 | 12 | G 1/4 | M 14 x 1.5 | 800 | 630 |
| | DEGE 08S - 02G | 8 | 19 | 19 | 19 | 29.5 | 12 | G 1/4 | M 16 x 1.5 | 800 | 630 |
| | DEGE 10S - 03G | 10 | 22 | 22 | 22 | 32.0 | 12 | G 3/8 | M 18 x 1.5 | 800 | 630 |
| | DEGE 12S - 03G | 12 | 24 | 22 | 22 | 34.0 | 12 | G 3/8 | M 20 x 1.5 | 630 | 630 |
| | DEGE 14S - 04G | 14 | 27 | 27 | 27 | 36.5 | 14 | G 1/2 | M 22 x 1.5 | 630 | 630 |
| | DEGE 16S - 04G | 16 | 30 | 27 | 27 | 37.0 | 14 | G 1/2 | M 24 x 1.5 | 630 | 400 |
| | DEGE 20S - 06G | 20 | 36 | 32 | 32 | 43.0 | 16 | G 3/4 | M 30 x 2.0 | 420 | 400 |
| | DEGE 25S - 08G | 25 | 46 | 41 | 40 | 48.0 | 18 | G 1 | M 36 x 2.0 | 420 | 400 |
| | DEGE 30S - 10G | 30 | 50 | 50 | 50 | 51.0 | 20 | G 1 1/4 | M 42 x 2.0 | 420 | 400 |
| DEGE 38S - 12G | 38 | 60 | 55 | 55 | 60.0 | 22 | G 1 1/2 | M 52 x 2.0 | 420 | 315 | |

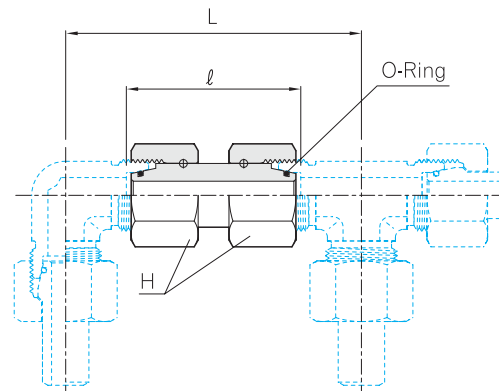
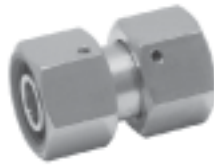
for Metric Paralled

| Series | Part No. | Tube O.D. D | H | h | K | L | ℓ | T | T ₁ | PN(bar) | |
|----------------|----------------|----------------|----|----|------|------|------------|------------|----------------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DEGE 06L - M10 | 6 | 14 | 14 | 14 | 24.5 | 8 | M 10 x 1.0 | M 12 x 1.5 | 500 | 315 |
| | DEGE 08L - M12 | 8 | 17 | 17 | 17 | 26.5 | 12 | M 12 x 1.5 | M 14 x 1.5 | 500 | 315 |
| | DEGE 10L - M14 | 10 | 19 | 19 | 19 | 27.5 | 12 | M 14 x 1.5 | M 16 x 1.5 | 500 | 315 |
| | DEGE 12L - M16 | 12 | 22 | 22 | 22 | 30.5 | 12 | M 16 x 1.5 | M 18 x 1.5 | 400 | 315 |
| | DEGE 15L - M18 | 15 | 27 | 24 | 24 | 31.5 | 12 | M 18 x 1.5 | M 22 x 1.5 | 400 | 315 |
| | DEGE 18L - M22 | 18 | 32 | 27 | 27 | 31.5 | 14 | M 22 x 1.5 | M 26 x 1.5 | 400 | 315 |
| | DEGE 22L - M26 | 22 | 36 | 32 | 32 | 32.5 | 16 | M 26 x 1.5 | M 30 x 2.0 | 250 | 160 |
| | DEGE 28L - M33 | 28 | 41 | 41 | 40 | 35.0 | 18 | M 33 x 2.0 | M 36 x 2.0 | 250 | 160 |
| | DEGE 35L - M42 | 35 | 50 | 50 | 50 | 42.5 | 20 | M 42 x 2.0 | M 45 x 2.0 | 250 | 160 |
| DEGE 42L - M48 | 42 | 60 | 55 | 55 | 46.5 | 22 | M 48 x 2.0 | M 52 x 2.0 | 250 | 160 | |
| S | DEGE 06S - M12 | 6 | 17 | 17 | 17 | 27.0 | 12 | M 12 x 1.5 | M 14 x 1.5 | 800 | 630 |
| | DEGE 08S - M14 | 8 | 19 | 19 | 19 | 29.5 | 12 | M 14 x 1.5 | M 16 x 1.5 | 800 | 630 |
| | DEGE 10S - M16 | 10 | 22 | 22 | 22 | 32.0 | 12 | M 16 x 1.5 | M 18 x 1.5 | 800 | 630 |
| | DEGE 12S - M18 | 12 | 24 | 24 | 24 | 34.0 | 12 | M 18 x 1.5 | M 20 x 1.5 | 630 | 630 |
| | DEGE 14S - M20 | 14 | 27 | 27 | 26 | 36.5 | 14 | M 20 x 1.5 | M 22 x 1.5 | 630 | 630 |
| | DEGE 16S - M22 | 16 | 30 | 27 | 27 | 37.0 | 14 | M 22 x 1.5 | M 24 x 1.5 | 630 | 400 |
| | DEGE 20S - M27 | 20 | 36 | 32 | 32 | 43.0 | 16 | M 27 x 2.0 | M 30 x 2.0 | 420 | 400 |
| | DEGE 25S - M33 | 25 | 46 | 41 | 40 | 48.0 | 18 | M 33 x 2.0 | M 36 x 2.0 | 420 | 400 |
| | DEGE 30S - M42 | 30 | 50 | 50 | 50 | 51.0 | 20 | M 42 x 2.0 | M 42 x 2.0 | 420 | 400 |
| DEGE 38S - M48 | 38 | 60 | 55 | 55 | 60.0 | 22 | M 48 x 2.0 | M 52 x 2.0 | 420 | 315 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.
O-Ring for connection is provided without male stud.
Please refer to final assembly instructions on page 67.

* The standard ED-Ring material is NBR(e.g. perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

Swivel Union With Cone
DUE



| Series | Part No. | Tube O.D. | H | L | l | PN(bar) | |
|-----------|-----------|-----------|-------|-------|------|---------|-------|
| | | | | | | C.Steel | SS316 |
| L | DUE - 06L | 6 | 17 | 61.0 | 33.0 | 500 | 315 |
| | DUE - 08L | 8 | 17 | 61.0 | 33.0 | 500 | 315 |
| | DUE - 10L | 10 | 19 | 64.0 | 34.0 | 500 | 315 |
| | DUE - 12L | 12 | 22 | 68.0 | 34.0 | 400 | 315 |
| | DUE - 15L | 15 | 27 | 81.0 | 39.0 | 400 | 315 |
| | DUE - 18L | 18 | 32 | 85.0 | 38.0 | 400 | 315 |
| | DUE - 22L | 22 | 36 | 99.0 | 44.0 | 250 | 160 |
| | DUE - 28L | 28 | 46 | 109.0 | 48.0 | 250 | 160 |
| | DUE - 35L | 35 | 50 | 121.0 | 52.0 | 250 | 160 |
| DUE - 42L | 42 | 60 | 137.0 | 57.0 | 250 | 160 | |
| S | DUE - 06S | 6 | 17 | 65.0 | 33.0 | 800 | 630 |
| | DUE - 08S | 8 | 19 | 68.0 | 34.0 | 800 | 630 |
| | DUE - 10S | 10 | 22 | 70.0 | 35.0 | 800 | 630 |
| | DUE - 12S | 12 | 24 | 81.0 | 38.0 | 630 | 630 |
| | DUE - 14S | 14 | 27 | 85.0 | 41.0 | 630 | 630 |
| | DUE - 16S | 16 | 30 | 91.0 | 42.0 | 630 | 400 |
| | DUE - 20S | 20 | 36 | 101.0 | 48.0 | 420 | 400 |
| | DUE - 25S | 25 | 46 | 113.0 | 53.0 | 420 | 400 |
| | DUE - 30S | 30 | 50 | 133.0 | 62.0 | 420 | 400 |
| DUE - 38S | 38 | 60 | 139.0 | 67.0 | 420 | 315 | |

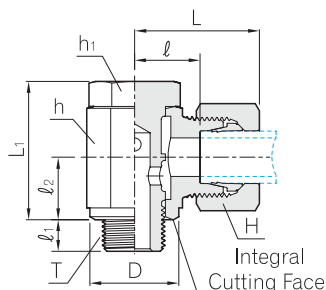
Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

O-Ring for connection is provided without male stud.

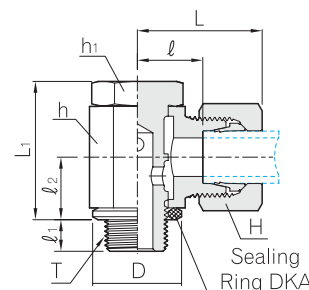
Please refer to final assembly instructions on page 67.

* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

Banjo Fittings (ISO/BSP Parallel / Metric Parallel) with DKA-Ring DSWVE-G/M



For Tube O.D. up to 15mm



For Tube O.D. 16mm and larger

for ISO/BSP Paralled

| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | T | PN(bar) |
|-----------------|-----------------|-----------|------|----|----|----------------|------|----------------|------|----------------|----------------|-------|---------|
| | | | | | | | | | | | | | C.Steel |
| L | DSWVE 06L - 01G | 6 | 14.5 | 14 | 14 | 14 | 25.0 | 21.0 | 10.5 | 6 | 10.0 | G 1/8 | 160 |
| | DSWVE 08L - 02G | 8 | 18.5 | 17 | 19 | 19 | 28.0 | 27.0 | 13.0 | 9 | 13.0 | G 1/4 | 160 |
| | DSWVE 10L - 02G | 10 | 18.5 | 19 | 19 | 19 | 29.0 | 27.0 | 14.0 | 9 | 13.0 | G 1/4 | 160 |
| | DSWVE 12L - 03G | 12 | 22.5 | 22 | 22 | 22 | 30.0 | 32.0 | 15.5 | 9 | 15.0 | G 3/8 | 100 |
| | DSWVE 15L - 04G | 15 | 26.5 | 27 | 27 | 27 | 34.0 | 37.5 | 19.0 | 11 | 18.0 | G 1/2 | 100 |
| | DSWVE 18L - 04G | 18 | 26.0 | 32 | 30 | 27 | 37.0 | 44.0 | 20.5 | 11 | 21.5 | G 1/2 | 100 |
| S | DSWVE 22L - 06G | 22 | 32.0 | 36 | 36 | 32 | 42.0 | 49.0 | 25.5 | 13 | 24.0 | G 3/4 | 100 |
| | DSWVE 06S - 02G | 6 | 18.5 | 17 | 19 | 19 | 30.0 | 27.0 | 15.0 | 9 | 13.0 | G 1/4 | 160 |
| | DSWVE 08S - 02G | 8 | 18.5 | 19 | 19 | 19 | 30.0 | 27.0 | 15.0 | 9 | 13.0 | G 1/4 | 160 |
| | DSWVE 10S - 03G | 10 | 22.5 | 22 | 22 | 22 | 32.0 | 32.0 | 16.0 | 9 | 15.0 | G 3/8 | 100 |
| | DSWVE 12S - 03G | 12 | 22.5 | 24 | 24 | 24 | 33.0 | 37.0 | 17.0 | 9 | 18.0 | G 3/8 | 100 |
| | DSWVE 14S - 04G | 14 | 26.5 | 27 | 27 | 27 | 38.0 | 37.0 | 20.0 | 11 | 18.0 | G 1/2 | 100 |
| | DSWVE 16S - 04G | 16 | 26.0 | 30 | 30 | 27 | 40.0 | 44.0 | 21.5 | 11 | 21.5 | G 1/2 | 100 |
| DSWVE 20S - 06G | 20 | 32.0 | 36 | 36 | 32 | 46.0 | 49.0 | 24.5 | 13 | 24.0 | G 3/4 | 100 | |

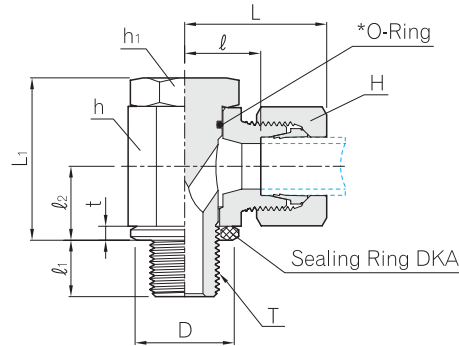
for Metric Parallel

| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | T | PN(bar) |
|--------|-----------------|-----------|------|----|----|----------------|------|----------------|------|----------------|----------------|------------|---------|
| | | | | | | | | | | | | | C.Steel |
| L | DSWVE 06L - M10 | 6 | 14.5 | 14 | 14 | 14 | 25.0 | 21.5 | 10.5 | 6 | 10.0 | M 10 x 1.0 | 160 |
| | DSWVE 08L - M12 | 8 | 17.5 | 17 | 17 | 17 | 27.0 | 25.0 | 12.0 | 9 | 12.0 | M 12 x 1.5 | 160 |
| | DSWVE 10L - M14 | 10 | 19.5 | 19 | 19 | 19 | 29.0 | 27.0 | 14.0 | 9 | 13.0 | M 14 x 1.5 | 160 |
| | DSWVE 12L - M16 | 12 | 21.5 | 22 | 22 | 22 | 30.0 | 32.0 | 15.5 | 9 | 15.0 | M 16 x 1.5 | 100 |
| | DSWVE 15L - M18 | 15 | 23.5 | 27 | 24 | 24 | 33.0 | 37.5 | 17.5 | 19 | 18.0 | M 18 x 1.5 | 100 |
| | DSWVE 18L - M22 | 18 | 27.0 | 32 | 30 | 27 | 37.0 | 44.0 | 20.5 | 11 | 21.5 | M 22 x 1.5 | 100 |
| | DSWVE 22L - M26 | 22 | 31.0 | 36 | 36 | 32 | 42.0 | 49.0 | 25.5 | 13 | 24.0 | M 26 x 1.5 | 100 |
| S | DSWVE 06S - M12 | 6 | 17.5 | 17 | 17 | 19 | 29.0 | 25.0 | 14.0 | 9 | 12.0 | M 12 x 1.5 | 100 |
| | DSWVE 08S - M14 | 8 | 19.5 | 19 | 19 | 19 | 30.0 | 27.0 | 15.0 | 9 | 13.0 | M 14 x 1.5 | 100 |
| | DSWVE 10S - M16 | 10 | 21.5 | 22 | 22 | 22 | 32.0 | 32.0 | 16.0 | 9 | 15.0 | M 16 x 1.5 | 100 |
| | DSWVE 12S - M18 | 12 | 23.5 | 24 | 24 | 24 | 33.0 | 37.0 | 17.0 | 9 | 18.0 | M 18 x 1.5 | 100 |
| | DSWVE 14S - M20 | 14 | 25.5 | 27 | 27 | 27 | 38.0 | 37.0 | 20.0 | 11 | 18.0 | M 20 x 1.5 | 100 |
| | DSWVE 16S - M22 | 16 | 27.0 | 30 | 30 | 27 | 40.0 | 44.0 | 21.5 | 11 | 21.5 | M 22 x 1.5 | 100 |
| | DSWVE 20S - M27 | 20 | 32.0 | 36 | 36 | 32 | 46.0 | 49.0 | 24.5 | 13 | 24.0 | M 27 x 2.0 | 100 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

24° Tube Fittings-DIN 2353 & ISO 8434-1

High Pressure Banjo Fittings (BSP Paralled / Metric Paralled) with DKA-Ring DWH-G/M



for BSP Paralled

| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | t | T G(PF) | PN(bar) | | |
|---------------|---------------|-----------|----|----|----|----------------|----|----------------|------|----------------|----------------|-------|------------|---------|-------|-------|
| | | | | | | | | | | | | | | Steel | SS316 | BRASS |
| L | DWH 06L - 01G | 6 | 14 | 14 | 17 | 17 | 27 | 24 | 12.0 | 8 | 10.5 | 2.5 | 1/8 | 250 | 250 | 160 |
| | DWH 08L - 02G | 8 | 18 | 17 | 22 | 19 | 29 | 30 | 14.5 | 12 | 14.0 | 3.0 | 1/4 | 250 | 250 | 160 |
| | DWH 10L - 02G | 10 | 18 | 19 | 22 | 19 | 30 | 30 | 15.5 | 12 | 14.0 | 3.0 | 1/4 | 250 | 250 | 160 |
| | DWH 12L - 03G | 12 | 22 | 22 | 27 | 24 | 33 | 36 | 18.0 | 12 | 16.5 | 3.0 | 3/8 | 250 | 250 | 160 |
| | DWH 15L - 04G | 15 | 26 | 27 | 32 | 30 | 37 | 45 | 21.5 | 14 | 21.5 | 4.5 | 1/2 | 250 | 250 | 160 |
| | DWH 18L - 04G | 18 | 26 | 32 | 32 | 30 | 37 | 45 | 21.0 | 14 | 21.5 | 4.5 | 1/2 | 250 | 250 | 160 |
| | DWH 22L - 06G | 22 | 32 | 36 | 41 | 36 | 44 | 53 | 27.5 | 16 | 24.0 | 3.5 | 3/4 | 160 | 160 | |
| | DWH 28L - 08G | 28 | 39 | 41 | 50 | 46 | 49 | 66 | 32.0 | 18 | 30.5 | 3.5 | 1 | 160 | 160 | |
| | DWH 35L - 10G | 35 | 49 | 50 | 60 | 55 | 58 | 76 | 36.0 | 20 | 35.5 | 3.5 | 1 1/4 | 160 | 160 | |
| DWH 42L - 12G | 42 | 55 | 60 | 70 | 60 | 63 | 87 | 40.5 | 22 | 40.5 | 3.5 | 1 1/2 | 160 | 160 | | |
| S | DWH 06S - 02G | 6 | 18 | 17 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14.0 | 3.0 | 1/4 | 315 | 315 | 200 |
| | DWH 08S - 02G | 8 | 18 | 19 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14.0 | 3.0 | 1/4 | 315 | 315 | 200 |
| | DWH 10S - 03G | 10 | 22 | 22 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3.0 | 3/8 | 315 | 315 | 200 |
| | DWH 12S - 03G | 12 | 22 | 24 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3.0 | 3/8 | 315 | 315 | 200 |
| | DWH 16S - 04G | 16 | 26 | 30 | 32 | 30 | 40 | 45 | 22.0 | 14 | 21.5 | 4.5 | 1/2 | 315 | 315 | |
| | DWH 20S - 06G | 20 | 32 | 36 | 41 | 36 | 48 | 53 | 26.5 | 16 | 24.0 | 3.5 | 3/4 | 160 | 160 | |
| | DWH 25S - 08G | 25 | 39 | 46 | 50 | 46 | 56 | 66 | 31.5 | 18 | 30.5 | 3.5 | 1 | 160 | 160 | |
| | DWH 30S - 10G | 30 | 49 | 50 | 60 | 55 | 64 | 76 | 37.0 | 20 | 34.5 | 3.5 | 1 1/4 | 160 | 160 | |
| | DWH 38S - 12G | 38 | 55 | 60 | 70 | 60 | 72 | 87 | 41.5 | 22 | 40.5 | 3.5 | 1 1/2 | 160 | 160 | |

for Metric Paralled

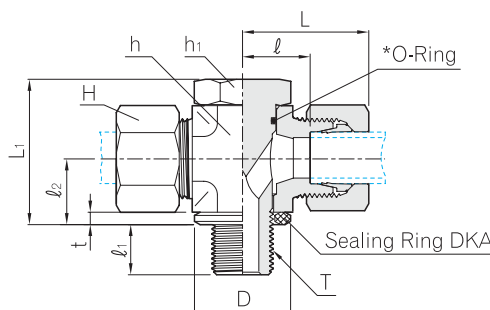
| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | t | T M(Metric) | PN(bar) | |
|---------------|---------------|-----------|----|----|----|----------------|------|----------------|------|----------------|----------------|----------|----------------|---------|-------|
| | | | | | | | | | | | | | | Steel | SS316 |
| L | DWH 06L - M10 | 6 | 14 | 14 | 17 | 17 | 27 | 24.0 | 12.0 | 8 | 10.5 | 2.5 | M 10 x 1 | 250 | 250 |
| | DWH 08L - M12 | 8 | 17 | 17 | 22 | 19 | 29 | 30.0 | 14.5 | 12 | 14.0 | 3.0 | M 12 x 1.5 | 250 | 250 |
| | DWH 10L - M14 | 10 | 19 | 19 | 22 | 19 | 30 | 30.0 | 15.5 | 12 | 14.0 | 3.0 | M 14 x 1.5 | 250 | 250 |
| | DWH 12L - M16 | 12 | 21 | 22 | 27 | 24 | 33 | 36.0 | 18.0 | 12 | 16.5 | 3.0 | M 16 x 1.5 | 250 | 250 |
| | DWH 15L - M18 | 15 | 23 | 27 | 30 | 27 | 36 | 39.5 | 20.5 | 12 | 18.5 | 3.0 | M 18 x 1.5 | 250 | 250 |
| | DWH 18L - M22 | 18 | 27 | 32 | 32 | 30 | 37 | 45.0 | 21.0 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 250 | 250 |
| | DWH 22L - M26 | 22 | 31 | 36 | 41 | 36 | 44 | 53.0 | 27.5 | 16 | 24.0 | 3.5 | M 26 x 1.5 | 160 | 160 |
| | DWH 28L - M33 | 28 | 39 | 41 | 50 | 46 | 49 | 66.0 | 32.0 | 18 | 30.5 | 3.5 | M 33 x 2 | 160 | 160 |
| | DWH 35L - M42 | 35 | 49 | 50 | 60 | 55 | 58 | 76.0 | 36.0 | 20 | 35.5 | 3.5 | M 42 x 2 | 160 | 160 |
| DWH 42L - M48 | 42 | 55 | 60 | 70 | 60 | 63 | 87.0 | 40.5 | 22 | 40.5 | 3.5 | M 48 x 2 | 160 | 160 | |
| S | DWH 06S - M12 | 6 | 17 | 17 | 22 | 19 | 31 | 30.0 | 16.5 | 12 | 14.0 | 3.0 | M 12 x 1.5 | 315 | 315 |
| | DWH 08S - M14 | 8 | 19 | 19 | 22 | 19 | 31 | 30.0 | 16.5 | 12 | 14.0 | 3.0 | M 14 x 1.5 | 315 | 315 |
| | DWH 10S - M16 | 10 | 21 | 22 | 27 | 24 | 35 | 36.0 | 18.5 | 12 | 16.5 | 3.0 | M 16 x 1.5 | 315 | 315 |
| | DWH 12S - M18 | 12 | 23 | 24 | 30 | 27 | 35 | 39.5 | 20.0 | 12 | 18.5 | 3.0 | M 18 x 1.5 | 315 | 315 |
| | DWH 16S - M22 | 16 | 27 | 30 | 32 | 30 | 40 | 45.0 | 22.0 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 315 | 315 |
| | DWH 20S - M27 | 20 | 32 | 36 | 41 | 36 | 48 | 53.0 | 26.5 | 16 | 24.0 | 3.5 | M 27 x 2 | 160 | 160 |
| | DWH 25S - M33 | 25 | 39 | 46 | 50 | 46 | 56 | 66.0 | 31.5 | 18 | 30.5 | 3.5 | M 33 x 2 | 160 | 160 |
| | DWH 30S - M42 | 30 | 49 | 50 | 60 | 55 | 64 | 76.0 | 37.0 | 20 | 35.5 | 3.5 | M 42 x 2 | 160 | 160 |
| | DWH 38S - M48 | 38 | 55 | 60 | 70 | 60 | 72 | 87.0 | 41.5 | 22 | 40.5 | 3.5 | M 48 x 2 | 160 | 160 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

High Pressure Banjo Fittings (ISO/BSP Parallel / Metric Parallel)

DTH-G/M



for ISO/BSP Parallel

| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | t | T | PN(bar) | |
|---------------|---------------|-----------|----|----|----|----------------|----|----------------|------|----------------|----------------|---------|---------|---------|-------|
| | | | | | | | | | | | | | | C.Steel | SS316 |
| L | DTH 06L - 01G | 6 | 14 | 14 | 17 | 17 | 27 | 24 | 12.0 | 8 | 10.5 | 2.5 | G 1/8 | 250 | 250 |
| | DTH 08L - 02G | 8 | 18 | 17 | 22 | 19 | 29 | 30 | 14.5 | 12 | 14.0 | 3.0 | G 1/4 | 250 | 250 |
| | DTH 10L - 02G | 10 | 18 | 19 | 22 | 19 | 30 | 30 | 15.5 | 12 | 14.0 | 3.0 | G 1/4 | 250 | 250 |
| | DTH 12L - 03G | 12 | 22 | 22 | 27 | 24 | 33 | 36 | 18.0 | 12 | 16.5 | 3.0 | G 3/8 | 250 | 250 |
| | DTH 15L - 04G | 15 | 26 | 27 | 32 | 30 | 37 | 45 | 21.5 | 14 | 21.5 | 4.5 | G 1/2 | 250 | 250 |
| | DTH 18L - 04G | 18 | 26 | 32 | 32 | 30 | 37 | 45 | 21.0 | 14 | 21.5 | 4.5 | G 1/2 | 250 | 250 |
| | DTH 22L - 06G | 22 | 32 | 36 | 41 | 36 | 44 | 53 | 27.5 | 16 | 24.0 | 3.5 | G 3/4 | 160 | 160 |
| | DTH 28L - 08G | 28 | 39 | 41 | 50 | 46 | 49 | 66 | 32.0 | 18 | 30.5 | 3.5 | G 1 | 160 | 160 |
| | DTH 35L - 10G | 35 | 49 | 50 | 60 | 55 | 58 | 76 | 36.0 | 20 | 35.5 | 3.5 | G 1 1/4 | 160 | 160 |
| DTH 42L - 12G | 42 | 55 | 60 | 70 | 60 | 63 | 87 | 40.5 | 22 | 40.5 | 3.5 | G 1 1/2 | 160 | 160 | |
| S | DTH 06S - 02G | 6 | 18 | 17 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14.0 | 3.0 | G 1/4 | 315 | 315 |
| | DTH 08S - 02G | 8 | 18 | 19 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14.0 | 3.0 | G 1/4 | 315 | 315 |
| | DTH 10S - 03G | 10 | 22 | 22 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3.0 | G 3/8 | 315 | 315 |
| | DTH 12S - 03G | 12 | 22 | 24 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3.0 | G 3/8 | 315 | 315 |
| | DTH 16S - 04G | 16 | 26 | 30 | 32 | 30 | 40 | 45 | 22.0 | 14 | 21.5 | 4.5 | G 1/2 | 315 | 315 |
| | DTH 20S - 06G | 20 | 32 | 36 | 41 | 36 | 48 | 53 | 26.5 | 16 | 24.0 | 3.5 | G 3/4 | 160 | 160 |
| | DTH 25S - 08G | 25 | 39 | 46 | 50 | 46 | 56 | 66 | 31.5 | 18 | 30.5 | 3.5 | G 1 | 160 | 160 |
| | DTH 30S - 10G | 30 | 49 | 50 | 60 | 55 | 64 | 76 | 37.0 | 20 | 35.5 | 3.5 | G 1 1/4 | 160 | 160 |
| | DTH 38S - 12G | 38 | 55 | 60 | 70 | 60 | 72 | 87 | 41.5 | 22 | 40.5 | 3.5 | G 1 1/2 | 160 | 160 |

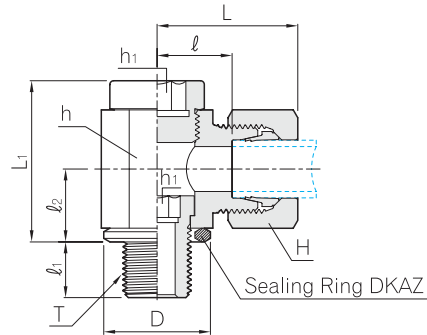
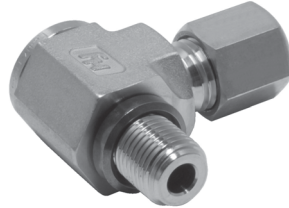
for Metric Parallel

| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | t | T | PN(bar) | |
|---------------|---------------|-----------|----|----|----|----------------|------|----------------|------|----------------|----------------|------------|------------|---------|-------|
| | | | | | | | | | | | | | | C.Steel | SS316 |
| L | DTH 06L - M10 | 6 | 14 | 14 | 17 | 17 | 27 | 24.0 | 12.0 | 8 | 10.5 | 2.5 | M 10 x 1.0 | 250 | 250 |
| | DTH 08L - M12 | 8 | 17 | 17 | 22 | 19 | 29 | 30.0 | 14.5 | 12 | 14.0 | 3.0 | M 12 x 1.5 | 250 | 250 |
| | DTH 10L - M14 | 10 | 19 | 19 | 22 | 19 | 30 | 30.0 | 15.5 | 12 | 14.0 | 3.0 | M 14 x 1.5 | 250 | 250 |
| | DTH 12L - M16 | 12 | 21 | 22 | 27 | 24 | 33 | 36.0 | 18.0 | 12 | 16.5 | 3.0 | M 16 x 1.5 | 250 | 250 |
| | DTH 15L - M18 | 15 | 23 | 27 | 30 | 27 | 36 | 39.5 | 20.5 | 12 | 18.5 | 3.0 | M 18 x 1.5 | 250 | 250 |
| | DTH 18L - M22 | 18 | 27 | 32 | 32 | 30 | 37 | 45.0 | 21.0 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 250 | 250 |
| | DTH 22L - M26 | 22 | 31 | 36 | 41 | 36 | 44 | 53.0 | 27.5 | 16 | 24.0 | 3.5 | M 26 x 1.5 | 160 | 160 |
| | DTH 28L - M33 | 28 | 39 | 41 | 50 | 46 | 49 | 66.0 | 32.0 | 18 | 30.5 | 3.5 | M 33 x 2.0 | 160 | 160 |
| | DTH 35L - M42 | 35 | 49 | 50 | 60 | 55 | 58 | 76.0 | 36.0 | 20 | 35.5 | 3.5 | M 42 x 2.0 | 160 | 160 |
| DTH 42L - M48 | 42 | 55 | 60 | 70 | 60 | 63 | 87.0 | 40.5 | 22 | 40.5 | 3.5 | M 48 x 2.0 | 160 | 160 | |
| S | DTH 06S - M12 | 6 | 17 | 17 | 22 | 19 | 31 | 30.0 | 16.5 | 12 | 14.0 | 3.0 | M 12 x 1.5 | 315 | 315 |
| | DTH 08S - M14 | 8 | 19 | 19 | 22 | 19 | 31 | 30.0 | 16.5 | 12 | 14.0 | 3.0 | M 14 x 1.5 | 315 | 315 |
| | DTH 10S - M16 | 10 | 21 | 22 | 27 | 24 | 35 | 36.0 | 18.5 | 12 | 16.5 | 3.0 | M 16 x 1.5 | 315 | 315 |
| | DTH 12S - M18 | 12 | 23 | 24 | 30 | 27 | 36 | 39.5 | 20.0 | 12 | 18.5 | 3.0 | M 18 x 1.5 | 315 | 315 |
| | DTH 16S - M22 | 16 | 27 | 30 | 32 | 30 | 40 | 45.0 | 22.0 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 315 | 315 |
| | DTH 20S - M27 | 20 | 32 | 36 | 41 | 36 | 48 | 53.0 | 26.5 | 16 | 24.0 | 3.5 | M 27 x 2.0 | 160 | 160 |
| | DTH 25S - M33 | 25 | 39 | 46 | 50 | 46 | 56 | 66.0 | 31.5 | 18 | 30.5 | 3.5 | M 33 x 2.0 | 160 | 160 |
| | DTH 30S - M42 | 30 | 49 | 50 | 60 | 55 | 64 | 76.0 | 37.0 | 20 | 35.5 | 3.5 | M 42 x 2.0 | 160 | 160 |
| | DTH 38S - M48 | 38 | 55 | 60 | 70 | 60 | 72 | 87.0 | 41.5 | 22 | 40.5 | 3.5 | M 48 x 2.0 | 160 | 160 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.
 * The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

24° Tube Fittings-DIN 2353 & ISO 8434-1

Throttlefree Banjo Fittings (ISO/BSP / Metric Parallel) with DKAZ-Ring DSVW-G/M



for ISO/BSP Parallel

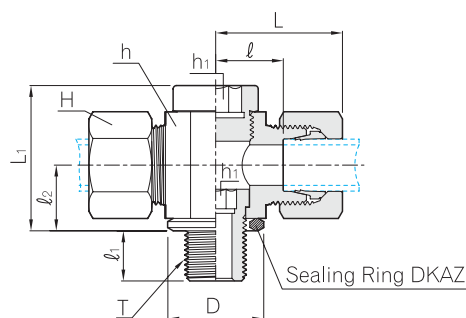
| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | T | PN(bar) C.Steel |
|----------------|----------------|-----------|----|----|----|----------------|----|----------------|------|----------------|----------------|---------|--------------------|
| L | DSVW 06L - 01G | 6 | 14 | 14 | 19 | 6 | 27 | 24 | 12,5 | 8 | 12 | G 1/8 | 160 |
| | DSVW 08L - 02G | 8 | 18 | 17 | 22 | 8 | 29 | 30 | 14,5 | 12 | 16 | G 1/4 | 160 |
| | DSVW 10L - 02G | 10 | 18 | 19 | 22 | 8 | 30 | 30 | 15,5 | 12 | 16 | G 1/4 | 100 |
| | DSVW 12L - 03G | 12 | 22 | 22 | 27 | 10 | 33 | 37 | 18,0 | 12 | 18 | G 3/8 | 100 |
| | DSVW 15L - 04G | 15 | 26 | 27 | 32 | 12 | 37 | 42 | 22,0 | 14 | 21 | G 1/2 | 100 |
| | DSVW 18L - 04G | 18 | 26 | 32 | 36 | 12 | 38 | 46 | 21,5 | 14 | 23 | G 1/2 | 100 |
| | DSVW 22L - 06G | 22 | 32 | 36 | 46 | 17 | 45 | 58 | 28,5 | 16 | 28 | G 3/4 | 100 |
| | DSVW 28L - 08G | 28 | 39 | 41 | 50 | 22 | 48 | 64 | 31,5 | 18 | 32 | G 1 | 100 |
| | DSVW 35L - 10G | 35 | 49 | 50 | 60 | 27 | 57 | 76 | 35,5 | 20 | 37 | G 1 1/4 | 63 |
| DSVW 42L - 12G | 42 | 55 | 60 | 65 | 32 | 63 | 85 | 40,0 | 22 | 42 | G 1 1/2 | 63 | |
| S | DSVW 06S - 02G | 6 | 18 | 17 | 22 | 8 | 31 | 30 | 16,5 | 12 | 16 | G 1/4 | 160 |
| | DSVW 08S - 02G | 8 | 18 | 19 | 22 | 8 | 31 | 30 | 16,5 | 12 | 16 | G 1/4 | 160 |
| | DSVW 10S - 03G | 10 | 22 | 22 | 27 | 10 | 35 | 37 | 18,5 | 12 | 18 | G 3/8 | 100 |
| | DSVW 12S - 03G | 12 | 22 | 24 | 27 | 10 | 35 | 37 | 18,5 | 12 | 18 | G 3/8 | 100 |
| | DSVW 14S - 04G | 14 | 26 | 27 | 32 | 12 | 41 | 42 | 23,0 | 14 | 21 | G 1/2 | 100 |
| | DSVW 16S - 04G | 16 | 26 | 30 | 36 | 12 | 41 | 46 | 22,5 | 14 | 23 | G 1/2 | 100 |
| | DSVW 20S - 06G | 20 | 32 | 36 | 46 | 17 | 49 | 58 | 27,5 | 16 | 28 | G 3/4 | 100 |
| | DSVW 25S - 08G | 25 | 39 | 46 | 50 | 22 | 55 | 64 | 31,0 | 18 | 32 | G 1 | 100 |
| | DSVW 30S - 10G | 30 | 49 | 50 | 60 | 27 | 63 | 76 | 36,5 | 20 | 37 | G 1 1/4 | 63 |
| DSVW 38S - 12G | 38 | 55 | 60 | 70 | 32 | 72 | 85 | 41,0 | 22 | 42 | G 1 1/2 | 63 | |

for Metric Parallel

| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | T | PN(bar) C.Steel |
|----------------|----------------|-----------|----|----|----|----------------|----|----------------|------|----------------|----------------|------------|--------------------|
| L | DSVW 06L - M10 | 6 | 14 | 14 | 19 | 6 | 27 | 24 | 12,5 | 8 | 12 | M 10 x 1,0 | 160 |
| | DSVW 08L - M12 | 8 | 17 | 17 | 22 | 6 | 29 | 30 | 14,5 | 12 | 15 | M 12 x 1,5 | 160 |
| | DSVW 10L - M14 | 10 | 19 | 19 | 22 | 8 | 30 | 30 | 15,5 | 12 | 16 | M 14 x 1,5 | 100 |
| | DSVW 12L - M16 | 12 | 21 | 22 | 27 | 10 | 33 | 37 | 18,0 | 12 | 18 | M 16 x 1,5 | 100 |
| | DSVW 15L - M18 | 15 | 23 | 27 | 30 | 12 | 36 | 40 | 21,0 | 12 | 20 | M 18 x 1,5 | 100 |
| | DSVW 18L - M22 | 18 | 27 | 32 | 36 | 14 | 38 | 46 | 21,5 | 14 | 23 | M 22 x 1,5 | 100 |
| | DSVW 22L - M26 | 22 | 31 | 36 | 41 | 17 | 42 | 51 | 26,5 | 16 | 25 | M 26 x 1,5 | 100 |
| | DSVW 28L - M33 | 28 | 39 | 41 | 50 | 22 | 48 | 64 | 31,5 | 18 | 32 | M 33 x 2,0 | 100 |
| | DSVW 35L - M42 | 35 | 49 | 50 | 60 | 27 | 57 | 76 | 35,5 | 20 | 37 | M 42 x 2,0 | 63 |
| DSVW 42L - M48 | 42 | 55 | 60 | 65 | 32 | 63 | 85 | 40,0 | 22 | 42 | M 48 x 2,0 | 63 | |
| S | DSVW 06S - M12 | 6 | 17 | 17 | 22 | 6 | 31 | 30 | 16,5 | 12 | 15 | M 12 x 1,5 | 160 |
| | DSVW 08S - M14 | 8 | 19 | 19 | 22 | 8 | 31 | 30 | 16,5 | 12 | 16 | M 14 x 1,5 | 160 |
| | DSVW 10S - M16 | 10 | 21 | 22 | 27 | 10 | 35 | 37 | 18,5 | 12 | 18 | M 16 x 1,5 | 100 |
| | DSVW 12S - M18 | 12 | 23 | 24 | 30 | 12 | 37 | 41 | 20,5 | 12 | 20 | M 18 x 1,5 | 100 |
| | DSVW 14S - M20 | 14 | 25 | 27 | 32 | 12 | 41 | 42 | 23,0 | 14 | 21 | M 20 x 1,5 | 100 |
| | DSVW 16S - M22 | 16 | 27 | 30 | 36 | 14 | 41 | 46 | 22,5 | 14 | 23 | M 22 x 1,5 | 100 |
| | DSVW 20S - M27 | 20 | 32 | 36 | 46 | 17 | 49 | 58 | 27,5 | 16 | 28 | M 27 x 2,0 | 100 |
| | DSVW 25S - M33 | 25 | 39 | 46 | 50 | 22 | 55 | 64 | 31,0 | 18 | 32 | M 33 x 2,0 | 100 |
| | DSVW 30S - M42 | 30 | 49 | 50 | 60 | 27 | 63 | 76 | 36,5 | 20 | 37 | M 42 x 2,0 | 63 |
| DSVW 38S - M48 | 38 | 55 | 60 | 70 | 32 | 72 | 85 | 41,0 | 22 | 42 | M 48 x 2,0 | 63 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

Throttlefree Banjo Fittings (ISO/BSP / Metric Parallel) with DKAZ-Ring DSVT-G/M



for ISO/BSP Parallel

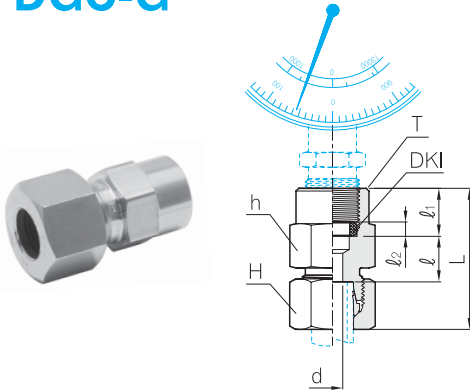
| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | T | PN(bar) C.Steel |
|----------------|----------------|-----------|----|----|----|----------------|----|----------------|------|----------------|----------------|---------|--------------------|
| L | DSVT 06L - 01G | 6 | 14 | 14 | 18 | 6 | 27 | 24 | 12.0 | 8 | 12 | G 1/8 | 160 |
| | DSVT 08L - 02G | 8 | 18 | 17 | 22 | 8 | 29 | 30 | 14.0 | 12 | 15 | G 1/4 | 160 |
| | DSVT 10L - 02G | 10 | 18 | 19 | 22 | 8 | 30 | 30 | 15.0 | 12 | 15 | G 1/4 | 100 |
| | DSVT 12L - 03G | 12 | 22 | 22 | 27 | 10 | 32 | 36 | 17.5 | 12 | 18 | G 3/8 | 100 |
| | DSVT 15L - 04G | 15 | 26 | 27 | 30 | 12 | 35 | 40 | 20.0 | 14 | 20 | G 1/2 | 100 |
| | DSVT 18L - 04G | 18 | 26 | 32 | 30 | 12 | 36 | 40 | 19.5 | 14 | 20 | G 1/2 | 100 |
| | DSVT 22L - 06G | 22 | 32 | 36 | 41 | 17 | 43 | 52 | 27.0 | 16 | 25 | G 3/4 | 100 |
| | DSVT 28L - 08G | 28 | 39 | 41 | 46 | 22 | 46 | 58 | 29.5 | 18 | 29 | G 1 | 100 |
| | DSVT 35L - 10G | 35 | 49 | 50 | 55 | 27 | 55 | 69 | 33.0 | 20 | 34 | G 1 1/4 | 63 |
| DSVT 42L - 12G | 42 | 55 | 60 | 65 | 32 | 63 | 84 | 40.0 | 22 | 41 | G 1 1/2 | 63 | |
| S | DSVT 06S - 02G | 6 | 18 | 17 | 22 | 8 | 31 | 30 | 16.0 | 12 | 15 | G 1/4 | 160 |
| | DSVT 08S - 02G | 8 | 18 | 19 | 22 | 8 | 31 | 30 | 16.0 | 12 | 15 | G 1/4 | 160 |
| | DSVT 10S - 03G | 10 | 22 | 22 | 27 | 10 | 34 | 36 | 18.0 | 12 | 18 | G 3/8 | 100 |
| | DSVT 12S - 03G | 12 | 22 | 24 | 27 | 10 | 34 | 36 | 18.0 | 12 | 18 | G 3/8 | 100 |
| | DSVT 14S - 04G | 14 | 26 | 27 | 32 | 12 | 40 | 42 | 22.0 | 14 | 21 | G 1/2 | 100 |
| | DSVT 16S - 04G | 16 | 26 | 30 | 32 | 12 | 40 | 42 | 21.5 | 14 | 21 | G 1/2 | 100 |
| | DSVT 20S - 06G | 20 | 32 | 36 | 46 | 17 | 50 | 57 | 28.5 | 16 | 28 | G 3/4 | 100 |
| | DSVT 25S - 08G | 25 | 39 | 46 | 50 | 22 | 55 | 62 | 31.0 | 18 | 31 | G 1 | 100 |
| | DSVT 30S - 10G | 30 | 49 | 50 | 60 | 27 | 63 | 74 | 36.5 | 20 | 36 | G 1 1/4 | 63 |
| DSVT 38S - 12G | 38 | 55 | 60 | 70 | 32 | 72 | 84 | 41.0 | 22 | 41 | G 1 1/2 | 63 | |

for Metric Parallel

| Series | Part No. | Tube O.D. | D | H | h | h ₁ | L | L ₁ | l | l ₁ | l ₂ | T | PN(bar) C.Steel |
|----------------|----------------|-----------|----|----|----|----------------|----|----------------|------|----------------|----------------|------------|--------------------|
| L | DSVT 06L - M10 | 6 | 14 | 14 | 18 | 6 | 27 | 24 | 12.0 | 8 | 12 | M 10 x 1.0 | 160 |
| | DSVT 08L - M12 | 8 | 17 | 17 | 20 | 6 | 28 | 27 | 13.0 | 12 | 14 | M 12 x 1.5 | 160 |
| | DSVT 10L - M14 | 10 | 19 | 19 | 22 | 8 | 30 | 30 | 15.0 | 12 | 15 | M 14 x 1.5 | 100 |
| | DSVT 12L - M16 | 12 | 21 | 22 | 27 | 10 | 32 | 36 | 17.5 | 12 | 18 | M 16 x 1.5 | 100 |
| | DSVT 15L - M18 | 15 | 23 | 27 | 30 | 12 | 35 | 39 | 20.0 | 12 | 19 | M 18 x 1.5 | 100 |
| | DSVT 18L - M22 | 18 | 27 | 32 | 32 | 14 | 37 | 41 | 20.5 | 14 | 20 | M 22 x 1.5 | 100 |
| | DSVT 22L - M26 | 22 | 31 | 36 | 36 | 17 | 41 | 46 | 24.5 | 16 | 22 | M 26 x 1.5 | 100 |
| | DSVT 28L - M33 | 28 | 39 | 41 | 46 | 22 | 46 | 58 | 29.5 | 18 | 29 | M 33 x 2.0 | 100 |
| | DSVT 35L - M42 | 35 | 49 | 50 | 55 | 27 | 55 | 69 | 33.0 | 20 | 33 | M 42 x 2.0 | 63 |
| DSVT 42L - M48 | 42 | 55 | 60 | 65 | 32 | 63 | 84 | 40.0 | 22 | 41 | M 48 x 2.0 | 63 | |
| S | DSVT 06S - M12 | 6 | 17 | 17 | 20 | 6 | 30 | 27 | 15.0 | 12 | 14 | M 12 x 1.5 | 160 |
| | DSVT 08S - M14 | 8 | 19 | 19 | 22 | 8 | 31 | 30 | 16.0 | 12 | 15 | M 14 x 1.5 | 160 |
| | DSVT 10S - M16 | 10 | 21 | 22 | 27 | 10 | 34 | 36 | 18.0 | 12 | 18 | M 16 x 1.5 | 100 |
| | DSVT 12S - M18 | 12 | 23 | 24 | 30 | 12 | 36 | 39 | 19.5 | 12 | 19 | M 18 x 1.5 | 100 |
| | DSVT 14S - M20 | 14 | 25 | 27 | 32 | 12 | 40 | 41 | 22.0 | 14 | 20 | M 20 x 1.5 | 100 |
| | DSVT 16S - M22 | 16 | 27 | 30 | 36 | 14 | 42 | 45 | 23.5 | 14 | 22 | M 22 x 1.5 | 100 |
| | DSVT 20S - M27 | 20 | 32 | 36 | 46 | 17 | 50 | 58 | 28.5 | 16 | 28 | M 27 x 2.0 | 100 |
| | DSVT 25S - M33 | 25 | 39 | 46 | 50 | 22 | 55 | 62 | 31.0 | 18 | 31 | M 33 x 2.0 | 100 |
| | DSVT 30S - M42 | 30 | 49 | 50 | 60 | 27 | 63 | 74 | 36.5 | 20 | 36 | M 42 x 2.0 | 63 |
| DSVT 38S - M48 | 38 | 55 | 60 | 70 | 32 | 72 | 84 | 41.0 | 22 | 41 | M 48 x 2.0 | 63 | |

Dimensions are given for approximate length with tightened nut, All dimensions are in millimeters for reference only, subject to change.

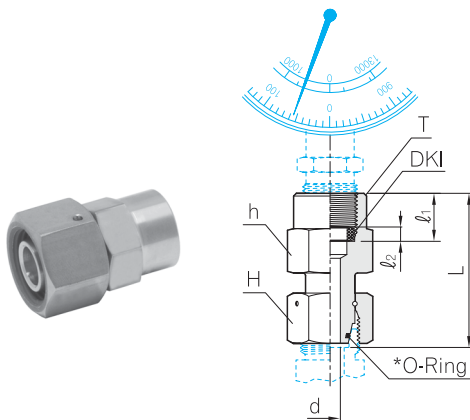
Pressure Gauge Connector (ISO/BSP Parallel) with DKI-Ring
DGC-G



| Series | Part No. | Tube O.D. | d | H | h | L | l ₁ | l ₂ | T | PN(bar) | | | |
|--------|--------------|-----------|-----|----|----|----|----------------|----------------|-----|---------|-------|-------|-----|
| | | | | | | | | | | C.Steel | SS316 | BRASS | |
| L | DGC06L - 02G | 6 | 2.5 | 14 | 19 | 37 | 7.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 | 200 |
| | DGC08L - 02G | 8 | 5.5 | 17 | 19 | 37 | 7.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 | 200 |
| | DGC10L - 02G | 10 | 5.5 | 19 | 19 | 38 | 8.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 | 200 |
| | DGC12L - 02G | 12 | 5.5 | 22 | 19 | 38 | 8.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 | 200 |
| S | DGC06S - 04G | 6 | 3.5 | 17 | 27 | 46 | 11.0 | 20.0 | 5.0 | G 1/2 | 630 | 630 | 400 |
| | DGC08S - 04G | 8 | 3.5 | 19 | 27 | 46 | 11.0 | 20.0 | 5.0 | G 1/2 | 630 | 630 | 400 |
| | DGC10S - 04G | 10 | 7.0 | 22 | 27 | 47 | 10.5 | 20.0 | 5.0 | G 1/2 | 630 | 630 | 400 |
| | DGC12S - 04G | 12 | 7.0 | 24 | 27 | 47 | 10.5 | 20.0 | 5.0 | G 1/2 | 630 | 630 | 400 |

Dimensions are given approximate length with tightened nut.

Swivel Gauge Adaptor (ISO/BSP Parallel) with cone and DKI-Ring
DGE-G



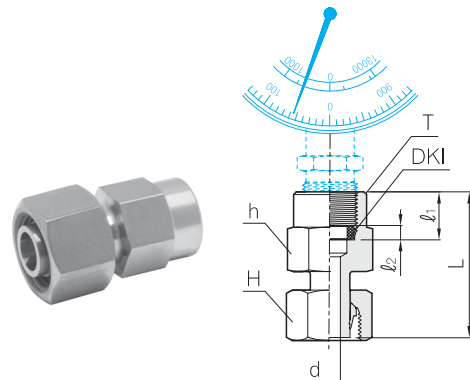
| Series | Part No. | Tube O.D. | d | H | h | L | l ₁ | l ₂ | T | PN(bar) | |
|--------|---------------|-----------|-----|----|----|------|----------------|----------------|-------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DGE 06L - 02G | 6 | 2.5 | 14 | 19 | 35.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| | DGE 08L - 02G | 8 | 4.0 | 17 | 19 | 35.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| | DGE 10L - 02G | 10 | 5.5 | 19 | 19 | 36.0 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| | DGE 12L - 02G | 12 | 5.5 | 22 | 19 | 36.0 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| S | DGE 06S - 04G | 6 | 2.5 | 17 | 27 | 42.5 | 20.0 | 5.0 | G 1/2 | 630 | 630 |
| | DGE 08S - 04G | 8 | 4.0 | 19 | 27 | 43.0 | 20.0 | 5.0 | G 1/2 | 630 | 630 |
| | DGE 10S - 04G | 10 | 6.0 | 22 | 27 | 43.5 | 20.0 | 5.0 | G 1/2 | 630 | 630 |
| | DGE 12S - 04G | 12 | 7.0 | 24 | 27 | 45.0 | 20.0 | 5.0 | G 1/2 | 630 | 630 |
| | DGE 06S - 02G | 6 | 2.5 | 17 | 19 | 35.5 | 14.5 | 4.5 | G 1/4 | 630 | 630 |
| | DGE 08S - 02G | 8 | 4.0 | 19 | 19 | 35.5 | 14.5 | 4.5 | G 1/4 | 630 | 630 |
| | DGE 10S - 02G | 10 | 6.0 | 22 | 19 | 39.0 | 14.5 | 4.5 | G 1/4 | 630 | 630 |
| | DGE 12S - 02G | 12 | 7.0 | 24 | 19 | 39.0 | 14.5 | 4.5 | G 1/4 | 630 | 630 |

Dimensions are given approximate length with tightened nut.

Please refer to final assembly instructions on page 67.

* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

Gauge Adaptor (ISO/BSP Parallel) with Standpipe and DKI-Ring
DGA-G

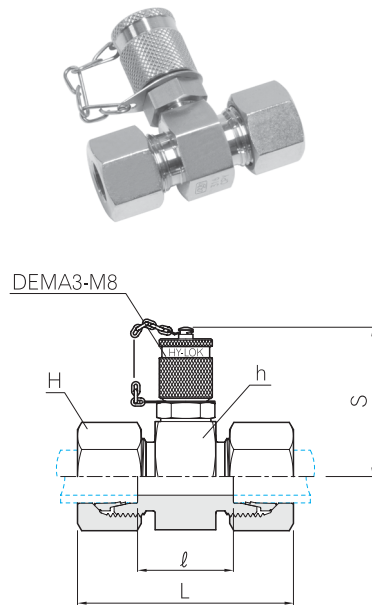


| Series | Part No. | Tube O.D. | d | H | h | L | l ₁ | l ₂ | T | PN(bar) | |
|--------|---------------|-----------|-----|----|----|------|----------------|----------------|-------|---------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| L | DGA 06L - 02G | 6 | 3.5 | 14 | 19 | 38.0 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| | DGA 08L - 02G | 8 | 5.5 | 17 | 19 | 38.0 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| | DGA 10L - 02G | 10 | 7.5 | 19 | 19 | 39.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| | DGA 12L - 02G | 12 | 9.0 | 22 | 19 | 40.5 | 14.5 | 4.5 | G 1/4 | 315 | 315 |
| S | DGA 06S - 04G | 6 | 3.5 | 17 | 27 | 45.0 | 20.0 | 5.0 | G 1/2 | 630 | 630 |
| | DGA 08S - 04G | 8 | 4.5 | 19 | 27 | 45.0 | 20.0 | 5.0 | G 1/2 | 630 | 630 |
| | DGA 10S - 04G | 10 | 6.5 | 22 | 27 | 47.0 | 20.0 | 5.0 | G 1/2 | 630 | 630 |
| | DGA 12S - 04G | 12 | 7.5 | 24 | 27 | 47.5 | 20.0 | 5.0 | G 1/2 | 630 | 630 |

Please refer to final assembly instructions on page 67.

Tee Test Coupling with threaded Connection DEMA 3-M8

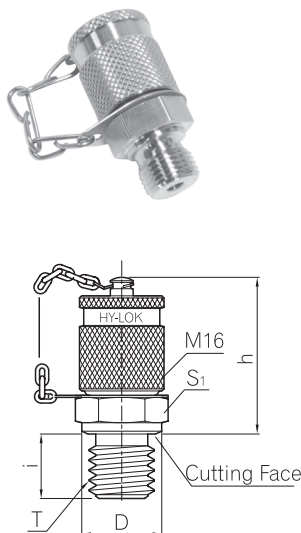
DGMA



| Series | Part No. | Tube O.D. | H | h | L | l | S | PN(bar) | |
|--------------|--------------|-----------|----|----|------|------|-----|---------|-------|
| | | | | | | | | C.Steel | SS316 |
| L | DGMA 3 - 06L | 6 | 14 | 24 | 50 | 20.5 | 45 | 315 | 315 |
| | DGMA 3 - 08L | 8 | 17 | 24 | 50 | 20.5 | 45 | 315 | 315 |
| | DGMA 3 - 10L | 10 | 19 | 24 | 52 | 22.5 | 45 | 315 | 315 |
| | DGMA 3 - 12L | 12 | 22 | 24 | 52 | 22.5 | 45 | 315 | 315 |
| | DGMA 3 - 15L | 15 | 27 | 30 | 55 | 24.5 | 48 | 315 | 315 |
| | DGMA 3 - 18L | 18 | 32 | 32 | 56 | 23.5 | 49 | 315 | 315 |
| | DGMA 3 - 22L | 22 | 36 | 36 | 60 | 27.5 | 51 | 160 | 160 |
| | DGMA 3 - 28L | 28 | 41 | 41 | 61 | 27.5 | 53 | 160 | 160 |
| | DGMA 3 - 35L | 35 | 50 | 46 | 69 | 25.5 | 56 | 160 | 160 |
| S | DGMA 3 - 42L | 42 | 60 | 55 | 70 | 24.5 | 60 | 160 | 160 |
| | DGMA 3 - 06S | 6 | 17 | 24 | 54 | 24.5 | 45 | 630 | 630 |
| | DGMA 3 - 08S | 8 | 19 | 24 | 54 | 24.5 | 45 | 630 | 630 |
| | DGMA 3 - 10S | 10 | 22 | 24 | 56 | 23.5 | 45 | 630 | 630 |
| | DGMA 3 - 12S | 12 | 24 | 24 | 56 | 23.5 | 45 | 630 | 630 |
| | DGMA 3 - 14S | 14 | 27 | 27 | 62 | 26.5 | 46 | 630 | 630 |
| | DGMA 3 - 16S | 16 | 30 | 30 | 62 | 25.5 | 48 | 400 | 400 |
| | DGMA 3 - 20S | 20 | 36 | 36 | 69 | 25.5 | 51 | 400 | 400 |
| | DGMA 3 - 25S | 25 | 46 | 41 | 75 | 26.5 | 53 | 400 | 400 |
| | DGMA 3 - 30S | 30 | 50 | 46 | 81 | 27.5 | 56 | 400 | 400 |
| DGMA 3 - 38S | 38 | 60 | 55 | 90 | 29.0 | 60 | 315 | 315 | |

Test Coupling with threaded Connection M16

DEMA



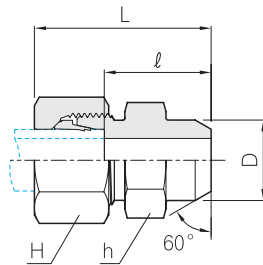
Form B stud end standard
(Form E stud end available)

| Part No. | D | h | i | S ₁ | T | PN(bar) |
|-------------|----|----|----|----------------|------------|---------|
| | | | | | | C.Steel |
| DEMA3 - 01G | 14 | 36 | 8 | 17 | G 1/8 | 400 |
| DEMA3 - 02G | 18 | 36 | 10 | 19 | G 1/4 | 400 |
| DEMA3 - 03G | 22 | 36 | 12 | 22 | G 3/8 | 400 |
| DEMA3 - 04G | 26 | 36 | 14 | 27 | G 1/2 | 400 |
| DEMA3 - M10 | 14 | 36 | 8 | 17 | M 10 x 1 | 400 |
| DEMA3 - M12 | 17 | 36 | 12 | 17 | M 12 x 1.5 | 400 |
| DEMA3 - M14 | 19 | 36 | 12 | 19 | M 14 x 1.5 | 400 |
| DEMA3 - M16 | 21 | 36 | 12 | 22 | M 16 x 1.5 | 400 |

Dimensions are given for approximate length with tightened nut, All dimensions are in millimeters for reference only, subject to change.

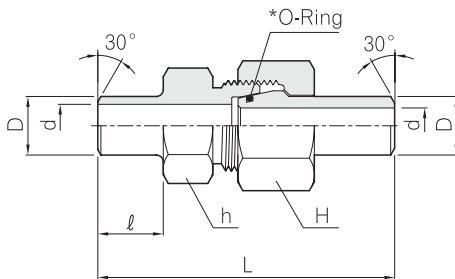
24° Tube Fittings-DIN 2353 & ISO 8434-1

Welding Connector DAS



| Series | Part No. | Tube O.D. | D | H | h | L | ℓ | PN(bar) | |
|--------|-----------|-----------|----|----|----|----|------|---------|-------|
| | | | | | | | | Steel | SS316 |
| L | DAS - 06L | 6 | 10 | 14 | 12 | 29 | 14.0 | 315 | 315 |
| | DAS - 08L | 8 | 12 | 17 | 14 | 31 | 16.0 | 315 | 315 |
| | DAS - 10L | 10 | 14 | 19 | 17 | 33 | 18.0 | 315 | 315 |
| | DAS - 12L | 12 | 16 | 22 | 19 | 33 | 18.0 | 315 | 315 |
| | DAS - 15L | 15 | 19 | 27 | 22 | 37 | 22.0 | 315 | 315 |
| | DAS - 18L | 18 | 22 | 32 | 27 | 40 | 23.5 | 315 | 315 |
| | DAS - 22L | 22 | 27 | 36 | 32 | 45 | 28.5 | 160 | 160 |
| | DAS - 28L | 28 | 32 | 41 | 41 | 47 | 30.5 | 160 | 160 |
| | DAS - 35L | 35 | 40 | 50 | 46 | 54 | 32.5 | 160 | 160 |
| | DAS - 42L | 42 | 46 | 60 | 55 | 58 | 35.0 | 160 | 160 |
| S | DAS - 06S | 6 | 11 | 17 | 14 | 34 | 19.0 | 630 | 630 |
| | DAS - 08S | 8 | 13 | 19 | 17 | 36 | 21.0 | 630 | 630 |
| | DAS - 10S | 10 | 15 | 22 | 19 | 39 | 22.5 | 630 | 630 |
| | DAS - 12S | 12 | 17 | 24 | 22 | 41 | 24.5 | 630 | 630 |
| | DAS - 14S | 14 | 19 | 27 | 24 | 45 | 27.0 | 630 | 630 |
| | DAS - 16S | 16 | 21 | 30 | 27 | 45 | 26.5 | 400 | 400 |
| | DAS - 20S | 20 | 26 | 36 | 32 | 51 | 29.5 | 400 | 400 |
| | DAS - 25S | 25 | 31 | 46 | 41 | 56 | 32.0 | 400 | 400 |
| | DAS - 30S | 30 | 36 | 50 | 46 | 62 | 35.5 | 400 | 400 |
| | DAS - 38S | 38 | 44 | 60 | 55 | 69 | 38.0 | 315 | 315 |

Welding Connector with DAK DASK



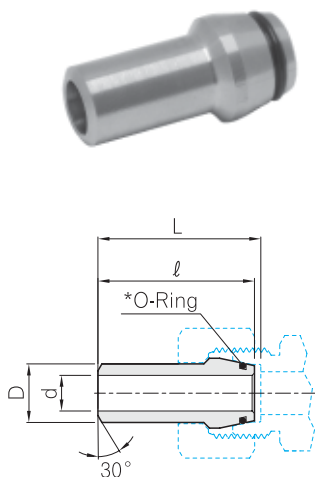
| Series | Part No. | Tube O.D. D | d | H | h | L | ℓ | PN(bar) | |
|--------|---------------|-------------|----|----|----|-------|------|---------|-------|
| | | | | | | | | Steel | SS316 |
| S | DASK 10 x 1.0 | 10 | 8 | 22 | 19 | 58.0 | 10.0 | 249 | 242 |
| | DASK 10 x 1.5 | 10 | 7 | 22 | 19 | 58.0 | 10.0 | 358 | 349 |
| | DASK 10 x 2.0 | 10 | 6 | 22 | 19 | 58.0 | 10.0 | 460 | 447 |
| | DASK 12 x 1.5 | 12 | 9 | 24 | 22 | 65.0 | 15.0 | 305 | 297 |
| | DASK 12 x 2.0 | 12 | 8 | 24 | 22 | 65.0 | 15.0 | 393 | 383 |
| | DASK 12 x 2.5 | 12 | 7 | 24 | 22 | 65.0 | 15.0 | 476 | 463 |
| | DASK 16 x 1.5 | 16 | 13 | 30 | 27 | 74.5 | 16.5 | 234 | 228 |
| | DASK 16 x 2.0 | 16 | 12 | 30 | 27 | 74.5 | 16.5 | 305 | 297 |
| | DASK 16 x 2.5 | 16 | 11 | 30 | 27 | 74.5 | 16.5 | 372 | 362 |
| | DASK 16 x 3.0 | 16 | 10 | 30 | 27 | 74.5 | 16.5 | 400 | 400 |
| | DASK 20 x 2.0 | 20 | 16 | 36 | 32 | 84.0 | 19.0 | 249 | 242 |
| | DASK 20 x 2.5 | 20 | 15 | 36 | 32 | 84.0 | 19.0 | 305 | 297 |
| | DASK 20 x 3.0 | 20 | 14 | 36 | 32 | 84.0 | 19.0 | 358 | 349 |
| | DASK 20 x 4.0 | 20 | 12 | 36 | 32 | 84.0 | 19.0 | 400 | 400 |
| | DASK 25 x 3.0 | 25 | 19 | 46 | 41 | 94.5 | 19.5 | 294 | 286 |
| | DASK 25 x 4.0 | 25 | 17 | 46 | 41 | 94.5 | 19.5 | 379 | 369 |
| | DASK 25 x 5.0 | 25 | 15 | 46 | 41 | 94.5 | 19.5 | 400 | 400 |
| | DASK 30 x 3.0 | 30 | 24 | 50 | 46 | 102.0 | 23.0 | 249 | 242 |
| | DASK 30 x 4.0 | 30 | 22 | 50 | 46 | 102.0 | 23.0 | 323 | 314 |
| | DASK 30 x 5.0 | 30 | 20 | 50 | 46 | 102.0 | 23.0 | 393 | 383 |
| | DASK 30 x 6.0 | 30 | 18 | 50 | 46 | 102.0 | 23.0 | 400 | 400 |
| | DASK 38 x 4.0 | 38 | 30 | 60 | 55 | 111.0 | 23.0 | 261 | 254 |
| | DASK 38 x 5.0 | 38 | 28 | 60 | 55 | 111.0 | 23.0 | 315 | 311 |
| | DASK 38 x 6.0 | 38 | 26 | 60 | 55 | 111.0 | 23.0 | 315 | 315 |
| | DASK 38 x 7.0 | 38 | 24 | 60 | 55 | 111.0 | 23.0 | 315 | 315 |

All dimensions are in millimeters for reference only, subject to change.

* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

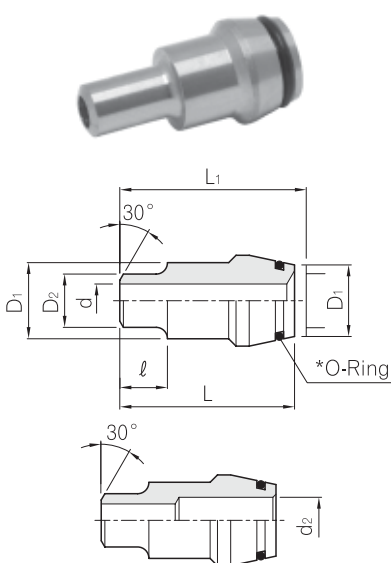
Max. Pressure ratings are based on carbon steel, and the pressure rating of the stainless steel refers to page 5.

Welding Nipple with *O-Ring
DAK



| Series | Part No. | Tube O.D. D | d [†] | L | l | PN(bar) | |
|--------------|--------------|----------------|----------------|------|------|---------|-------|
| | | | | | | Steel | SS316 |
| L/S | DAK 10 x 1.0 | 10 | 8 | 35.5 | 33.0 | 249 | 242 |
| | DAK 10 x 1.5 | 10 | 7 | 35.5 | 33.0 | 358 | 349 |
| | DAK 10 x 2.0 | 10 | 6 | 35.5 | 33.0 | 460 | 447 |
| | DAK 12 x 1.5 | 12 | 9 | 35.5 | 33.0 | 305 | 297 |
| | DAK 12 x 2.0 | 12 | 8 | 35.5 | 33.0 | 393 | 383 |
| | DAK 12 x 2.5 | 12 | 7 | 35.5 | 33.0 | 476 | 463 |
| S | DAK 16 x 1.5 | 16 | 13 | 42.5 | 39.0 | 234 | 228 |
| | DAK 16 x 2.0 | 16 | 12 | 42.5 | 39.0 | 305 | 297 |
| | DAK 16 x 2.5 | 16 | 11 | 42.5 | 39.0 | 372 | 362 |
| | DAK 16 x 3.0 | 16 | 10 | 42.5 | 39.0 | 400 | 400 |
| | DAK 20 x 2.0 | 20 | 16 | 47.5 | 43.5 | 249 | 242 |
| | DAK 20 x 2.5 | 20 | 15 | 47.5 | 43.5 | 305 | 297 |
| | DAK 20 x 3.0 | 20 | 14 | 47.5 | 43.5 | 358 | 349 |
| | DAK 20 x 4.0 | 20 | 12 | 47.5 | 43.5 | 400 | 400 |
| | DAK 25 x 3.0 | 25 | 19 | 55.0 | 49.5 | 294 | 286 |
| | DAK 25 x 4.0 | 25 | 17 | 55.0 | 49.5 | 379 | 369 |
| | DAK 25 x 5.0 | 25 | 15 | 55.0 | 49.5 | 400 | 400 |
| | DAK 30 x 3.0 | 30 | 24 | 58.5 | 51.5 | 249 | 242 |
| | DAK 30 x 4.0 | 30 | 22 | 58.5 | 51.5 | 323 | 314 |
| | DAK 30 x 5.0 | 30 | 20 | 58.5 | 51.5 | 393 | 383 |
| | DAK 30 x 6.0 | 30 | 18 | 58.5 | 51.5 | 400 | 400 |
| | DAK 38 x 4.0 | 38 | 30 | 66.0 | 56.5 | 261 | 254 |
| | DAK 38 x 5.0 | 38 | 28 | 66.0 | 56.5 | 315 | 315 |
| DAK 38 x 6.0 | 38 | 26 | 66.0 | 56.5 | 315 | 315 | |
| DAK 38 x 7.0 | 38 | 24 | 66.0 | 56.5 | 315 | 315 | |

Reducing Welding Nipple with *O-Ring
DAK



| Series | Part No. | Tube O.D. | | d [†] | d ₂ | L ₁ | L | l | PN(bar) | |
|--------|----------------|----------------|----------------|----------------|----------------|----------------|------|----|---------|-------|
| | | D ₁ | D ₂ | | | | | | Steel | SS316 |
| L/S | DAK 1006 x 1.5 | 10 | 6 | 3 | 5 | 37.5 | 35.0 | 12 | 528 | 539 |
| | DAK 1008 x 2.0 | 10 | 8 | 4 | - | 37.5 | 35.0 | 12 | 528 | 539 |
| | DAK 1208 x 2.0 | 12 | 8 | 4 | 6 | 37.5 | 35.0 | 14 | 528 | 539 |
| | DAK 1210 x 1.5 | 12 | 10 | 7 | - | 37.5 | 35.0 | 14 | 358 | 349 |
| S | DAK 1612 x 2.5 | 16 | 12 | 7 | - | 46.5 | 43.0 | 15 | 400 | 400 |
| | DAK 2012 x 2.5 | 20 | 12 | 7 | - | 51.5 | 47.5 | 15 | 400 | 400 |
| | DAK 2016 x 3.0 | 20 | 16 | 10 | - | 53.5 | 49.5 | 17 | 400 | 400 |
| | DAK 2516 x 3.0 | 25 | 16 | 10 | - | 56.5 | 51.0 | 17 | 400 | 400 |
| | DAK 2520 x 4.0 | 25 | 20 | 12 | - | 59.5 | 54.0 | 20 | 400 | 400 |
| | DAK 3016 x 2.0 | 30 | 16 | 12 | - | 67.0 | 60.0 | 17 | 305 | 297 |
| | DAK 3020 x 2.5 | 30 | 20 | 15 | - | 70.0 | 63.0 | 20 | 305 | 297 |
| | DAK 3025 x 3.0 | 30 | 25 | 19 | - | 70.0 | 63.0 | 20 | 294 | 286 |
| | DAK 3816 x 2.0 | 38 | 16 | 12 | - | 79.0 | 69.5 | 17 | 305 | 297 |
| | DAK 3820 x 2.5 | 38 | 20 | 15 | - | 82.0 | 72.5 | 20 | 305 | 297 |
| | DAK 3825 x 3.0 | 38 | 25 | 19 | - | 82.0 | 72.5 | 20 | 294 | 286 |
| | DAK 3830 x 4.0 | 38 | 30 | 22 | - | 82.0 | 72.5 | 20 | 315 | 315 |

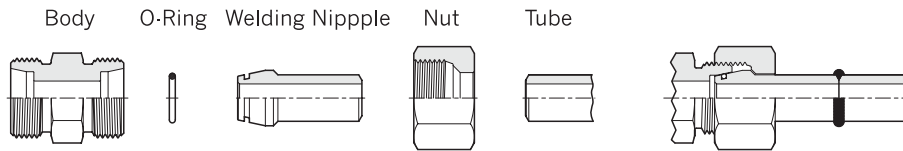
All dimensions are in millimeters for reference only, subject to change.

* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

Max. Pressure ratings are based on carbon steel, and the pressure rating of the stainless steel refers to page 5.

† Mark is base on welding thickness.

Installation Instruction for Welding Nipple Fittings



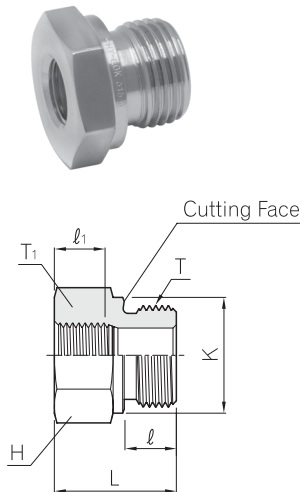
- Step 1. Cut the pipe at right angle by a sawing machine and remove burrs both inside and outside the pipe.
- Step 2. Slide the nut onto the weld nipple.
- Step 3. Weld the tube with nipple and clean welding area around the runs. The tube must be aligned with the welding nipple.
- Step 4. Fit the O-Ring (caution: Do not twist O-ring). Taper, nut and cone must be clean.
- Step 5. Oil the thread on body and the nut.
- Step 6. Screw the nut by hand then, tighten fully using a wrench with 1/3 turn.

Ordering information for Welding Nipple Fittings.

| Order No. | Figures | Order No. | Figures |
|-----------|------------------------------------|-----------|-------------------------------------|
| DGV | DU (Without Cutting Ring) + DAK | DGEV | DMC (Without Cutting Ring) + DAK |
| | | | |
| DWV | DL (Without Cutting Ring) + DAK | DGUV | DMC-ED (Without Cutting Ring) + DAK |
| | | | |
| DTV | DT (Without Cutting Ring) + DAK | DGEV-R | DMC (Without Cutting Ring) + DAK |
| | | | |
| DWSEV | DSWVE (Without Cutting Ring) + DAK | DGAI | DFC (Without Cutting Ring) + DAK |
| | | | |
| | | DWEV | DLM (Without Cutting Ring) + DAK |
| | | | |

Male Female Adaptor (SIOBSP Parallel)

H-MFAD

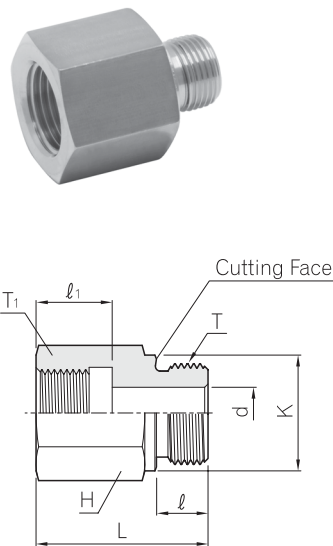


Form B stud end

| Part No. | H | K | L | ℓ | ℓ ₁ | Male stud T | Female stud T ₁ | PN(bar) | | |
|-----------------|----|----|------|----|----------------|-------------|----------------------------|---------|-------|-------|
| | | | | | | | | C.Steel | SS316 | BRASS |
| H-MFAD 6 · 2G | 22 | 22 | 22.5 | 12 | 8 | G 3/8 | G 1/8 | 400 | 400 | 250 |
| H-MFAD 8 · 2G | 27 | 26 | 24.0 | 14 | 8 | G 1/2 | G 1/8 | 400 | 400 | 250 |
| H-MFAD 8 · 4G | 27 | 26 | 24.0 | 14 | 12 | G 1/2 | G 1/4 | 315 | 315 | 200 |
| H-MFAD 12 · 4G | 32 | 32 | 26.0 | 16 | 12 | G 3/4 | G 1/4 | 315 | 315 | 200 |
| H-MFAD 12 · 6G | 32 | 32 | 26.0 | 16 | 12 | G 3/4 | G 3/8 | 315 | 315 | 200 |
| H-MFAD 16 · 4G | 41 | 39 | 29.0 | 18 | 12 | G 1 | G 1/4 | 315 | 315 | |
| H-MFAD 16 · 6G | 41 | 39 | 29.0 | 18 | 12 | G 1 | G 3/8 | 315 | 315 | 200 |
| H-MFAD 16 · 8G | 41 | 39 | 29.0 | 18 | 14 | G 1 | G 1/2 | 315 | 315 | 200 |
| H-MFAD 20 · 8G | 50 | 49 | 32.0 | 20 | 14 | G 1 1/4 | G 1/2 | 160 | 160 | 100 |
| H-MFAD 20 · 12G | 50 | 49 | 32.0 | 20 | 16 | G 1 1/4 | G 3/4 | 160 | 160 | 100 |
| H-MFAD 24 · 8G | 55 | 55 | 36.0 | 22 | 14 | G 1 1/2 | G 1/2 | 160 | 160 | 100 |
| H-MFAD 24 · 12G | 55 | 55 | 36.0 | 22 | 16 | G 1 1/2 | G 3/4 | 160 | 160 | 100 |
| H-MFAD 24 · 16G | 55 | 55 | 36.0 | 22 | 18 | G 1 1/2 | G 1 | 160 | 160 | 100 |

Male Female Adaptor (ISO/BSP Parallel)

H-MFAE

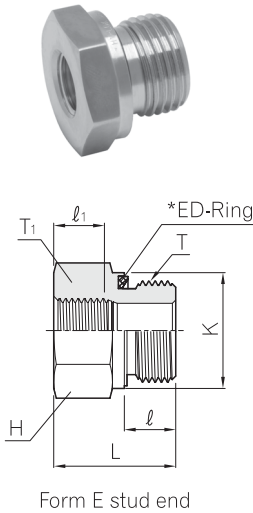


Form B stud end

| Part No. | d | H | K | L | ℓ | ℓ ₁ | Male stud T | Female stud T ₁ | PN(bar) | | |
|-----------------|----|----|----|----|----|----------------|-------------|----------------------------|---------|-------|-------|
| | | | | | | | | | C.Steel | SS316 | BRASS |
| H-MFAE 2 · 4G | 4 | 19 | 14 | 31 | 8 | 17.0 | G 1/8 | G 1/4 | 400 | 400 | 250 |
| H-MFAE 2 · 6G | 4 | 24 | 14 | 32 | 8 | 17.0 | G 1/8 | G 3/8 | 400 | 400 | 250 |
| H-MFAE 4 · 2G | 5 | 19 | 18 | 28 | 12 | 12.0 | G 1/4 | G 1/8 | 400 | 400 | 250 |
| H-MFAE 4 · 6G | 5 | 24 | 18 | 36 | 12 | 17.0 | G 1/4 | G 3/8 | 400 | 400 | 250 |
| H-MFAE 4 · 8G | 5 | 30 | 18 | 40 | 12 | 20.0 | G 1/4 | G 1/2 | 400 | 400 | 250 |
| H-MFAE 4 · 12G | 5 | 36 | 18 | 43 | 12 | 22.0 | G 1/4 | G 3/4 | 315 | 315 | 200 |
| H-MFAE 6 · 4G | 8 | 22 | 22 | 36 | 12 | 17.0 | G 3/8 | G 1/4 | 400 | 400 | 250 |
| H-MFAE 6 · 8G | 8 | 30 | 22 | 41 | 12 | 20.0 | G 3/8 | G 1/2 | 400 | 400 | 250 |
| H-MFAE 6 · 12G | 8 | 36 | 22 | 44 | 12 | 22.0 | G 3/8 | G 3/4 | 315 | 315 | 200 |
| H-MFAE 8 · 6G | 12 | 27 | 26 | 36 | 14 | 17.0 | G 1/2 | G 3/8 | 315 | 315 | 200 |
| H-MFAE 8 · 12G | 12 | 36 | 26 | 46 | 14 | 22.0 | G 1/2 | G 3/4 | 315 | 315 | 200 |
| H-MFAE 8 · 16G | 12 | 41 | 26 | 49 | 14 | 24.5 | G 1/2 | G 1 | 315 | 315 | 200 |
| H-MFAE 8 · 20G | 10 | 55 | 26 | 53 | 14 | 26.5 | G 1/2 | G 1 1/4 | 160 | 160 | |
| H-MFAE 12 · 8G | 16 | 32 | 32 | 41 | 16 | 20.0 | G 3/4 | G 1/2 | 315 | 315 | 200 |
| H-MFAE 12 · 16G | 16 | 41 | 32 | 51 | 16 | 24.5 | G 3/4 | G 1 | 315 | 315 | 200 |
| H-MFAE 12 · 20G | 16 | 55 | 32 | 55 | 16 | 26.5 | G 3/4 | G 1 1/4 | 160 | 160 | |
| H-MFAE 12 · 24G | 16 | 60 | 32 | 57 | 16 | 28.5 | G 3/4 | G 1 1/2 | 160 | 160 | |
| H-MFAE 16 · 12G | 20 | 41 | 39 | 47 | 18 | 22.0 | G 1 | G 3/4 | 315 | 315 | 200 |
| H-MFAE 16 · 20G | 20 | 55 | 39 | 57 | 18 | 26.5 | G 1 | G 1 1/4 | 160 | 160 | 100 |
| H-MFAE 16 · 24G | 20 | 60 | 39 | 59 | 18 | 28.5 | G 1 | G 1 1/2 | 160 | 160 | 100 |
| H-MFAE 20 · 16G | 25 | 50 | 49 | 52 | 20 | 24.5 | G 1 1/4 | G 1 | 160 | 160 | 100 |
| H-MFAE 20 · 24G | 25 | 60 | 49 | 60 | 20 | 28.5 | G 1 1/4 | G 1 1/2 | 160 | 160 | 100 |
| H-MFAE 24 · 20G | 32 | 55 | 55 | 58 | 22 | 26.5 | G 1 1/2 | G 1 1/4 | 160 | 160 | 100 |
| H-MFAE 32 · 24G | 40 | 70 | 68 | 62 | 24 | 28.5 | G 2 | G 1 1/2 | 160 | | |

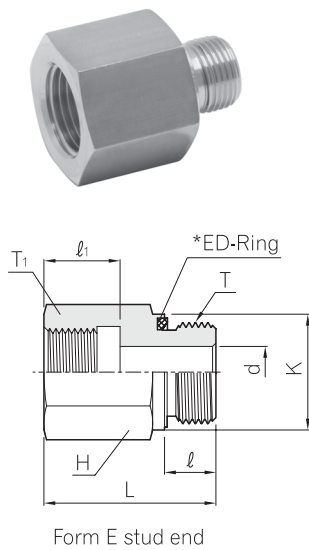
Male / Female thread adaptors with metric and NPT thread are available on request. All dimensions are in millimeters for reference only, subject to change.

Male Female Adaptor (ISO/BSP Parallel) with *ED-Ring
H-MFAD-ED



| Part No. | H | K | L | ℓ | ℓ ₁ | Male stud T | Female stud T ₁ | PN(bar) | |
|-------------------|----|----|------|----|----------------|-------------|----------------------------|---------|-------|
| | | | | | | | | C.Steel | SS316 |
| H-MFAD 6ED - 2G | 22 | 22 | 22.5 | 12 | 8 | G 3/8 | G 1/8 | 400 | 400 |
| H-MFAD 8ED - 2G | 27 | 26 | 24.0 | 14 | 8 | G 1/2 | G 1/8 | 400 | 400 |
| H-MFAD 8ED - 4G | 27 | 26 | 24.0 | 14 | 12 | G 1/2 | G 1/4 | 400 | 400 |
| H-MFAD 12ED - 4G | 32 | 32 | 26.0 | 16 | 12 | G 3/4 | G 1/4 | 315 | 315 |
| H-MFAD 12ED - 6G | 32 | 32 | 26.0 | 16 | 12 | G 3/4 | G 3/8 | 315 | 315 |
| H-MFAD 16ED - 4G | 41 | 39 | 29.0 | 18 | 12 | G 1 | G 1/4 | 315 | 315 |
| H-MFAD 16ED - 6G | 41 | 39 | 29.0 | 18 | 12 | G 1 | G 3/8 | 315 | 315 |
| H-MFAD 16ED - 8G | 41 | 39 | 29.0 | 18 | 14 | G 1 | G 1/2 | 315 | 315 |
| H-MFAD 20ED - 8G | 50 | 49 | 32.0 | 20 | 14 | G 1 1/4 | G 1/2 | 315 | 315 |
| H-MFAD 20ED - 12G | 50 | 49 | 32.0 | 20 | 16 | G 1 1/4 | G 3/4 | 315 | 315 |
| H-MFAD 24ED - 8G | 55 | 55 | 36.0 | 22 | 14 | G 1 1/2 | G 1/2 | 250 | 250 |
| H-MFAD 24ED - 12G | 55 | 55 | 36.0 | 22 | 16 | G 1 1/2 | G 3/4 | 250 | 250 |
| H-MFAD 24ED - 16G | 55 | 55 | 36.0 | 22 | 18 | G 1 1/2 | G 1 | 250 | 250 |

Male Female Adaptor (ISO/BSP Parallel) with *ED-Ring
H-MFAE-ED

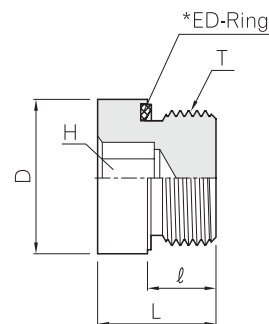


| Part No. | d | H | K | L | ℓ | ℓ ₁ | Male stud T | Female stud T ₁ | PN(bar) | |
|-----------------|----|----|----|----|----|----------------|-------------|----------------------------|---------|-------|
| | | | | | | | | | C.Steel | SS316 |
| H-MFAE 2ED- 4G | 4 | 19 | 14 | 31 | 8 | 17.0 | G 1/8 | G 1/4 | 400 | 400 |
| H-MFAE 2ED- 6G | 4 | 24 | 14 | 32 | 8 | 17.0 | G 1/8 | G 3/8 | 400 | 400 |
| H-MFAE 4ED- 2G | 5 | 19 | 18 | 28 | 12 | 12.0 | G 1/4 | G 1/8 | 400 | 400 |
| H-MFAE 4ED- 6G | 5 | 24 | 18 | 36 | 12 | 17.0 | G 1/4 | G 3/8 | 400 | 400 |
| H-MFAE 4ED- 8G | 5 | 30 | 18 | 40 | 12 | 20.0 | G 1/4 | G 1/2 | 400 | 400 |
| H-MFAE 4ED-12G | 5 | 36 | 18 | 43 | 12 | 22.0 | G 1/4 | G 3/4 | 400 | 400 |
| H-MFAE 6ED- 4G | 8 | 22 | 22 | 36 | 12 | 17.0 | G 3/8 | G 1/4 | 400 | 400 |
| H-MFAE 6ED- 8G | 8 | 30 | 22 | 41 | 12 | 20.0 | G 3/8 | G 1/2 | 400 | 400 |
| H-MFAE 6ED-12G | 8 | 36 | 22 | 44 | 12 | 22.0 | G 3/8 | G 3/4 | 315 | 315 |
| H-MFAE 8ED- 6G | 12 | 27 | 26 | 36 | 14 | 17.0 | G 1/2 | G 3/8 | 400 | 400 |
| H-MFAE 8ED-12G | 12 | 36 | 26 | 46 | 14 | 22.0 | G 1/2 | G 3/4 | 315 | 315 |
| H-MFAE 8ED-16G | 12 | 41 | 26 | 49 | 14 | 24.5 | G 1/2 | G 1 | 315 | 315 |
| H-MFAE 8ED-20G | 10 | 55 | 26 | 53 | 14 | 26.5 | G 1/2 | G 1 1/4 | 315 | 315 |
| H-MFAE 12ED- 8G | 16 | 32 | 32 | 41 | 16 | 20.0 | G 3/4 | G 1/2 | 315 | 315 |
| H-MFAE 12ED-16G | 16 | 41 | 32 | 51 | 16 | 24.5 | G 3/4 | G 1 | 315 | 315 |
| H-MFAE 12ED-20G | 16 | 55 | 32 | 55 | 16 | 26.5 | G 3/4 | G 1 1/4 | 315 | 315 |
| H-MFAE 12ED-24G | 16 | 60 | 32 | 57 | 16 | 28.5 | G 3/4 | G 1 1/2 | 250 | 250 |
| H-MFAE 16ED-12G | 20 | 41 | 39 | 47 | 18 | 22.0 | G 1 | G 3/4 | 315 | 315 |
| H-MFAE 16ED-20G | 20 | 55 | 39 | 57 | 18 | 26.5 | G 1 | G 1 1/4 | 315 | 315 |
| H-MFAE 16ED-24G | 20 | 60 | 39 | 59 | 18 | 28.5 | G 1 | G 1 1/2 | 250 | 250 |
| H-MFAE 20ED-16G | 25 | 50 | 49 | 52 | 20 | 24.5 | G 1 1/4 | G 1 | 315 | 315 |
| H-MFAE 20ED-24G | 25 | 60 | 49 | 60 | 20 | 28.5 | G 1 1/4 | G 1 1/2 | 250 | 250 |
| H-MFAE 24ED-20G | 32 | 55 | 55 | 58 | 22 | 26.5 | G 1 1/2 | G 1 1/4 | 250 | 250 |
| H-MFAE 32ED-24G | 40 | 70 | 68 | 62 | 24 | 28.5 | G 2 | G 1 1/2 | 160 | |

All dimensions are in millimeters for reference only, subject to change.

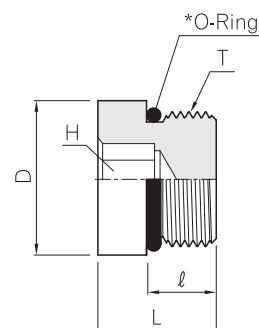
* The standard ED-Ring material is NBR(e.g. perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

Blanking Plugs with *ED-Ring for Ports DVSTI-GED/MED



| Part No.(M) | Part No.(G) | T | T | D | H | L | l | PN(bar) | |
|-------------|-------------|------------|---------|------|----|------|----|---------|-------|
| | | | | | | | | C.Steel | SS316 |
| DVSTI-M10ED | DVSTI-01GED | M 10 x 1.0 | G 1/8 | 14.0 | 5 | 12.0 | 8 | 400 | 400 |
| DVSTI-M12ED | - | M 12 x 1.5 | - | 17.0 | 6 | 17.0 | 12 | 400 | 400 |
| DVSTI-M14ED | DVSTI-02GED | M 14 x 1.5 | G 1/4 | 19.0 | 6 | 17.0 | 12 | 400 | 400 |
| DVSTI-M16ED | DVSTI-03GED | M 16 x 1.5 | G 3/8 | 22.0 | 8 | 17.0 | 12 | 400 | 400 |
| DVSTI-M18ED | - | M 18 x 1.5 | - | 23.9 | 8 | 17.0 | 12 | 400 | 400 |
| DVSTI-M20ED | - | M 20 x 1.5 | - | 25.9 | 10 | 19.0 | 14 | 400 | 400 |
| DVSTI-M22ED | DVSTI-04GED | M 22 x 1.5 | G 1/2 | 27.0 | 10 | 19.0 | 14 | 400 | 400 |
| DVSTI-M26ED | - | M 26 x 1.5 | - | 31.9 | 12 | 21.0 | 16 | 400 | 400 |
| DVSTI-M27ED | DVSTI-06GED | M 27 x 2.0 | G 3/4 | 32.0 | 12 | 21.0 | 16 | 400 | 400 |
| DVSTI-M33ED | DVSTI-08GED | M 33 x 2.0 | G 1 | 39.9 | 17 | 22.5 | 16 | 400 | 400 |
| DVSTI-M42ED | DVSTI-10GED | M 42 x 2.0 | G 1 1/4 | 49.9 | 22 | 22.5 | 16 | 315 | 315 |
| DVSTI-M48ED | DVSTI-12GED | M 48 x 2.0 | G 1 1/2 | 55.0 | 24 | 22.5 | 16 | 315 | 315 |

Blanking Plugs with *O-Ring for Ports acc. to ISO 6149 / DIN3852 DVSTI

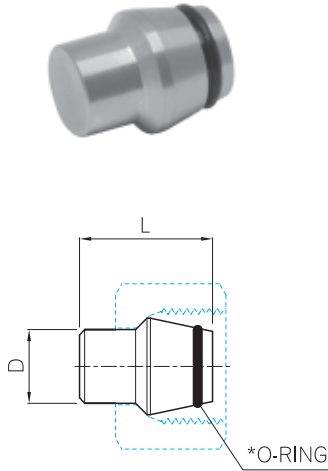


| Part No. | T | D | H | L | l | PN(bar) C.Steel |
|-------------|------------|----|----|------|------|--------------------|
| DVSTI - M10 | M 10 x 1.0 | 13 | 5 | 14.0 | 10.0 | 630 |
| DVSTI - M12 | M 12 x 1.5 | 17 | 6 | 16.5 | 11.5 | 630 |
| DVSTI - M14 | M 14 x 1.5 | 19 | 6 | 16.5 | 11.5 | 630 |
| DVSTI - M16 | M 16 x 1.5 | 21 | 6 | 18.0 | 13.0 | 630 |
| DVSTI - M18 | M 18 x 1.5 | 23 | 8 | 19.5 | 14.5 | 630 |
| DVSTI - M22 | M 22 x 1.5 | 27 | 10 | 20.5 | 15.5 | 630 |
| DVSTI - M26 | M 26 x 1.5 | 31 | 12 | 21.0 | 16.0 | 630 |
| DVSTI - M27 | M 27 x 2.0 | 32 | 12 | 24.0 | 19.0 | 400 |
| DVSTI - M33 | M 33 x 2.0 | 38 | 17 | 25.5 | 19.0 | 400 |
| DVSTI - M42 | M 42 x 2.0 | 48 | 22 | 26.0 | 19.5 | 400 |

All dimensions are in millimeters for reference only, subject to change.

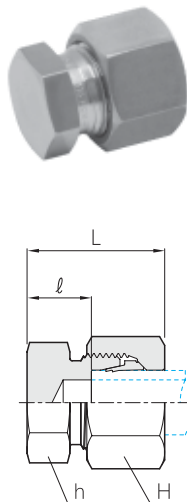
* The Standard ED-Ring, O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

Blanking Plug with *O-Ring
DVKA



| Series | Part No. | Tube O.D D | L | PN(bar) | | |
|--------|--------------|---------------|------|---------|-------|-------|
| | | | | Steel | SS316 | BRASS |
| L/S | DVKA - 06L/S | 6 | 18.5 | 500 | 315 | 200 |
| | DVKA - 08L/S | 8 | 18.5 | 500 | 315 | 200 |
| | DVKA - 10L/S | 10 | 20.0 | 500 | 315 | 200 |
| | DVKA - 12L/S | 12 | 20.5 | 400 | 315 | 200 |
| L | DVKA - 15L | 15 | 20.5 | 400 | 315 | 200 |
| | DVKA - 18L | 18 | 22.5 | 400 | 315 | 200 |
| | DVKA - 22L | 22 | 25.0 | 250 | 160 | 100 |
| | DVKA - 28L | 28 | 25.5 | 250 | 160 | 100 |
| | DVKA - 35L | 35 | 30.0 | 250 | 160 | 100 |
| | DVKA - 42L | 42 | 30.0 | 250 | 160 | 100 |
| S | DVKA - 14S | 14 | 22.5 | 630 | 630 | 400 |
| | DVKA - 16S | 16 | 23.5 | 630 | 400 | 250 |
| | DVKA - 20S | 20 | 28.5 | 420 | 400 | 250 |
| | DVKA - 25S | 25 | 29.0 | 420 | 400 | 250 |
| | DVKA - 30S | 30 | 30.5 | 420 | 400 | 250 |
| | DVKA - 38S | 38 | 33.0 | 420 | 315 | 200 |

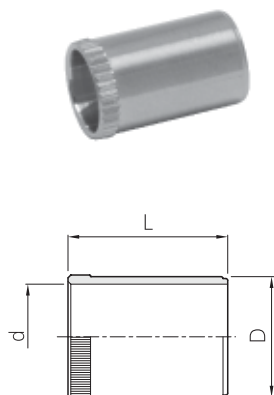
Tube Cap
DCA



| Series | Part No. | Tube O.D | H | h | L | l | PN(bar) | |
|---------|----------|----------|----|----|------|------|---------|-------|
| | | | | | | | Steel | SS316 |
| L | DCA-06L | 6 | 14 | 12 | 22 | 7.0 | 315 | 315 |
| | DCA-08L | 8 | 17 | 14 | 23 | 8.0 | 315 | 315 |
| | DCA-10L | 10 | 19 | 17 | 24 | 9.0 | 315 | 315 |
| | DCA-12L | 12 | 22 | 19 | 25 | 10.0 | 315 | 315 |
| | DCA-15L | 15 | 27 | 24 | 26 | 11.0 | 315 | 315 |
| | DCA-18L | 18 | 32 | 27 | 28 | 11.5 | 315 | 315 |
| | DCA-22L | 22 | 36 | 32 | 30 | 13.5 | 160 | 160 |
| | DCA-28L | 28 | 41 | 41 | 31 | 14.5 | 160 | 160 |
| | DCA-35L | 35 | 50 | 46 | 36 | 14.5 | 160 | 160 |
| DCA-42L | 42 | 60 | 55 | 39 | 16.0 | 160 | 160 | |
| S | DCA-06S | 6 | 17 | 14 | 26 | 11.0 | 630 | 630 |
| | DCA-08S | 8 | 19 | 17 | 28 | 13.0 | 630 | 630 |
| | DCA-10S | 10 | 22 | 19 | 29 | 12.5 | 630 | 630 |
| | DCA-12S | 12 | 24 | 22 | 31 | 14.5 | 630 | 630 |
| | DCA-14S | 14 | 27 | 24 | 34 | 16.0 | 630 | 630 |
| | DCA-16S | 16 | 30 | 27 | 34 | 15.5 | 400 | 400 |
| | DCA-20S | 20 | 36 | 32 | 39 | 17.5 | 400 | 400 |
| | DCA-25S | 25 | 46 | 41 | 44 | 20.0 | 400 | 400 |
| | DCA-30S | 30 | 50 | 46 | 47 | 20.5 | 400 | 400 |
| DCA-38S | 38 | 60 | 55 | 54 | 23.0 | 315 | 315 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.
* The standard O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on request (See Page 3).

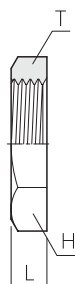
Tube Insert DIL



For thin-wall steel and stainless steel and other soft-thin-wall metal tubes.

| Part No. | Tube O.D. | Tube I.D. | d | D | L |
|------------|-----------|-----------|------|------|------|
| DIL 6-1 | 6 | 4.0 | 2.6 | 3.8 | 15.5 |
| DIL 6-0.75 | 6 | 4.5 | 3.1 | 4.3 | 12.5 |
| DIL 6-0.5 | 6 | 5.0 | 3.6 | 4.8 | 15.5 |
| DIL 8-1 | 8 | 6.0 | 4.6 | 5.8 | 15.5 |
| DIL 10-1.5 | 10 | 7.0 | 5.6 | 6.8 | 17.0 |
| DIL 10-1 | 10 | 8.0 | 6.6 | 7.8 | 16.5 |
| DIL 12-1.5 | 12 | 9.0 | 7.6 | 8.8 | 16.5 |
| DIL 12-1 | 12 | 10.0 | 8.6 | 9.8 | 16.5 |
| DIL 15-1.5 | 15 | 12.0 | 10.2 | 11.8 | 17.0 |
| DIL 15-1 | 15 | 13.0 | 11.2 | 12.8 | 17.0 |
| DIL 16-1 | 16 | 14.0 | 12.2 | 13.8 | 17.0 |
| DIL 18-1.5 | 18 | 15.0 | 13.2 | 14.8 | 17.5 |
| DIL 18-1 | 18 | 16.0 | 14.2 | 15.8 | 17.5 |
| DIL 20-1.5 | 20 | 17.0 | 15.2 | 16.8 | 20.0 |
| DIL 20-1 | 20 | 18.0 | 16.2 | 17.8 | 22.0 |
| DIL 22-1.5 | 22 | 19.0 | 17.2 | 18.8 | 18.0 |
| DIL 22-1 | 22 | 20.0 | 18.2 | 19.8 | 18.0 |
| DIL 25-2 | 25 | 21.0 | 19.2 | 20.8 | 21.5 |
| DIL 25-1.5 | 25 | 22.0 | 20.2 | 21.8 | 23.5 |
| DIL 28-2 | 28 | 24.0 | 22.2 | 23.8 | 18.0 |
| DIL 28-1.5 | 28 | 25.0 | 23.2 | 24.8 | 18.0 |
| DIL 30-2 | 30 | 26.0 | 24.2 | 25.8 | 23.5 |
| DIL 35-2 | 35 | 31.0 | 28.8 | 30.8 | 22.5 |
| DIL 38-3 | 38 | 32.0 | 29.8 | 31.8 | 26.5 |
| DIL 38-2.5 | 38 | 33.0 | 30.8 | 32.8 | 26.5 |
| DIL 42-2 | 42 | 38.0 | 35.8 | 37.8 | 23.5 |

*Bulkhead Lock Nut N-



| Part No. | Tube O.D. | | H | L | T |
|---------------------|-----------|-------|----|----|------------|
| | Light | Heavy | | | |
| N-12 15M 17.0 T 6.0 | 6 | - | 17 | 6 | M 12 x 1.5 |
| N-14 15M 19.0 T 6.0 | 8 | 6 | 19 | 6 | M 14 x 1.5 |
| N-16 15M 22.0 T 6.0 | 10 | 8 | 22 | 6 | M 16 x 1.5 |
| N-18 15M 24.0 T 6.0 | 12 | 10 | 24 | 6 | M 18 x 1.5 |
| N-20 15M 27.0 T 6.0 | - | 12 | 27 | 6 | M 20 x 1.5 |
| N-22 15M 30.0 T 7.0 | 15 | 14 | 30 | 7 | M 22 x 1.5 |
| N-24 15M 32.0 T 7.0 | - | 16 | 32 | 7 | M 24 x 1.5 |
| N-26 15M 36.0 T 8.0 | 18 | - | 36 | 8 | M 26 x 1.5 |
| N-30 20M 41.0 T 8.0 | 22 | 20 | 41 | 8 | M 30 x 2 |
| N-36 20M 46.0 T 9.0 | 28 | 25 | 46 | 9 | M 36 x 2 |
| N-42 20M 50.0 T 9.0 | - | 30 | 50 | 9 | M 42 x 2 |
| N-45 20M 55.0 T 9.0 | 35 | - | 55 | 9 | M 45 x 2 |
| N-52 20M 65.0 T10.0 | 42 | 38 | 65 | 10 | M 52 x 2 |

*According to DIN 80705 for bulkhead screw-joint.

Sealing rings for DWH/DTH and DSWVE
DKA



| Part No. | External Thread |
|-----------------|--------------------|
| DKA - 01G | PF 1/8 |
| DKA - 02G | PF 1/4 |
| DKA - 03G | PF 8/8 |
| DKA - 04G | PF 1/2 |
| DKA - 04G x 4.5 | PF 1/2 |
| DKA - 06G | PF 3/4 |
| DKA - 08G | PF 1 |
| DKA - 10GM42 | PF 1 1/4 / M42 x 2 |
| DKA - 12GM48 | PF 1 1/2 / M48 x 2 |
| DKA - M10 | M 10 x 1 |
| DKA - M12 | M 12 x 1.5 |
| DKA - M14 | M 14 x 1.5 |
| DKA - M16 | M 16 x 1.5 |
| DKA - M18 | M 18 x 1.5 |
| DKA - M20 | M 20 x 1.5 |
| DKA - M22 | M 22 x 1.5 |
| DKA - M22 x 4.5 | M 22 x 1.5 |
| DKA - M26 | M 26 x 1.5 |
| DKA - M26 x 3.5 | M 26 x 1.5 |
| DKA - M27 | M 27 x 2 |
| DKA - M33 | M 33 x 2 |

Sealing rings for DSVW/DSVT
DKAZ



| Part No. | External Thread |
|---------------|--------------------|
| DKAZ - 01G | PF 1/8 |
| DKAZ - 02G | PF 1/4 |
| DKAZ - 03G | PF 8/8 |
| DKAZ - 04G | PF 1/2 |
| DKAZ - 06G | PF 3/4 |
| DKAZ - 08G | PF 1 |
| DKAZ - 10GM42 | PF 1 1/4 / M42 x 2 |
| DKAZ - 12GM48 | PF 1 1/2 / M48 x 2 |
| DKAZ - M10 | M 10 x 1 |
| DKAZ - M12 | M 12 x 1.5 |
| DKAZ - M14 | M 14 x 1.5 |
| DKAZ - M16 | M 16 x 1.5 |
| DKAZ - M18 | M 18 x 1.5 |
| DKAZ - M20 | M 20 x 1.5 |
| DKAZ - M22 | M 22 x 1.5 |
| DKAZ - M26 | M 26 x 1.5 |
| DKAZ - M27 | M 27 x 2 |
| DKAZ - M33 | M 33 x 2 |

Sealing rings for DGC
DKI



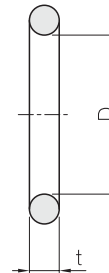
| Part No. | Internal Thread |
|-----------|-----------------|
| DKI - 02G | PF 1/4 |
| DKI - 04G | PF 1/2 |

ED-Ring
KP-B-S



| Part No. | For Male Thread | |
|---------------|-----------------|-------|
| | Metric | G(PF) |
| KP - B - S M8 | M 8 x 1 | - |
| KP - B - S01G | M 10 x 1 | 1/8 |
| KP - B - SM12 | M 12 x 1.5 | - |
| KP - B - S02G | M 14 x 1.5 | 1/4 |
| KP - B - SM16 | M 16 x 1.5 | - |
| KP - B - S03G | - | 3/8 |
| KP - B - SM18 | M 18 x 1.5 | - |
| KP - B - SM20 | M 20 x 1.5 | - |
| KP - B - S04G | - | 1/2 |
| KP - B - SM22 | M 22 x 1.5 | - |
| KP - B - S06G | M 26 x 1.5 | 3/4 |
| | M 27 x 2 | 3/4 |
| KP - B - S08G | M 33 x 2 | 1 |
| KP - B - S10G | M 42 x 2 | 1 1/4 |
| KP - B - S12G | M 48 x 2 | 1 1/2 |

O-Ring
KP-B-DS

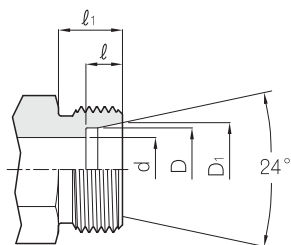


| Part No. | D | T |
|---------------|------|-----|
| KP - B - DS06 | 4.0 | 1.5 |
| KP - B - DS08 | 6.0 | 1.5 |
| KP - B - DS10 | 7.5 | 1.5 |
| KP - B - DS12 | 9.0 | 1.5 |
| KP - B - DS14 | 10.0 | 2.0 |
| KP - B - DS16 | 12.0 | 2.0 |
| KP - B - DS18 | 15.0 | 2.0 |
| KP - B - DS20 | 16.3 | 2.4 |
| KP - B - DS22 | 20.0 | 2.0 |
| KP - B - DS25 | 20.3 | 2.4 |
| KP - B - DS30 | 25.3 | 2.4 |
| KP - B - DS28 | 26.0 | 2.0 |
| KP - B - DS35 | 32.0 | 2.5 |
| KP - B - DS38 | 33.3 | 2.4 |
| KP - B - DS42 | 38.0 | 2.5 |

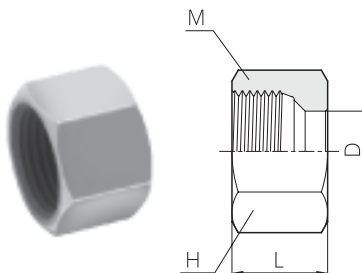
All dimensions are in millimeters for reference only, subject to change.

* The Standard ED-Ring, O-Ring material is NBR(e.g. Perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

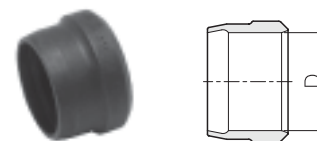
Tube end Dimension



Nut
DN



Cutting Ring
DS



| Series | Part No. Nut | Part No. Cutting Ring | Tube O.D | DN Size | D | D ₁ | d | H | L | M | l | l ₁ |
|-------------------------|--------------|-----------------------|----------|---------|------|----------------|------|------|----------|------------|------|----------------|
| LL Very Light | DN - 04LL | DS - 04LL | 4 | 3 | 4 | 5.0 | 3.0 | 10 | 11.5 | M 8 x 1.0 | 4.0 | 8 |
| | DN - 06LL | DS - 06LL | 6 | 4 | 6 | 7.5 | 4.5 | 12 | 12.0 | M 10 x 1.0 | 5.5 | 8 |
| | DN - 08LL | DS - 08LL | 8 | 6 | 8 | 9.5 | 6.0 | 14 | 12.5 | M 12 x 1.0 | 5.5 | 9 |
| | DN - 10LL | DS - 10LL | 10 | 8 | 10 | 11.5 | 8.0 | 17 | 12.5 | M 14 x 1.0 | 6.0 | 9 |
| | DN - 12LL | DS - 12LL | 12 | 10 | 12 | 13.5 | 10.0 | 19 | 13.0 | M 16 x 1.0 | 6.0 | 9 |
| L Light | DN - 06L | DS - 06 | 6 | 4 | 6 | 8.1 | 4.0 | 14 | 15.0 | M 12 x 1.5 | 7.0 | 10 |
| | DN - 08L | DS - 08 | 8 | 6 | 8 | 10.1 | 6.0 | 17 | 15.0 | M 14 x 1.5 | 7.0 | 10 |
| | DN - 10L | DS - 10 | 10 | 8 | 10 | 12.3 | 8.0 | 19 | 16.0 | M 16 x 1.5 | 7.0 | 11 |
| | DN - 12L | DS - 12 | 12 | 10 | 12 | 14.3 | 10.0 | 22 | 16.0 | M 18 x 1.5 | 7.0 | 11 |
| | DN - 15L | DS - 15 | 15 | 12 | 15 | 17.3 | 12.0 | 27 | 17.5 | M 22 x 1.5 | 7.0 | 12 |
| | DN - 18L | DS - 18 | 18 | 16 | 18 | 20.3 | 15.0 | 32 | 18.0 | M 26 x 1.5 | 7.5 | 12 |
| | DN - 22L | DS - 22 | 22 | 20 | 22 | 24.3 | 19.0 | 36 | 20.5 | M 30 x 2 | 7.5 | 14 |
| | DN - 28L | DS - 28 | 28 | 25 | 28 | 30.3 | 24.0 | 41 | 21.0 | M 36 x 2 | 7.5 | 14 |
| | DN - 35L | DS - 35 | 35 | 32 | 35 | 38.0 | 30.0 | 50 | 24.0 | M 45 x 2 | 10.5 | 16 |
| DN - 42L | DS - 42 | 42 | 40 | 42 | 45.0 | 36.0 | 60 | 24.0 | M 52 x 2 | 11.0 | 16 | |
| S Heavy | DN - 06S | DS - 06 | 6 | 3 | 6 | 8.1 | 4.0 | 17 | 16.5 | M 14 x 1.5 | 7.0 | 12 |
| | DN - 08S | DS - 08 | 8 | 4 | 8 | 10.1 | 5.0 | 19 | 16.5 | M 16 x 1.5 | 7.0 | 12 |
| | DN - 10S | DS - 10 | 10 | 6 | 10 | 12.3 | 7.0 | 22 | 17.5 | M 18 x 1.5 | 7.5 | 12 |
| | DN - 12S | DS - 12 | 12 | 8 | 12 | 14.3 | 8.0 | 24 | 18.0 | M 20 x 1.5 | 7.5 | 12 |
| | DN - 14S | DS - 14 | 14 | 10 | 14 | 16.3 | 10.0 | 27 | 20.5 | M 22 x 1.5 | 8.0 | 14 |
| | DN - 16S | DS - 16 | 16 | 12 | 16 | 18.3 | 12.0 | 30 | 21.0 | M 24 x 1.5 | 8.5 | 14 |
| | DN - 20S | DS - 20 | 20 | 16 | 20 | 22.9 | 16.0 | 36 | 24.0 | M 30 x 2 | 10.5 | 16 |
| | DN - 25S | DS - 25 | 25 | 20 | 25 | 27.9 | 20.0 | 46 | 27.0 | M 36 x 2 | 12.0 | 18 |
| | DN - 30S | DS - 30 | 30 | 25 | 30 | 33.0 | 25.0 | 50 | 29.5 | M 42 x 2 | 13.5 | 20 |
| | DN - 38S | DS - 38 | 38 | 32 | 38 | 41.0 | 32.0 | 60 | 32.5 | M 52 x 2 | 16.0 | 22 |

All dimensions are in millimeters for reference only, subject to change.

24° Tube Fittings-DIN 2353 & ISO 8434-1

■ General Features and Benefits of HyQ Fitting System

High corrosion resistance · Applying advanced heat-treatment method to Retaining Ring.

Sealing · As the main components for elastomeric seal ensures immaculate sealing with no leakage. Thus, the loss of hydraulic system will not be occurred.

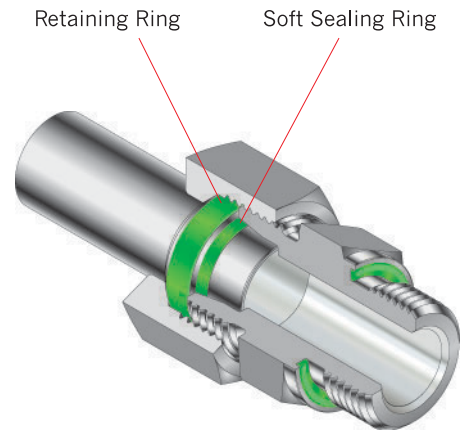
Durability · It is not required re-assembly in any environment.

Bite Control · It can be ideally adjusted the depth of bite through a proper design of fitting. Installer can identify a proper depth of bite when securely tighten up the fitting.

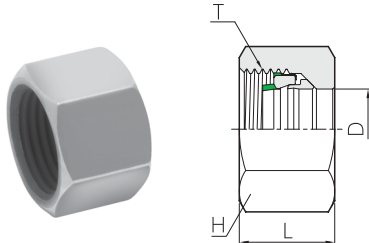
Easy assembly · Each components will not be caused the confusion in terms of wrong direction and omission. This can avoid the risk of assembly errors.

Visual Inspection · It can be available for verifying whether preliminary fitting assembly is corrected or not. It is enough that verifying the interval between Retaining Ring and Sealing Ring.

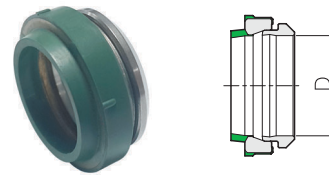
Maintenance · The maintenance and replacement of HyQ Fitting can be performed with only wrench set.



Functional Soft Sealing Ring DFSR



Soft Sealing Ring (with Retaining Ring) DSRR



| Series | Part No. | Tube O.D. | H | L | T | PN(bar) | |
|--------|----------|-----------|----|------|---------|---------|-------|
| | | | | | | C.Steel | SS316 |
| L | DFSR-06L | 6 | 14 | 14.5 | M12x1.5 | 500 | 315 |
| | DFSR-08L | 8 | 17 | 14.5 | M14x1.5 | 500 | 315 |
| | DFSR-10L | 10 | 19 | 15.5 | M16x1.5 | 500 | 315 |
| | DFSR-12L | 12 | 22 | 15.5 | M18x1.5 | 400 | 315 |
| | DFSR-15L | 15 | 27 | 17.0 | M22x1.5 | 400 | 315 |
| | DFSR-18L | 18 | 32 | 18.0 | M26x1.5 | 400 | 315 |
| | DFSR-22L | 22 | 36 | 20.0 | M30x2.0 | 250 | 160 |
| | DFSR-28L | 28 | 41 | 21.0 | M36x2.0 | 250 | 160 |
| | DFSR-35L | 35 | 50 | 24.0 | M45x2.0 | 250 | 160 |
| | DFSR-42L | 42 | 60 | 24.0 | M52x2.0 | 250 | 160 |
| S | DFSR-06S | 6 | 17 | 16.5 | M14x1.5 | 800 | 630 |
| | DFSR-08S | 8 | 19 | 16.5 | M16x1.5 | 800 | 630 |
| | DFSR-10S | 10 | 22 | 17.5 | M18x1.5 | 800 | 630 |
| | DFSR-12S | 12 | 24 | 17.5 | M20x1.5 | 630 | 630 |
| | DFSR-14S | 14 | 27 | 20.5 | M22x1.5 | 630 | 630 |
| | DFSR-16S | 16 | 30 | 20.5 | M24x1.5 | 630 | 400 |
| | DFSR-20S | 20 | 36 | 24.0 | M30x2.0 | 420 | 400 |
| | DFSR-25S | 25 | 46 | 27.0 | M36x2.0 | 420 | 400 |
| | DFSR-30S | 30 | 50 | 29.0 | M42x2.0 | 420 | 400 |
| | DFSR-38S | 38 | 60 | 32.5 | M52x2.0 | 420 | 315 |

| Series | Part No. | Tube O.D. | PN(bar) | |
|--------|----------|-----------|---------|-------|
| | | | C.Steel | SS316 |
| L | DSRR-06L | 6 | 500 | 315 |
| | DSRR-08L | 8 | 500 | 315 |
| | DSRR-10L | 10 | 500 | 315 |
| | DSRR-12L | 12 | 400 | 315 |
| | DSRR-15L | 15 | 400 | 315 |
| | DSRR-18L | 18 | 400 | 315 |
| | DSRR-22L | 22 | 250 | 160 |
| | DSRR-28L | 28 | 250 | 160 |
| | DSRR-35L | 35 | 250 | 160 |
| | DSRR-42L | 42 | 250 | 160 |
| S | DSRR-06S | 6 | 800 | 630 |
| | DSRR-08S | 8 | 800 | 630 |
| | DSRR-10S | 10 | 800 | 630 |
| | DSRR-12S | 12 | 630 | 630 |
| | DSRR-14S | 14 | 630 | 630 |
| | DSRR-16S | 16 | 630 | 400 |
| | DSRR-20S | 20 | 420 | 400 |
| | DSRR-25S | 25 | 420 | 400 |
| | DSRR-30S | 30 | 420 | 400 |
| | DSRR-38S | 38 | 420 | 315 |

DJ - DIN2353 Pre-swaging tool for tube connection.

DJ-DIN2353 is a simple and basic tool for manual preliminary installation.

Directions for use of DJ : Make bite ring safely and properly in tube with inner fitting taper without damages.

All products which use DJ and/or EZYMAT must be connected by pre-assembly.

■ Specification :

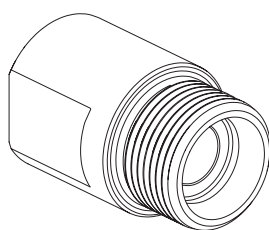
Materials : Hardened Tool Steel

Size : 4LL · 12LL, 6L · 42L, 6S · 38S.

■ Advantages and efficiencies of pre - assembly tools.

1. Marking Notch-Ridge-like lines will be appeared under the precise assembly. Assembly failure factors from incorrect tube cuttings and/or incorrect connections are distinguishable before the final operation.
 2. Flexible - DJ tools are able to be used for guarantee of safe fitting assemblies in which the EZYMAT tools are not used.
 3. Safety - DJ tools prevent the poor assemblies in Stand-Pipe, Hose Fittings and Stainless Tubes.
 4. Efficiency - DJ pre-setting reduces assembly time for Bite Type products. Investment for small equipment provides great and immediate efficiency.
 5. Specialty - DJ tools are designed and produced specially to meet DIN2353 Tube Fitting Standards.
 6. Durability of tools - Assembly tools are being worn away gradually. Cleaning and inspections of the tool are required every 50-times usage (maximum). The failure in assemblies due to the worn tools or no replaced tools at proper time is able to cause risks. Tools endure average 5000-times usage regularly. The maximum durations of tools are able to be accomplished by below instructions.
- ▶ Periodical cleaning and inspection.
 - ▶ Maintenance of cleanness and corrosion resistance.
 - ▶ Proper tube ends de-burring and cleaning.
 - ▶ Selection of operation by proper tools.
 - ▶ Use of designated lubricant.

DJ



| Series | Part No. | Tube O.D. |
|--------|-----------|-----------|
| LL | DJ - 04LL | 4 |
| | DJ - 06LL | 6 |
| | DJ - 08LL | 8 |
| | DJ - 10LL | 10 |
| | DJ - 12LL | 12 |
| L | DJ - 06L | 6 |
| | DJ - 08L | 8 |
| | DJ - 10L | 10 |
| | DJ - 12L | 12 |
| | DJ - 15L | 15 |
| | DJ - 18L | 18 |
| | DJ - 22L | 22 |
| | DJ - 28L | 28 |
| | DJ - 35L | 35 |
| | DJ - 42L | 42 |
| S | DJ - 06S | 6 |
| | DJ - 08S | 8 |
| | DJ - 10S | 10 |
| | DJ - 12S | 12 |
| | DJ - 14S | 14 |
| | DJ - 16S | 16 |
| | DJ - 20S | 20 |
| | DJ - 25S | 25 |
| | DJ - 30S | 30 |
| | DJ - 38S | 38 |

General informations

Features

- **Pressure rating** up to 500bar @ 21°C
- **Temperature rating** from -20°C to 100°C with POM and NBR standard.
- **Conforms to** DIN standard
- **Compact design** with max orifice
- **100% factory tested.**

Application

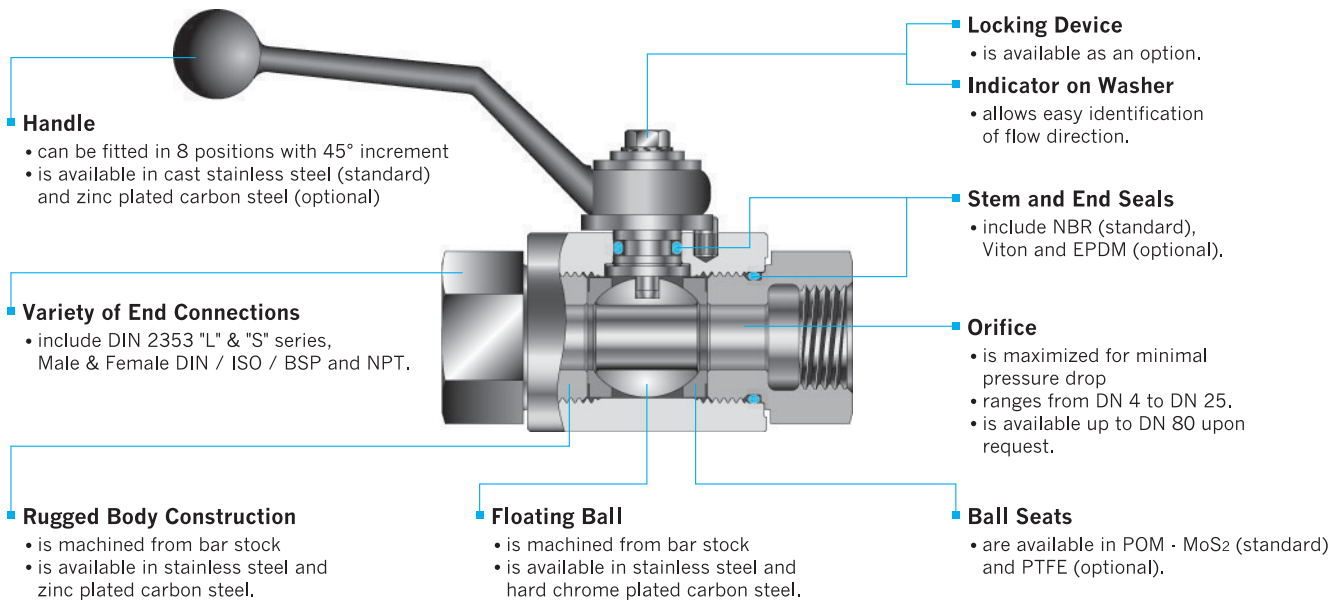
- Hydraulic fluids, compressed air, lubricants, and fuel oil systems

Sour Gas Service

- is provided to meet NACE Standard MR - 01 - 75.

Testing

- Each valve is tested with nitrogen @ 1000psig(69bar) to max leak rate of 0.1SCCM.
- Hydrostatic shell test is performed at 1.5 times the working pressure as an option.
- Optional tests are available upon request.



Technical Data

Materials of Construction

| Description | Specification / Grade | | | |
|-------------------|-----------------------------------|----------------|--------------|----------------|
| | Valve Body Materials | | | |
| | SS316 | | Carbon Steel | |
| | ASTM | DIN | ASTM | DIN |
| Body | A479 / SS316 | 17440 / 1.4571 | A108 / 12L14 | 1651 / 9SMn28K |
| End Connector | | | | |
| Stem | | | | |
| Ball | 316 Stainless Steel | | | |
| Ball Seats* | POM · MoS ₂ (Standard) | | | |
| Stem & End Seals* | NBR (Standard) | | | |
| Handle | SS316 | | Carbon Steel | |
| Locking Device | Stainless Steel | | | |

Note : "*" marked are wetted parts. Lubricant is silicone based.

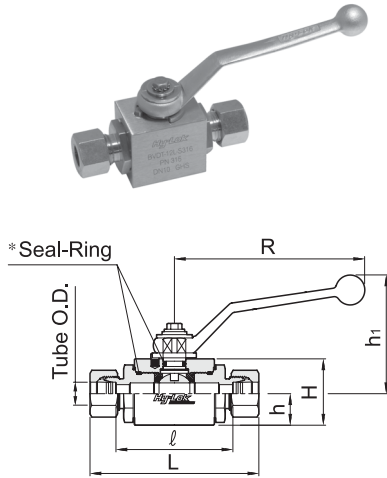
Temperature Rating

| Seals | |
|-------------|--------------------|
| Materials | Temperature Rating |
| NBR(Buna N) | -23°C to 121°C |
| Viton | -23°C to 200°C |
| EPDM | -46°C to 149°C |

Ball Seals

| Materials | Temperature Rating |
|------------------------|--------------------|
| POM · MoS ₂ | -30°C to 100°C |
| PTFE | -54°C to 65°C |

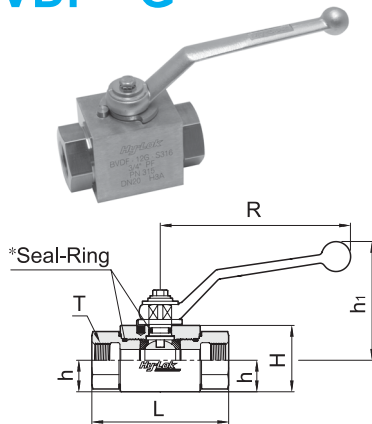
BVDT - L/S



for Light / Heavy Series Tube.

| Series | Part No. | Tube OD | DN ⁽¹⁾ | B ⁽³⁾ | H | h | h ₁ | L | ℓ | R | Weight (kg) | PN(bar) ⁽²⁾ | |
|-------------------------|---------------|---------|-------------------|------------------|------|------|----------------|-------|-------|-----|-------------|------------------------|-------|
| | | | | | | | | | | | | C.Steel | SS316 |
| L | BVDT- 6L | 6 | 4 | 26 | 33 | 13.5 | 71 | 82.0 | 53.0 | 115 | 0.4 | 500 | 315 |
| | BVDT- 8L | 8 | 6 | 26 | 33 | 13.5 | 71 | 82.0 | 53.0 | 115 | 0.4 | 500 | 315 |
| | BVDT-10L | 10 | 6 | 26 | 33 | 13.5 | 71 | 89.0 | 60.0 | 115 | 0.5 | 500 | 315 |
| | BVDT-12L | 12 | 10 | 32 | 38 | 18.0 | 72 | 89.0 | 60.0 | 115 | 0.6 | 500 | 315 |
| | BVDT-15L | 15 | 13 | 35 | 40 | 19.0 | 73 | 98.0 | 68.0 | 115 | 0.7 | 500 | 315 |
| | BVDT-18L | 18 | 13 | 35 | 40 | 19.0 | 73 | 99.0 | 67.0 | 115 | 0.8 | 400 | 315 |
| | BVDT-22L | 22 | 20 | 49 | 57 | 24.5 | 78 | 118.3 | 86.0 | 159 | 2.1 | 400 | 160 |
| | BVDT-28L | 28 | 25 | 58 | 65 | 29.5 | 81 | 126.0 | 105.0 | 159 | 2.3 | 400 | 160 |
| S | BVDT-35L | 35 | 25 | 58 | 65 | 29.5 | 81 | 144.0 | 101.0 | 159 | 2.3 | 400 | 160 |
| | BVDT- 8S | 8 | 4 | 26 | 33 | 13.5 | 71 | 88.0 | 59.0 | 115 | 0.4 | 500 | 500 |
| | BVDT-10S | 10 | 6 | 26 | 33 | 13.5 | 71 | 91.0 | 59.0 | 115 | 0.4 | 500 | 500 |
| | BVDT-12S | 12 | 6 | 32 | 38 | 18.0 | 72 | 93.0 | 61.0 | 115 | 0.5 | 500 | 500 |
| | BVDT-14S | 14 | 10 | 32 | 38 | 18.0 | 72 | 99.0 | 64.0 | 115 | 0.6 | 500 | 500 |
| | BVDT-16S | 16 | 13 | 35 | 40 | 19.0 | 73 | 105.0 | 69.0 | 115 | 0.7 | 500 | 400 |
| | BVDT-20S | 20 | 13 | 35 | 40 | 19.0 | 73 | 112.0 | 69.0 | 115 | 0.8 | 400 | 400 |
| | BVDT-25S | 25 | 20 | 49 | 57 | 24.5 | 78 | 133.3 | 85.0 | 159 | 2.1 | 400 | 315 |
| | BVDT-30S | 30 | 25 | 58 | 65 | 29.5 | 81 | 146.0 | 93.0 | 159 | 2.3 | 400 | 315 |
| | BVDT-38S-DN25 | 38 | 25 | 58 | 65 | 29.5 | 81 | 153.0 | 92.0 | 159 | 3.1 | 315 | 315 |
| BVDF-38S ⁽⁴⁾ | 38 | 32 | 86 | 84 | 39.0 | 126 | 183.0 | 116.0 | 240 | 5.3 | 315 | 315 | |

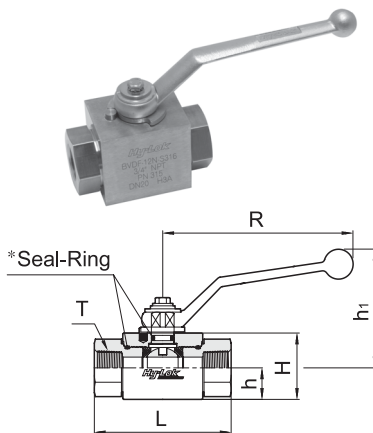
BVDF - G



for ISO/BSP Parallel

| Part No. | T | DN ⁽¹⁾ | B ⁽³⁾ | H | h | h ₁ | L | R | Weight (kg) | PN(bar) ⁽²⁾ | |
|-------------------------|---------|-------------------|------------------|----|------|----------------|-------|-----|-------------|------------------------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| BVDF- 2G | G 1/8 | 6 | 26 | 33 | 13.5 | 71 | 69.0 | 115 | 0.4 | 500 | 500 |
| BVDF- 4G | G 1/4 | 6 | 26 | 33 | 13.5 | 71 | 69.0 | 115 | 0.4 | 500 | 500 |
| BVDF- 6G | G 3/8 | 10 | 32 | 38 | 18.0 | 72 | 72.0 | 115 | 0.6 | 500 | 500 |
| BVDF- 8G | G 1/2 | 13 | 35 | 40 | 19.0 | 73 | 82.0 | 115 | 0.7 | 500 | 500 |
| BVDF-12G | G 3/4 | 20 | 49 | 57 | 24.5 | 78 | 95.0 | 159 | 1.6 | 400 | 315 |
| BVDF-16G | G 1 | 25 | 58 | 65 | 29.5 | 81 | 113.0 | 159 | 2.3 | 400 | 315 |
| BVDF-20G-DN25 | G 1 1/4 | 25 | 58 | 65 | 29.5 | 81 | 120.0 | 159 | 2.3 | 315 | 315 |
| BVDF-20G ⁽⁴⁾ | G 1 1/4 | 32 | 86 | 84 | 39.0 | 126 | 111.0 | 240 | 4.2 | 315 | 315 |

BVDF - N



for NPT

| Part No. | T | DN ⁽¹⁾ | B ⁽³⁾ | H | h | h ₁ | L | R | Weight (kg) | PN(bar) ⁽²⁾ | |
|-------------------------|-----------------|-------------------|------------------|----|------|----------------|-------|-----|-------------|------------------------|-------|
| | | | | | | | | | | C.Steel | SS316 |
| BVDF- 4N | 1/4-18 NPT | 6 | 26 | 33 | 13.5 | 71 | 69.0 | 115 | 0.4 | 500 | 500 |
| BVDF -6N | 3/8-18 NPT | 10 | 32 | 38 | 18.0 | 72 | 72.0 | 115 | 0.6 | 500 | 500 |
| BVDF- 8N | 1/2-14 NPT | 13 | 35 | 40 | 19.0 | 73 | 82.0 | 115 | 0.7 | 500 | 500 |
| BVDF-12N | 3/4-14 NPT | 20 | 49 | 57 | 24.5 | 78 | 95.0 | 159 | 1.6 | 400 | 315 |
| BVDF-16N | 1-11.5 NPT | 25 | 58 | 65 | 29.5 | 81 | 113.0 | 159 | 2.3 | 400 | 315 |
| BVDF-20N-DN25 | 1 1/4-11.5 NPT | 25 | 58 | 65 | 29.5 | 81 | 130.0 | 159 | 2.3 | 315 | 315 |
| BVDF-20N ⁽⁴⁾ | 1 1/4- 11.5 NPT | 32 | 86 | 84 | 39.0 | 126 | 120.0 | 240 | 4.4 | 315 | 315 |

Note : (1) DN is the max orifice.
 DN is available up to DN80 upon request.
 Please consult local authorized Hy-Lok representative
 (2) Safety factor of PN in bar is 1.5
 (3) "B" Dimensions are width across flat of body
 (4) Round Bar Body (not Square)

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.
 *The standard Seal-Ring material is FPM(e.g. Viton®) however NBR(e.g. perbunan®) is also available on request (See Page 3).

Non-Return Valves

General informations for Non-Return Valves

Application

For hydraulic fluid and compressed air.

Please contact our technical support team for doubtful conditions or the use of special fluids.

Design

Hy-Lok Corp. non return valves are leak-free by elastic materials (e.g. Viton®), and internal parts provide optimal flow conditions for the fluids.

Opening Pressure

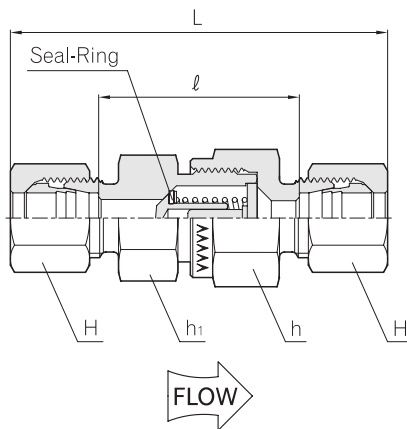
The non return valves are tested at the factory with opening pressure of approx.1 bar. Other opening pressures, ranging from 0.5 to 3 bar, are also available on request.

Materials

Stainless steel 316, carbon steel or brass is available for standard material on request.

The standard Seal-Rings is FPM (e.g. Viton®) however other materials are also available on request.

Non Return Valve DCVU

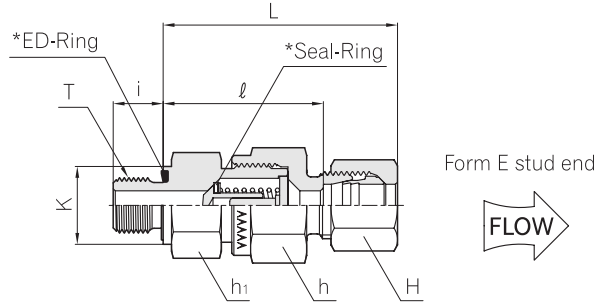


| Series | Part No. | Tube O.D. | H | h | h ₁ | L | l | PN(bar) | |
|--------|------------|-----------|----|----|----------------|-------|------|---------|-------|
| | | | | | | | | C.Steel | SS316 |
| L | DCVU - 06L | 6 | 14 | 17 | 17 | 58.0 | 29.0 | 400 | 250 |
| | DCVU - 08L | 8 | 17 | 19 | 19 | 59.0 | 30.0 | 400 | 250 |
| | DCVU - 10L | 10 | 19 | 24 | 22 | 69.5 | 40.5 | 400 | 250 |
| | DCVU - 12L | 12 | 22 | 30 | 27 | 72.5 | 43.5 | 400 | 250 |
| | DCVU - 15L | 15 | 27 | 32 | 27 | 77.5 | 47.5 | 400 | 250 |
| | DCVU - 18L | 18 | 32 | 36 | 36 | 83.5 | 51.5 | 400 | 160 |
| | DCVU - 22L | 22 | 36 | 46 | 41 | 93.5 | 61.5 | 250 | 160 |
| | DCVU - 28L | 28 | 41 | 55 | 50 | 102.5 | 69.5 | 250 | 100 |
| | DCVU - 35L | 35 | 50 | 60 | 60 | 117.5 | 74.5 | 250 | 100 |
| | DCVU - 42L | 42 | 60 | 70 | 65 | 119.0 | 74.0 | 250 | 100 |
| S | DCVU - 06S | 6 | 17 | 19 | 19 | 63.5 | 34.5 | 420 | 400 |
| | DCVU - 08S | 8 | 19 | 19 | 19 | 63.5 | 34.5 | 420 | 400 |
| | DCVU - 10S | 10 | 22 | 24 | 22 | 72.5 | 40.5 | 420 | 400 |
| | DCVU - 12S | 12 | 24 | 27 | 24 | 74.5 | 42.5 | 420 | 400 |
| | DCVU - 14S | 14 | 27 | 32 | 27 | 82.5 | 47.5 | 420 | 315 |
| | DCVU - 16S | 16 | 30 | 36 | 32 | 86.5 | 50.5 | 420 | 315 |
| | DCVU - 20S | 20 | 36 | 46 | 41 | 97.5 | 54.5 | 420 | 250 |
| | DCVU - 25S | 25 | 46 | 50 | 46 | 106.5 | 58.5 | 420 | 250 |
| | DCVU - 30S | 30 | 50 | 60 | 60 | 122.5 | 69.5 | 250 | 250 |
| | DCVU - 38S | 38 | 60 | 70 | 65 | 136.5 | 75.5 | 250 | 250 |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

* The standard Seal-Ring material is FPM(e.g. Viton®) however NBR(e.g. perbunan®) is also available on request (See Page 3).

Non Return Valve
DCV GED-L/S
MED-L/S



for ISO/BSP Parallel

| Series | Part No. | Tube O.D. | H | h | h ₁ | K | L | l | i | T | PN(bar) | |
|--------------|--------------|-----------|----|----|----------------|-------|------|------|---------|---------|---------|-------|
| | | | | | | | | | | | C.Steel | SS316 |
| L | DCV01GED-06L | 6 | 14 | 17 | 17 | 14 | 42.5 | 28.0 | 8 | G 1/8 | 400 | 250 |
| | DCV02GED-08L | 8 | 17 | 19 | 19 | 19 | 44.5 | 30.0 | 12 | G 1/4 | 400 | 250 |
| | DCV02GED-10L | 10 | 19 | 24 | 22 | 19 | 53.0 | 38.5 | 12 | G 1/4 | 400 | 250 |
| | DCV03GED-12L | 12 | 22 | 30 | 27 | 22 | 57.0 | 42.5 | 12 | G 3/8 | 400 | 250 |
| | DCV04GED-15L | 15 | 27 | 32 | 27 | 27 | 60.5 | 45.5 | 14 | G 1/2 | 400 | 250 |
| | DCV04GED-18L | 18 | 32 | 36 | 36 | 27 | 66.0 | 50.0 | 14 | G 1/2 | 400 | 160 |
| | DCV06GED-22L | 22 | 36 | 46 | 41 | 32 | 71.0 | 53.0 | 16 | G 3/4 | 250 | 160 |
| | DCV08GED-28L | 28 | 41 | 55 | 50 | 40 | 79.5 | 63.0 | 18 | G 1 | 250 | 100 |
| | DCV10GED-35L | 35 | 50 | 60 | 60 | 50 | 90.5 | 69.0 | 20 | G 1 1/4 | 250 | 100 |
| DCV12GED-42L | 42 | 60 | 70 | 65 | 55 | 91.0 | 68.5 | 22 | G 1 1/2 | 250 | 100 | |
| S | DCV02GED-06S | 6 | 17 | 19 | 19 | 19 | 46.0 | 31.5 | 12 | G 1/4 | 420 | 400 |
| | DCV02GED-08S | 8 | 19 | 19 | 19 | 19 | 46.0 | 31.5 | 12 | G 1/4 | 420 | 400 |
| | DCV03GED-10S | 10 | 22 | 24 | 22 | 22 | 54.0 | 38.0 | 12 | G 3/8 | 420 | 400 |
| | DCV03GED-12S | 12 | 24 | 27 | 24 | 22 | 57.0 | 41.0 | 12 | G 3/8 | 420 | 400 |
| | DCV04GED-14S | 14 | 27 | 32 | 27 | 27 | 62.0 | 44.5 | 14 | G 1/2 | 420 | 315 |
| | DCV04GED-16S | 16 | 30 | 36 | 32 | 27 | 66.0 | 48.0 | 14 | G 1/2 | 420 | 315 |
| | DCV06GED-20S | 20 | 36 | 46 | 41 | 32 | 73.5 | 52.0 | 16 | G 3/4 | 420 | 250 |
| | DCV08GED-25S | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | G 1 | 420 | 250 |
| | DCV10GED-30S | 30 | 50 | 60 | 60 | 50 | 90.5 | 64.0 | 20 | G 1 1/4 | 250 | 250 |
| DCV12GED-38S | 38 | 60 | 70 | 65 | 55 | 100.0 | 69.5 | 22 | G 1 1/2 | 250 | 250 | |

for Metric Parallel

| Series | Part No. | Tube O.D. | H | h | h ₁ | K | L | l | i | T | PN(bar) | |
|--------------|--------------|-----------|----|----|----------------|-------|------|------|-----------|-----------|---------|-------|
| | | | | | | | | | | | C.Steel | SS316 |
| L | DCVM10ED-06L | 6 | 14 | 17 | 17 | 14 | 42.5 | 28.0 | 8 | M10 x 1.0 | 400 | 250 |
| | DCVM12ED-08L | 8 | 17 | 19 | 19 | 17 | 43.5 | 30.0 | 12 | M12 x 1.5 | 400 | 250 |
| | DCVM14ED-10L | 10 | 19 | 24 | 22 | 19 | 53.0 | 38.5 | 12 | M14 x 1.5 | 400 | 250 |
| | DCVM16ED-12L | 12 | 22 | 30 | 27 | 22 | 57.0 | 42.5 | 12 | M16 x 1.5 | 400 | 250 |
| | DCVM18ED-15L | 15 | 27 | 32 | 27 | 24 | 60.5 | 45.5 | 12 | M18 x 1.5 | 400 | 250 |
| | DCVM22ED-18L | 18 | 32 | 36 | 36 | 27 | 66.0 | 50.0 | 14 | M22 x 1.5 | 400 | 160 |
| | DCVM26ED-22L | 22 | 36 | 46 | 41 | 32 | 71.0 | 55.0 | 16 | M26 x 1.5 | 250 | 160 |
| | DCVM33ED-28L | 28 | 41 | 55 | 50 | 40 | 79.5 | 63.0 | 18 | M33 x 2.0 | 250 | 100 |
| | DCVM42ED-35L | 35 | 50 | 60 | 60 | 50 | 90.5 | 69.0 | 20 | M42 x 2.0 | 250 | 100 |
| DCVM48ED-42L | 42 | 60 | 70 | 65 | 55 | 91.0 | 67.5 | 22 | M48 x 2.0 | 250 | 100 | |
| S | DCVM12ED-06S | 6 | 17 | 19 | 19 | 17 | 46.0 | 31.5 | 12 | M12 x 1.5 | 420 | 400 |
| | DCVM14ED-08S | 8 | 19 | 19 | 19 | 19 | 46.0 | 31.5 | 12 | M14 x 1.5 | 420 | 400 |
| | DCVM16ED-10S | 10 | 22 | 24 | 22 | 22 | 54.0 | 38.0 | 12 | M16 x 1.5 | 420 | 400 |
| | DCVM18ED-12S | 12 | 24 | 27 | 24 | 24 | 57.0 | 41.0 | 12 | M18 x 1.5 | 420 | 400 |
| | DCVM20ED-14S | 14 | 27 | 32 | 27 | 26 | 62.0 | 44.5 | 14 | M20 x 1.5 | 420 | 315 |
| | DCVM22ED-16S | 16 | 30 | 36 | 32 | 27 | 66.0 | 48.0 | 14 | M22 x 1.5 | 420 | 315 |
| | DCVM27ED-20S | 20 | 36 | 46 | 41 | 32 | 73.5 | 52.0 | 16 | M27 x 2.0 | 420 | 250 |
| | DCVM33ED-25S | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | M33 x 2.0 | 420 | 250 |
| | DCVM42ED-30S | 30 | 50 | 60 | 60 | 50 | 90.5 | 64.0 | 20 | M42 x 2.0 | 250 | 250 |
| DCVM48ED-38S | 38 | 60 | 70 | 65 | 55 | 100.0 | 69.5 | 22 | M48 x 2.0 | 250 | 250 | |

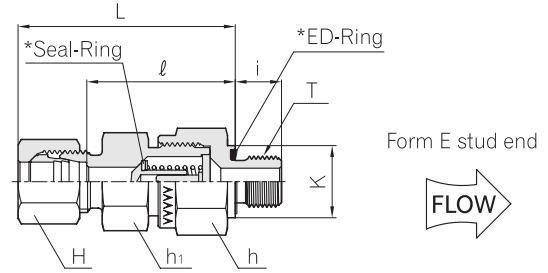
Dimensions are given for approximate length with tightened nut, All dimensions are in millimeters for reference only, subject to change.

* The standard Seal-Ring material is FPM(e.g. Viton®) however NBR(e.g. perbunan®) is also available on request (See Page 3).

* The standard ED-Ring material is NBR(e.g. perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

Non-Return Valves

Non Return Valve DCV L/S-GED L/S-MED



for ISO/BSP Parallel

| Series | Part No. | Tube O.D. | H | h | h ₁ | K | L | l | i | T | PN(bar) | |
|--------------|--------------|-----------|----|----|----------------|-------|------|------|---------|---------|---------|-------|
| | | | | | | | | | | | C.Steel | SS316 |
| L | DCV06L-01GED | 6 | 14 | 17 | 17 | 14 | 41.0 | 26.5 | 8 | G 1/8 | 400 | 250 |
| | DCV08L-02GED | 8 | 17 | 19 | 19 | 19 | 43.0 | 28.5 | 12 | G 1/4 | 400 | 250 |
| | DCV10L-02GED | 10 | 19 | 24 | 22 | 19 | 53.0 | 38.5 | 12 | G 1/4 | 400 | 250 |
| | DCV12L-03GED | 12 | 22 | 30 | 27 | 22 | 55.0 | 40.5 | 12 | G 3/8 | 400 | 250 |
| | DCV15L-04GED | 15 | 27 | 32 | 27 | 27 | 57.5 | 42.5 | 14 | G 1/2 | 400 | 250 |
| | DCV18L-04GED | 18 | 32 | 36 | 36 | 27 | 64.0 | 48.0 | 14 | G 1/2 | 400 | 160 |
| | DCV22L-06GED | 22 | 36 | 46 | 41 | 32 | 72.0 | 56.0 | 16 | G 3/4 | 250 | 160 |
| | DCV28L-08GED | 28 | 41 | 55 | 50 | 40 | 80.5 | 64.0 | 18 | G 1 | 250 | 100 |
| | DCV35L-10GED | 35 | 50 | 60 | 60 | 50 | 91.5 | 70.0 | 20 | G 1 1/4 | 250 | 100 |
| DCV42L-12GED | 42 | 60 | 70 | 65 | 55 | 93.0 | 70.5 | 22 | G 1 1/2 | 250 | 100 | |
| S | DCV06S-02GED | 6 | 17 | 19 | 19 | 19 | 46.0 | 31.5 | 12 | G 1/4 | 420 | 400 |
| | DCV08S-02GED | 8 | 19 | 19 | 19 | 19 | 46.0 | 31.5 | 12 | G 1/4 | 420 | 400 |
| | DCV10S-03GED | 10 | 22 | 24 | 22 | 22 | 54.0 | 38.0 | 12 | G 3/8 | 420 | 400 |
| | DCV12S-03GED | 12 | 24 | 27 | 24 | 22 | 57.0 | 41.0 | 12 | G 3/8 | 420 | 400 |
| | DCV14S-04GED | 14 | 27 | 32 | 27 | 27 | 61.0 | 43.5 | 14 | G 1/2 | 420 | 315 |
| | DCV16S-04GED | 16 | 30 | 36 | 32 | 27 | 64.0 | 46.0 | 14 | G 1/2 | 420 | 315 |
| | DCV20S-06GED | 20 | 36 | 46 | 41 | 32 | 71.5 | 50.0 | 16 | G 3/4 | 420 | 250 |
| | DCV25S-08GED | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | G 1 | 420 | 250 |
| | DCV30S-10GED | 30 | 50 | 60 | 60 | 50 | 90.5 | 64.0 | 20 | G 1 1/4 | 250 | 250 |
| DCV38S-12GED | 38 | 60 | 70 | 65 | 55 | 102.0 | 71.5 | 22 | G 1 1/2 | 250 | 250 | |

for Metric Parallel

| Series | Part No. | Tube O.D. | H | h | h ₁ | K | L | l | i | T | PN(bar) | |
|--------------|--------------|-----------|----|----|----------------|-------|------|------|-----------|-----------|---------|-------|
| | | | | | | | | | | | C.Steel | SS316 |
| L | DCV06L-M10ED | 6 | 14 | 17 | 17 | 14 | 41.0 | 26.5 | 8 | M10 x 1.0 | 400 | 250 |
| | DCV08L-M12ED | 8 | 17 | 19 | 19 | 17 | 43.0 | 28.5 | 12 | M12 x 1.5 | 400 | 250 |
| | DCV10L-M14ED | 10 | 19 | 24 | 22 | 19 | 53.0 | 38.5 | 12 | M14 x 1.5 | 400 | 250 |
| | DCV12L-M16ED | 12 | 22 | 30 | 27 | 22 | 55.0 | 40.5 | 12 | M16 x 1.5 | 400 | 250 |
| | DCV15L-M18ED | 15 | 27 | 32 | 27 | 24 | 57.5 | 42.5 | 12 | M18 x 1.5 | 400 | 250 |
| | DCV18L-M22ED | 18 | 32 | 36 | 36 | 27 | 64.0 | 48.0 | 14 | M22 x 1.5 | 400 | 160 |
| | DCV22L-M26ED | 22 | 36 | 46 | 41 | 32 | 72.0 | 56.0 | 16 | M26 x 1.5 | 250 | 160 |
| | DCV28L-M33ED | 28 | 41 | 55 | 50 | 40 | 80.5 | 64.0 | 18 | M33 x 2.0 | 250 | 100 |
| | DCV35L-M42ED | 35 | 50 | 60 | 60 | 50 | 91.5 | 70.0 | 20 | M42 x 2.0 | 250 | 100 |
| DCV42L-M48ED | 42 | 60 | 70 | 65 | 55 | 93.0 | 70.5 | 22 | M48 x 2.0 | 250 | 100 | |
| S | DCV06S-M12ED | 6 | 17 | 19 | 19 | 17 | 46.0 | 31.5 | 12 | M12 x 1.5 | 420 | 400 |
| | DCV08S-M14ED | 8 | 19 | 19 | 19 | 19 | 46.0 | 31.5 | 12 | M14 x 1.5 | 420 | 400 |
| | DCV10S-M16ED | 10 | 22 | 24 | 22 | 22 | 54.0 | 38.0 | 12 | M16 x 1.5 | 420 | 400 |
| | DCV12S-M18ED | 12 | 24 | 27 | 24 | 24 | 57.0 | 41.0 | 12 | M18 x 1.5 | 420 | 400 |
| | DCV14S-M20ED | 14 | 27 | 32 | 27 | 26 | 61.0 | 43.5 | 14 | M20 x 1.5 | 420 | 315 |
| | DCV16S-M22ED | 16 | 30 | 36 | 32 | 27 | 64.0 | 46.0 | 14 | M22 x 1.5 | 420 | 315 |
| | DCV20S-M27ED | 20 | 36 | 46 | 41 | 32 | 71.5 | 50.0 | 16 | M27 x 2.0 | 420 | 250 |
| | DCV25S-M33ED | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | M33 x 2.0 | 420 | 250 |
| | DCV30S-M42ED | 30 | 50 | 60 | 60 | 50 | 90.5 | 64.0 | 20 | M42 x 2.0 | 250 | 250 |
| DCV38S-M48ED | 38 | 60 | 70 | 65 | 55 | 102.0 | 71.5 | 22 | M48 x 2.0 | 250 | 250 | |

Dimensions are given for approximate length with tightened nut. All dimensions are in millimeters for reference only, subject to change.

* The standard Seal-Ring material is FPM(e.g. Viton®) however NBR(e.g. perbunan®) is also available on request (See Page 3).

* The standard ED-Ring material is NBR(e.g. perbunan®) however FPM(e.g. Viton®) is also available on Request (See Page3).

General Information

EZY-MAT II, Hy-Lok's Auto Hydraulic Pre-swaging Machine, designed for use to all DIN 2353 tube fittings ranging 6-42mm. The standard version is for 220V. 110V version is also available on request.

Swaging Process

Sleeve, nut and tube are properly pre-assembled. Tube end shall reach to the swaging cone shoulder. Tapered face of sleeve shall contact swaging cone. Nut shall be fixed to swaging cone. Swaging process shall be performed by pressing "start button". The piston with the swaging cone shall be advanced. Once the set pressure has been reached the swaging process shall be concluded. The piston with the swaging cone automatically returns to its initial position. Now, pre-swaging is completed.

Technical Data

- 220V version
 - Hydraulic pump : 0.35kW · 2.0l/min.
 - Operating pressure : 0~600bar.
 - Connection : 220V / 1~50 / 60Hz / 2.5A
 - Dimension : 400 X 400 X 230mm
 - Weight : 30kg
 - 110V version is also available upon request



Ordering Information

- Contact our technical support team or service representatives for your local area.

How to Set-up EZY-MAT II

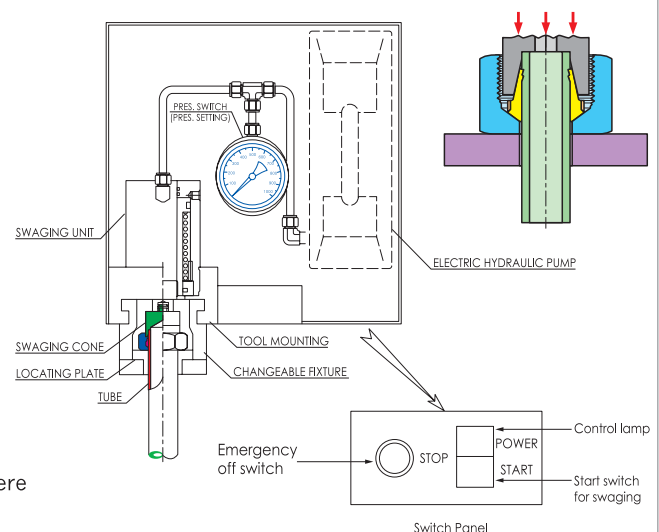
1. Insert the changeable fixture into the tool mounting.
2. Select the swaging cone and locating plate in accordance with the tube size and type.
3. Attach the swaging cone to the mounting tool. Place the locating plate at the changeable fixture.

How to Prepare Tube

4. Check if tube O.D, wall thickness, circularity, hardness and their tolerances are within specifications for your application.
5. Make a square cut.
6. Remove burrs from inner and outer edges of tube.

How to Make Pre-swage

7. Set up the swaging pressure for each size shown in Table 1 which is for carbon steel only.
8. Lubricate the sleeve, nut and swaging cone.
9. Slide the nut and sleeve onto the locating plate, so that the nut and sleeve are placed between the locating plate and the swaging cone.
10. Hold the tube and press the "start" switch. pre-swaging is now completed.
11. The pre-swaged tube may be removed from the locating plate. The sleeve has cut into the tube leaving a visible raised collar(check!).
12. Lubricate the thread and cone of the fitting. Insert the previously pre-swaged tube into the corresponding tube fitting. Tighten the nut with approximately 1/2 turn from the point where application of increased effort is required.
13. For continuous operation, go to step 2.



Pre - Swaging Machine

Important!

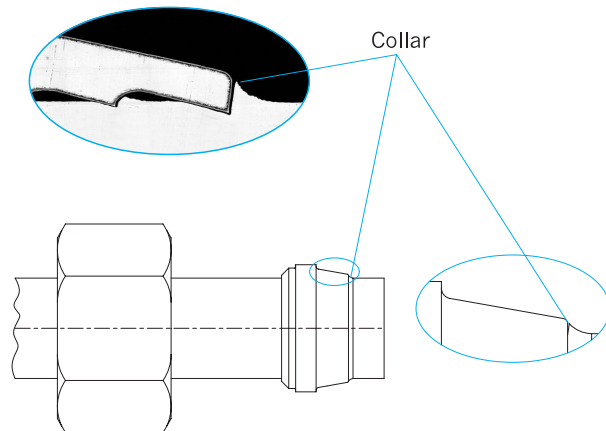
1. The pressure must be set according to the data stated on the machine. Incorrect pressure setting leads to incomplete swaging.
2. Long tube lengths must be used during the swaging process.
3. Dirt, chips and others can interfere with proper swaging process.
4. When assembling Tube fitting :
Alignment of fitting and tube shall be done before tightening the nut.
Nut should be tightened on the fitting body without resistance.
5. For another tube material, please operate the unit after adjustment of the swaging pressure on reference to the "⚠ CAUTION".
Different characteristics of materials may require different swaging pressure.

Table 1.

| Tube O.D (mm) | Pressure (bar) |
|---------------|----------------|
| 6 | 20 |
| 8 | 30 |
| 10 | 35 |
| 12 | 45 |
| 14 | 55 |
| 15 | 55 |
| 16 | 65 |
| 18 | 65 |
| 20 | 80 |
| 22 | 80 |
| 25 | 110 |
| 28 | 110 |
| 30 | 165 |
| 35 | 155 |
| 38 | 215 |
| 42 | 195 |

⚠ CAUTION

Check penetration of cutting edge.
A visible collar should fill out the space in front of the cutting ring face.
Cutting ring may be turned on the tube but should not be moved axially.



This assembly instruction related to DIN 2353 fittings shows suitable make-up for fittings into seamless pipe in accordance with DIN 3859.

3 Methods might be used for assembly.

Assembly by direct fitting body.

Assembly by using pre-assembly tool.

Assembly of standpipe & cone fitting with O-ring

In order to ensure positive assembly, stainless steel fittings should be always pre-assembled by an oiled pre-assembly tool.

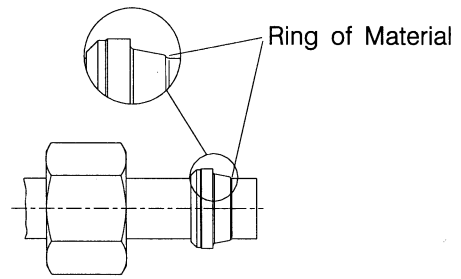
■ Assembly of cutting ring fittings in direct fitting body.

| | |
|--|--|
| <p>1.0 Saw the tube at right angle. An angular offset of $1/2^\circ$ in relation to the tube axis is permissible.</p> <p>1.1 After clean, lightly deburr the tube ends on the inside and outside of the edge.</p> <div data-bbox="500 727 609 791" style="text-align: center;"> </div> <p>1.2 Use of a tube cutter may cause formation of considerable burrs and an angular cut. Preferred method is to use a sawing machine or a device instead.</p> | |
| <p>2.0 Lubricate thread and inside of the fitting body, cutting ring and thread of the nut. Do not use grease.</p> <p>2.1 Place the nut and the cutting ring on tube shown as the picture. Ensure the cutting ring and the nut face the right way.</p> | |
| <p>3.0 Insert the tube into the fitting body, up to the tube abutment, then hand-tighten the nut.</p> | |
| <p>4.0 Make sure the nut is in hand tight position, then tighten the 1 1/2 turns with a wrench during holding fitting body with a second wrench. (Never turn the fitting body, hold the body and turn the nut)</p> <p>Caution! <i>Any deviating of tightening turns reduces the nominal pressure and the service life of the fitting, and may cause leakages or slip of the tube.</i></p> | |

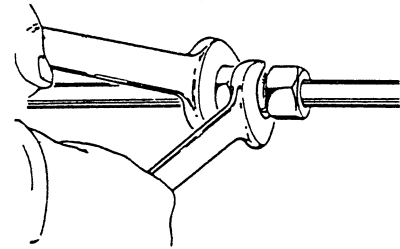
24° Tube Fittings-DIN 2353 & ISO 8434-1

5.0 Check penetration of cutting edge.

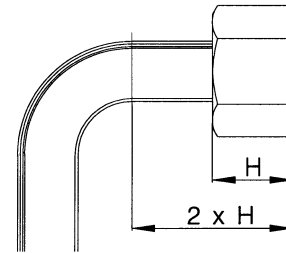
A visible ring of material should fill out the space in front of cutting ring face.
Cutting ring may be turned on tube, but should not be moved axially.



6.0 In case that the fitting is disassembled, the nut must be retightened firmly using the same torque as required for final assembly.

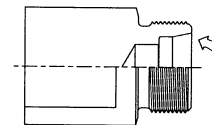


7.0 Minimum length of a straight tube must be at least twice (2xH) the nut Height (H).



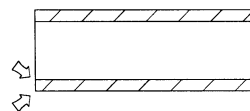
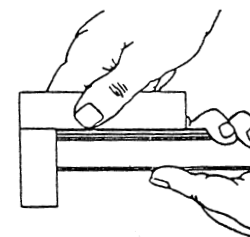
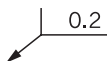
■ Assembly of cutting ring fittings in pre-assembly tool.

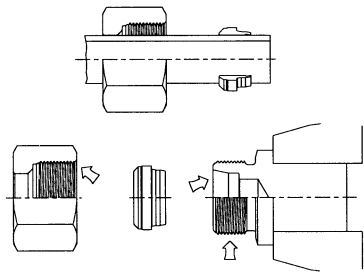
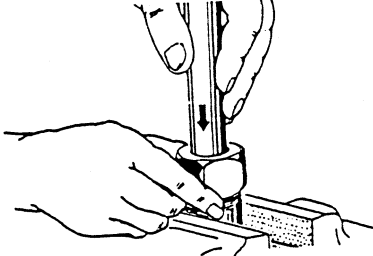
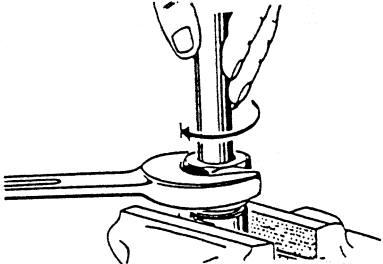
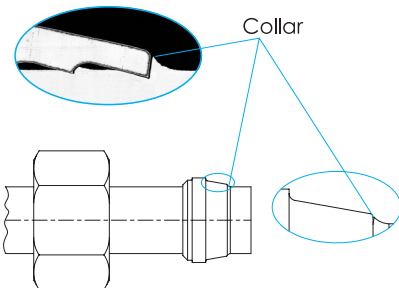
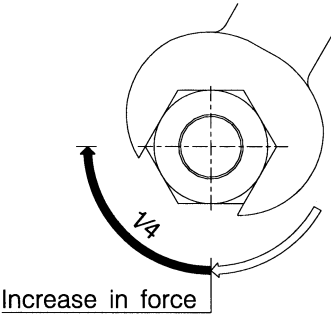
1.0 In order to ensure positive assembly, Hy-Lok Corp. DIN fittings should be always pre-assembled by an oiled pre-assembly tool.
For direct assembly, torque-controlled assembly or mechanical pre-assembly is also possible.



2.0 Saw the tube at right angle. An angular offset of 1/2° in relation to the tube axis is permissible.
2.1 After clean, lightly deburr the tube ends at the inside and outside edge.

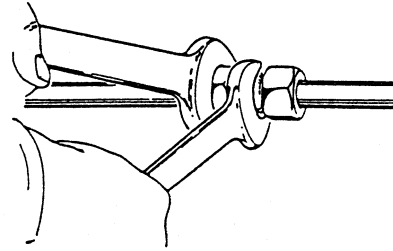
2.2 Use of tube cutter may cause formation of considerable burrs and an angular cut.
Preferred method is to use a sawing machine instead.



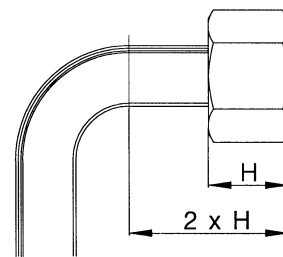
| | |
|---|---|
| <p>3.0 Lubricate the thread, inside of the fitting body, the cutting ring and also the thread of the nut. Do not grease.</p> <p>3.1 Place the nut and the cutting ring on tube shown as the picture. Ensure the cutting ring and the nut face the right way.</p> |  |
| <p>4.0 Insert the tube into the fitting body, up to the tube abutment, then hand-tighten the nut.</p> |  |
| <p>5.0 Make sure the nut is in hand tight position, then tighten 1 1/4 turns with a wrench during holding fitting body with a second wrench. (Never turn the fitting body, hold the body and turn the nut)</p> <p>Caution! <i>Application of deviating of tightening turns reduces the nominal pressure rating and the life of the fitting, and may cause leakages or slip of the tube.</i></p> |  |
| <p>6.0 Check penetration of cutting edge. A visible ring of material should fill out the space in front of cutting ring face. The cutting ring may be turned on the tube but should not be moved axially.</p> |  |
| <p>7.0 Tighten the nut by hand until application of increased effort is required. Beyond this point, tighten the nut by 1/4 turn with a wrench for final assembly.</p> <p>7.1 With unfavourable mounting conditions and great tube dimensions, final assembly must be completed with the fitting body in a vice.</p> <p>Caution! <i>Any deviating of tightening turns reduces the nominal pressure rating and the life of the fitting which cause leakage or slip of the tube.</i></p> |  |

24° Tube Fittings-DIN 2353 & ISO 8434-1

8.0 In case that the fitting is disassembled, the nut must be retightened firmly using the same torque as required for final assembly.



9.0 Minimum length of a straight tube must be at least twice (2xH) the nut height (H).



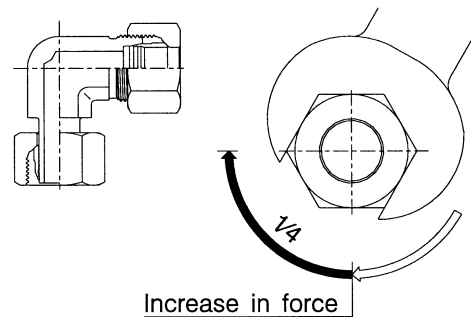
■ Assembly instruction for standpipe & cone fitting with O-Ring.

1.0 Tighten the nut 1/4 turn with a wrench beyond application of increased effort is required.

1.1 In difficult mounting situation on large tube sizes, final assembly must be completed in vice with the fitting body.

Caution!

Any deviating of tightening turns reduces the nominal pressure and the service life of the fitting, and may cause leakages or slip of the fitting.



2.0 Oil O-ring.

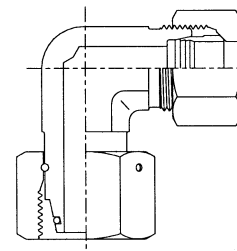
Tighten the nut 1/4 turn with a wrench beyond application of increased effort is required.

Hold fitting body firmly by means of wrench.

2.1 In difficult mounting situation on large tube sizes, final assembly must be completed in vice with the fitting body.

Caution!

Any deviating of tightening turns reduces the nominal pressure and the service life of the fitting, and may cause leakages or slip of the fitting.

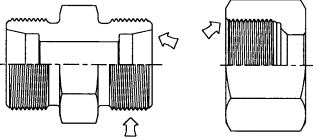
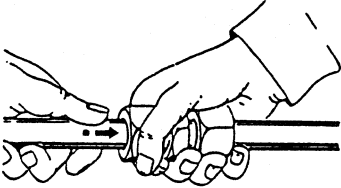
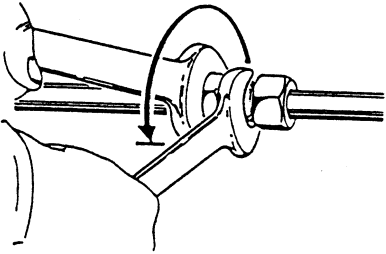
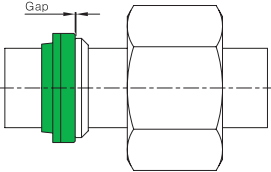
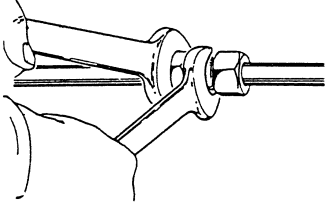


HyQ Assembly Instruction [Direct Assembly]

■ Instruction for Smaller size assembly

No effect on Series Assembly

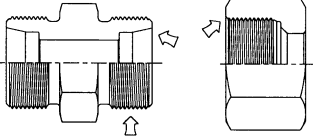
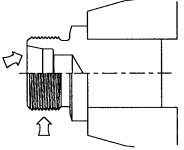
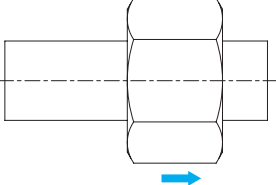
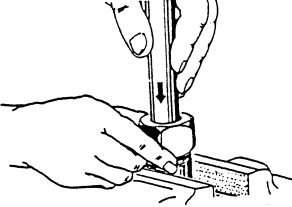
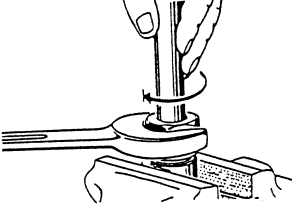
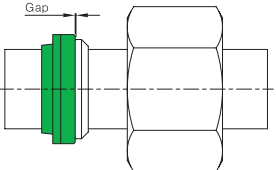
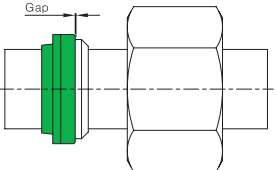
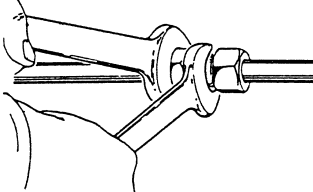
Preliminary assembly of tube size 30, 35, 38 and 42mm shall be performed in vice.

| | |
|---|---|
| <p>1.0 The thread of fitting shall be lubricated.</p> |  |
| <p>2.0 Certainly push the tube on the inner part. Loosen the nut in order to easily insert the tube.</p> |  |
| <p>3.0 Tighten the nut until the resistance is felt (about 1 turn to 1 1/2 turn) Spanner may be better to use in over 20mm O.D]</p> |  |
| <p>4.0 Assembly Verification It Shall be no space between sealing ring and retaining ring. It may allow the tolerance of 0.2mm.</p> |  |
| <p>5.0 Gap not Closed All components including tube shall be verified regarding the space.</p> | |
| <p>6.0 Fitting shall be assembled until securely tighten with wrench (without spanner) The body shall be surely fixed.</p> |  |
| <p>7.0 Securely tighten the fitting by minimum 1/6 turn (max. 1/4)</p> | |

■ Assembly in vice

Reliable method

This method is economical for small amount of assembly.

| | |
|---|---|
| <p>1.0 The thread of fitting shall be lubricated.</p> |  |
| <p>2.0 Using "DJ" which is preliminary mounting tool. It suggests that the body shall be mounted at once to prevent the leak, and all components shall be included.</p> |  |
| <p>3.0 Push the nut to the end of tube. Benefits: Easy to insert the tube, especially for a large dimension.</p> |  |
| <p>4.0 Certainly push the tube on the inner part. Tighten the nut with hands.</p> |  |
| <p>5.0 Tighten the nut until the resistance is felt (about 1 turn to 1 1/2 turn) Spanner may be better to use in over 20mm O.D</p> |  |
| <p>6.0 Assembly Verification It Shall be no space between sealing ring and retaining ring. It may allow the tolerance of 0.2mm.</p> |  |
| <p>7.0 Gap not Closed Repeated assembly by increased torque, and verify the gap.</p> |  |
| <p>8.0 Fitting shall be assembled until securely tighten with wrench (without spanner) The body shall be surely fixed.</p> |  |



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