



the right connection  
the right environment



Tube fittings | Pipe Flanges | Hydraulic Valves  
Diagnostic Couplings

CELEBRATING  
**50**  
**YEARS**  
OF INNOVATIVE GROWTH  
— SINCE 1974 —

This page intentionally kept blank



the right connection  
the right environment

ISO 9001, ISO 14001, ISO 45001 and ISO/TS 22163 (IRIS)

Certified Company

Type Approved supplier for Marine

CIN : U85110KA1991PTC011924



Approvals

Tube fittings as per ISO 8434/DIN 2353

Surface treatment : Zinc plating with Blue passivation



Tube fittings with  
**ZINC NICKEL**  
Surface treatment



SS 316,  
Stainless Steel  
Tube fittings



## Hydraulic valves



Max. Pressure :

Up to 800 bar

Sizes : NG 06 to NG 80

End connections :

## Pipe flanges as per ISO 6162/ISO 6164

Sizes available : 1/2" to 5" NB

Different configurations like,  
Butt weld, Socket weld and  
Blind flanges.



## ZERO Leak

## Diagnostic couplings

Can also be used for air purging

Suitable for Micro bore hoses  
with M16x2.0 and M16x1.5  
threads

Varieties of stud ends with  
different sealing arrangements

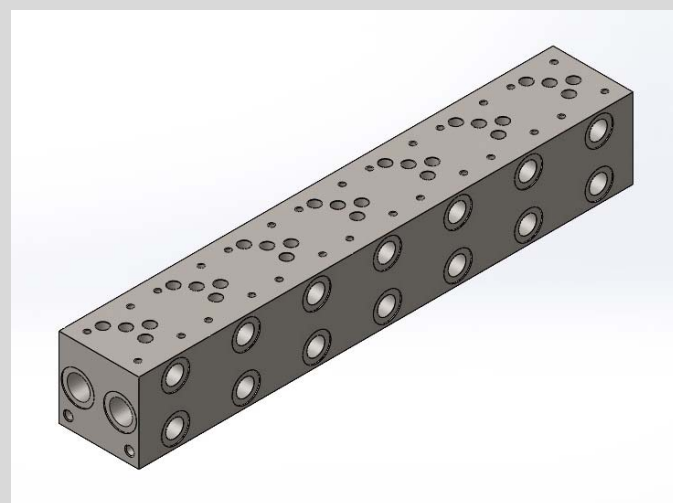


## Soft seal ferrules to suit ISO 8434-1 tube fittings



Quick Release Couplings  
ISO 7241-1, Series A

Bar Manifolds  
CETOP 3 and CETOP 5  
Interface conforming to



Forged components  
(Hot and Cold forgings)



Hyloc is active member of BIS (Bureau of Indian standard) and contributes in preparation of technical documents related to Tube fittings for Fluid power sectional committee. PGD 36 is a Technical committee for Fluid power systems.



Hyloc is 'P' member of ISO/TC 131 Standardization in the field of fluid power systems and components, comprising terminology, construction, principal dimensions, safety requirements and testing and inspection methods.

## Certifications



## Approvals





## Infrastructure

Hyloc has complete infrastructure, which includes

- Hot and cold forging plant
- CNC turning centers, VMC, Multi spindles, thread rolling and many more.
- Fully automatic Surface treatment plant







The right connection  
The right environment

## Tube Selection and Trouble Shooting guide

Ref. No. H09821  
Release: April 2025

Page 1 of 4

### General recommendations for Carbon Steel Tubes

|                   |                                                                |
|-------------------|----------------------------------------------------------------|
| <b>Steel Type</b> | <b>St 37.4</b>                                                 |
| Tensile Strength  | 340 N/mm <sup>2</sup>                                          |
| Yield Strength    | 235 N/mm <sup>2</sup>                                          |
| Condition         | Seamless, Cold drawn, normal annealed as per DIN 2391C, Part 2 |

### Seamless Steel Tubes, Material : St 37.4 Tolerances as per DIN 2391, Part 1

| Tube OD (mm) | Tolerance | Wall thickness (mm) | Tube ID (mm) | Design Pressure (bar) |                        | Burst Pressure (bar) | Weight Kg/m |
|--------------|-----------|---------------------|--------------|-----------------------|------------------------|----------------------|-------------|
|              |           |                     |              | DIN 2413 - I Static   | DIN 2413 - III Dynamic |                      |             |
| 4            | ±0.08     | 0.50                | 3.0          | 313                   | 273                    | 1160                 | 0.047       |
| 4            |           | 0.75                | 2.5          | 409                   | 391                    | 1820                 | 0.063       |
| 4            |           | 1.00                | 2.0          | 522                   | 500                    | 2700                 | 0.074       |
| 5            | ±0.08     | 1.00                | 3.0          | 432                   | 416                    | 2120                 | 0.099       |
| 6            | ±0.08     | 0.75                | 4.5          | 333                   | 288                    | 1150                 | 0.103       |
| 6            |           | 1.00                | 4.0          | 389                   | 372                    | 1650                 | 0.123       |
| 6            |           | 1.50                | 3.0          | 549                   | 526                    | 2550                 | 0.166       |
| 6            |           | 2.00                | 2.0          | 692                   | 662                    | >3500                | 0.197       |
| 6            |           | 2.50                | 1.0          | 757                   | 725                    | >3500                | 0.208       |
| 8            | ±0.08     | 1.00                | 6.0          | 333                   | 288                    | 1175                 | 0.222       |
| 8            |           | 1.50                | 5.0          | 431                   | 412                    | 1925                 | 0.240       |
| 8            |           | 2.00                | 4.0          | 549                   | 526                    | 2500                 | 0.296       |
| 8            |           | 2.50                | 3.0          | 658                   | 630                    | 2650                 | 0.339       |
| 10           | ±0.08     | 1.00                | 8.0          | 282                   | 248                    | 900                  | 0.222       |
| 10           |           | 1.50                | 7.0          | 373                   | 357                    | 1450                 | 0.314       |
| 10           |           | 2.00                | 6.0          | 478                   | 458                    | 2025                 | 0.395       |
| 10           |           | 2.50                | 5.0          | 576                   | 551                    | 2675                 | 0.462       |
| 10           |           | 3.00                | 4.0          | 666                   | 638                    | >3500                | 0.518       |
| 12           | ±0.08     | 1.00                | 10.0         | 253                   | 209                    | 750                  | 0.271       |
| 12           |           | 1.50                | 9.0          | 353                   | 303                    | 1150                 | 0.388       |
| 12           |           | 2.00                | 8.0          | 409                   | 391                    | 1600                 | 0.493       |
| 12           |           | 2.50                | 7.0          | 495                   | 474                    | 2025                 | 0.586       |
| 12           |           | 3.00                | 6.0          | 576                   | 551                    | 2600                 | 0.666       |
| 12           |           | 3.50                | 5.0          | 651                   | 624                    | ---                  | 0.734       |
| 15           | ±0.08     | 1.00                | 13.0         | 188                   | 170                    | 575                  | 0.345       |
| 15           |           | 1.50                | 12.0         | 282                   | 248                    | 950                  | 0.499       |
| 15           |           | 2.00                | 11.0         | 336                   | 321                    | 1275                 | 0.641       |
| 15           |           | 3.00                | 9.0          | 478                   | 458                    | 2000                 | 0.888       |
| 16           | ±0.08     | 1.50                | 13.0         | 264                   | 233                    | 850                  | 0.536       |
| 16           |           | 2.00                | 12.0         | 353                   | 303                    | 1175                 | 0.691       |
| 16           |           | 2.50                | 11.0         | 386                   | 370                    | 1500                 | 0.832       |
| 16           |           | 3.00                | 10.0         | 452                   | 433                    | 1850                 | 0.962       |
| 18           | ±0.08     | 1.00                | 16.0         | 157                   | 143                    | 450                  | 0.419       |
| 18           |           | 1.50                | 15.0         | 235                   | 209                    | 700                  | 0.610       |
| 18           |           | 2.00                | 14.0         | 313                   | 273                    | 975                  | 0.789       |
| 18           |           | 2.50                | 13.0         | 348                   | 333                    | 1300                 | 0.956       |
| 18           |           | 3.00                | 12.0         | 409                   | 391                    | 1575                 | 1.111       |



The right connection  
The right environment

## Tube Selection and Trouble Shooting guide

Ref. No. H09821  
Release: April 2025

Page 2 of 4

### General recommendations for Carbon Steel Tubes

|                   |                                                                |
|-------------------|----------------------------------------------------------------|
| <b>Steel Type</b> | <b>St 37.4</b>                                                 |
| Tensile Strength  | 340 N/mm <sup>2</sup>                                          |
| Yield Strength    | 235 N/mm <sup>2</sup>                                          |
| Condition         | Seamless, Cold drawn, normal annealed as per DIN 2391C, Part 2 |

### Seamless Steel Tubes, Material : St 37.4 Tolerances as per DIN 2391, Part 1

|  | Tube OD (mm) | Tolerance | Wall thickness (mm) | Tube ID (mm) | Design Pressure (bar) |                        | Burst Pressure (bar) | Weight Kg/m |
|--|--------------|-----------|---------------------|--------------|-----------------------|------------------------|----------------------|-------------|
|  |              |           |                     |              | DIN 2413 - I Static   | DIN 2413 - III Dynamic |                      |             |
|  | 20           | ±0.08     | 1.50                | 17.0         | 212                   | 190                    | 675                  | 0.648       |
|  | 20           |           | 2.00                | 16.0         | 282                   | 248                    | 900                  | 0.888       |
|  | 20           |           | 2.50                | 15.0         | 353                   | 303                    | 1100                 | 1.079       |
|  | 20           |           | 3.00                | 14.0         | 373                   | 357                    | 1400                 | 1.258       |
|  | 20           |           | 3.50                | 13.0         | 426                   | 408                    | 1650                 | 1.424       |
|  | 20           |           | 4.00                | 12.0         | 478                   | 458                    | 2000                 | 1.578       |
|  | 22           | ±0.08     | 1.50                | 19.0         | 192                   | 173                    | 550                  | 0.758       |
|  | 22           |           | 2.00                | 18.0         | 256                   | 227                    | 775                  | 0.986       |
|  | 22           |           | 2.50                | 17.0         | 320                   | 278                    | 1025                 | 1.202       |
|  | 22           |           | 3.00                | 16.0         | 343                   | 328                    | 1175                 | 1.406       |
|  | 25           | ±0.08     | 2.00                | 21.0         | 226                   | 201                    | 725                  | 1.134       |
|  | 25           |           | 2.50                | 20.0         | 282                   | 248                    | 850                  | 1.387       |
|  | 25           |           | 3.00                | 19.0         | 338                   | 292                    | 1025                 | 1.628       |
|  | 25           |           | 4.00                | 17.0         | 394                   | 378                    | 1500                 | 2.072       |
|  | 25           |           | 4.50                | 16.0         | 437                   | 418                    | 1625                 | 2.275       |
|  | 28           | ±0.08     | 1.50                | 25.0         | 151                   | 138                    | 425                  | 0.980       |
|  | 28           |           | 2.00                | 24.0         | 201                   | 181                    | 600                  | 1.282       |
|  | 28           |           | 2.50                | 23.0         | 252                   | 223                    | 750                  | 1.572       |
|  | 28           |           | 3.00                | 22.0         | 302                   | 264                    | 900                  | 1.850       |
|  | 30           | ±0.08     | 2.00                | 26.0         | 188                   | 170                    | 575                  | 1.381       |
|  | 30           |           | 2.50                | 25.0         | 235                   | 209                    | 725                  | 1.695       |
|  | 30           |           | 3.00                | 24.0         | 282                   | 248                    | 850                  | 1.998       |
|  | 30           |           | 4.00                | 22.0         | 336                   | 321                    | 1175                 | 2.565       |
|  | 30           |           | 5.00                | 20.0         | 409                   | 391                    | 1600                 | 3.083       |
|  | 35           | ±0.15     | 2.00                | 31.0         | 161                   | 147                    | 450                  | 1.628       |
|  | 35           |           | 2.50                | 30.0         | 201                   | 181                    | 600                  | 2.004       |
|  | 35           |           | 3.00                | 29.0         | 242                   | 215                    | 700                  | 2.367       |
|  | 35           |           | 4.00                | 27.0         | 322                   | 280                    | 960                  | 3.058       |
|  | 38           | ±0.15     | 2.50                | 33.0         | 186                   | 168                    | 550                  | 2.189       |
|  | 38           |           | 3.00                | 32.0         | 223                   | 199                    | 675                  | 2.589       |
|  | 38           |           | 4.00                | 30.0         | 297                   | 260                    | 900                  | 3.354       |
|  | 38           |           | 5.00                | 28.0         | 332                   | 318                    | 1150                 | 4.069       |
|  | 38           |           | 6.00                | 26.0         | 390                   | 373                    | ---                  | 4.735       |
|  | 38           |           | 7.00                | 24.0         | 446                   | 427                    | 1700                 | 5.325       |
|  | 42           | ±0.20     | 2.00                | 38.0         | 134                   | 123                    | 375                  | 1.973       |
|  | 42           |           | 3.00                | 36.0         | 201                   | 181                    | 575                  | 2.885       |
|  | 42           |           | 4.00                | 34.0         | 269                   | 237                    | 850                  | 3.749       |
|  | 50           | ±0.20     | 6.00                | 38.0         | 338                   | 292                    | ---                  | 6.511       |
|  | 65           | ±0.30     | 8.00                | 49.0         | 347                   | 299                    | ---                  | 11.246      |



The right connection  
The right environment

## Tube Selection and Trouble Shooting guide

Ref. No. H09821  
Release: April 2025

Page 3 of 4

### General recommendations for Stainless Steel Tubes

|                        |                                                            |
|------------------------|------------------------------------------------------------|
| <b>Stainless Steel</b> | <b>1.4571 / 1.4541</b>                                     |
| Tensile Strength       | 500 N/mm <sup>2</sup>                                      |
| Yield Strength         | 245 N/mm <sup>2</sup>                                      |
| Condition              | Seamless, Cold drawn, free of scale as per DIN 17458 tab.6 |

### Seamless Stainless Steel Tubes, Material : 1.4571 / 1.4541 Tolerances as per DIN 2391, Part 1

| Tube OD (mm) | Tolerance | Wall thickness (mm) | Tube ID (mm) | Design Pressure (bar) |                        | Burst Pressure (bar) | Weight Kg/m |
|--------------|-----------|---------------------|--------------|-----------------------|------------------------|----------------------|-------------|
|              |           |                     |              | DIN 2413 - I Static   | DIN 2413 - III Dynamic |                      |             |
| 4            | ±0.08     | 1.0                 | 2.0          | 600                   | 539                    | ---                  | 0.075       |
| 6            | ±0.08     | 1.0                 | 4.0          | 426                   | 383                    | 1850                 | 0.125       |
| 6            |           | 1.5                 | 3.0          | 600                   | 539                    | 2900                 | 0.169       |
| 8            | ±0.08     | 1.0                 | 6.0          | 368                   | 297                    | 1300                 | 0.175       |
| 8            |           | 1.5                 | 5.0          | 472                   | 424                    | 2050                 | 0.244       |
| 10           | ±0.08     | 1.0                 | 8.0          | 294                   | 242                    | 950                  | 0.225       |
| 10           |           | 1.5                 | 7.0          | 389                   | 349                    | 1750                 | 0.319       |
| 10           |           | 2.0                 | 6.0          | 498                   | 447                    | 2400                 | 0.401       |
| 12           | ±0.08     | 1.0                 | 10.0         | 245                   | 205                    | 850                  | 0.275       |
| 12           |           | 1.5                 | 9.0          | 368                   | 297                    | 1400                 | 0.394       |
| 12           |           | 2.0                 | 8.0          | 426                   | 383                    | 1900                 | 0.501       |
| 15           | ±0.08     | 1.0                 | 13.0         | 196                   | 166                    | 675                  | 0.351       |
| 15           |           | 1.5                 | 12.0         | 294                   | 242                    | 1100                 | 0.507       |
| 15           |           | 2.0                 | 11.0         | 392                   | 314                    | 1400                 | 0.651       |
| 16           | ±0.08     | 1.5                 | 13.0         | 276                   | 228                    | 950                  | 0.545       |
| 16           |           | 2.0                 | 12.0         | 368                   | 297                    | 1300                 | 0.701       |
| 16           |           | 2.5                 | 11.0         | 403                   | 362                    | 1850                 | 0.845       |
| 16           |           | 3.0                 | 10.0         | 472                   | 424                    | 2400                 | 0.977       |
| 18           | ±0.08     | 1.5                 | 15.0         | 245                   | 205                    | 800                  | 0.620       |
| 18           |           | 2.0                 | 14.0         | 327                   | 267                    | 1150                 | 0.801       |
| 20           | ±0.08     | 2.0                 | 16.0         | 294                   | 242                    | 1050                 | 0.901       |
| 20           |           | 2.5                 | 15.0         | 368                   | 297                    | 1400                 | 1.095       |
| 20           |           | 3.0                 | 14.0         | 389                   | 349                    | 1800                 | 1.277       |
| 22           | ±0.08     | 1.5                 | 19.0         | 200                   | 170                    | 650                  | 0.770       |
| 22           |           | 2.0                 | 18.0         | 267                   | 222                    | 900                  | 1.002       |
| 25           | ±0.08     | 2.5                 | 20.0         | 294                   | 242                    | 1050                 | 1.408       |
| 25           |           | 3.0                 | 19.0         | 353                   | 286                    | 1275                 | 1.653       |
| 28           | ±0.08     | 1.5                 | 25.0         | 158                   | 135                    | 550                  | 0.995       |
| 28           |           | 2.0                 | 24.0         | 210                   | 177                    | 700                  | 1.302       |
| 30           | ±0.08     | 2.5                 | 25.0         | 245                   | 205                    | 850                  | 1.722       |
| 30           |           | 3.0                 | 24.0         | 294                   | 242                    | 1150                 | 2.028       |
| 30           |           | 4.0                 | 22.0         | 392                   | 314                    | 1500                 | 2.605       |
| 35           | ±0.15     | 2.0                 | 31.0         | 168                   | 143                    | 550                  | 1.653       |
| 38           | ±0.15     | 4.0                 | 30.0         | 309                   | 254                    | 1150                 | 3.405       |
| 42           | ±0.20     | 2.0                 | 38.0         | 140                   | 121                    | 475                  | 2.003       |
| 42           |           | 3.0                 | 36.0         | 210                   | 177                    | 750                  | 2.930       |





The right connection  
The right environment

## Tube Selection and Trouble Shooting guide

Ref. No. H09821  
Release: April 2025

Page 4 of 4

### Trouble Shooting guidelines

| Problem                       | Probable Cause                              | Suggested Solution                                                                                                                                                                        |
|-------------------------------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Leak                          | Tightening of the joint is not adequate     | Tighten the nut according to the correct assembly procedure.<br>Use suitable spanners and spanner extensions especially for larger sizes.<br>Check visible collar after tightening.       |
|                               | Tube not bottomed into fitting shoulder     | Cut tube to correct length.<br>Observe minimum straight length before tube bending.<br>Deburr tube ends and no heavy chamfers have to be provided.                                        |
|                               | Damaged fitting                             | Check for damage.<br>Handle all child parts carefully.                                                                                                                                    |
|                               | Hidden cracks                               | Check for cracks, replace if necessary.                                                                                                                                                   |
|                               | Contamination between sealing surfaces      | Keep all components clean                                                                                                                                                                 |
|                               | Shallow bite                                | Inspect for the turned up ridge of the material.<br>Failure to achieve this ridge can be traced either to the nut not being tightened enough or tube not being bottomed against the stop. |
|                               | Over set ferrule                            | Too much pressure or more than recommended turns from Finger tight position.<br>This type of assembly should be scrapped.                                                                 |
|                               | No bite                                     | If all of the prior checks have been made and the ferrule still shows no sign of biting the tube, it may be that the Tube is too hard.<br>This assembly should be scrapped.               |
| Tube fractured behind the nut | Fatigue failure of the tube under vibration | Verify assembly.<br>Undertightening reduces vibration resistance.<br>Use proper clamps at appropriate places as support.                                                                  |
| Crack                         | Tightening of the joint is not adequate.    | Tighten the nut according to the correct assembly procedure.<br>Use suitable spanners and spanner extensions especially for larger sizes.<br>Check visible collar after tightening.       |



◀ Tube fittings

Pipe Flanges ▶



◀ Hydraulic Valves

Diagnostic Couplings ▶



◀ Tube Clamps

## Tube to Tube



Straight Coupling I **G**



Equal Elbow Coupling I **W**



Equal Tee Coupling I **T**



Equal Cross Coupling I **K**

## Tube to Taper Male Stud (BSPT)



Male Stud Coupling I **GE-R**



Male Stud Elbow Coupling I **WE-R**



Male Stud Branch Tee I **TE-R**



Male Stud Barrel Tee I **LE-R**

## Tube to Taper Male Stud (NPT)



Male Stud Coupling I **GE-N**



Male Stud Elbow Coupling I **WE-N**

## Tube to Male Stud with Elastomeric seal



Male Stud Coupling I **GE-GE**



Male Stud Coupling I **GE-ME**

## Tube to Male Stud with O-Ring



Male Stud Coupling I **GE-MO**



Male Stud Coupling I **GE-S**

## Bulkheads



Straight Bulkhead I **SV**



Elbow Bulkhead I **WSV**



Weld Bulkhead I **ESV**



Weld Bulkhead I **AS**



## Female Connectors



Straight Female Coupling I **GAI-G**



Straight Female Coupling I **GAI-M**

## Reducers / Expanders



Straight Reducers I **GR**



Reducing Standpipes I **RED**

## Banjo Couplings



Banjo Couplings I **HSWV-G**



Banjo Coupling, Soft seal I **WH-GE**



Banjo Coupling, Soft seal I **WH-ME**

## Swivel Connectors, Soft seal



Straight Stud  
Standpipe I **EGE-GE**



Straight Stud  
Standpipe I **EGE-ME**



Swivel Elbow I **EW**



Swivel Branch Tee I **ET**



Swivel Barrel Tee I **EL**

## Swivel Stud Connectors, Soft seal



Swivel Stud Elbow I **EW-GE**



Swivel Stud Branch Tee I **ET-GE**



Swivel Stud Barrel Tee I **EL-GE**

## Weld Nipples



Weldable Nipples | **WNA**



Reducer Weldable Nipples | **WNR**

## Blanking Ends



Blanking Plugs | **VKA**



Blanking Ends | **BUZT**

## Gauge Adaptors



Pressure Gauge Connectors | **MAV-G**



Pressure Gauge Standpipes | **MAVE-G**



Gauge Mounting Adaptors | **1GA-GE**

## Plugs



Hex Head Plug | **VST-GE**



Socket Head Plug | **VSTI-GE**



Hex Head Plug | **VST-ME**



Socket Head Plug | **VSTI-ME**



Hex Head Plug | **VST-S**



Socket Head Plug | **VSTI-S**



Hex Head Plug | **VST-MO**



Socket Head Plug | **VSTI-MO**



Hex Head Plug | **VST-R**



Socket Head Plug | **VSTI-R**



Hex Head Plug | **VST-N**



Socket Head Plug | **VSTI-N**

## Adaptors



Male Female Adaptors | **MFA-GE-G**



Male Female Adaptors | **MFA-GE-S**



Male Female Adaptors | **MFA-S-G**



Hose Adaptors | **HA-G**

## SAE Flanged connections



Swivel Flange connections | **GFS**



Swivel Flange connections | **WFS**



Swivel Flange connections | **AS**

## Tools / Seals / Nuts / Ferrules / Locknuts



Pre-setting Tools | **PST**



Elastomeric Seals | **ED**



Coupling Nuts | **M**



Ferrules | **P**

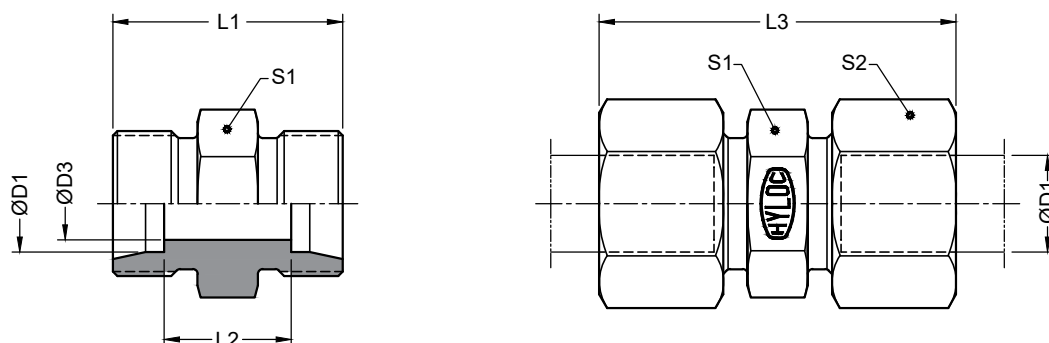


Locknuts | **GM**

# G Straight Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | L1 | L2 | Approx.<br>L3 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|----|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>G06XL</b>     | <b>G06PL</b>         | 06                                                                                      | 4  | 24 | 10 | 45            | 12 | 14 |
|                                     | <b>G08XL</b>     | <b>G08PL</b>         | 08                                                                                      | 6  | 25 | 11 | 45            | 14 | 17 |
|                                     | <b>G10XL</b>     | <b>G10PL</b>         | 10                                                                                      | 8  | 27 | 13 | 49            | 17 | 19 |
|                                     | <b>G12XL</b>     | <b>G12PL</b>         | 12                                                                                      | 10 | 28 | 14 | 49            | 19 | 22 |
|                                     | <b>G15XL</b>     | <b>G15PL</b>         | 15                                                                                      | 12 | 30 | 16 | 53            | 24 | 27 |
|                                     | <b>G18XL</b>     | <b>G18PL</b>         | 18                                                                                      | 15 | 31 | 16 | 55            | 27 | 32 |
|                                     | <b>G22XL</b>     | <b>G22PL</b>         | 22                                                                                      | 19 | 35 | 20 | 60            | 32 | 36 |
|                                     | <b>G28XL</b>     | <b>G28PL</b>         | 28                                                                                      | 24 | 36 | 21 | 63            | 41 | 41 |
|                                     | <b>G35XL</b>     | <b>G35PL</b>         | 35                                                                                      | 30 | 41 | 20 | 72            | 46 | 50 |
|                                     | <b>G42XL</b>     | <b>G42PL</b>         | 42                                                                                      | 36 | 43 | 21 | 74            | 55 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>G06XS</b>     | <b>G06PS</b>         | 06                                                                                      | 4  | 30 | 16 | 51            | 14 | 17 |
|                                     | <b>G08XS</b>     | <b>G08PS</b>         | 08                                                                                      | 5  | 32 | 18 | 52            | 17 | 19 |
|                                     | <b>G10XS</b>     | <b>G10PS</b>         | 10                                                                                      | 7  | 32 | 17 | 56            | 19 | 22 |
|                                     | <b>G12XS</b>     | <b>G12PS</b>         | 12                                                                                      | 8  | 34 | 19 | 57            | 22 | 24 |
|                                     | <b>G16XS</b>     | <b>G16PS</b>         | 16                                                                                      | 12 | 38 | 21 | 64            | 27 | 30 |
|                                     | <b>G20XS</b>     | <b>G20PS</b>         | 20                                                                                      | 16 | 44 | 23 | 74            | 32 | 36 |
|                                     | <b>G25XS</b>     | <b>G25PS</b>         | 25                                                                                      | 20 | 50 | 26 | 82            | 41 | 46 |
|                                     | <b>G30XS</b>     | <b>G30PS</b>         | 30                                                                                      | 25 | 54 | 27 | 89            | 46 | 50 |
|                                     | <b>G38XS</b>     | <b>G38PS</b>         | 38                                                                                      | 32 | 61 | 29 | 98            | 55 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : G16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-G16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

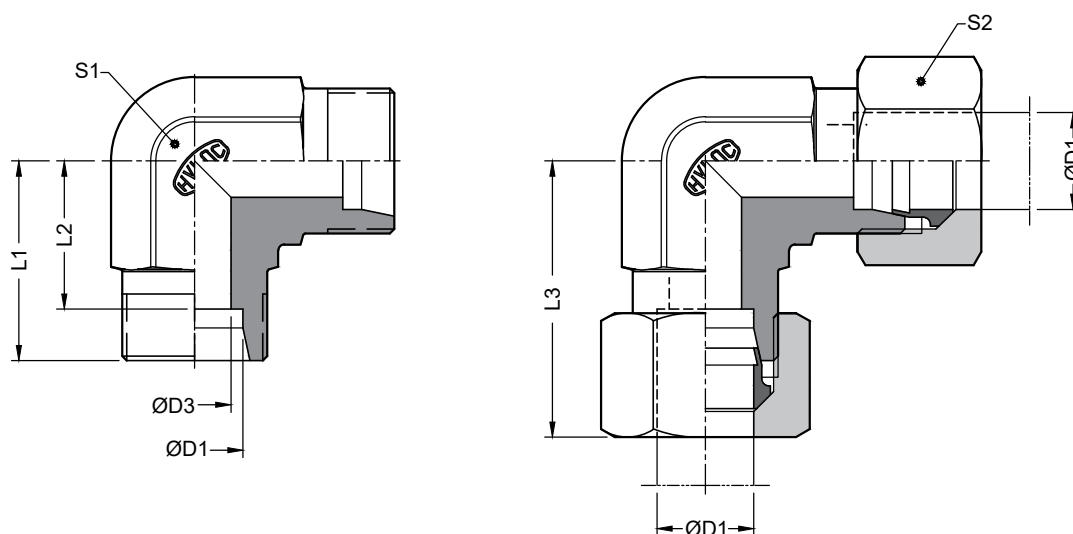
Example : G16PS-ZnNi



# W Equal Elbow Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | L1 | L2   | Approx.<br>L3 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>W06XL</b>     | <b>W06PL</b>         | 06                                                                                      | 4  | 19 | 12   | 29.5          | 12 | 14 |
|                                     | <b>W08XL</b>     | <b>W08PL</b>         | 08                                                                                      | 6  | 21 | 14   | 31            | 12 | 17 |
|                                     | <b>W10XL</b>     | <b>W10PL</b>         | 10                                                                                      | 8  | 22 | 15   | 33            | 14 | 19 |
|                                     | <b>W12XL</b>     | <b>W12PL</b>         | 12                                                                                      | 10 | 24 | 17   | 34.5          | 17 | 22 |
|                                     | <b>W15XL</b>     | <b>W15PL</b>         | 15                                                                                      | 12 | 28 | 21   | 39.5          | 19 | 27 |
|                                     | 160 bar          | <b>W18XL</b>         | <b>W18PL</b>                                                                            | 18 | 15 | 31   | 23.5          | 24 | 32 |
|                                     |                  | <b>W22XL</b>         | <b>W22PL</b>                                                                            | 22 | 19 | 35   | 27.5          | 27 | 36 |
|                                     | 100 bar          | <b>W28XL</b>         | <b>W28PL</b>                                                                            | 28 | 24 | 38   | 30.5          | 36 | 41 |
|                                     |                  | <b>W35XL</b>         | <b>W35PL</b>                                                                            | 35 | 30 | 45   | 34.5          | 41 | 50 |
|                                     |                  | <b>W42XL</b>         | <b>W42PL</b>                                                                            | 42 | 36 | 51   | 40            | 50 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>W06XS</b>     | <b>W06PS</b>         | 06                                                                                      | 4  | 23 | 16   | 33.5          | 12 | 17 |
|                                     | <b>W08XS</b>     | <b>W08PS</b>         | 08                                                                                      | 5  | 24 | 17   | 34            | 14 | 19 |
|                                     | <b>W10XS</b>     | <b>W10PS</b>         | 10                                                                                      | 7  | 25 | 17.5 | 37            | 17 | 22 |
|                                     | <b>W12XS</b>     | <b>W12PS</b>         | 12                                                                                      | 8  | 29 | 21.5 | 40.5          | 17 | 24 |
|                                     | 400 bar          | <b>W16XS</b>         | <b>W16PS</b>                                                                            | 16 | 12 | 33   | 24.5          | 24 | 30 |
|                                     |                  | <b>W20XS</b>         | <b>W20PS</b>                                                                            | 20 | 16 | 37   | 26.5          | 27 | 36 |
|                                     |                  | <b>W25XS</b>         | <b>W25PS</b>                                                                            | 25 | 20 | 42   | 30            | 36 | 46 |
|                                     | 250 bar          | <b>W30XS</b>         | <b>W30PS</b>                                                                            | 30 | 25 | 49   | 35.5          | 41 | 50 |
|                                     |                  | <b>W38XS</b>         | <b>W38PS</b>                                                                            | 38 | 32 | 57   | 41            | 50 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : W16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-W16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

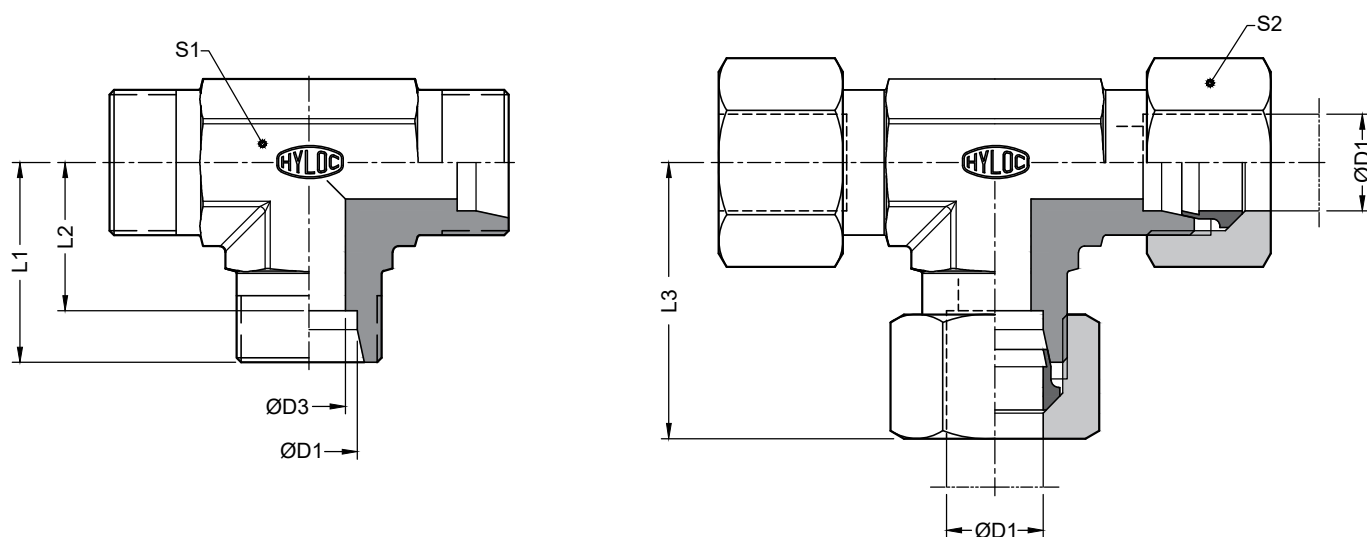
For Zinc Nickel surface treatment, add suffix - ZnNi

Example : W16PS-ZnNi

# T Equal Tee Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | L1 | L2   | Approx.<br>L3 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>T06XL</b>     | <b>T06PL</b>         | 06                                                                                      | 4  | 19 | 12   | 29.5          | 12 | 14 |
|                                     | <b>T08XL</b>     | <b>T08PL</b>         | 08                                                                                      | 6  | 21 | 14   | 31            | 12 | 17 |
|                                     | <b>T10XL</b>     | <b>T10PL</b>         | 10                                                                                      | 8  | 22 | 15   | 33            | 14 | 19 |
|                                     | <b>T12XL</b>     | <b>T12PL</b>         | 12                                                                                      | 10 | 24 | 17   | 34.5          | 17 | 22 |
|                                     | <b>T15XL</b>     | <b>T15PL</b>         | 15                                                                                      | 12 | 28 | 21   | 39.5          | 19 | 27 |
|                                     | <b>T18XL</b>     | <b>T18PL</b>         | 18                                                                                      | 15 | 31 | 23.5 | 43            | 24 | 32 |
|                                     | <b>T22XL</b>     | <b>T22PL</b>         | 22                                                                                      | 19 | 35 | 27.5 | 47.5          | 27 | 36 |
|                                     | <b>T28XL</b>     | <b>T28PL</b>         | 28                                                                                      | 24 | 38 | 30.5 | 51.5          | 36 | 41 |
|                                     | <b>T35XL</b>     | <b>T35PL</b>         | 35                                                                                      | 30 | 45 | 34.5 | 60.5          | 41 | 50 |
|                                     | <b>T42XL</b>     | <b>T42PL</b>         | 42                                                                                      | 36 | 51 | 40   | 66.5          | 50 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>T06XS</b>     | <b>T06PS</b>         | 06                                                                                      | 4  | 23 | 16   | 33.5          | 12 | 17 |
|                                     | <b>T08XS</b>     | <b>T08PS</b>         | 08                                                                                      | 5  | 24 | 17   | 34            | 14 | 19 |
|                                     | <b>T10XS</b>     | <b>T10PS</b>         | 10                                                                                      | 7  | 25 | 17.5 | 37            | 17 | 22 |
|                                     | <b>T12XS</b>     | <b>T12PS</b>         | 12                                                                                      | 8  | 29 | 21.5 | 40.5          | 17 | 24 |
|                                     | <b>T16XS</b>     | <b>T16PS</b>         | 16                                                                                      | 12 | 33 | 24.5 | 46            | 24 | 30 |
|                                     | <b>T20XS</b>     | <b>T20PS</b>         | 20                                                                                      | 16 | 37 | 26.5 | 52            | 27 | 36 |
|                                     | <b>T25XS</b>     | <b>T25PS</b>         | 25                                                                                      | 20 | 42 | 30   | 58            | 36 | 46 |
|                                     | <b>T30XS</b>     | <b>T30PS</b>         | 30                                                                                      | 25 | 49 | 35.5 | 66.5          | 41 | 50 |
|                                     | <b>T38XS</b>     | <b>T38PS</b>         | 38                                                                                      | 32 | 57 | 41   | 75.5          | 50 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : T16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-T16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

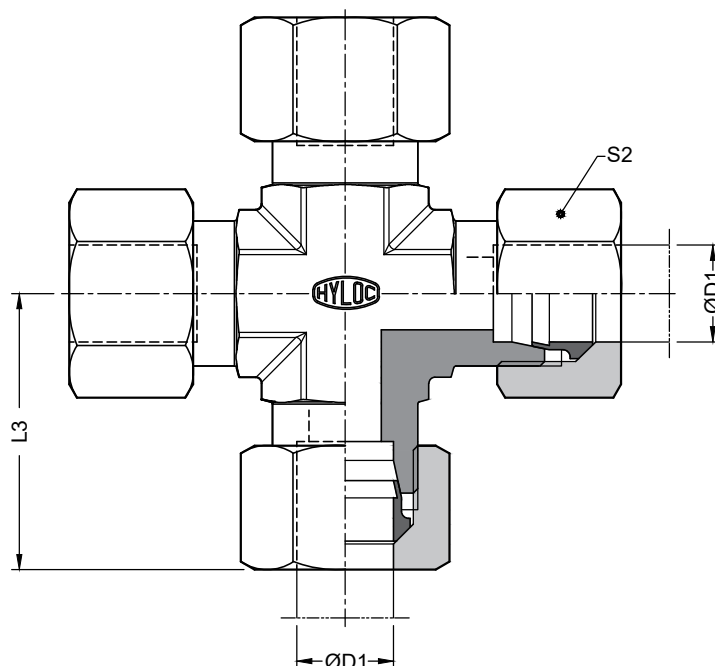
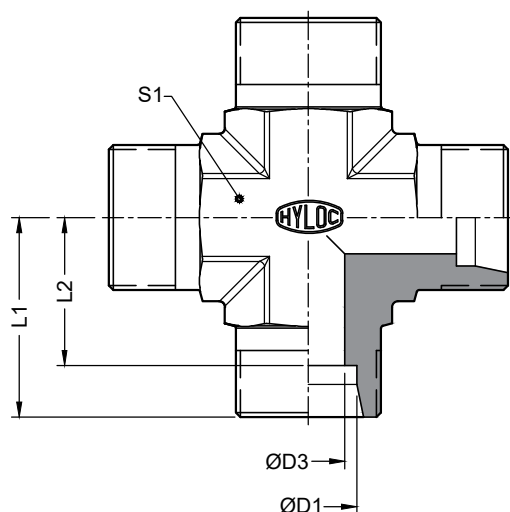
For Zinc Nickel surface treatment, add suffix - ZnNi

Example : T16PS-ZnNi

# K Equal Cross Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | L1 | L2   | Approx.<br>L3 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>K06XL</b>     | <b>K06PL</b>         | 06                                                                                      | 4  | 19 | 12   | 29.5          | 12 | 14 |
|                                     | <b>K08XL</b>     | <b>K08PL</b>         | 08                                                                                      | 6  | 21 | 14   | 31            | 12 | 17 |
|                                     | <b>K10XL</b>     | <b>K10PL</b>         | 10                                                                                      | 8  | 22 | 15   | 33            | 14 | 19 |
|                                     | <b>K12XL</b>     | <b>K12PL</b>         | 12                                                                                      | 10 | 24 | 17   | 34.5          | 17 | 22 |
|                                     | <b>K15XL</b>     | <b>K15PL</b>         | 15                                                                                      | 12 | 28 | 21   | 39.5          | 19 | 27 |
|                                     | <b>K18XL</b>     | <b>K18PL</b>         | 18                                                                                      | 15 | 31 | 23.5 | 43            | 24 | 32 |
|                                     |                  | <b>K22PL</b>         | 22                                                                                      | 19 | 35 | 27.5 | 47.5          | 27 | 36 |
|                                     | 100 bar          | <b>K28XL</b>         | 28                                                                                      | 24 | 38 | 30.5 | 51.5          | 36 | 41 |
|                                     |                  | <b>K35XL</b>         | 35                                                                                      | 30 | 45 | 34.5 | 60.5          | 41 | 50 |
|                                     |                  | <b>K42XL</b>         | 42                                                                                      | 36 | 51 | 40   | 66.5          | 50 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>K06XS</b>     | <b>K06PS</b>         | 06                                                                                      | 4  | 23 | 16   | 33.5          | 12 | 17 |
|                                     | <b>K08XS</b>     | <b>K08PS</b>         | 08                                                                                      | 5  | 24 | 17   | 34            | 14 | 19 |
|                                     | 400 bar          | <b>K10XS</b>         | 10                                                                                      | 7  | 25 | 17.5 | 37            | 17 | 22 |
|                                     |                  | <b>K12XS</b>         | 12                                                                                      | 8  | 29 | 21.5 | 40.5          | 17 | 24 |
|                                     |                  | <b>K16XS</b>         | 16                                                                                      | 12 | 33 | 24.5 | 46            | 24 | 30 |
|                                     | 250 bar          | <b>K20XS</b>         | 20                                                                                      | 16 | 37 | 26.5 | 52            | 27 | 36 |
|                                     |                  | <b>K25XS</b>         | 25                                                                                      | 20 | 42 | 30   | 58            | 36 | 46 |
|                                     |                  | <b>K30XS</b>         | 30                                                                                      | 25 | 49 | 35.5 | 66.5          | 41 | 50 |
|                                     |                  | <b>K38XS</b>         | 38                                                                                      | 32 | 57 | 41   | 75.5          | 50 | 60 |
|                                     |                  | <b>K38PS</b>         |                                                                                         |    |    |      |               |    |    |

\* Dimensions given are approx. figures with tightened nut

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : K16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-K16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

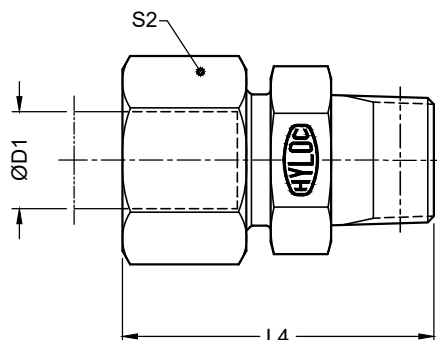
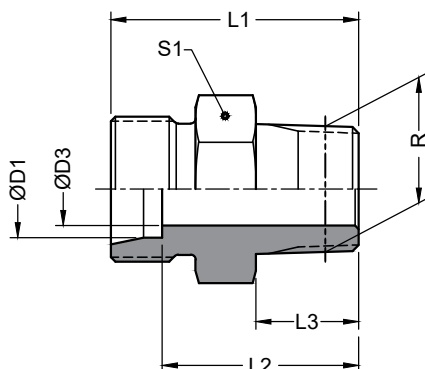
Example : K16PS-ZnNi

# GE-R Male Stud Couplings

24° Tube end as per ISO 8434-1

Male BSP Taper (R) stud end

Dimensions in mm



| Series                       | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | R<br>Male BSPT<br>thread | L1   | L2   | L3   | Approx.<br>L4 | S1 | S2 |
|------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|--------------------------|------|------|------|---------------|----|----|
| <b>L</b><br>Light<br>250 bar | <b>GE06XLR</b>   | <b>GE06PLR</b>       | 06                                                                                      | 4  | R 1/8                    | 21.5 | 14.5 | 7.5  | 32            | 14 | 14 |
|                              | <b>GE06XLR02</b> | <b>GE06PLR02</b>     | 06                                                                                      | 4  | R 1/4                    | 25   | 18   | 11   | 35.5          | 14 | 14 |
|                              | <b>GE08XLR</b>   | <b>GE08PLR</b>       | 08                                                                                      | 6  | R 1/4                    | 26   | 19   | 11   | 36            | 17 | 17 |
|                              | <b>GE10XLR</b>   | <b>GE10PLR</b>       | 10                                                                                      | 8  | R 1/4                    | 27   | 20   | 11   | 38            | 17 | 19 |
|                              | <b>GE12XLR02</b> | <b>GE12PLR02</b>     | 12                                                                                      | 10 | R 1/4                    | 27   | 20   | 11   | 37.5          | 19 | 22 |
|                              | <b>GE12XLR</b>   | <b>GE12PLR</b>       | 12                                                                                      | 10 | R 3/8                    | 27.5 | 20.5 | 11.5 | 38            | 19 | 22 |
|                              | <b>GE12XLR04</b> | <b>GE12PLR04</b>     | 12                                                                                      | 10 | R 1/2                    | 32   | 25   | 15   | 42.5          | 22 | 22 |
|                              | <b>GE15XLR</b>   | <b>GE15PLR</b>       | 15                                                                                      | 12 | R 1/2                    | 33   | 26   | 15   | 44.5          | 24 | 27 |
| 160 bar                      | <b>GE18XLR</b>   | <b>GE18PLR</b>       | 18                                                                                      | 15 | R 1/2                    | 34   | 26.5 | 15   | 46            | 27 | 32 |
|                              | <b>GE22XLR</b>   | <b>GE22PLR</b>       | 22                                                                                      | 19 | R 3/4                    | 37.5 | 30   | 16.5 | 50            | 32 | 36 |
| 100 bar                      | <b>GE28XLR</b>   | <b>GE28PLR</b>       | 28                                                                                      | 24 | R 1                      | 41   | 33.5 | 19   | 54.5          | 41 | 41 |
|                              | <b>GE35XLR</b>   | <b>GE35PLR</b>       | 35                                                                                      | 30 | R1.1/4                   | 45.5 | 35   | 21.5 | 61            | 46 | 50 |
|                              | <b>GE42XLR</b>   | <b>GE42PLR</b>       | 42                                                                                      | 36 | R1.1/2                   | 48.5 | 37.5 | 21.5 | 64            | 55 | 60 |
| <b>S</b><br>Heavy<br>630 bar | <b>GE06XSR</b>   | <b>GE06PSR</b>       | 06                                                                                      | 4  | R 1/4                    | 29   | 22   | 11   | 39.5          | 17 | 17 |
|                              | <b>GE08XSR</b>   | <b>GE08PSR</b>       | 08                                                                                      | 5  | R 1/4                    | 29   | 22   | 11   | 39            | 17 | 19 |
|                              | <b>GE10XSR02</b> | <b>GE10PSR02</b>     | 10                                                                                      | 7  | R 1/4                    | 31   | 23.5 | 11   | 43            | 19 | 22 |
|                              | <b>GE10XSR</b>   | <b>GE10PSR</b>       | 10                                                                                      | 7  | R 3/8                    | 31.5 | 24   | 11.5 | 43.5          | 19 | 22 |
|                              | <b>GE12XSR02</b> | <b>GE12PSR02</b>     | 12                                                                                      | 8  | R 1/4                    | 33   | 25.5 | 11   | 44.5          | 22 | 24 |
|                              | <b>GE12XSR</b>   | <b>GE12PSR</b>       | 12                                                                                      | 8  | R 3/8                    | 33.5 | 26   | 11.5 | 45            | 22 | 24 |
|                              | <b>GE12XSR04</b> | <b>GE12PSR04</b>     | 12                                                                                      | 8  | R 1/2                    | 37   | 29.5 | 15   | 48.5          | 22 | 24 |
|                              | <b>GE16XSR</b>   | <b>GE16PSR</b>       | 16                                                                                      | 12 | R 1/2                    | 39   | 30.5 | 15   | 52            | 27 | 30 |
| 400 bar                      | <b>GE20XSR</b>   | <b>GE20PSR</b>       | 20                                                                                      | 16 | R 3/4                    | 44.5 | 34   | 16.5 | 59.5          | 32 | 36 |
|                              | <b>GE25XSR</b>   | <b>GE25PSR</b>       | 25                                                                                      | 20 | R1                       | 51   | 39   | 19   | 67            | 41 | 46 |
|                              | <b>GE30XSR</b>   | <b>GE30PSR</b>       | 30                                                                                      | 25 | R1.1/4                   | 55.5 | 42   | 21.5 | 73            | 46 | 50 |
| 250 bar                      | <b>GE38XSR</b>   | <b>GE38PSR</b>       | 38                                                                                      | 32 | R1.1/2                   | 60.5 | 44.5 | 21.5 | 79            | 55 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GE16SRDSR

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GE16PSR

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

Example : GE16PSR-ZnNi

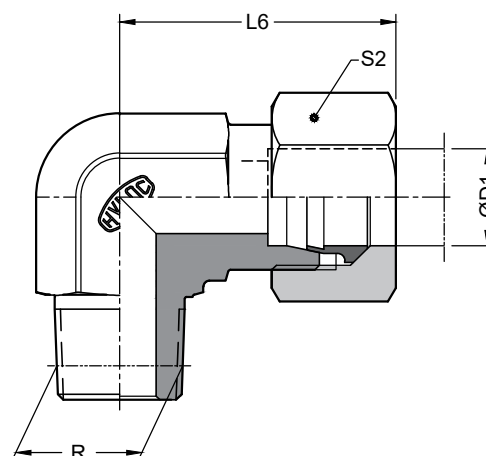
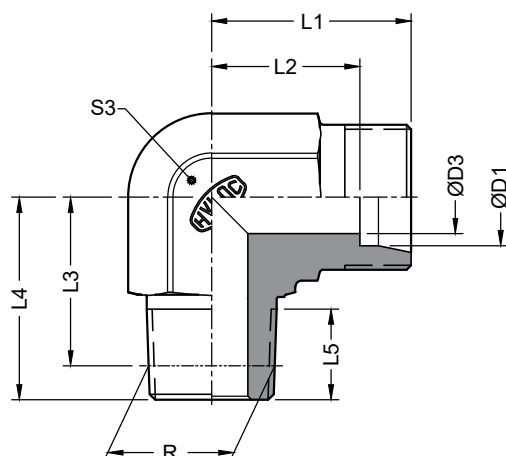


# WE-R Male Stud Elbow Couplings

24° Tube end as per ISO 8434-1

and BSP Taper (R) stud end

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | R<br>Male<br>BSPT<br>thread | D3 | L1   | L2   | L3<br>Min | L3<br>Max | L4   | L5   | Approx.<br>L6 | S2 | S3 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|-----------------------------|----|------|------|-----------|-----------|------|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>WE06XLR</b>   | <b>WE06PLR</b>       | 06                                                                                      | R 1/8                       | 4  | 20   | 13   | 16.1      | 17.9      | 21   | 7.5  | 30.5          | 14 | 12 |
|                                     | <b>WE08XLR</b>   | <b>WE08PLR</b>       | 08                                                                                      | R 1/4                       | 6  | 22.5 | 15.5 | 20.2      | 22.8      | 27.5 | 11   | 32.5          | 17 | 14 |
|                                     | <b>WE10XLR</b>   | <b>WE10PLR</b>       | 10                                                                                      | R 1/4                       | 8  | 22   | 15   | 19.7      | 22.3      | 27   | 11   | 33            | 19 | 17 |
|                                     | <b>WE12XLR</b>   | <b>WE12PLR</b>       | 12                                                                                      | R 3/8                       | 10 | 24   | 17   | 20.3      | 22.9      | 28   | 11.5 | 34.5          | 22 | 19 |
|                                     | <b>WE15XLR</b>   | <b>WE15PLR</b>       | 15                                                                                      | R 1/2                       | 12 | 29   | 22   | 25        | 28.6      | 35   | 15   | 40.5          | 27 | 22 |
| 160 bar                             | <b>WE18XLR</b>   | <b>WE18PLR</b>       | 18                                                                                      | R 1/2                       | 15 | 31   | 23.5 | 26        | 29.6      | 36   | 15   | 43            | 32 | 27 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>WE06XSR</b>   | <b>WE06PSR</b>       | 6                                                                                       | R 1/4                       | 4  | 23   | 16   | 18.7      | 21.3      | 26   | 11   | 33.5          | 17 | 14 |
|                                     | <b>WE08XSR</b>   | <b>WE08PSR</b>       | 8                                                                                       | R 1/4                       | 5  | 24   | 17   | 19.7      | 22.3      | 27   | 11   | 34            | 19 | 17 |
|                                     | <b>WE10XSR</b>   | <b>WE10PSR</b>       | 10                                                                                      | R 3/8                       | 7  | 25   | 17.5 | 20.3      | 22.9      | 28   | 11.5 | 37            | 22 | 19 |
|                                     | <b>WE12XSR</b>   | <b>WE12PSR</b>       | 12                                                                                      | R 3/8                       | 8  | 29   | 21.5 | 20.3      | 22.9      | 28   | 11.5 | 40.5          | 24 | 22 |
| 400 bar                             | <b>WE16XSR</b>   | <b>WE16PSR</b>       | 16                                                                                      | R 1/2                       | 12 | 33   | 24.5 | 23.5      | 27.1      | 33.5 | 15   | 46            | 30 | 24 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : WE16SRDSR

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-WE16PSR

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

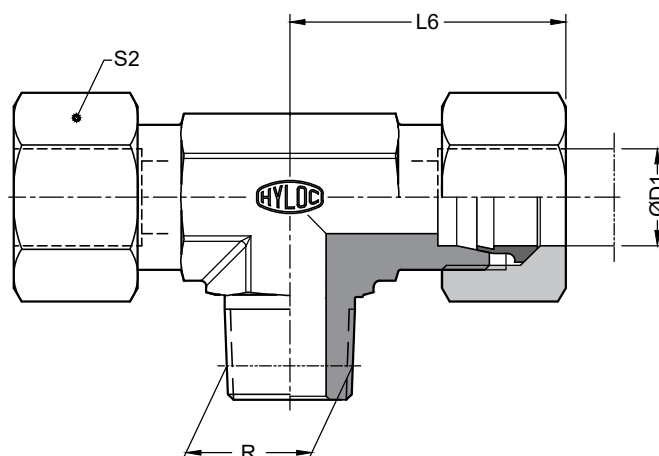
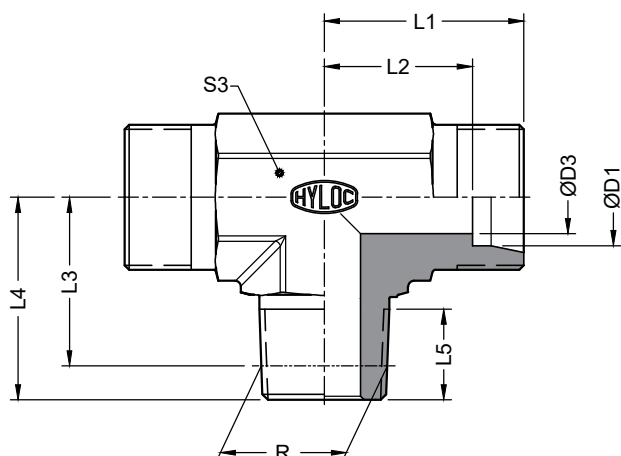
Example : WE16PSR-ZnNi

# TE-R Male Stud Branch Tee Couplings

24° Tube end as per ISO 8434-1

and BSP Taper (R) stud end

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | R<br>Male<br>BSPT<br>thread | D3 | L1   | L2   | L3<br>Min | L3<br>Max | L4   | L5   | Approx.<br>L6 | S2 | S3 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|-----------------------------|----|------|------|-----------|-----------|------|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>TE06XLR</b>   | <b>TE06PLR</b>       | 06                                                                                      | R 1/8                       | 4  | 20   | 13   | 16.1      | 17.9      | 21   | 7.5  | 30.5          | 14 | 12 |
|                                     | <b>TE08XLR</b>   | <b>TE08PLR</b>       | 08                                                                                      | R 1/4                       | 6  | 22.5 | 15.5 | 20.2      | 22.8      | 27.5 | 11   | 32.5          | 17 | 14 |
|                                     | <b>TE10XLR</b>   | <b>TE10PLR</b>       | 10                                                                                      | R 1/4                       | 8  | 22   | 15   | 19.7      | 22.3      | 27   | 11   | 33            | 19 | 17 |
|                                     | <b>TE12XLR</b>   | <b>TE12PLR</b>       | 12                                                                                      | R 3/8                       | 10 | 24   | 17   | 20.3      | 22.9      | 28   | 11.5 | 34.5          | 22 | 19 |
|                                     | <b>TE15XLR</b>   | <b>TE15PLR</b>       | 15                                                                                      | R 1/2                       | 12 | 29   | 22   | 25        | 28.6      | 35   | 15   | 40.5          | 27 | 22 |
| 160 bar                             | <b>TE18XLR</b>   | <b>TE18PLR</b>       | 18                                                                                      | R 1/2                       | 15 | 31   | 23.5 | 26        | 29.6      | 36   | 15   | 43            | 32 | 27 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>TE06XSR</b>   | <b>TE06PSR</b>       | 6                                                                                       | R 1/4                       | 4  | 23   | 16   | 18.7      | 21.3      | 26   | 11   | 33.5          | 17 | 14 |
|                                     | <b>TE08XSR</b>   | <b>TE08PSR</b>       | 8                                                                                       | R 1/4                       | 5  | 24   | 17   | 19.7      | 22.3      | 27   | 11   | 34            | 19 | 17 |
|                                     | <b>TE10XSR</b>   | <b>TE10PSR</b>       | 10                                                                                      | R 3/8                       | 7  | 25   | 17.5 | 20.3      | 22.9      | 28   | 11.5 | 37            | 22 | 19 |
|                                     | <b>TE12XSR</b>   | <b>TE12PSR</b>       | 12                                                                                      | R 3/8                       | 8  | 29   | 21.5 | 20.3      | 22.9      | 28   | 11.5 | 40.5          | 24 | 22 |
| 400 bar                             | <b>TE16XSR</b>   | <b>TE16PSR</b>       | 16                                                                                      | R 1/2                       | 12 | 33   | 24.5 | 23.5      | 27.1      | 33.5 | 15   | 46            | 30 | 24 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : TE16SRDSR

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-TE16PSR

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

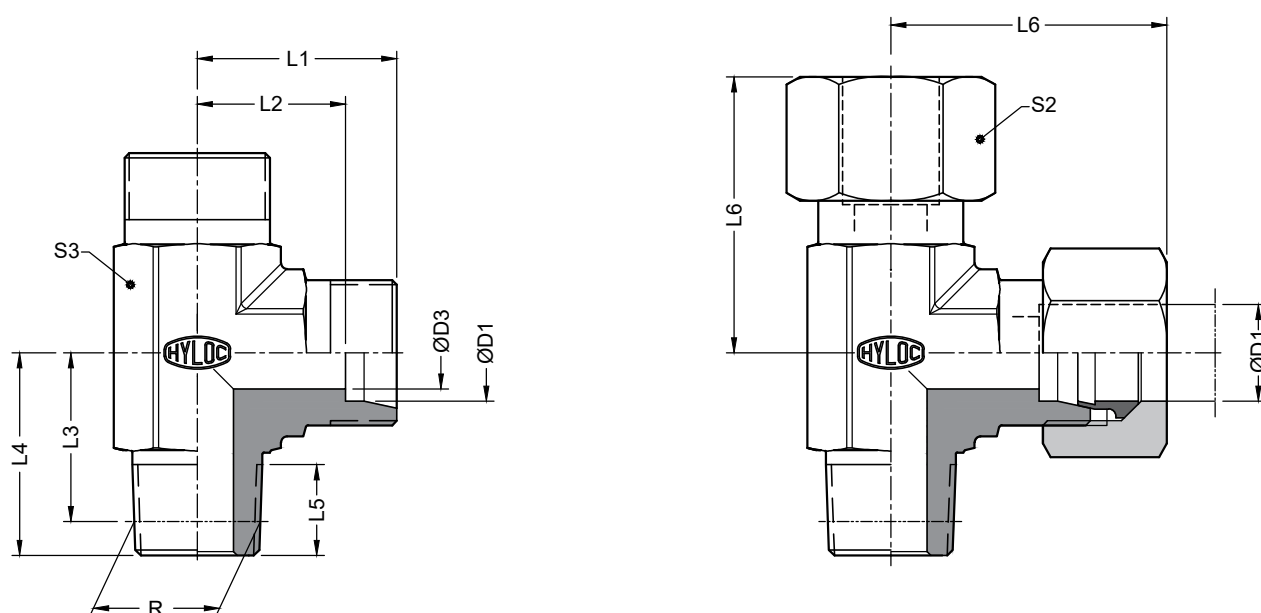
Example : TE16PSR-ZnNi

# LE-R Male Stud Barrel Tee Couplings

24° Tube end as per ISO 8434-1

and BSP Taper (R) stud end

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | R<br>Male<br>BSPT<br>thread | D3 | L1   | L2   | L3<br>Min | L3<br>Max | L4   | L5   | Approx.<br>L6 | S2 | S3 |
|-------------------------------------|------------------|----------------------|-------------------------------------------------------------------------------------------|-----------------------------|----|------|------|-----------|-----------|------|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | LE06XLR          | LE06PLR              | 06                                                                                        | R 1/8                       | 4  | 20   | 13   | 16.1      | 17.9      | 21   | 7.5  | 30.5          | 14 | 12 |
|                                     | LE08XLR          | LE08PLR              | 08                                                                                        | R 1/4                       | 6  | 22.5 | 15.5 | 20.2      | 22.8      | 27.5 | 11   | 32.5          | 17 | 14 |
|                                     | LE10XLR          | LE10PLR              | 10                                                                                        | R 1/4                       | 8  | 22   | 15   | 19.7      | 22.3      | 27   | 11   | 33            | 19 | 17 |
|                                     | LE12XLR          | LE12PLR              | 12                                                                                        | R 3/8                       | 10 | 24   | 17   | 20.3      | 22.9      | 28   | 11.5 | 34.5          | 22 | 19 |
|                                     | LE15XLR          | LE15PLR              | 15                                                                                        | R 1/2                       | 12 | 29   | 22   | 25        | 28.6      | 35   | 15   | 40.5          | 27 | 22 |
| 160 bar                             | LE18XLR          | LE18PLR              | 18                                                                                        | R 1/2                       | 15 | 31   | 23.5 | 26        | 29.6      | 36   | 15   | 43            | 32 | 27 |
| <b>S</b><br><b>Heavy</b><br>630 bar | LE06XSR          | LE06PSR              | 6                                                                                         | R 1/4                       | 4  | 23   | 16   | 18.7      | 21.3      | 26   | 11   | 33.5          | 17 | 14 |
|                                     | LE08XSR          | LE08PSR              | 8                                                                                         | R 1/4                       | 5  | 24   | 17   | 19.7      | 22.3      | 27   | 11   | 34            | 19 | 17 |
|                                     | LE10XSR          | LE10PSR              | 10                                                                                        | R 3/8                       | 7  | 25   | 17.5 | 20.3      | 22.9      | 28   | 11.5 | 37            | 22 | 19 |
|                                     | LE12XSR          | LE12PSR              | 12                                                                                        | R 3/8                       | 8  | 29   | 21.5 | 20.3      | 22.9      | 28   | 11.5 | 40.5          | 24 | 22 |
| 400 bar                             | LE16XSR          | LE16PSR              | 16                                                                                        | R 1/2                       | 12 | 33   | 24.5 | 23.5      | 27.1      | 33.5 | 15   | 46            | 30 | 24 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : LE16SRDSR

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-LE16PSR

Standard surface treatment : Chrome free Alkaline Zinc Plating.

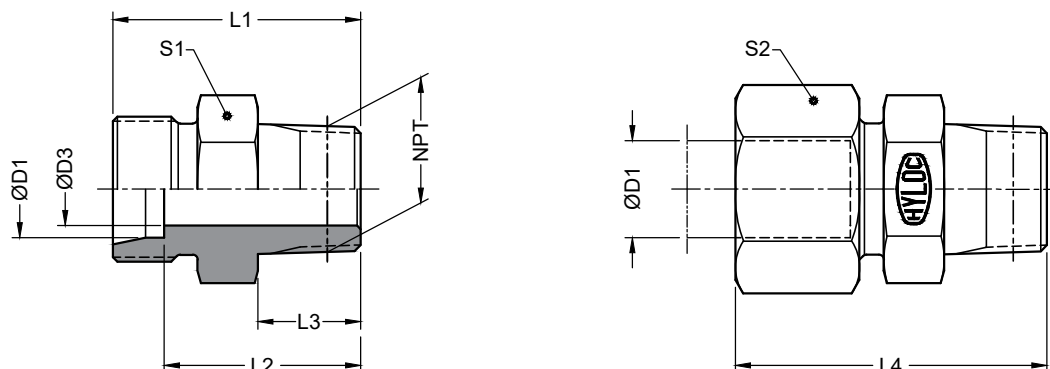
For Zinc Nickel surface treatment, add suffix - ZnNi

Example : LE16PSR-ZnNi

# GE-N Male Stud Couplings

24° Tube end as per ISO 8434-1  
Male NPT stud end

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | Male NPT<br>thread | L1 | L2   | L3   | Approx.<br>L4 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|--------------------|----|------|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | GE06XLN          | GE06PLN              | 06                                                                                      | 4  | 1/8"-27            | 24 | 17   | 9.9  | 34.5          | 12 | 14 |
|                                     | GE06XLN02        | GE06PLN02            | 06                                                                                      | 4  | 1/4"-18            | 30 | 23   | 15.1 | 40.5          | 17 | 14 |
|                                     | GE08XLN          | GE08PLN              | 08                                                                                      | 6  | 1/4"-18            | 30 | 23   | 15.1 | 40            | 17 | 17 |
|                                     | GE10XLN          | GE10PLN              | 10                                                                                      | 8  | 1/4"-18            | 31 | 24   | 15.1 | 42            | 17 | 19 |
|                                     | GE12XLN02        | GE12PLN02            | 12                                                                                      | 9  | 1/4"-18            | 32 | 25   | 15.1 | 42.5          | 19 | 22 |
|                                     | GE12XLN          | GE12PLN              | 12                                                                                      | 9  | 3/8"-18            | 32 | 25   | 15.2 | 42.5          | 19 | 22 |
|                                     | GE12XLN04        | GE12PLN04            | 12                                                                                      | 9  | 1/2"-14            | 37 | 30   | 19.8 | 47.5          | 22 | 22 |
|                                     | GE15XLN          | GE15PLN              | 15                                                                                      | 12 | 1/2"-14            | 38 | 31   | 19.8 | 49.5          | 24 | 27 |
| 160 bar                             | GE18XLN          | GE18PLN              | 18                                                                                      | 15 | 1/2"-14            | 39 | 31.5 | 19.8 | 51            | 27 | 32 |
|                                     | GE22XLN          | GE22PLN              | 22                                                                                      | 19 | 3/4"-14            | 41 | 33.5 | 20.1 | 53.5          | 32 | 36 |
| 100 bar                             | GE28XLN          | GE28PLN              | 28                                                                                      | 24 | 1"-11 1/2          | 47 | 39.5 | 25   | 60.5          | 41 | 41 |
|                                     | GE35XLN          | GE35PLN              | 35                                                                                      | 30 | 1.1/4"-11 1/2      | 51 | 40.5 | 25.6 | 66.5          | 46 | 50 |
|                                     | GE42XLN          | GE42PLN              | 42                                                                                      | 36 | 1.1/2"-11 1/2      | 53 | 42   | 26   | 68.5          | 55 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | GE06XSN          | GE06PSN              | 06                                                                                      | 4  | 1/4"-18            | 35 | 28   | 15.1 | 45.5          | 17 | 17 |
|                                     | GE08XSN          | GE08PSN              | 08                                                                                      | 5  | 1/4"-18            | 35 | 28   | 15.1 | 45            | 17 | 19 |
|                                     | GE10XSN02        | GE10PSN02            | 10                                                                                      | 7  | 1/4"-18            | 35 | 27.5 | 15.1 | 47            | 19 | 22 |
|                                     | GE10XSN          | GE10PSN              | 10                                                                                      | 7  | 3/8"-18            | 35 | 27.5 | 15.2 | 47            | 19 | 22 |
|                                     | GE12XSN02        | GE12PSN02            | 12                                                                                      | 8  | 1/4"-18            | 37 | 29.5 | 15.1 | 48.5          | 22 | 24 |
|                                     | GE12XSN          | GE12PSN              | 12                                                                                      | 8  | 3/8"-18            | 37 | 29.5 | 15.2 | 48.5          | 22 | 24 |
|                                     | GE12XSN04        | GE12PSN04            | 12                                                                                      | 8  | 1/2"-14            | 42 | 34.5 | 19.8 | 53.5          | 22 | 24 |
| 400 bar                             | GE16XSN          | GE16PSN              | 16                                                                                      | 12 | 1/2"-14            | 44 | 35.5 | 19.8 | 56.5          | 27 | 30 |
|                                     | GE20XSN          | GE20PSN              | 20                                                                                      | 16 | 3/4"-14            | 48 | 37.5 | 20.1 | 63            | 32 | 36 |
|                                     | GE25XSN          | GE25PSN              | 25                                                                                      | 20 | 1"-11 1/2          | 57 | 45   | 25   | 73            | 41 | 46 |
| 250 bar                             | GE30XSN          | GE30PSN              | 30                                                                                      | 25 | 1.1/4"-11 1/2      | 60 | 46.5 | 25.6 | 77.5          | 46 | 50 |
|                                     | GE38XSN          | GE38PSN              | 38                                                                                      | 32 | 1.1/2"-11 1/2      | 65 | 49   | 26   | 83.5          | 55 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GE16SRDSN  
Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GE16PSN

Standard surface treatment : Chrome free Alkaline Zinc Plating.

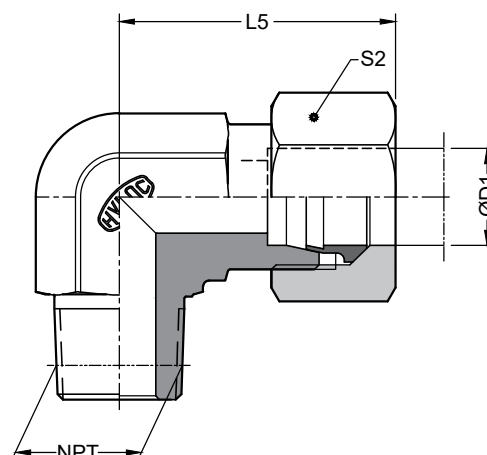
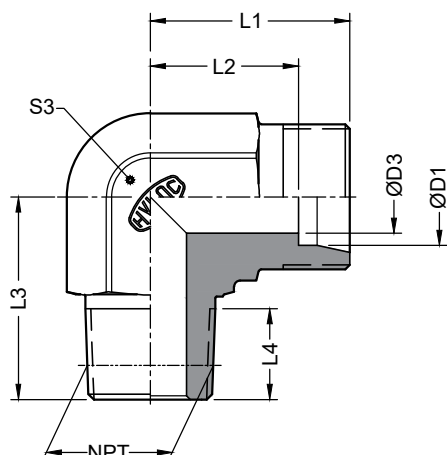
For Zinc Nickel surface treatment, add suffix - ZnNi

Example : GE16PSN-ZnNi

# WE-N Male Stud Elbow Couplings

24° Tube end as per ISO 8434-1  
Male NPT stud end

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | Male NPT<br>thread | L1 | L2   | L3 | L4   | Approx.<br>L5 | S2 | *<br>S3 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|--------------------|----|------|----|------|---------------|----|---------|
| <b>L</b><br><b>Light</b><br>250 bar | WE06XLN          | WE06PLN              | 06                                                                                      | 4  | 1/8"-27            | 19 | 12   | 20 | 6.7  | 29.5          | 14 | 12      |
|                                     | WE08XLN          | WE08PLN              | 08                                                                                      | 6  | 1/4"-18            | 21 | 14   | 26 | 10.2 | 31            | 17 | 14      |
|                                     | WE10XLN          | WE10PLN              | 10                                                                                      | 8  | 1/4"-18            | 22 | 15   | 28 | 10.2 | 33            | 19 | 17      |
|                                     | WE12XLN          | WE12PLN              | 12                                                                                      | 10 | 3/8"-18            | 24 | 17   | 30 | 10.3 | 34.5          | 22 | 19      |
|                                     | WE15XLN          | WE15PLN              | 15                                                                                      | 12 | 1/2"-14            | 28 | 21   | 37 | 13.5 | 39.5          | 27 | 22      |
| 160 bar                             | WE18XLN          | WE18PLN              | 18                                                                                      | 15 | 1/2"-14            | 31 | 23.5 | 40 | 13.5 | 43            | 32 | 27      |
|                                     | WE22XLN          | WE22PLN              | 22                                                                                      | 19 | 3/4"-14            | 35 | 27.5 | 42 | 13.8 | 47.5          | 36 | 27      |
| 100 bar                             | WE28XLN          | WE28PLN              | 28                                                                                      | 24 | 1"-11 1/2          | 38 | 30.5 | 50 | 17.3 | 51.5          | 41 | 36      |
|                                     | WE35XLN          | WE35PLN              | 35                                                                                      | 30 | 1.1/4"-11 1/2      | 45 | 34.5 | 56 | 17.9 | 60.5          | 50 | 46      |
|                                     | WE42XLN          | WE42PLN              | 42                                                                                      | 36 | 1.1/2"-11 1/2      | 51 | 40   | 62 | 18.3 | 66.5          | 60 | 55      |
| <b>S</b><br><b>Heavy</b><br>630 bar | WE06XSN          | WE06PSN              | 06                                                                                      | 4  | 1/4"-18            | 23 | 16   | 26 | 10.2 | 33.5          | 17 | 14      |
|                                     | WE08XSN          | WE08PSN              | 08                                                                                      | 5  | 1/4"-18            | 24 | 17   | 28 | 10.2 | 34            | 19 | 14      |
|                                     | WE10XSN          | WE10PSN              | 10                                                                                      | 7  | 3/8"-18            | 25 | 17.5 | 30 | 10.3 | 37            | 22 | 17      |
|                                     | WE12XSN          | WE12PSN              | 12                                                                                      | 8  | 3/8"-18            | 29 | 21.5 | 31 | 10.3 | 40.5          | 24 | 19      |
| 400 bar                             | WE16XSN          | WE16PSN              | 16                                                                                      | 12 | 1/2"-14            | 33 | 24.5 | 39 | 13.5 | 46            | 30 | 24      |
|                                     | WE20XSN          | WE20PSN              | 20                                                                                      | 16 | 3/4"-14            | 37 | 26.5 | 43 | 13.8 | 52            | 36 | 27      |
|                                     | WE25XSN          | WE25PSN              | 25                                                                                      | 20 | 1"-11 1/2          | 42 | 30   | 54 | 17.3 | 58            | 46 | 36      |
| 250 bar                             | WE30XSN          | WE30PSN              | 30                                                                                      | 25 | 1.1/4"-11 1/2      | 49 | 35.5 | 56 | 17.9 | 66.5          | 50 | 46      |
|                                     | WE38XSN          | WE38PSN              | 38                                                                                      | 32 | 1.1/2"-11 1/2      | 57 | 41   | 62 | 18.3 | 75.5          | 60 | 55      |

\*  
S3 - Spanner flat dimensions may differ from the values given due to continuous development in forgings.

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : WE16SRDSN  
Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code  
Example : 316-WE16PSN

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

Example : W16EPSN-ZnNi

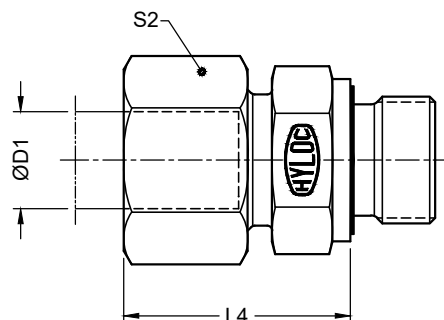
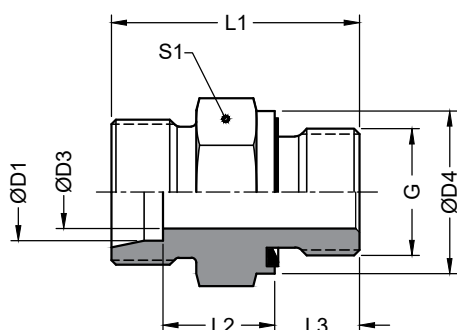


# GE-GE Male Stud Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm

Male BSPP (G) threads as per  
DIN 3852, Part 11 with  
Elastomeric seal



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | G<br>Male BSPP<br>thread | D4 | L1   | L2   | L3 | Approx.<br>L4 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|--------------------------|----|------|------|----|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>GE06XLGE</b>  | <b>GE06PLGE</b>      | 06                                                                                      | 4  | G 1/8 A                  | 14 | 23.5 | 8.5  | 8  | 26            | 14 | 14 |
|                                     | <b>GE08XLGE</b>  | <b>GE08PLGE</b>      | 08                                                                                      | 6  | G 1/4 A                  | 19 | 29   | 10   | 12 | 27            | 19 | 17 |
|                                     | <b>GE10XLGE</b>  | <b>GE10PLGE</b>      | 10                                                                                      | 7  | G 1/4 A                  | 19 | 30   | 11   | 12 | 29            | 19 | 19 |
|                                     | <b>GE12XLGE</b>  | <b>GE12PLGE</b>      | 12                                                                                      | 9  | G 3/8 A                  | 22 | 31.5 | 12.5 | 12 | 30            | 22 | 22 |
|                                     | <b>GE15XLGE</b>  | <b>GE15PLGE</b>      | 15                                                                                      | 11 | G 1/2 A                  | 27 | 35   | 14   | 14 | 32.5          | 27 | 27 |
| 160 bar                             | <b>GE18XLGE</b>  | <b>GE18PLGE</b>      | 18                                                                                      | 14 | G 1/2 A                  | 27 | 36   | 14.5 | 14 | 34            | 27 | 32 |
|                                     | <b>GE22XLGE</b>  | <b>GE22PLGE</b>      | 22                                                                                      | 18 | G 3/4 A                  | 32 | 40   | 16.5 | 16 | 36.5          | 32 | 36 |
| 100 bar                             | <b>GE28XLGE</b>  | <b>GE28PLGE</b>      | 28                                                                                      | 23 | G 1 A                    | 40 | 43   | 17.5 | 18 | 38.5          | 41 | 41 |
|                                     | <b>GE35XLGE</b>  | <b>GE35PLGE</b>      | 35                                                                                      | 30 | G1.1/4 A                 | 50 | 48   | 17.5 | 20 | 43.5          | 50 | 50 |
|                                     | <b>GE42XLGE</b>  | <b>GE42PLGE</b>      | 42                                                                                      | 36 | G1.1/2 A                 | 55 | 52   | 19   | 22 | 45.5          | 55 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>GE06XSGE</b>  | <b>GE06PSGE</b>      | 06                                                                                      | 4  | G 1/4 A                  | 19 | 32   | 13   | 12 | 30.5          | 19 | 17 |
|                                     | <b>GE08XSGE</b>  | <b>GE08PSGE</b>      | 08                                                                                      | 5  | G 1/4 A                  | 19 | 34   | 15   | 12 | 32            | 19 | 19 |
|                                     | <b>GE10XSGE</b>  | <b>GE10PSGE</b>      | 10                                                                                      | 7  | G 3/8 A                  | 22 | 34.5 | 15   | 12 | 34.5          | 22 | 22 |
|                                     | <b>GE12XSGE</b>  | <b>GE12PSGE</b>      | 12                                                                                      | 8  | G 3/8 A                  | 22 | 36.5 | 17   | 12 | 36            | 22 | 24 |
| 400 bar                             | <b>GE16XSGE</b>  | <b>GE16PSGE</b>      | 16                                                                                      | 12 | G 1/2 A                  | 27 | 41   | 18.5 | 14 | 40            | 27 | 30 |
|                                     | <b>GE20XSGE</b>  | <b>GE20PSGE</b>      | 20                                                                                      | 16 | G 3/4 A                  | 32 | 47   | 20.5 | 16 | 46            | 32 | 36 |
|                                     | <b>GE25XSGE</b>  | <b>GE25PSGE</b>      | 25                                                                                      | 20 | G1 A                     | 40 | 53   | 23   | 18 | 51            | 41 | 46 |
| 250 bar                             | <b>GE30XSGE</b>  | <b>GE30PSGE</b>      | 30                                                                                      | 25 | G1.1/4 A                 | 50 | 57   | 23.5 | 20 | 54.5          | 50 | 50 |
|                                     | <b>GE38XSGE</b>  | <b>GE38PSGE</b>      | 38                                                                                      | 32 | G1.1/2 A                 | 55 | 64   | 26   | 22 | 60.5          | 55 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GE16SRDSGE

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GE16PSGE

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

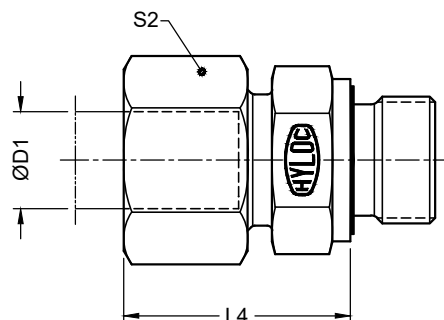
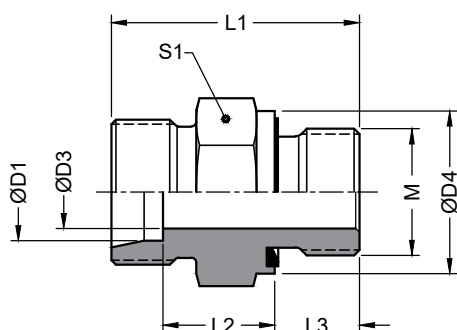
Example : GE16PSGE-ZnNi

# GE-ME Male Stud Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm

Male Metric (M) threads as per  
DIN 3852, Part 11,  
ISO 9974 Form E'  
with Elastomeric seal



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | M<br>Male Metric<br>thread | D4 | L1   | L2   | L3 | Approx.<br>L4 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----------------------------|----|------|------|----|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>GE06XLME</b>  | <b>GE06PLME</b>      | 06                                                                                      | 4  | M10x1.0                    | 14 | 23.5 | 8.5  | 8  | 26            | 14 | 14 |
|                                     | <b>GE08XLME</b>  | <b>GE08PLME</b>      | 08                                                                                      | 6  | M12x1.5                    | 17 | 29   | 10   | 12 | 27            | 17 | 17 |
|                                     | <b>GE10XLME</b>  | <b>GE10PLME</b>      | 10                                                                                      | 7  | M14x1.5                    | 19 | 30   | 11   | 12 | 29            | 19 | 19 |
|                                     | <b>GE12XLME</b>  | <b>GE12PLME</b>      | 12                                                                                      | 9  | M16x1.5                    | 22 | 31.5 | 12.5 | 12 | 30            | 22 | 22 |
|                                     | <b>GE15XLME</b>  | <b>GE15PLME</b>      | 15                                                                                      | 12 | M18x1.5                    | 24 | 32.5 | 13.5 | 12 | 32            | 24 | 27 |
| 160 bar                             | <b>GE18XLME</b>  | <b>GE18PLME</b>      | 18                                                                                      | 15 | M22x1.5                    | 27 | 36   | 14.5 | 14 | 34            | 27 | 32 |
|                                     | <b>GE22XLME</b>  | <b>GE22PLME</b>      | 22                                                                                      | 19 | M26x1.5                    | 32 | 40   | 16.5 | 16 | 36.5          | 32 | 36 |
| 100 bar                             | <b>GE28XLME</b>  | <b>GE28PLME</b>      | 28                                                                                      | 24 | M33x2.0                    | 40 | 43   | 17.5 | 18 | 38.5          | 41 | 41 |
|                                     | <b>GE35XLME</b>  | <b>GE35PLME</b>      | 35                                                                                      | 30 | M42x2.0                    | 50 | 48   | 17.5 | 20 | 43.5          | 50 | 50 |
|                                     | <b>GE42XLME</b>  | <b>GE42PLME</b>      | 42                                                                                      | 36 | M48x2.0                    | 55 | 52   | 19   | 22 | 45.5          | 55 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>GE06XSME</b>  | <b>GE06PSME</b>      | 06                                                                                      | 4  | M12x1.5                    | 17 | 32   | 13   | 12 | 30.5          | 17 | 17 |
|                                     | <b>GE08XSME</b>  | <b>GE08PSME</b>      | 08                                                                                      | 5  | M14x1.5                    | 19 | 34   | 15   | 12 | 32            | 19 | 19 |
|                                     | <b>GE10XSME</b>  | <b>GE10PSME</b>      | 10                                                                                      | 7  | M16x1.5                    | 22 | 34.5 | 15   | 12 | 34.5          | 22 | 22 |
|                                     | <b>GE12XSME</b>  | <b>GE12PSME</b>      | 12                                                                                      | 8  | M18x1.5                    | 24 | 36.5 | 17   | 12 | 36            | 24 | 24 |
| 400 bar                             | <b>GE16XSME</b>  | <b>GE16PSME</b>      | 16                                                                                      | 12 | M22x1.5                    | 27 | 41   | 18.5 | 14 | 40            | 27 | 30 |
|                                     | <b>GE20XSME</b>  | <b>GE20PSME</b>      | 20                                                                                      | 16 | M27x2.0                    | 32 | 47   | 20.5 | 16 | 46            | 32 | 36 |
|                                     | <b>GE25XSME</b>  | <b>GE25PSME</b>      | 25                                                                                      | 20 | M33x2.0                    | 40 | 53   | 23   | 18 | 51            | 41 | 46 |
| 250 bar                             | <b>GE30XSME</b>  | <b>GE30PSME</b>      | 30                                                                                      | 25 | M42x2.0                    | 50 | 57   | 23.5 | 20 | 54.5          | 50 | 50 |
|                                     | <b>GE38XSME</b>  | <b>GE38PSME</b>      | 38                                                                                      | 32 | M48x2.0                    | 55 | 64   | 26   | 22 | 60.5          | 55 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GE16SRDSME

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GE16PSME

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

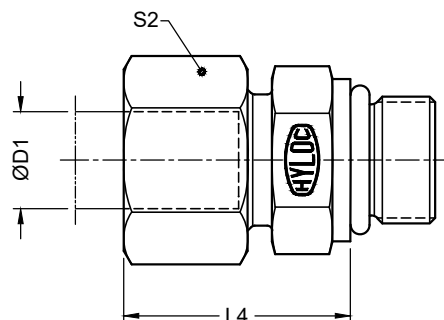
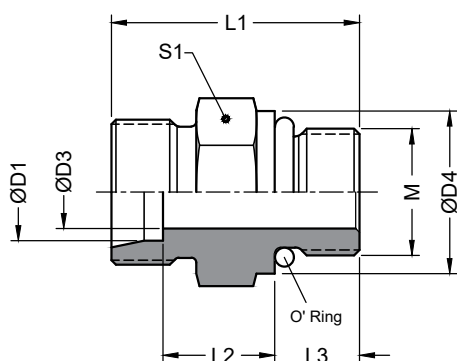
Example : GE16PSME-ZnNi

# GE-MO Male Stud Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm

Male Metric (M) threads with  
O' Ring sealing for port tappings  
according to ISO 6149 - 1 or  
DIN 3852, Part 3



| Series                              | Part No.<br>Body  | Part No.<br>Assembly | D1<br> | D3 | M<br>Male Metric<br>thread | D4 | L1   | L2   | L3   | Approx.<br>L4 | S1 | S2 | O' Ring<br>ID x CSD |
|-------------------------------------|-------------------|----------------------|-----------------------------------------------------------------------------------------|----|----------------------------|----|------|------|------|---------------|----|----|---------------------|
| <b>L</b><br><b>Light</b><br>315 bar | <b>GE06XLMO</b>   | <b>GE06PLMO</b>      | 06                                                                                      | 4  | M10x1.0                    | 14 | 25   | 8.5  | 9.5  | 26            | 14 | 14 | 8.1 x 1.6           |
|                                     | <b>GE08XLMO</b>   | <b>GE08PLMO</b>      | 08                                                                                      | 6  | M12x1.5                    | 17 | 28   | 10   | 11   | 27            | 17 | 17 | 9.3 x 2.2           |
|                                     | <b>GE10XLMO</b>   | <b>GE10PLMO</b>      | 10                                                                                      | 8  | M14x1.5                    | 19 | 29   | 11   | 11   | 29            | 19 | 19 | 11.3 x 2.2          |
|                                     | <b>GE12XLMO</b>   | <b>GE12PLMO</b>      | 12                                                                                      | 10 | M16x1.5                    | 22 | 32   | 12.5 | 12.5 | 30            | 22 | 22 | 13.3 x 2.2          |
|                                     | <b>GE15XLMO</b>   | <b>GE15PLMO</b>      | 15                                                                                      | 12 | M18x1.5                    | 24 | 34.5 | 13.5 | 14   | 32            | 24 | 27 | 15.3 x 2.2          |
|                                     | <b>GE18XLMO</b>   | <b>GE18PLMO</b>      | 18                                                                                      | 15 | M22x1.5                    | 27 | 37   | 14.5 | 15   | 34            | 27 | 32 | 19.3 x 2.2          |
| 160 bar                             | <b>GE22XLM27O</b> | <b>GE22PLM27O</b>    | 22                                                                                      | 19 | M27x2.0                    | 32 | 42.5 | 16.5 | 18.5 | 36.5          | 32 | 36 | 23.6 x 2.9          |
|                                     | <b>GE28XLMO</b>   | <b>GE28PLMO</b>      | 28                                                                                      | 24 | M33x2.0                    | 41 | 43.5 | 17.5 | 18.5 | 38.5          | 41 | 41 | 29.6 x 2.9          |
|                                     | <b>GE35XLMO</b>   | <b>GE35PLMO</b>      | 35                                                                                      | 30 | M42x2.0                    | 50 | 47   | 17.5 | 19   | 43.5          | 50 | 50 | 38.6 x 2.9          |
|                                     | <b>GE42XLMO</b>   | <b>GE42PLMO</b>      | 42                                                                                      | 36 | M48x2.0                    | 55 | 52   | 19.5 | 21.5 | 46            | 55 | 60 | 44.6 x 2.9          |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>GE06XSMO</b>   | <b>GE06PSMO</b>      | 06                                                                                      | 4  | M12x1.5                    | 17 | 31   | 13   | 11   | 30.5          | 17 | 17 | 9.3 x 2.2           |
|                                     | <b>GE08XSMO</b>   | <b>GE08PSMO</b>      | 08                                                                                      | 5  | M14x1.5                    | 19 | 33   | 15   | 11   | 32            | 19 | 19 | 11.3 x 2.2          |
|                                     | <b>GE10XSMO</b>   | <b>GE10PSMO</b>      | 10                                                                                      | 7  | M16x1.5                    | 22 | 35   | 15   | 12.5 | 34.5          | 22 | 22 | 13.3 x 2.2          |
|                                     | <b>GE12XSMO</b>   | <b>GE12PSMO</b>      | 12                                                                                      | 8  | M18x1.5                    | 24 | 38.5 | 17   | 14   | 36            | 24 | 24 | 15.3 x 2.2          |
|                                     | <b>GE16XSMO</b>   | <b>GE16PSMO</b>      | 16                                                                                      | 12 | M22x1.5                    | 27 | 42   | 18.5 | 15   | 40            | 27 | 30 | 19.3 x 2.2          |
|                                     | <b>GE20XSMO</b>   | <b>GE20PSMO</b>      | 20                                                                                      | 16 | M27x2.0                    | 32 | 49.5 | 20.5 | 18.5 | 46            | 32 | 36 | 23.6 x 2.9          |
| 400 bar                             | <b>GE25XSMO</b>   | <b>GE25PSMO</b>      | 25                                                                                      | 20 | M33x2.0                    | 41 | 53.5 | 23   | 18.5 | 51            | 41 | 46 | 29.6 x 2.9          |
|                                     | <b>GE30XSMO</b>   | <b>GE30PSMO</b>      | 30                                                                                      | 25 | M42x2.0                    | 50 | 56   | 23.5 | 19   | 54.5          | 50 | 50 | 38.6 x 2.9          |
|                                     | <b>GE38XSMO</b>   | <b>GE38PSMO</b>      | 38                                                                                      | 32 | M48x2.0                    | 55 | 64   | 26.5 | 21.5 | 61            | 55 | 60 | 44.6 x 2.9          |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GE16SRDSMO

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GE16PSMO

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

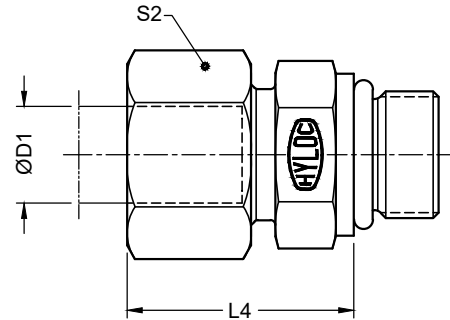
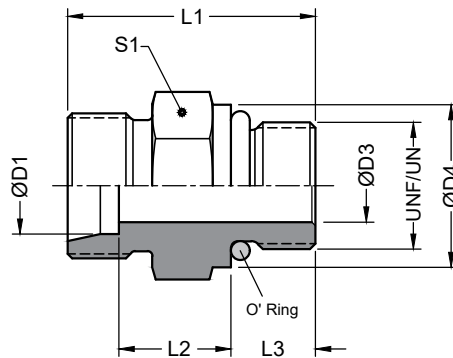
Example : GE16PSMO-ZnNi

# GE-S Male Stud Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm

Male stud - SAE Straight thread with O' Ring sealing



| Series                       | Part No. Body | Part No. Assembly | D1 | D3   | Male UNF/UN thread Class 2A | D4   | L1   | L2   | L3   | Approx. L4 | S1 | S2 | O' Ring ID x CSD |
|------------------------------|---------------|-------------------|----|------|-----------------------------|------|------|------|------|------------|----|----|------------------|
| <b>L</b><br>Light<br>250 bar | GE08XLS       | GE08PLS           | 08 | 4.5  | 7/16"-20 UNF                | 14.1 | 28   | 10   | 11   | 27         | 17 | 17 | 8.92 x 1.83      |
|                              | GE10XLS       | GE10PLS           | 10 | 4.5  | 7/16"-20 UNF                | 14.1 | 29   | 11   | 11   | 29         | 17 | 19 | 8.92 x 1.83      |
|                              | GE12XLS       | GE12PLS           | 12 | 7.5  | 9/16"-18 UNF                | 17.3 | 30   | 11   | 12   | 28.5       | 19 | 22 | 11.9 x 1.98      |
|                              | GE12XLS08     | GE12PLS08         | 12 | 10   | 3/4"-16 UNF                 | 22   | 34   | 13   | 14   | 30.5       | 24 | 22 | 16.36 x 2.2      |
|                              | GE12XLS10     | GE12PLS10         | 12 | 12.5 | 7/8"-14 UNF                 | 25.2 | 37   | 14   | 16   | 31.5       | 27 | 22 | 19.18 x 2.46     |
|                              | GE15XLS       | GE15PLS           | 15 | 10   | 3/4"-16 UNF                 | 22   | 35   | 14   | 14   | 32.5       | 24 | 27 | 16.36 x 2.2      |
|                              | GE15XLS10     | GE15PLS10         | 15 | 12   | 7/8"-14 UNF                 | 25.2 | 38   | 15   | 16   | 33.5       | 27 | 27 | 19.18 x 2.46     |
| 160 bar                      | GE18XLS       | GE18PLS           | 18 | 10   | 3/4"-16 UNF                 | 22   | 36   | 14.5 | 14   | 34         | 27 | 32 | 16.36 x 2.2      |
|                              | GE18XLS10     | GE18PLS10         | 18 | 12.5 | 7/8"-14 UNF                 | 25.2 | 38   | 14.5 | 16   | 34         | 27 | 32 | 19.18 x 2.46     |
|                              | GE22XLS       | GE22PLS           | 22 | 12.5 | 7/8"-14 UNF                 | 25.2 | 40   | 16.5 | 16   | 36.5       | 32 | 36 | 19.18 x 2.46     |
|                              | GE22XLS12     | GE22PLS12         | 22 | 15.5 | 1.1/16"-12 UN               | 31.5 | 42.5 | 16.5 | 18.5 | 36.5       | 32 | 36 | 23.47 x 2.95     |
|                              | GE22XLS16     | GE22PLS16         | 22 | 21.5 | 1.5/16"-12 UN               | 37.9 | 43.5 | 17.5 | 18.5 | 37.5       | 41 | 36 | 29.74 x 2.95     |
|                              | GE28XLS       | GE28PLS           | 28 | 15.5 | 1.1/16"-12 UN               | 31.5 | 43.5 | 17.5 | 18.5 | 38.5       | 41 | 41 | 23.47 x 2.95     |
| 100 bar                      | GE28XLS16     | GE28PLS16         | 28 | 21.5 | 1.5/16"-12 UN               | 37.9 | 43.5 | 17.5 | 18.5 | 38.5       | 41 | 41 | 29.74 x 2.95     |
|                              | GE35XLS       | GE35PLS           | 35 | 21.5 | 1.5/16"-12 UN               | 37.9 | 46.5 | 17.5 | 18.5 | 43.5       | 46 | 50 | 29.74 x 2.95     |
|                              | GE35XLS20     | GE35PLS20         | 35 | 27.5 | 1.5/8"-12 UN                | 47.4 | 46.5 | 17.5 | 18.5 | 43.5       | 50 | 50 | 37.46 x 3.00     |
|                              | GE42XLS       | GE42PLS           | 42 | 27.5 | 1.5/8"-12 UN                | 47.4 | 48.5 | 19   | 18.5 | 45.5       | 55 | 60 | 37.46 x 3.00     |

| Series                       | Part No. Body | Part No. Assembly | D1 | D3   | Male UNF/UN thread Class 2A | D4   | L1   | L2   | L3   | Approx. L4 | S1 | S2 | O' Ring ID x CSD |
|------------------------------|---------------|-------------------|----|------|-----------------------------|------|------|------|------|------------|----|----|------------------|
| <b>S</b><br>Heavy<br>630 bar | GE08XSS       | GE08PSS           | 08 | 4.5  | 7/16"-20 UNF                | 14.1 | 33   | 15   | 11   | 32         | 17 | 19 | 8.92 x 1.83      |
|                              | GE10XSS       | GE10PSS           | 10 | 7    | 9/16"-18 UNF                | 17.3 | 34   | 14.5 | 12   | 34         | 19 | 22 | 11.9 x 1.98      |
|                              | GE12XSS       | GE12PSS           | 12 | 6    | 9/16"-18 UNF                | 17.3 | 34   | 14.5 | 12   | 33.5       | 22 | 24 | 11.9 x 1.98      |
|                              | GE12XSS08     | GE12PSS08         | 12 | 10   | 3/4"-16 UNF                 | 22   | 39   | 17.5 | 14   | 36.5       | 24 | 24 | 16.36 x 2.2      |
| 400 bar                      | GE16XSS       | GE16PSS           | 16 | 10   | 3/4"-16 UNF                 | 22   | 38   | 15.5 | 14   | 37         | 24 | 30 | 16.36 x 2.2      |
|                              | GE16XSS10     | GE16PSS10         | 16 | 12.5 | 7/8"-14 UNF                 | 25.2 | 43   | 18.5 | 16   | 40         | 27 | 30 | 19.18 x 2.46     |
|                              | GE20XSS08     | GE20PSS08         | 20 | 10   | 3/4"-16 UNF                 | 22   | 45   | 20.5 | 14   | 46         | 32 | 36 | 16.36 x 2.2      |
|                              | GE20XSS       | GE20PSS           | 20 | 12.5 | 7/8"-14 UNF                 | 25.2 | 47   | 20.5 | 16   | 46         | 32 | 36 | 19.18 x 2.46     |
|                              | GE20XSS12     | GE20PSS12         | 20 | 15.5 | 1.1/16"-12 UN               | 31.5 | 49.5 | 20.5 | 18.5 | 46         | 32 | 36 | 23.47 x 2.95     |
|                              | GE25XSS       | GE25PSS           | 25 | 15.5 | 1.1/16"-12 UN               | 31.5 | 53.5 | 23   | 18.5 | 51         | 36 | 46 | 23.47 x 2.95     |
|                              | GE25XSS16     | GE25PSS16         | 25 | 21.5 | 1.5/16"-12 UN               | 37.9 | 53.5 | 23   | 18.5 | 51         | 41 | 46 | 29.74 x 2.95     |
| 250 bar                      | GE30XSS       | GE30PSS           | 30 | 21.5 | 1.5/16"-12 UN               | 37.9 | 55.5 | 23.5 | 18.5 | 54.5       | 46 | 50 | 29.74 x 2.95     |
|                              | GE30XSS20     | GE30PSS20         | 30 | 27.5 | 1.5/8"-12 UN                | 47.4 | 55.5 | 23.5 | 18.5 | 54.5       | 50 | 50 | 37.46 x 3.00     |
|                              | GE30XSS24     | GE30PSS24         | 30 | 33.5 | 1.7/8"-12 UN                | 53.8 | 55.5 | 23.5 | 18.5 | 54.5       | 55 | 50 | 43.69 x 3.00     |
|                              | GE38XSS       | GE38PSS           | 38 | 27.5 | 1.5/8"-12 UN                | 47.4 | 60.5 | 26   | 18.5 | 60.5       | 55 | 60 | 37.46 x 3.00     |
|                              | GE38XSS24     | GE38PSS24         | 38 | 33.5 | 1.7/8"-12 UN                | 53.8 | 60.5 | 26   | 18.5 | 60.5       | 55 | 60 | 43.69 x 3.00     |

Assembly consists of Double bite ferrule. For soft seal ferrules, replace 'P' with 'SRD' in Part code.

Example : GE16SRDSS

Standard material : Carbon Steel. For Stainless steel material, add prefix 316 - to the part code

Example : 316-GE16PSS

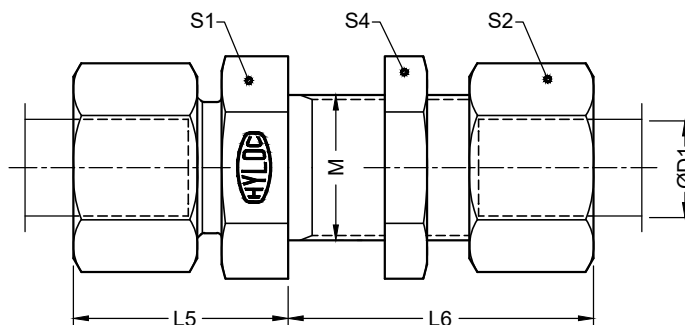
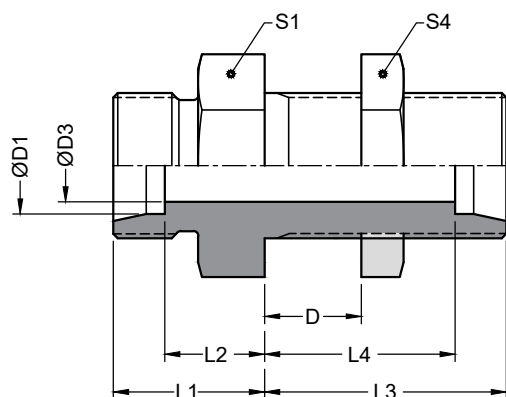
Standard surface treatment : Chrome free Alkaline Zinc Plating. For Zinc Nickel surface treatment, add suffix - ZnNi.

Example : GE16PSS-ZnNi

# SV Straight Bulkhead Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | L1 | L2   | L3 | L4   | Approx.<br>L5 | Approx.<br>L6 | M       | S1 | S2 | S4 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|------|----|------|---------------|---------------|---------|----|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>SV06XL</b>    | <b>SV06PL</b>        | 06                                                                                      | 4  | 14 | 7    | 34 | 27   | 24.5          | 44.5          | M12x1.5 | 17 | 14 | 17 |
|                                     | <b>SV08XL</b>    | <b>SV08PL</b>        | 08                                                                                      | 6  | 15 | 8    | 34 | 27   | 25            | 44            | M14x1.5 | 19 | 17 | 19 |
|                                     | <b>SV10XL</b>    | <b>SV10PL</b>        | 10                                                                                      | 8  | 17 | 10   | 35 | 28   | 28            | 46            | M16x1.5 | 22 | 19 | 22 |
|                                     | <b>SV12XL</b>    | <b>SV12PL</b>        | 12                                                                                      | 10 | 17 | 10   | 36 | 29   | 27.5          | 46.5          | M18x1.5 | 24 | 22 | 24 |
|                                     | <b>SV15XL</b>    | <b>SV15PL</b>        | 15                                                                                      | 12 | 19 | 12   | 38 | 31   | 30.5          | 49.5          | M22x1.5 | 27 | 27 | 30 |
|                                     | <b>SV18XL</b>    | <b>SV18PL</b>        | 18                                                                                      | 15 | 21 | 13.5 | 40 | 32.5 | 33            | 52            | M26x1.5 | 32 | 32 | 36 |
|                                     | <b>SV22XL</b>    | <b>SV22PL</b>        | 22                                                                                      | 19 | 24 | 16.5 | 42 | 34.5 | 36.5          | 54.5          | M30x2.0 | 36 | 36 | 41 |
|                                     | <b>SV28XL</b>    | <b>SV28PL</b>        | 28                                                                                      | 24 | 26 | 18.5 | 43 | 35.5 | 39.5          | 56.5          | M36x2.0 | 41 | 41 | 46 |
|                                     | <b>SV35XL</b>    | <b>SV35PL</b>        | 35                                                                                      | 30 | 29 | 18.5 | 47 | 36.5 | 44.5          | 62.5          | M45x2.0 | 50 | 50 | 55 |
|                                     | <b>SV42XL</b>    | <b>SV42PL</b>        | 42                                                                                      | 36 | 30 | 19   | 47 | 36   | 45.5          | 62.5          | M52x2.0 | 60 | 60 | 65 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>SV06XS</b>    | <b>SV06PS</b>        | 06                                                                                      | 4  | 19 | 12   | 36 | 29   | 29.5          | 46.5          | M14x1.5 | 19 | 17 | 19 |
|                                     | <b>SV08XS</b>    | <b>SV08PS</b>        | 08                                                                                      | 5  | 20 | 13   | 36 | 29   | 30            | 46            | M16x1.5 | 22 | 19 | 22 |
|                                     | <b>SV10XS</b>    | <b>SV10PS</b>        | 10                                                                                      | 7  | 22 | 14.5 | 37 | 29.5 | 32            | 49            | M18x1.5 | 24 | 22 | 24 |
|                                     | <b>SV12XS</b>    | <b>SV12PS</b>        | 12                                                                                      | 8  | 22 | 14.5 | 38 | 30.5 | 33.5          | 49.5          | M20x1.5 | 27 | 24 | 27 |
|                                     | <b>SV16XS</b>    | <b>SV16PS</b>        | 16                                                                                      | 12 | 25 | 16.5 | 40 | 31.5 | 38            | 53            | M24x1.5 | 32 | 30 | 32 |
|                                     | <b>SV20XS</b>    | <b>SV20PS</b>        | 20                                                                                      | 16 | 28 | 17.5 | 44 | 33.5 | 43            | 59            | M30x2.0 | 41 | 36 | 41 |
|                                     | <b>SV25XS</b>    | <b>SV25PS</b>        | 25                                                                                      | 20 | 32 | 20   | 47 | 35   | 48            | 63            | M36x2.0 | 46 | 46 | 46 |
|                                     | <b>SV30XS</b>    | <b>SV30PS</b>        | 30                                                                                      | 25 | 35 | 21.5 | 51 | 37.5 | 52.5          | 68.5          | M42x2.0 | 50 | 50 | 50 |
|                                     | <b>SV38XS</b>    | <b>SV38PS</b>        | 38                                                                                      | 32 | 38 | 22   | 53 | 37   | 56.5          | 71.5          | M52x2.0 | 65 | 60 | 65 |

\* Dimensions given are approx. figures with tightened nut

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example :SV16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-SV16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

Example :SV16PS-ZnNi

Bulhead thickness (D)

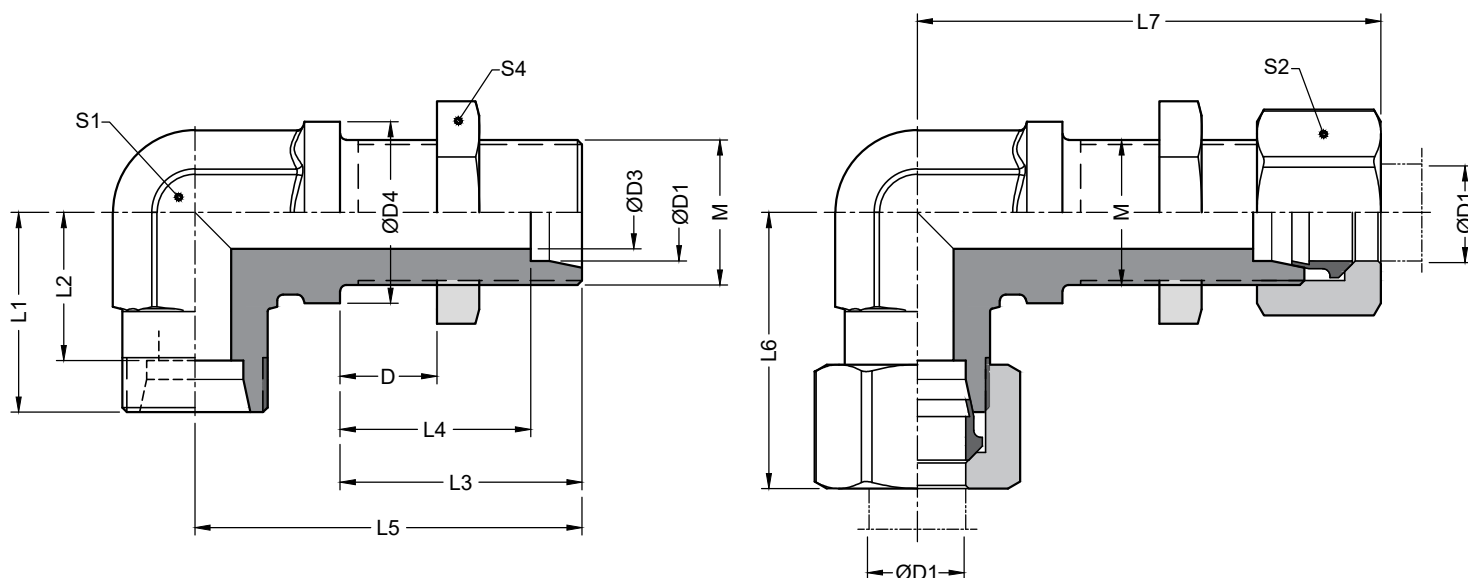
| # | Tube OD    | Min | Max   |
|---|------------|-----|-------|
| 1 | 6L to 18L  | 3mm | 16 mm |
| 2 | 22L to 42L | 4mm | 16mm  |
| 3 | 6S to 16S  | 3mm | 16mm  |
| 4 | 20S to 38S | 4mm | 16mm  |



# WSV Elbow Bulkhead Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                       | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | D4 | L1 | L2   | L3 | L4   | L5 | Approx.<br>L6 | Approx.<br>L7 | M       | *<br>S1 | S2 | S4 |
|------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|----|------|----|------|----|---------------|---------------|---------|---------|----|----|
| <b>L</b><br>Light<br>250 bar | <b>WSV06XL</b>   | <b>WSV06PL</b>       | 06                                                                                      | 4  | 17 | 19 | 12   | 34 | 27   | 48 | 29.5          | 58.5          | M12x1.5 | 12      | 14 | 17 |
|                              | <b>WSV08XL</b>   | <b>WSV08PL</b>       | 08                                                                                      | 6  | 19 | 21 | 14   | 34 | 27   | 51 | 31            | 61            | M14x1.5 | 12      | 17 | 19 |
|                              | <b>WSV10XL</b>   | <b>WSV10PL</b>       | 10                                                                                      | 8  | 22 | 22 | 15   | 35 | 28   | 53 | 33            | 64            | M16x1.5 | 14      | 19 | 22 |
|                              | <b>WSV12XL</b>   | <b>WSV12PL</b>       | 12                                                                                      | 10 | 24 | 24 | 17   | 36 | 29   | 56 | 34.5          | 66.5          | M18x1.5 | 17      | 22 | 24 |
|                              | <b>WSV15XL</b>   | <b>WSV15PL</b>       | 15                                                                                      | 12 | 27 | 28 | 21   | 38 | 31   | 61 | 39.5          | 72.5          | M22x1.5 | 19      | 27 | 30 |
| 160 bar                      | <b>WSV18XL</b>   | <b>WSV18PL</b>       | 18                                                                                      | 15 | 32 | 31 | 23.5 | 40 | 32.5 | 64 | 43            | 76            | M26x1.5 | 24      | 32 | 36 |
|                              | <b>WSV22XL</b>   | <b>WSV22PL</b>       | 22                                                                                      | 19 | 36 | 35 | 27.5 | 42 | 34.5 | 72 | 47.5          | 84.5          | M30x2.0 | 27      | 36 | 41 |
| 100 bar                      | <b>WSV28XL</b>   | <b>WSV28PL</b>       | 28                                                                                      | 24 | 42 | 38 | 30.5 | 43 | 35.5 | 77 | 51.5          | 90.5          | M36x2.0 | 36      | 41 | 46 |
|                              | <b>WSV35XL</b>   | <b>WSV35PL</b>       | 35                                                                                      | 30 | 50 | 45 | 34.5 | 47 | 36.5 | 86 | 60.5          | 101.5         | M45x2.0 | 41      | 50 | 55 |
|                              | <b>WSV42XL</b>   | <b>WSV42PL</b>       | 42                                                                                      | 36 | 60 | 51 | 40   | 47 | 36   | 90 | 66.5          | 105.5         | M52x2.0 | 50      | 60 | 65 |
| <b>S</b><br>Heavy<br>630 bar | <b>WSV06XS</b>   | <b>WSV06PS</b>       | 06                                                                                      | 4  | 19 | 23 | 16   | 36 | 29   | 53 | 33.5          | 63.5          | M14x1.5 | 12      | 17 | 19 |
|                              | <b>WSV08XS</b>   | <b>WSV08PS</b>       | 08                                                                                      | 5  | 22 | 24 | 17   | 36 | 29   | 54 | 34            | 64            | M16x1.5 | 14      | 19 | 22 |
|                              | <b>WSV10XS</b>   | <b>WSV10PS</b>       | 10                                                                                      | 7  | 24 | 25 | 17.5 | 37 | 29.5 | 57 | 37            | 69            | M18x1.5 | 17      | 22 | 24 |
|                              | <b>WSV12XS</b>   | <b>WSV12PS</b>       | 12                                                                                      | 8  | 27 | 29 | 21.5 | 38 | 30.5 | 59 | 40.5          | 70.5          | M20x1.5 | 17      | 24 | 27 |
| 400 bar                      | <b>WSV16XS</b>   | <b>WSV16PS</b>       | 16                                                                                      | 12 | 30 | 33 | 24.5 | 40 | 31.5 | 64 | 46            | 77            | M24x1.5 | 24      | 30 | 32 |
|                              | <b>WSV20XS</b>   | <b>WSV20PS</b>       | 20                                                                                      | 16 | 36 | 37 | 26.5 | 44 | 33.5 | 74 | 52            | 89            | M30x2.0 | 27      | 36 | 41 |
|                              | <b>WSV25XS</b>   | <b>WSV25PS</b>       | 25                                                                                      | 20 | 42 | 42 | 30   | 47 | 35   | 81 | 58            | 97            | M36x2.0 | 36      | 46 | 46 |
| 250 bar                      | <b>WSV30XS</b>   | <b>WSV30PS</b>       | 30                                                                                      | 25 | 50 | 49 | 35.5 | 51 | 37.5 | 90 | 66.5          | 107.5         | M42x2.0 | 41      | 50 | 50 |
|                              | <b>WSV38XS</b>   | <b>WSV38PS</b>       | 38                                                                                      | 32 | 60 | 57 | 41   | 53 | 37   | 96 | 75.5          | 114.5         | M52x2.0 | 50      | 60 | 65 |

\* S1 - Spanner flat dimensions may differ from the values in case of these fittings machined from bar stock.

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : WSV16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code. Example : 316-WSV16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi Example : WSV16PS-ZnNi

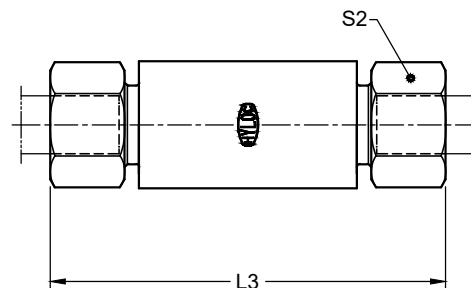
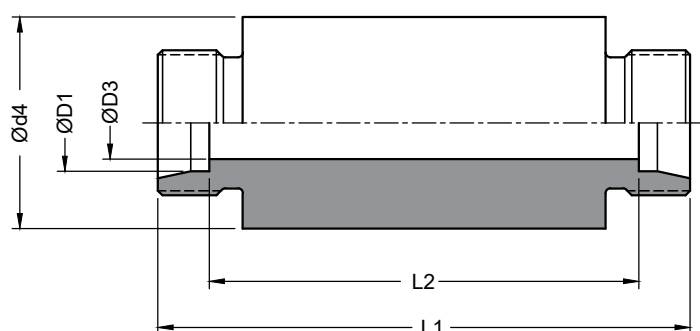
Bulhead thickness (D)

| # | Tube OD    | Min | Max   |
|---|------------|-----|-------|
| 1 | 6L to 18L  | 3mm | 16 mm |
| 2 | 22L to 42L | 4mm | 16mm  |
| 3 | 6S to 16S  | 3mm | 16mm  |
| 4 | 20S to 38S | 4mm | 16mm  |

# ESV Weld Bulkhead Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | D4 | L1  | L2 | Approx.<br>L3 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|-----|----|---------------|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>ESV06XL</b>   | <b>ESV06PL</b>       | 06                                                                                      | 4  | 18 | 70  | 56 | 91            | 14 |
|                                     | <b>ESV08XL</b>   | <b>ESV08PL</b>       | 08                                                                                      | 6  | 20 | 70  | 56 | 90            | 17 |
|                                     | <b>ESV10XL</b>   | <b>ESV10PL</b>       | 10                                                                                      | 8  | 22 | 72  | 58 | 94            | 19 |
|                                     | <b>ESV12XL</b>   | <b>ESV12PL</b>       | 12                                                                                      | 10 | 25 | 72  | 58 | 93            | 22 |
|                                     | <b>ESV15XL</b>   | <b>ESV15PL</b>       | 15                                                                                      | 12 | 28 | 84  | 70 | 107           | 27 |
| 160 bar                             | <b>ESV18XL</b>   | <b>ESV18PL</b>       | 18                                                                                      | 15 | 32 | 84  | 69 | 108           | 32 |
|                                     | <b>ESV22XL</b>   | <b>ESV22PL</b>       | 22                                                                                      | 19 | 36 | 88  | 73 | 113           | 36 |
| 100 bar                             | <b>ESV28XL</b>   | <b>ESV28PL</b>       | 28                                                                                      | 24 | 40 | 88  | 73 | 115           | 41 |
|                                     | <b>ESV35XL</b>   | <b>ESV35PL</b>       | 35                                                                                      | 30 | 50 | 92  | 71 | 123           | 50 |
|                                     | <b>ESV42XL</b>   | <b>ESV42PL</b>       | 42                                                                                      | 36 | 60 | 92  | 70 | 123           | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>ESV06XS</b>   | <b>ESV06PS</b>       | 06                                                                                      | 4  | 20 | 74  | 60 | 95            | 17 |
|                                     | <b>ESV08XS</b>   | <b>ESV08PS</b>       | 08                                                                                      | 5  | 22 | 74  | 60 | 94            | 19 |
|                                     | <b>ESV10XS</b>   | <b>ESV10PS</b>       | 10                                                                                      | 7  | 25 | 74  | 59 | 98            | 22 |
|                                     | <b>ESV12XS</b>   | <b>ESV12PS</b>       | 12                                                                                      | 8  | 28 | 74  | 59 | 97            | 24 |
| 400 bar                             | <b>ESV16XS</b>   | <b>ESV16PS</b>       | 16                                                                                      | 12 | 35 | 88  | 71 | 114           | 30 |
|                                     | <b>ESV20XS</b>   | <b>ESV20PS</b>       | 20                                                                                      | 16 | 38 | 92  | 71 | 122           | 36 |
|                                     | <b>ESV25XS</b>   | <b>ESV25PS</b>       | 25                                                                                      | 20 | 45 | 96  | 72 | 128           | 46 |
| 250 bar                             | <b>ESV30XS</b>   | <b>ESV30PS</b>       | 30                                                                                      | 25 | 50 | 100 | 73 | 135           | 50 |
|                                     | <b>ESV38XS</b>   | <b>ESV38PS</b>       | 38                                                                                      | 32 | 60 | 104 | 72 | 141           | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : ESV16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316L - to the part code

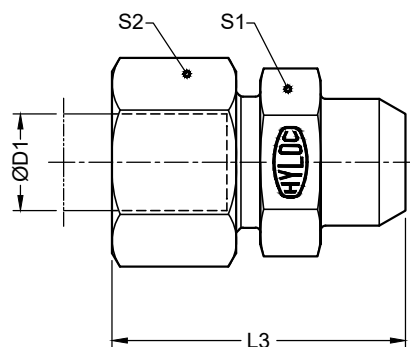
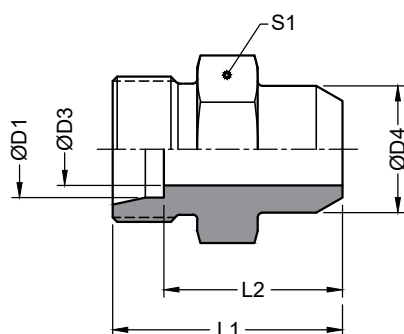
Example : 316L-ESV16PS

Standard surface treatment : Phosphated.

# AS Weld Couplings

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | D4 | L1 | L2   | Approx.<br>L3 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|----|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>AS06XL</b>    | <b>AS06PL</b>        | 06                                                                                      | 4  | 10 | 21 | 14   | 31.5          | 12 | 14 |
|                                     | <b>AS08XL</b>    | <b>AS08PL</b>        | 08                                                                                      | 6  | 12 | 23 | 16   | 33            | 14 | 17 |
|                                     | <b>AS10XL</b>    | <b>AS10PL</b>        | 10                                                                                      | 8  | 14 | 25 | 18   | 36            | 17 | 19 |
|                                     | <b>AS12XL</b>    | <b>AS12PL</b>        | 12                                                                                      | 10 | 16 | 25 | 18   | 35.5          | 19 | 22 |
|                                     | <b>AS15XL</b>    | <b>AS15PL</b>        | 15                                                                                      | 12 | 19 | 29 | 22   | 40.5          | 22 | 27 |
| 160 bar                             | <b>AS18XL</b>    | <b>AS18PL</b>        | 18                                                                                      | 15 | 22 | 31 | 23.5 | 43            | 27 | 32 |
|                                     | <b>AS22XL</b>    | <b>AS22PL</b>        | 22                                                                                      | 19 | 27 | 36 | 28.5 | 48.5          | 32 | 36 |
| 100 bar                             | <b>AS28XL</b>    | <b>AS28PL</b>        | 28                                                                                      | 24 | 32 | 38 | 30.5 | 51.5          | 41 | 41 |
|                                     | <b>AS35XL</b>    | <b>AS35PL</b>        | 35                                                                                      | 30 | 40 | 43 | 32.5 | 58.5          | 46 | 50 |
|                                     | <b>AS42XL</b>    | <b>AS42PL</b>        | 42                                                                                      | 36 | 46 | 46 | 35   | 61.5          | 55 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>AS06XS</b>    | <b>AS06PS</b>        | 06                                                                                      | 4  | 11 | 26 | 19   | 36.5          | 14 | 17 |
|                                     | <b>AS08XS</b>    | <b>AS08PS</b>        | 08                                                                                      | 5  | 13 | 28 | 21   | 38            | 17 | 19 |
|                                     | <b>AS10XS</b>    | <b>AS10PS</b>        | 10                                                                                      | 7  | 15 | 30 | 22.5 | 42            | 19 | 22 |
|                                     | <b>AS12XS</b>    | <b>AS12PS</b>        | 12                                                                                      | 8  | 17 | 32 | 24.5 | 43.5          | 22 | 24 |
| 400 bar                             | <b>AS16XS</b>    | <b>AS16PS</b>        | 16                                                                                      | 12 | 21 | 35 | 26.5 | 48            | 27 | 30 |
|                                     | <b>AS20XS</b>    | <b>AS20PS</b>        | 20                                                                                      | 16 | 26 | 40 | 29.5 | 55            | 32 | 36 |
|                                     | <b>AS25XS</b>    | <b>AS25PS</b>        | 25                                                                                      | 20 | 31 | 44 | 32   | 60            | 41 | 46 |
| 250 bar                             | <b>AS30XS</b>    | <b>AS30PS</b>        | 30                                                                                      | 25 | 36 | 49 | 35.5 | 66.5          | 46 | 50 |
|                                     | <b>AS38XS</b>    | <b>AS38PS</b>        | 38                                                                                      | 32 | 44 | 54 | 38   | 72.5          | 55 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : AS16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316L - to the part code

Example : 316L-AS16PS

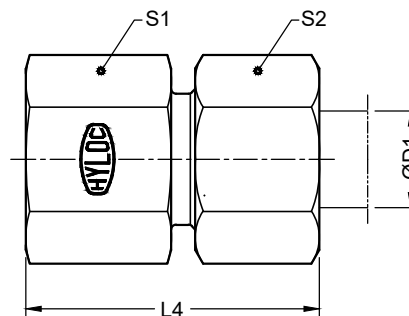
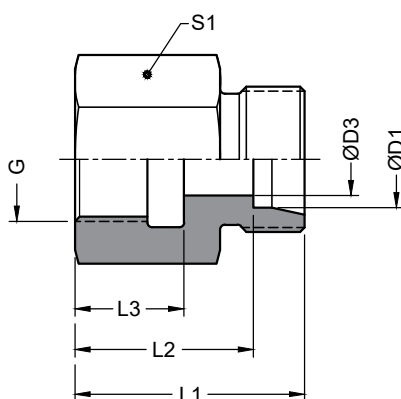
Standard surface treatment : Phosphated

# GAI-G Straight Female Couplings

24° Tube end as per ISO 8434-1

Female BSPP (G) threads

Dimensions in mm



| Series                       | Part No.<br>Body | Part No.<br>Assembly | D1<br> | G<br>Female<br>BSPP thread | D3 | L1   | L2   | L3   | Approx.<br>L4 | S1 | S2 |
|------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----------------------------|----|------|------|------|---------------|----|----|
| <b>L</b><br>Light<br>250 bar | <b>GAI06XLG</b>  | <b>GAI06PLG</b>      | 06                                                                                      | G 1/8 A                    | 4  | 26   | 19   | 12   | 36.5          | 14 | 14 |
|                              | <b>GAI08XLG</b>  | <b>GAI08PLG</b>      | 08                                                                                      | G 1/4 A                    | 6  | 31   | 24   | 17   | 41            | 19 | 17 |
|                              | <b>GAI10XLG</b>  | <b>GAI10PLG</b>      | 10                                                                                      | G 1/4 A                    | 8  | 32   | 25   | 17   | 43            | 19 | 19 |
|                              | <b>GAI12XLG</b>  | <b>GAI12PLG</b>      | 12                                                                                      | G 3/8 A                    | 10 | 33   | 26   | 17   | 43.5          | 24 | 22 |
|                              | <b>GAI15XLG</b>  | <b>GAI15PLG</b>      | 15                                                                                      | G 1/2 A                    | 12 | 38   | 31   | 20   | 49.5          | 27 | 27 |
| 160 bar                      | <b>GAI18XLG</b>  | <b>GAI18PLG</b>      | 18                                                                                      | G 1/2 A                    | 15 | 38   | 30.5 | 20   | 50            | 27 | 32 |
|                              | <b>GAI22XLG</b>  | <b>GAI22PLG</b>      | 22                                                                                      | G 3/4 A                    | 19 | 43   | 35.5 | 22   | 55.5          | 36 | 36 |
| 100 bar                      | <b>GAI28XLG</b>  | <b>GAI28PLG</b>      | 28                                                                                      | G 1 A                      | 24 | 45.5 | 38   | 24.5 | 59            | 41 | 41 |
|                              | <b>GAI35XLG</b>  | <b>GAI35PLG</b>      | 35                                                                                      | G1.1/4 A                   | 30 | 51.5 | 41   | 26.5 | 67            | 55 | 50 |
|                              | <b>GAI42XLG</b>  | <b>GAI42PLG</b>      | 42                                                                                      | G1.1/2 A                   | 36 | 53.5 | 42.5 | 28.5 | 69            | 60 | 60 |
| <b>S</b><br>Heavy<br>630 bar | <b>GAI06XSG</b>  | <b>GAI06PSG</b>      | 06                                                                                      | G 1/4 A                    | 4  | 33   | 26   | 17   | 43.5          | 19 | 17 |
|                              | <b>GAI08XSG</b>  | <b>GAI08PSG</b>      | 08                                                                                      | G 1/4 A                    | 5  | 33   | 26   | 17   | 43            | 19 | 19 |
|                              | <b>GAI10XSG</b>  | <b>GAI10PSG</b>      | 10                                                                                      | G 3/8 A                    | 7  | 34   | 26.5 | 17   | 46            | 24 | 22 |
|                              | <b>GAI12XSG</b>  | <b>GAI12PSG</b>      | 12                                                                                      | G 3/8 A                    | 8  | 34   | 26.5 | 17   | 45.5          | 24 | 24 |
| 400 bar                      | <b>GAI16XSG</b>  | <b>GAI16PSG</b>      | 16                                                                                      | G 1/2 A                    | 12 | 40   | 31.5 | 20   | 53            | 27 | 30 |
|                              | <b>GAI20XSG</b>  | <b>GAI20PSG</b>      | 20                                                                                      | G 3/4 A                    | 16 | 45   | 34.5 | 22   | 60            | 36 | 36 |
|                              | <b>GAI25XSG</b>  | <b>GAI25PSG</b>      | 25                                                                                      | G1 A                       | 20 | 49.5 | 37.5 | 24.5 | 65.5          | 41 | 46 |
| 250 bar                      | <b>GAI30XSG</b>  | <b>GAI30PSG</b>      | 30                                                                                      | G1.1/4 A                   | 25 | 55.5 | 42   | 26.5 | 73            | 55 | 50 |
|                              | <b>GAI38XSG</b>  | <b>GAI38PSG</b>      | 38                                                                                      | G1.1/2 A                   | 32 | 59.5 | 43.5 | 28.5 | 78            | 60 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GAI16SRDSG

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GAI16PSG

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

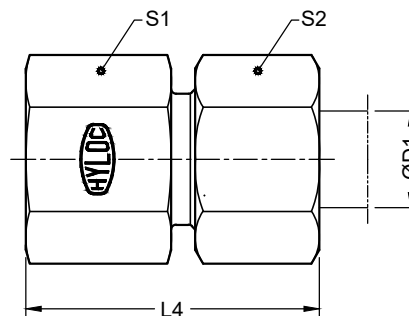
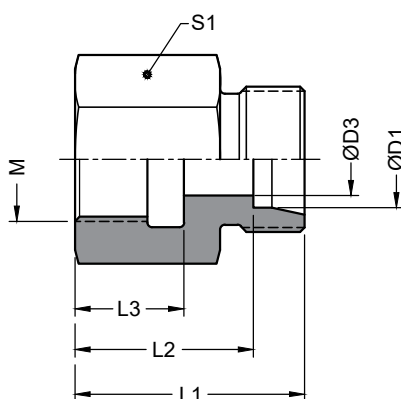
Example : GAI16PSG-ZnNi

# GAI-M Straight Female Couplings

24° Tube end as per ISO 8434-1

Female Metric (M) threads

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | M<br>Female<br>Metric thread | D3 | L1   | L2   | L3   | Approx.<br>L4 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|------------------------------|----|------|------|------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>GAI06XLM</b>  | <b>GAI06PLM</b>      | 06                                                                                      | M10x1.0                      | 4  | 26.5 | 19.5 | 12.5 | 37            | 14 | 14 |
|                                     | <b>GAI08XLM</b>  | <b>GAI08PLM</b>      | 08                                                                                      | M12x1.5                      | 6  | 31   | 24   | 17   | 41            | 17 | 17 |
|                                     | <b>GAI10XLM</b>  | <b>GAI10PLM</b>      | 10                                                                                      | M14x1.5                      | 8  | 32   | 25   | 17   | 43            | 19 | 19 |
|                                     | <b>GAI12XLM</b>  | <b>GAI12PLM</b>      | 12                                                                                      | M16x1.5                      | 10 | 33   | 26   | 17   | 43.5          | 22 | 22 |
|                                     | <b>GAI15XLM</b>  | <b>GAI15PLM</b>      | 15                                                                                      | M18x1.5                      | 12 | 35   | 28   | 17   | 46.5          | 24 | 27 |
| 160 bar                             | <b>GAI18XLM</b>  | <b>GAI18PLM</b>      | 18                                                                                      | M22x1.5                      | 15 | 37   | 29.5 | 19   | 49            | 30 | 32 |
|                                     | <b>GAI22XLM</b>  | <b>GAI22PLM</b>      | 22                                                                                      | M26x1.5                      | 19 | 42   | 34.5 | 21   | 54.5          | 32 | 36 |
| 100 bar                             | <b>GAI28XLM</b>  | <b>GAI28PLM</b>      | 28                                                                                      | M33x2.0                      | 24 | 45   | 37.5 | 24   | 58.5          | 41 | 41 |
|                                     | <b>GAI35XLM</b>  | <b>GAI35PLM</b>      | 35                                                                                      | M42x2.0                      | 30 | 51   | 40.5 | 26   | 66.5          | 55 | 50 |
|                                     | <b>GAI42XLM</b>  | <b>GAI42PLM</b>      | 42                                                                                      | M48x2.0                      | 36 | 53   | 42   | 28   | 68.5          | 60 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>GAI06XSM</b>  | <b>GAI06PSM</b>      | 06                                                                                      | M12x1.5                      | 4  | 33   | 26   | 17   | 43.5          | 17 | 17 |
|                                     | <b>GAI08XSM</b>  | <b>GAI08PSM</b>      | 08                                                                                      | M14x1.5                      | 5  | 33   | 26   | 17   | 43            | 19 | 19 |
|                                     | <b>GAI10XSM</b>  | <b>GAI10PSM</b>      | 10                                                                                      | M16x1.5                      | 7  | 34   | 26.5 | 17   | 46            | 22 | 22 |
|                                     | <b>GAI12XSM</b>  | <b>GAI12PSM</b>      | 12                                                                                      | M18x1.5                      | 8  | 35   | 27.5 | 17   | 46.5          | 24 | 24 |
|                                     | <b>GAI16XSM</b>  | <b>GAI16PSM</b>      | 16                                                                                      | M22x1.5                      | 12 | 39   | 30.5 | 19   | 52            | 30 | 30 |
| 400 bar                             | <b>GAI20XSM</b>  | <b>GAI20PSM</b>      | 20                                                                                      | M27x2.0                      | 16 | 45   | 34.5 | 22   | 60            | 36 | 36 |
|                                     | <b>GAI25XSM</b>  | <b>GAI25PSM</b>      | 25                                                                                      | M33x2.0                      | 20 | 49   | 37   | 24   | 65            | 41 | 46 |
|                                     | <b>GAI30XSM</b>  | <b>GAI30PSM</b>      | 30                                                                                      | M42x2.0                      | 25 | 55   | 41.5 | 26   | 72.5          | 55 | 50 |
| 250 bar                             | <b>GAI38XSM</b>  | <b>GAI38PSM</b>      | 38                                                                                      | M48x2.0                      | 32 | 59   | 43   | 28   | 77.5          | 60 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GAI16SRDSM

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GAI16PSM

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

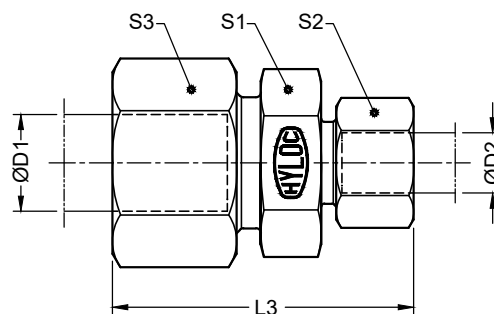
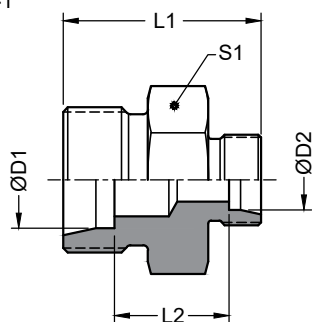
Example : GAI16PSM-ZnNi



# GR Straight Reducers

24° Tube end as per ISO 8434-1

Dimensions in mm



## Low Pressure Series

| Pr (bar) | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D2 | L1 | L2   | Approx.<br>L3 | S1 | S2 | S3 |
|----------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|------|---------------|----|----|----|
| 315      | GR0806XL         | GR0806PL             | 08                                                                                      | 06 | 25 | 11   | 45.5          | 14 | 14 | 17 |
| 315      | GR1006XL         | GR1006PL             | 10                                                                                      | 06 | 26 | 12   | 47.5          | 17 | 14 | 19 |
|          | GR1008XL         | GR1008PL             | 10                                                                                      | 08 | 26 | 12   | 47            | 17 | 17 | 19 |
| 315      | GR1206XL         | GR1206PL             | 12                                                                                      | 06 | 27 | 13   | 48            | 19 | 14 | 22 |
|          | GR1208XL         | GR1208PL             | 12                                                                                      | 08 | 27 | 13   | 47.5          | 19 | 17 | 22 |
|          | GR1210XL         | GR1210PL             | 12                                                                                      | 10 | 28 | 14   | 49.5          | 19 | 19 | 22 |
| 315      | GR1510XL         | GR1510PL             | 15                                                                                      | 10 | 29 | 15   | 51.5          | 24 | 19 | 27 |
|          | GR1512XL         | GR1512PL             | 15                                                                                      | 12 | 29 | 15   | 51            | 24 | 22 | 27 |
| 315      | GR1810XL         | GR1810PL             | 18                                                                                      | 10 | 30 | 15.5 | 53            | 27 | 19 | 32 |
|          | GR1812XL         | GR1812PL             | 18                                                                                      | 12 | 30 | 15.5 | 52.5          | 27 | 22 | 32 |
|          | GR1815XL         | GR1815PL             | 18                                                                                      | 15 | 31 | 16.5 | 54.5          | 27 | 27 | 32 |
| 160      | GR2212XL         | GR2212PL             | 22                                                                                      | 12 | 32 | 17.5 | 55            | 32 | 22 | 36 |
|          | GR2215XL         | GR2215PL             | 22                                                                                      | 15 | 33 | 18.5 | 57            | 32 | 27 | 36 |
|          | GR2218XL         | GR2218PL             | 22                                                                                      | 18 | 33 | 18   | 57.5          | 32 | 32 | 36 |
| 160      | GR2818XL         | GR2818PL             | 28                                                                                      | 18 | 34 | 19   | 59.5          | 41 | 32 | 41 |
|          | GR2822XL         | GR2822PL             | 28                                                                                      | 22 | 36 | 21   | 62            | 41 | 36 | 41 |
| 160      | GR3522XL         | GR3522PL             | 35                                                                                      | 22 | 39 | 21   | 67            | 46 | 36 | 50 |
|          | GR3528XL         | GR3528PL             | 35                                                                                      | 28 | 39 | 21   | 68            | 46 | 41 | 50 |

## High Pressure Series

| Pr (bar) | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D2 | L1 | L2   | Approx.<br>L3 | S1 | S2 | S3 |
|----------|------------------|----------------------|-------------------------------------------------------------------------------------------|----|----|------|---------------|----|----|----|
| 630      | GR0806XS         | GR0806PS             | 08                                                                                        | 06 | 32 | 18   | 52.5          | 17 | 17 | 19 |
| 630      | GR1006XS         | GR1006PS             | 10                                                                                        | 06 | 32 | 17.5 | 54.5          | 19 | 17 | 22 |
|          | GR1008XS         | GR1008PS             | 10                                                                                        | 08 | 32 | 17.5 | 54            | 19 | 19 | 22 |
| 630      | GR1206XS         | GR1206PS             | 12                                                                                        | 06 | 34 | 19.5 | 56            | 22 | 17 | 24 |
|          | GR1208XS         | GR1208PS             | 12                                                                                        | 08 | 34 | 19.5 | 55.5          | 22 | 19 | 24 |
|          | GR1210XS         | GR1210PS             | 12                                                                                        | 10 | 34 | 19   | 57.5          | 22 | 22 | 24 |
| 400      | GR1612XS         | GR1612PS             | 16                                                                                        | 12 | 36 | 20   | 60.5          | 27 | 24 | 30 |
| 400      | GR2010XS         | GR2010PS             | 20                                                                                        | 10 | 40 | 22   | 67            | 32 | 22 | 36 |
|          | GR2012XS         | GR2012PS             | 20                                                                                        | 12 | 40 | 22   | 66.5          | 32 | 24 | 36 |
|          | GR2016XS         | GR2016PS             | 20                                                                                        | 16 | 42 | 23   | 70            | 32 | 30 | 36 |
| 400      | GR2516XS         | GR2516PS             | 25                                                                                        | 16 | 46 | 25.5 | 75            | 41 | 30 | 46 |
|          | GR2520XS         | GR2520PS             | 25                                                                                        | 20 | 48 | 25.5 | 79            | 41 | 36 | 46 |
| 400      | GR3020XS         | GR3020PS             | 30                                                                                        | 20 | 50 | 26   | 82.5          | 46 | 36 | 50 |
|          | GR3025XS         | GR3025PS             | 30                                                                                        | 25 | 52 | 26.5 | 85.5          | 46 | 46 | 50 |
| 315      | GR3830XS         | GR3830PS             | 38                                                                                        | 30 | 59 | 29.5 | 95            | 55 | 50 | 60 |

Assembly consists of Double bite ferrule. For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GR1612SRDS

Standard material : Carbon Steel, For Stainless steel material, add prefix 316 - to the part code Example : 316-GR1612PS

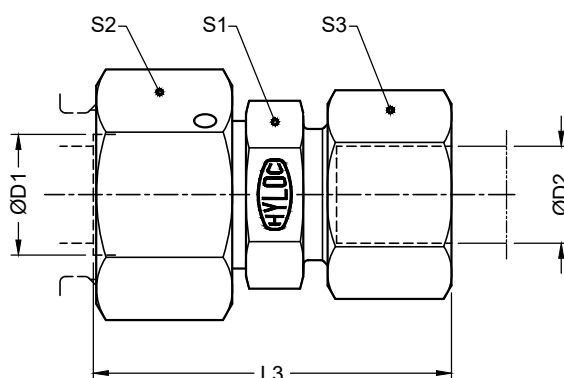
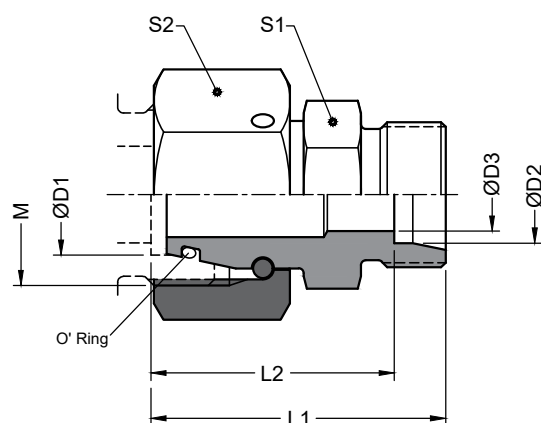
Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi, Example : GR1612PS-ZnNi

# RED Reducing standpipes with O-Ring

24° Tube end as per ISO 8434-1

Dimensions in mm



## Low Pressure Series

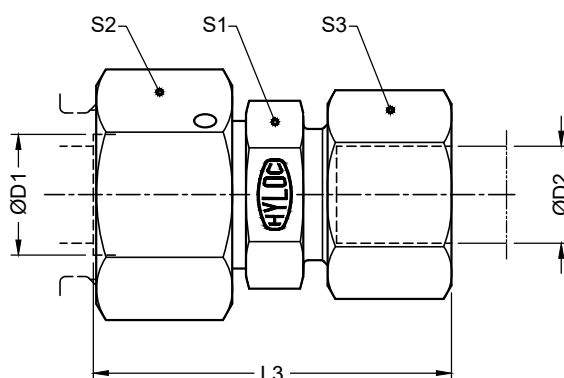
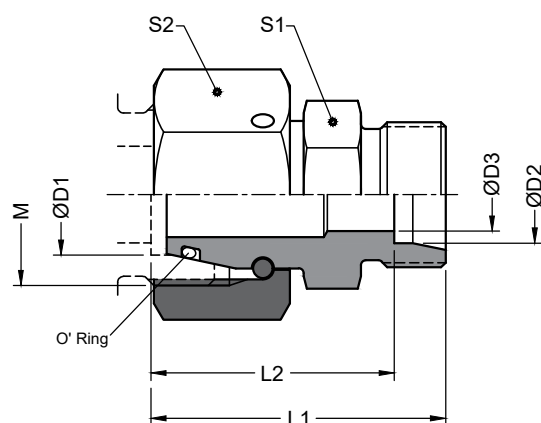
| Pressure | Part No.<br>Body | Part No.<br>Assembly | D1 | D2 | D3  | M       | L1   | L2   | Approx.<br>L3 | S1 | S2 | S3 | O' Ring<br>ID x CSD |
|----------|------------------|----------------------|----|----|-----|---------|------|------|---------------|----|----|----|---------------------|
| 315 bar  | RED0806XL        | RED0806PL            | 08 | 6  | 4   | M14x1.5 | 30.5 | 23.5 | 41            | 12 | 17 | 14 | 6.0 x 1.5           |
| 315 bar  | RED1006XL        | RED1006PL            | 10 | 6  | 4   | M16x1.5 | 32   | 25   | 42.5          | 14 | 19 | 14 | 7.5 x 1.5           |
|          | RED1008XL        | RED1008PL            | 10 | 8  | 6   | M16x1.5 | 32   | 25   | 42            | 14 | 19 | 17 |                     |
| 315 bar  | RED1206XL        | RED1206PL            | 12 | 6  | 4   | M18x1.5 | 32   | 25   | 42.5          | 17 | 22 | 14 | 9.0 x 1.5           |
|          | RED1208XL        | RED1208PL            | 12 | 8  | 6   | M18x1.5 | 32   | 25   | 42            | 17 | 22 | 17 |                     |
|          | RED1210XL        | RED1210PL            | 12 | 10 | 7.5 | M18x1.5 | 33   | 26   | 44            | 17 | 22 | 19 |                     |
| 315 bar  | RED1506XL        | RED1506PL            | 15 | 6  | 4   | M22x1.5 | 35.5 | 28.5 | 46            | 19 | 27 | 14 | 12 x 2.0            |
|          | RED1508XL        | RED1508PL            | 15 | 8  | 6   | M22x1.5 | 35.5 | 28.5 | 45.5          | 19 | 27 | 17 |                     |
|          | RED1510XL        | RED1510PL            | 15 | 10 | 8   | M22x1.5 | 36.5 | 29.5 | 47.5          | 19 | 27 | 19 |                     |
|          | RED1512XL        | RED1512PL            | 15 | 12 | 10  | M22x1.5 | 36.5 | 29.5 | 47            | 19 | 27 | 22 |                     |
| 315 bar  | RED1806XL        | RED1806PL            | 18 | 6  | 4   | M26x1.5 | 35   | 28   | 45.5          | 24 | 32 | 14 | 15 x 2.0            |
|          | RED1808XL        | RED1808PL            | 18 | 8  | 6   | M26x1.5 | 35   | 28   | 45            | 24 | 32 | 17 |                     |
|          | RED1810XL        | RED1810PL            | 18 | 10 | 8   | M26x1.5 | 36   | 29   | 47            | 24 | 32 | 19 |                     |
|          | RED1812XL        | RED1812PL            | 18 | 12 | 10  | M26x1.5 | 36   | 29   | 46.5          | 24 | 32 | 22 |                     |
|          | RED1815XL        | RED1815PL            | 18 | 15 | 12  | M26x1.5 | 37   | 30   | 48.5          | 24 | 32 | 27 |                     |
| 160 bar  | RED2206XL        | RED2206PL            | 22 | 6  | 4   | M30x2.0 | 39   | 32   | 49.5          | 27 | 36 | 14 | 20 x 2.0            |
|          | RED2208XL        | RED2208PL            | 22 | 8  | 6   | M30x2.0 | 39   | 32   | 49            | 27 | 36 | 17 |                     |
|          | RED2210XL        | RED2210PL            | 22 | 10 | 8   | M30x2.0 | 40   | 33   | 51            | 27 | 36 | 19 |                     |
|          | RED2212XL        | RED2212PL            | 22 | 12 | 10  | M30x2.0 | 40   | 33   | 50.5          | 27 | 36 | 22 |                     |
|          | RED2215XL        | RED2215PL            | 22 | 15 | 12  | M30x2.0 | 41   | 34   | 52.5          | 27 | 36 | 27 |                     |
|          | RED2218XL        | RED2218PL            | 22 | 18 | 15  | M30x2.0 | 41   | 33.5 | 53            | 27 | 36 | 32 |                     |
| 160 bar  | RED2806XL        | RED2806PL            | 28 | 6  | 4   | M36x2.0 | 41   | 34   | 51.5          | 32 | 41 | 14 | 26 x 2.0            |
|          | RED2808XL        | RED2808PL            | 28 | 8  | 6   | M36x2.0 | 41   | 34   | 51            | 32 | 41 | 17 |                     |
|          | RED2810XL        | RED2810PL            | 28 | 10 | 8   | M36x2.0 | 42   | 35   | 53            | 32 | 41 | 19 |                     |
|          | RED2812XL        | RED2812PL            | 28 | 12 | 10  | M36x2.0 | 42   | 35   | 52.5          | 32 | 41 | 22 |                     |
|          | RED2815XL        | RED2815PL            | 28 | 15 | 12  | M36x2.0 | 43   | 36   | 54.5          | 32 | 41 | 27 |                     |
|          | RED2818XL        | RED2818PL            | 28 | 18 | 15  | M36x2.0 | 43   | 35.5 | 55            | 32 | 41 | 32 |                     |
|          | RED2822XL        | RED2822PL            | 28 | 22 | 19  | M36x2.0 | 45   | 37.5 | 57.5          | 32 | 41 | 36 |                     |

Refer next page for remaining sizes

# RED Reducing standpipes with O-Ring

24° Tube end as per ISO 8434-1

Dimensions in mm



Low Pressure Series (Continued.....)

| Pressure | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D2<br> | D3 | M         | L1   | L2   | Approx.<br>L3 | S1 | S2 | S3 | O' Ring<br>ID x CSD |
|----------|------------------|----------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----|-----------|------|------|---------------|----|----|----|---------------------|
| 160 bar  | RED3506XL        | RED3506PL            | 35                                                                                      | 6                                                                                       | 4  | M45 x 2.0 | 44   | 37   | 54.5          | 41 | 50 | 14 | 32 x 2.5            |
|          | RED3508XL        | RED3508PL            | 35                                                                                      | 8                                                                                       | 6  | M45 x 2.0 | 44   | 37   | 54            | 41 | 50 | 17 |                     |
|          | RED3510XL        | RED3510PL            | 35                                                                                      | 10                                                                                      | 8  | M45 x 2.0 | 45   | 38   | 56            | 41 | 50 | 19 |                     |
|          | RED3512XL        | RED3512PL            | 35                                                                                      | 12                                                                                      | 10 | M45 x 2.0 | 45   | 38   | 55.5          | 41 | 50 | 22 |                     |
|          | RED3515XL        | RED3515PL            | 35                                                                                      | 15                                                                                      | 12 | M45 x 2.0 | 46   | 39   | 57.5          | 41 | 50 | 27 |                     |
|          | RED3518XL        | RED3518PL            | 35                                                                                      | 18                                                                                      | 15 | M45 x 2.0 | 46   | 38.5 | 58            | 41 | 50 | 32 |                     |
|          | RED3522XL        | RED3522PL            | 35                                                                                      | 22                                                                                      | 19 | M45 x 2.0 | 48   | 40.5 | 60.5          | 41 | 50 | 36 |                     |
|          | RED3528XL        | RED3528PL            | 35                                                                                      | 28                                                                                      | 24 | M45 x 2.0 | 48   | 40.5 | 61.5          | 41 | 50 | 41 |                     |
| 160 bar  | RED4210XL        | RED4210PL            | 42                                                                                      | 10                                                                                      | 8  | M52 x 2.0 | 48.5 | 41.5 | 59.5          | 50 | 60 | 19 | 38 x 2.5            |
|          | RED4212XL        | RED4212PL            | 42                                                                                      | 12                                                                                      | 10 | M52 x 2.0 | 48.5 | 41.5 | 59            | 50 | 60 | 22 |                     |
|          | RED4215XL        | RED4215PL            | 42                                                                                      | 15                                                                                      | 12 | M52 x 2.0 | 49.5 | 42.5 | 61            | 50 | 60 | 27 |                     |
|          | RED4218XL        | RED4218PL            | 42                                                                                      | 18                                                                                      | 15 | M52 x 2.0 | 49.5 | 42   | 61.5          | 50 | 60 | 32 |                     |
|          | RED4222XL        | RED4222PL            | 42                                                                                      | 22                                                                                      | 19 | M52 x 2.0 | 51.5 | 44   | 64            | 50 | 60 | 36 |                     |
|          | RED4228XL        | RED4228PL            | 42                                                                                      | 28                                                                                      | 24 | M52 x 2.0 | 51.5 | 44   | 65            | 50 | 60 | 41 |                     |
|          | RED4235XL        | RED4235PL            | 42                                                                                      | 35                                                                                      | 30 | M52 x 2.0 | 53.5 | 43   | 69            | 50 | 60 | 50 |                     |

Assembly consists of Double bite ferrule. For soft seal ferrules, replace 'P' with 'SRD' in Part code.

Example : RED1815SRDL

Standard material : Carbon Steel. For Stainless steel material, add prefix 316 - to the part code

Example : 316-RED1815PL

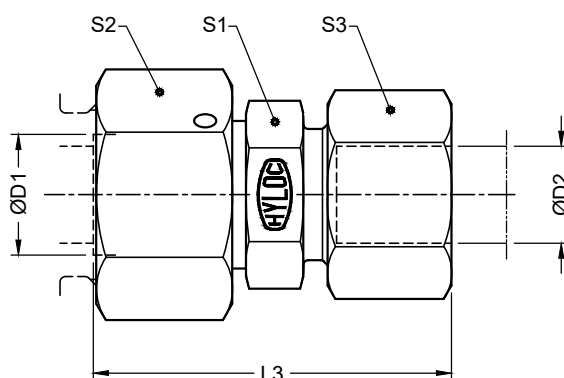
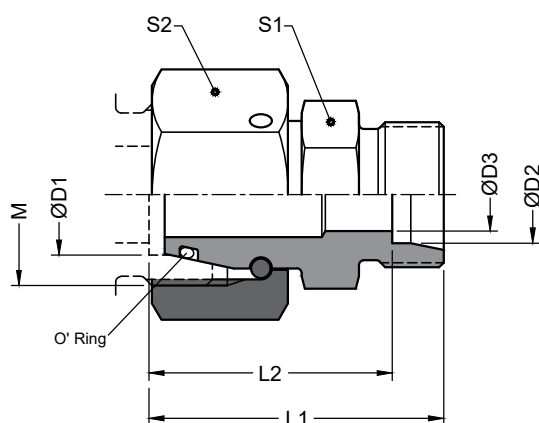
Standard surface treatment : Chrome free Alkaline Zinc Plating. For Zinc Nickel surface treatment, add suffix - ZnNi.

Example : RED1815PL-ZnNi

# RED Reducing standpipes with O-Ring

24° Tube end as per ISO 8434-1

Dimensions in mm



## High Pressure Series

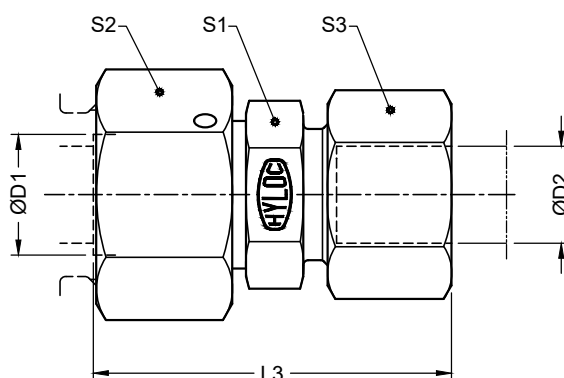
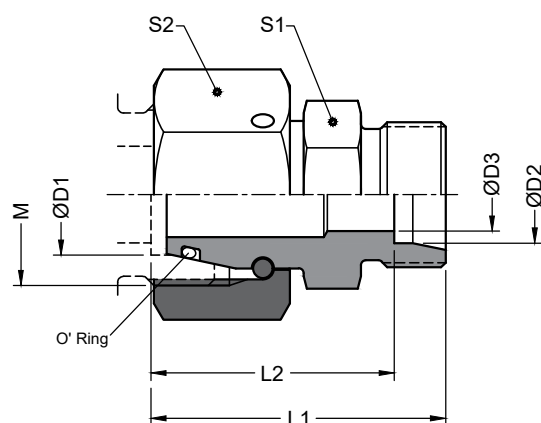
| Pressure | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D2<br> | D3 | M         | L1   | L2   | Approx.<br>L3 | S1 | S2 | S3 | O' Ring<br>ID x CSD |
|----------|------------------|----------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----|-----------|------|------|---------------|----|----|----|---------------------|
| 630 bar  | RED0806XS        | RED0806PS            | 8                                                                                       | 6                                                                                       | 4  | M16 x 1.5 | 34   | 27   | 44.5          | 14 | 19 | 17 | 6.0 x 1.5           |
| 630 bar  | RED1006XS        | RED1006PS            | 10                                                                                      | 6                                                                                       | 4  | M18 x 1.5 | 34.5 | 27.5 | 45            | 17 | 22 | 17 | 7.5 x 1.5           |
|          | RED1008XS        | RED1008PS            | 10                                                                                      | 8                                                                                       | 5  | M18 x 1.5 | 34.5 | 27.5 | 44.5          | 17 | 22 | 19 |                     |
| 630 bar  | RED1206XS        | RED1206PS            | 12                                                                                      | 6                                                                                       | 4  | M20 x 1.5 | 36   | 29   | 46.5          | 17 | 24 | 17 | 9.0 x 1.5           |
|          | RED1208XS        | RED1208PS            | 12                                                                                      | 8                                                                                       | 5  | M20 x 1.5 | 36   | 29   | 46            | 17 | 24 | 19 |                     |
|          | RED1210XS        | RED1210PS            | 12                                                                                      | 10                                                                                      | 7  | M20 x 1.5 | 37   | 29.5 | 49            | 19 | 24 | 22 |                     |
| 400 bar  | RED1606XS        | RED1606PS            | 16                                                                                      | 6                                                                                       | 4  | M24 x 1.5 | 39   | 32   | 49.5          | 22 | 30 | 17 | 12 x 2.0            |
|          | RED1608XS        | RED1608PS            | 16                                                                                      | 8                                                                                       | 5  | M24 x 1.5 | 39   | 32   | 49            | 22 | 30 | 19 |                     |
|          | RED1610XS        | RED1610PS            | 16                                                                                      | 10                                                                                      | 7  | M24 x 1.5 | 39   | 31.5 | 51            | 22 | 30 | 22 |                     |
|          | RED1612XS        | RED1612PS            | 16                                                                                      | 12                                                                                      | 8  | M24 x 1.5 | 39   | 31.5 | 50.5          | 22 | 30 | 24 |                     |
| 400 bar  | RED2006XS        | RED2006PS            | 20                                                                                      | 6                                                                                       | 4  | M30 x 2.0 | 43   | 36   | 53.5          | 27 | 36 | 17 | 16.3 x 2.4          |
|          | RED2008XS        | RED2008PS            | 20                                                                                      | 8                                                                                       | 5  | M30 x 2.0 | 43   | 36   | 53            | 27 | 36 | 19 |                     |
|          | RED2010XS        | RED2010PS            | 20                                                                                      | 10                                                                                      | 7  | M30 x 2.0 | 43   | 35.5 | 55            | 27 | 36 | 22 |                     |
|          | RED2012XS        | RED2012PS            | 20                                                                                      | 12                                                                                      | 8  | M30 x 2.0 | 43   | 35.5 | 54.5          | 27 | 36 | 24 |                     |
|          | RED2016XS        | RED2016PS            | 20                                                                                      | 16                                                                                      | 12 | M30 x 2.0 | 45   | 36.5 | 58            | 27 | 36 | 30 |                     |

Refer next page for remaining sizes

# RED Reducing standpipes with O-Ring

24° Tube end as per ISO 8434-1

Dimensions in mm



High Pressure Series (Continued.....)

| Pressure | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D2<br> | D3 | M         | L1   | L2   | Approx.<br>L3 | S1 | S2 | S3 | O' Ring<br>ID x CSD |
|----------|------------------|----------------------|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|----|-----------|------|------|---------------|----|----|----|---------------------|
| 400 bar  | RED2506XS        | RED2506PS            | 25                                                                                      | 6                                                                                       | 4  | M36 x 2.0 | 45.5 | 38.5 | 56            | 32 | 46 | 17 | 20.3 x 2.4          |
|          | RED2508XS        | RED2508PS            | 25                                                                                      | 8                                                                                       | 5  | M36 x 2.0 | 45.5 | 38.5 | 55.5          | 32 | 46 | 19 |                     |
|          | RED2510XS        | RED2510PS            | 25                                                                                      | 10                                                                                      | 7  | M36 x 2.0 | 45.5 | 38   | 57.5          | 32 | 46 | 22 |                     |
|          | RED2512XS        | RED2512PS            | 25                                                                                      | 12                                                                                      | 8  | M36 x 2.0 | 45.5 | 38   | 57            | 32 | 46 | 24 |                     |
|          | RED2516XS        | RED2516PS            | 25                                                                                      | 16                                                                                      | 12 | M36 x 2.0 | 47.5 | 39   | 60.5          | 32 | 46 | 30 |                     |
|          | RED2520XS        | RED2520PS            | 25                                                                                      | 20                                                                                      | 16 | M36 x 2.0 | 49.5 | 39   | 64.5          | 32 | 46 | 36 |                     |
| 400 bar  | RED3006XS        | RED3006PS            | 30                                                                                      | 6                                                                                       | 4  | M42 x 2.0 | 51   | 44   | 61.5          | 41 | 50 | 17 | 25.3 x 2.4          |
|          | RED3008XS        | RED3008PS            | 30                                                                                      | 8                                                                                       | 5  | M42 x 2.0 | 51   | 44   | 61            | 41 | 50 | 19 |                     |
|          | RED3010XS        | RED3010PS            | 30                                                                                      | 10                                                                                      | 7  | M42 x 2.0 | 51   | 43.5 | 63            | 41 | 50 | 22 |                     |
|          | RED3012XS        | RED3012PS            | 30                                                                                      | 12                                                                                      | 8  | M42 x 2.0 | 51   | 43.5 | 62.5          | 41 | 50 | 24 |                     |
|          | RED3016XS        | RED3016PS            | 30                                                                                      | 16                                                                                      | 12 | M42 x 2.0 | 53   | 44.5 | 66            | 41 | 50 | 30 |                     |
|          | RED3020XS        | RED3020PS            | 30                                                                                      | 20                                                                                      | 16 | M42 x 2.0 | 55   | 44.5 | 70            | 41 | 50 | 36 |                     |
|          | RED3025XS        | RED3025PS            | 30                                                                                      | 25                                                                                      | 20 | M42 x 2.0 | 57   | 45   | 73            | 41 | 50 | 46 |                     |
| 315 bar  | RED3810XS        | RED3810PS            | 38                                                                                      | 10                                                                                      | 7  | M52 x 2.0 | 54.5 | 47   | 66.5          | 50 | 60 | 22 | 33.3 x 2.4          |
|          | RED3812XS        | RED3812PS            | 38                                                                                      | 12                                                                                      | 8  | M52 x 2.0 | 54.5 | 47   | 66            | 50 | 60 | 24 |                     |
|          | RED3816XS        | RED3816PS            | 38                                                                                      | 16                                                                                      | 12 | M52 x 2.0 | 56.5 | 48   | 69.5          | 50 | 60 | 30 |                     |
|          | RED3820XS        | RED3820PS            | 38                                                                                      | 20                                                                                      | 16 | M52 x 2.0 | 58.5 | 48   | 73.5          | 50 | 60 | 36 |                     |
|          | RED3825XS        | RED3825PS            | 38                                                                                      | 25                                                                                      | 20 | M52 x 2.0 | 60.5 | 48.5 | 76.5          | 50 | 60 | 46 |                     |
|          | RED3830XS        | RED3830PS            | 38                                                                                      | 30                                                                                      | 25 | M52 x 2.0 | 62.5 | 49   | 80            | 50 | 60 | 50 |                     |

Assembly consists of Double bite ferrule. For soft seal ferrules, replace 'P' with 'SRD' in Part code.

Example : RED3020SRDS

Standard material : Carbon Steel. For Stainless steel material, add prefix 316 - to the part code

Example : 316-RED3020PS

Standard surface treatment : Chrome free Alkaline Zinc Plating. For Zinc Nickel surface treatment, add suffix - ZnNi.

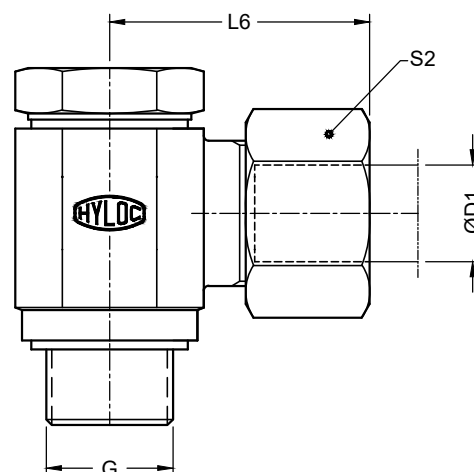
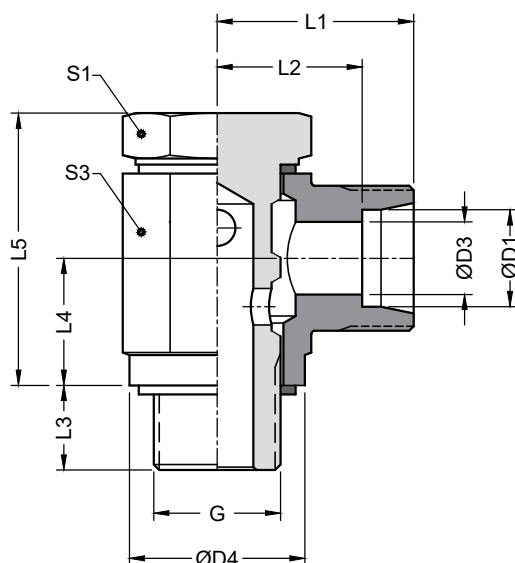
Example : RED3020PS-ZnNi

# HSWV-G Banjo Couplings

24° Tube end as per ISO 8434-1

Stud end - Male BSPP (G) threads

Dimensions in mm



| Series                       | Part No.<br>Body | Part No.<br>Assembly | D1 | D3 | G<br>Male BSPP<br>thread | D4 | L1   | L2   | L3 | L4   | L5   | Approx.<br>L6 | S1 | S2 | S3   |
|------------------------------|------------------|----------------------|----|----|--------------------------|----|------|------|----|------|------|---------------|----|----|------|
| <b>L</b><br>Light<br>250 bar | HSWV06XLG        | HSWV06PLG            | 06 | 4  | G 1/8 A                  | 15 | 19.5 | 12.5 | 8  | 12   | 28   | 30            | 19 | 14 | 19   |
|                              | HSWV08XLG        | HSWV08PLG            | 08 | 6  | G 1/4 A                  | 20 | 21   | 14   | 12 | 15   | 33   | 31            | 19 | 17 | 22   |
|                              | HSWV10XLG        | HSWV10PLG            | 10 | 8  | G 1/4 A                  | 20 | 22   | 15   | 12 | 15   | 33   | 33            | 19 | 19 | 22   |
|                              | HSWV12XLG        | HSWV12PLG            | 12 | 10 | G 3/8 A                  | 24 | 24.5 | 17.5 | 12 | 18   | 40   | 35            | 22 | 22 | 27   |
|                              | HSWV15XLG        | HSWV15PLG            | 15 | 12 | G 1/2 A                  | 29 | 30   | 23   | 14 | 21   | 45   | 41.5          | 27 | 27 | 32   |
| 100 bar                      | HSWV18XLG        | HSWV18PLG            | 18 | 15 | G 1/2 A                  | 29 | 27   | 19.5 | 14 | 21   | 45   | 39            | 27 | 32 | 32   |
|                              | HSWV22XLG        | HSWV22PLG            | 22 | 19 | G 3/4 A                  | 35 | 34.5 | 27   | 16 | 24   | 53   | 47            | 32 | 36 | 41   |
| 100 bar                      | HSWV28XLG        | HSWV28PLG            | 28 | 24 | G 1 A                    | 43 | 43   | 29.5 | 18 | 29.5 | 63.5 | 56.5          | 41 | 41 | 46   |
|                              | HSWV35XLG        | HSWV35PLG            | 35 | 30 | G1.1/4 A                 | 53 | 45.5 | 35   | 20 | 33   | 74   | 61            | 50 | 50 | 55 * |
|                              | HSWV42XLG        | HSWV42PLG            | 42 | 36 | G1.1/2 A                 | 59 | 51   | 40   | 22 | 38.5 | 83   | 66.5          | 60 | 60 | 70 * |
| <b>S</b><br>Heavy<br>400 bar | HSWV06XSG        | HSWV06PSG            | 06 | 4  | G 1/4 A                  | 20 | 23   | 16   | 12 | 15   | 33   | 33.5          | 19 | 17 | 22   |
|                              | HSWV08XSG        | HSWV08PSG            | 08 | 5  | G 1/4 A                  | 20 | 23   | 16   | 12 | 15   | 33   | 33            | 19 | 19 | 22   |
|                              | HSWV10XSG        | HSWV10PSG            | 10 | 7  | G 3/8 A                  | 24 | 25.5 | 18   | 12 | 18   | 40   | 37.5          | 22 | 22 | 27   |
|                              | HSWV12XSG        | HSWV12PSG            | 12 | 8  | G 3/8 A                  | 24 | 25.5 | 18   | 12 | 18   | 40   | 37            | 22 | 24 | 27   |
|                              | HSWV16XSG        | HSWV16PSG            | 16 | 12 | G 1/2 A                  | 29 | 30   | 21.5 | 14 | 21   | 45   | 43            | 27 | 30 | 32   |
| 400 bar                      | HSWV20XSG        | HSWV20PSG            | 20 | 16 | G 3/4 A                  | 35 | 38.5 | 28   | 16 | 24   | 53   | 53.5          | 32 | 36 | 41   |
|                              | HSWV25XSG        | HSWV25PSG            | 25 | 20 | G1 A                     | 43 | 43   | 31   | 18 | 29.5 | 63.5 | 59            | 41 | 46 | 46   |
|                              | HSWV30XSG        | HSWV30PSG            | 30 | 25 | G1.1/4 A                 | 53 | 50   | 36.5 | 20 | 33   | 74   | 67.5          | 50 | 50 | 60 * |
| 250 bar                      | HSWV38XSG        | HSWV38PSG            | 38 | 32 | G1.1/2 A                 | 59 | 57   | 41   | 22 | 38.5 | 83   | 75.5          | 60 | 60 | 70 * |

\* Body machined from flat

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : HSWV16SRDSG

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-HSWV16PSG

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

Example : HSWV16PSG-ZnNi

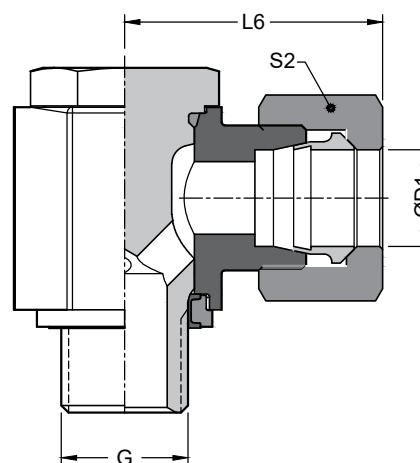
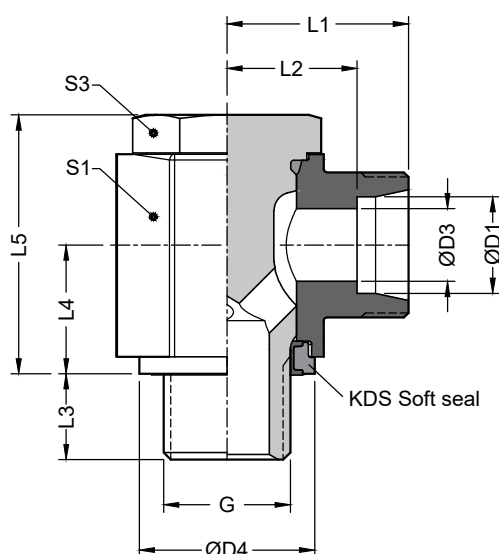


# WH-GE Banjo Elbow

24° Tube end as per ISO 8434-1

Stud end - Male BSPP (G) threads

Dimensions in mm



| Series                       | Part No.<br>Body  | Part No.<br>Assembly | D1<br> | D3 | G<br>Male BSPP<br>thread | D4   | L1   | L2   | L3 | L4   | L5   | Approx.<br>L6 | S1 | S2 | S3   |
|------------------------------|-------------------|----------------------|-----------------------------------------------------------------------------------------|----|--------------------------|------|------|------|----|------|------|---------------|----|----|------|
| <b>L</b><br>Light<br>350 bar | <b>WH06XLGE</b>   | <b>WH06PLGE</b>      | 06                                                                                      | 4  | G 1/8 A                  | 14.9 | 20   | 13   | 8  | 10   | 21   | 30.5          | 19 | 14 | 14   |
|                              | <b>WH06XLG02E</b> | <b>WH06PLG02E</b>    | 06                                                                                      | 4  | G 1/4 A                  | 18.9 | 22   | 15   | 12 | 13.5 | 27   | 32.5          | 22 | 14 | 19   |
|                              | <b>WH08XLGE</b>   | <b>WH08PLGE</b>      | 08                                                                                      | 6  | G 1/4 A                  | 18.9 | 21   | 14   | 12 | 13.5 | 27   | 31            | 22 | 17 | 19   |
|                              | <b>WH10XLGE</b>   | <b>WH10PLGE</b>      | 10                                                                                      | 8  | G 1/4 A                  | 18.9 | 22   | 15   | 12 | 13.5 | 27   | 33            | 22 | 19 | 19   |
|                              | <b>WH12XLG02E</b> | <b>WH12PLG02E</b>    | 12                                                                                      | 10 | G 1/4 A                  | 18.9 | 22   | 15   | 10 | 15.5 | 30   | 32.5          | 22 | 22 | 19   |
|                              | <b>WH12XLGE</b>   | <b>WH12PLGE</b>      | 12                                                                                      | 10 | G 3/8 A                  | 21.9 | 24.5 | 17.5 | 12 | 16   | 32.5 | 35            | 27 | 22 | 22   |
|                              | <b>WH15XLGE</b>   | <b>WH15PLGE</b>      | 15                                                                                      | 12 | G 1/2 A                  | 26.9 | 28   | 21   | 14 | 19.5 | 43   | 39.5          | 32 | 27 | 27   |
|                              | <b>WH18XLGE</b>   | <b>WH18PLGE</b>      | 18                                                                                      | 15 | G 1/2 A                  | 26.9 | 28   | 20.5 | 14 | 21.5 | 43   | 40            | 32 | 32 | 27   |
| 160 bar                      | <b>WH22XLGE</b>   | <b>WH22PLGE</b>      | 22                                                                                      | 19 | G 3/4 A                  | 32.9 | 34.5 | 27   | 16 | 24   | 48   | 47            | 41 | 36 | 32   |
|                              | <b>WH28XLGE</b>   | <b>WH28PLGE</b>      | 28                                                                                      | 24 | G 1 A                    | 39.9 | 39   | 31.5 | 18 | 30.5 | 59   | 52.5          | 46 | 41 | 41   |
|                              | <b>WH35XLGE</b>   | <b>WH35PLGE</b>      | 35                                                                                      | 30 | G1.1/4 A                 | 49.9 | 46   | 35.5 | 20 | 35.5 | 70   | 61.5          | 55 | 50 | 50 * |
|                              | <b>WH42XLGE</b>   | <b>WH42PLGE</b>      | 42                                                                                      | 36 | G1.1/2 A                 | 55.9 | 51   | 40   | 22 | 40.5 | 80   | 66.5          | 65 | 60 | 55 * |
| <b>S</b><br>Heavy<br>350bar  | <b>WH06XSGE</b>   | <b>WH06PSGE</b>      | 06                                                                                      | 4  | G 1/4 A                  | 18.9 | 23   | 16   | 12 | 13.5 | 27   | 33.5          | 22 | 17 | 19   |
|                              | <b>WH08XSGE</b>   | <b>WH08PSGE</b>      | 08                                                                                      | 5  | G 1/4 A                  | 18.9 | 23   | 16   | 12 | 13.5 | 27   | 33            | 22 | 19 | 19   |
|                              | <b>WH10XSGE</b>   | <b>WH10PSGE</b>      | 10                                                                                      | 7  | G 3/8 A                  | 21.9 | 25.5 | 18   | 12 | 16   | 32.5 | 37.5          | 27 | 22 | 22   |
|                              | <b>WH12XSGE</b>   | <b>WH12PSGE</b>      | 12                                                                                      | 8  | G 3/8 A                  | 21.9 | 25.5 | 18   | 12 | 16   | 32.5 | 37            | 27 | 24 | 22   |
|                              | <b>WH16XSGE</b>   | <b>WH16PSGE</b>      | 16                                                                                      | 12 | G 1/2 A                  | 26.9 | 30   | 21.5 | 14 | 21.5 | 43   | 43            | 32 | 30 | 27   |
|                              | <b>WH20XSGE</b>   | <b>WH20PSGE</b>      | 20                                                                                      | 16 | G 3/4 A                  | 32.9 | 36.5 | 26   | 16 | 24   | 48   | 51.5          | 41 | 36 | 32   |
| 250 bar                      | <b>WH25XSGE</b>   | <b>WH25PSGE</b>      | 25                                                                                      | 20 | G1 A                     | 39.9 | 43   | 31   | 18 | 30.5 | 59   | 59            | 50 | 46 | 41   |
|                              | <b>WH30XSGE</b>   | <b>WH30PSGE</b>      | 30                                                                                      | 25 | G1.1/4 A                 | 49.9 | 50   | 36.5 | 20 | 35.5 | 70   | 67.5          | 55 | 50 | 50 * |
|                              | <b>WH38XSGE</b>   | <b>WH38PSGE</b>      | 38                                                                                      | 32 | G1.1/2 A                 | 55.9 | 57   | 41   | 22 | 40.5 | 80   | 75.5          | 65 | 60 | 55 * |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : WH16SRDSGE

\* Body machined from flat

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-WH16PSGE

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

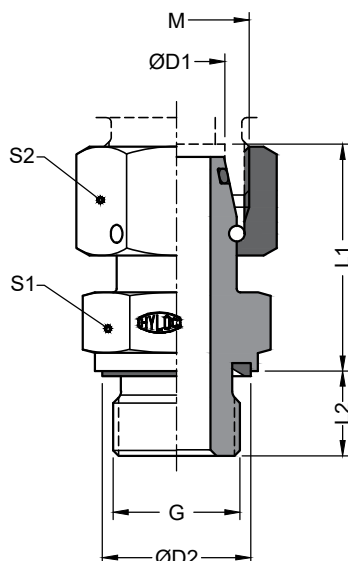
Example : WH16PSGE-ZnNi

# EGE-GE Straight Stud Standpipes

Metric standpipe with Swivel Coupling Nut.

Male BSPP (G) threads as per  
DIN 3852, Part 11 with Elastomeric seal

Dimensions in mm



| Series                              | Part No.<br>Assembly | D1<br> | G<br>Male BSPP<br>thread | D2 | M         | L1   | L2 | S1 | S2 | O Ring<br>ID x CSD |
|-------------------------------------|----------------------|-----------------------------------------------------------------------------------------|--------------------------|----|-----------|------|----|----|----|--------------------|
| <b>L</b><br><b>Light</b><br>315 bar | <b>EGE06LGE</b>      | 06                                                                                      | G 1/8 A                  | 14 | M12 x 1.5 | 24.5 | 8  | 14 | 14 | 4.0 x 1.5          |
|                                     | <b>EGE08LGE</b>      | 08                                                                                      | G 1/4 A                  | 19 | M14 x 1.5 | 29.5 | 12 | 19 | 17 | 6.0 x 1.5          |
|                                     | <b>EGE10LGE</b>      | 10                                                                                      | G 1/4 A                  | 19 | M16 x 1.5 | 27.5 | 12 | 19 | 19 | 7.5 x 1.5          |
|                                     | <b>EGE12LGE</b>      | 12                                                                                      | G 3/8 A                  | 22 | M18 x 1.5 | 34   | 12 | 22 | 22 | 9.0 x 1.5          |
|                                     | <b>EGE15LGE</b>      | 15                                                                                      | G 1/2 A                  | 27 | M22 x 1.5 | 32   | 14 | 27 | 27 | 12.0 x 2.0         |
|                                     | <b>EGE18LGE</b>      | 18                                                                                      | G 1/2 A                  | 27 | M26 x 1.5 | 31.5 | 14 | 27 | 32 | 15.0 x 2.0         |
| 160 bar                             | <b>EGE22LGE</b>      | 22                                                                                      | G 3/4 A                  | 32 | M30 x 2.0 | 32.5 | 16 | 32 | 36 | 20.0 x 2.0         |
|                                     | <b>EGE28LGE</b>      | 28                                                                                      | G 1 A                    | 40 | M36 x 2.0 | 35   | 18 | 41 | 41 | 26.0 x 2.0         |
|                                     | <b>EGE35LGE</b>      | 35                                                                                      | G1.1/4 A                 | 50 | M45 x 2.0 | 42.5 | 20 | 50 | 50 | 32.0 x 2.5         |
|                                     | <b>EGE42LGE</b>      | 42                                                                                      | G1.1/2 A                 | 55 | M52 x 2.0 | 46.5 | 22 | 55 | 60 | 38.0 x 2.5         |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>EGE06SGE</b>      | 06                                                                                      | G 1/4 A                  | 19 | M14 x 1.5 | 27   | 12 | 19 | 17 | 4.0 x 1.5          |
|                                     | <b>EGE08SGE</b>      | 08                                                                                      | G 1/4 A                  | 19 | M16 x 1.5 | 29.5 | 12 | 19 | 19 | 6.0 x 1.5          |
|                                     | <b>EGE10SGE</b>      | 10                                                                                      | G 3/8 A                  | 22 | M18 x 1.5 | 32   | 12 | 22 | 22 | 7.5 x 1.5          |
|                                     | <b>EGE12SGE</b>      | 12                                                                                      | G 3/8 A                  | 22 | M20 x 1.5 | 34   | 12 | 22 | 24 | 9.0 x 1.5          |
| 400 bar                             | <b>EGE16SGE</b>      | 16                                                                                      | G 1/2 A                  | 27 | M24 x 1.5 | 37   | 14 | 27 | 30 | 12.0 x 2.0         |
|                                     | <b>EGE20SGE</b>      | 20                                                                                      | G 3/4 A                  | 32 | M30 x 2.0 | 43   | 16 | 32 | 36 | 16.3 x 2.4         |
|                                     | <b>EGE25SGE</b>      | 25                                                                                      | G 1 A                    | 40 | M36 x 2.0 | 48   | 18 | 41 | 46 | 20.3 x 2.4         |
|                                     | <b>EGE30SGE</b>      | 30                                                                                      | G1.1/4 A                 | 50 | M42 x 2.0 | 51   | 20 | 50 | 50 | 25.3 x 2.4         |
| 315 bar                             | <b>EGE38SGE</b>      | 38                                                                                      | G1.1/2 A                 | 55 | M52 x 2.0 | 60   | 22 | 55 | 60 | 33.3 x 2.4         |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-EGE16SGE

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

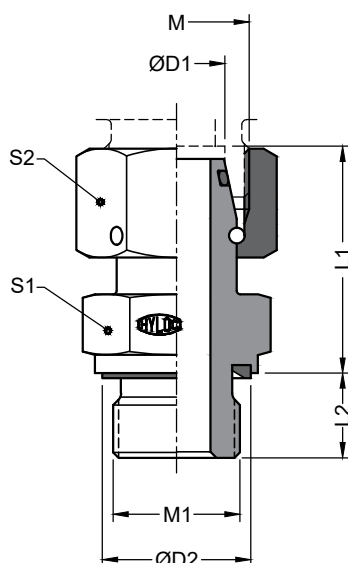
Example : EGE16SGE-ZnNi

# EGE-ME Straight Stud Standpipes

Metric standpipe with Swivel Coupling Nut.

Male Metric (M) threads as per  
DIN 3852, Part 11 / ISO 9974 Form E  
with Elastomeric seal

Dimensions in mm



| Series                              | Part No.<br>Assembly | D1<br> | M1<br>Male Metric<br>thread | D2 | M         | L1   | L2 | S1 | S2 | O Ring<br>ID x CSD |
|-------------------------------------|----------------------|-----------------------------------------------------------------------------------------|-----------------------------|----|-----------|------|----|----|----|--------------------|
| <b>L</b><br><b>Light</b><br>315 bar | <b>EGE06LME</b>      | 06                                                                                      | M10 x 1.0                   | 14 | M12 x 1.5 | 24.5 | 8  | 14 | 14 | 4.0 x 1.5          |
|                                     | <b>EGE08LME</b>      | 08                                                                                      | M12 x 1.5                   | 17 | M14 x 1.5 | 26.5 | 12 | 17 | 17 | 6.0 x 1.5          |
|                                     | <b>EGE10LME</b>      | 10                                                                                      | M14 x 1.5                   | 19 | M16 x 1.5 | 27.5 | 12 | 19 | 19 | 7.5 x 1.5          |
|                                     | <b>EGE12LME</b>      | 12                                                                                      | M16 x 1.5                   | 22 | M18 x 1.5 | 30.5 | 12 | 22 | 22 | 9.0 x 1.5          |
|                                     | <b>EGE15LME</b>      | 15                                                                                      | M18 x 1.5                   | 24 | M22 x 1.5 | 31.5 | 12 | 24 | 27 | 12.0 x 2.0         |
|                                     | <b>EGE18LME</b>      | 18                                                                                      | M22 x 1.5                   | 27 | M26 x 1.5 | 31.5 | 14 | 27 | 32 | 15.0 x 2.0         |
| 160 bar                             | <b>EGE22LME</b>      | 22                                                                                      | M26 x 1.5                   | 32 | M30 x 2.0 | 32.5 | 16 | 32 | 36 | 20.0 x 2.0         |
|                                     | <b>EGE28LME</b>      | 28                                                                                      | M33 x 2.0                   | 40 | M36 x 2.0 | 35   | 18 | 41 | 41 | 26.0 x 2.0         |
|                                     | <b>EGE35LME</b>      | 35                                                                                      | M42 x 2.0                   | 50 | M45 x 2.0 | 42.5 | 20 | 50 | 50 | 32.0 x 2.5         |
|                                     | <b>EGE42LME</b>      | 42                                                                                      | M48 x 2.0                   | 55 | M52 x 2.0 | 46.5 | 22 | 55 | 60 | 38.0 x 2.5         |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>EGE06SME</b>      | 06                                                                                      | M12 x 1.5                   | 17 | M14 x 1.5 | 27   | 12 | 17 | 17 | 4.0 x 1.5          |
|                                     | <b>EGE08SME</b>      | 08                                                                                      | M14 x 1.5                   | 19 | M16 x 1.5 | 29.5 | 12 | 19 | 19 | 6.0 x 1.5          |
|                                     | <b>EGE10SME</b>      | 10                                                                                      | M16 x 1.5                   | 22 | M18 x 1.5 | 32   | 12 | 22 | 22 | 7.5 x 1.5          |
|                                     | <b>EGE12SME</b>      | 12                                                                                      | M18 x 1.5                   | 24 | M20 x 1.5 | 34   | 12 | 24 | 24 | 9.0 x 1.5          |
| 400 bar                             | <b>EGE16SME</b>      | 16                                                                                      | M22 x 1.5                   | 27 | M24 x 1.5 | 37   | 14 | 27 | 30 | 12.0 x 2.0         |
|                                     | <b>EGE20SME</b>      | 20                                                                                      | M27 x 2.0                   | 32 | M30 x 2.0 | 43   | 16 | 32 | 36 | 16.3 x 2.4         |
|                                     | <b>EGE25SME</b>      | 25                                                                                      | M33 x 2.0                   | 40 | M36 x 2.0 | 48   | 18 | 41 | 46 | 20.3 x 2.4         |
|                                     | <b>EGE30SME</b>      | 30                                                                                      | M42 x 2.0                   | 50 | M42 x 2.0 | 51   | 20 | 50 | 50 | 25.3 x 2.4         |
| 315 bar                             | <b>EGE38SME</b>      | 38                                                                                      | M48 x 2.0                   | 55 | M52 x 2.0 | 60   | 22 | 55 | 60 | 33.3 x 2.4         |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-EGE16SME

Standard surface treatment : Chrome free Alkaline Zinc Plating.

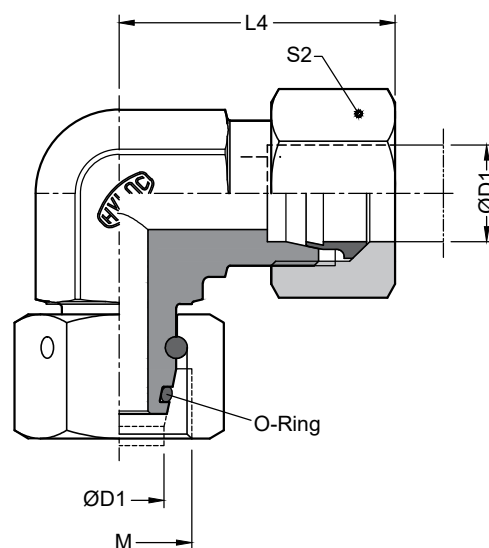
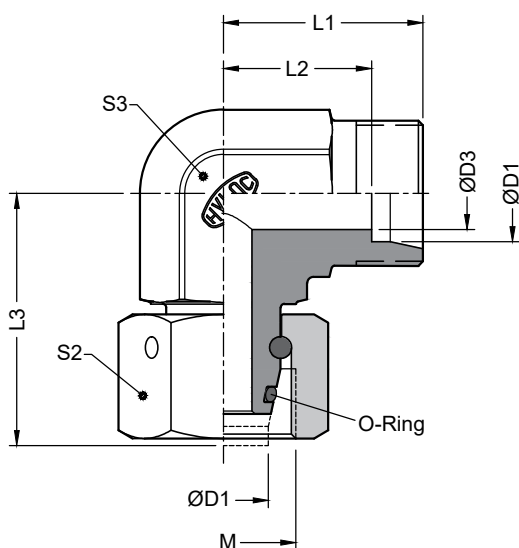
For Zinc Nickel surface treatment, add suffix - ZnNi

Example : EGE16SME-ZnNi

# EW Swivel Elbow Couplings with O-Ring

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br>⊕ | D3 | M         | L1 | L2   | L3   | Approx.<br>L4 | S2 | S3 | O Ring<br>ID x CSD |
|-------------------------------------|------------------|----------------------|---------|----|-----------|----|------|------|---------------|----|----|--------------------|
| <b>L</b><br><b>Light</b><br>315 bar | <b>EW06XL</b>    | <b>EW06PL</b>        | 06      | 4  | M12 x 1.5 | 19 | 12   | 26   | 29.5          | 14 | 12 | 4.0 x 1.5          |
|                                     | <b>EW08XL</b>    | <b>EW08PL</b>        | 08      | 6  | M14 x 1.5 | 21 | 14   | 27.5 | 31            | 17 | 12 | 6.0 x 1.5          |
|                                     | <b>EW10XL</b>    | <b>EW10PL</b>        | 10      | 8  | M16 x 1.5 | 22 | 15   | 29   | 33            | 19 | 14 | 7.5 x 1.5          |
|                                     | <b>EW12XL</b>    | <b>EW12PL</b>        | 12      | 10 | M18 x 1.5 | 24 | 17   | 29.5 | 34.5          | 22 | 17 | 9.0 x 1.5          |
|                                     | <b>EW15XL</b>    | <b>EW15PL</b>        | 15      | 12 | M22 x 1.5 | 28 | 21   | 32.5 | 39.5          | 27 | 19 | 12.0 x 2.0         |
|                                     | <b>EW18XL</b>    | <b>EW18PL</b>        | 18      | 15 | M26 x 1.5 | 31 | 23.5 | 35.5 | 43            | 32 | 24 | 15.0 x 2.0         |
|                                     | <b>EW22XL</b>    | <b>EW22PL</b>        | 22      | 19 | M30 x 2.0 | 35 | 27.5 | 38.5 | 47.5          | 36 | 27 | 20.0 x 2.0         |
|                                     | <b>EW28XL</b>    | <b>EW28PL</b>        | 28      | 24 | M36 x 2.0 | 38 | 30.5 | 41.5 | 51.5          | 41 | 36 | 26.0 x 2.0         |
|                                     | <b>EW35XL</b>    | <b>EW35PL</b>        | 35      | 30 | M45 x 2.0 | 45 | 34.5 | 51   | 60.5          | 50 | 41 | 32.0 x 2.5         |
|                                     | <b>EW42XL</b>    | <b>EW42PL</b>        | 42      | 36 | M52 x 2.0 | 51 | 40   | 56   | 66.5          | 60 | 50 | 38.0 x 2.5         |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>EW06XS</b>    | <b>EW06PS</b>        | 06      | 4  | M14 x 1.5 | 23 | 16   | 27   | 33.5          | 17 | 12 | 4.0 x 1.5          |
|                                     | <b>EW08XS</b>    | <b>EW08PS</b>        | 08      | 5  | M16 x 1.5 | 24 | 17   | 27.5 | 34            | 19 | 14 | 6.0 x 1.5          |
|                                     | <b>EW10XS</b>    | <b>EW10PS</b>        | 10      | 7  | M18 x 1.5 | 25 | 17.5 | 30   | 37            | 22 | 17 | 7.5 x 1.5          |
|                                     | <b>EW12XS</b>    | <b>EW12PS</b>        | 12      | 8  | M20 x 1.5 | 29 | 21.5 | 31   | 40.5          | 24 | 17 | 9.0 x 1.5          |
|                                     | <b>EW16XS</b>    | <b>EW16PS</b>        | 16      | 12 | M24 x 1.5 | 33 | 24.5 | 36.5 | 46            | 30 | 24 | 12.0 x 2.0         |
|                                     | <b>EW20XS</b>    | <b>EW20PS</b>        | 20      | 16 | M30 x 2.0 | 37 | 26.5 | 44.5 | 52            | 36 | 27 | 16.3 x 2.4         |
|                                     | <b>EW25XS</b>    | <b>EW25PS</b>        | 25      | 20 | M36 x 2.0 | 42 | 30   | 50   | 58            | 46 | 36 | 20.3 x 2.4         |
|                                     | <b>EW30XS</b>    | <b>EW30PS</b>        | 30      | 25 | M42 x 2.0 | 49 | 35.5 | 55   | 66.5          | 50 | 41 | 25.3 x 2.4         |
|                                     | <b>EW38XS</b>    | <b>EW38PS</b>        | 38      | 32 | M52 x 2.0 | 57 | 41   | 63   | 75.5          | 60 | 50 | 33.3 x 2.4         |
|                                     |                  |                      |         |    |           |    |      |      |               |    |    |                    |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : EW16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-EW16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

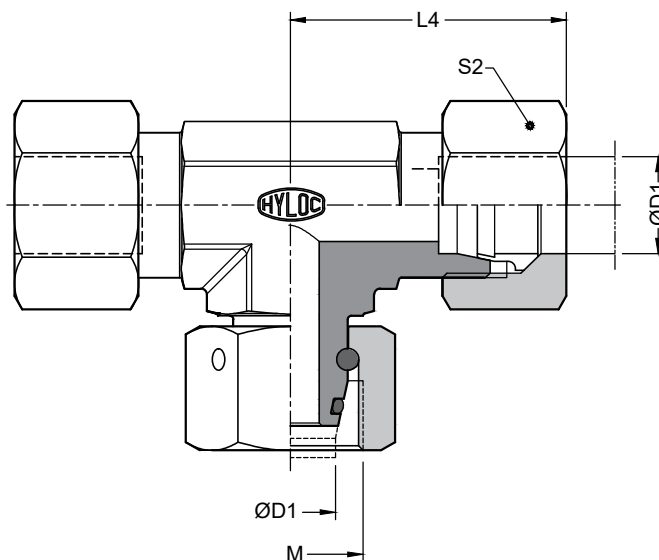
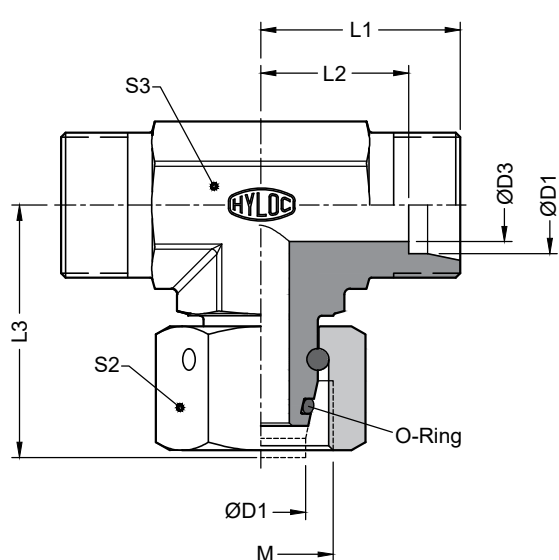
For Zinc Nickel surface treatment, add suffix - ZnNi

Example : EW16PS-ZnNi

# ET Swivel Branch Tee Couplings with O-Ring

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br>⌀ | D3 | M         | L1 | L2   | L3   | Approx.<br>L4 | S2 | S3 | O Ring<br>ID x CSD |
|-------------------------------------|------------------|----------------------|---------|----|-----------|----|------|------|---------------|----|----|--------------------|
| <b>L</b><br><b>Light</b><br>315 bar | <b>ET06XL</b>    | <b>ET06PL</b>        | 06      | 4  | M12 x 1.5 | 19 | 12   | 26   | 29.5          | 14 | 12 | 4.0 x 1.5          |
|                                     | <b>ET08XL</b>    | <b>ET08PL</b>        | 08      | 6  | M14 x 1.5 | 21 | 14   | 27.5 | 31            | 17 | 12 | 6.0 x 1.5          |
|                                     | <b>ET10XL</b>    | <b>ET10PL</b>        | 10      | 8  | M16 x 1.5 | 22 | 15   | 29   | 33            | 19 | 14 | 7.5 x 1.5          |
|                                     | <b>ET12XL</b>    | <b>ET12PL</b>        | 12      | 10 | M18 x 1.5 | 24 | 17   | 29.5 | 34.5          | 22 | 17 | 9.0 x 1.5          |
|                                     | <b>ET15XL</b>    | <b>ET15PL</b>        | 15      | 12 | M22 x 1.5 | 28 | 21   | 32.5 | 39.5          | 27 | 19 | 12.0 x 2.0         |
|                                     | <b>ET18XL</b>    | <b>ET18PL</b>        | 18      | 15 | M26 x 1.5 | 31 | 23.5 | 35.5 | 43            | 32 | 24 | 15.0 x 2.0         |
|                                     | <b>ET22XL</b>    | <b>ET22PL</b>        | 22      | 19 | M30 x 2.0 | 35 | 27.5 | 38.5 | 47.5          | 36 | 27 | 20.0 x 2.0         |
|                                     | <b>ET28XL</b>    | <b>ET28PL</b>        | 28      | 24 | M36 x 2.0 | 38 | 30.5 | 41.5 | 51.5          | 41 | 36 | 26.0 x 2.0         |
|                                     | <b>ET35XL</b>    | <b>ET35PL</b>        | 35      | 30 | M45 x 2.0 | 45 | 34.5 | 51   | 60.5          | 50 | 41 | 32.0 x 2.5         |
|                                     | <b>ET42XL</b>    | <b>ET42PL</b>        | 42      | 36 | M52 x 2.0 | 51 | 40   | 56   | 66.5          | 60 | 50 | 38.0 x 2.5         |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>ET06XS</b>    | <b>ET06PS</b>        | 06      | 4  | M14 x 1.5 | 23 | 16   | 27   | 33.5          | 17 | 12 | 4.0 x 1.5          |
|                                     | <b>ET08XS</b>    | <b>ET08PS</b>        | 08      | 5  | M16 x 1.5 | 24 | 17   | 27.5 | 34            | 19 | 14 | 6.0 x 1.5          |
|                                     | <b>ET10XS</b>    | <b>ET10PS</b>        | 10      | 7  | M18 x 1.5 | 25 | 17.5 | 30   | 37            | 22 | 17 | 7.5 x 1.5          |
|                                     | <b>ET12XS</b>    | <b>ET12PS</b>        | 12      | 8  | M20 x 1.5 | 29 | 21.5 | 31   | 40.5          | 24 | 17 | 9.0 x 1.5          |
|                                     | <b>ET16XS</b>    | <b>ET16PS</b>        | 16      | 12 | M24 x 1.5 | 33 | 24.5 | 36.5 | 46            | 30 | 24 | 12.0 x 2.0         |
|                                     | <b>ET20XS</b>    | <b>ET20PS</b>        | 20      | 16 | M30 x 2.0 | 37 | 26.5 | 44.5 | 52            | 36 | 27 | 16.3 x 2.4         |
|                                     | <b>ET25XS</b>    | <b>ET25PS</b>        | 25      | 20 | M36 x 2.0 | 42 | 30   | 50   | 58            | 46 | 36 | 20.3 x 2.4         |
|                                     | <b>ET30XS</b>    | <b>ET30PS</b>        | 30      | 25 | M42 x 2.0 | 49 | 35.5 | 55   | 66.5          | 50 | 41 | 25.3 x 2.4         |
|                                     | <b>ET38XS</b>    | <b>ET38PS</b>        | 38      | 32 | M52 x 2.0 | 57 | 41   | 63   | 75.5          | 60 | 50 | 33.3 x 2.4         |
|                                     |                  |                      |         |    |           |    |      |      |               |    |    |                    |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : ET16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-ET16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

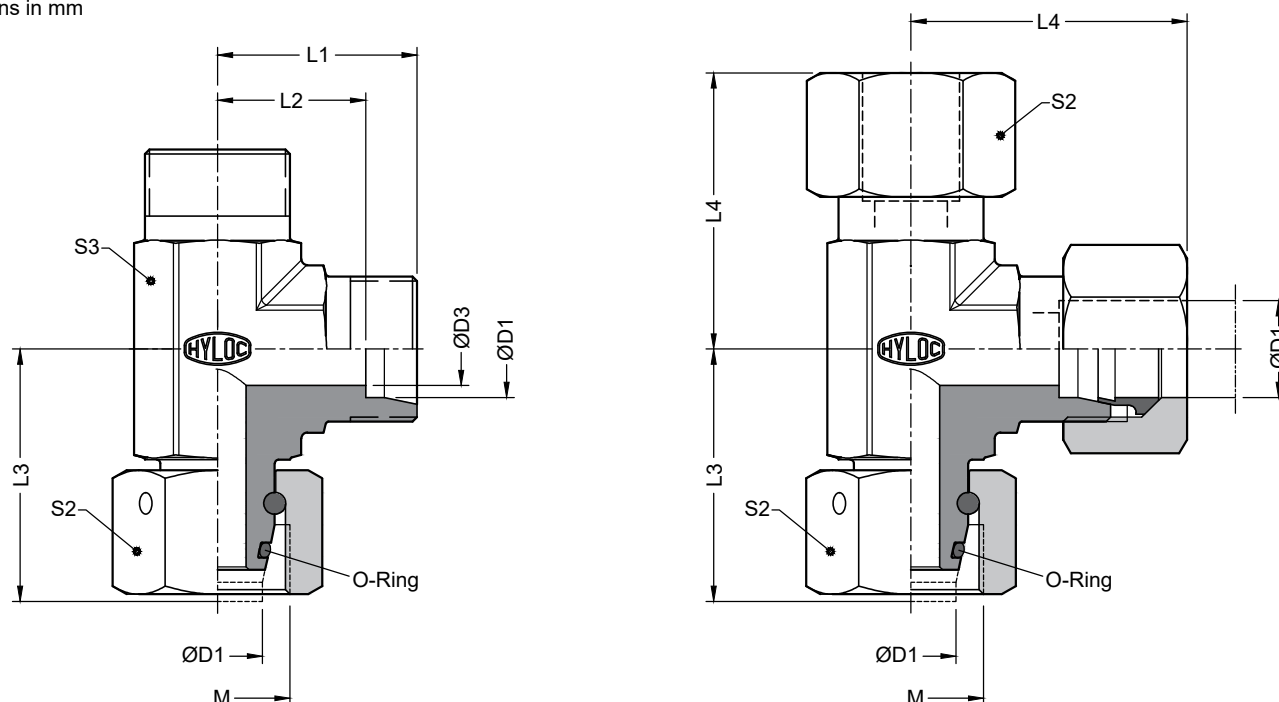
For Zinc Nickel surface treatment, add suffix - ZnNi

Example : ET16PS-ZnNi

# EL Swivel Barrel Tee Couplings with O-Ring

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | M         | L1 | L2   | L3   | Approx.<br>L4 | S2 | S3 | O Ring<br>ID x CSD |
|-------------------------------------|------------------|----------------------|------------------------------------------------------------------------------------------|----|-----------|----|------|------|---------------|----|----|--------------------|
| <b>L</b><br><b>Light</b><br>315 bar | EL06XL           | EL06PL               | 06                                                                                       | 4  | M12 x 1.5 | 19 | 12   | 26   | 29.5          | 14 | 12 | 4.0 x 1.5          |
|                                     | EL08XL           | EL08PL               | 08                                                                                       | 6  | M14 x 1.5 | 21 | 14   | 27.5 | 31            | 17 | 12 | 6.0 x 1.5          |
|                                     | EL10XL           | EL10PL               | 10                                                                                       | 8  | M16 x 1.5 | 22 | 15   | 29   | 33            | 19 | 14 | 7.5 x 1.5          |
|                                     | EL12XL           | EL12PL               | 12                                                                                       | 10 | M18 x 1.5 | 24 | 17   | 29.5 | 34.5          | 22 | 17 | 9.0 x 1.5          |
|                                     | EL15XL           | EL15PL               | 15                                                                                       | 12 | M22 x 1.5 | 28 | 21   | 32.5 | 39.5          | 27 | 19 | 12.0 x 2.0         |
|                                     | EL18XL           | EL18PL               | 18                                                                                       | 15 | M26 x 1.5 | 31 | 23.5 | 35.5 | 43            | 32 | 24 | 15.0 x 2.0         |
| 160 bar                             | EL22XL           | EL22PL               | 22                                                                                       | 19 | M30 x 2.0 | 35 | 27.5 | 38.5 | 47.5          | 36 | 27 | 20.0 x 2.0         |
|                                     | EL28XL           | EL28PL               | 28                                                                                       | 24 | M36 x 2.0 | 38 | 30.5 | 41.5 | 51.5          | 41 | 36 | 26.0 x 2.0         |
|                                     | EL35XL           | EL35PL               | 35                                                                                       | 30 | M45 x 2.0 | 45 | 34.5 | 51   | 60.5          | 50 | 41 | 32.0 x 2.5         |
|                                     | EL42XL           | EL42PL               | 42                                                                                       | 36 | M52 x 2.0 | 51 | 40   | 56   | 66.5          | 60 | 50 | 38.0 x 2.5         |
| <b>S</b><br><b>Heavy</b><br>630 bar | EL06XS           | EL06PS               | 06                                                                                       | 4  | M14 x 1.5 | 23 | 16   | 27   | 33.5          | 17 | 12 | 4.0 x 1.5          |
|                                     | EL08XS           | EL08PS               | 08                                                                                       | 5  | M16 x 1.5 | 24 | 17   | 27.5 | 34            | 19 | 14 | 6.0 x 1.5          |
|                                     | EL10XS           | EL10PS               | 10                                                                                       | 7  | M18 x 1.5 | 25 | 17.5 | 30   | 37            | 22 | 17 | 7.5 x 1.5          |
|                                     | EL12XS           | EL12PS               | 12                                                                                       | 8  | M20 x 1.5 | 29 | 21.5 | 31   | 40.5          | 24 | 17 | 9.0 x 1.5          |
| 400 bar                             | EL16XS           | EL16PS               | 16                                                                                       | 12 | M24 x 1.5 | 33 | 24.5 | 36.5 | 46            | 30 | 24 | 12.0 x 2.0         |
|                                     | EL20XS           | EL20PS               | 20                                                                                       | 16 | M30 x 2.0 | 37 | 26.5 | 44.5 | 52            | 36 | 27 | 16.3 x 2.4         |
|                                     | EL25XS           | EL25PS               | 25                                                                                       | 20 | M36 x 2.0 | 42 | 30   | 50   | 58            | 46 | 36 | 20.3 x 2.4         |
|                                     | EL30XS           | EL30PS               | 30                                                                                       | 25 | M42 x 2.0 | 49 | 35.5 | 55   | 66.5          | 50 | 41 | 25.3 x 2.4         |
| 315 bar                             | EL38XS           | EL38PS               | 38                                                                                       | 32 | M52 x 2.0 | 57 | 41   | 63   | 75.5          | 60 | 50 | 33.3 x 2.4         |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : EL16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-EL16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

Example : EL16PS-ZnNi

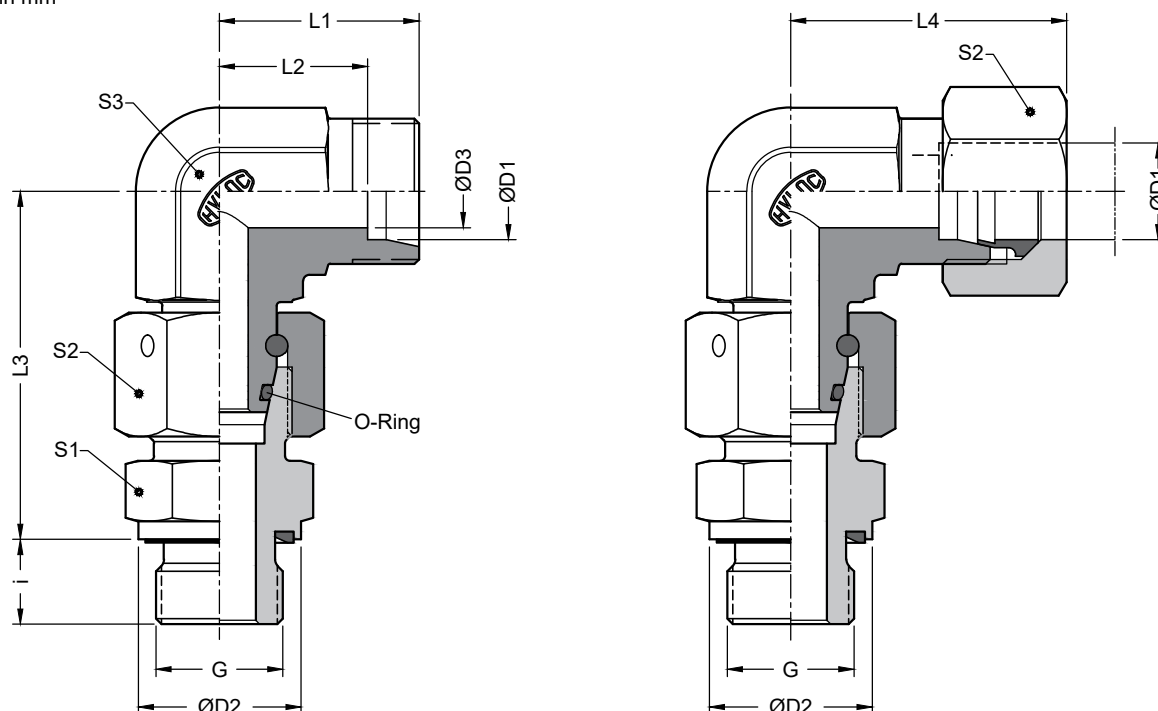


# EW-GE Swivel Stud Elbow Couplings with O-Ring



24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br>⊕ | G<br>Male BSPP<br>thread | i  | ØD2 | ØD3 | L1 | L2   | L3   | Approx.<br>L4 | S1 | S2 | S3 |
|-------------------------------------|------------------|----------------------|---------|--------------------------|----|-----|-----|----|------|------|---------------|----|----|----|
| <b>L</b><br><b>Light</b><br>315 bar | <b>EW06XLGE</b>  | <b>EW06PLGE</b>      | 06      | G 1/8 A                  | 8  | 14  | 4   | 19 | 12   | 34.5 | 29.5          | 14 | 14 | 12 |
|                                     | <b>EW08XLGE</b>  | <b>EW08PLGE</b>      | 08      | G 1/4 A                  | 12 | 19  | 6   | 21 | 14   | 37.5 | 31            | 19 | 17 | 12 |
|                                     | <b>EW10XLGE</b>  | <b>EW10PLGE</b>      | 10      | G 1/4 A                  | 12 | 19  | 8   | 22 | 15   | 40.0 | 33            | 19 | 19 | 14 |
|                                     | <b>EW12XLGE</b>  | <b>EW12PLGE</b>      | 12      | G 3/8 A                  | 12 | 22  | 10  | 24 | 17   | 42.0 | 34.5          | 22 | 22 | 17 |
|                                     | <b>EW15XLGE</b>  | <b>EW15PLGE</b>      | 15      | G 1/2 A                  | 14 | 27  | 12  | 28 | 21   | 46.5 | 39.5          | 27 | 27 | 19 |
|                                     | <b>EW18XLGE</b>  | <b>EW18PLGE</b>      | 18      | G 1/2 A                  | 14 | 27  | 15  | 31 | 23.5 | 50.0 | 43            | 27 | 32 | 24 |
| 160 bar                             | <b>EW22XLGE</b>  | <b>EW22PLGE</b>      | 22      | G 3/4 A                  | 16 | 32  | 19  | 35 | 27.5 | 55.0 | 47.5          | 32 | 36 | 27 |
|                                     | <b>EW28XLGE</b>  | <b>EW28PLGE</b>      | 28      | G 1 A                    | 18 | 40  | 24  | 38 | 30.5 | 59.0 | 51.5          | 41 | 41 | 36 |
|                                     | <b>EW35XLGE</b>  | <b>EW35PLGE</b>      | 35      | G1.1/4 A                 | 20 | 50  | 30  | 45 | 34.5 | 68.5 | 60.5          | 50 | 50 | 41 |
|                                     | <b>EW42XLGE</b>  | <b>EW42PLGE</b>      | 42      | G1.1/2 A                 | 22 | 55  | 36  | 51 | 40   | 75.0 | 66.5          | 55 | 60 | 50 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>EW06XSGE</b>  | <b>EW06PSGE</b>      | 06      | G 1/4 A                  | 12 | 19  | 4   | 23 | 16   | 40.0 | 33.5          | 19 | 17 | 12 |
|                                     | <b>EW08XSGE</b>  | <b>EW08PSGE</b>      | 08      | G 1/4 A                  | 12 | 19  | 5   | 24 | 17   | 42.5 | 34            | 19 | 19 | 14 |
|                                     | <b>EW10XSGE</b>  | <b>EW10PSGE</b>      | 10      | G 3/8 A                  | 12 | 22  | 7   | 25 | 17.5 | 45.0 | 37            | 22 | 22 | 17 |
|                                     | <b>EW12XSGE</b>  | <b>EW12PSGE</b>      | 12      | G 3/8 A                  | 12 | 22  | 8   | 29 | 21.5 | 48.0 | 40.5          | 22 | 24 | 17 |
| 400 bar                             | <b>EW16XSGE</b>  | <b>EW16PSGE</b>      | 16      | G 1/2 A                  | 14 | 27  | 12  | 33 | 24.5 | 55.0 | 46            | 27 | 30 | 24 |
|                                     | <b>EW20XSGE</b>  | <b>EW20PSGE</b>      | 20      | G 3/4 A                  | 16 | 32  | 16  | 37 | 26.5 | 65.0 | 52            | 32 | 36 | 27 |
|                                     | <b>EW25XSGE</b>  | <b>EW25PSGE</b>      | 25      | G1 A                     | 18 | 40  | 20  | 42 | 30   | 73.0 | 58            | 41 | 46 | 36 |
|                                     | <b>EW30XSGE</b>  | <b>EW30PSGE</b>      | 30      | G1.1/4 A                 | 20 | 50  | 25  | 49 | 35.5 | 78.5 | 66.5          | 50 | 50 | 41 |
| 315 bar                             | <b>EW38XSGE</b>  | <b>EW38PSGE</b>      | 38      | G1.1/2 A                 | 22 | 55  | 32  | 57 | 41   | 89.0 | 75.5          | 55 | 60 | 50 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : EW16SRDSGE

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-EW16PSGE

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

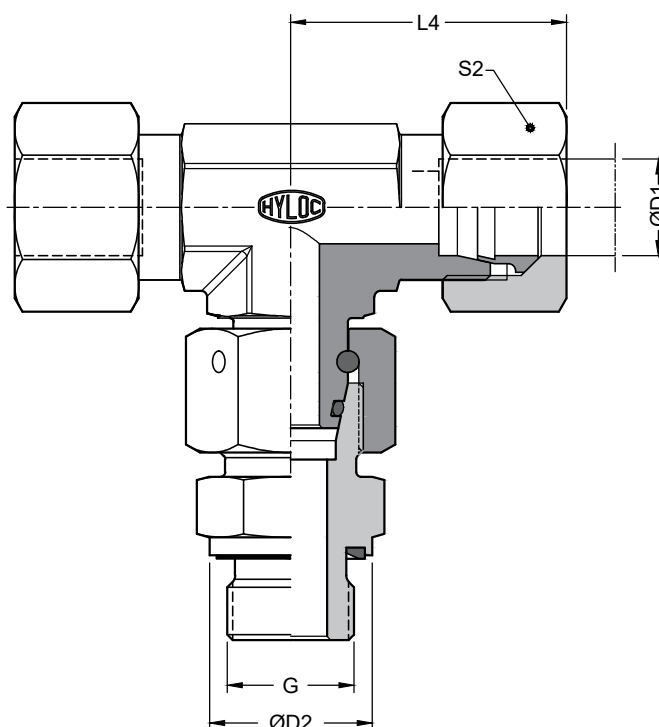
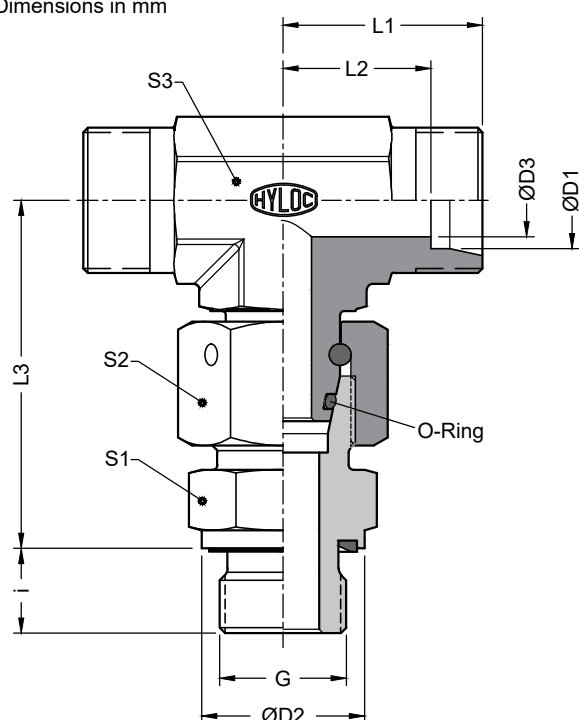
Example : EW16PSGE-ZnNi

# ET-GE Swivel Stud Branch Tee Couplings with O-Ring



24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br>⊕ | G<br>Male BSPP<br>thread | i  | ØD2 | ØD3 | L1 | L2   | L3   | Approx.<br>L4 | S1 | S2 | S3 |
|-------------------------------------|------------------|----------------------|---------|--------------------------|----|-----|-----|----|------|------|---------------|----|----|----|
| <b>L</b><br><b>Light</b><br>315 bar | ET06XLGE         | ET06PLGE             | 06      | G 1/8 A                  | 8  | 14  | 4   | 19 | 12   | 34.5 | 29.5          | 14 | 14 | 12 |
|                                     | ET08XLGE         | ET08PLGE             | 08      | G 1/4 A                  | 12 | 19  | 6   | 21 | 14   | 37.5 | 31            | 19 | 17 | 12 |
|                                     | ET10XLGE         | ET10PLGE             | 10      | G 1/4 A                  | 12 | 19  | 8   | 22 | 15   | 40.0 | 33            | 19 | 19 | 14 |
|                                     | ET12XLGE         | ET12PLGE             | 12      | G 3/8 A                  | 12 | 22  | 10  | 24 | 17   | 42.0 | 34.5          | 22 | 22 | 17 |
|                                     | ET15XLGE         | ET15PLGE             | 15      | G 1/2 A                  | 14 | 27  | 12  | 28 | 21   | 46.5 | 39.5          | 27 | 27 | 19 |
|                                     | ET18XLGE         | ET18PLGE             | 18      | G 1/2 A                  | 14 | 27  | 15  | 31 | 23.5 | 50.0 | 43            | 27 | 32 | 24 |
| 160 bar                             | ET22XLGE         | ET22PLGE             | 22      | G 3/4 A                  | 16 | 32  | 19  | 35 | 27.5 | 55.0 | 47.5          | 32 | 36 | 27 |
|                                     | ET28XLGE         | ET28PLGE             | 28      | G 1 A                    | 18 | 40  | 24  | 38 | 30.5 | 59.0 | 51.5          | 41 | 41 | 36 |
|                                     | ET35XLGE         | ET35PLGE             | 35      | G1.1/4 A                 | 20 | 50  | 30  | 45 | 34.5 | 68.5 | 60.5          | 50 | 50 | 41 |
|                                     | ET42XLGE         | ET42PLGE             | 42      | G1.1/2 A                 | 22 | 55  | 36  | 51 | 40   | 75.0 | 66.5          | 55 | 60 | 50 |
| <b>S</b><br><b>Heavy</b><br>630 bar | ET06XSGE         | ET06PSGE             | 06      | G 1/4 A                  | 12 | 19  | 4   | 23 | 16   | 40.0 | 33.5          | 19 | 17 | 12 |
|                                     | ET08XSGE         | ET08PSGE             | 08      | G 1/4 A                  | 12 | 19  | 5   | 24 | 17   | 42.5 | 34            | 19 | 19 | 14 |
|                                     | ET10XSGE         | ET10PSGE             | 10      | G 3/8 A                  | 12 | 22  | 7   | 25 | 17.5 | 45.0 | 37            | 22 | 22 | 17 |
|                                     | ET12XSGE         | ET12PSGE             | 12      | G 3/8 A                  | 12 | 22  | 8   | 29 | 21.5 | 48.0 | 40.5          | 22 | 24 | 17 |
| 400 bar                             | ET16XSGE         | ET16PSGE             | 16      | G 1/2 A                  | 14 | 27  | 12  | 33 | 24.5 | 55.0 | 46            | 27 | 30 | 24 |
|                                     | ET20XSGE         | ET20PSGE             | 20      | G 3/4 A                  | 16 | 32  | 16  | 37 | 26.5 | 65.0 | 52            | 32 | 36 | 27 |
|                                     | ET25XSGE         | ET25PSGE             | 25      | G1 A                     | 18 | 40  | 20  | 42 | 30   | 73.0 | 58            | 41 | 46 | 36 |
|                                     | ET30XSGE         | ET30PSGE             | 30      | G1.1/4 A                 | 20 | 50  | 25  | 49 | 35.5 | 78.5 | 66.5          | 50 | 50 | 41 |
| 315 bar                             | ET38XSGE         | ET38PSGE             | 38      | G1.1/2 A                 | 22 | 55  | 32  | 57 | 41   | 89.0 | 75.5          | 55 | 60 | 50 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : ET16SRDSGE

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-ET16PSGE

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

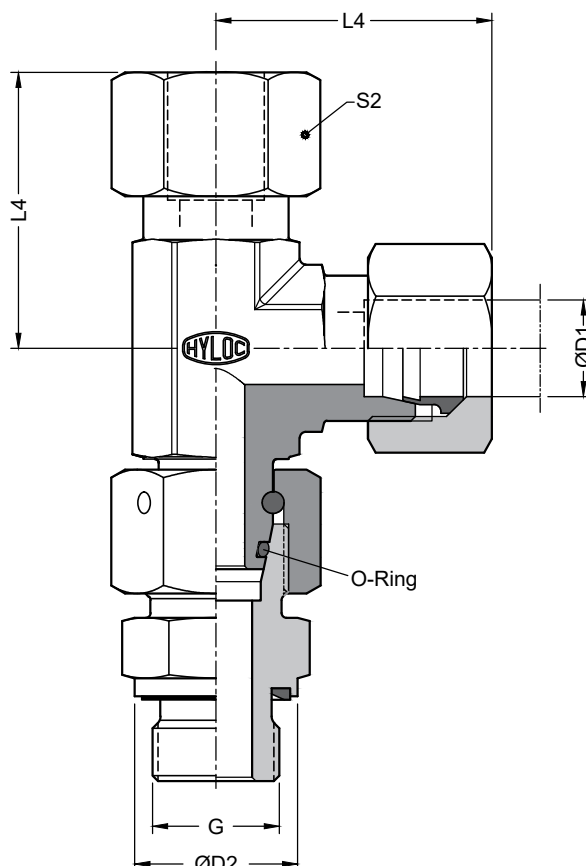
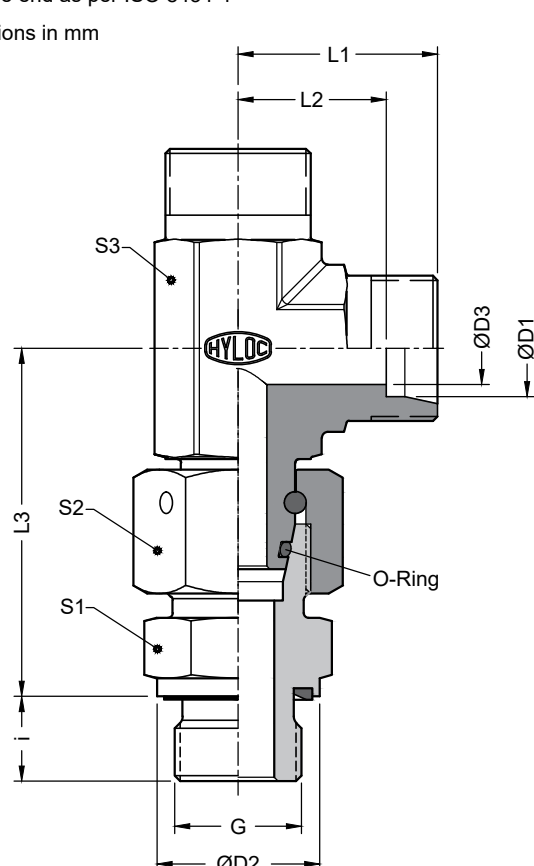
Example : ET16PSGE-ZnNi

# EL-GE Swivel Stud Barrel Tee Couplings with O-Ring



24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br>⊕ | G<br>Male BSPP<br>thread | i  | ØD2 | ØD3 | L1 | L2   | L3   | Approx.<br>L4 | S1 | S2 | S3 |
|-------------------------------------|------------------|----------------------|---------|--------------------------|----|-----|-----|----|------|------|---------------|----|----|----|
| <b>L</b><br><b>Light</b><br>315 bar | EL06XLGE         | EL06PLGE             | 06      | G 1/8 A                  | 8  | 14  | 4   | 19 | 12   | 34.5 | 29.5          | 14 | 14 | 12 |
|                                     | EL08XLGE         | EL08PLGE             | 08      | G 1/4 A                  | 12 | 19  | 6   | 21 | 14   | 37.5 | 31            | 19 | 17 | 12 |
|                                     | EL10XLGE         | EL10PLGE             | 10      | G 1/4 A                  | 12 | 19  | 8   | 22 | 15   | 40.0 | 33            | 19 | 19 | 14 |
|                                     | EL12XLGE         | EL12PLGE             | 12      | G 3/8 A                  | 12 | 22  | 10  | 24 | 17   | 42.0 | 34.5          | 22 | 22 | 17 |
|                                     | EL15XLGE         | EL15PLGE             | 15      | G 1/2 A                  | 14 | 27  | 12  | 28 | 21   | 46.5 | 39.5          | 27 | 27 | 19 |
|                                     | EL18XLGE         | EL18PLGE             | 18      | G 1/2 A                  | 14 | 27  | 15  | 31 | 23.5 | 50.0 | 43            | 27 | 32 | 24 |
| 160 bar                             | EL22XLGE         | EL22PLGE             | 22      | G 3/4 A                  | 16 | 32  | 19  | 35 | 27.5 | 55.0 | 47.5          | 32 | 36 | 27 |
|                                     | EL28XLGE         | EL28PLGE             | 28      | G 1 A                    | 18 | 40  | 24  | 38 | 30.5 | 59.0 | 51.5          | 41 | 41 | 36 |
|                                     | EL35XLGE         | EL35PLGE             | 35      | G1.1/4 A                 | 20 | 50  | 30  | 45 | 34.5 | 68.5 | 60.5          | 50 | 50 | 41 |
|                                     | EL42XLGE         | EL42PLGE             | 42      | G1.1/2 A                 | 22 | 55  | 36  | 51 | 40   | 75.0 | 66.5          | 55 | 60 | 50 |
| <b>S</b><br><b>Heavy</b><br>630 bar | EL06XSGE         | EL06PSGE             | 06      | G 1/4 A                  | 12 | 19  | 4   | 23 | 16   | 40.0 | 33.5          | 19 | 17 | 12 |
|                                     | EL08XSGE         | EL08PSGE             | 08      | G 1/4 A                  | 12 | 19  | 5   | 24 | 17   | 42.5 | 34            | 19 | 19 | 14 |
|                                     | EL10XSGE         | EL10PSGE             | 10      | G 3/8 A                  | 12 | 22  | 7   | 25 | 17.5 | 45.0 | 37            | 22 | 22 | 17 |
|                                     | EL12XSGE         | EL12PSGE             | 12      | G 3/8 A                  | 12 | 22  | 8   | 29 | 21.5 | 48.0 | 40.5          | 22 | 24 | 17 |
| 400 bar                             | EL16XSGE         | EL16PSGE             | 16      | G 1/2 A                  | 14 | 27  | 12  | 33 | 24.5 | 55.0 | 46            | 27 | 30 | 24 |
|                                     | EL20XSGE         | EL20PSGE             | 20      | G 3/4 A                  | 16 | 32  | 16  | 37 | 26.5 | 65.0 | 52            | 32 | 36 | 27 |
|                                     | EL25XSGE         | EL25PSGE             | 25      | G1 A                     | 18 | 40  | 20  | 42 | 30   | 73.0 | 58            | 41 | 46 | 36 |
|                                     | EL30XSGE         | EL30PSGE             | 30      | G1.1/4 A                 | 20 | 50  | 25  | 49 | 35.5 | 78.5 | 66.5          | 50 | 50 | 41 |
| 315 bar                             | EL38XSGE         | EL38PSGE             | 38      | G1.1/2 A                 | 22 | 55  | 32  | 57 | 41   | 89.0 | 75.5          | 55 | 60 | 50 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : EL16SRDSGE

Standard material : Carbon Steel, For Stainless steel material, add prefix 316 - to the part code. Example : 316-EL16PSGE

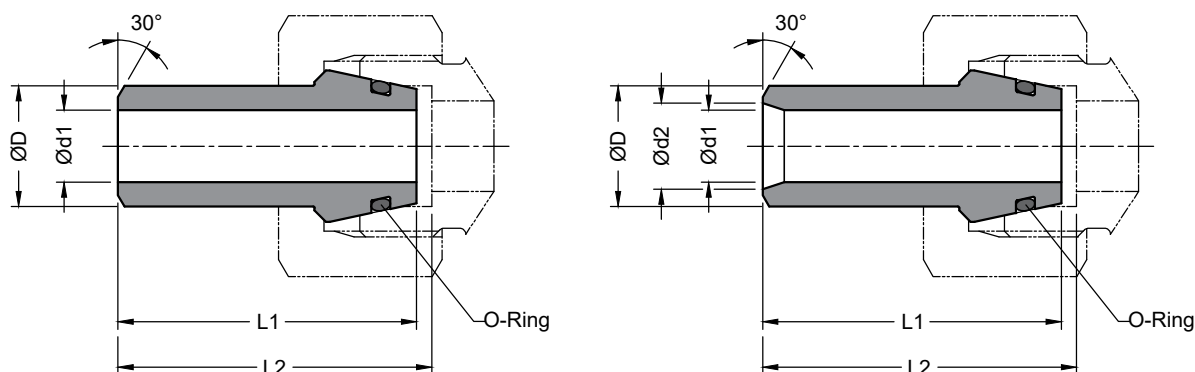
Standard surface treatment : Chrome free Alkaline Zinc Plating. For Zinc Nickel surface treatment, add suffix - ZnNi

Example : EL16PSGE-ZnNi

# WNA Weldable Nipples

Suitable for 24° Tube end as per ISO 8434-1

Dimensions in mm



## Low Pressure Series

| Pressure<br>(bar) | Part No.<br>Body | Tube Size<br>OD x Wall th. | O - Ring<br>ID x CSD | ØD1 | Ød1 | Ød2 | L1   | L2   |
|-------------------|------------------|----------------------------|----------------------|-----|-----|-----|------|------|
| 282               | # WNA1515        | 15 x 1.5                   | 12 x 2.0             | 15  | 10  | 12  | 34.5 | 35   |
| 376               | WNA1520          | 15 x 2.0                   |                      |     | 10  | 11  | 34.5 | 35   |
| 409               | WNA1525          | 15 x 2.5                   |                      |     | 10  | --  | 34.5 | 35   |
| 313               | # WNA1820        | 18 x 2.0                   | 15 x 2.0             | 18  | 13  | 14  | 36.5 | 37   |
| 392               | WNA1825          | 18 x 2.5                   |                      |     | 13  | --  | 36.5 | 37   |
| 409               | WNA1830          | 18 x 3.0                   |                      |     | 12  | --  | 36.5 | 37   |
| 256               | WNA2220          | 22 x 2.0                   | 20 x 2.0             | 22  | 17  | 18  | 39   | 39.5 |
| 320               | # WNA2225        | 22 x 2.5                   |                      |     | 17  | --  | 39   | 39.5 |
| 252               | # WNA2825        | 28 x 2.5                   | 26 x 2.0             | 28  | 23  | --  | 41.5 | 42.5 |
| 302               | WNA2830          | 28 x 3.0                   |                      |     | 22  | --  | 41.5 | 42.5 |
| 403               | WNA2840          | 28 x 4.0                   |                      |     | 20  | --  | 41.5 | 42.5 |
| 242               | # WNA3530        | 35 x 3.0                   | 32 x 2.5             | 35  | 29  | --  | 48.5 | 49.5 |
| 322               | WNA3540          | 35 x 4.0                   |                      |     | 27  | --  | 48.5 | 49.5 |
| 403               | WNA3550          | 35 x 5.0                   |                      |     | 25  | --  | 48.5 | 49.5 |
| 134               | WNA4220          | 42 x 2.0                   | 38 x 2.5             | 42  | 36  | 38  | 49   | 50   |
| 201               | WNA4230          | 42 x 3.0                   |                      |     | 36  | --  | 49   | 50   |
| 269               | # WNA4240        | 42 x 4.0                   |                      |     | 34  | --  | 49   | 50   |

# Standard wall thickness, unless specified

Standard material : Carbon Steel

For Stainless steel material, add prefix 316L - to the part code Example : 316L-WNA1825

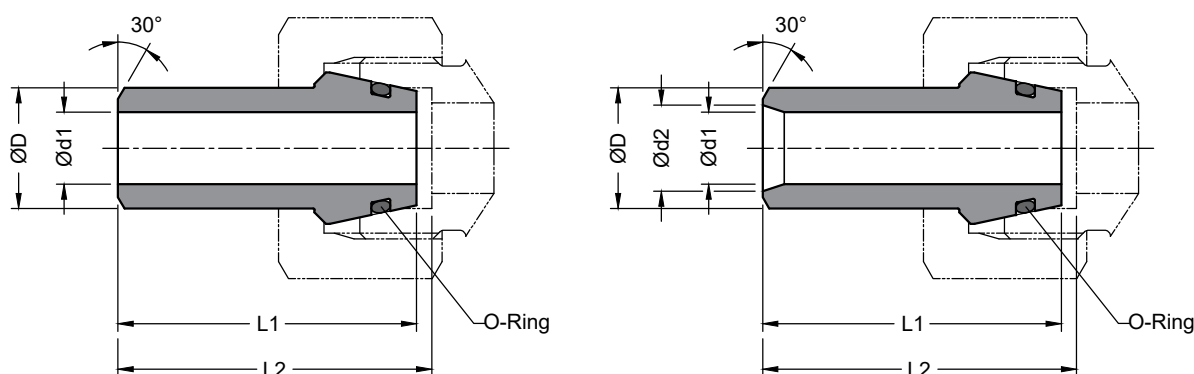
Standard surface treatment : Phosphated

Coupling Nut is not in the scope of supply.

# WNA Weldable Nipples

Suitable for 24° Tube end as per ISO 8434-1

Dimensions in mm



## High Pressure Series

| Pressure (bar) | Part No. Body | Tube Size OD x Wall th. | O - Ring ID x CSD | ØD1 | Ød1 | Ød2 | L1   | L2   |
|----------------|---------------|-------------------------|-------------------|-----|-----|-----|------|------|
| 237            | # WNA0610     | 6.0 x 1.0               | 4.0 x 1.5         | 6   | 2.5 | 4   | 31.5 | 32   |
| 237            | WNA0615       | 6.0 x 1.5               |                   |     | 2.5 | 3   |      |      |
| 237            | WNA0810       | 8.0 x 1.0               | 6.0 x 1.5         | 8   | 4   | 6   | 31   | 32   |
| 237            | # WNA0815     | 8.0 x 1.5               |                   |     | 4   | 5   |      |      |
| 237            | WNA0820       | 8.0 x 2.0               |                   |     | 4   | --  |      |      |
| 237            | WNA1010       | 10 x 1.0                | 7.5 x 1.5         | 10  | 6   | 8   | 32.5 | 33.5 |
| 370            | # WNA1015     | 10 x 1.5                |                   |     | 6   | 7   |      |      |
| 508            | WNA1020       | 10 x 2.0                |                   |     | 6   | --  |      |      |
| 302            | WNA1215       | 12 x 1.5                | 9.0 x 1.5         | 12  | 8   | 9   | 32.5 | 33.5 |
| 415            | # WNA1220     | 12 x 2.0                |                   |     | 8   | --  |      |      |
| 532            | WNA1225       | 12 x 2.5                |                   |     | 7   | --  |      |      |
| 221            | WNA1615       | 16 x 1.5                | 12 x 2.0          | 16  | 11  | 13  | 39.5 | 40.5 |
| 302            | WNA1620       | 16 x 2.0                |                   |     | 11  | 12  |      |      |
| 387            | # WNA1625     | 16 x 2.5                |                   |     | 11  | --  |      |      |
| 473            | WNA1630       | 16 x 3.0                |                   |     | 10  | --  |      |      |
| 237            | WNA2020       | 20 x 2.0                | 16.3 x 2.4        | 20  | 14  | 16  | 46.5 | 47   |
| 302            | WNA2025       | 20 x 2.5                |                   |     | 14  | 15  |      |      |
| 370            | # WNA2030     | 20 x 3.0                |                   |     | 14  | --  |      |      |
| 508            | WNA2040       | 20 x 4.0                |                   |     | 12  | --  |      |      |
| 289            | WNA2530       | 25 x 3.0                | 20.3 x 2.4        | 25  | 19  | --  | 52.5 | 53.5 |
| 397            | # WNA2540     | 25 x 4.0                |                   |     | 17  | --  |      |      |
| 508            | WNA2550       | 25 x 5.0                |                   |     | 15  | --  |      |      |
| 237            | WNA3030       | 30 x 3.0                | 25.3 x 2.4        | 30  | 24  | --  | 56.5 | 57.5 |
| 325            | # WNA3040     | 30 x 4.0                |                   |     | 22  | --  |      |      |
| 415            | WNA3050       | 30 x 5.0                |                   |     | 20  | --  |      |      |
| 508            | WNA3060       | 30 x 6.0                |                   |     | 18  | --  |      |      |
| 251            | WNA3840       | 38 x 4.0                | 33.3 x 2.4        | 38  | 30  | --  | 63.5 | 64.5 |
| 320            | # WNA3850     | 38 x 5.0                |                   |     | 28  | --  |      |      |
| 391            | WNA3860       | 38 x 6.0                |                   |     | 26  | --  |      |      |
| 464            | WNA3870       | 38 x 7.0                |                   |     | 24  | --  |      |      |

# Standard wall thickness, unless specified

Standard material : Carbon Steel

For Stainless steel material, add prefix 316L - to the part code Example : 316L-WNA1625

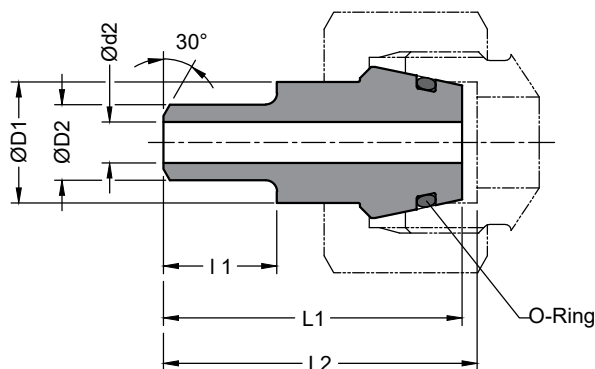
Standard surface treatment : Phosphated

Coupling Nut is not in the scope of supply.

# WNR Reducer Weldable Nipples

Suitable for 24° Tube end as per ISO 8434-1

Dimensions in mm



## Low Pressure Series

| Pressure<br>(bar) | Part No.<br>Body | ØD1 | ØD2 | Ød2 | Tube Size<br>OD x Wall th. | O - Ring<br>ID x CSD | L1 | L2   |
|-------------------|------------------|-----|-----|-----|----------------------------|----------------------|----|------|
| 160               | WNR181515        | 18  | 15  | 12  | 15 x 1.5                   | 15 x 2.0             | 16 | 37   |
| 160               | WNR221815        | 22  | 18  | 15  | 18 x 1.5                   | 20 x 2.0             | 18 | 39.5 |
|                   | WNR221515        | 22  | 15  | 12  | 15 x 1.5                   |                      |    |      |
| 100               | WNR282220        | 28  | 22  | 18  | 22 x 2.0                   | 26 x 2.0             | 21 | 42.5 |
|                   | WNR281815        | 28  | 18  | 15  | 18 x 1.5                   |                      |    |      |
|                   | WNR281515        | 28  | 15  | 12  | 15 x 1.5                   |                      |    |      |
| 100               | WNR352820        | 35  | 28  | 24  | 28 x 2.0                   | 32 x 2.5             | 25 | 49.5 |
|                   | WNR352220        | 35  | 22  | 18  | 22 x 2.0                   |                      |    |      |
|                   | WNR351815        | 35  | 18  | 15  | 18 x 1.5                   |                      |    |      |
|                   | WNR351515        | 35  | 15  | 12  | 15 x 1.5                   |                      |    |      |
| 100               | WNR423520        | 42  | 35  | 31  | 35 x 2.0                   | 38 x 2.5             | 22 | 50   |
|                   | WNR422820        | 42  | 28  | 24  | 28 x 2.0                   |                      |    |      |
|                   | WNR422220        | 42  | 22  | 18  | 22 x 2.0                   |                      |    |      |
|                   | WNR421815        | 42  | 18  | 15  | 18 x 1.5                   |                      |    |      |
|                   | WNR421515        | 42  | 15  | 12  | 15 x 1.5                   |                      |    |      |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316L - to the part code    Example : 316L-WNR281815

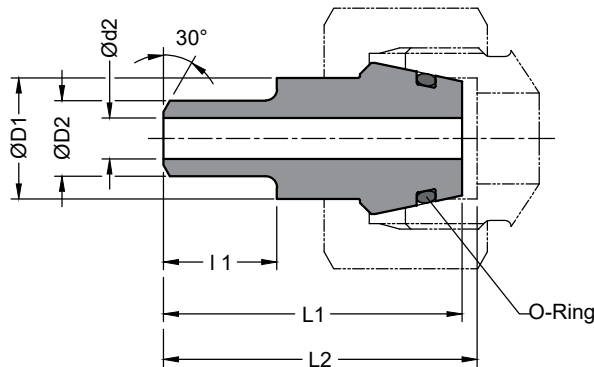
Standard surface treatment : Phosphated



# WNR Reducer Weldable Nipples

Suitable for 24° Tube end as per ISO 8434-1

Dimensions in mm



## High Pressure Series

| Pressure (bar) | Part No. Body | ØD1 | ØD2 | Ød2 | Tube Size OD x Wall th. | O - Ring ID x CSD | L1 | L2   |
|----------------|---------------|-----|-----|-----|-------------------------|-------------------|----|------|
| 630            | WNR080620     | 08  | 6   | 2   | 6 x 2.0                 | 6.0 x 1.5         | 11 | 32   |
| 630            | WNR100825     | 10  | 8   | 3   | 8 x 2.5                 | 7.5 x 1.5         | 12 | 33.5 |
|                | WNR100620     | 10  | 6   | 2   | 6 x 2.0                 |                   |    |      |
| 630            | WNR121030     | 12  | 10  | 4   | 10 x 3.0                | 9.0 x 1.5         | 13 | 33.5 |
|                | WNR120825     | 12  | 8   | 3   | 8 x 2.5                 |                   |    |      |
|                | WNR120620     | 12  | 6   | 2   | 6 x 2.0                 |                   |    |      |
| 400            | WNR161220     | 16  | 12  | 8   | 12 x 2.0                | 12 x 2.0          | 15 | 40.5 |
|                | WNR161020     | 16  | 10  | 6   | 10 x 2.0                |                   |    |      |
|                | WNR160815     | 16  | 8   | 5   | 8 x 1.5                 |                   |    |      |
|                | WNR160615     | 16  | 6   | 3   | 6 x 1.5                 |                   |    |      |
| 400            | WNR201630     | 20  | 16  | 10  | 16 x 3.0                | 16.3 x 2.4        | 17 | 47   |
|                | WNR201220     | 20  | 12  | 8   | 12 x 2.0                |                   |    |      |
|                | WNR201020     | 20  | 10  | 6   | 10 x 2.0                |                   |    |      |
|                | WNR200815     | 20  | 8   | 5   | 8 x 1.5                 |                   |    |      |
|                | WNR200615     | 20  | 6   | 3   | 6 x 1.5                 |                   |    |      |
| 400            | WNR252035     | 25  | 20  | 13  | 20 x 3.5                | 20.3 x 2.4        | 20 | 53.5 |
|                | WNR251630     | 25  | 16  | 10  | 16 x 3.0                |                   |    |      |
|                | WNR251220     | 25  | 12  | 8   | 12 x 2.0                |                   |    |      |
|                | WNR251020     | 25  | 10  | 6   | 10 x 2.0                |                   |    |      |
|                | WNR250815     | 25  | 8   | 5   | 8 x 1.5                 |                   |    |      |
|                | WNR250615     | 25  | 6   | 3   | 6 x 1.5                 |                   |    |      |
| 250            | WNR302525     | 30  | 25  | 20  | 25 x 2.5                | 25.3 x 2.4        | 22 | 57.5 |
|                | WNR302020     | 30  | 20  | 16  | 20 x 2.0                |                   |    |      |
|                | WNR301620     | 30  | 16  | 12  | 16 x 2.0                |                   |    |      |
|                | WNR301215     | 30  | 12  | 9   | 12 x 1.5                |                   |    |      |
|                | WNR301015     | 30  | 10  | 7   | 10 x 1.5                |                   |    |      |
|                | WNR300815     | 30  | 8   | 5   | 8 x 1.5                 |                   |    |      |
|                | WNR300610     | 30  | 6   | 4   | 6 x 1.0                 |                   |    |      |
| 250            | WNR383030     | 38  | 30  | 24  | 30 x 3.0                | 33.3 x 2.4        | 26 | 64.5 |
|                | WNR382525     | 38  | 25  | 20  | 25 x 2.5                |                   |    |      |
|                | WNR382020     | 38  | 20  | 16  | 20 x 2.0                |                   |    |      |
|                | WNR381620     | 38  | 16  | 12  | 16 x 2.0                |                   |    |      |
|                | WNR381215     | 38  | 12  | 9   | 12 x 1.5                |                   |    |      |
|                | WNR381015     | 38  | 10  | 7   | 10 x 1.5                |                   |    |      |
|                | WNR380815     | 38  | 8   | 5   | 8 x 1.5                 |                   |    |      |
|                | WNR380610     | 38  | 6   | 4   | 6 x 1.0                 |                   |    |      |

Standard material : Carbon Steel

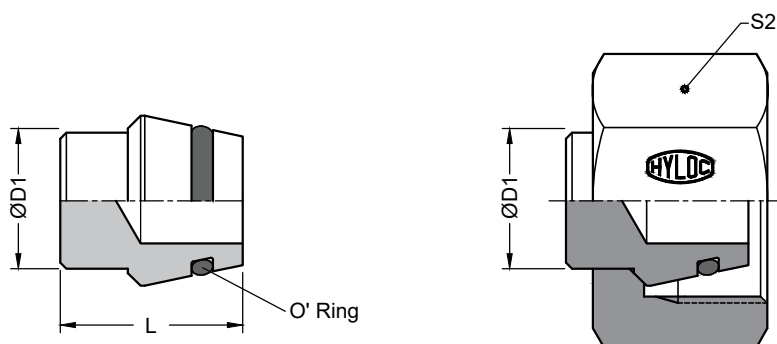
For Stainless steel material, add prefix 316L - to the part code Example : 316L-WNR281815

Standard surface treatment : Phosphated

# VKA Blanking Plugs for 24° Tube ends

For Metric Tube ends (24°) as per ISO 8434

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | L    | S2 | O Ring<br>ID x CSD |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|------|----|--------------------|
| <b>L</b><br><b>Light</b><br>250 bar | <b>VKA06</b>     | <b>VKA06L</b>        | 06                                                                                      | 17.5 | 14 | 4.0 x 1.5          |
|                                     | <b>VKA08</b>     | <b>VKA08L</b>        | 08                                                                                      | 17   | 17 | 6.0 x 1.5          |
|                                     | <b>VKA10</b>     | <b>VKA10L</b>        | 10                                                                                      | 18.5 | 19 | 7.5 x 1.5          |
|                                     | <b>VKA12</b>     | <b>VKA12L</b>        | 12                                                                                      | 18.5 | 22 | 9.0 x 1.5          |
|                                     | <b>VKA15</b>     | <b>VKA15L</b>        | 15                                                                                      | 19   | 27 | 12.0 x 2.0         |
|                                     | <b>VKA18</b>     | <b>VKA18L</b>        | 18                                                                                      | 20.5 | 32 | 15.0 x 2.0         |
|                                     | <b>VKA22</b>     | <b>VKA22L</b>        | 22                                                                                      | 21.5 | 36 | 20.0 x 2.0         |
|                                     | <b>VKA28</b>     | <b>VKA28L</b>        | 28                                                                                      | 22   | 41 | 26.0 x 2.0         |
|                                     | <b>VKA35</b>     | <b>VKA35L</b>        | 35                                                                                      | 27.5 | 50 | 32.0 x 2.5         |
|                                     | <b>VKA42</b>     | <b>VKA42L</b>        | 42                                                                                      | 28   | 60 | 38.0 x 2.5         |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>VKA06</b>     | <b>VKA06S</b>        | 06                                                                                      | 17.5 | 17 | 4.0 x 1.5          |
|                                     | <b>VKA08</b>     | <b>VKA08S</b>        | 08                                                                                      | 17   | 19 | 6.0 x 1.5          |
|                                     | <b>VKA10</b>     | <b>VKA10S</b>        | 10                                                                                      | 18.5 | 22 | 7.5 x 1.5          |
|                                     | <b>VKA12</b>     | <b>VKA12S</b>        | 12                                                                                      | 18.5 | 24 | 9.0 x 1.5          |
|                                     | <b>VKA16</b>     | <b>VKA16S</b>        | 16                                                                                      | 21.5 | 30 | 12.0 x 2.0         |
|                                     | <b>VKA20</b>     | <b>VKA20S</b>        | 20                                                                                      | 26   | 36 | 16.3 x 2.4         |
|                                     | <b>VKA25</b>     | <b>VKA25S</b>        | 25                                                                                      | 28   | 46 | 20.3 x 2.4         |
|                                     | <b>VKA30</b>     | <b>VKA30S</b>        | 30                                                                                      | 32.5 | 50 | 25.3 x 2.4         |
|                                     | <b>VKA38</b>     | <b>VKA38S</b>        | 38                                                                                      | 36.5 | 60 | 33.3 x 2.4         |
|                                     |                  |                      |                                                                                         |      |    |                    |

For Stainless steel material, add prefix 316 - to the part code. Example : 316 - VKA20

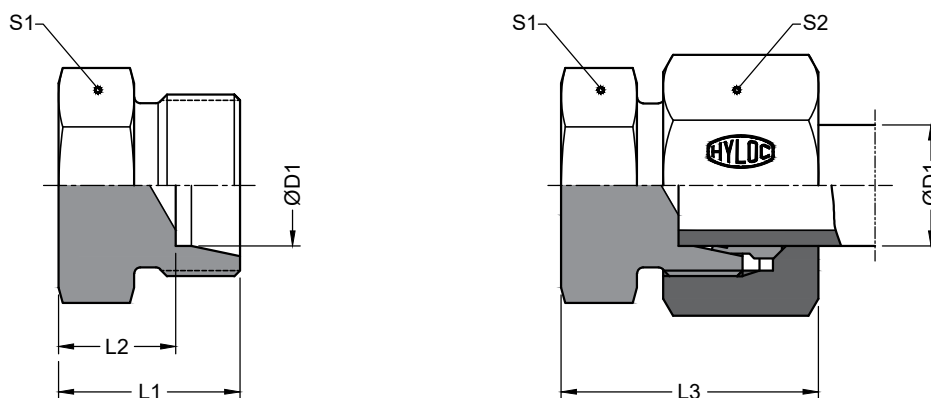
Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi Example : VKA20 - ZnNi

# BUZT Blanking ends for Tubes

For Metric Tubes

Dimensions in mm



| Series                       | Part No.<br>Body | Part No.<br>Assembly | D1<br> | L1 | L2   | Approx.<br>L3 | S1 | S2 |
|------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|------|---------------|----|----|
| <b>L</b><br>Light<br>250 bar | BUZT06XL         | BUZT06PL             | 06                                                                                      | 15 | 8    | 25.5          | 14 | 14 |
|                              | BUZT08XL         | BUZT08PL             | 08                                                                                      | 15 | 8    | 25            | 17 | 17 |
|                              | BUZT10XL         | BUZT10PL             | 10                                                                                      | 16 | 9    | 27            | 17 | 19 |
|                              | BUZT12XL         | BUZT12PL             | 12                                                                                      | 17 | 10   | 27.5          | 19 | 22 |
|                              | BUZT15XL         | BUZT15PL             | 15                                                                                      | 18 | 11   | 29.5          | 24 | 27 |
|                              | BUZT18XL         | BUZT18PL             | 18                                                                                      | 19 | 11.5 | 31            | 27 | 32 |
|                              | BUZT22XL         | BUZT22PL             | 22                                                                                      | 21 | 13.5 | 33.5          | 32 | 36 |
|                              | BUZT28XL         | BUZT28PL             | 28                                                                                      | 22 | 14.5 | 35.5          | 36 | 41 |
|                              | BUZT35XL         | BUZT35PL             | 35                                                                                      | 27 | 16.5 | 42.5          | 46 | 50 |
|                              | BUZT42XL         | BUZT42PL             | 42                                                                                      | 30 | 19   | 45.5          | 55 | 60 |
| <b>S</b><br>Heavy<br>630 bar | BUZT06XS         | BUZT06PS             | 06                                                                                      | 20 | 13   | 30.5          | 14 | 17 |
|                              | BUZT08XS         | BUZT08PS             | 08                                                                                      | 20 | 13   | 30            | 17 | 19 |
|                              | BUZT10XS         | BUZT10PS             | 10                                                                                      | 20 | 12.5 | 32            | 19 | 22 |
|                              | BUZT12XS         | BUZT12PS             | 12                                                                                      | 22 | 14.5 | 33.5          | 22 | 24 |
|                              | BUZT16XS         | BUZT16PS             | 16                                                                                      | 24 | 15.5 | 37            | 27 | 30 |
|                              | BUZT20XS         | BUZT20PS             | 20                                                                                      | 30 | 19.5 | 45            | 32 | 36 |
|                              | BUZT25XS         | BUZT25PS             | 25                                                                                      | 30 | 18   | 46            | 41 | 46 |
|                              | BUZT30XS         | BUZT30PS             | 30                                                                                      | 36 | 22.5 | 53.5          | 46 | 50 |
|                              | BUZT38XS         | BUZT38PS             | 38                                                                                      | 39 | 23   | 57.5          | 55 | 60 |

For Stainless steel material, add prefix 316 - to the part code. Example : 316 - BUZT20PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

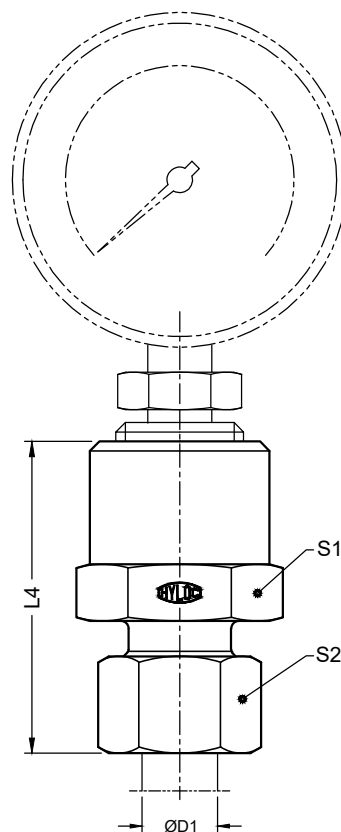
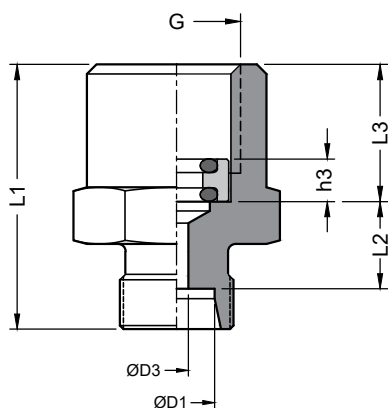
For Zinc Nickel surface treatment, add suffix - ZnNi Example : BUZT20PS - ZnNi

# MAV-G Pressure Gauge Connectors

Metric tube end as per ISO 8434.

Dimensions in mm

Pressure Gauge is not in the scope of supply.



| Series  | Part No.<br>Body | Part No.<br>Assembly | D1 | 'G'<br>Gauge<br>connection | D3  | L1 | L2   | L3   | Approx.<br>L4 | h3  | S1 | S2 |
|---------|------------------|----------------------|----|----------------------------|-----|----|------|------|---------------|-----|----|----|
| 250 bar | MAV06XLG02       | MAV06PLG02           | 06 | G 1/4                      | 2.5 | 29 | 7.5  | 14.5 | 39.5          | 4.5 | 19 | 14 |
|         | MAV08XLG02       | MAV08PLG02           | 08 | G 1/4                      | 5.5 | 29 | 7.5  | 14.5 | 39            | 4.5 | 19 | 17 |
|         | MAV10XLG02       | MAV10PLG02           | 10 | G 1/4                      | 5.5 | 30 | 8.5  | 14.5 | 41            | 4.5 | 19 | 19 |
|         | MAV12XLG02       | MAV12PLG02           | 12 | G 1/4                      | 5.5 | 30 | 8.5  | 14.5 | 40.5          | 4.5 | 19 | 22 |
| 250 bar | MAV06XLG03       | MAV06PLG03           | 06 | G 3/8                      | 2.5 | 33 | 9.5  | 16.5 | 43.5          | 5.5 | 22 | 14 |
|         | MAV08XLG03       | MAV08PLG03           | 08 | G 3/8                      | 5.5 | 33 | 9.5  | 16.5 | 43            | 5.5 | 22 | 17 |
|         | MAV10XLG03       | MAV10PLG03           | 10 | G 3/8                      | 5.5 | 34 | 10.5 | 16.5 | 45            | 5.5 | 22 | 19 |
|         | MAV12XLG03       | MAV12PLG03           | 12 | G 3/8                      | 5.5 | 34 | 10.5 | 16.5 | 44.5          | 5.5 | 22 | 22 |
| 630 bar | MAV06XSG03       | MAV06PSG03           | 06 | G 3/8                      | 3.5 | 33 | 9.5  | 16.5 | 43.5          | 5.5 | 22 | 17 |
|         | MAV08XSG03       | MAV08PSG03           | 08 | G 3/8                      | 3.5 | 33 | 9.5  | 16.5 | 43            | 5.5 | 22 | 19 |
|         | MAV10XSG03       | MAV10PSG03           | 10 | G 3/8                      | 7   | 33 | 9    | 16.5 | 45            | 5.5 | 22 | 22 |
|         | MAV12XSG03       | MAV12PSG03           | 12 | G 3/8                      | 7   | 33 | 9    | 16.5 | 44.5          | 5.5 | 22 | 24 |
| 630 bar | MAV06XSG04       | MAV06PSG04           | 06 | G 1/2                      | 3.5 | 38 | 11   | 20   | 48.5          | 5.5 | 27 | 17 |
|         | MAV08XSG04       | MAV08PSG04           | 08 | G 1/2                      | 3.5 | 38 | 11   | 20   | 48            | 5.5 | 27 | 19 |
|         | MAV10XSG04       | MAV10PSG04           | 10 | G 1/2                      | 7   | 38 | 10.5 | 20   | 50            | 5.5 | 27 | 22 |
|         | MAV12XSG04       | MAV12PSG04           | 12 | G 1/2                      | 7   | 38 | 10.5 | 20   | 49.5          | 5.5 | 27 | 24 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : MAV10SRDSG04

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-MAV10PSG04

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

Example : MAV10PSG04-ZnNi

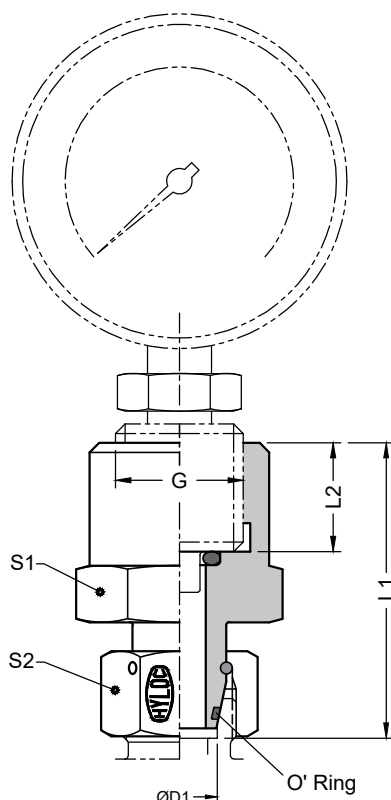
# MAVE-G Adjustable Pressure Gauge standpipe (With O ring)



For Metric tube ends (24°) as per ISO 8434.

Dimensions in mm

Pressure Gauge is not in the scope of supply.



| Series       | Part No.<br>Assembly | D1<br> | 'G'<br>Gauge<br>connection | L1   | L2 | S1 | S2 | O Ring<br>ID x CSD |
|--------------|----------------------|--------|----------------------------|------|----|----|----|--------------------|
| L<br>250 bar | MAVE06LG02           | 06     | G 1/4                      | 35.5 | 10 | 19 | 14 | 4.0 x 1.5          |
|              | MAVE08LG02           | 08     | G 1/4                      | 35.5 | 10 | 19 | 17 | 6.0 x 1.5          |
|              | MAVE10LG02           | 10     | G 1/4                      | 36   | 10 | 19 | 19 | 7.5 x 1.5          |
|              | MAVE12LG02           | 12     | G 1/4                      | 36   | 10 | 19 | 22 | 9.0 x 1.5          |
|              | MAVE06LG03           | 06     | G 3/8                      | 37   | 13 | 24 | 14 | 4.0 x 1.5          |
|              | MAVE08LG03           | 08     | G 3/8                      | 37.5 | 13 | 24 | 17 | 6.0 x 1.5          |
|              | MAVE10LG03           | 10     | G 3/8                      | 38.5 | 13 | 24 | 19 | 7.5 x 1.5          |
|              | MAVE12LG03           | 12     | G 3/8                      | 38   | 13 | 24 | 22 | 9.0 x 1.5          |
| 630 bar      | MAVE06LG04           | 06     | G 1/2                      | 42.5 | 16 | 27 | 14 | 4.0 x 1.5          |
|              | MAVE08LG04           | 08     | G 1/2                      | 43   | 16 | 27 | 17 | 6.0 x 1.5          |
|              | MAVE10LG04           | 10     | G 1/2                      | 43.5 | 16 | 27 | 19 | 7.5 x 1.5          |
|              | MAVE12LG04           | 12     | G 1/2                      | 45   | 16 | 27 | 22 | 9.0 x 1.5          |
| S<br>630 bar | MAVE06SG02           | 06     | G 1/4                      | 35.5 | 10 | 19 | 17 | 4.0 x 1.5          |
|              | MAVE08SG02           | 08     | G 1/4                      | 35.5 | 10 | 19 | 19 | 6.0 x 1.5          |
|              | MAVE10SG02           | 10     | G 1/4                      | 39   | 10 | 19 | 22 | 7.5 x 1.5          |
|              | MAVE12SG02           | 12     | G 1/4                      | 39   | 10 | 19 | 24 | 9.0 x 1.5          |
|              | MAVE06SG03           | 06     | G 3/8                      | 37   | 13 | 24 | 17 | 4.0 x 1.5          |
|              | MAVE08SG03           | 08     | G 3/8                      | 36   | 13 | 24 | 19 | 6.0 x 1.5          |
|              | MAVE10SG03           | 10     | G 3/8                      | 37.5 | 13 | 24 | 22 | 7.5 x 1.5          |
|              | MAVE12SG03           | 12     | G 3/8                      | 37   | 13 | 24 | 24 | 9.0 x 1.5          |
| 630 bar      | MAVE06SG04           | 06     | G 1/2                      | 42.5 | 16 | 27 | 17 | 4.0 x 1.5          |
|              | MAVE08SG04           | 08     | G 1/2                      | 43   | 16 | 27 | 19 | 6.0 x 1.5          |
|              | MAVE10SG04           | 10     | G 1/2                      | 43.5 | 16 | 27 | 22 | 7.5 x 1.5          |
|              | MAVE12SG04           | 12     | G 1/2                      | 45   | 16 | 27 | 24 | 9.0 x 1.5          |

For Stainless steel material, add prefix 316 - to the part code. Example : 316-MAVE10SG03

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

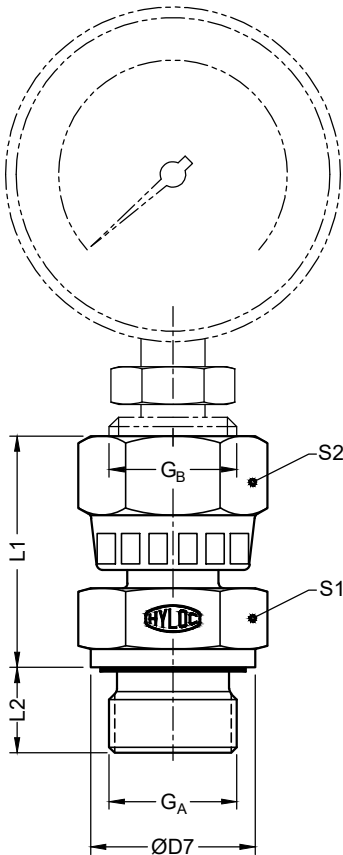
Example : MAVE10SG03 - ZnNi

# 1GA-GE Gauge mounting adaptors

BSPP (G) Stud end with Elastomeric seal

Dimensions in mm

Pressure Gauge is not in the scope of supply.



| Series  | Part No.<br>Assembly | 'G <sub>A</sub> '<br>Stud end | 'G <sub>B</sub> '<br>Gauge<br>connection | ØD7 | L1   | L2 | S1 | S2 |
|---------|----------------------|-------------------------------|------------------------------------------|-----|------|----|----|----|
| 400 bar | <b>1GAG02EG02</b>    | G 1/4                         | G 1/4                                    | 19  | 42   | 12 | 19 | 19 |
|         | <b>1GAG02EG03</b>    | G 1/4                         | G 3/8                                    | 19  | 42   | 12 | 19 | 22 |
|         | <b>1GAG02EG04</b>    | G 1/4                         | G 1/2                                    | 19  | 42   | 12 | 19 | 27 |
| 400 bar | <b>1GAG03EG02</b>    | G 3/8                         | G 1/4                                    | 22  | 44.5 | 12 | 22 | 19 |
|         | <b>1GAG03EG03</b>    | G 3/8                         | G 3/8                                    | 22  | 44.5 | 12 | 22 | 22 |
|         | <b>1GAG03EG04</b>    | G 3/8                         | G 1/2                                    | 22  | 44.5 | 12 | 22 | 27 |
| 400 bar | <b>1GAG04EG02</b>    | G 1/2                         | G 1/4                                    | 27  | 52   | 14 | 27 | 19 |
|         | <b>1GAG04EG03</b>    | G 1/2                         | G 3/8                                    | 27  | 52   | 14 | 27 | 22 |
|         | <b>1GAG04EG04</b>    | G 1/2                         | G 1/2                                    | 27  | 52   | 14 | 27 | 27 |

For Stainless steel material, add prefix 316 - to the part code.    Example : 316 - **1GAG03EG04**

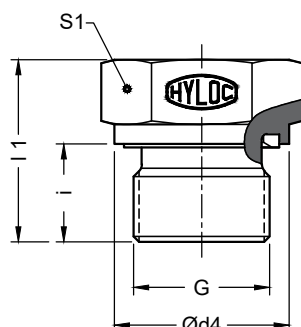
Standard surface treatment :    Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi                    Example : **1GAG03EG04 - ZnNi**

# VST - GE / VSTI - GE Plugs

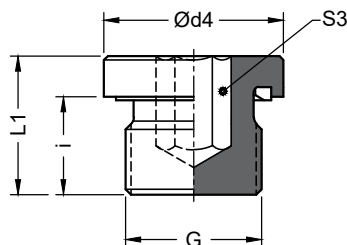
Dimensions in mm

Hex head Plug with Elastomeric seal as per DIN 3852, Part 11  
Male BSPP (G) threads as per ISO 228



| Part No.       | G<br>Male BSPP<br>thread | Ød4 | i  | L1   | S1 |
|----------------|--------------------------|-----|----|------|----|
| <b>VSTG01E</b> | G 1/8 A                  | 14  | 8  | 14.5 | 14 |
| <b>VSTG02E</b> | G 1/4 A                  | 19  | 12 | 20   | 19 |
| <b>VSTG03E</b> | G 3/8 A                  | 22  | 12 | 22.5 | 22 |
| <b>VSTG04E</b> | G 1/2 A                  | 27  | 14 | 24   | 27 |
| <b>VSTG06E</b> | G 3/4 A                  | 32  | 16 | 26   | 32 |
| <b>VSTG08E</b> | G 1 A                    | 40  | 16 | 27   | 41 |
| <b>VSTG10E</b> | G1.1/4 A                 | 50  | 16 | 28   | 50 |
| <b>VSTG12E</b> | G1.1/2 A                 | 55  | 16 | 30   | 55 |

Socket head Plug with Elastomeric seal as per DIN 3852, Part 11  
Male BSPP (G) threads as per ISO 228



| Part No.        | G<br>Male BSPP<br>thread | Ød4 | i  | L1 | S3 |
|-----------------|--------------------------|-----|----|----|----|
| <b>VSTIG01E</b> | G 1/8 A                  | 14  | 8  | 13 | 5  |
| <b>VSTIG02E</b> | G 1/4 A                  | 19  | 12 | 17 | 6  |
| <b>VSTIG03E</b> | G 3/8 A                  | 22  | 12 | 17 | 8  |
| <b>VSTIG04E</b> | G 1/2 A                  | 27  | 14 | 20 | 10 |
| <b>VSTIG06E</b> | G 3/4 A                  | 32  | 16 | 22 | 12 |
| <b>VSTIG08E</b> | G 1 A                    | 40  | 16 | 24 | 17 |
| <b>VSTIG10E</b> | G1.1/4 A                 | 50  | 16 | 24 | 22 |
| <b>VSTIG12E</b> | G1.1/2 A                 | 55  | 16 | 24 | 24 |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code    Example : 316 - VSTIG04E

Standard surface treatment :    Chrome free Alkaline Zinc Plating.

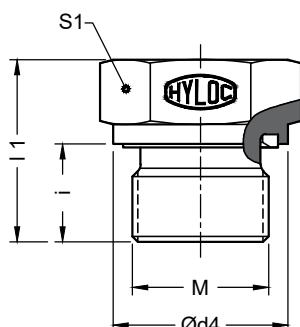
For Zinc Nickel surface treatment, add suffix - ZnNi    Example : VSTIG04E - ZnNi



# VST - ME / VSTI - ME Plugs

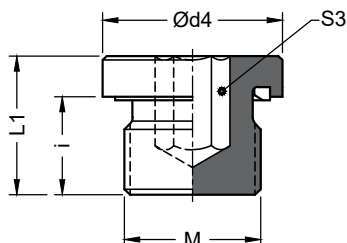
Hex head Plug with Elastomeric seal as per ISO 9974-4  
Male Metric (M) threads as per ISO 261

Dimensions in mm



| Pressure (bar) | Part No.       | M Male Metric thread | Ød4 | i  | L1 | S1 | Tightening Torque N-m |
|----------------|----------------|----------------------|-----|----|----|----|-----------------------|
| 630            | <b>VSTM10E</b> | M10 x 1.0            | 14  | 8  | 16 | 14 | 20                    |
| 630            | <b>VSTM12E</b> | M12 x 1.5            | 17  | 12 | 20 | 17 | 30                    |
| 630            | <b>VSTM14E</b> | M14 x 1.5            | 19  | 12 | 20 | 19 | 45                    |
| 630            | <b>VSTM16E</b> | M16 x 1.5            | 22  | 12 | 22 | 22 | 60                    |
| 630            | <b>VSTM18E</b> | M18 x 1.5            | 24  | 12 | 23 | 24 | 80                    |
| 630            | <b>VSTM20E</b> | M20 x 1.5            | 26  | 14 | 25 | 27 | 100                   |
| 400            | <b>VSTM22E</b> | M22 x 1.5            | 27  | 14 | 26 | 27 | 80                    |
| 160            | <b>VSTM26E</b> | M26 x 1.5            | 32  | 16 | 29 | 32 | 120                   |
| 400            | <b>VSTM27E</b> | M27 x 2.0            | 32  | 16 | 29 | 32 | 135                   |
| 400            | <b>VSTM33E</b> | M33 x 2.0            | 40  | 16 | 34 | 41 | 225                   |
| 250            | <b>VSTM42E</b> | M42 x 2.0            | 50  | 16 | 36 | 50 | 360                   |
| 250            | <b>VSTM48E</b> | M48 x 2.0            | 55  | 16 | 37 | 55 | 400                   |

Socket head Plug with Elastomeric seal as per ISO 9974-4  
Male Metric (M) threads as per ISO 261



| Pressure (bar) | Part No.        | M Male Metric thread | Ød4 | i  | L1   | S3 | Tightening Torque N-m |
|----------------|-----------------|----------------------|-----|----|------|----|-----------------------|
| 400            | <b>VSTIM10E</b> | M10 x 1.0            | 14  | 8  | 12.3 | 5  | 12                    |
| 400            | <b>VSTIM12E</b> | M12 x 1.5            | 17  | 12 | 17.3 | 6  | 25                    |
| 400            | <b>VSTIM14E</b> | M14 x 1.5            | 19  | 12 | 17.3 | 6  | 35                    |
| 400            | <b>VSTIM16E</b> | M16 x 1.5            | 22  | 12 | 17.3 | 8  | 50                    |
| 400            | <b>VSTIM18E</b> | M18 x 1.5            | 24  | 12 | 17.3 | 8  | 60                    |
| 400            | <b>VSTIM20E</b> | M20 x 1.5            | 26  | 14 | 19.3 | 10 | 70                    |
| 400            | <b>VSTIM22E</b> | M22 x 1.5            | 27  | 14 | 19.3 | 10 | 80                    |
| 160            | <b>VSTIM26E</b> | M26 x 1.5            | 32  | 16 | 21.3 | 12 | 120                   |
| 400            | <b>VSTIM27E</b> | M27 x 2.0            | 32  | 16 | 21.3 | 12 | 135                   |
| 400            | <b>VSTIM33E</b> | M33 x 2.0            | 40  | 16 | 22.8 | 17 | 225                   |
| 250            | <b>VSTIM42E</b> | M42 x 2.0            | 50  | 16 | 22.8 | 22 | 360                   |
| 250            | <b>VSTIM48E</b> | M48 x 2.0            | 55  | 16 | 22.8 | 24 | 400                   |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code Example : 316 - VSTIM18E

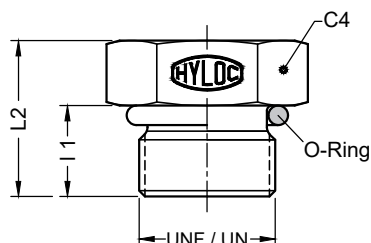
Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi Example : VSTIM18E - ZnNi

# VST - S / VSTI - S Plugs

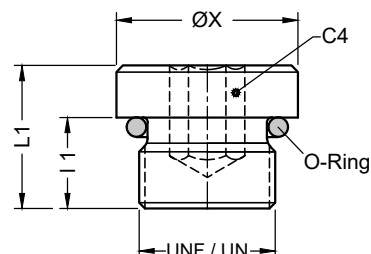
Dimensions in mm

Hex head Plug with O-Ring seal  
Male SAE (UNF / UN) threads as per ISO 263



| Part No.      | Male thread<br>UNF / UN | L1    | L2   | C4 | O-Ring<br>ID x CSD |
|---------------|-------------------------|-------|------|----|--------------------|
| <b>VSTS02</b> | 5/16" - 24              | 7.54  | 15.2 | 12 | 6.07 x 1.63        |
| <b>VSTS03</b> | 3/8" - 24               | 7.54  | 15.2 | 12 | 7.65 x 1.63        |
| <b>VSTS04</b> | 7/16" - 20              | 9.14  | 17   | 14 | 8.92 x 1.83        |
| <b>VSTS05</b> | 1/2" - 20               | 9.14  | 17   | 17 | 10.52 x 1.83       |
| <b>VSTS06</b> | 9/16" - 18              | 9.93  | 18.5 | 17 | 11.89 x 1.98       |
| <b>VSTS08</b> | 3/4" - 16               | 11.13 | 20.3 | 22 | 16.36 x 2.21       |
| <b>VSTS10</b> | 7/8" - 14               | 12.7  | 23.6 | 27 | 19.18 x 2.46       |
| <b>VSTS12</b> | 1.1/16" - 12            | 15.09 | 27.7 | 32 | 23.47 x 2.95       |
| <b>VSTS14</b> | 1.3/16" - 12            | 15.09 | 27.7 | 36 | 26.62 x 2.95       |
| <b>VSTS16</b> | 1.5/16" - 12            | 15.09 | 28.4 | 41 | 29.74 x 2.95       |
| <b>VSTS20</b> | 1.5/8" - 12             | 15.09 | 30.5 | 46 | 37.47 x 3.00       |
| <b>VSTS24</b> | 1.7/8" - 12             | 15.09 | 32.3 | 55 | 43.69 x 3.00       |
| <b>VSTS32</b> | 2.1/2" - 12             | 15.09 | 36.3 | 70 | 59.36 x 3.00       |

Socket head Plug with O-Ring seal  
Male SAE (UNF / UN) threads as per ISO 263



| Part No.       | Male thread<br>UNF / UN | ØX    | L1    | L2   | C5 | O-Ring<br>ID x CSD |
|----------------|-------------------------|-------|-------|------|----|--------------------|
| <b>VSTIS02</b> | 5/16" - 24              | 11.13 | 7.54  | 10.2 | 3  | 6.07 x 1.63        |
| <b>VSTIS03</b> | 3/8" - 24               | 12.70 | 7.54  | 10.2 | 3  | 7.65 x 1.63        |
| <b>VSTIS04</b> | 7/16" - 20              | 14.30 | 9.14  | 11.9 | 5  | 8.92 x 1.83        |
| <b>VSTIS05</b> | 1/2" - 20               | 15.88 | 9.14  | 11.9 | 5  | 10.52 x 1.83       |
| <b>VSTIS06</b> | 9/16" - 18              | 17.48 | 9.93  | 12.7 | 6  | 11.89 x 1.98       |
| <b>VSTIS08</b> | 3/4" - 16               | 22.00 | 11.13 | 14.7 | 8  | 16.36 x 2.21       |
| <b>VSTIS10</b> | 7/8" - 14               | 25.40 | 12.7  | 16.5 | 10 | 19.18 x 2.46       |
| <b>VSTIS12</b> | 1.1/16" - 12            | 31.75 | 15.09 | 19.5 | 14 | 23.47 x 2.95       |
| <b>VSTIS14</b> | 1.3/16" - 12            | 34.92 | 15.09 | 19.5 | 14 | 26.62 x 2.95       |
| <b>VSTIS16</b> | 1.5/16" - 12            | 38.10 | 15.09 | 19.5 | 17 | 29.74 x 2.95       |
| <b>VSTIS20</b> | 1.5/8" - 12             | 47.62 | 15.09 | 19.5 | 19 | 37.47 x 3.00       |
| <b>VSTIS24</b> | 1.7/8" - 12             | 53.98 | 15.09 | 19.5 | 19 | 43.69 x 3.00       |
| <b>VSTIS32</b> | 2.1/2" - 12             | 69.85 | 15.09 | 19.5 | 19 | 59.36 x 3.00       |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code Example : 316 - VSTIS10

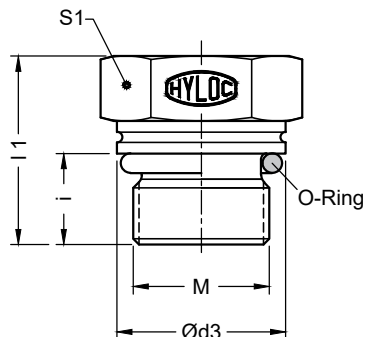
Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi Example : VSTIS10 - ZnNi

# VST - MO / VSTI - MO Plugs

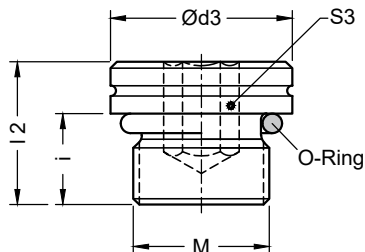
Dimensions in mm

Hex head Plug with O-Ring seal as per ISO 6149-4  
Male Metric (M) threads as per ISO 261



| Pressure (bar) | Part No.       | M Male Metric thread | Ød3  | i    | I 1  | S1 | O-Ring ID x CSD | Tightening Torque N-m |
|----------------|----------------|----------------------|------|------|------|----|-----------------|-----------------------|
| 630            | <b>VSTM100</b> | M10 x 1.0            | 13.8 | 9.5  | 17   | 14 | 8.1 x 1.6       | 20                    |
| 630            | <b>VSTM120</b> | M12 x 1.5            | 16.8 | 11   | 18.5 | 17 | 9.3 x 2.2       | 35                    |
| 630            | <b>VSTM140</b> | M14 x 1.5            | 18.8 | 11   | 19.5 | 19 | 11.3 x 2.2      | 45                    |
| 630            | <b>VSTM160</b> | M16 x 1.5            | 21.8 | 12.5 | 22   | 22 | 13.3 x 2.2      | 55                    |
| 630            | <b>VSTM180</b> | M18 x 1.5            | 23.8 | 14   | 24   | 24 | 15.3 x 2.2      | 70                    |
| 630            | <b>VSTM220</b> | M22 x 1.5            | 26.8 | 15   | 26   | 27 | 19.3 x 2.2      | 100                   |
| 400            | <b>VSTM270</b> | M27 x 2.0            | 31.8 | 18.5 | 31.5 | 32 | 23.6 x 2.9      | 170                   |
| 400            | <b>VSTM300</b> | M30 x 2.0            | 35.8 | 18.5 | 33   | 36 | 26.6 x 2.9      | 215                   |
| 400            | <b>VSTM330</b> | M33 x 2.0            | 40.8 | 18.5 | 34   | 41 | 29.6 x 2.9      | 310                   |
| 250            | <b>VSTM420</b> | M42 x 2.0            | 49.8 | 19   | 36.5 | 50 | 38.6 x 2.9      | 330                   |
| 250            | <b>VSTM480</b> | M48 x 2.0            | 54.8 | 21.5 | 40   | 55 | 44.6 x 2.9      | 420                   |
| 250            | <b>VSTM600</b> | M60 x 2.0            | 64.8 | 24   | 44.5 | 65 | 56.6 x 2.9      | 500                   |

Socket head Plug with O-Ring seal as per ISO 6149-4  
Male Metric (M) threads as per ISO 261



| Pressure (bar) | Part No.        | M Male Metric thread | Ød3  | i    | I 2  | S3 | O-Ring ID x CSD | Tightening Torque N-m |
|----------------|-----------------|----------------------|------|------|------|----|-----------------|-----------------------|
| 420            | <b>VSTIM100</b> | M10 x 1.0            | 13.8 | 9.5  | 13.5 | 5  | 8.1 x 1.6       | 15                    |
| 420            | <b>VSTIM120</b> | M12 x 1.5            | 16.8 | 11   | 15.5 | 6  | 9.3 x 2.2       | 22                    |
| 630            | <b>VSTIM140</b> | M14 x 1.5            | 18.8 | 11   | 16   | 6  | 11.3 x 2.2      | 45                    |
| 630            | <b>VSTIM160</b> | M16 x 1.5            | 21.8 | 12.5 | 17.5 | 8  | 13.3 x 2.2      | 55                    |
| 630            | <b>VSTIM180</b> | M18 x 1.5            | 23.8 | 14   | 19   | 8  | 15.3 x 2.2      | 70                    |
| 630            | <b>VSTIM220</b> | M22 x 1.5            | 26.8 | 15   | 20   | 10 | 19.3 x 2.2      | 100                   |
| * 400          | <b>VSTIM260</b> | M26 x 1.5            | 31.0 | 16   | 21   | 12 | 23.0 x 2.4      | ---                   |
| 400            | <b>VSTIM270</b> | M27 x 2.0            | 31.8 | 18.5 | 23.5 | 12 | 23.6 x 2.9      | 170                   |
| 400            | <b>VSTIM300</b> | M30 x 2.0            | 35.8 | 18.5 | 24.5 | 14 | 26.6 x 2.9      | 215                   |
| 400            | <b>VSTIM330</b> | M33 x 2.0            | 40.8 | 18.5 | 24.5 | 14 | 29.6 x 2.9      | 310                   |
| 250            | <b>VSTIM420</b> | M42 x 2.0            | 49.8 | 19   | 25   | 17 | 38.6 x 2.9      | 330                   |
| 250            | <b>VSTIM480</b> | M48 x 2.0            | 54.8 | 21.5 | 27.5 | 17 | 44.6 x 2.9      | 420                   |
| 250            | <b>VSTIM600</b> | M60 x 2.0            | 64.8 | 24   | 30   | 19 | 56.6 x 2.9      | 500                   |

\* Not included in ISO 6149-4 standard

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code Example : 316 - VSTIM180

Standard surface treatment : Chrome free Alkaline Zinc Plating.

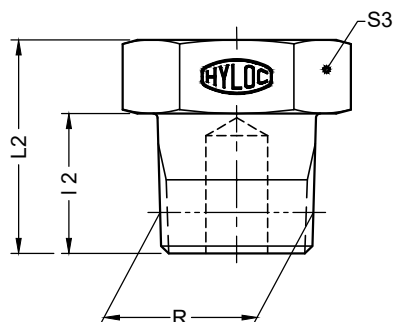
For Zinc Nickel surface treatment, add suffix - ZnNi Example : VSTIM180 - ZnNi

# VST - R / VSTI - R Plugs

Dimensions in mm

Hex head Plug

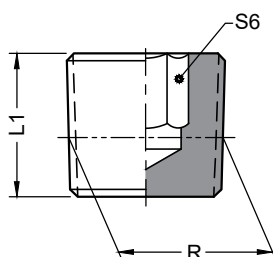
Male threads : BSP Taper (R)



| Part No.      | Male thread<br>BSPT (R) | l2   | L2   | S3 |
|---------------|-------------------------|------|------|----|
| <b>VSTR01</b> | R 1/8 - 27              | 7.5  | 11.5 | 12 |
| <b>VSTR02</b> | R 1/4 - 18              | 11   | 17   | 14 |
| <b>VSTR03</b> | R 3/8 - 18              | 11.5 | 17.5 | 19 |
| <b>VSTR04</b> | R 1/2 - 14              | 15   | 25   | 22 |
| <b>VSTR06</b> | R 3/4 - 14              | 16.5 | 26.5 | 30 |
| <b>VSTR08</b> | R1 - 11 1/2             | 19   | 31   | 36 |
| <b>VSTR10</b> | R1.1/4 - 11 1/2         | 21.5 | 35   | 46 |
| <b>VSTR12</b> | R1.1/2 - 11 1/2         | 21.5 | 35   | 50 |

Socket head Plug

Male threads : BSP Taper (R)



| Part No.       | Male thread<br>BSPT (R) | L1 | S6 |
|----------------|-------------------------|----|----|
| <b>VSTIR01</b> | R 1/8 - 27              | 8  | 5  |
| <b>VSTIR02</b> | R 1/4 - 18              | 10 | 7  |
| <b>VSTIR03</b> | R 3/8 - 18              | 10 | 8  |
| <b>VSTIR04</b> | R 1/2 - 14              | 10 | 10 |
| <b>VSTIR06</b> | R 3/4 - 14              | 12 | 12 |
| <b>VSTIR08</b> | R1 - 11 1/2             | 12 | 17 |
| <b>VSTIR10</b> | R1.1/4 - 11 1/2         | 18 | 22 |
| <b>VSTIR12</b> | R1.1/2 - 11 1/2         | 20 | 24 |

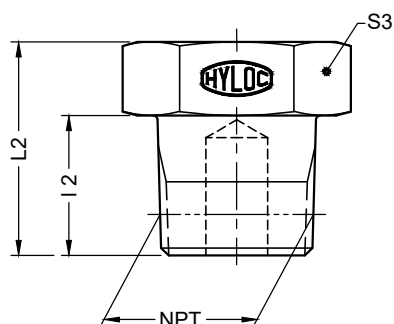
Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code    Example : 316 - VSTIR08

Standard surface treatment :    Chrome free Alkaline Zinc Plating.

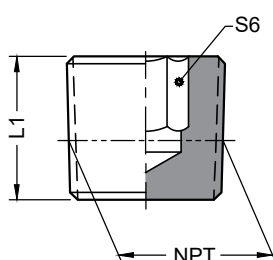
For Zinc Nickel surface treatment, add suffix - ZnNi    Example : VSTIR08 - ZnNi

Hex head Plug  
Male threads : NPT



| Part No.      | Male thread<br>NPT | l 2   | L2   | S3 |
|---------------|--------------------|-------|------|----|
| <b>VSTN01</b> | 1/8 - 27           | 9.7   | 14.5 | 12 |
| <b>VSTN02</b> | 1/4 - 18           | 14.2  | 19   | 17 |
| <b>VSTN03</b> | 3/8 - 18           | 14.2  | 19.5 | 19 |
| <b>VSTN04</b> | 1/2 - 14           | 19.05 | 24   | 24 |
| <b>VSTN06</b> | 3/4 - 14           | 19.05 | 27   | 30 |
| <b>VSTN08</b> | 1 - 11 1/2         | 23.9  | 32   | 36 |
| <b>VSTN10</b> | 1.1/4 - 11 1/2     | 24.6  | 32.5 | 46 |
| <b>VSTN12</b> | 1.1/2 - 11 1/2     | 25.4  | 35   | 50 |
| <b>VSTN16</b> | 2 - 11 1/2         | 26.2  | 38   | 65 |

Socket head Plug  
Male threads : NPT



| Part No.       | Male thread<br>NPT | L1   | S6   |
|----------------|--------------------|------|------|
| <b>VSTIN00</b> | 1/16 - 27          | 7.8  | 4    |
| <b>VSTIN01</b> | 1/8 - 27           | 7.8  | 5    |
| <b>VSTIN02</b> | 1/4 - 18           | 12   | 6    |
| <b>VSTIN03</b> | 3/8 - 18           | 12   | 8    |
| <b>VSTIN04</b> | 1/2 - 14           | 16   | 10   |
| <b>VSTIN06</b> | 3/4 - 14           | 16.2 | 14   |
| <b>VSTIN08</b> | 1 - 11 1/2         | 20   | 14   |
| <b>VSTIN10</b> | 1.1/4 - 11 1/2     | 20   | 25.4 |
| <b>VSTIN12</b> | 1.1/2 - 11 1/2     | 20   | 30   |
| <b>VSTIN16</b> | 2 - 11 1/2         | 21   | 30   |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code    Example : 316 - VSTIN08

Standard surface treatment :    Chrome free Alkaline Zinc Plating.

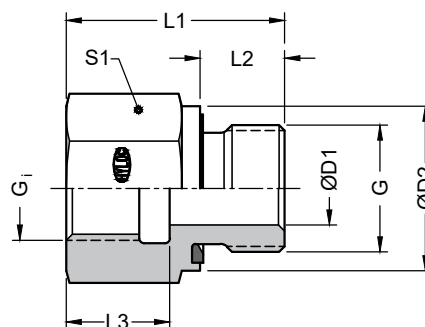
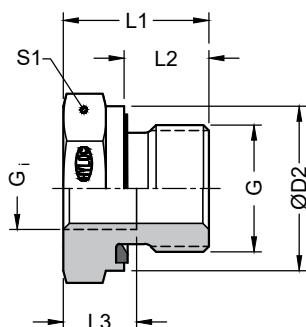
For Zinc Nickel surface treatment, add suffix - ZnNi    Example : VSTIN08 - ZnNi

# MFA- GE - G Male Female Adaptors

Male thread : BSPP (G) as per ISO 228

Female thread : BSPP (G)

Dimensions in mm



| Pressure (bar) | Part No.          | G Male thread | G <sub>i</sub> Female thread | D1 | D2 | L1   | L2 | L3   | S1 |
|----------------|-------------------|---------------|------------------------------|----|----|------|----|------|----|
| 630            | <b>MFAG01EG02</b> | G 1/8 A       | G 1/4                        | 4  | 14 | 31   | 8  | 17   | 19 |
| 630            | <b>MFAG01EG03</b> | G 1/8 A       | G 3/8                        | 4  | 14 | 32   | 8  | 17   | 24 |
| 630            | <b>MFAG02EG01</b> | G 1/4 A       | G 1/8                        | 5  | 19 | 28   | 12 | 12   | 19 |
| 630            | <b>MFAG02EG03</b> | G 1/4 A       | G 3/8                        | 5  | 19 | 36   | 12 | 17   | 24 |
| 630            | <b>MFAG02EG04</b> | G 1/4 A       | G 1/2                        | 5  | 19 | 40   | 12 | 20   | 30 |
| 630            | <b>MFAG02EG06</b> | G 1/4 A       | G 3/4                        | 5  | 19 | 43   | 12 | 22   | 36 |
| 630            | <b>MFAG03EG01</b> | G 3/8 A       | G 1/8                        | -- | 22 | 22.5 | 12 | 8    | 22 |
| 630            | <b>MFAG03EG02</b> | G 3/8 A       | G 1/4                        | 8  | 22 | 36   | 12 | 17   | 22 |
| 630            | <b>MFAG03EG04</b> | G 3/8 A       | G 1/2                        | 8  | 22 | 41   | 12 | 20   | 30 |
| 400            | <b>MFAG03EG06</b> | G 3/8 A       | G 3/4                        | 8  | 22 | 44   | 12 | 22   | 36 |
| 630            | <b>MFAG04EG02</b> | G 1/2 A       | G 1/4                        | -- | 27 | 24   | 14 | 12   | 27 |
| 630            | <b>MFAG04EG03</b> | G 1/2 A       | G 3/8                        | 12 | 27 | 36   | 14 | 17   | 27 |
| 400            | <b>MFAG04EG06</b> | G 1/2 A       | G 3/4                        | 12 | 27 | 46   | 14 | 22   | 36 |
| 400            | <b>MFAG04EG08</b> | G 1/2 A       | G 1                          | 12 | 27 | 49   | 14 | 24.5 | 41 |
| 250            | <b>MFAG04EG10</b> | G 1/2 A       | G 1.1/4                      | 10 | 27 | 53   | 14 | 26.5 | 55 |
| 400            | <b>MFAG06EG02</b> | G 3/4 A       | G 1/4                        | -- | 32 | 26   | 16 | 12   | 32 |
| 400            | <b>MFAG06EG03</b> | G 3/4 A       | G 3/8                        | -- | 32 | 26   | 16 | 12   | 32 |
| 400            | <b>MFAG06EG04</b> | G 3/4 A       | G 1/2                        | 16 | 32 | 41   | 16 | 20   | 32 |
| 400            | <b>MFAG06EG08</b> | G 3/4 A       | G 1                          | 16 | 32 | 51   | 16 | 24.5 | 41 |
| 250            | <b>MFAG06EG10</b> | G 3/4 A       | G 1.1/4                      | 16 | 32 | 55   | 16 | 26.5 | 55 |
| 250            | <b>MFAG06EG12</b> | G 3/4 A       | G 1.1/2                      | 16 | 32 | 57   | 16 | 28.5 | 60 |
| 400            | <b>MFAG08EG02</b> | G1 A          | G 1/4                        | -- | 40 | 29   | 18 | 12   | 41 |
| 400            | <b>MFAG08EG03</b> | G1 A          | G 3/8                        | -- | 40 | 29   | 18 | 12   | 41 |
| 400            | <b>MFAG08EG04</b> | G1 A          | G 1/2                        | -- | 40 | 29   | 18 | 14   | 41 |
| 400            | <b>MFAG08EG06</b> | G1 A          | G 3/4                        | 20 | 40 | 47   | 18 | 22   | 41 |
| 250            | <b>MFAG08EG10</b> | G1 A          | G 1.1/4                      | 20 | 40 | 57   | 18 | 26.5 | 55 |
| 250            | <b>MFAG08EG12</b> | G1 A          | G 1.1/2                      | 20 | 40 | 59   | 18 | 28.5 | 60 |
| 250            | <b>MFAG10EG04</b> | G1.1/4 A      | G $\frac{1}{2}$              | -- | 50 | 32   | 20 | 14   | 50 |
| 250            | <b>MFAG10EG06</b> | G1.1/4 A      | G $\frac{3}{4}$              | -- | 50 | 32   | 20 | 16   | 50 |
| 250            | <b>MFAG10EG08</b> | G1.1/4 A      | G 1                          | 25 | 50 | 52   | 20 | 24.5 | 50 |
| 250            | <b>MFAG10EG12</b> | G1.1/4 A      | G 1.1/2                      | 25 | 50 | 60   | 20 | 28.5 | 60 |
| 250            | <b>MFAG12EG04</b> | G1.1/2 A      | G 1/2                        | -- | 55 | 36   | 22 | 14   | 55 |
| 250            | <b>MFAG12EG06</b> | G1.1/2 A      | G 3/4                        | -- | 55 | 36   | 22 | 16   | 55 |
| 250            | <b>MFAG12EG08</b> | G1.1/2 A      | G 1                          | -- | 55 | 36   | 22 | 18   | 55 |
| 250            | <b>MFAG12EG10</b> | G1.1/2 A      | G 1.1/4                      | 32 | 55 | 58   | 22 | 26.5 | 55 |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code Example : 316 - MFAG08EG06

Standard surface treatment : Chrome free Alkaline Zinc Plating.

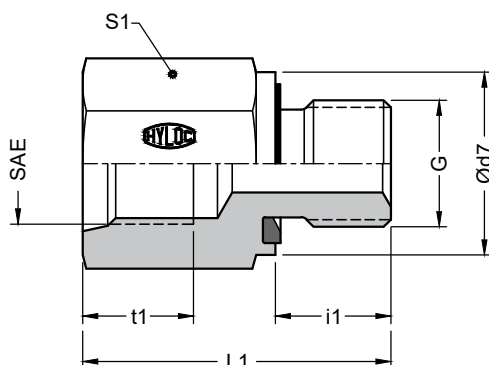
For Zinc Nickel surface treatment, add suffix - ZnNi Example : MFAG08EG06 - ZnNi

# MFA- GE - S Male Female Adaptors

Male thread : BSPP (G) as per ISO 228  
DIN 3852-Part 11 with Elastomeric seal

Dimensions in mm

Female thread : UN/UNF (SAE)



| Pressure (bar) | Part No.          | G Male thread | Female SAE Class 2B | Ød7 | i1 | t1   | L1 | S1 |
|----------------|-------------------|---------------|---------------------|-----|----|------|----|----|
| 350            | <b>MFAG01ES02</b> | G 1/8 A       | 5/16" - 24          | 14  | 8  | 10   | 24 | 14 |
| 350            | <b>MFAG01ES03</b> | G 1/8 A       | 3/8" - 24           | 14  | 8  | 10   | 24 | 17 |
| 350            | <b>MFAG02ES04</b> | G 1/4 A       | 7/16" - 20          | 19  | 12 | 11.5 | 30 | 19 |
| 350            | <b>MFAG02ES05</b> | G 1/4 A       | 1/2" - 20           | 19  | 12 | 11.5 | 32 | 19 |
| 350            | <b>MFAG02ES06</b> | G 1/4 A       | 9/16" - 18          | 19  | 12 | 13   | 34 | 22 |
| 350            | <b>MFAG03ES08</b> | G 3/8 A       | 3/4" - 16           | 22  | 12 | 14   | 36 | 27 |
| 350            | <b>MFAG04ES10</b> | G 1/2 A       | 7/8" - 14           | 27  | 14 | 16.5 | 42 | 30 |
| 350            | <b>MFAG06ES12</b> | G 3/4 A       | 1.1/16" - 12        | 32  | 16 | 19   | 45 | 36 |
| 350            | <b>MFAG08ES14</b> | G1 A          | 1.3/16" - 12        | 40  | 18 | 19   | 50 | 41 |
| 350            | <b>MFAG08ES16</b> | G1 A          | 1.5/16" - 12        | 40  | 18 | 19   | 50 | 41 |
| 350            | <b>MFAG10ES20</b> | G 1.1/4 A     | 1.5/8" - 12         | 50  | 20 | 19   | 53 | 55 |
| 350            | <b>MFAG12ES24</b> | G 1.1/2 A     | 1.7/8" - 12         | 55  | 22 | 19   | 55 | 60 |
| 350            | <b>MFAG16ES32</b> | G2 A *        | 2.1/2" - 12         | 75  | 24 | 19   | 62 | 75 |

\* Thread size - G2 is not included in DIN 3852 Part 11

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code Example : 316 - MFAG08ES14

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi Example : MFAG08ES14 - ZnNi

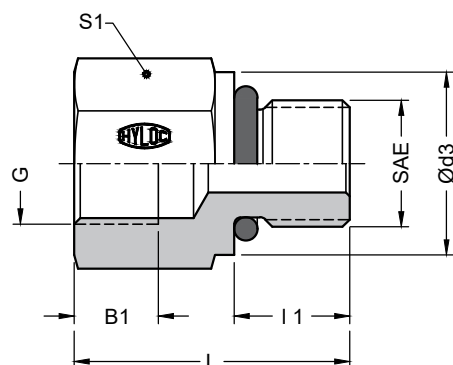


# MFA- S - G Male Female Adaptors

Male thread : UN/UNF (SAE)  
with O-Ring sealing (NBR 90 Shore)

Dimensions in mm

Female thread : BSPP (G)



| Pressure<br>(bar) | Part No.         | Male<br>SAE<br>Class 2A | Female<br>thread<br>'G' | Ød3  | I 1 | B1 | L  | S1 | O-Ring       |
|-------------------|------------------|-------------------------|-------------------------|------|-----|----|----|----|--------------|
| 350               | <b>MFAS02G01</b> | 5/16" - 24              | G 1/8                   | 11   | 7.5 | 9  | 24 | 17 | 6.07 x 1.63  |
| 350               | <b>MFAS03G01</b> | 3/8" - 24               | G 1/8                   | 13   | 7.5 | 9  | 24 | 17 | 7.65 x 1.63  |
| 350               | <b>MFAS04G02</b> | 7/16" - 20              | G 1/4                   | 14.5 | 9   | 13 | 32 | 22 | 8.92 x 1.83  |
| 350               | <b>MFAS05G02</b> | 1/2" - 20               | G 1/4                   | 16   | 9   | 13 | 32 | 22 | 10.52 x 1.83 |
| 350               | <b>MFAS06G02</b> | 9/16" - 18              | G 1/4                   | 17.5 | 10  | 13 | 34 | 22 | 11.89 x 1.98 |
| 350               | <b>MFAS08G03</b> | 3/4" - 16               | G 3/8                   | 22   | 11  | 13 | 34 | 27 | 16.36 x 2.21 |
| 350               | <b>MFAS10G04</b> | 7/8" - 14               | G 1/2                   | 25.5 | 13  | 15 | 40 | 30 | 19.18 x 2.46 |
| 350               | <b>MFAS12G06</b> | 1.1/16" - 12            | G 3/4                   | 32   | 15  | 17 | 45 | 36 | 23.47 x 2.95 |
| 350               | <b>MFAS14G08</b> | 1.3/16" - 12            | G1                      | 35   | 15  | 19 | 50 | 46 | 26.62 x 2.95 |
| 350               | <b>MFAS16G08</b> | 1.5/16" - 12            | G1                      | 38   | 15  | 19 | 50 | 46 | 29.74 x 2.95 |
| 350               | <b>MFAS20G10</b> | 1.5/8" - 12             | G 1.1/4                 | 48   | 15  | 21 | 55 | 55 | 37.47 x 3.00 |
| 350               | <b>MFAS24G12</b> | 1.7/8" - 12             | G 1.1/2                 | 54   | 15  | 23 | 55 | 60 | 43.69 x 3.00 |
| 350               | <b>MFAS32G16</b> | 2.1/2" - 12             | G2                      | 70   | 15  | 25 | 60 | 75 | 59.36 x 3.00 |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code Example : 316 - MFAS14G08

Standard surface treatment : Chrome free Alkaline Zinc Plating.

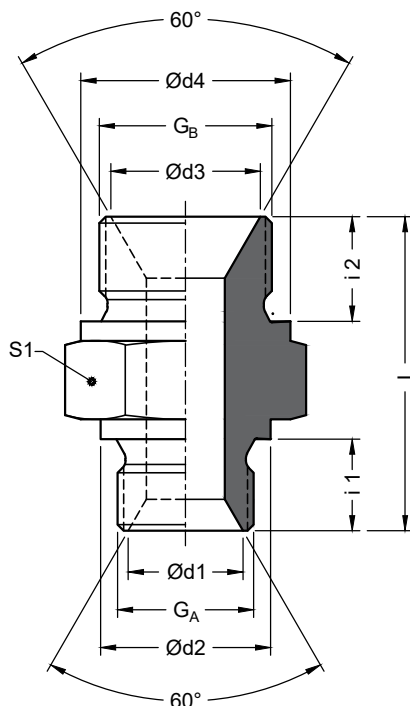
For Zinc Nickel surface treatment, add suffix - ZnNi Example : MFAS14G08 - ZnNi

# HA - G Hose Adaptors

Hose Adaptors as per BS 5200

Dimensions in mm

Male threads : BSPP (G) as per ISO 228



| Pressure<br>(bar) | Part No.        | G <sub>A</sub> | G <sub>B</sub> | Ød1  | Ød2 | Ød3  | Ød4 | i 1 | i 2 | L    | S1 |
|-------------------|-----------------|----------------|----------------|------|-----|------|-----|-----|-----|------|----|
| 350               | <b>HAG01G01</b> | G 1/8 A        | G 1/8 A        | 7.5  | 14  | 7.5  | 14  | 8   | 8   | 26   | 14 |
| 350               | <b>HAG01G02</b> | G 1/8 A        | G 1/4 A        | 7.5  | 14  | 10.4 | 18  | 8   | 11  | 29.5 | 19 |
| 775               | <b>HAG02G02</b> | G 1/4 A        | G 1/4 A        | 10.4 | 18  | 10.4 | 18  | 11  | 11  | 33   | 19 |
| 690               | <b>HAG02G03</b> | G 1/4 A        | G 3/8 A        | 10.4 | 18  | 14   | 22  | 11  | 12  | 36.5 | 22 |
| 515               | <b>HAG02G04</b> | G 1/4 A        | G 1/2 A        | 10.4 | 18  | 17.5 | 26  | 11  | 14  | 39   | 27 |
| 690               | <b>HAG03G03</b> | G 3/8 A        | G 3/8 A        | 14   | 22  | 14   | 22  | 12  | 12  | 38   | 22 |
| 515               | <b>HAG03G04</b> | G 3/8 A        | G 1/2 A        | 14   | 22  | 17.5 | 26  | 12  | 14  | 40.5 | 27 |
| 430               | <b>HAG03G06</b> | G 3/8 A        | G 3/4 A        | 14   | 22  | 22.9 | 32  | 12  | 16  | 44.5 | 32 |
| 515               | <b>HAG04G04</b> | G 1/2 A        | G 1/2 A        | 17.5 | 26  | 17.5 | 26  | 14  | 14  | 43   | 27 |
| 430               | <b>HAG04G06</b> | G 1/2 A        | G 3/4 A        | 17.5 | 26  | 22.9 | 32  | 14  | 16  | 47   | 32 |
| 345               | <b>HAG04G08</b> | G 1/2 A        | G 1 A          | 17.5 | 26  | 28.7 | 39  | 14  | 19  | 50   | 41 |
| 430               | <b>HAG06G06</b> | G 3/4 A        | G 3/4 A        | 22.9 | 32  | 22.9 | 32  | 16  | 16  | 49   | 32 |
| 345               | <b>HAG06G08</b> | G 3/4 A        | G 1 A          | 22.9 | 32  | 28.7 | 39  | 16  | 19  | 52   | 41 |
| 345               | <b>HAG06G10</b> | G 3/4 A        | G 1.1/4 A      | 22.9 | 32  | 36.8 | 49  | 16  | 20  | 57   | 50 |
| 345               | <b>HAG08G08</b> | G 1 A          | G 1 A          | 28.7 | 39  | 28.7 | 39  | 19  | 19  | 55   | 41 |
| 345               | <b>HAG08G10</b> | G 1 A          | G 1.1/4 A      | 28.7 | 39  | 36.8 | 49  | 19  | 20  | 60   | 50 |
| 345               | <b>HAG08G12</b> | G 1 A          | G 1.1/2 A      | 28.7 | 39  | 42.7 | 55  | 19  | 22  | 63   | 55 |
| 345               | <b>HAG10G10</b> | G1.1/4 A       | G 1.1/4 A      | 36.8 | 49  | 36.8 | 49  | 20  | 20  | 61   | 50 |
| 345               | <b>HAG10G12</b> | G1.1/4 A       | G 1.1/2 A      | 36.8 | 49  | 42.7 | 55  | 20  | 22  | 64   | 55 |
| 345               | <b>HAG12G12</b> | G1.1/2 A       | G 1.1/2 A      | 42.7 | 55  | 42.7 | 55  | 22  | 22  | 66   | 55 |

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code      Example : 316 - HAG08G10

Standard surface treatment :      Chrome free Alkaline Zinc Plating.

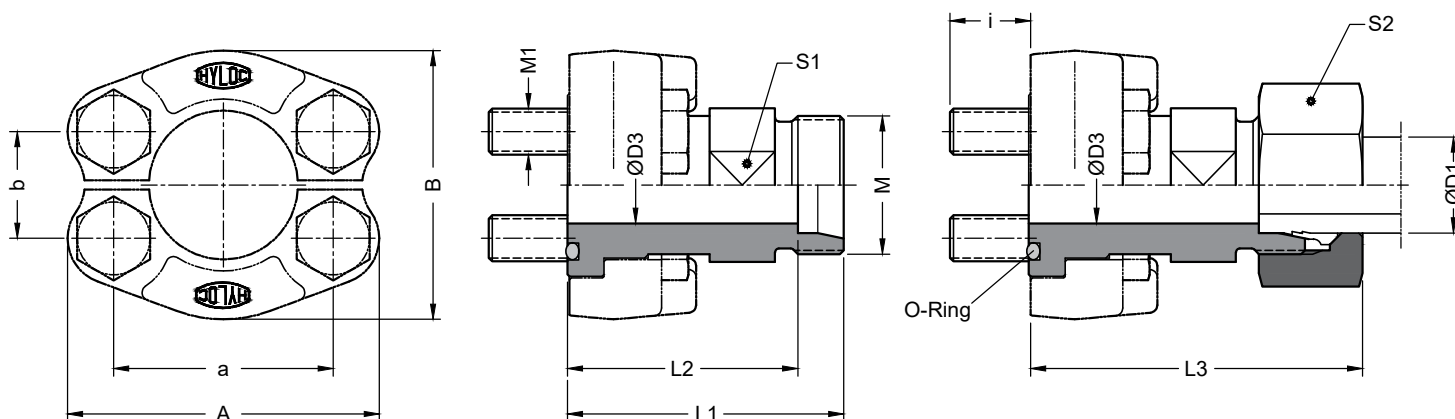
For Zinc Nickel surface treatment, add suffix - ZnNi      Example : HAG08G10 - ZnNi

# GFS Swivel flange connections



Mounting Interface conforms to ISO 6162 - 1

Dimensions in mm



Standard Pressure Series (Code 61)

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br>⊕ | D3 | M       | Flange<br>Nominal<br>Size | Nominal<br>DN<br>Size | A  | a    | B  | b    | i  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|------------------|----------------------|--------------|---------|----|---------|---------------------------|-----------------------|----|------|----|------|----|--------------------|----------------------------|
| GFS3215XL        | GFS3215PL            | 315          | 15      | 12 | M22x1.5 | 1/2                       | 13                    | 54 | 38.1 | 46 | 17.5 | 12 | 19.0 x 3.55        | M8 x 25                    |
| GFS3216XS        | GFS3216PS            | 350          | 16      | 12 | M24x1.5 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3318XL        | GFS3318PL            | 315          | 18      | 15 | M26x1.5 | 3/4                       | 19                    | 65 | 47.6 | 52 | 22.3 | 16 | 25.0 x 3.55        | M10 x 30                   |
| GFS3322XL        | GFS3322PL            | 160          | 22      | 19 | M30x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3320XS        | GFS3320PS            | 350          | 20      | 16 | M30x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3325XS        | GFS3325PS            | 350          | 25      | 17 | M36x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3428XL        | GFS3428PL            | 160          | 28      | 24 | M36x2.0 | 1                         | 25                    | 70 | 52.4 | 59 | 26.2 | 14 | 32.5 x 3.55        | M10 x 30                   |
| GFS3430XS        | GFS3430PS            | 350          | 30      | 24 | M42x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3535XL        | GFS3535PL            | 160          | 35      | 30 | M45x2.0 | 1.1/4                     | 32                    | 79 | 58.7 | 73 | 30.2 | 16 | 37.5 x 3.55        | M10 x 30                   |
| GFS3525XS        | GFS3525PS            | 280          | 25      | 20 | M36x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3530XS        | GFS3530PS            | 280          | 30      | 25 | M42x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3538XS        | GFS3538PS            | 280          | 38      | 28 | M52x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| GFS3642XL        | GFS3642PL            | 160          | 42      | 36 | M52x2.0 | 1.1/2                     | 38                    | 94 | 69.9 | 83 | 35.7 | 19 | 47.5 x 3.55        | M12 x 35                   |
| GFS3638XS        | GFS3638PS            | 210          | 38      | 32 | M52x2.0 |                           |                       |    |      |    |      |    |                    |                            |

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br>⊕ | L1 | L2   | L3   | S1 | S2 |
|------------------|----------------------|--------------|---------|----|------|------|----|----|
| GFS3215XL        | GFS3215PL            | 315          | 15      | 48 | 41   | 59.5 | 24 | 27 |
| GFS3216XS        | GFS3216PS            | 350          | 16      | 50 | 41.5 | 63.0 | 24 | 30 |
| GFS3318XL        | GFS3318PL            | 315          | 18      | 53 | 45.5 | 65.0 | 30 | 32 |
| GFS3322XL        | GFS3322PL            | 160          | 22      | 53 | 45.5 | 65.5 | 30 | 36 |
| GFS3320XS        | GFS3320PS            | 350          | 20      | 57 | 46.5 | 72.0 | 30 | 36 |
| GFS3325XS        | GFS3325PS            | 350          | 25      | 57 | 45   | 73.0 | 30 | 46 |
| GFS3428XL        | GFS3428PL            | 160          | 28      | 54 | 46.5 | 67.5 | 36 | 41 |
| GFS3430XS        | GFS3430PS            | 350          | 30      | 63 | 49.5 | 80.5 | 36 | 50 |
| GFS3535XL        | GFS3535PL            | 160          | 35      | 58 | 47.5 | 73.5 | 41 | 50 |
| GFS3525XS        | GFS3525PS            | 280          | 25      | 60 | 48   | 76.0 | 41 | 46 |
| GFS3530XS        | GFS3530PS            | 280          | 30      | 62 | 48.5 | 79.5 | 41 | 50 |
| GFS3538XS        | GFS3538PS            | 280          | 38      | 66 | 50   | 84.5 | 46 | 60 |
| GFS3642XL        | GFS3642PL            | 160          | 42      | 64 | 53   | 79.5 | 46 | 60 |
| GFS3638XS        | GFS3638PS            | 210          | 38      | 70 | 54   | 88.5 | 46 | 60 |

Note:

Split flanges are not in the scope of supply.

While ordering these assemblies along with Split flanges, add suffix - **SFS** to the assembly part numbers.

Example : **GFS3430PS-SFS**

While ordering these assemblies along with Split flanges and also mounting hardware, further add suffix - **BKM** to the assembly part numbers.

Example : **GFS3430PS-SFS/BKM**

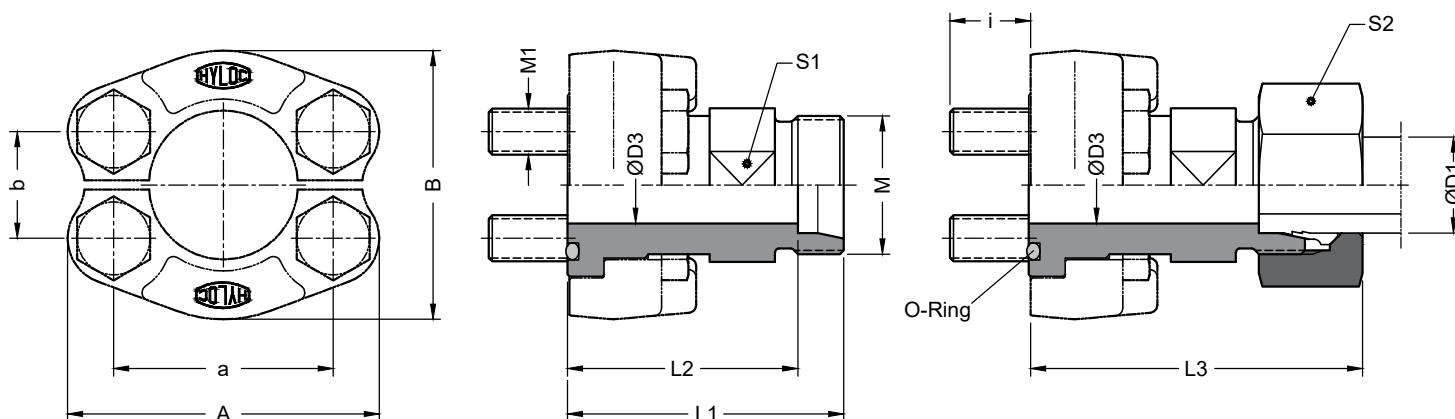
Screw lengths are calculated for steel. Use of other material require different screw lengths.

# GFS Swivel flange connections



Mounting Interface conforms to ISO 6162 - 2

Dimensions in mm



## High Pressure Series (Code 62)

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br>⊕ | D3 | M       | Flange<br>Nominal<br>Size | Nominal<br>DN<br>Size | A   | a    | B  | b    | i  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|------------------|----------------------|--------------|---------|----|---------|---------------------------|-----------------------|-----|------|----|------|----|--------------------|----------------------------|
| GFS6216XS        | GFS6216PS            | 400          | 16      | 12 | M24x1.5 | 1/2                       | 13                    | 56  | 40.5 | 48 | 18.2 | 14 | 19.0 x 3.55        | M8 x 30                    |
| GFS6316XS        | GFS6316PS            | 400          | 16      | 12 | M24x1.5 | 3/4                       | 19                    | 71  | 50.8 | 60 | 23.8 | 16 | 25.0 x 3.55        | M10 x 35                   |
| GFS6320XS        | GFS6320PS            | 400          | 20      | 16 | M30x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| GFS6325XS        | GFS6325PS            | 400          | 25      | 17 | M36x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| GFS6425XS        | GFS6425PS            | 400          | 25      | 20 | M36x2.0 | 1                         | 25                    | 81  | 57.2 | 70 | 27.8 | 21 | 32.5 x 3.55        | M12 x 45                   |
| GFS6430XS        | GFS6430PS            | 400          | 30      | 24 | M42x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| GFS6530XS        | GFS6530PS            | 400          | 30      | 25 | M42x2.0 | 1.1/4                     | 32                    | 95  | 66.6 | 78 | 31.8 | 18 | 37.5 x 3.55        | M12 x 45                   |
| GFS6538XS        | GFS6538PS            | 315          | 38      | 30 | M52x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| GFS6638XS        | GFS6638PS            | 315          | 38      | 30 | M52x2.0 | 1.1/2                     | 38                    | 113 | 79.3 | 95 | 36.5 | 25 | 47.5 x 3.55        | M16 x 55                   |

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br>⊕ | L1   | L2   | L3    | S1 | S2 |
|------------------|----------------------|--------------|---------|------|------|-------|----|----|
| GFS6216XS        | GFS6216PS            | 400          | 16      | 53.0 | 44.5 | 66.0  | 24 | 30 |
| GFS6316XS        | GFS6316PS            | 400          | 16      | 59.0 | 50.5 | 72.0  | 30 | 30 |
| GFS6320XS        | GFS6320PS            | 400          | 20      | 61.0 | 50.5 | 76.0  | 30 | 36 |
| GFS6325XS        | GFS6325PS            | 400          | 25      | 63.0 | 51.0 | 79.0  | 30 | 46 |
| GFS6425XS        | GFS6425PS            | 400          | 25      | 72.0 | 60.0 | 88.0  | 36 | 46 |
| GFS6430XS        | GFS6430PS            | 400          | 30      | 74.0 | 60.5 | 91.5  | 36 | 50 |
| GFS6530XS        | GFS6530PS            | 400          | 30      | 79.0 | 65.5 | 96.5  | 41 | 50 |
| GFS6538XS        | GFS6538PS            | 315          | 38      | 83.0 | 67.0 | 101.5 | 41 | 60 |
| GFS6638XS        | GFS6638PS            | 315          | 38      | 89.0 | 73.0 | 107.5 | 46 | 60 |

Note:

Split flanges are not in the scope of supply.

While ordering these assemblies along with Split flanges, add suffix - **SFS** to the assembly part numbers.Example : **GFS6430PS-SFS**While ordering these assemblies along with Split flanges and also mounting hardware, further add suffix - **BKM** to the assembly part numbers.Example : **GFS6430PS-SFS/BKM**

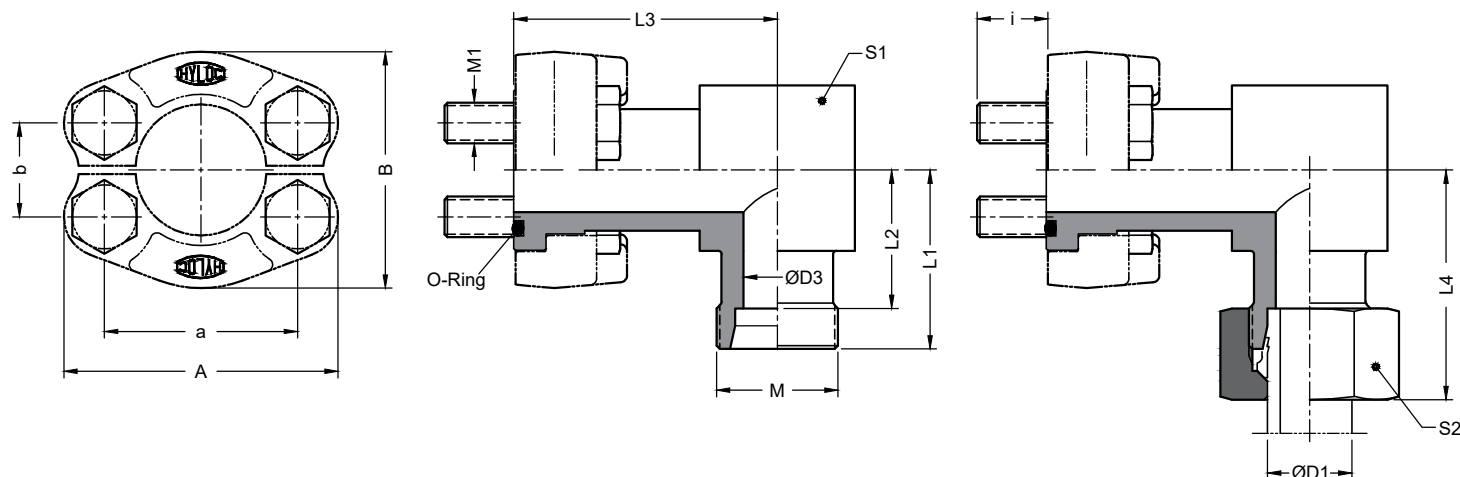
Screw lengths are calculated for steel. Use of other material require different screw lengths.

# WFS Elbow Swivel flange connections



Mounting Interface conforms to ISO 6162 - 1

Dimensions in mm



Standard Pressure Series (Code 61)

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br> | D3 | M       | Flange<br>Nominal<br>Size | Nominal<br>DN<br>Size | A  | a    | B  | b    | i  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|------------------|----------------------|--------------|--------|----|---------|---------------------------|-----------------------|----|------|----|------|----|--------------------|----------------------------|
| WFS3215XL        | WFS3215PL            | 315          | 15     | 12 | M22x1.5 | 1/2                       | 13                    | 54 | 38.1 | 46 | 17.5 | 12 | 19.0 x 3.55        | M8 x 25                    |
| WFS3216XS        | WFS3216PS            | 350          | 16     | 12 | M24x1.5 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3318XL        | WFS3318PL            | 315          | 18     | 15 | M26x1.5 | 3/4                       | 19                    | 65 | 47.6 | 52 | 22.3 | 16 | 25.0 x 3.55        | M10 x 30                   |
| WFS3322XL        | WFS3322PL            | 160          | 22     | 19 | M30x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3320XS        | WFS3320PS            | 350          | 20     | 16 | M30x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3325XS        | WFS3325PS            | 350          | 25     | 17 | M36x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3428XL        | WFS3428PL            | 160          | 28     | 24 | M36x2.0 | 1                         | 25                    | 70 | 52.4 | 59 | 26.2 | 14 | 32.5 x 3.55        | M10 x 30                   |
| WFS3430XS        | WFS3430PS            | 350          | 30     | 24 | M42x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3535XL        | WFS3535PL            | 160          | 35     | 30 | M45x2.0 | 1.1/4                     | 32                    | 79 | 58.7 | 73 | 30.2 | 16 | 37.5 x 3.55        | M10 x 30                   |
| WFS3525XS        | WFS3525PS            | 280          | 25     | 20 | M36x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3530XS        | WFS3530PS            | 280          | 30     | 25 | M42x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3538XS        | WFS3538PS            | 280          | 38     | 28 | M52x2.0 |                           |                       |    |      |    |      |    |                    |                            |
| WFS3642XL        | WFS3642PL            | 160          | 42     | 36 | M52x2.0 | 1.1/2                     | 38                    | 94 | 69.9 | 83 | 35.7 | 19 | 47.5 x 3.55        | M12 x 35                   |
| WFS3638XS        | WFS3638PS            | 210          | 38     | 32 | M52x2.0 |                           |                       |    |      |    |      |    |                    |                            |

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br> | L1   | L2   | L3   | L4    | S1 | S2 |
|------------------|----------------------|--------------|--------|------|------|------|-------|----|----|
| WFS3215XL        | WFS3215PL            | 315          | 15     | 36.0 | 29.0 | 45.5 | 47.5  | 27 | 27 |
| WFS3216XS        | WFS3216PS            | 350          | 16     | 38.0 | 29.5 | 45.5 | 51.0  | 27 | 30 |
| WFS3318XL        | WFS3318PL            | 315          | 18     | 39.0 | 31.5 | 52.5 | 51.0  | 27 | 32 |
| WFS3322XL        | WFS3322PL            | 160          | 22     | 41.0 | 33.5 | 54.0 | 53.5  | 30 | 36 |
| WFS3320XS        | WFS3320PS            | 350          | 20     | 43.0 | 32.5 | 54.0 | 58.0  | 30 | 36 |
| WFS3325XS        | WFS3325PS            | 350          | 25     | 45.0 | 33.0 | 57.0 | 60.0  | 36 | 46 |
| WFS3428XL        | WFS3428PL            | 160          | 28     | 44.0 | 36.5 | 57.0 | 57.5  | 36 | 41 |
| WFS3430XS        | WFS3430PS            | 350          | 30     | 50.0 | 36.5 | 62.0 | 67.5  | 46 | 50 |
| WFS3535XL        | WFS3535PL            | 160          | 35     | 87.0 | 46.5 | 69.0 | 102.5 | 46 | 50 |
| WFS3525XS        | WFS3525PS            | 280          | 25     | 55.0 | 43.0 | 69.0 | 71.0  | 46 | 46 |
| WFS3530XS        | WFS3530PS            | 280          | 30     | 57.0 | 43.5 | 69.0 | 74.5  | 46 | 50 |
| WFS3538XS        | WFS3538PS            | 280          | 38     | 59.0 | 43.0 | 73.5 | 77.5  | 55 | 60 |
| WFS3642XL        | WFS3642PL            | 160          | 42     | 58.0 | 47.0 | 73.5 | 73.5  | 55 | 60 |
| WFS3638XS        | WFS3638PS            | 210          | 38     | 64.0 | 48.0 | 73.5 | 82.5  | 55 | 60 |

Note :

Split flanges are not in the scope of supply.

While ordering these assemblies along with Split flanges, add suffix - **SFS** to the assembly part numbers.

Example : **WFS3430PS-SFS**

While ordering these assemblies along with Split flanges and also mounting hardwares, further add suffix - **BKM** to the assembly part numbers.

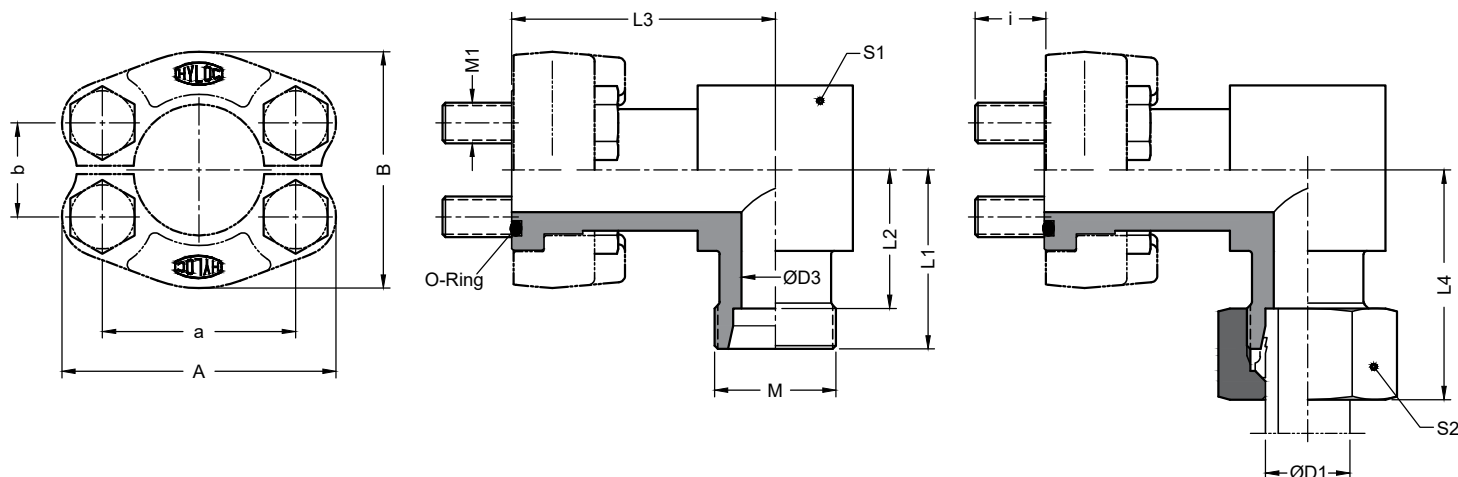
Example : **WFS3430PS-SFS/BKM**

Screw lengths are calculated for steel. Use of other material require different screw lengths.

# WFS Elbow Swivel flange connections

Mounting Interface conforms to ISO 6162 - 2

Dimensions in mm



## High Pressure Series (Code 62)

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br> | D3 | M       | Flange<br>Nominal<br>Size | Nominal<br>DN<br>Size | A   | a    | B  | b    | i  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|------------------|----------------------|--------------|-----------------------------------------------------------------------------------------|----|---------|---------------------------|-----------------------|-----|------|----|------|----|--------------------|----------------------------|
| WFS6216XS        | WFS6216PS            | 400          | 16                                                                                      | 12 | M24x1.5 | 1/2                       | 13                    | 56  | 40.5 | 48 | 18.2 | 14 | 19.0 x 3.55        | M8 x 30                    |
| WFS6316XS        | WFS6316PS            | 400          | 16                                                                                      | 12 | M24x1.5 | 3/4                       | 19                    | 71  | 50.8 | 60 | 23.8 | 16 | 25.0 x 3.55        | M10 x 35                   |
| WFS6320XS        | WFS6320PS            | 400          | 20                                                                                      | 16 | M30x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| WFS6325XS        | WFS6325PS            | 400          | 25                                                                                      | 17 | M36x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| WFS6425XS        | WFS6425PS            | 400          | 25                                                                                      | 20 | M36x2.0 | 1                         | 25                    | 81  | 57.2 | 70 | 27.8 | 21 | 32.5 x 3.55        | M12 x 45                   |
| WFS6430XS        | WFS6430PS            | 400          | 30                                                                                      | 24 | M42x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| WFS6530XS        | WFS6530PS            | 400          | 30                                                                                      | 25 | M42x2.0 | 1.1/4                     | 32                    | 95  | 66.6 | 78 | 31.8 | 18 | 37.5 x 3.55        | M12 x 45                   |
| WFS6538XS        | WFS6538PS            | 315          | 38                                                                                      | 30 | M52x2.0 |                           |                       |     |      |    |      |    |                    |                            |
| WFS6638XS        | WFS6638PS            | 315          | 38                                                                                      | 30 | M52x2.0 | 1.1/2                     | 38                    | 113 | 79.3 | 95 | 36.5 | 25 | 47.5 x 3.55        | M16 x 55                   |

| Part No.<br>Body | Part No.<br>Assembly | Pr.<br>(bar) | D1<br> | L1   | L2   | L3   | L4   | S1 | S2 |
|------------------|----------------------|--------------|-------------------------------------------------------------------------------------------|------|------|------|------|----|----|
| WFS6216XS        | WFS6216PS            | 400          | 16                                                                                        | 38.0 | 29.5 | 50.5 | 51.0 | 27 | 30 |
| WFS6316XS        | WFS6316PS            | 400          | 16                                                                                        | 45.0 | 36.5 | 62.0 | 58.0 | 36 | 30 |
| WFS6320XS        | WFS6320PS            | 400          | 20                                                                                        | 46.0 | 35.5 | 62.0 | 61.0 | 36 | 36 |
| WFS6325XS        | WFS6325PS            | 400          | 25                                                                                        | 48.0 | 36.0 | 62.0 | 64.0 | 36 | 46 |
| WFS6425XS        | WFS6425PS            | 400          | 25                                                                                        | 53.0 | 41.0 | 78.0 | 69.0 | 46 | 46 |
| WFS6430XS        | WFS6430PS            | 400          | 30                                                                                        | 55.0 | 41.5 | 78.0 | 72.5 | 46 | 50 |
| WFS6530XS        | WFS6530PS            | 400          | 30                                                                                        | 58.0 | 44.5 | 85.0 | 75.5 | 46 | 50 |
| WFS6538XS        | WFS6538PS            | 315          | 38                                                                                        | 61.0 | 45.0 | 89.5 | 79.5 | 55 | 60 |
| WFS6638XS        | WFS6638PS            | 315          | 38                                                                                        | 72.0 | 56.0 | 95.5 | 90.5 | 55 | 60 |

Note:

Split flanges are not in the scope of supply.

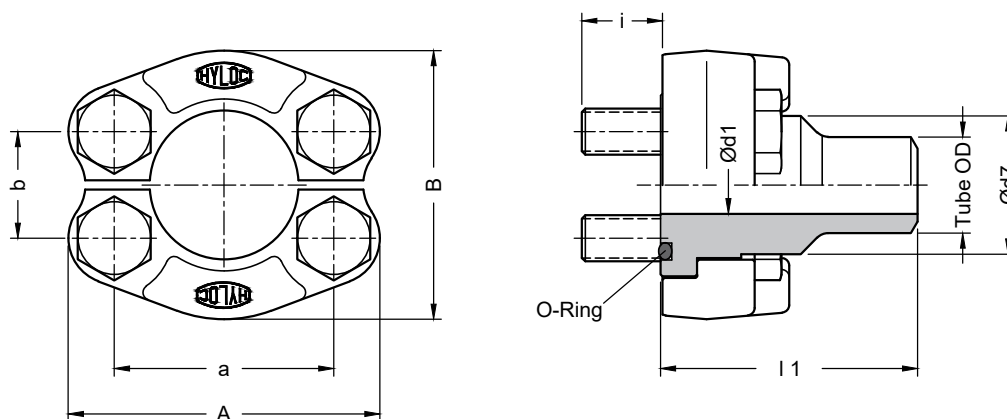
While ordering these assemblies along with Split flanges, add suffix - **SFS** to the assembly part numbers.Example : **WFS6430PS-SFS**While ordering these assemblies along with Split flanges and also mounting hardware, further add suffix - **BKM** to the assembly part numbers.Example : **WFS6430PS-SFS/BKM**

Screw lengths are calculated for steel. Use of other material require different screw lengths.

# AS\*\* Swivel flange connections

Mounting Interface conforms to ISO 6162 - 1

Dimensions in mm



Standard Pressure Series (Code 61)

| Part No.<br>Weldneck | Part No.<br>Assembly | Pressure<br>(bar) | Nominal<br>Size | Nominal<br>DN<br>Size | Tube Size<br>OD x thickness | A   | a    | B  | b    | i  | Ød1 | Ød7  | l1 | O Ring<br>ID x CSD | Screw<br>Size |
|----------------------|----------------------|-------------------|-----------------|-----------------------|-----------------------------|-----|------|----|------|----|-----|------|----|--------------------|---------------|
| WN - AS 3215L        | AS3215L              | 323               | 1/2             | 13                    | 15 x 2.0                    | 54  | 38.1 | 46 | 17.5 | 12 | 11  | 23.9 | 38 | 19.0 x 3.55        | M8 x 25       |
| WN - AS3216S         | AS3216S              | 350               |                 |                       | 16 x 3.0                    |     |      |    |      |    | 10  |      |    |                    |               |
| WN - AS3318L         | AS3318L              | 210               | 3/4             | 19                    | 18 x 1.5                    | 65  | 47.6 | 52 | 22.3 | 16 | 15  | 31.8 | 50 | 25.0 x 3.55        | M10 x 30      |
| WN - AS3322L         | AS3322L              | 228               |                 |                       | 22 x 2.0                    |     |      |    |      |    | 18  |      |    |                    |               |
| WN - AS3320S         | AS3320S              | 350               |                 |                       | 20 x 3.0                    |     |      |    |      |    | 14  |      |    |                    |               |
| WN - AS3325S         | AS3325S              | 350               |                 |                       | 25 x 4.0                    |     |      |    |      |    | 17  |      |    |                    |               |
| WN - AS3428L         | AS3428L              | 182               | 1               | 25                    | 28 x 2.0                    | 70  | 52.4 | 59 | 26.2 | 14 | 24  | 38.0 | 50 | 32.5 x 3.55        | M10 x 30      |
| WN - AS3430S         | AS3430S              | 350               |                 |                       | 30 x 4.5                    |     |      |    |      |    | 21  |      |    |                    |               |
| WN - AS3535L         | AS3535L              | 147               | 1.1/4           | 32                    | 35 x 2.0                    | 79  | 58.7 | 73 | 30.2 | 16 | 31  | 43.0 | 55 | 37.5 x 3.55        | M10 x 30      |
| WN - AS3525S         | AS3525S              | 280               |                 |                       | 25 x 3.0                    |     |      |    |      |    | 19  |      |    |                    |               |
| WN - AS3530S         | AS3530S              | 280               |                 |                       | 30 x 4.0                    |     |      |    |      |    | 22  |      |    |                    |               |
| WN - AS3538S         | AS3538S              | 280               |                 |                       | 38 x 5.0                    |     |      |    |      |    | 28  |      |    |                    |               |
| WN - AS3642L         | AS3642L              | 182               | 1.1/2           | 38                    | 42 x 3.0                    | 94  | 69.9 | 83 | 35.7 | 19 | 36  | 50.0 | 57 | 47.5 x 3.55        | M12 x 35      |
| WN - AS3638S         | AS3638S              | 210               |                 |                       | 38 x 4.0                    |     |      |    |      |    | 30  |      |    |                    |               |
| WN - AS3850L         | AS3850L              | 210               | 2               | 51                    | 50 x 6.0                    | 102 | 77.8 | 97 | 42.9 | 19 | 38  | 62.0 | 62 | 56.0 x 3.55        | M12 x 35      |
| WN - AS3865L         | AS3865L              | 210               |                 |                       | 65 x 8.0                    |     |      |    |      |    | 49  | 65.0 |    |                    |               |

While ordering these assemblies along with mounting hardware, add suffix - **BKM** to the assembly part numbers.

Example : **AS3325S - BKM** - for Metric Bolts

Metric screws of property class 10.9

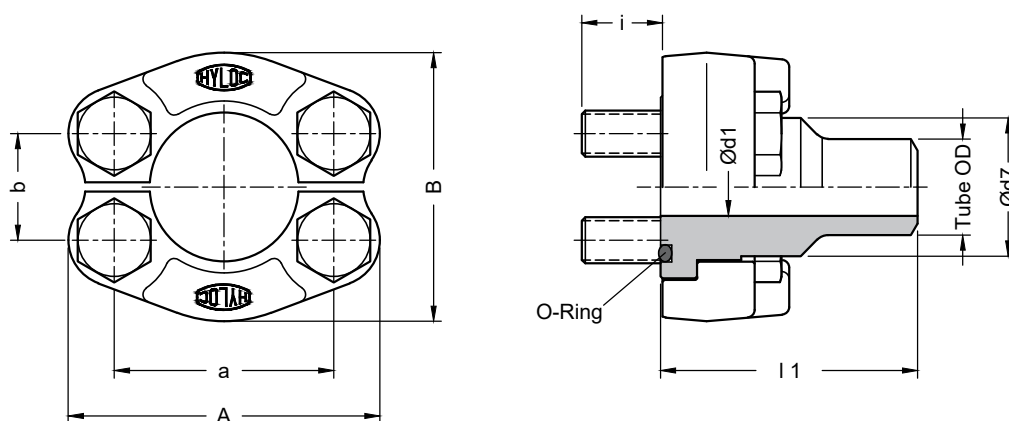
Screw lengths are calculated for steel. Use of other material require different screw lengths.



# AS\*\* Swivel flange connections

Mounting Interface conforms to ISO 6162 - 2

Dimensions in mm



## High Pressure Series (Code 62)

| Part No.<br>Weldneck | Part No.<br>Assembly | Pressure<br>(bar) | Nominal<br>Size | Nominal<br>DN<br>Size | Tube Size<br>OD x thickness | A   | a    | B   | b    | i  | Ød1 | Ød7  | l1  | O Ring<br>ID x CSD | Screw<br>Size |
|----------------------|----------------------|-------------------|-----------------|-----------------------|-----------------------------|-----|------|-----|------|----|-----|------|-----|--------------------|---------------|
| WN - AS6216S         | AS6216S              | 415               | 1/2             | 13                    | 16 x 3.0                    | 56  | 40.5 | 48  | 18.2 | 14 | 10  | 23.9 | 41  | 19.0 x 3.55        | M8 x 30       |
| WN - AS6316S         | AS6316S              | 415               | 3/4             | 19                    | 16 x 3.0                    | 71  | 50.8 | 60  | 23.8 | 16 | 10  | 31.8 | 55  | 25.0 x 3.55        | M10 x 35      |
| WN - AS6320S         | AS6320S              | 415               |                 |                       | 20 x 4.0                    |     |      |     |      |    | 12  |      |     |                    |               |
| WN - AS6325S         | AS6325S              | 415               |                 |                       | 25 x 5.0                    |     |      |     |      |    | 15  |      |     |                    |               |
| WN - AS6425S         | AS6425S              | 415               | 1               | 25                    | 25 x 5.0                    | 81  | 57.2 | 70  | 27.8 | 21 | 15  | 38.0 | 67  | 32.5 x 3.55        | M12 x 45      |
| WN - AS6430S         | AS6430S              | 323               |                 |                       | 30 x 4.0                    |     |      |     |      |    | 22  |      |     |                    |               |
| WN - AS6530S         | AS6530S              | 323               | 1.1/4           | 32                    | 30 x 4.0                    | 95  | 66.7 | 78  | 31.8 | 18 | 18  | 43.7 | 78  | 37.5 x 3.55        | M12 x 45      |
| WN - AS6538S         | AS6538S              | 415               |                 |                       | 38 x 5.0                    |     |      |     |      |    | 22  |      |     |                    |               |
| WN - AS6638S         | AS6638S              | 319               | 1.1/2           | 38                    | 38 x 5.0                    | 113 | 79.4 | 95  | 36.5 | 25 | 18  | 50.8 | 85  | 47.5 x 3.55        | M16 x 55      |
| WN - AS6850S         | AS6850S              | 415               | 2               | 51                    | 50 x 9.0                    | 133 | 96.8 | 114 | 44.5 | 33 | 28  | 66.6 | 116 | 56.0 x 3.55        | M20 x 70      |
| WN - AS6865S         | AS6865S              | 300               |                 |                       | 65 x 8.0                    |     |      |     |      |    | 22  |      |     |                    |               |

While ordering these assemblies along with mounting hardware, add suffix - **BKM** to the assembly part numbers.

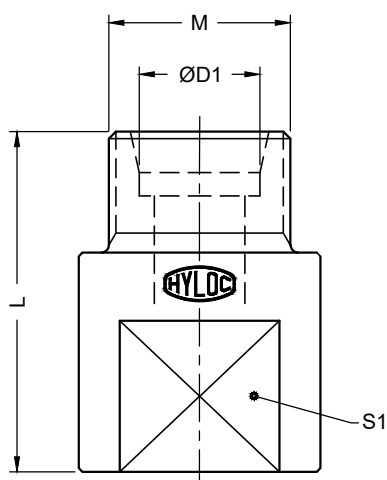
Example : **AS6425S - BKM** - for Metric Bolts

Metric screws of property class 10.9

Screw lengths are calculated for steel. Use of other material require different screw lengths.

# PST Pre Setting Tools

Dimensions in mm



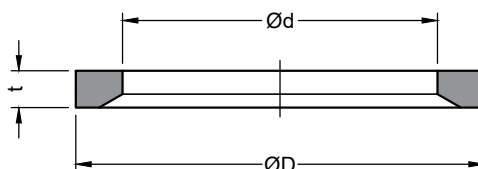
| Part No.      | D1<br> | M         | L  | S1 |
|---------------|-------------------------------------------------------------------------------------------|-----------|----|----|
| <b>PST06L</b> | 06                                                                                        | M12 x 1.5 | 45 | 24 |
| <b>PST08L</b> | 08                                                                                        | M14 x 1.5 | 45 | 24 |
| <b>PST10L</b> | 10                                                                                        | M16 x 1.5 | 45 | 24 |
| <b>PST12L</b> | 12                                                                                        | M18 x 1.5 | 45 | 24 |
| <b>PST15L</b> | 15                                                                                        | M22 x 1.5 | 45 | 24 |
| <b>PST18L</b> | 18                                                                                        | M26 x 1.5 | 45 | 24 |
| <b>PST22L</b> | 22                                                                                        | M30 x 2.0 | 60 | 50 |
| <b>PST28L</b> | 28                                                                                        | M36 x 2.0 | 60 | 50 |
| <b>PST35L</b> | 35                                                                                        | M45 x 2.0 | 60 | 50 |
| <b>PST42L</b> | 42                                                                                        | M52 x 2.0 | 60 | 50 |
| <b>PST06S</b> | 06                                                                                        | M14 x 1.5 | 45 | 24 |
| <b>PST08S</b> | 08                                                                                        | M16 x 1.5 | 45 | 24 |
| <b>PST10S</b> | 10                                                                                        | M18 x 1.5 | 45 | 24 |
| <b>PST12S</b> | 12                                                                                        | M20 x 1.5 | 45 | 24 |
| <b>PST16S</b> | 16                                                                                        | M24 x 1.5 | 45 | 24 |
| <b>PST20S</b> | 20                                                                                        | M30 x 2.0 | 60 | 50 |
| <b>PST25S</b> | 25                                                                                        | M36 x 2.0 | 60 | 50 |
| <b>PST30S</b> | 30                                                                                        | M42 x 2.0 | 60 | 50 |
| <b>PST38S</b> | 38                                                                                        | M52 x 2.0 | 60 | 50 |

# ED Elastomeric Seal

Elastomeric Seals (DIN 3869)

Dimensions in mm

Soft seals for Male Stud ends

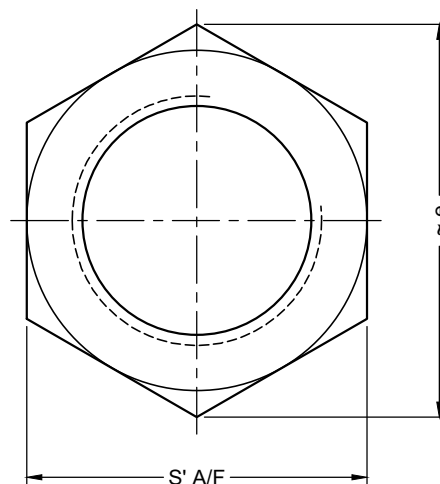
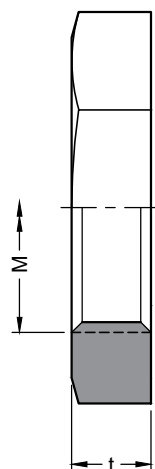


| Part No.<br>NBR | Part No.<br>Viton | For Male<br>Metric (M)<br>threads | For Male<br>BSPP (G)<br>threads | Ød   | ØD   | t   |
|-----------------|-------------------|-----------------------------------|---------------------------------|------|------|-----|
| <b>ED10</b>     | <b>ED10 - V</b>   | M10 x 1.0                         | G 1/8                           | 8.4  | 11.9 | 1.0 |
| <b>ED12</b>     | <b>ED12 - V</b>   | M12 x 1.5                         | ---                             | 9.8  | 14.4 | 1.5 |
| <b>ED14</b>     | <b>ED14 - V</b>   | M14 x 1.5                         | G 1/4                           | 11.6 | 16.5 | 1.5 |
| <b>ED16</b>     | <b>ED16 - V</b>   | M16 x 1.5                         | ---                             | 13.8 | 18.9 | 1.5 |
| <b>ED17</b>     | <b>ED17 - V</b>   | ---                               | G 3/8                           | 14.7 | 18.9 | 1.5 |
| <b>ED18</b>     | <b>ED18 - V</b>   | M18 x 1.5                         | ---                             | 15.7 | 20.9 | 1.5 |
| <b>ED20</b>     | <b>ED20 - V</b>   | M20 x 1.5                         | ---                             | 17.8 | 22.9 | 1.5 |
| <b>ED21</b>     | <b>ED21 - V</b>   | ---                               | G 1/2                           | 18.5 | 23.9 | 1.5 |
| <b>ED22</b>     | <b>ED22 - V</b>   | M22 x 1.5                         | ---                             | 19.6 | 24.3 | 1.5 |
| <b>ED27</b>     | <b>ED27 - V</b>   | M26 x 1.5<br>M27 x 2.0            | G 3/4                           | 23.9 | 29.2 | 1.5 |
| <b>ED33</b>     | <b>ED33 - V</b>   | M33 x 2.0                         | G 1                             | 29.7 | 35.7 | 2.0 |
| <b>ED42</b>     | <b>ED42 - V</b>   | M42 x 2.0                         | G1.1/4                          | 38.8 | 45.8 | 2.0 |
| <b>ED48</b>     | <b>ED48 - V</b>   | M48 x 2.0                         | G1.1/2                          | 44.7 | 50.7 | 2.0 |

For Bulkhead type tube fittings

Dimensions in mm

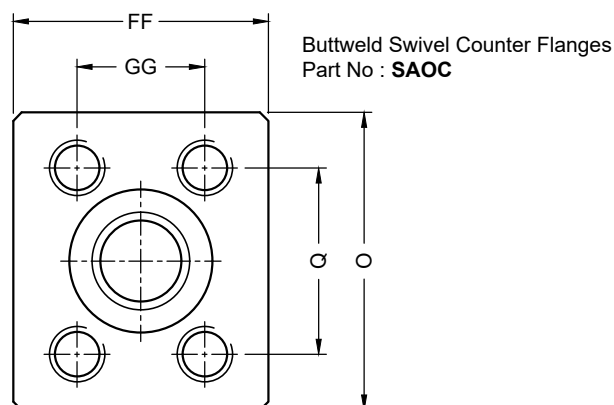
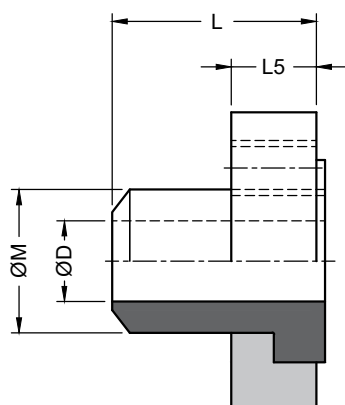
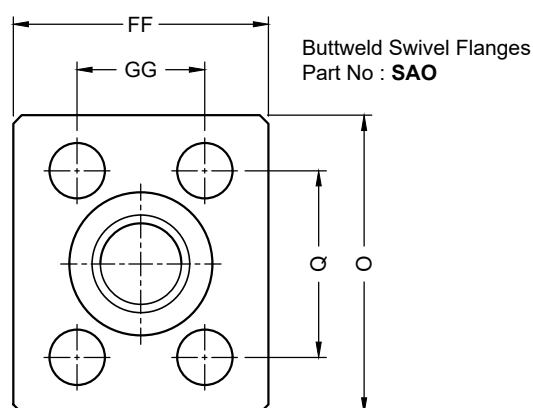
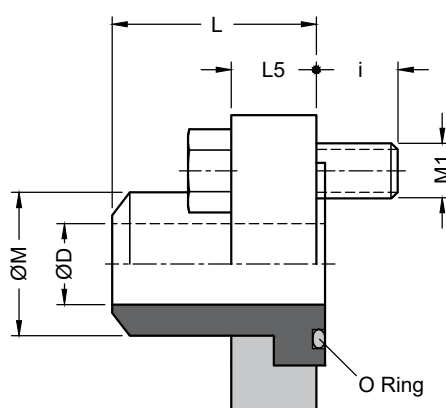
Dimensions in mm



| Part No     | M         | t  | S  | ~ e  |
|-------------|-----------|----|----|------|
| <b>GM12</b> | M12 x 1.5 | 6  | 17 | 19.6 |
| <b>GM14</b> | M14 x 1.5 | 6  | 19 | 21.9 |
| <b>GM16</b> | M16 x 1.5 | 6  | 22 | 25.4 |
| <b>GM18</b> | M18 x 1.5 | 6  | 24 | 27.7 |
| <b>GM20</b> | M20 x 1.5 | 6  | 27 | 31.2 |
| <b>GM22</b> | M22 x 1.5 | 7  | 30 | 34.6 |
| <b>GM24</b> | M24 x 1.5 | 7  | 32 | 36.9 |
| <b>GM26</b> | M26 x 1.5 | 8  | 36 | 41.6 |
| <b>GM30</b> | M30 x 2.0 | 9  | 41 | 47.3 |
| <b>GM36</b> | M36 x 2.0 | 9  | 46 | 53.1 |
| <b>GM42</b> | M42 x 2.0 | 9  | 50 | 57.5 |
| <b>GM45</b> | M45 x 2.0 | 9  | 55 | 63.5 |
| <b>GM52</b> | M52 x 2.0 | 10 | 65 | 75.0 |



|    |                                                          |                           |
|----|----------------------------------------------------------|---------------------------|
| 01 | Buttweld Swivel Flanges - ISO 6162 (Standard Pr. Series) | <a href="#">Datasheet</a> |
| 02 | Buttweld Swivel Flanges - ISO 6162 (High Pr. Series)     | <a href="#">Datasheet</a> |
| 03 | Buttweld Solid Flanges - ISO 6162 (Standard Pr. Series)  | <a href="#">Datasheet</a> |
| 04 | Buttweld Solid Flanges - ISO 6162 (High Pr. Series)      | <a href="#">Datasheet</a> |
| 05 | Socket weld Flanges - ISO 6162 (Standard Pr. Series)     | <a href="#">Datasheet</a> |
| 06 | Socket weld Flanges - ISO 6162 (High Pr. Series)         | <a href="#">Datasheet</a> |
| 07 | Blind Flanges - ISO 6162                                 | <a href="#">Datasheet</a> |
| 08 | Buttweld Swivel Flanges - ISO 6164 (PN 250 and PN 400)   | <a href="#">Datasheet</a> |
| 09 | Buttweld Solid Flanges - ISO 6164 (PN 250 and PN 400)    | <a href="#">Datasheet</a> |
| 10 | Blind Flanges - ISO 6164                                 | <a href="#">Datasheet</a> |

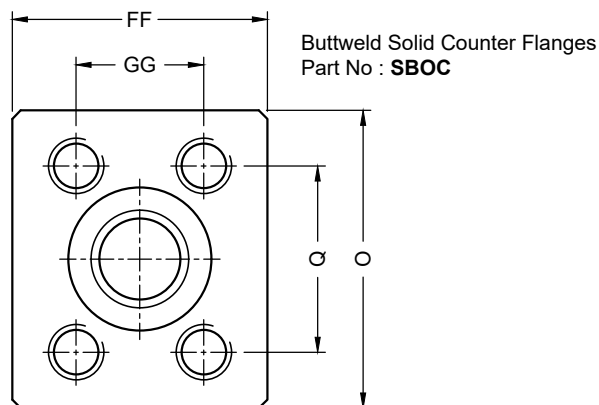
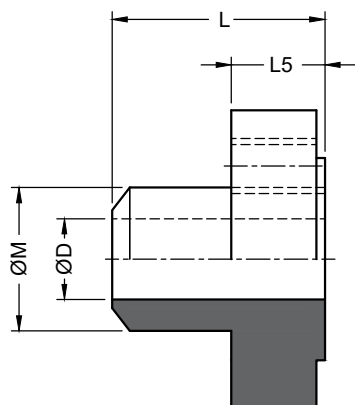
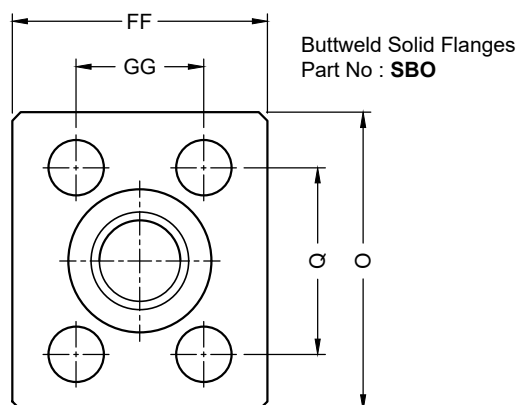
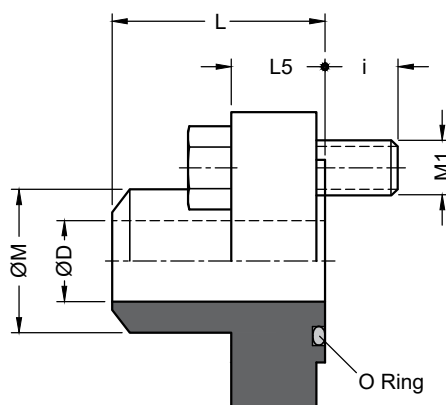


## Standard Pressure Series (Code 61)

| Part No.<br>Flanges | Part No.<br>Counter<br>Flanges | Flange<br>Nominal<br>Size | Pipe<br>Sch | Pr.<br>(bar) | ØM    | ØD  | O   | Q     | FF  | GG   | L5 | i  | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|--------------------------------|---------------------------|-------------|--------------|-------|-----|-----|-------|-----|------|----|----|----|--------------------|----------------------------|
| <b>SAO-21.3-80</b>  | <b>SAOC-21.3-80</b>            | 1/2"                      | 80          | 288          | 21.3  | 14  | 54  | 38.1  | 46  | 17.5 | 13 | 12 | 46 | 19.0 x 3.55        | M8 x 25                    |
| <b>SAO-21.3-160</b> | <b>SAOC-21.3-160</b>           |                           | 160         | 345          |       | 12  |     |       |     |      |    |    |    |                    |                            |
| <b>SAO-26.6-80</b>  | <b>SAOC-26.6-80</b>            | 3/4"                      | 80          | 246          | 26.6  | 19  | 65  | 47.6  | 52  | 22.3 | 15 | 15 | 55 | 25.0 x 3.55        | M10 x 30                   |
| <b>SAO-26.6-160</b> | <b>SAOC-26.6-160</b>           |                           | 160         | 345          |       | 15  |     |       |     |      |    |    |    |                    |                            |
| <b>SAO-33.4-80</b>  | <b>SAOC-33.4-80</b>            | 1"                        | 80          | 246          | 33.4  | 24  | 70  | 52.4  | 59  | 26.2 | 15 | 15 | 55 | 32.5 x 3.55        | M10 x 30                   |
| <b>SAO-33.4-160</b> | <b>SAOC-33.4-160</b>           |                           | 160         | 345          |       | 21  |     |       |     |      |    |    |    |                    |                            |
| <b>SAO-42.2-80</b>  | <b>SAOC-42.2-80</b>            | 1.1/4"                    | 80          | 211          | 42.2  | 32  | 79  | 58.7  | 73  | 30.2 | 15 | 15 | 65 | 37.5 x 3.55        | M10 x 30                   |
| <b>SAO-42.2-160</b> | <b>SAOC-42.2-160</b>           |                           | 160         | 276          |       | 30  |     |       |     |      |    |    |    |                    |                            |
| <b>SAO-48.3-80</b>  | <b>SAOC-48.3-80</b>            | 1.1/2"                    | 80          | 197          | 48.3  | 38  | 94  | 69.9  | 83  | 35.7 | 17 | 18 | 65 | 47.5 x 3.55        | M12 x 35                   |
| <b>SAO-60.3-80</b>  | <b>SAOC-60.3-80</b>            | 2"                        | 80          | 176          | 60.3  | 49  | 102 | 77.8  | 97  | 42.9 | 17 | 18 | 75 | 56.0 x 3.55        | M12 x 35                   |
| <b>SAO-60.3-160</b> | <b>SAOC-60.3-160</b>           |                           | 160         | 207          |       | 43  |     |       |     |      |    |    |    |                    |                            |
| <b>SAO-73.0-40</b>  | <b>SAOC-73.0-40</b>            | 2.1/2"                    | 40          | 134          | 73.0  | 63  | 114 | 88.9  | 109 | 50.8 | 22 | 18 | 75 | 69.0 x 3.55        | M12 x 40                   |
| <b>SAO-73.0-80</b>  | <b>SAOC-73.0-80</b>            |                           | 80          | 172          |       | 59  |     |       |     |      |    |    |    |                    |                            |
| <b>SAO-88.9-40</b>  | <b>SAOC-88.9-40</b>            | 3"                        | 40          | 113          | 88.9  | 78  | 135 | 106.4 | 131 | 61.9 | 26 | 24 | 75 | 85.0 x 3.55        | M16 x 50                   |
| <b>SAO-88.9-80</b>  | <b>SAOC-88.9-80</b>            |                           | 80          | 138          |       | 74  |     |       |     |      |    |    |    |                    |                            |
| <b>SAO-101.6-40</b> | <b>SAOC-101.6-40</b>           | 3.1/2"                    | 40          | 34           | 101.6 | 90  | 152 | 120.7 | 140 | 69.9 | 26 | 24 | 75 | 97.5 x 3.55        | M16 x 50                   |
| <b>SAO-114.3-40</b> | <b>SAOC-114.3-40</b>           | 4"                        | 40          | 34           | 114.3 | 102 | 162 | 130.2 | 152 | 77.8 | 26 | 24 | 85 | 112.0 x 3.55       | M16 x 50                   |
| <b>SAO-141.3-40</b> | <b>SAOC-141.3-40</b>           | 5"                        | 40          | 34           | 141.3 | 128 | 184 | 152.4 | 181 | 92.1 | 31 | 24 | 85 | 136.0 x 3.55       | M16 x 55                   |

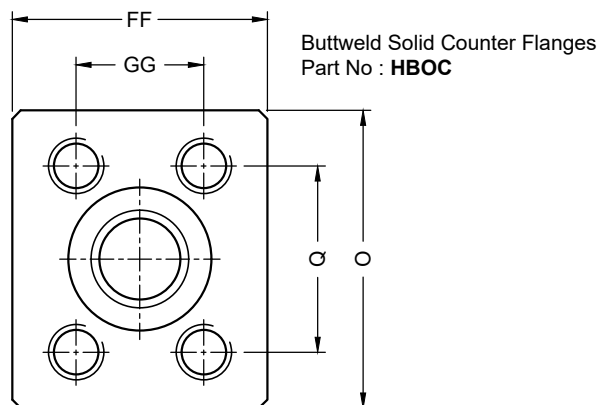
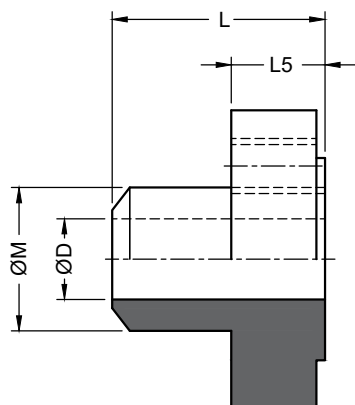
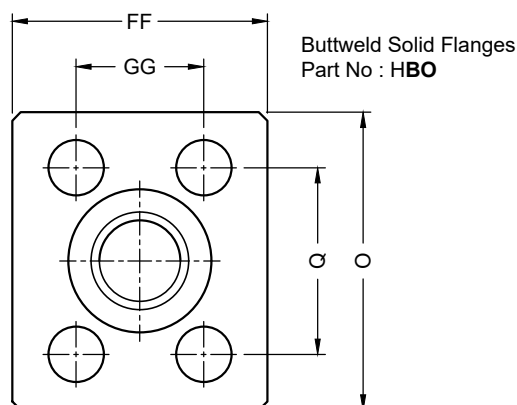
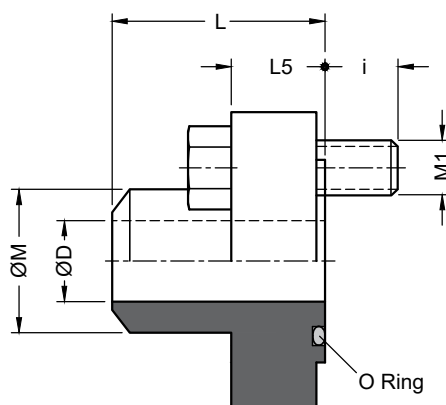






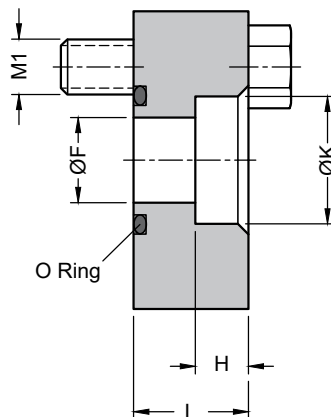
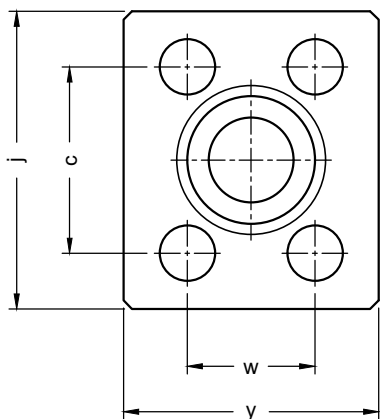
## Standard Pressure Series (Code 61)

| Part No.<br>Flanges | Part No.<br>Counter<br>Flanges | Flange<br>Nominal<br>Size | Pipe<br>Sch | Pr.<br>(bar) | ØM    | ØD  | O   | Q     | FF  | GG   | L5 | i  | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|--------------------------------|---------------------------|-------------|--------------|-------|-----|-----|-------|-----|------|----|----|----|--------------------|----------------------------|
| <b>SBO-21.3-80</b>  | <b>SBOC-21.3-80</b>            | 1/2"                      | 80          | 288          | 21.3  | 14  | 54  | 38.1  | 38  | 17.5 | 13 | 12 | 32 | 19.0 x 3.55        | M8 x 25                    |
| <b>SBO-21.3-160</b> | <b>SBOC-21.3-160</b>           |                           | 160         | 345          |       | 12  |     |       |     |      |    |    |    |                    |                            |
| <b>SBO-26.6-80</b>  | <b>SBOC-26.6-80</b>            | 3/4"                      | 80          | 246          | 26.6  | 19  | 65  | 47.6  | 45  | 22.3 | 15 | 15 | 32 | 25.0 x 3.55        | M10 x 30                   |
| <b>SBO-26.6-160</b> | <b>SBOC-26.6-160</b>           |                           | 160         | 345          |       | 15  |     |       |     |      |    |    |    |                    |                            |
| <b>SBO-33.4-80</b>  | <b>SBOC-33.4-80</b>            | 1"                        | 80          | 246          | 33.4  | 24  | 70  | 52.4  | 51  | 26.2 | 15 | 15 | 32 | 32.5 x 3.55        | M10 x 30                   |
| <b>SBO-33.4-160</b> | <b>SBOC-33.4-160</b>           |                           | 160         | 345          |       | 21  |     |       |     |      |    |    |    |                    |                            |
| <b>SBO-42.2-80</b>  | <b>SBOC-42.2-80</b>            | 1.1/4"                    | 80          | 211          | 42.2  | 32  | 79  | 58.7  | 64  | 30.2 | 15 | 15 | 32 | 37.5 x 3.55        | M10 x 30                   |
| <b>SBO-42.2-160</b> | <b>SBOC-42.2-160</b>           |                           | 160         | 276          |       | 30  |     |       |     |      |    |    |    |                    |                            |
| <b>SBO-48.3-80</b>  | <b>SBOC-48.3-80</b>            | 1.1/2"                    | 80          | 197          | 48.3  | 38  | 94  | 69.9  | 70  | 35.7 | 17 | 18 | 38 | 47.5 x 3.55        | M12 x 35                   |
| <b>SBO-60.3-80</b>  | <b>SBOC-60.3-80</b>            | 2"                        | 80          | 176          | 60.3  | 49  | 102 | 77.8  | 83  | 42.9 | 17 | 18 | 38 | 56.0 x 3.55        | M12 x 35                   |
| <b>SBO-60.3-160</b> | <b>SBOC-60.3-160</b>           |                           | 160         | 207          |       | 43  |     |       |     |      |    |    |    |                    |                            |
| <b>SBO-73.0-40</b>  | <b>SBOC-73.0-40</b>            | 2.1/2"                    | 40          | 134          | 73.0  | 63  | 114 | 88.9  | 102 | 50.8 | 22 | 18 | 45 | 69.0 x 3.55        | M12 x 40                   |
| <b>SBO-73.0-80</b>  | <b>SBOC-73.0-80</b>            |                           | 80          | 172          |       | 59  |     |       |     |      |    |    |    |                    |                            |
| <b>SBO-88.9-40</b>  | <b>SBOC-88.9-40</b>            | 3"                        | 40          | 113          | 88.9  | 78  | 135 | 106.4 | 114 | 61.9 | 26 | 24 | 51 | 85.0 x 3.55        | M16 x 50                   |
| <b>SBO-88.9-80</b>  | <b>SBOC-88.9-80</b>            |                           | 80          | 138          |       | 74  |     |       |     |      |    |    |    |                    |                            |
| <b>SBO-101.6-40</b> | <b>SBOC-101.6-40</b>           | 3.1/2"                    | 40          | 34           | 101.6 | 90  | 152 | 120.7 | 127 | 69.9 | 26 | 24 | 38 | 97.5 x 3.55        | M16 x 50                   |
| <b>SBO-114.3-40</b> | <b>SBOC-114.3-40</b>           | 4"                        | 40          | 34           | 114.3 | 102 | 162 | 130.2 | 140 | 77.8 | 26 | 24 | 38 | 112.0 x 3.55       | M16 x 50                   |
| <b>SBO-141.3-40</b> | <b>SBOC-141.3-40</b>           | 5"                        | 40          | 34           | 141.3 | 128 | 184 | 152.4 | 178 | 92.1 | 26 | 24 | 51 | 136.0 x 3.55       | M16 x 50                   |

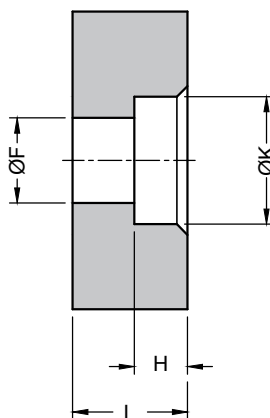
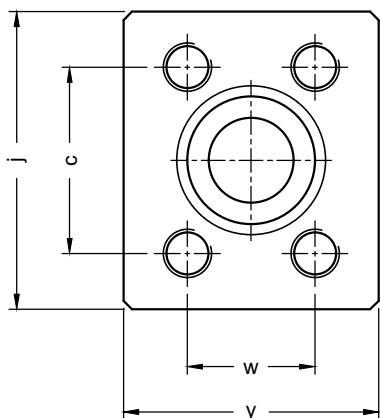


## High Pressure Series (Code 62)

| Part No.<br>Flanges | Part No.<br>Counter<br>Flanges | Flange<br>Nominal<br>Size | Pipe<br>Sch | Pr.<br>(bar) | ØM   | ØD | O   | Q     | FF  | GG   | L5 | i  | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|--------------------------------|---------------------------|-------------|--------------|------|----|-----|-------|-----|------|----|----|----|--------------------|----------------------------|
| <b>HBO-21.3-160</b> | <b>HBOC-21.3-160</b>           | 1/2"                      | 160         | 414          | 21.3 | 12 | 56  | 40.5  | 45  | 18.2 | 18 | 12 | 32 | 19.0 x 3.55        | M8 x 30                    |
| <b>HBO-26.6-160</b> | <b>HBOC-26.6-160</b>           | 3/4"                      | 160         | 414          | 26.6 | 16 | 71  | 50.8  | 51  | 23.8 | 20 | 15 | 32 | 25.0 x 3.55        | M10 x 35                   |
| <b>HBO-33.4-160</b> | <b>HBOC-33.4-160</b>           | 1"                        | 160         | 401          | 33.4 | 21 | 81  | 57.2  | 57  | 27.8 | 22 | 18 | 32 | 32.5 x 3.55        | M12 x 40                   |
| <b>HBO-42.2-160</b> | <b>HBOC-42.2-160</b>           | 1.1/4"                    | 160         | 310          | 42.2 | 30 | 95  | 66.6  | 70  | 31.8 | 22 | 18 | 32 | 37.5 x 3.55        | M12 x 40                   |
| <b>HBO-42.2-XXS</b> | <b>HBOC-42.2-XXS</b>           |                           | XXS         | 414          |      | 23 |     |       |     |      |    |    |    |                    |                            |
| <b>HBO-48.3-160</b> | <b>HBOC-48.3-160</b>           | 1.1/2"                    | 160         | 317          | 48.3 | 34 | 113 | 79.3  | 83  | 36.5 | 21 | 24 | 38 | 47.5 x 3.55        | M16 x 45                   |
| <b>HBO-48.3-XXS</b> | <b>HBOC-48.3-XXS</b>           |                           | XXS         | 414          |      | 28 |     |       |     |      |    |    |    |                    |                            |
| <b>HBO-60.3-160</b> | <b>HBOC-60.3-160</b>           | 2"                        | 160         | 324          | 60.3 | 43 | 133 | 96.8  | 102 | 44.5 | 30 | 30 | 45 | 56.0 x 3.55        | M20 x 60                   |
| <b>HBO-60.3-XXS</b> | <b>HBOC-60.3-XXS</b>           |                           | XXS         | 414          |      | 38 |     |       |     |      |    |    |    |                    |                            |
| <b>HBO-73.0-160</b> | <b>HBOC-73.0-160</b>           | 2.1/2"                    | 160         | 296          | 73.0 | 54 | 175 | 123.8 | 127 | 58.7 | 32 | 33 | 51 | 69.0 x 3.55        | M22 x 65                   |
| <b>HBO-73.0-XXS</b> | <b>HBOC-73.0-XXS</b>           |                           | XXS         | 414          |      | 45 |     |       |     |      |    |    |    |                    |                            |
| <b>HBO-88.9-160</b> | <b>HBOC-88.9-160</b>           | 3"                        | 160         | 288          | 88.9 | 66 | 216 | 152.4 | 153 | 71.4 | 35 | 45 | 63 | 85.0 x 3.55        | M30 x 80                   |
| <b>HBO-88.9-XXS</b> | <b>HBOC-88.9-XXS</b>           |                           | XXS         | 414          |      | 58 |     |       |     |      |    |    |    |                    |                            |



Socket Weld Flanges  
Part No : **SCO**



Socket Weld Counter Flanges  
Part No : **SCOC**

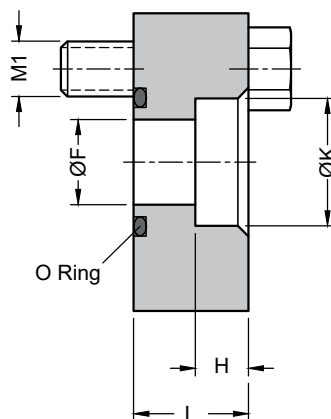
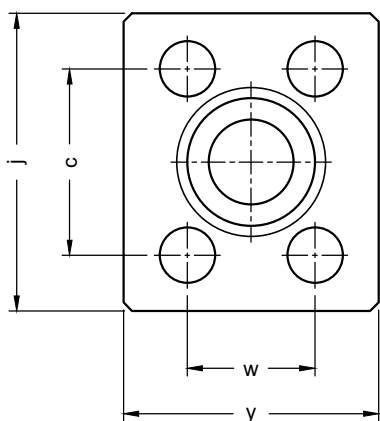
## Standard Pressure Series (Code 61)

| Part No.<br>Flanges | Part No.<br>Counter<br>Flanges | Flange<br>Nominal<br>Size | Pr.<br>(bar) | ØK    | ØF  | j   | c     | y   | w    | H  | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|--------------------------------|---------------------------|--------------|-------|-----|-----|-------|-----|------|----|----|--------------------|----------------------------|
| <b>SCO-21.3</b>     | <b>SCOC-21.3</b>               | 1/2"                      | 350          | 21.8  | 13  | 54  | 38.1  | 46  | 17.5 | 10 | 18 | 19.0 x 3.55        | M8 x 30                    |
| <b>SCO-26.6</b>     | <b>SCOC-26.6</b>               | 3/4"                      | 350          | 27.0  | 19  | 65  | 47.6  | 52  | 22.3 | 13 | 25 | 25.0 x 3.55        | M10 x 40                   |
| <b>SCO-33.4</b>     | <b>SCOC-33.4</b>               | 1"                        | 350          | 33.7  | 25  | 70  | 52.4  | 59  | 26.2 | 13 | 25 | 32.5 x 3.55        | M10 x 40                   |
| <b>SCO-42.2</b>     | <b>SCOC-42.2</b>               | 1.1/4"                    | 250          | 42.6  | 32  | 79  | 58.7  | 73  | 30.2 | 13 | 25 | 37.5 x 3.55        | M10 x 40                   |
| <b>SCO-48.3</b>     | <b>SCOC-48.3</b>               | 1.1/2"                    | 200          | 48.7  | 38  | 94  | 69.9  | 83  | 35.7 | 13 | 32 | 47.5 x 3.55        | M12 x 50                   |
| <b>SCO-60.3</b>     | <b>SCOC-60.3</b>               | 2"                        | 200          | 61.2  | 49  | 102 | 77.8  | 97  | 42.9 | 16 | 37 | 56.0 x 3.55        | M12 x 55                   |
| <b>SCO-73.0</b>     | <b>SCOC-73.0</b>               | 2.1/2"                    | 160          | 73.9  | 61  | 114 | 88.9  | 109 | 50.8 | 19 | 42 | 69.0 x 3.55        | M12 x 60                   |
| <b>SCO-88.9</b>     | <b>SCOC-88.9</b>               | 3"                        | 100          | 89.9  | 75  | 135 | 106.4 | 131 | 61.9 | 19 | 51 | 85.0 x 3.55        | M16 x 75                   |
| <b>SCO-101.6</b>    | <b>SCOC-101.6</b>              | 3.1/2"                    | 25           | 102.7 | 86  | 152 | 120.7 | 140 | 69.9 | 19 | 36 | 97.5 x 3.55        | M16 x 60                   |
| <b>SCO-114.3</b>    | <b>SCOC-114.3</b>              | 4"                        | 25           | 115.5 | 99  | 162 | 130.2 | 152 | 77.8 | 19 | 36 | 112.0 x 3.55       | M16 x 60                   |
| <b>SCO-141.3</b>    | <b>SCOC-141.3</b>              | 5"                        | 25           | 142.8 | 127 | 184 | 152.4 | 181 | 92.1 | 19 | 51 | 136.0 x 3.55       | M16 x 75                   |

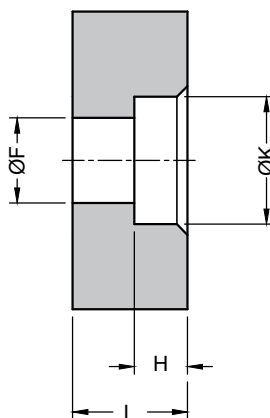
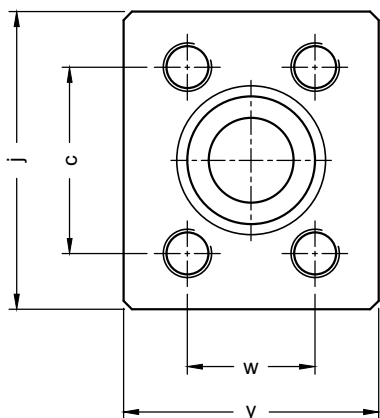
# HCO / HCOC Socket Weld flanges

Mounting Interface conforms to ISO 6162

Dimensions in mm



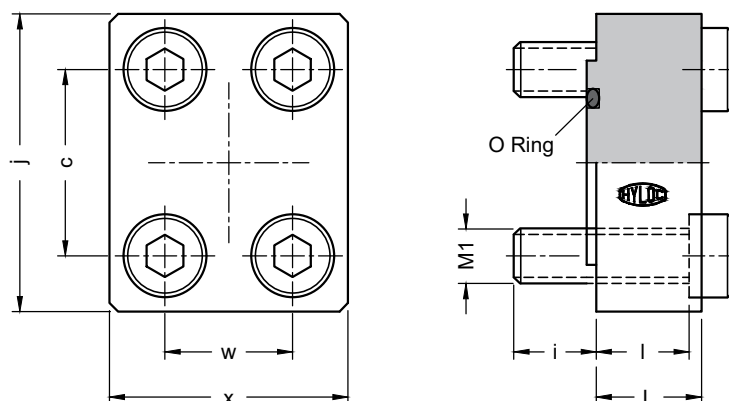
Socket Weld Flanges  
Part No : **HCO**



Socket Weld Counter Flanges  
Part No : **HCOC**

## High Pressure Series (Code 62)

| Part No.<br>Flanges | Part No.<br>Counter<br>Flanges | Flange<br>Nominal<br>Size | Pr.<br>(bar) | ØK   | ØF | j   | c     | y   | w    | H  | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|--------------------------------|---------------------------|--------------|------|----|-----|-------|-----|------|----|----|--------------------|----------------------------|
| <b>HCO-21.3</b>     | <b>HCOC-21.3</b>               | 1/2"                      | 400          | 21.8 | 13 | 56  | 40.5  | 48  | 18.2 | 13 | 23 | 19.0 x 3.55        | M8 x 35                    |
| <b>HCO-26.6</b>     | <b>HCOC-26.6</b>               | 3/4"                      | 400          | 27.0 | 19 | 71  | 50.8  | 60  | 23.8 | 13 | 25 | 25.0 x 3.55        | M10 x 40                   |
| <b>HCO-33.4</b>     | <b>HCOC-33.4</b>               | 1"                        | 400          | 33.7 | 25 | 81  | 57.2  | 70  | 27.8 | 13 | 27 | 32.5 x 3.55        | M12 x 45                   |
| <b>HCO-42.2</b>     | <b>HCOC-42.2</b>               | 1.1/4"                    | 400          | 42.6 | 32 | 95  | 66.6  | 78  | 31.8 | 13 | 32 | 37.5 x 3.55        | M12 x 50                   |
| <b>HCO-48.3</b>     | <b>HCOC-48.3</b>               | 1.1/2"                    | 400          | 48.7 | 38 | 113 | 79.3  | 95  | 36.5 | 13 | 36 | 47.5 x 3.55        | M16 x 60                   |
| <b>HCO-60.3</b>     | <b>HCOC-60.3</b>               | 2"                        | 400          | 61.2 | 50 | 133 | 96.8  | 114 | 44.5 | 16 | 45 | 56.0 x 3.55        | M20 x 75                   |
| <b>HCO-73.0</b>     | <b>HCOC-73.0</b>               | 2.1/2"                    | 400          | 73.9 | 60 | 175 | 123.8 | 149 | 58.7 | 16 | 52 | 69.0 x 3.55        | M22 x 85                   |
| <b>HCO-88.9</b>     | <b>HCOC-88.9</b>               | 3"                        | 400          | 89.9 | 75 | 216 | 152.4 | 178 | 71.4 | 16 | 65 | 85.0 x 3.55        | M30 x 110                  |

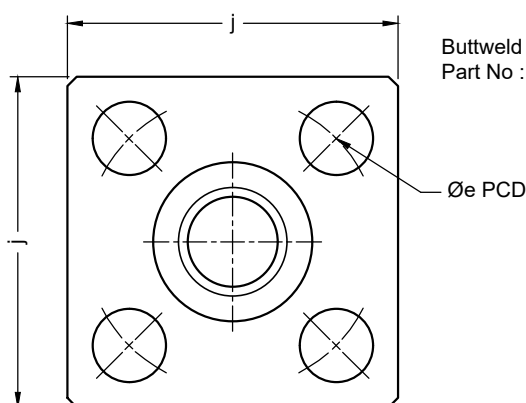
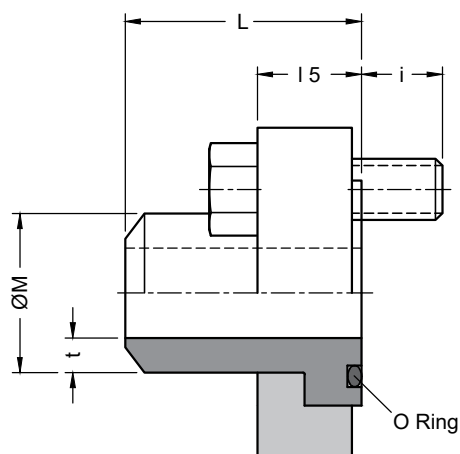
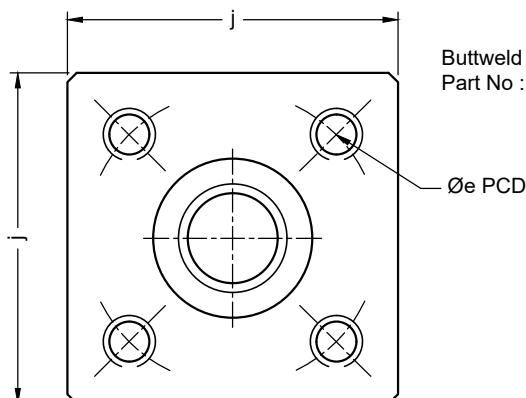
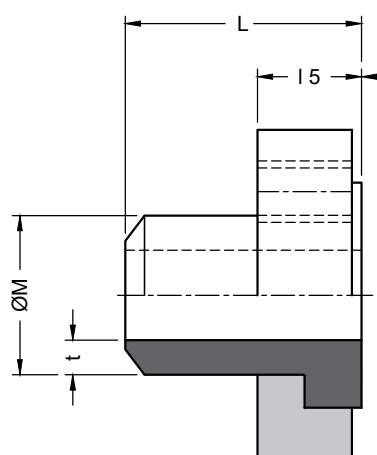


Standard Pressure Series (Code 61)

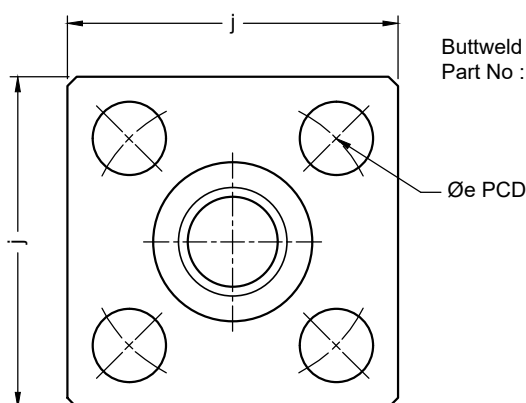
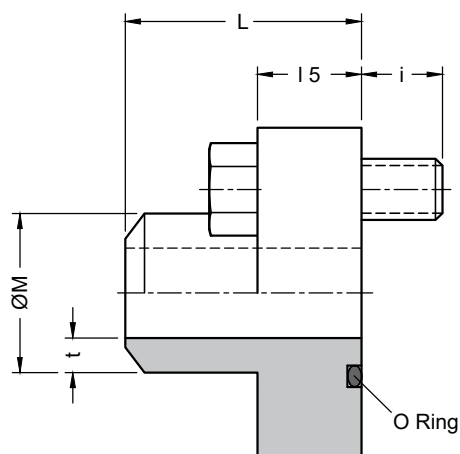
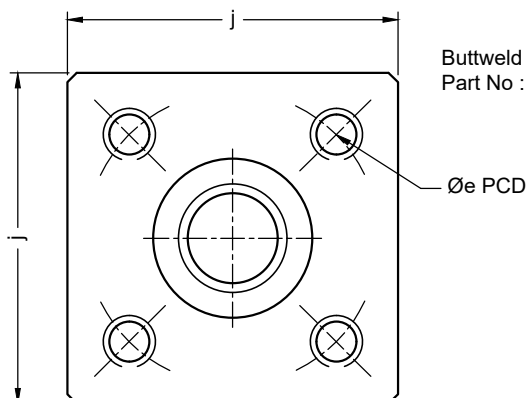
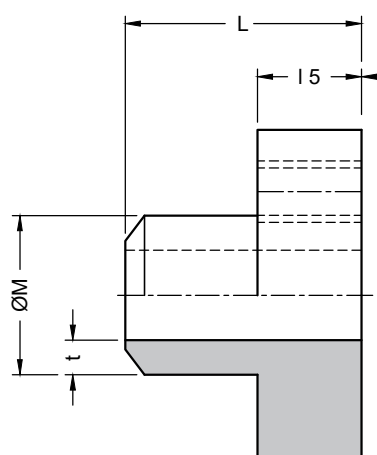
| Part No.<br>Flanges | Flange<br>Nominal<br>Size | Pr.<br>(bar) | j   | c     | x   | w    | i  | l  | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|---------------------------|--------------|-----|-------|-----|------|----|----|----|--------------------|----------------------------|
| <b>OSB - 04</b>     | 1/2"                      | 350          | 54  | 38.1  | 33  | 17.5 | 12 | 13 | 13 | 19.0 x 3.55        | M8 x 25                    |
| <b>OSB - 06</b>     | 3/4"                      | 350          | 65  | 47.6  | 41  | 22.3 | 15 | 15 | 15 | 25.0 x 3.55        | M10 x 30                   |
| <b>OSB - 08</b>     | 1"                        | 350          | 70  | 52.4  | 48  | 26.2 | 15 | 15 | 17 | 32.5 x 3.55        | M10 x 30                   |
| <b>OSB - 10</b>     | 1.1/4"                    | 250          | 79  | 58.7  | 54  | 30.2 | 15 | 15 | 17 | 37.5 x 3.55        | M10 x 30                   |
| <b>OSB - 12</b>     | 1.1/2"                    | 200          | 94  | 69.9  | 64  | 35.7 | 18 | 17 | 22 | 47.5 x 3.55        | M12 x 35                   |
| <b>OSB - 16</b>     | 2"                        | 200          | 102 | 77.8  | 76  | 42.9 | 18 | 17 | 25 | 56.0 x 3.55        | M12 x 35                   |
| <b>OSB - 20</b>     | 2.1/2"                    | 160          | 114 | 88.9  | 89  | 50.8 | 18 | 22 | 27 | 69.0 x 3.55        | M12 x 40                   |
| <b>OSB - 24</b>     | 3"                        | 100          | 135 | 106.4 | 106 | 61.9 | 24 | 26 | 30 | 85.0 x 3.55        | M16 x 50                   |
| <b>OSB - 28</b>     | 3.1/2"                    | 25           | 152 | 120.7 | 119 | 69.9 | 24 | 26 | 26 | 97.5 x 3.55        | M16 x 50                   |
| <b>OSB - 32</b>     | 4"                        | 25           | 162 | 130.2 | 132 | 77.8 | 24 | 26 | 26 | 112.0 x 3.55       | M16 x 50                   |
| <b>OSB - 40</b>     | 5"                        | 25           | 184 | 152.4 | 151 | 92.1 | 24 | 26 | 32 | 136.0 x 3.55       | M16 x 50                   |

High Pressure Series (Code 62)

| Part No.<br>Flanges | Flange<br>Nominal<br>Size | Pr.<br>(bar) | j   | c     | x   | w    | i  | l  | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|---------------------------|--------------|-----|-------|-----|------|----|----|----|--------------------|----------------------------|
| <b>OHB - 04</b>     | 1/2"                      | 400          | 56  | 40.5  | 38  | 18.2 | 12 | 18 | 18 | 19.0 x 3.55        | M8 x 30                    |
| <b>OHB - 06</b>     | 3/4"                      | 400          | 71  | 50.8  | 48  | 23.8 | 15 | 20 | 20 | 25.0 x 3.55        | M10 x 35                   |
| <b>OHB - 08</b>     | 1"                        | 400          | 81  | 57.2  | 54  | 27.8 | 18 | 22 | 22 | 32.5 x 3.55        | M12 x 40                   |
| <b>OHB - 10</b>     | 1.1/4"                    | 400          | 95  | 66.6  | 60  | 31.8 | 18 | 22 | 22 | 37.5 x 3.55        | M12 x 40                   |
| <b>OHB - 12</b>     | 1.1/2"                    | 400          | 113 | 79.3  | 70  | 36.5 | 24 | 21 | 30 | 47.5 x 3.55        | M16 x 45                   |
| <b>OHB - 16</b>     | 2"                        | 400          | 133 | 96.8  | 86  | 44.5 | 30 | 30 | 36 | 56.0 x 3.55        | M20 x 60                   |
| <b>OHB - 20</b>     | 2.1/2"                    | 400          | 175 | 123.8 | 116 | 58.7 | 33 | 32 | 50 | 69.0 x 3.55        | M22 x 65                   |
| <b>OHB - 24</b>     | 3"                        | 400          | 216 | 152.4 | 132 | 71.4 | 45 | 35 | 63 | 85.0 x 3.55        | M30 x 80                   |

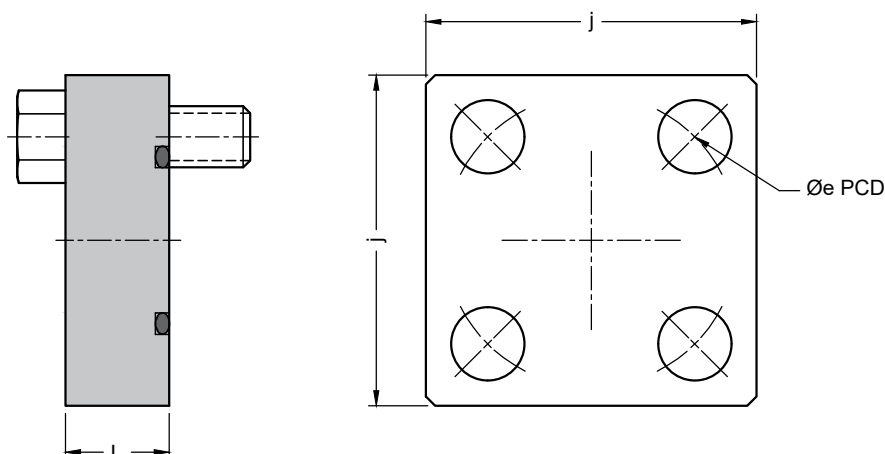
Buttweld Swivel Flanges  
Part No : SAI / HAIButtweld Swivel Counter Flanges  
Part No : SAIC / HAIC

| Part No.<br>Flanges | Part No.<br>Counter<br>Flanges | Flange<br>Nominal<br>Size | DN<br>Size | ØM    | Pipe<br>Sch | t     | Øe  | 15 | j   | i  | L   | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|--------------------------------|---------------------------|------------|-------|-------------|-------|-----|----|-----|----|-----|--------------------|----------------------------|
| <b>PN 250 bar</b>   |                                |                           |            |       |             |       |     |    |     |    |     |                    |                            |
| SAI-21.3-80         | SAIC-21.3-80                   | 1/2"                      | 13         | 21.3  | 80          | 3.70  | 42  | 23 | 45  | 12 | 30  | 19.0 x 3.55        | M8 x 35                    |
| SAI-26.6-80         | SAIC-26.6-80                   | 3/4"                      | 19         | 26.6  | 80          | 3.92  | 50  | 23 | 50  | 12 | 35  | 25.0 x 3.55        | M8 x 35                    |
| SAI-33.4-80         | SAIC-33.4-80                   | 1"                        | 25         | 33.4  | 80          | 4.54  | 62  | 25 | 65  | 15 | 40  | 32.5 x 3.55        | M10 x 40                   |
| SAI-42.2-160        | SAIC-42.2-160                  | 1.1/4"                    | 32         | 42.2  | 160         | 6.35  | 73  | 32 | 75  | 18 | 45  | 37.5 x 3.55        | M12 x 50                   |
| SAI-48.3-160        | SAIC-48.3-160                  | 1.1/2"                    | 38         | 48.3  | 160         | 7.13  | 85  | 36 | 90  | 24 | 50  | 47.5 x 3.55        | M16 x 60                   |
| SAI-60.3-160        | SAIC-60.3-160                  | 2"                        | 51         | 60.3  | 160         | 8.71  | 98  | 41 | 100 | 24 | 60  | 56.0 x 3.55        | M16 x 65                   |
| SAI-73.0-160        | SAIC-73.0-160                  | 2.1/2"                    | 56         | 73.0  | 160         | 9.52  | 118 | 50 | 120 | 30 | 70  | 69.0 x 3.55        | M20 x 80                   |
| SAI-88.9-160        | SAIC-88.9-160                  | 3"                        | 63         | 88.9  | 160         | 11.00 | 145 | 60 | 140 | 30 | 80  | 85.0 x 3.55        | M20 x 90                   |
| SAI-114.3-160       | SAIC-114.3-160                 | 4"                        | 80         | 114.3 | 160         | 13.50 | 175 | 75 | 180 | 45 | 135 | 112.0 x 3.55       | M30 x 120                  |
| <b>PN 400 bar</b>   |                                |                           |            |       |             |       |     |    |     |    |     |                    |                            |
| HAI-21.3-160        | HAIC-21.3-160                  | 1/2"                      | 13         | 21.3  | 160         | 4.75  | 42  | 23 | 45  | 12 | 40  | 19.0 x 3.55        | M8 x 35                    |
| HAI-26.6-160        | HAIC-26.6-160                  | 3/4"                      | 19         | 26.6  | 160         | 5.56  | 50  | 23 | 50  | 12 | 45  | 25.0 x 3.55        | M8 x 35                    |
| HAI-33.4-160        | HAIC-33.4-160                  | 1"                        | 25         | 33.4  | 160         | 6.35  | 62  | 25 | 65  | 15 | 50  | 32.5 x 3.55        | M10 x 40                   |
| HAI-42.2-XXS        | HAIC-42.2-XXS                  | 1.1/4"                    | 32         | 42.2  | XXS         | 9.70  | 73  | 32 | 75  | 18 | 55  | 37.5 x 3.55        | M12 x 50                   |
| HAI-48.3-XXS        | HAIC-48.3-XXS                  | 1.1/2"                    | 38         | 48.3  | XXS         | 10.16 | 85  | 36 | 90  | 24 | 60  | 47.5 x 3.55        | M16 x 60                   |
| HAI-60.3-XXS        | HAIC-60.3-XXS                  | 2"                        | 51         | 60.3  | XXS         | 11.07 | 98  | 41 | 100 | 24 | 70  | 56.0 x 5.30        | M16 x 65                   |
| HAI-73.0-XXS        | HAIC-73.0-XXS                  | 2.1/2"                    | 56         | 73.0  | XXS         | 14.02 | 118 | 50 | 120 | 30 | 80  | 69.0 x 5.30        | M20 x 80                   |
| HAI-88.9-XXS        | HAIC-88.9-XXS                  | 3"                        | 63         | 88.9  | XXS         | 15.24 | 145 | 54 | 150 | 36 | 105 | 75.0 x 5.30        | M24 x 90                   |
| HAI-101.6-XXS       | HAIC-101.6-XXS                 | 3.1/2"                    | 70         | 101.6 | XXS         | 16.15 | 160 | 64 | 160 | 36 | 105 | 85.0 X 5.30        | M24 x 100                  |
| HAI-114.3-XXS       | HAIC-114.3-XXS                 | 4"                        | 80         | 114.3 | XXS         | 17.12 | 175 | 75 | 180 | 45 | 135 | 87.5 X 5.30        | M30 x 120                  |

Buttweld Solid Flanges  
Part No : **SBI / HBI**Buttweld Solid Counter Flanges  
Part No : **SBIC / HBIC**

| Part No.<br>Flanges  | Part No.<br>Counter<br>Flanges | Flange<br>Nominal<br>Size | DN<br>Size | ØM    | Pipe<br>Sch | t     | Øe  | l5 | j   | i  | L   | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|----------------------|--------------------------------|---------------------------|------------|-------|-------------|-------|-----|----|-----|----|-----|--------------------|----------------------------|
| <b>PN 250 bar</b>    |                                |                           |            |       |             |       |     |    |     |    |     |                    |                            |
| <b>SBI-21.3-80</b>   | <b>SBIC-21.3-80</b>            | 1/2"                      | 13         | 21.3  | 80          | 3.70  | 42  | 23 | 45  | 12 | 30  | 19.0 x 3.55        | M8 x 35                    |
| <b>SBI-26.6-80</b>   | <b>SBIC-26.6-80</b>            | 3/4"                      | 19         | 26.6  | 80          | 3.92  | 50  | 23 | 50  | 12 | 35  | 25.0 x 3.55        | M8 x 35                    |
| <b>SBI-33.4-80</b>   | <b>SBIC-33.4-80</b>            | 1"                        | 25         | 33.4  | 80          | 4.54  | 62  | 25 | 65  | 15 | 40  | 32.5 x 3.55        | M10 x 40                   |
| <b>SBI-42.2-160</b>  | <b>SBIC-42.2-160</b>           | 1.1/4"                    | 32         | 42.2  | 160         | 6.35  | 73  | 32 | 75  | 18 | 45  | 37.5 x 3.55        | M12 x 50                   |
| <b>SBI-48.3-160</b>  | <b>SBIC-48.3-160</b>           | 1.1/2"                    | 38         | 48.3  | 160         | 7.13  | 85  | 36 | 90  | 24 | 50  | 47.5 x 3.55        | M16 x 60                   |
| <b>SBI-60.3-160</b>  | <b>SBIC-60.3-160</b>           | 2"                        | 51         | 60.3  | 160         | 8.71  | 98  | 41 | 100 | 24 | 60  | 56.0 x 3.55        | M16 x 65                   |
| <b>SBI-73.0-160</b>  | <b>SBIC-73.0-160</b>           | 2.1/2"                    | 56         | 73.0  | 160         | 9.52  | 118 | 50 | 120 | 30 | 70  | 69.0 x 3.55        | M20 x 80                   |
| <b>SBI-88.9-160</b>  | <b>SBIC-88.9-160</b>           | 3"                        | 63         | 88.9  | 160         | 11.00 | 145 | 60 | 140 | 30 | 80  | 85.0 x 3.55        | M20 x 90                   |
| <b>SBI-114.3-160</b> | <b>SBIC-114.3-160</b>          | 4"                        | 80         | 114.3 | 160         | 13.50 | 175 | 75 | 180 | 45 | 135 | 112.0 x 3.55       | M30 x 120                  |
| <b>PN 400 bar</b>    |                                |                           |            |       |             |       |     |    |     |    |     |                    |                            |
| <b>HBI-21.3-160</b>  | <b>HBIC-21.3-160</b>           | 1/2"                      | 13         | 21.3  | 160         | 4.75  | 42  | 23 | 45  | 12 | 40  | 19.0 x 3.55        | M8 x 35                    |
| <b>HBI-26.6-160</b>  | <b>HBIC-26.6-160</b>           | 3/4"                      | 19         | 26.6  | 160         | 5.56  | 50  | 23 | 50  | 12 | 45  | 25.0 x 3.55        | M8 x 35                    |
| <b>HBI-33.4-160</b>  | <b>HBIC-33.4-160</b>           | 1"                        | 25         | 33.4  | 160         | 6.35  | 62  | 25 | 65  | 15 | 50  | 32.5 x 3.55        | M10 x 40                   |
| <b>HBI-42.2-XXS</b>  | <b>HBIC-42.2-XXS</b>           | 1.1/4"                    | 32         | 42.2  | XXS         | 9.70  | 73  | 32 | 75  | 18 | 55  | 37.5 x 3.55        | M12 x 50                   |
| <b>HBI-48.3-XXS</b>  | <b>HBIC-48.3-XXS</b>           | 1.1/2"                    | 38         | 48.3  | XXS         | 10.16 | 85  | 36 | 90  | 24 | 60  | 47.5 x 3.55        | M16 x 60                   |
| <b>HBI-60.3-XXS</b>  | <b>HBIC-60.3-XXS</b>           | 2"                        | 51         | 60.3  | XXS         | 11.07 | 98  | 41 | 100 | 24 | 70  | 56.0 x 5.30        | M16 x 65                   |
| <b>HBI-73.0-XXS</b>  | <b>HBIC-73.0-XXS</b>           | 2.1/2"                    | 56         | 73.0  | XXS         | 14.02 | 118 | 50 | 120 | 30 | 80  | 69.0 x 5.30        | M20 x 80                   |
| <b>HBI-88.9-XXS</b>  | <b>HBIC-88.9-XXS</b>           | 3"                        | 63         | 88.9  | XXS         | 15.24 | 145 | 54 | 150 | 36 | 105 | 75.0 x 5.30        | M24 x 90                   |
| <b>HBI-101.6-XXS</b> | <b>HBIC-101.6-XXS</b>          | 3.1/2"                    | 70         | 101.6 | XXS         | 16.15 | 160 | 64 | 160 | 36 | 105 | 85.0 X 5.30        | M24 x 100                  |
| <b>HBI-114.3-XXS</b> | <b>HBIC-114.3-XXS</b>          | 4"                        | 80         | 114.3 | XXS         | 17.12 | 175 | 75 | 180 | 45 | 135 | 87.5 X 5.30        | M30 x 120                  |





| Part No.<br>Flanges | Flange<br>Nominal<br>Size | DN<br>Size | Øe  | j   | L  | O Ring<br>ID x CSD | Screw<br>Size (10.9)<br>M1 |
|---------------------|---------------------------|------------|-----|-----|----|--------------------|----------------------------|
| <b>PN 250 bar</b>   |                           |            |     |     |    |                    |                            |
| <b>SSB - 04</b>     | 1/2"                      | 13         | 42  | 45  | 23 | 19.0 x 3.55        | M8 x 35                    |
| <b>SSB - 06</b>     | 3/4"                      | 19         | 50  | 50  | 23 | 25.0 x 3.55        | M8 x 35                    |
| <b>SSB - 08</b>     | 1"                        | 25         | 62  | 65  | 25 | 32.5 x 3.55        | M10 x 40                   |
| <b>SSB - 10</b>     | 1.1/4"                    | 32         | 73  | 75  | 32 | 37.5 x 3.55        | M12 x 50                   |
| <b>SSB - 12</b>     | 1.1/2"                    | 38         | 85  | 90  | 36 | 47.5 x 3.55        | M16 x 60                   |
| <b>SSB - 16</b>     | 2"                        | 51         | 98  | 100 | 41 | 56.0 x 3.55        | M16 x 65                   |
| <b>SSB - 20</b>     | 2.1/2"                    | 56         | 118 | 120 | 50 | 69.0 x 3.55        | M20 x 80                   |
| <b>SSB - 24</b>     | 3"                        | 63         | 145 | 140 | 60 | 85.0 x 3.55        | M20 x 90                   |
| <b>PN 400 bar</b>   |                           |            |     |     |    |                    |                            |
| <b>SHB - 04</b>     | 1/2"                      | 13         | 42  | 45  | 23 | 19.0 x 3.55        | M8 x 35                    |
| <b>SHB - 06</b>     | 3/4"                      | 19         | 50  | 50  | 23 | 25.0 x 3.55        | M8 x 35                    |
| <b>SHB - 08</b>     | 1"                        | 25         | 62  | 65  | 25 | 32.5 x 3.55        | M10 x 40                   |
| <b>SHB - 10</b>     | 1.1/4"                    | 32         | 73  | 75  | 32 | 37.5 x 3.55        | M12 x 50                   |
| <b>SHB - 12</b>     | 1.1/2"                    | 38         | 85  | 90  | 36 | 47.5 x 3.55        | M16 x 60                   |
| <b>SHB - 16</b>     | 2"                        | 51         | 98  | 100 | 41 | 56.0 x 5.30        | M16 x 65                   |
| <b>SHB - 20</b>     | 2.1/2"                    | 56         | 118 | 120 | 50 | 69.0 x 5.30        | M20 x 80                   |
| <b>SHB - 24</b>     | 3"                        | 63         | 145 | 150 | 54 | 75.0 x 5.30        | M24 x 90                   |
| <b>SHB - 28</b>     | 3.1/2"                    | 70         | 160 | 160 | 64 | 85.0 X 5.30        | M24 x 100                  |
| <b>SHB - 32</b>     | 4"                        | 80         | 175 | 180 | 75 | 87.5 X 5.30        | M30 x 120                  |



| #  | Description                                   | Part code                       | Remarks                   |
|----|-----------------------------------------------|---------------------------------|---------------------------|
| 01 | Cartridge - Shut off valve                    | <a href="#">KHSL</a>            | <a href="#">Datasheet</a> |
| 02 | Cartridge - Shut off valve (Balanced Piston)  | <a href="#">KHSLB</a>           | <a href="#">Datasheet</a> |
| 03 | Shut off valve - Inline and Right Angle       | <a href="#">SLG</a>             | <a href="#">Datasheet</a> |
| 04 | Shut off valve - Sub plate mounting           | <a href="#">MHSL</a>            | <a href="#">Datasheet</a> |
| 05 | Shut off valve - Sub plate mounting           | <a href="#">MHSLB</a>           | <a href="#">Datasheet</a> |
| 06 | Shut off valve - Sub plate mounting           | <a href="#">MSSL06</a>          | <a href="#">Datasheet</a> |
| 07 | Cartridge - Needle valve                      | <a href="#">KHNL</a>            | <a href="#">Datasheet</a> |
| 08 | Needle valve - Inline and Right Angle         | <a href="#">NLG</a>             | <a href="#">Datasheet</a> |
| 09 | Needle valve - Sub plate mounting             | <a href="#">MHNL</a>            | <a href="#">Datasheet</a> |
| 10 | Check Valve - Screw in Cartridge              | <a href="#">KSC</a>             | <a href="#">Datasheet</a> |
| 11 | Reverse Check Valve - Screw in Cartridge      | <a href="#">KSD</a>             | <a href="#">Datasheet</a> |
| 12 | Check Valve - Inline                          | <a href="#">RHD/RHV/RHZ/RHF</a> | <a href="#">Datasheet</a> |
| 13 | Adjustable Throttle and Throttle Check valves | <a href="#">TCT / TT</a>        | <a href="#">Datasheet</a> |
| 14 | Inline Throttle Check valves                  | <a href="#">TCG</a>             | <a href="#">Datasheet</a> |
| 15 | Throttle Check valves - Sub plate             | <a href="#">TCMS</a>            | <a href="#">Datasheet</a> |



| #  | Description                    | Part code               | Remarks                   |
|----|--------------------------------|-------------------------|---------------------------|
| 16 | Gauge Isolators                | <a href="#">1GI</a>     | <a href="#">Datasheet</a> |
| 17 | Gauge Isolators                | <a href="#">1GI06PS</a> | <a href="#">Datasheet</a> |
| 18 | Gauge Isolators                | <a href="#">1GIMS</a>   | <a href="#">Datasheet</a> |
| 19 | Gauge mounting Block           | <a href="#">GMB</a>     | <a href="#">Datasheet</a> |
| 20 | Gauge Isolators (PUSH to READ) | <a href="#">GI</a>      | <a href="#">Datasheet</a> |
| 21 | Quick disconnect Couplings     | <a href="#">QDC</a>     | <a href="#">Datasheet</a> |
| 22 | Quick Release Couplings        | <a href="#">QRC</a>     | <a href="#">Datasheet</a> |
| 23 | Ball Valves - TWO way          | <a href="#">BV-G</a>    | <a href="#">Datasheet</a> |
| 24 | Accumulator Safety Block       | <a href="#">ASB</a>     | <a href="#">Datasheet</a> |



The right connection  
The right environment

## Shut off Valve - Cartridge KHSL

Ref. No. H04085  
Release: Apr 2025

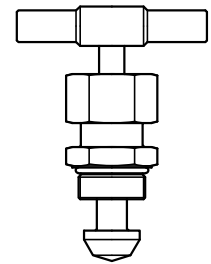
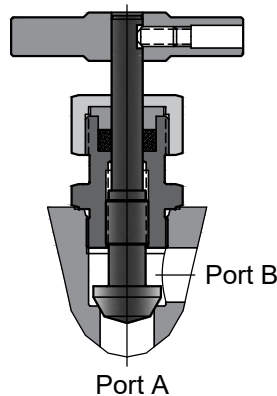
ENGINEERING - 1 of 2

### Description

Shut off valve Cartridge **KHSL** are rising spindle, seat type valves with metal to metal seat for leak free closure between its port 'A' and Port 'B'

The mounting cavity conforms to Factory standard.

### Section



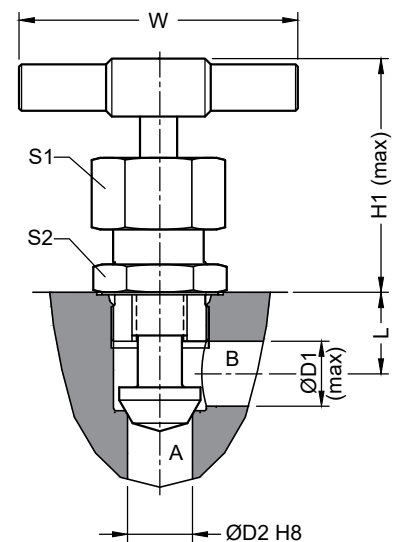
Hydraulic Symbol

A  B

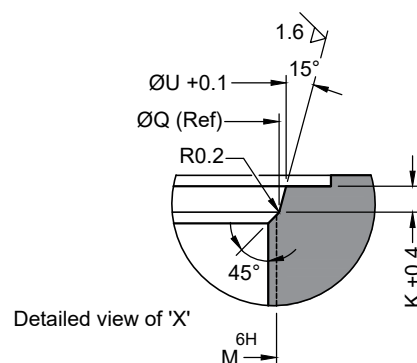
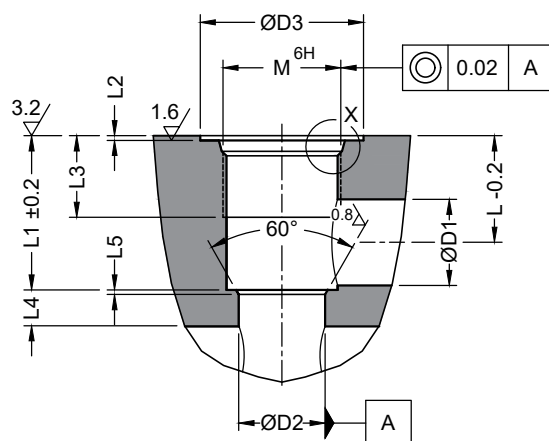
### Unit Dimensions

Dimensions in mm.

| Part code  | Size | L  | H1    | W   | ØD1 | ØD2 | S1 | S2 |
|------------|------|----|-------|-----|-----|-----|----|----|
| KHSL08-2.0 | 08   | 18 | 67.5  | 64  | 11  | 8   | 27 | 27 |
| KHSL11-2.0 | 11   | 18 | 67.5  | 64  | 11  | 11  | 27 | 27 |
| KHSL19-2.0 | 19   | 23 | 88.5  | 84  | 19  | 19  | 32 | 32 |
| KHSL28-2.0 | 28   | 33 | 115.0 | 120 | 28  | 28  | 50 | 50 |



### Cavity Machining details



Dimensions in mm

| Part code  | ØD1 | ØD2 | ØD3  | L  | L1 | ØU   | ØQ   | L2  | L3 | L4 | L5  | K   | M         |
|------------|-----|-----|------|----|----|------|------|-----|----|----|-----|-----|-----------|
| KHSL08-2.0 | 10  | 8   | 31.0 | 18 | 24 | 21.8 | 20.5 | 0.2 | 16 | 3  | 0.5 | 2.4 | M20 x 1.5 |
| KHSL11-2.0 | 10  | 11  | 31.0 | 18 | 24 | 21.8 | 20.5 | 0.2 | 16 | 3  | 0.5 | 2.4 | M20 x 1.5 |
| KHSL19-2.0 | 19  | 19  | 36.0 | 23 | 33 | 27.8 | 26.5 | 0.2 | 18 | 5  | 1.0 | 2.4 | M26 x 1.5 |
| KHSL28-2.0 | 28  | 28  | 54.5 | 35 | 51 | 44.4 | 42.7 | 1.0 | 24 | 7  | 1.5 | 3.1 | M42 x 2.0 |



The right connection  
The right environment

## Shut off Valve - Cartridge KHSL

Ref. No. H04085  
Release: Apr 2025

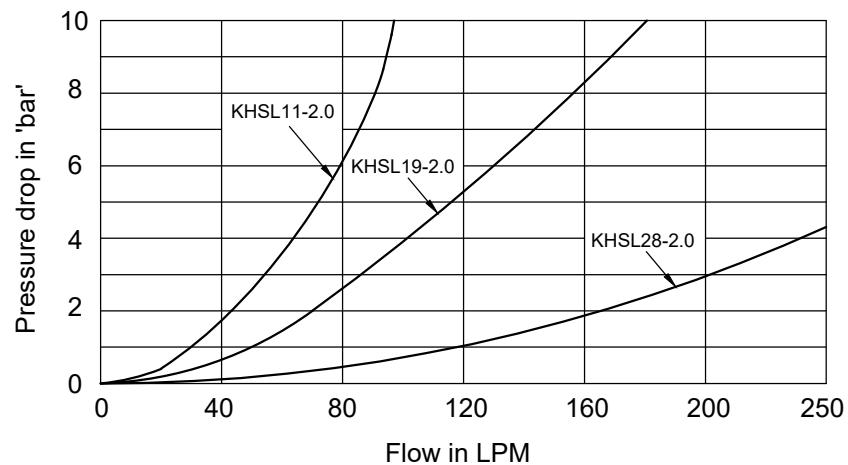
ENGINEERING - 2 of 2

### Technical Specifications

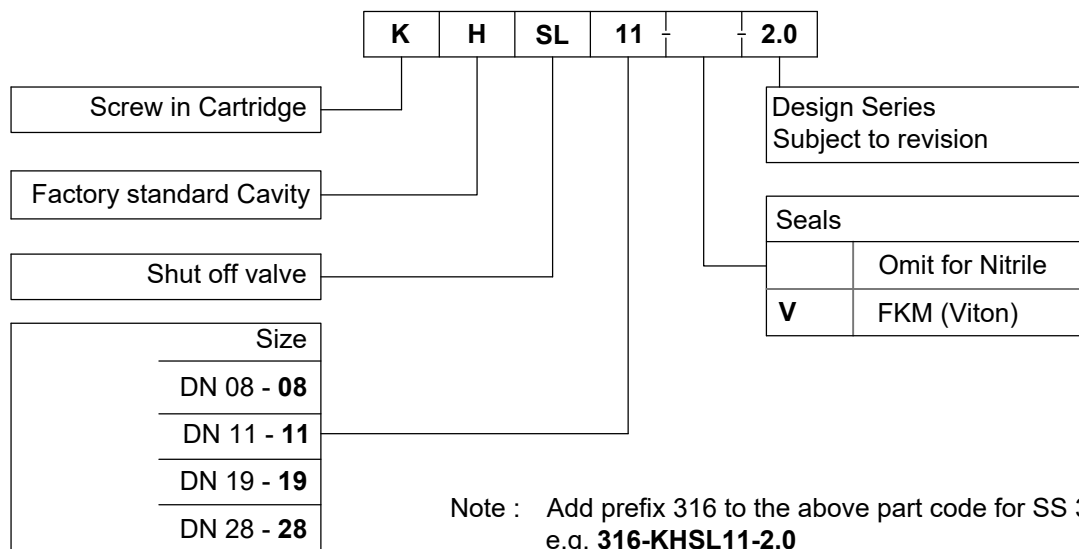
|                               |                                                 |
|-------------------------------|-------------------------------------------------|
| Construction                  | Seat type valve                                 |
| Mounting type                 | Insert in cavity conforming to factory standard |
| Mounting position             | Optional                                        |
| Flow direction                | From port 'A' to port 'B'                       |
| Operating pressure            | 350 bar.                                        |
| Hydraulic medium              | Mineral oil.                                    |
| Viscosity range               | 10 cSt to 380 cSt.                              |
| Fluid temperature range       | -20 °C to +70 °C                                |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15                        |
| Nom. flow handling capacity   | Refer graph                                     |

### Performance curves

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code



Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-KHSL11-2.0**



The right connection  
The right environment

## Shut off Valve - Cartridge KHSLB

Ref. No. H03320  
Release: Apr 2025

ENGINEERING - 1 of 2

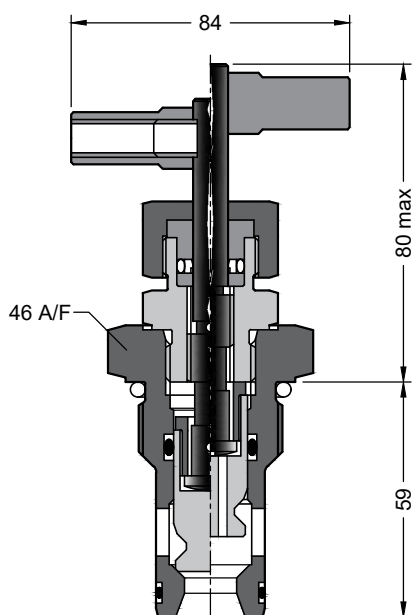
### Description

Shut off valve Cartridge **KHSLB25-2.0** is rising spindle, seat type valve.  
'Balanced sealed poppet' construction to reduce operating forces.

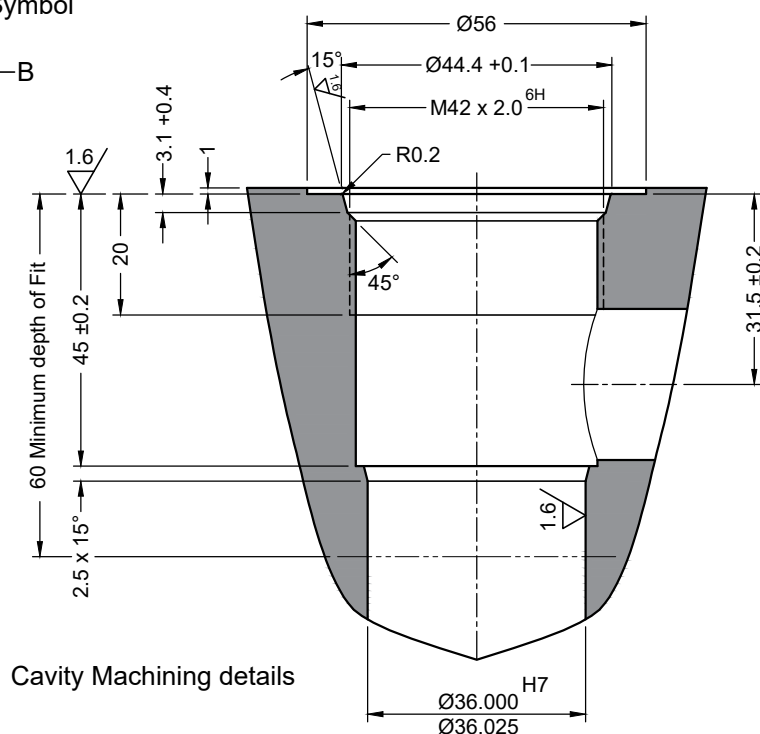
The mounting cavity conforms to Factory standard.

### Unit Dimensions

Dimensions in mm.



#### Hydraulic Symbol



### Technical Specifications

|                               |                                                 |
|-------------------------------|-------------------------------------------------|
| Construction                  | Seat type valve                                 |
| Mounting type                 | Insert in cavity conforming to factory standard |
| Mounting position             | Optional                                        |
| Flow direction                | From port 'A' to port 'B'                       |
| Operating pressure            | 350 bar.                                        |
| Hydraulic medium              | Mineral oil.                                    |
| Viscosity range               | 10 cSt to 380 cSt.                              |
| Fluid temperature range       | -20 °C to +70 °C                                |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15                        |
| Nom. flow handling capacity   | Refer graph                                     |



The right connection  
The right environment

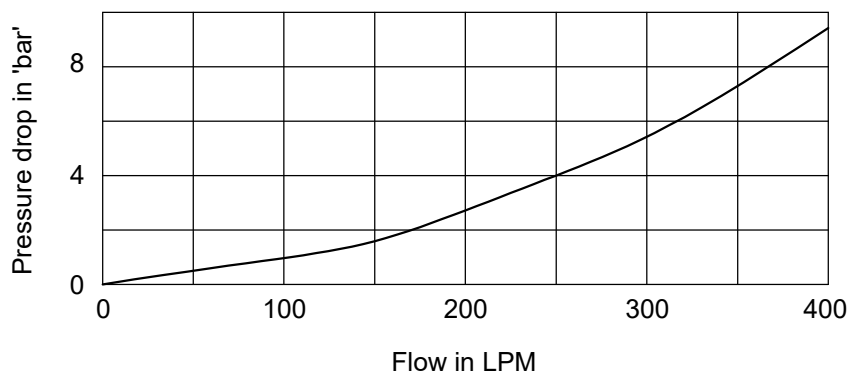
## Shut off Valve - Cartridge KHSLB

Ref. No. H03320  
Release: Apr 2025

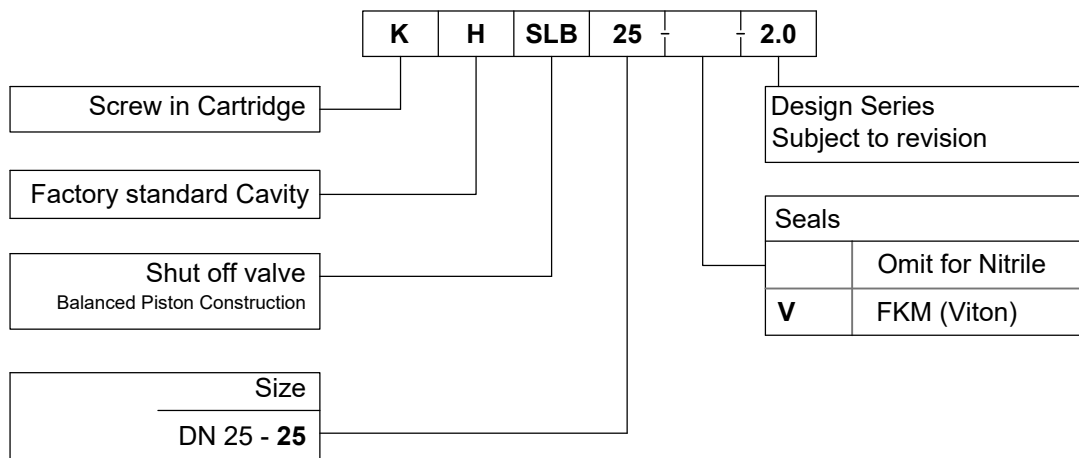
ENGINEERING - 2 of 2

### Performance curves

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code



Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-KHSLB25-2.0**



The right connection  
The right environment

## Shut off Valves - Inline and Right angle SLG / SLWG

Ref. No. H04343  
Release: Apr 2025  
ENGINEERING - 1 of 2

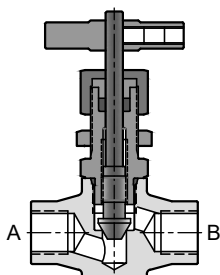
### Description

Shut off valve model SLG, SLWG are two way, seat type valves.

These are used for isolating the oil flow in the direction as indicated by an arrow mark shown on the valve body.



### Section

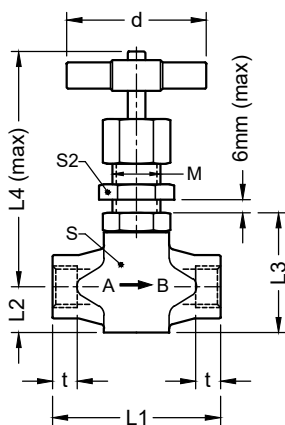


Hydraulic Symbol

A  B

### Unit Dimensions

In-line threaded ports



Right angle threaded ports

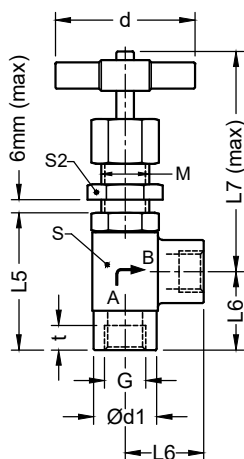
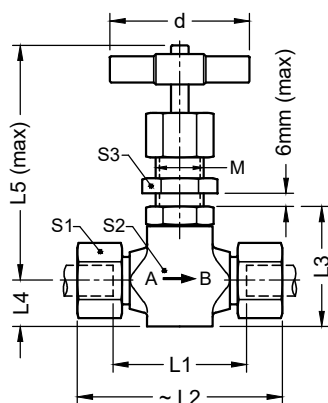


Table-1

Dimensions in mm.

| G      | Ød1 | Pr.<br>(bar) | L1  | t  | L2   | L3    | L4    | L5    | L6 | L7    | d   | S  | S2 | M       |
|--------|-----|--------------|-----|----|------|-------|-------|-------|----|-------|-----|----|----|---------|
| G 1/4  | 22  | 350          | 70  | 14 | 21   | 54.5  | 110.5 | 56.5  | 30 | 103.5 |     | 30 |    |         |
| G 3/8  | 25  | 350          | 70  | 14 | 21   | 54.5  | 110.5 | 56.5  | 30 | 103.5 | 64  | 30 | 30 | M22x1.5 |
| G 1/2  | 29  | 350          | 77  | 17 | 21   | 54.5  | 110.5 | 62.5  | 36 | 103.5 |     | 30 |    |         |
| G 3/4  | 35  | 350          | 93  | 17 | 27   | 71.0  | 122.0 | 77.0  | 45 | 110.0 | 84  | 36 | 36 | M26x1.5 |
| G1     | 44  | 350          | 93  | 18 | 27   | 72.0  | 122.0 | 77.0  | 45 | 110.0 |     | 46 |    |         |
| G1.1/4 | 58  | 250          | 162 | 22 | 51.5 | 105.0 | 162.0 | 113.0 | 65 | 143.0 | 120 | 60 | 50 | M42x2.0 |
| G1.1/2 | 58  | 250          | 162 | 24 | 51.5 | 105.0 | 162.0 | 113.0 | 65 | 143.0 |     | 60 |    |         |

In-line Tube mounting



Right Angle Tube mounting

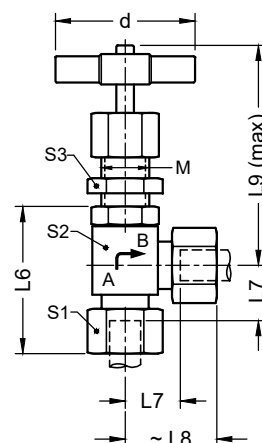


Table-2

| Tube<br>OD | Pr.<br>(bar) | L1  | L2  | L3    | L4 | L5    | L6    | L7 | L8   | L9    | d   | S1 | S2 | S3 | M       |
|------------|--------------|-----|-----|-------|----|-------|-------|----|------|-------|-----|----|----|----|---------|
| 10         | 350          | 55  | 88  |       |    |       | 65.5  |    | 39.0 |       | 22  | 30 |    |    |         |
| 12         | 350          | 55  | 88  | 54.5  | 21 | 110.5 | 65.5  | 22 | 39.0 | 103.5 | 64  | 24 | 30 | 30 | M22x1.5 |
| 16         | 350          | 60  | 97  |       |    |       | 67.5  |    | 41.0 |       |     | 30 | 30 |    |         |
| 20         | 350          | 72  | 115 |       |    |       | 77.0  |    | 68.0 | 110.0 | 84  | 36 | 36 | 36 | M26x1.5 |
| 25         | 350          | 69  | 117 |       |    |       | 82.5  |    | 73.5 |       |     | 46 | 46 |    |         |
| 30         | 250          | 135 | 188 |       |    |       | 111.0 |    | 63.0 |       |     | 50 | 60 |    |         |
| 38         | 250          | 130 | 192 | 118.0 | 52 | 162.0 | 115.0 | 40 | 67.0 | 143.0 | 120 | 60 | 60 | 50 | M42x2.0 |





The right connection  
The right environment

## Shut off Valves - Inline and Right angle SLG / SLWG

Ref. No. H04343  
Release: Apr 2025

ENGINEERING - 2 of 2

### Technical Specifications

Construction ----- Seat type Valves.

Mounting style ----- Inline or right angle port or  
tube mounting.

Mounting position ----- Optional.

Flow direction ----- Either side.

Operating pressure ----- Refer Table -1 and Table-2.

Hydraulic medium ----- Mineral oil.

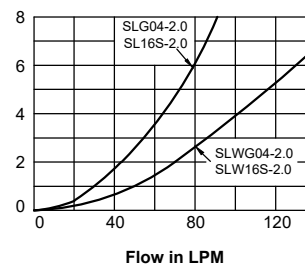
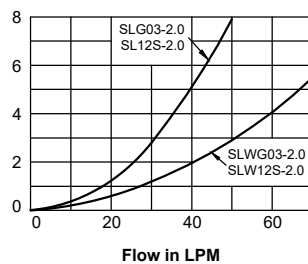
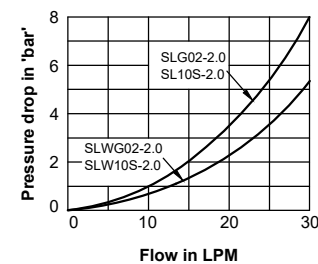
Viscosity range ----- 10 cSt to 380 cSt.

Fluid temperature range ----- -20 °C to +80 °C

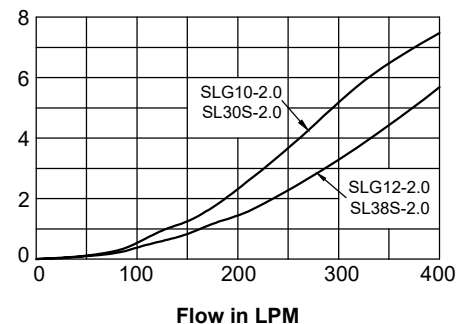
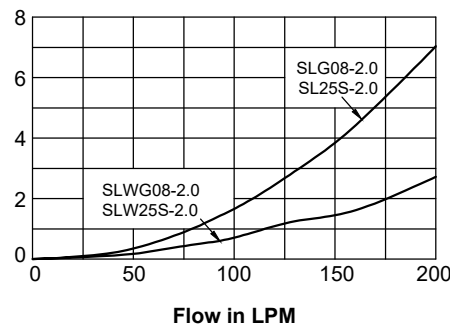
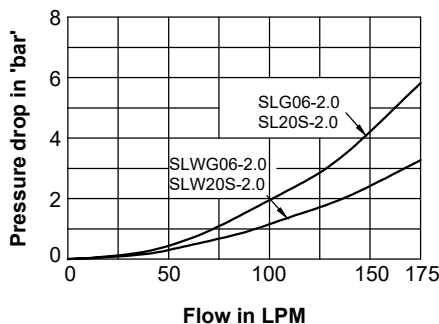
Fluid cleanliness requirement ----- As per ISO 4406 20/18/15

Nom. flow handling capacity ----- Refer graphs

### Performance curves



Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code

|                                                           |  |                                      |  |     |
|-----------------------------------------------------------|--|--------------------------------------|--|-----|
| SL                                                        |  | G02                                  |  | 2.0 |
| Shut off Valve                                            |  | Design Series<br>Subject to revision |  |     |
| Mounting style                                            |  | Seals                                |  |     |
| Omit for In-line                                          |  | Omit for Nitrile                     |  |     |
| Right angle                                               |  | FKM (Viton)                          |  |     |
| For Valves with G (BSPP) Ports                            |  |                                      |  |     |
| G 1/4                                                     |  | G02                                  |  |     |
| G 3/8                                                     |  | G03                                  |  |     |
| G 1/2                                                     |  | G04                                  |  |     |
| G 3/4                                                     |  | G06                                  |  |     |
| G 1                                                       |  | G08                                  |  |     |
| G 1 1/4                                                   |  | G10                                  |  |     |
| G 1 1/2                                                   |  | G12                                  |  |     |
| For Valves with Tube ends (Will have Double bite ferrule) |  |                                      |  |     |
| 10 OD                                                     |  | 10S                                  |  |     |
| 12 OD                                                     |  | 12S                                  |  |     |
| 16 OD                                                     |  | 16S                                  |  |     |
| 20 OD                                                     |  | 20S                                  |  |     |
| 25 OD                                                     |  | 25S                                  |  |     |
| 30 OD                                                     |  | 30S                                  |  |     |
| 38 OD                                                     |  | 38S                                  |  |     |

Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-SLG04-2.0**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product,  
the actual product supplied may look different than shown above.



The right connection  
The right environment

## Shut off Valves, Sub-plate mounting MHSL

Ref. No. H04087  
Release: Apr 2025

ENGINEERING - 1 of 2

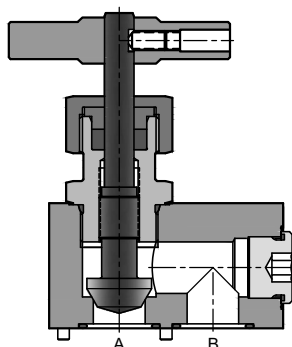
### Description

Shut off valves model **MHSL** are rising spindle valves with metal seat for leak free closure between its port 'A' and Port 'B'

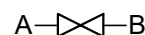
The mounting interface conforms to factory standard.



### Section



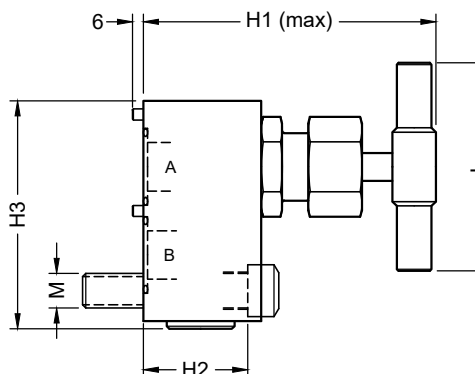
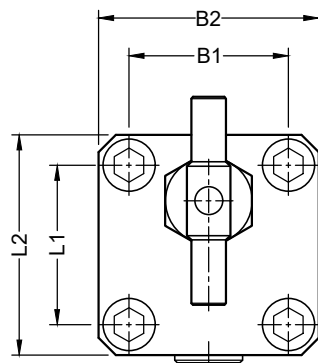
Hydraulic Symbol



### Unit Dimensions

Sub-plate mounting

Dimensions in mm.



| Size         | Part code         | B1   | B2  | L1   | L2  | H1  | H2   | H3  | L   | Mounting screws (10.9) | Torque | Mass (Kg) |
|--------------|-------------------|------|-----|------|-----|-----|------|-----|-----|------------------------|--------|-----------|
| <b>DN 11</b> | <b>MHSL11-2.0</b> | 47.8 | 65  | 60.5 | 78  | 106 | 35.0 | 79  | 64  | M10 x 50 Long          | 20 Nm  | 1.5       |
| <b>DN 19</b> | <b>MHSL19-2.0</b> | 65.0 | 97  | 81.0 | 113 | 135 | 26.0 | 118 | 84  | M16 x 50 Long          | 110 Nm | 3.6       |
| <b>DN 28</b> | <b>MHSL28-2.0</b> | 92.0 | 127 | 92.0 | 127 | 186 | 60.0 | 131 | 120 | M20 x 90 Long          | 225 Nm | 8.5       |

### Technical Specifications

Construction ----- Rising spindle.  
Mounting style ----- Sub-plate mounting.  
Mounting Interface ----- Factory standard.  
Flow direction ----- From 'A' to 'B' or 'B' to 'A'  
Operating pressure ----- 350 bar.

Hydraulic medium ----- Mineral oil.  
Viscosity range ----- 10 cSt to 380 cSt.  
Fluid temperature range ----- -20 °C to +70 °C  
Fluid cleanliness requirement ----- As per ISO 4406 20/18/15  
Nom. flow handling capacity ----- Refer graphs



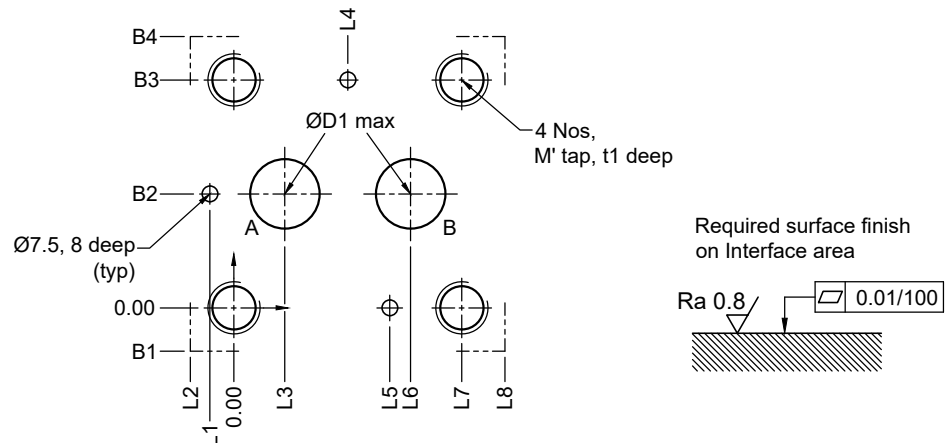
The right connection  
The right environment

## Shut off Valves, Sub-plate mounting MHSL

Ref. No. H04087  
Release: Apr 2025

ENGINEERING - 2 of 2

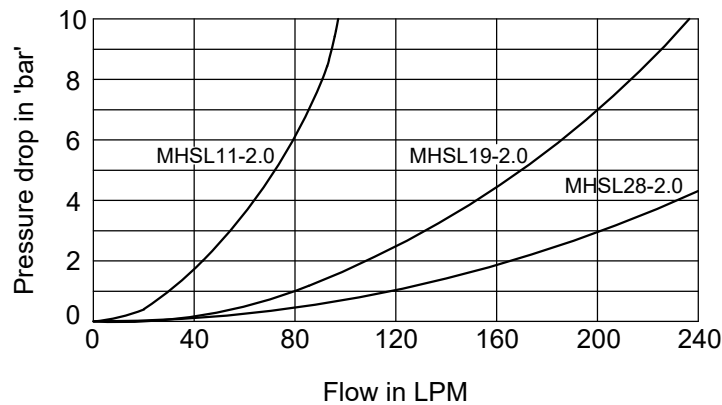
### Interface - Factory standard



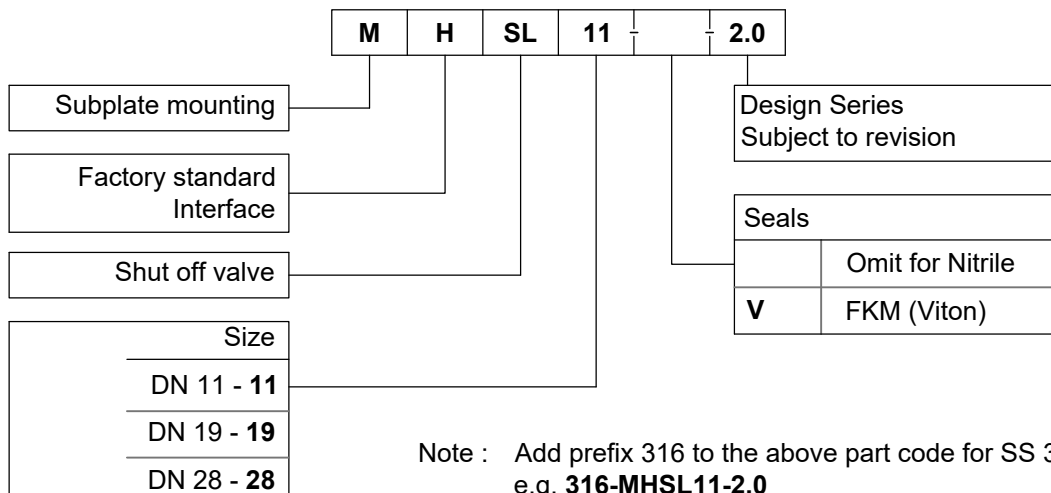
| Size  | Part code  | ØD1  | L1    | L2    | L3   | L4   | L5   | L6   | L7   | L8    | B1    | B2   | B3   | B4    | M   | t 1 |
|-------|------------|------|-------|-------|------|------|------|------|------|-------|-------|------|------|-------|-----|-----|
| DN 11 | MHSL11-2.0 | 11.0 | ---   | -8.6  | 12.7 | 30.3 | 47.8 | 47.8 | 60.5 | 69.4  | -8.6  | 23.9 | 47.8 | 56.4  | M10 | 18  |
| DN 19 | MHSL19-2.0 | 19.0 | -8.70 | -16.0 | 22.2 | 40.5 | ---  | 68.3 | 81.0 | 97.0  | -16.0 | 32.5 | 65.0 | 81.0  | M16 | 28  |
| DN 28 | MHSL28-2.0 | 28.0 | -9.65 | -17.5 | 20.6 | 46.0 | ---  | 71.4 | 92.0 | 109.5 | -17.5 | 46.0 | 92.0 | 109.5 | M20 | 35  |

### Performance curves

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code



All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Shut off Valves, Sub-plate mounting **MSSL06**

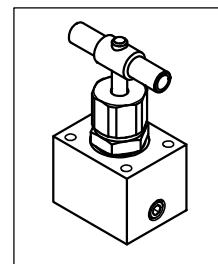
Ref. No. H02651  
Release: Apr 2025

ENGINEERING - 1 of 2

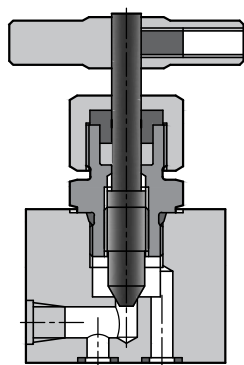
### Description

Shut off valves model **MSSL06** are rising spindle, seat type valves with metal to metal seat for leak free closure between its port 'A' and Port 'B'

The mounting interface conforms to ISO 5781-AB-03-4-B.



### Section

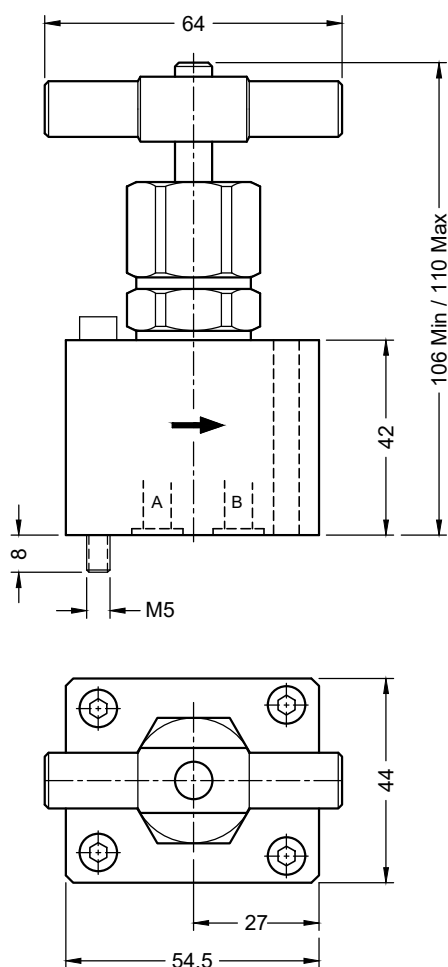


Hydraulic Symbol

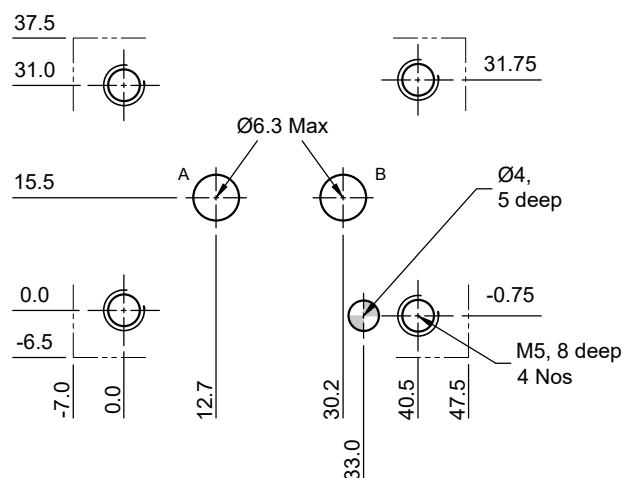


### Unit Dimensions

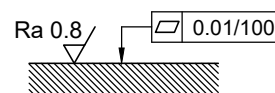
Dimensions in mm.



### Mounting Interface



Required surface finish  
on Interface area



Valve mounting Screws : M5 x 50 Long (10.9) - 4 Nos.

Tightening Torque : 9 Nm



The right connection  
The right environment

## Shut off Valves, Sub-plate mounting MSSL06

Ref. No. H02651  
Release: Apr 2025

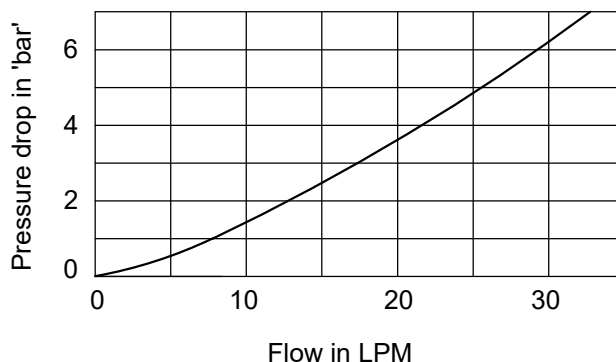
ENGINEERING - 2 of 2

### Technical Specifications

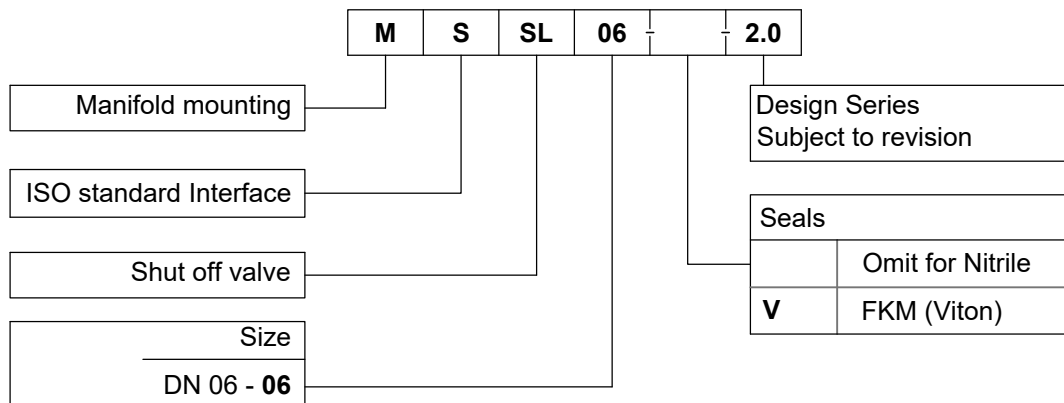
|                                     |                          |
|-------------------------------------|--------------------------|
| Construction-----                   | Seat type                |
| Mounting type-----                  | Sub-plate mounting.      |
| Mounting Interface-----             | ISO 5781-AB-03-4-B       |
| Mounting position -----             | Optional                 |
| Flow direction-----                 | From 'A' to 'B'          |
| Operating pressure -----            | 315 bar.                 |
| Hydraulic medium -----              | Mineral oil.             |
| Viscosity range -----               | 10 cSt to 380 cSt.       |
| Fluid temperature range -----       | -20 °C to +80 °C         |
| Fluid cleanliness requirement ----- | As per ISO 4406 20/18/15 |
| Mass-----                           | 0.9 Kg                   |
| Nom. flow handling capacity -----   | Refer graph              |

### Performance curves

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code



Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-MSSL06-2.0**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

# Shut off Valves (Screw In Cartridge), Sub-plate mounting **MHSLB25**

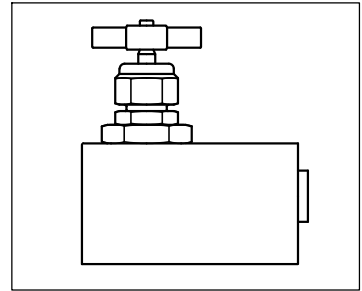
Ref. No. H03656  
Release: Apr 2025

ENGINEERING - 1 of 2

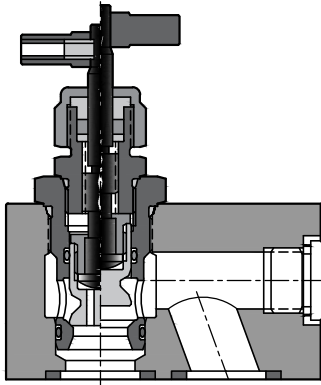
## Description

Shut off valves model **MHSLB25** are seat type valves with  
replacable cartridge.  
Balanced sealed poppet construction to reduce operating forces.

The mounting interface conforms to factory standard.



## Section



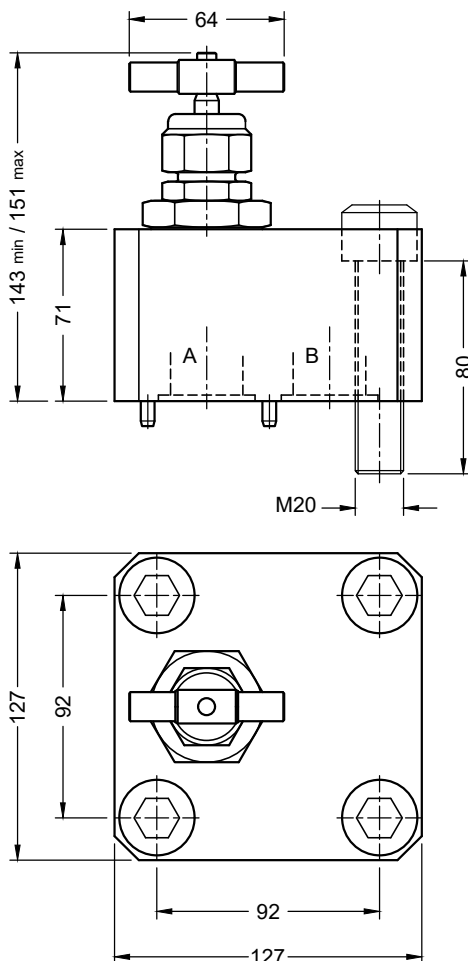
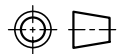
Hydraulic Symbol



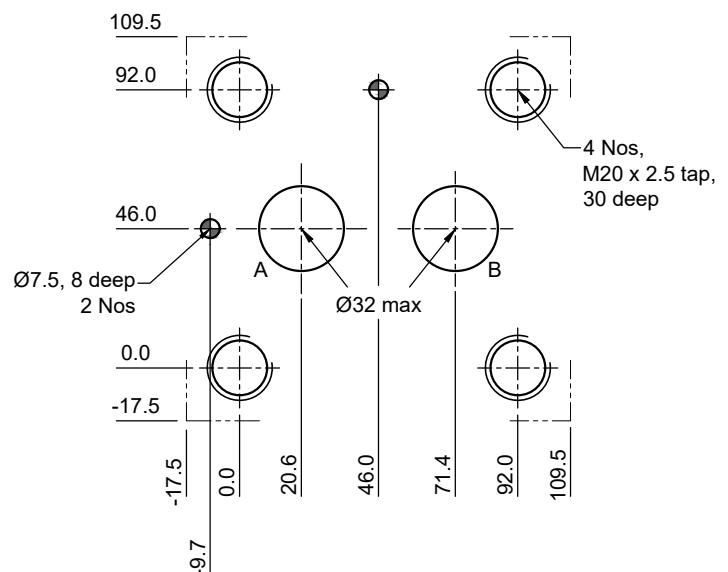
## Unit Dimensions

Sub-plate mounting

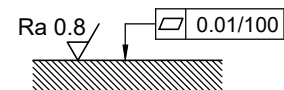
Dimensions in mm.



## Interface - Factory standard



Required surface finish  
on Interface area



Valve mounting Screws : M20 x 2.5 x 80 Long (10.9) - 4 Nos  
Tightening torque : 312 Nm



The right connection  
The right environment

# Shut off Valves (Screw In Cartridge), Sub-plate mounting **MHSLB25**

Ref. No. H03656  
Release: Apr 2025

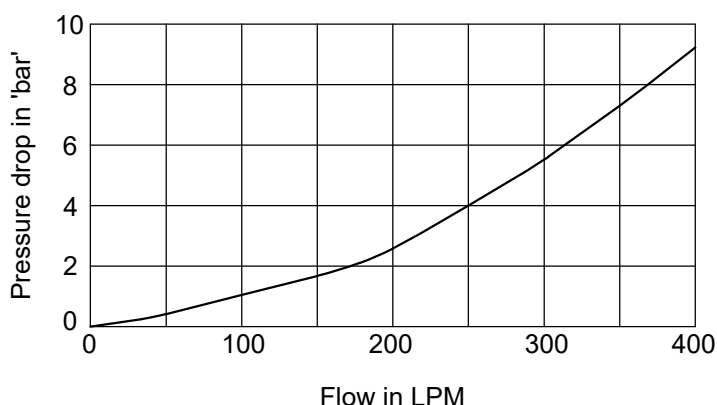
ENGINEERING - 2 of 2

## Technical Specifications

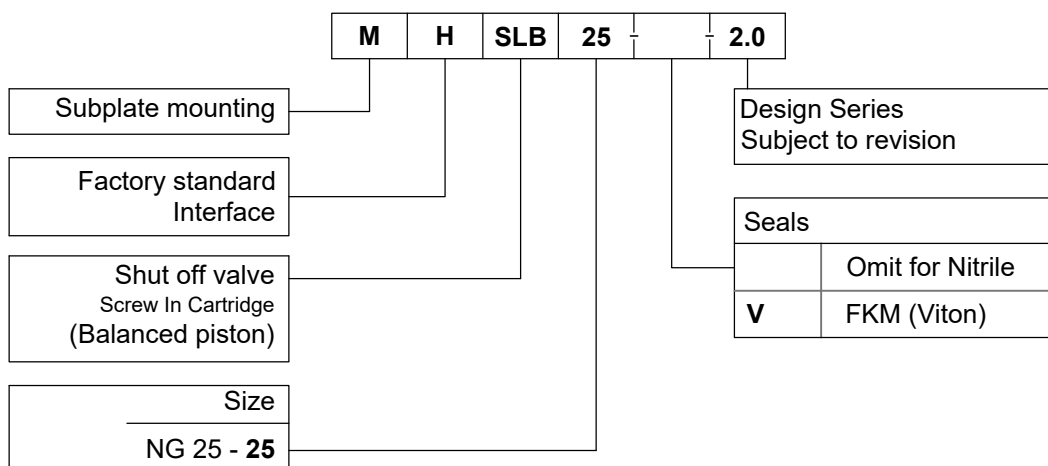
|                               |                              |
|-------------------------------|------------------------------|
| Construction                  | Seat type Screw in cartridge |
| Mounting style                | Sub-plate mounting           |
| Mounting Interface            | Factory standard             |
| Flow direction                | From 'A' to 'B'              |
| Operating pressure            | 350 bar.                     |
| Hydraulic medium              | Mineral oil.                 |
| Viscosity range               | 10 cSt to 380 cSt            |
| Fluid temperature range       | -20 °C to +80 °C             |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15     |
| Nom. flow handling capacity   | Refer graphs                 |

## Performance curves

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



## Ordering Code



Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-MHSLB25-2.0**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Needle Valve - Cartridge KHNL

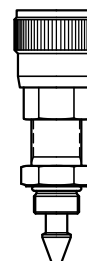
Ref. No. H03082  
Release: Apr 2025

ENGINEERING - 1 of 2

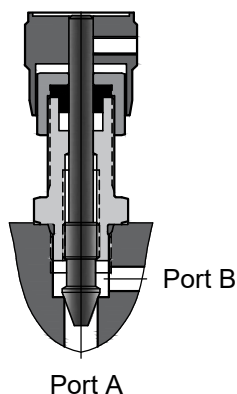
### Description

Needle valve Cartridge **KHNL** are rising spindle, seat type valves with metal to metal seat for leak free closure between its port 'A' and Port 'B'

The mounting cavity conforms to Factory standard.



### Section



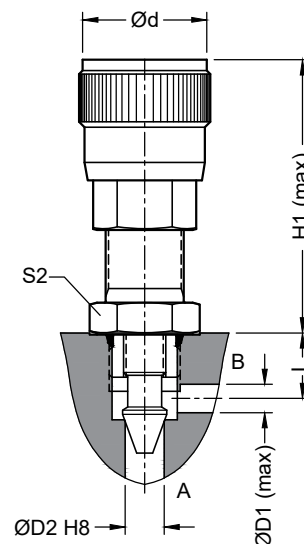
Hydraulic Symbol



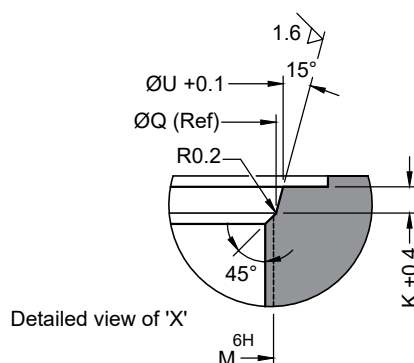
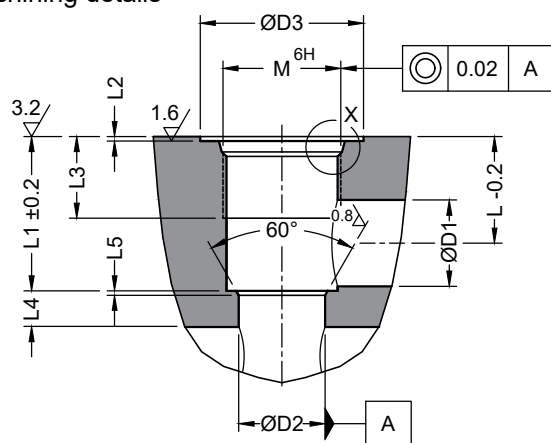
### Unit Dimensions

Dimensions in mm

| Part code  | Size | L  | H1    | ØD1 | ØD2 | Ød | S2 |
|------------|------|----|-------|-----|-----|----|----|
| KHNL08-2.0 | 08   | 18 | 85.5  | 11  | 8   | 37 | 27 |
| KHNL11-2.0 | 11   | 18 | 85.5  | 11  | 11  | 37 | 27 |
| KHNL14-2.0 | 14   | 23 | 87.0  | 19  | 14  | 48 | 32 |
| KHNL19-2.0 | 19   | 23 | 87.0  | 19  | 19  | 48 | 32 |
| KHNL28-2.0 | 28   | 33 | 108.5 | 28  | 28  | 68 | 50 |



### Cavity Machining details



Dimensions in mm

| Part code  | ØD1 | ØD2 | ØD3  | L  | L1 | ØU   | ØQ   | L2  | L3 | L4 | L5  | K   | M         |
|------------|-----|-----|------|----|----|------|------|-----|----|----|-----|-----|-----------|
| KHNL08-2.0 | 10  | 8   | 31.0 | 18 | 24 | 21.8 | 20.5 | 0.2 | 16 | 3  | 0.5 | 2.4 | M20 x 1.5 |
| KHNL11-2.0 | 10  | 11  | 31.0 | 18 | 24 | 21.8 | 20.5 | 0.2 | 16 | 3  | 0.5 | 2.4 | M20 x 1.5 |
| KHNL14-2.0 | 19  | 14  | 36.0 | 23 | 33 | 27.8 | 26.5 | 0.2 | 18 | 5  | 1.0 | 2.4 | M26 x 1.5 |
| KHNL19-2.0 | 19  | 19  | 36.0 | 23 | 33 | 27.8 | 26.5 | 0.2 | 18 | 5  | 1.0 | 2.4 | M26 x 1.5 |
| KHNL28-2.0 | 28  | 28  | 54.5 | 35 | 51 | 44.4 | 42.7 | 1.0 | 24 | 7  | 1.5 | 3.1 | M42 x 2.0 |





The right connection  
The right environment

## Needle Valve - Cartridge KHNL

Ref. No. H03082  
Release: Apr 2025

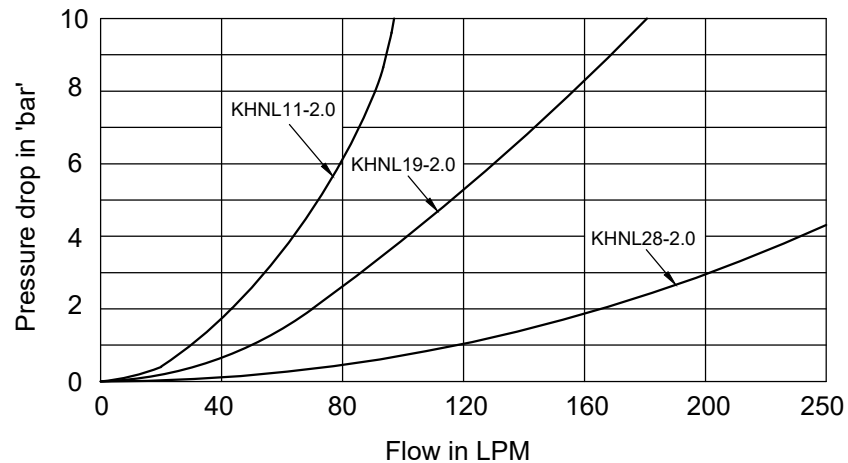
ENGINEERING - 2 of 2

### Technical Specifications

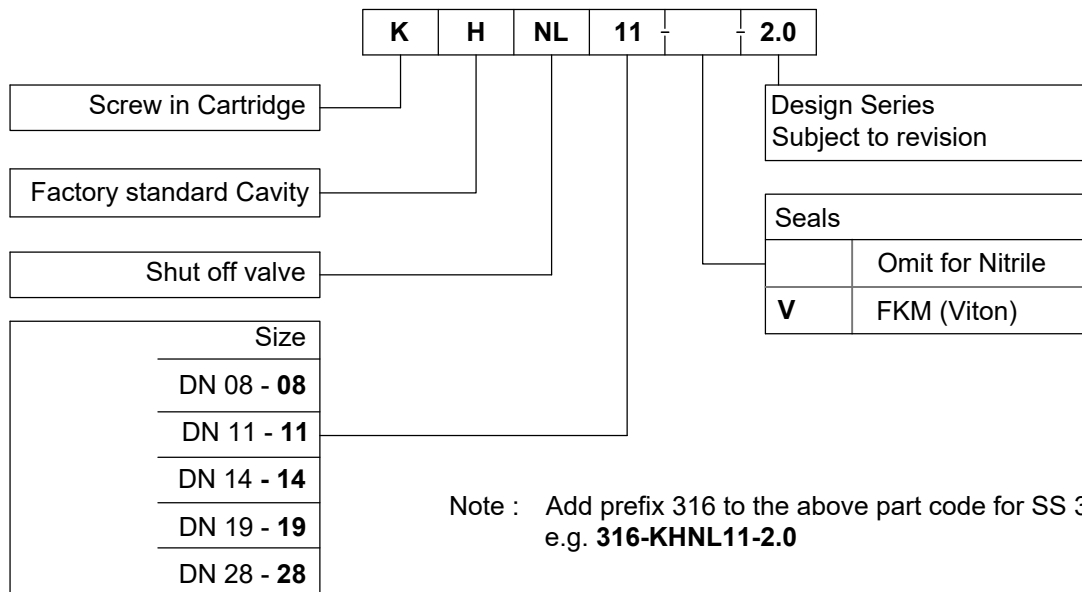
|                               |                                                 |
|-------------------------------|-------------------------------------------------|
| Construction                  | Seat type valve                                 |
| Mounting type                 | Insert in cavity conforming to factory standard |
| Mounting position             | Optional                                        |
| Flow direction                | From port 'A' to port 'B'                       |
| Operating pressure            | 350 bar.                                        |
| Hydraulic medium              | Mineral oil.                                    |
| Viscosity range               | 10 cSt to 380 cSt.                              |
| Fluid temperature range       | -20 °C to +70 °C                                |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15                        |
| Nom. flow handling capacity   | Refer graph                                     |

### Performance curves

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code



Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-KHNL11-2.0**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Needle Valves - Inline and Right angle NLG / NLWG

Ref. No. H02310  
Release: Apr 2025

ENGINEERING - 1 of 2

### Description

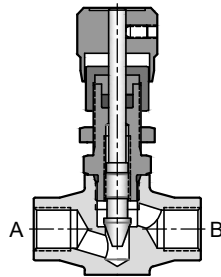
Needle valve model NL, NLW are two way Throttle valves.

The Valve allows accurate adjustment of flow by throttling action. The throttling can be varied by rotation of the Hand knob. These valves offer constant flow rate so long as the pressure drop across the valve and the viscosity of oil remains constant.

The throttle is effective in either direction.



### Section

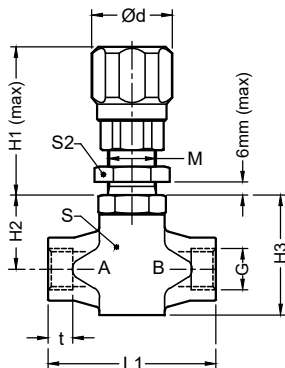


Hydraulic Symbol



### Unit Dimensions

In-line threaded ports



Right angle threaded ports

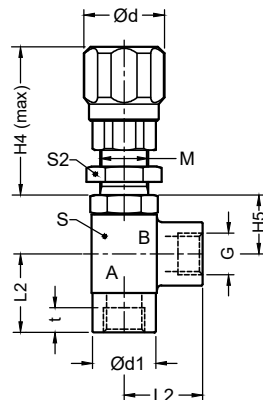
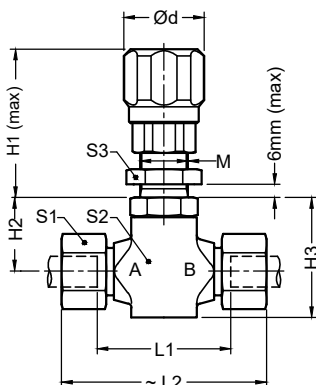


Table-1

Dimensions in mm.

| G      | Ød1 | Pr.<br>(bar) | L1  | t  | L2 | H1   | H2   | H3    | H4   | H5   | Ød | S  | S2 | M       |
|--------|-----|--------------|-----|----|----|------|------|-------|------|------|----|----|----|---------|
| G 1/4  | 22  | 350          | 70  | 14 | 30 |      |      |       |      |      |    | 30 |    |         |
| G 3/8  | 25  | 350          | 70  | 14 | 30 | 76.5 | 34.0 | 55.0  | 77.0 | 27.0 | 40 | 30 | 30 | M22x1.5 |
| G 1/2  | 29  | 350          | 77  | 17 | 36 |      |      |       |      |      |    | 30 |    |         |
| G 3/4  | 35  | 350          | 93  | 17 | 45 | 78.0 | 44.0 | 70.0  | 78.0 | 32.0 | 48 | 36 | 36 | M26x1.5 |
| G1     | 44  | 350          | 93  | 18 | 45 |      |      |       |      |      |    | 46 |    |         |
| G1.1/4 | 58  | 250          | 162 | 22 | 65 | 95.5 | 66.5 | 117.0 | 95.0 | 47.0 | 68 | 60 | 50 | M42x2.0 |
| G1.1/2 | 58  | 250          | 162 | 24 | 65 |      |      |       |      |      |    | 60 |    |         |

In-line Tube mounting



Right Angle Tube mounting

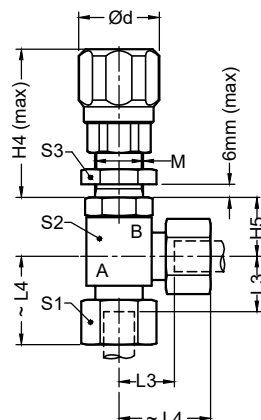


Table-2

| Tube<br>OD | Pr.<br>(bar) | L1  | L2  | L3 | L4   | H1   | H2   | H3    | H4   | H5   | Ød | S1 | S2 | S3 | M       |
|------------|--------------|-----|-----|----|------|------|------|-------|------|------|----|----|----|----|---------|
| 10         | 350          | 55  | 88  |    | 39.0 |      |      |       |      |      | 22 |    |    |    |         |
| 12         | 350          | 55  | 88  | 22 | 39.0 | 76.5 | 34.0 | 55.0  | 76.5 | 27.0 | 40 | 24 | 30 | 30 | M22x1.5 |
| 16         | 350          | 60  | 97  |    | 41.0 |      |      |       |      |      |    | 30 |    |    |         |
| 20         | 350          | 72  | 115 |    | 68.0 | 78.5 | 43.5 | 71.5  | 78.0 | 32.0 | 48 | 36 | 41 | 36 | M26x1.5 |
| 25         | 350          | 69  | 117 |    | 73.5 |      |      |       |      |      |    | 46 |    |    |         |
| 30         | 250          | 135 | 188 |    | 63.0 | 95.5 | 66.5 | 118.0 | 95.0 | 48.0 | 68 | 50 | 60 | 50 | M42x2.0 |
| 38         | 250          | 130 | 192 | 40 | 67.0 |      |      |       |      |      |    | 60 |    |    |         |



The right connection  
The right environment

## Needle Valves - Inline and Right angle NLG / NLWG

Ref. No. H02310  
Release: Apr 2025

ENGINEERING - 2 of 2

### Technical Specifications

Construction ----- Rising conical spindle.

Mounting style ----- Inline or right angle port or  
tube mounting.

Mounting position ----- Optional

Flow direction ----- Either side.

Operating pressure ----- Refer Table -1 and Table-2.

Hydraulic medium ----- Mineral oil.

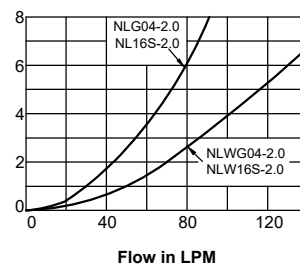
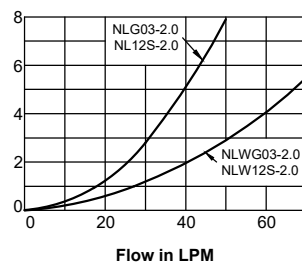
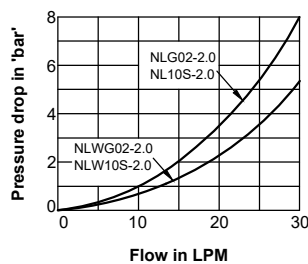
Viscosity range ----- 10 cSt to 380 cSt.

Fluid temperature range ----- -20 °C to +80 °C

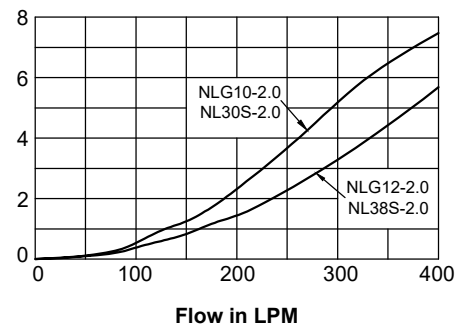
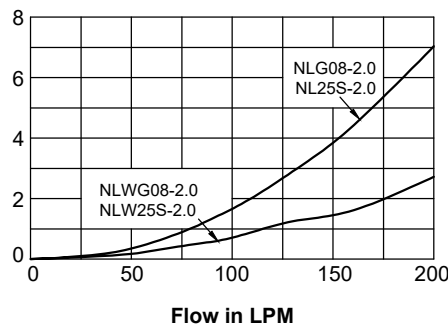
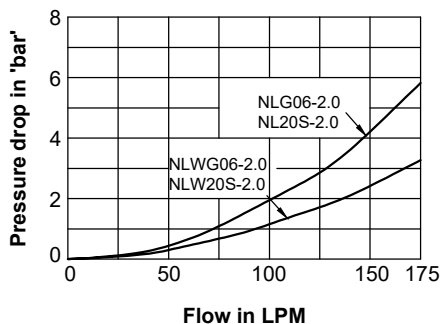
Fluid cleanliness requirement ----- As per ISO 4406 20/18/15

Nom. flow handling capacity ----- Refer graphs

### Performance curves



Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code

|                                                                 |        |                  |  |                                      |  |
|-----------------------------------------------------------------|--------|------------------|--|--------------------------------------|--|
| NL                                                              |        | G02              |  | 2.0                                  |  |
| Needle Valve                                                    |        |                  |  | Design Series<br>Subject to revision |  |
| Mounting style                                                  |        |                  |  |                                      |  |
| Omit for In-line                                                |        |                  |  |                                      |  |
| Right angle                                                     |        | W                |  |                                      |  |
| For Valves with<br>G (BSPP) Ports                               | G 1/4  | G02              |  |                                      |  |
|                                                                 | G 3/8  | G03              |  |                                      |  |
|                                                                 | G 1/2  | G04              |  |                                      |  |
|                                                                 | G 3/4  | G06              |  |                                      |  |
|                                                                 | G 1    | G08              |  |                                      |  |
|                                                                 | G1 1/4 | G10              |  |                                      |  |
|                                                                 | G1 1/2 | G12              |  |                                      |  |
| For Valves with<br>Tube ends<br>(Will have Double bite ferrule) | 10 OD  | 10S              |  |                                      |  |
|                                                                 | 12 OD  | 12S              |  |                                      |  |
|                                                                 | 16 OD  | 16S              |  |                                      |  |
|                                                                 | 20 OD  | 20S              |  |                                      |  |
|                                                                 | 25 OD  | 25S              |  |                                      |  |
|                                                                 | 30 OD  | 30S              |  |                                      |  |
|                                                                 | 38 OD  | 38S              |  |                                      |  |
| Seals                                                           |        |                  |  |                                      |  |
| V                                                               |        | Omit for Nitrile |  |                                      |  |
|                                                                 |        | FKM (Viton)      |  |                                      |  |

Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-NLG04-2.0**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product,  
the actual product supplied may look different than shown above.



The right connection  
The right environment

## Needle Valves, Sub-plate mounting MHNL

Ref. No. H02758  
Release: Apr 2025

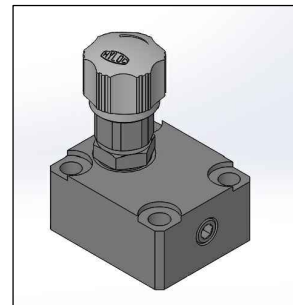
ENGINEERING - 1 of 2

### Description

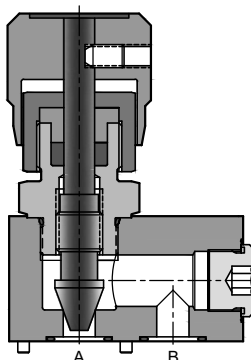
Needle valves model **MHNL** are rising spindle valves with taper needle construction.

The throttle is effective in either direction.

The mounting interface conforms to factory standard.



### Section



Model : **MHNL**

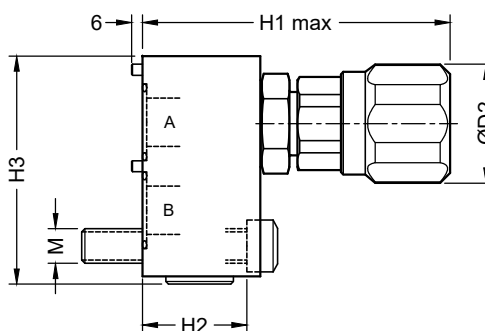
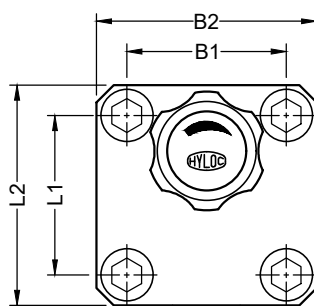
Hydraulic Symbol



### Unit Dimensions

Sub-plate mounting

Dimensions in mm.



| Size         | Part code         | B1   | B2  | L1   | L2  | H1    | H2   | H3  | ØD2 | Mounting screws (10.9) | Torque | Mass (Kg) |
|--------------|-------------------|------|-----|------|-----|-------|------|-----|-----|------------------------|--------|-----------|
| <b>DN 11</b> | <b>MHNL11-2.0</b> | 47.8 | 65  | 60.5 | 78  | 116.0 | 35.0 | 79  | 40  | M10 x 50 Long          | 20 Nm  | 1.5       |
| <b>DN 19</b> | <b>MHNL19-2.0</b> | 65.0 | 97  | 81.0 | 113 | 140.0 | 26.0 | 118 | 48  | M16 x 50 Long          | 110 Nm | 3.6       |
| <b>DN 28</b> | <b>MHNL28-2.0</b> | 92.0 | 127 | 92.0 | 127 | 156.5 | 60.0 | 131 | 68  | M20 x 90 Long          | 225 Nm | 8.5       |

### Technical Specifications

Construction ----- Rising conical spindle.  
Mounting style ----- Sub-plate mounting.  
Mounting Interface ----- Factory standard.  
Flow direction ----- From 'A' to 'B' or 'B' to 'A'  
Operating pressure ----- 350 bar.

Hydraulic medium ----- Mineral oil.  
Viscosity range ----- 10 cSt to 380 cSt.  
Fluid temperature range ----- -20 °C to +70 °C  
Fluid cleanliness requirement ----- As per ISO 4406 20/18/15  
Nom. flow handling capacity ----- Refer graphs



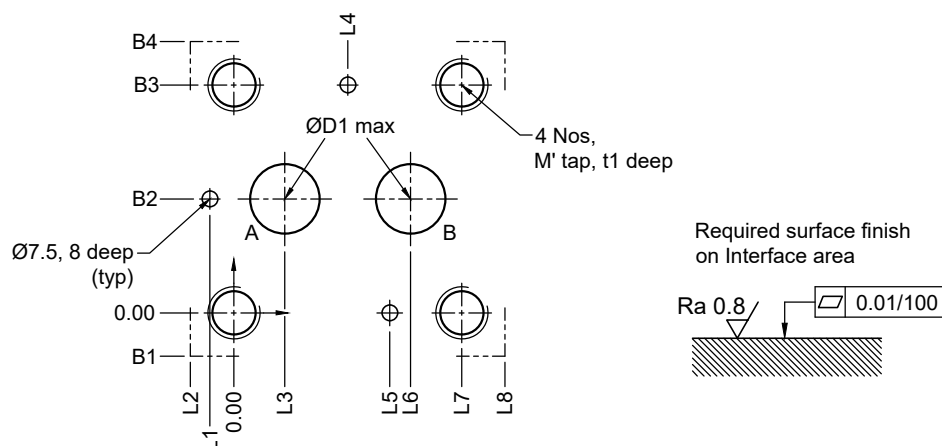
The right connection  
The right environment

## Needle Valves, Sub-plate mounting MHNL

Ref. No. H02758  
Release: Apr 2025

ENGINEERING - 2 of 2

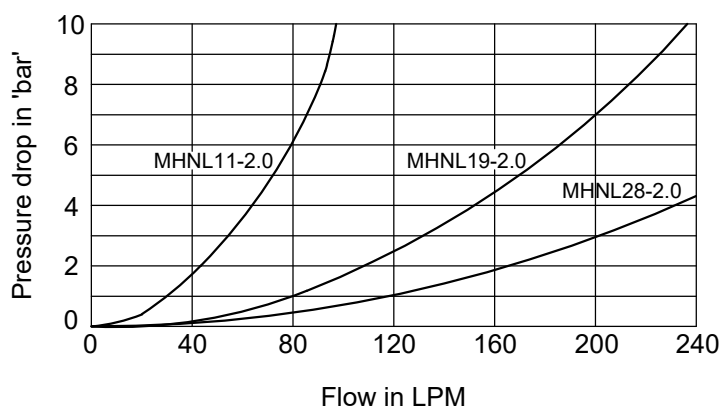
### Interface - Factory standard



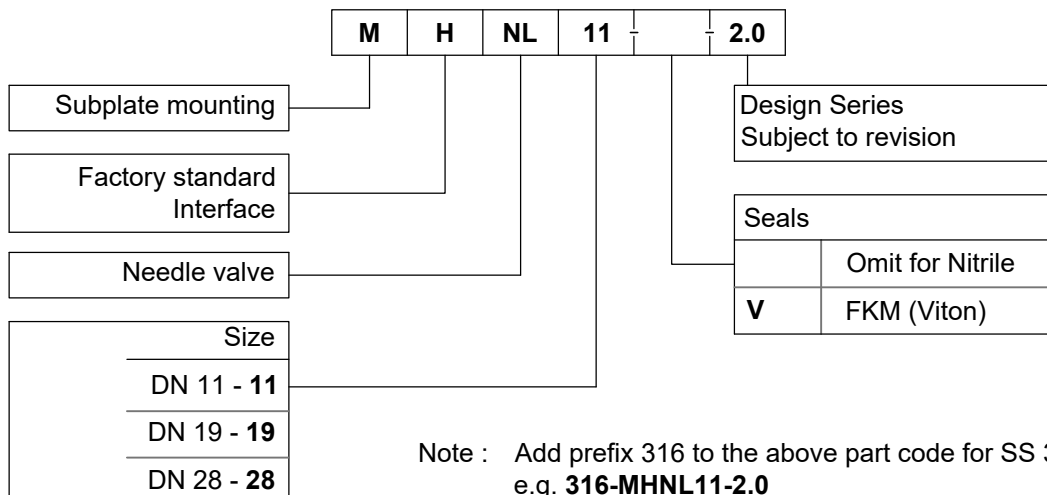
| Size  | Part code  | ØD1  | L1    | L2    | L3   | L4   | L5   | L6   | L7   | L8    | B1    | B2   | B3   | B4    | M   | t 1 |
|-------|------------|------|-------|-------|------|------|------|------|------|-------|-------|------|------|-------|-----|-----|
| DN 11 | MHNL11-2.0 | 11.0 | ---   | -8.6  | 12.7 | 30.3 | 47.8 | 47.8 | 60.5 | 69.4  | -8.6  | 23.9 | 47.8 | 56.4  | M10 | 18  |
| DN 19 | MHNL19-2.0 | 19.0 | -8.70 | -16.0 | 22.2 | 40.5 | ---  | 68.3 | 81.0 | 97.0  | -16.0 | 32.5 | 65.0 | 81.0  | M16 | 28  |
| DN 28 | MHNL28-2.0 | 28.0 | -9.65 | -17.5 | 20.6 | 46.0 | ---  | 71.4 | 92.0 | 109.5 | -17.5 | 46.0 | 92.0 | 109.5 | M20 | 35  |

### Performance curves

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Test conducted at : 50 °C  
Condition : Valve fully opened



### Ordering Code



All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Check Valve - Screw in cartridge KSC

Ref. No. H06925  
Release: Apr 2025

ENGINEERING - 1 of 2

### Description

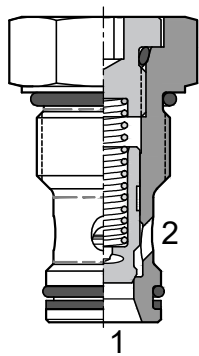
KSC Check valves are TWO port screw in cartridge valves that are designed to fit in a cavity conforming to ISO 7789

These are seat type valves, available in four different sizes and with five different cracking pressures in each size.

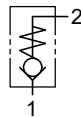
Check valves allow free flow in one direction while providing leak free closure in reverse direction.



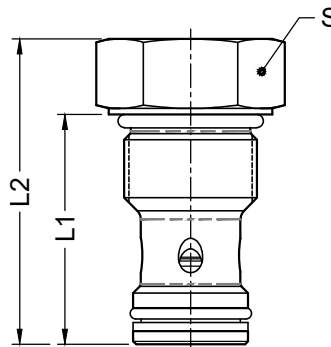
### Section



Hydraulic Symbol



### Unit dimensions



| Part code    | L1   | L2   | M   | S  | Torque |
|--------------|------|------|-----|----|--------|
| <b>KSC06</b> | 30.0 | 41.5 | M20 | 27 | 140 Nm |
| <b>KSC10</b> | 38.0 | 52.5 | M22 | 27 | 150 Nm |
| <b>KSC16</b> | 49.5 | 81.5 | M33 | 41 | 350 Nm |
| <b>KSC20</b> | 55.0 | 91.0 | M42 | 50 | 500 Nm |

### Technical Specifications

Construction----- Poppet seat type

Mounting style----- Screw in cavity as per ISO 7789

Mounting position----- Optional

Flow direction----- Free flow from 1 to 2

Operating pressure----- 350 bar

Hydraulic medium----- Mineral oil.

Viscosity range ----- 10 cSt to 380 cSt

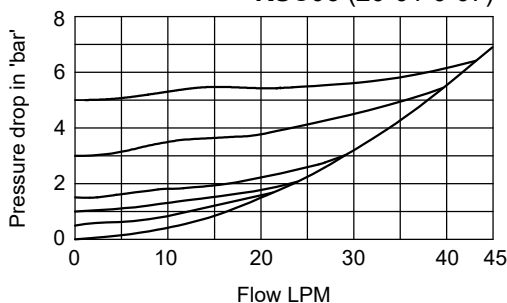
Fluid temperature range----- -20 °C to +80 °C (With Nitrile seals)  
-10 °C to +100 °C (With Viton seals)

Fluid cleanliness requirement----- As per ISO 4406 20/18/15

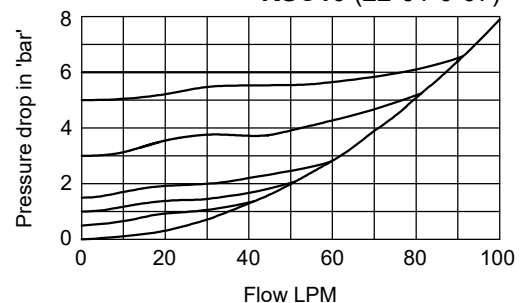
Nom. flow handling capacity----- Refer graphs

Performance curves - Testing as per ISO 6403. Oil used : ISO VG 68, Viscosity : 46 cSt @ 40 °C Direction of flow 1 to 2

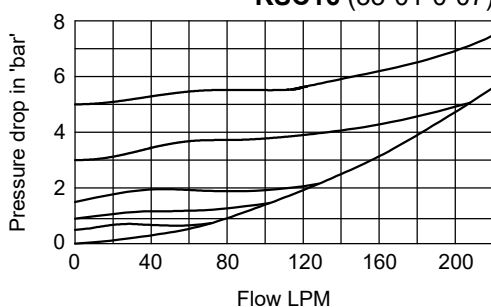
**KSC06 (20-01-0-07)**



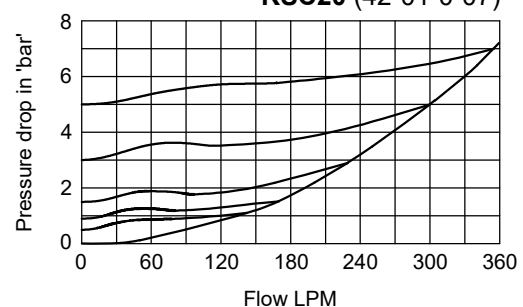
**KSC10 (22-01-0-07)**



**KSC16 (33-01-0-07)**



**KSC20 (42-01-0-07)**





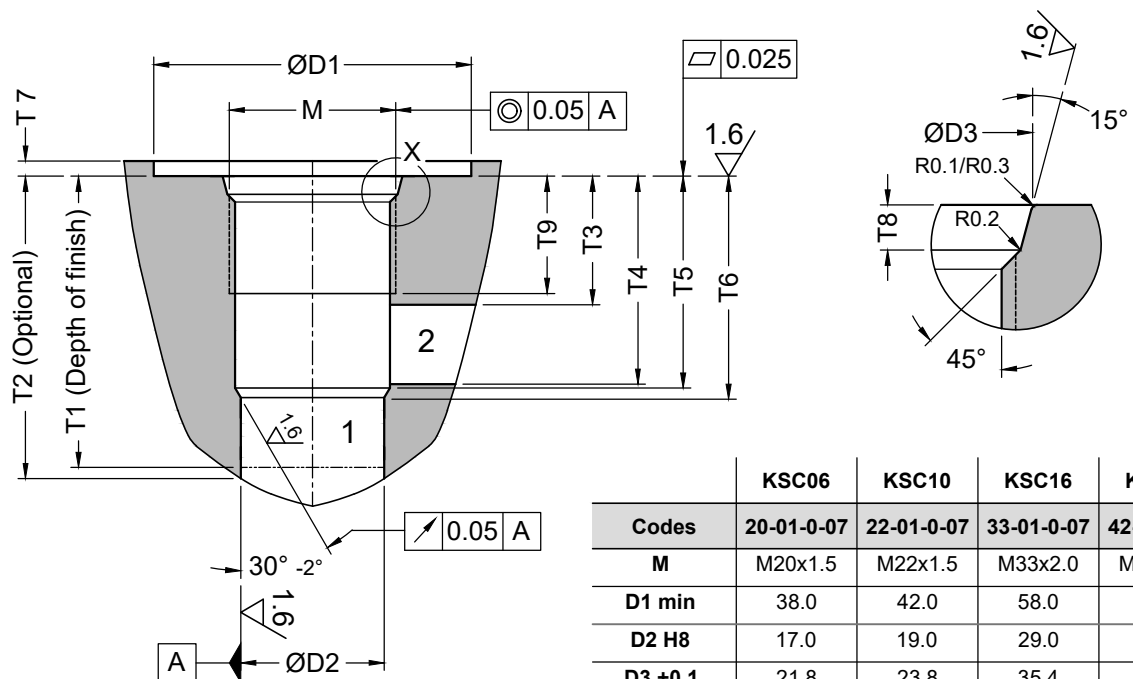
The right connection  
The right environment

## Check Valve - Screw in cartridge KSC

Ref. No. H06925  
Release: Apr 2025

ENGINEERING - 2 of 2

### Cavity details



|               | KSC06      | KSC10      | KSC16      | KSC20      |
|---------------|------------|------------|------------|------------|
| Codes         | 20-01-0-07 | 22-01-0-07 | 33-01-0-07 | 42-01-0-07 |
| M             | M20x1.5    | M22x1.5    | M33x2.0    | M42x2.0    |
| D1 min        | 38.0       | 42.0       | 58.0       | 74.0       |
| D2 H8         | 17.0       | 19.0       | 29.0       | 38.0       |
| D3 +0.1       | 21.8       | 23.8       | 35.4       | 44.4       |
| T1 min        | 30.5       | 38.5       | 50.0       | 56.0       |
| T2 +1         | 32.0       | 40.0       | 52.0       | 58.0       |
| T3 min        | 14.5       | 17.0       | 22.0       | 23.0       |
| T4 max        | 20.5       | 27.5       | 38.5       | 43.5       |
| T5 +0.4 (ref) | 21.0       | 28.0       | 39.0       | 44.0       |
| T6 +0.4       | 22.3       | 29.3       | 40.7       | 45.7       |
| T7 max        | 2.0        | 2.0        | 2.5        | 2.5        |
| T8 +0.4       | 2.4        | 2.4        | 3.1        | 3.1        |
| T9 min        | 14.5       | 15.5       | 19.0       | 19.5       |

### Ordering Code

| KS                 |    | C                                   | 10                                                                               | A | X | V | 1.X |
|--------------------|----|-------------------------------------|----------------------------------------------------------------------------------|---|---|---|-----|
| Screw in Cartridge |    |                                     | Design Series<br>Subject to revision<br>1.0 to 1.9<br>Externally interchangeable |   |   |   |     |
| Check Valve - C    |    |                                     | Seals                                                                            |   |   |   |     |
| Valve Size         |    | Nitrile                             |                                                                                  |   |   |   |     |
| 20-01-0-07         | 06 | Viton                               |                                                                                  |   |   |   |     |
| 22-01-0-07         | 10 | Non Adjustable<br>cracking pressure |                                                                                  |   |   |   |     |
| 33-01-0-07         | 16 |                                     |                                                                                  |   |   |   |     |
| 42-01-0-07         | 20 |                                     |                                                                                  |   |   |   |     |
| Spring Cracking    |    |                                     |                                                                                  |   |   |   |     |
| 0.5 bar            | A  |                                     |                                                                                  |   |   |   |     |
| 1.0 bar            | B  |                                     |                                                                                  |   |   |   |     |
| 1.5 bar            | C  |                                     |                                                                                  |   |   |   |     |
| 3.0 bar            | D  |                                     |                                                                                  |   |   |   |     |
| 5.0 bar            | E  |                                     |                                                                                  |   |   |   |     |
| No Spring          | X  |                                     |                                                                                  |   |   |   |     |

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Reverse Check Valve - Screw in cartridge KSD

Ref. No. H06965  
Release: Apr 2025

ENGINEERING - 1 of 2

### Description

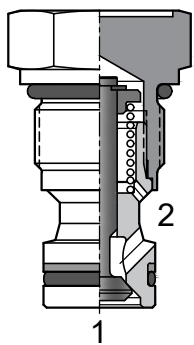
KSD Check valves are TWO port screw in cartridge valves that are designed to fit in a cavity conforming to ISO 7789

These are seat type valves, available in four different sizes and with five different cracking pressures in each size.

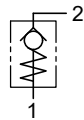
Reverse check valves allow free flow in one direction while providing leak free closure in reverse direction.



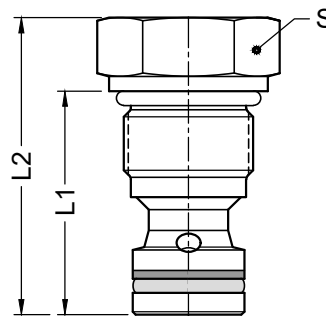
### Section



Hydraulic Symbol



### Unit dimensions



| Part code    | L1   | L2   | M   | S  | Torque |
|--------------|------|------|-----|----|--------|
| <b>KSD06</b> | 30.0 | 42.0 | M20 | 27 | 140 Nm |
| <b>KSD10</b> | 38.0 | 50.5 | M22 | 27 | 150 Nm |
| <b>KSD16</b> | 49.5 | 74.5 | M33 | 41 | 350 Nm |
| <b>KSD20</b> | 55.5 | 85.0 | M42 | 50 | 500 Nm |

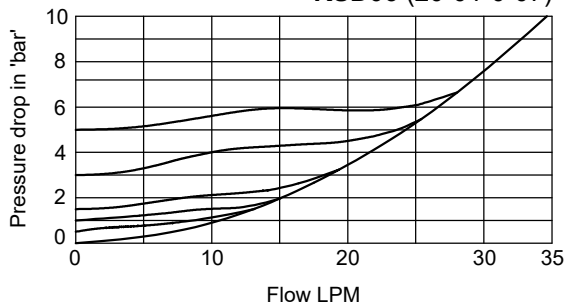
### Technical Specifications

Construction----- Poppet seat type  
Mounting style----- Screw in cavity as per ISO 7789  
Mounting position----- Optional  
Flow direction----- Free flow from 2 to 1  
Operating pressure----- 350 bar

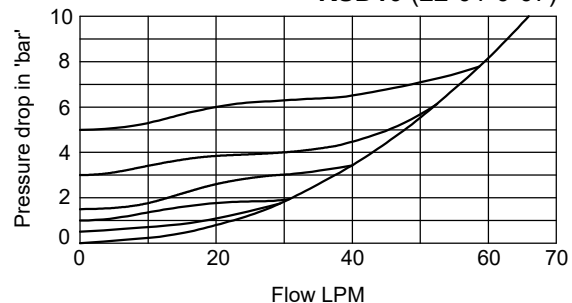
Hydraulic medium----- Mineral oil.  
Viscosity range ----- 10 cSt to 380 cSt  
Fluid temperature range----- -20 °C to +80 °C.  
Fluid cleanliness requirement----- As per ISO 4406 20/18/15  
Nom. flow handling capacity----- Refer graphs

Performance curves - Testing as per ISO 6403. Oil used : ISO VG 68, Viscosity : 46 cSt @ 40 °C Direction of flow 2 to 1

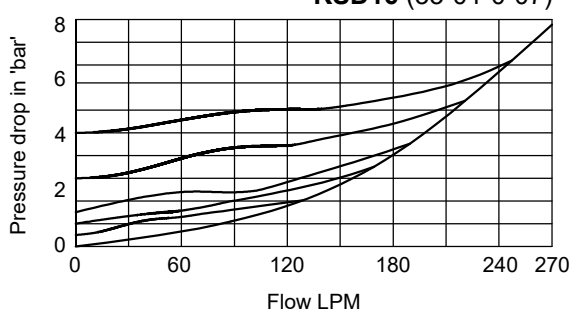
**KSD06 (20-01-0-07)**



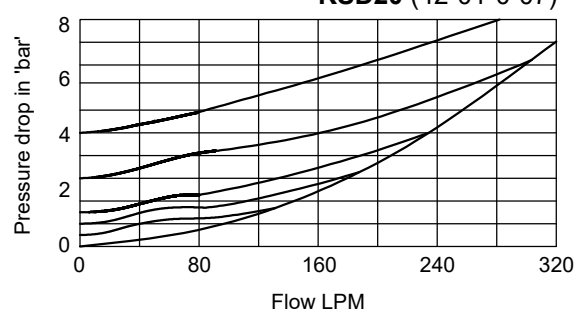
**KSD10 (22-01-0-07)**



**KSD16 (33-01-0-07)**



**KSD20 (42-01-0-07)**







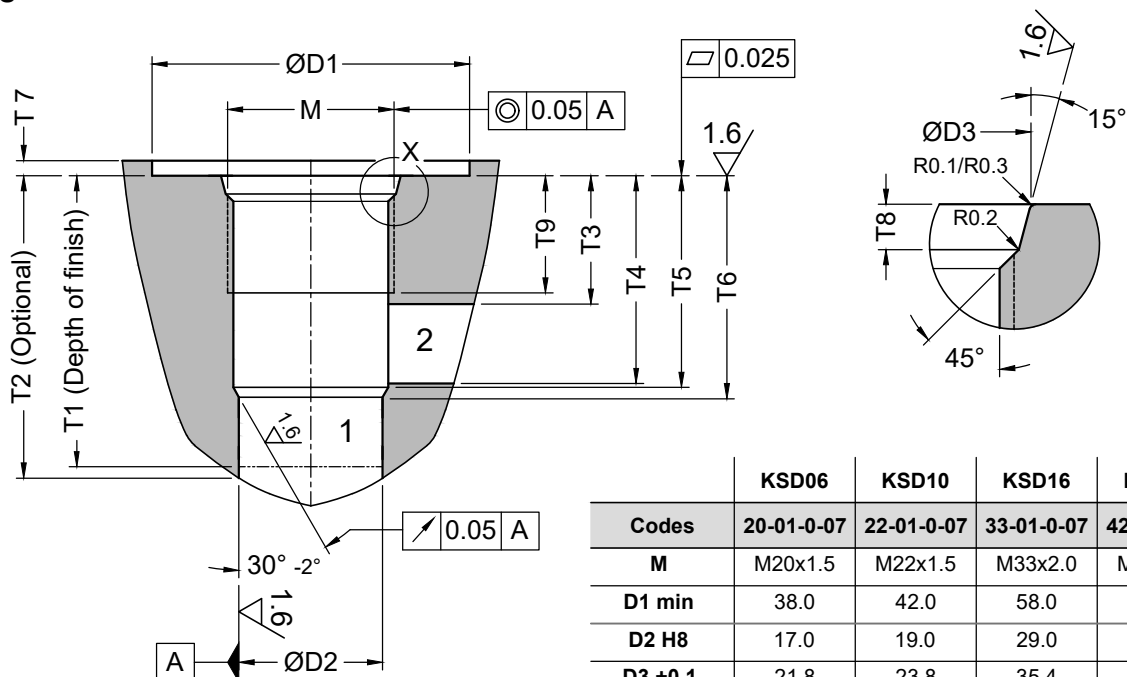
The right connection  
The right environment

## Reverse Check Valve - Screw in cartridge KSD

Ref. No. H06965  
Release: Apr 2025

ENGINEERING - 2 of 2

### Cavity details



|               | KSD06      | KSD10      | KSD16      | KSD20      |
|---------------|------------|------------|------------|------------|
| Codes         | 20-01-0-07 | 22-01-0-07 | 33-01-0-07 | 42-01-0-07 |
| M             | M20x1.5    | M22x1.5    | M33x2.0    | M42x2.0    |
| D1 min        | 38.0       | 42.0       | 58.0       | 74.0       |
| D2 H8         | 17.0       | 19.0       | 29.0       | 38.0       |
| D3 +0.1       | 21.8       | 23.8       | 35.4       | 44.4       |
| T1 min        | 30.5       | 38.5       | 50.0       | 56.0       |
| T2 +1         | 32.0       | 40.0       | 52.0       | 58.0       |
| T3 min        | 14.5       | 17.0       | 22.0       | 23.0       |
| T4 max        | 20.5       | 27.5       | 38.5       | 43.5       |
| T5 +0.4 (ref) | 21.0       | 28.0       | 39.0       | 44.0       |
| T6 +0.4       | 22.3       | 29.3       | 40.7       | 45.7       |
| T7 max        | 2.0        | 2.0        | 2.5        | 2.5        |
| T8 +0.4       | 2.4        | 2.4        | 3.1        | 3.1        |
| T9 min        | 14.5       | 15.5       | 19.0       | 19.5       |

### Ordering Code

| KS                 | D                       | 10            | A               | X | V                                                                                | 1.X |
|--------------------|-------------------------|---------------|-----------------|---|----------------------------------------------------------------------------------|-----|
| Screw in Cartridge | Reverse Check Valve - D | Valve Size    | Spring Cracking |   | Design Series<br>Subject to revision<br>1.0 to 1.9<br>Externally interchangeable |     |
|                    |                         | 20-01-0-07 06 | 0.5 bar A       |   | Seals                                                                            |     |
|                    |                         | 22-01-0-07 10 | 1.0 bar B       |   | N Nitrile                                                                        |     |
|                    |                         | 33-01-0-07 16 | 1.5 bar C       |   | V FKM (Viton)                                                                    |     |
|                    |                         | 42-01-0-07 20 | 3.0 bar D       |   |                                                                                  |     |
|                    |                         |               | 5.0 bar E       |   |                                                                                  |     |
|                    |                         |               | No Spring X     |   |                                                                                  |     |
|                    |                         |               |                 | X | Non Adjustable<br>cracking pressure                                              |     |

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Check Valve RHD / RHZ / RHV / RHF

Ref. No. H04068  
Release: Apr 2025

ENGINEERING - 1 of 4

### Description

Inline mounted poppet type check valves, allow free flow in the direction of arrow and leak free closure in opposite direction.

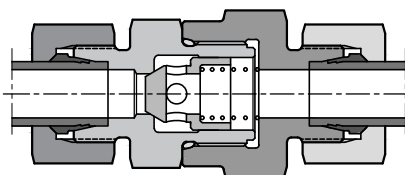
Three mounting styles : Tube to tube - **RHD**  
Tube to Male stud - **RHZ**  
Male stud to Tube - **RHV**

Seven female port sizes from G 1/4 to G1.1/2

Five cracking pressures : 0, 0.5, 1.5, 3 and 5 bar



### Section



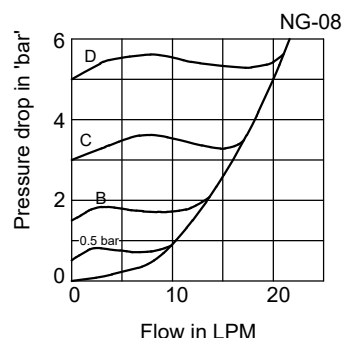
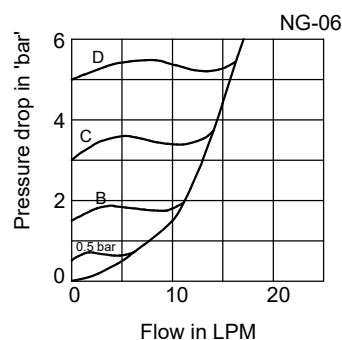
Hydraulic Symbol



### Technical Specifications

|                                |                                  |
|--------------------------------|----------------------------------|
| Construction                   | Poppet type                      |
| Mounting style                 | In line                          |
| Mounting position              | Optional                         |
| Cracking pressure available    | 0, 0.5, 1.5, 3.0 and 5.0 bar     |
| Free Flow direction            | In the direction of arrow.       |
| Maximum pressure               | Refer table for Individual model |
| Hydraulic medium               | Mineral oil.                     |
| Viscosity range                | 10 cSt to 380 cSt                |
| Fluid temperature range        | -20 °C to +70 °C.                |
| Fluid cleanliness requirement  | As per ISO 4406 20/18/15         |
| Maximum flow handling capacity | Refer graph                      |

Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C





The right connection  
The right environment

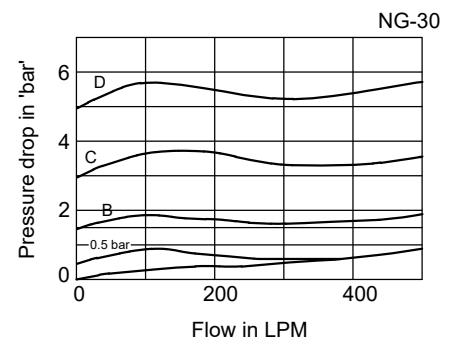
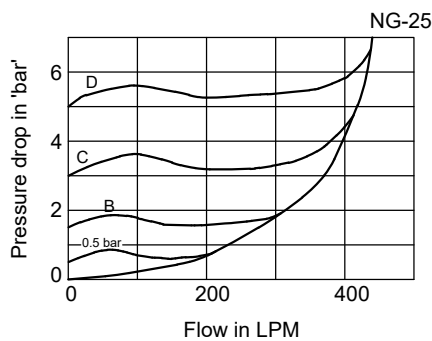
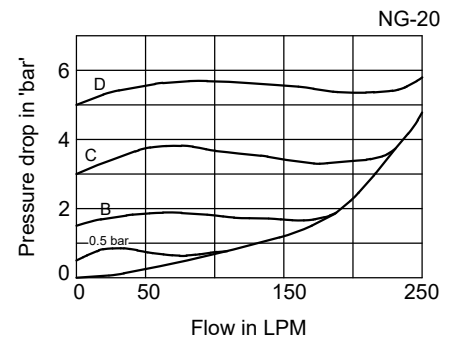
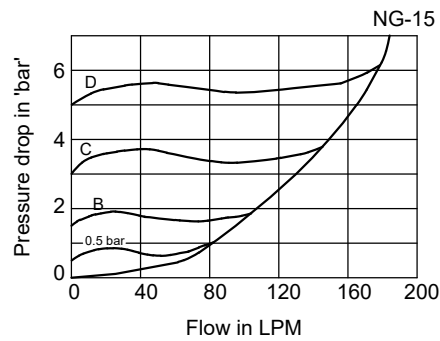
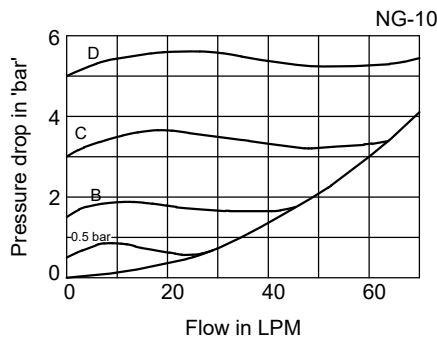
# Check Valve RHD / RHZ / RHV / RHF

Ref. No. H04068  
Release: Apr 2025

ENGINEERING - 2 of 4

## Expected performance curves

Oil used : ISO VG 68 Viscosity : 68 cSt @ 40 °C



## Unit Dimensions

RHD - Tube end connections conform to ISO 8434

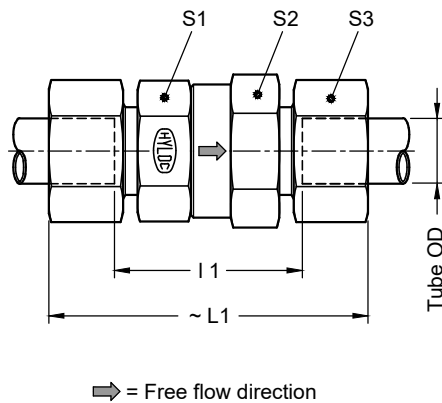
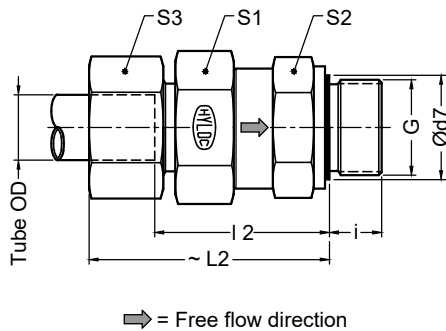


Table - 1

| Part code   | Size  | Tube OD | Pressure Series | Pressure (bar) | I 1  | L1    | S1 | S2 | S3 |
|-------------|-------|---------|-----------------|----------------|------|-------|----|----|----|
| RHD06PL-2.0 | NG-06 | 06      | L               | 250            | 35.5 | 65.5  | 22 | 24 | 14 |
| RHD08PL-2.0 |       | 08      | L               | 250            | 35.5 | 65.5  |    |    | 17 |
| RHD06PS-2.0 |       | 06      | S               | 315            | 39.5 | 69.5  |    |    | 17 |
| RHD08PS-2.0 |       | 08      | S               | 315            | 39.5 | 69.5  |    |    | 19 |
| RHD10PL-2.0 | NG-08 | 10      | L               | 250            | 46.0 | 76.0  | 32 | 36 | 19 |
| RHD10PS-2.0 |       | 10      | S               | 315            | 47.0 | 80.0  |    |    | 22 |
| RHD12PS-2.0 |       | 12      | S               | 315            | 47.0 | 80.0  |    |    | 24 |
| RHD12PL-2.0 | NG-10 | 12      | L               | 250            | 47.5 | 77.5  | 32 | 36 | 22 |
| RHD15PL-2.0 |       | 15      | L               | 250            | 49.5 | 79.5  |    |    | 27 |
| RHD16PS-2.0 |       | 16      | S               | 315            | 50.5 | 87.5  |    |    | 30 |
| RHD18PL-2.0 | NG-15 | 18      | L               | 160            | 54.5 | 87.5  | 41 | 46 | 32 |
| RHD20PS-2.0 |       | 20      | S               | 315            | 56.5 | 99.5  |    |    | 36 |
| RHD22PL-2.0 | NG-20 | 22      | L               | 160            | 70.0 | 103.0 | 50 | 55 | 36 |
| RHD25PS-2.0 |       | 25      | S               | 315            | 69.0 | 117.0 |    |    | 46 |
| RHD28PL-2.0 | NG-25 | 28      | L               | 100            | 79.0 | 112.0 | 55 | 60 | 41 |
| RHD30PS-2.0 |       | 30      | S               | 250            | 79.0 | 132.0 |    |    | 50 |
| RHD35PL-2.0 | NG-30 | 35      | L               | 100            | 87.0 | 130.0 | 65 | 70 | 50 |
| RHD42PL-2.0 |       | 42      | L               | 100            | 86.0 | 132.0 |    |    | 60 |
| RHD38PS-2.0 |       | 38      | S               | 250            | 88.0 | 150.0 |    |    | 60 |

**RHZ** - Tube end connections conform to ISO 8434 at inlet, BSP Male stud end (with ED seal) at outlet.

Table - 2

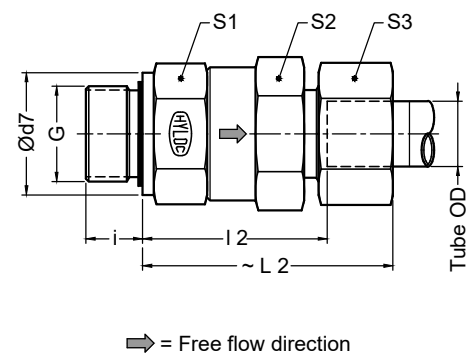


| Part code     | Size  | Tube OD | Pr. Series | Pr. (bar) | G      | i    | L2   | L2    | S1 | S2 | S3 |
|---------------|-------|---------|------------|-----------|--------|------|------|-------|----|----|----|
| RHZ06PLGE-2.0 | NG-06 | 06      | L          | 250       | G 1/8  | 8.0  | 34.0 | 49.0  | 22 | 24 | 14 |
| RHZ08PLGE-2.0 |       | 08      | L          | 250       | G 1/4  | 12.0 | 34.5 | 49.5  |    |    | 17 |
| RHZ06PSGE-2.0 |       | 06      | S          | 315       | G 1/4  | 12.0 | 36.5 | 51.5  |    |    | 17 |
| RHZ08PSGE-2.0 |       | 08      | S          | 315       | G 1/4  | 12.0 | 36.5 | 51.5  |    |    | 19 |
| RHZ10PLGE-2.0 | NG-08 | 10      | L          | 250       | G 1/4  | 12.0 | 44.0 | 59.0  | 32 | 36 | 19 |
| RHZ10PSGE-2.0 |       | 10      | S          | 315       | G 3/8  | 12.0 | 45.0 | 61.5  |    |    | 22 |
| RHZ12PSGE-2.0 |       | 12      | S          | 315       | G 3/8  | 12.0 | 45.0 | 61.5  |    |    | 24 |
| RHZ12PLGE-2.0 | NG-10 | 12      | L          | 250       | G 3/8  | 12.0 | 46.0 | 61.0  | 32 | 36 | 22 |
| RHZ15PLGE-2.0 |       | 15      | L          | 250       | G 1/2  | 14.0 | 47.5 | 62.5  |    |    | 27 |
| RHZ16PSGE-2.0 |       | 16      | S          | 315       | G 1/2  | 14.0 | 48.0 | 66.5  |    |    | 30 |
| RHZ18PLGE-2.0 | NG-15 | 18      | L          | 160       | G 1/2  | 14.0 | 53.0 | 69.5  | 41 | 46 | 32 |
| RHZ20PSGE-2.0 |       | 20      | S          | 315       | G 3/4  | 16.0 | 54.0 | 75.5  |    |    | 36 |
| RHZ22PLGE-2.0 | NG-20 | 22      | L          | 160       | G 3/4  | 16.0 | 66.5 | 83.0  | 50 | 55 | 36 |
| RHZ25PSGE-2.0 |       | 25      | S          | 315       | G 1    | 18.0 | 66.0 | 90.0  |    |    | 46 |
| RHZ28PLGE-2.0 | NG-25 | 28      | L          | 100       | G 1    | 18.0 | 75.5 | 92.0  | 55 | 60 | 41 |
| RHZ30PSGE-2.0 |       | 30      | S          | 250       | G1.1/4 | 20.0 | 75.5 | 102.0 |    |    | 50 |
| RHZ35PLGE-2.0 | NG-30 | 35      | L          | 100       | G1.1/4 | 20.0 | 84.5 | 106.0 | 65 | 70 | 50 |
| RHZ42PLGE-2.0 |       | 42      | L          | 100       | G1.1/2 | 22.0 | 84.0 | 107.0 |    |    | 60 |
| RHZ38PSGE-2.0 |       | 38      | S          | 250       | G1.1/2 | 22.0 | 85.0 | 116.0 |    |    | 60 |

**RHV** - BSP Male stud end (with ED seal) at inlet, Tube end connections conform to ISO 8434 at outlet.

Table - 3

| Part code     | Size  | Tube OD | Pr. Series | Pr. (bar) | G      | i    | L2   | L2    | S1 | S2 | S3 |
|---------------|-------|---------|------------|-----------|--------|------|------|-------|----|----|----|
| RHV06PLGE-2.0 | NG-06 | 06      | L          | 250       | G 1/8  | 8.0  | 34.0 | 49.0  | 22 | 24 | 14 |
| RHV08PLGE-2.0 |       | 08      | L          | 250       | G 1/4  | 12.0 | 34.5 | 49.5  |    |    | 17 |
| RHV06PSGE-2.0 |       | 06      | S          | 315       | G 1/4  | 12.0 | 36.5 | 51.5  |    |    | 17 |
| RHV08PSGE-2.0 |       | 08      | S          | 315       | G 1/4  | 12.0 | 36.5 | 51.5  |    |    | 19 |
| RHV10PLGE-2.0 | NG-08 | 10      | L          | 250       | G 1/4  | 12.0 | 44.0 | 59.0  | 32 | 36 | 19 |
| RHV10PSGE-2.0 |       | 10      | S          | 315       | G 3/8  | 12.0 | 45.0 | 61.5  |    |    | 22 |
| RHV12PSGE-2.0 |       | 12      | S          | 315       | G 3/8  | 12.0 | 45.0 | 61.5  |    |    | 24 |
| RHV12PLGE-2.0 | NG-10 | 12      | L          | 250       | G 3/8  | 12.0 | 46.0 | 61.0  | 32 | 36 | 22 |
| RHV15PLGE-2.0 |       | 15      | L          | 250       | G 1/2  | 14.0 | 47.5 | 62.5  |    |    | 27 |
| RHV16PSGE-2.0 |       | 16      | S          | 315       | G 1/2  | 14.0 | 48.0 | 66.5  |    |    | 30 |
| RHV18PLGE-2.0 | NG-15 | 18      | L          | 160       | G 1/2  | 14.0 | 53.0 | 69.5  | 41 | 46 | 32 |
| RHV20PSGE-2.0 |       | 20      | S          | 315       | G 3/4  | 16.0 | 54.0 | 75.5  |    |    | 36 |
| RHV22PLGE-2.0 | NG-20 | 22      | L          | 160       | G 3/4  | 16.0 | 66.5 | 83.0  | 50 | 55 | 36 |
| RHV25PSGE-2.0 |       | 25      | S          | 315       | G 1    | 18.0 | 66.0 | 90.0  |    |    | 46 |
| RHV28PLGE-2.0 | NG-25 | 28      | L          | 100       | G 1    | 18.0 | 75.5 | 92.0  | 55 | 60 | 41 |
| RHV30PSGE-2.0 |       | 30      | S          | 250       | G1.1/4 | 20.0 | 75.5 | 102.0 |    |    | 50 |
| RHV35PLGE-2.0 | NG-30 | 35      | L          | 100       | G1.1/4 | 20.0 | 84.5 | 106.0 | 65 | 70 | 50 |
| RHV42PLGE-2.0 |       | 42      | L          | 100       | G1.1/2 | 22.0 | 84.0 | 107.0 |    |    | 60 |
| RHV38PSGE-2.0 |       | 38      | S          | 250       | G1.1/2 | 22.0 | 85.0 | 116.0 |    |    | 60 |





The right connection  
The right environment

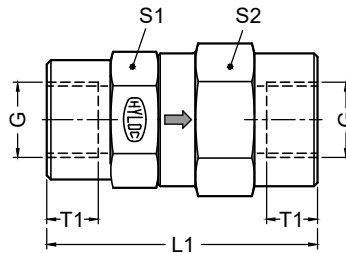
## Check Valve RHD / RHZ / RHV / RHF

Ref. No. H04068  
Release: Apr 2025

ENGINEERING - 4 of 4

### Unit Dimensions

**RHF** - BSP Ports at inlet and at outlet.



⇒ = Free flow direction

Table - 4

| Part code  | Pressure (bar) | G      | T 1 | L1  | S1 | S2 |
|------------|----------------|--------|-----|-----|----|----|
| RHFG02-2.0 | 315            | G 1/4  | 12  | 58  | 22 | 24 |
| RHFG03-2.0 |                | G 3/8  | 12  | 58  | 32 | 36 |
| RHFG04-2.0 |                | G 1/2  | 14  | 72  | 32 | 36 |
| RHFG06-2.0 |                | G 3/4  | 16  | 85  | 41 | 46 |
| RHFG08-2.0 |                | G 1    | 18  | 98  | 50 | 55 |
| RHFG10-2.0 |                | G1.1/4 | 20  | 120 | 55 | 60 |
| RHFG12-2.0 |                | G1.1/2 | 22  | 132 | 65 | 70 |

### Ordering Code

|            |           |          |          |           |  |            |
|------------|-----------|----------|----------|-----------|--|------------|
| <b>RHZ</b> | <b>16</b> | <b>P</b> | <b>S</b> | <b>GE</b> |  | <b>2.0</b> |
|------------|-----------|----------|----------|-----------|--|------------|

Check Valve model

RHD

RHZ

RHV

RHF

Tube Size

For RHD, RHZ and RHV  
Refer Table 1 to Table 3

Port Size

For RHF  
Refer Table 4

End connection type

For RHD, RHZ and RHV  
Omit for model RHF

With Double Bite Ferrule - **P**

End connection type

For RHD, RHZ and RHV  
Omit for model RHF

Low Pressure

L

High pressure

S

Design Series  
Subject to revision

Seals

Omit

Nitrile

V

FKM (Viton)

Cracking Pressure

X

Without spring

Omit

0.5 bar

B

1.5 bar

C

3.0 bar

D

5.0 bar

End connection

For RHZ and RHV  
G threads will be provided  
with Elastomeric seals

Refer  
Table 2 and Table 3

Note : Add prefix 316 to the above part code for SS 316 Valves.  
e.g. **316-RHD16PS-2.0**



The right connection  
The right environment

## Adjustable Throttle and Throttle Check Valves TT / TCT

Ref. No. H03364  
Release: Apr 2025

ENGINEERING - 1 of 2

### Description

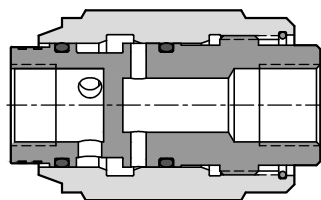
Non pressure and viscosity compensated valves.

Model TT Throttle valves allow adjustable throttled flow in both the directions.

Model TCT throttle check valves gives adjustable flow in one direction and allows free flow in opposite direction.

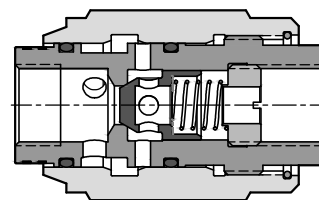


### Section



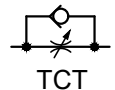
Model : TT

Hydraulic Symbol



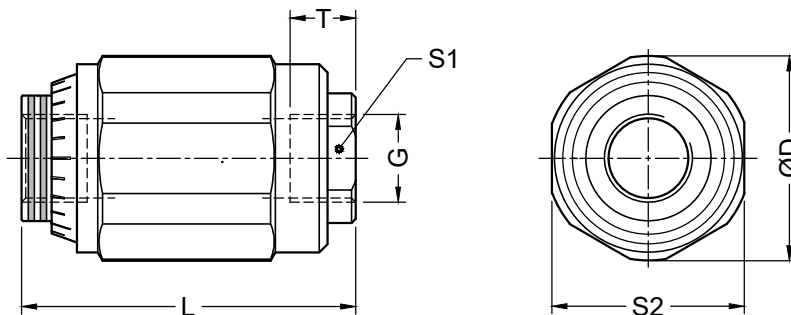
Model : TCT

Hydraulic Symbol



### Unit Dimensions

Dimensions in mm.



| Part code  |           | G       | T  | S1 | S2 | L   | ØD | TCT<br>Mass (Kg) | TT<br>Mass (Kg) |
|------------|-----------|---------|----|----|----|-----|----|------------------|-----------------|
| TCTG02-2.0 | TTG02-2.0 | G 1/4   | 12 | 19 | 32 | 65  | 34 | 0.30             | 0.29            |
| TCTG03-2.0 | TTG03-2.0 | G 3/8   | 13 | 22 | 36 | 65  | 38 | 0.35             | 0.33            |
| TCTG04-2.0 | TTG04-2.0 | G 1/2   | 14 | 27 | 46 | 80  | 49 | 0.72             | 0.69            |
| TCTG06-2.0 | TTG06-2.0 | G 3/4   | 18 | 32 | 55 | 100 | 58 | 1.25             | 1.20            |
| TCTG08-2.0 | TTG08-2.0 | G 1     | 18 | 41 | 70 | 110 | 74 | 2.30             | 2.10            |
| TCTG10-2.0 | TTG10-2.0 | G 1.1/4 | 22 | 50 | 85 | 130 | 87 | 3.80             | 3.60            |
| TCTG12-2.0 | TTG12-2.0 | G 1.1/2 | 22 | 60 | 90 | 150 | 94 | 5.00             | 4.60            |



The right connection  
The right environment

## Adjustable Throttle and Throttle Check Valves TT / TCT

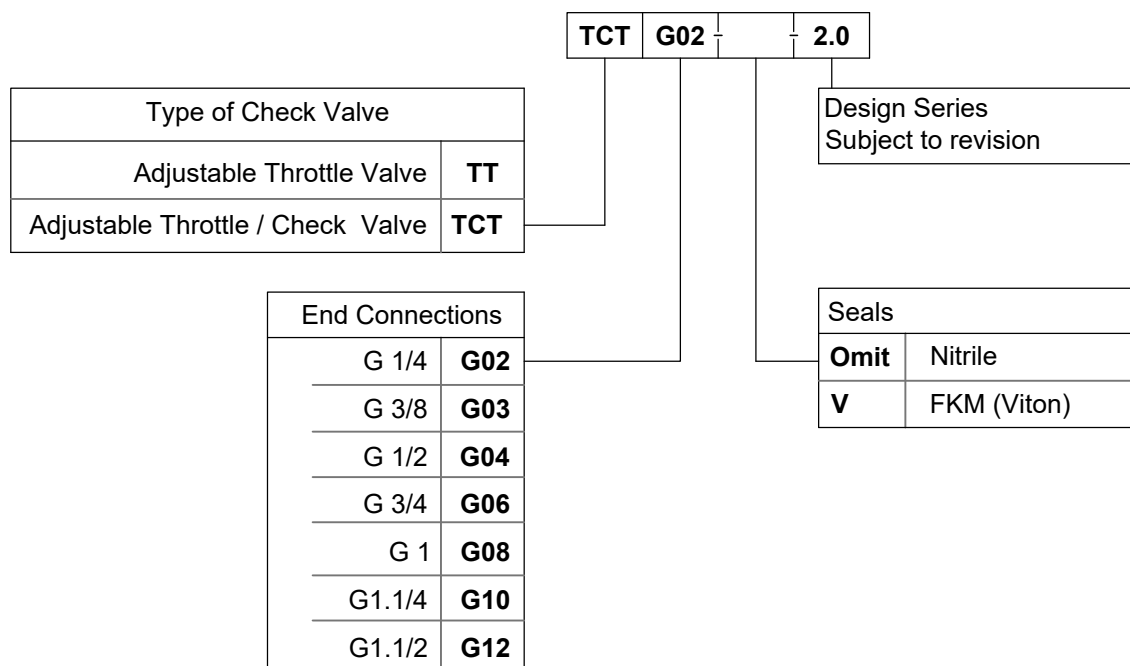
Ref. No. H03364  
Release: Apr 2025

ENGINEERING - 2 of 2

### Technical Specifications

|                                      |                                                                                                                                                                                                      |           |  |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--|
| Construction-----                    | Inline threaded body with rotating sleeve for flow adjustment.<br>Non pressure and viscosity compensated.                                                                                            |           |  |
| Mounting style -----                 | Inline, threaded body                                                                                                                                                                                |           |  |
| Mounting position -----              | Optional                                                                                                                                                                                             |           |  |
| Flow direction -----                 | For model TCT : Free flow in one direction.<br>Adjustable throttled flow in opposite<br>direction as indicated on the valve body.<br>For model TT : Adjustable throttled flow in both the directions |           |  |
| Operating pressure -----             | 315 bar.                                                                                                                                                                                             |           |  |
| Hydraulic medium -----               | Mineral oil.                                                                                                                                                                                         |           |  |
| Viscosity range -----                | 10 cSt to 380 cSt.                                                                                                                                                                                   |           |  |
| Fluid cleanliness requirement -----  | As per ISO 4406 20/18/15                                                                                                                                                                             |           |  |
| Fluid temperature range -----        | -20 °C to +70 °C                                                                                                                                                                                     |           |  |
| Maximum flow handling capacity ----- | TCTG02/TTG02 -----                                                                                                                                                                                   | 25 l/min  |  |
|                                      | TCTG03/TTG03 -----                                                                                                                                                                                   | 40 /min   |  |
|                                      | TCTG04/TTG04 -----                                                                                                                                                                                   | 60 l/min  |  |
|                                      | TCTG06/TTG06 -----                                                                                                                                                                                   | 120 l/min |  |
|                                      | TCTG08/TTG08 -----                                                                                                                                                                                   | 200 l/min |  |
|                                      | TCTG10/TTG10 -----                                                                                                                                                                                   | 320 l/min |  |
|                                      | TCTG12/TTG12 -----                                                                                                                                                                                   | 400 l/min |  |

### Ordering Code



Note : Add prefix 316 to the above part code for SS 316 valves.  
e.g. **316-TCTG02-2.0**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Throttle / Check Valves TCG / TC

Ref. No. H04737  
Release: Apr 2025

ENGINEERING - 1 of 4

### Description

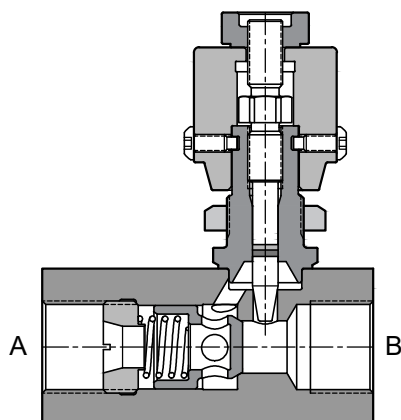
The Valve allows accurate adjustment of flow by throttling action. The throttling can be varied by rotation of the Hand knob.

The valve is also equipped with a built - in check valve for free reverse flow.

The valve is not viscosity or pressure compensated.

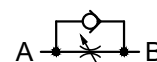


### Section



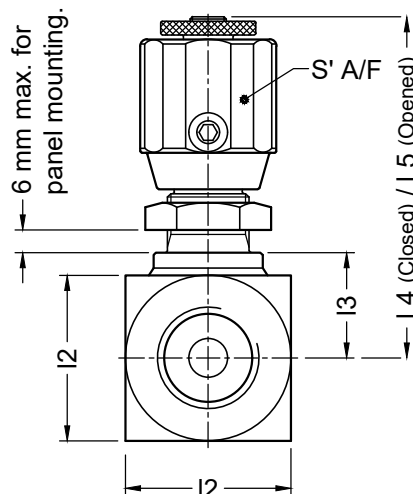
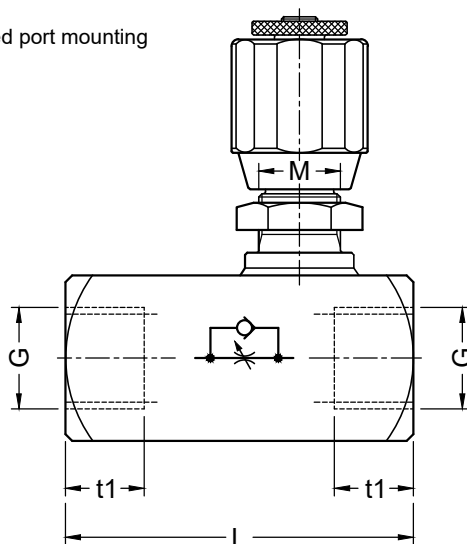
Model : TCG

Hydraulic Symbol



### Unit Dimensions

In-line threaded port mounting



Dimensions in mm.



Table-1

| Part code        | Size  | G       | I 2 | I 3  | I 4   | I 5   | M       | t 1 | S  | L   | Pr. bar | Mass (Kg) |
|------------------|-------|---------|-----|------|-------|-------|---------|-----|----|-----|---------|-----------|
| <b>TCG02-2.0</b> | NG-06 | G 1/4   | 25  | 17.5 | 69.5  | 76.5  | M18x1.5 | 12  | 30 | 64  | 315     | 0.45      |
| <b>TCG03-3.0</b> | NG-08 | G 3/8   | 30  | 20.0 | 72.0  | 79.0  | M18x1.5 | 13  | 30 | 70  | 315     | 0.59      |
| <b>TCG04-2.0</b> | NG-10 | G 1/2   | 35  | 23.5 | 89.0  | 99.0  | M22x1.5 | 14  | 41 | 80  | 315     | 0.96      |
| <b>TCG06-2.0</b> | NG-15 | G 3/4   | 45  | 28.5 | 94.0  | 104.0 | M22x1.5 | 17  | 41 | 95  | 315     | 1.42      |
| <b>TCG08-2.0</b> | NG-20 | G 1     | 50  | 35.0 | 128.0 | 145.0 | M36x2.0 | 18  | 50 | 125 | 315     | 2.80      |
| <b>TCG10-2.0</b> | NG-25 | G 1.1/4 | 60  | 40.0 | 133.0 | 150.0 | M36x2.0 | 21  | 50 | 142 | 315     | 3.90      |
| <b>TCG12-2.0</b> | NG-30 | G 1.1/2 | 70  | 45.0 | 138.0 | 155.0 | M36x2.0 | 22  | 50 | 150 | 315     | 5.30      |





The right connection  
The right environment

## Throttle / Check Valves TCG / TC

Ref. No. H04737  
Release: Apr 2025

ENGINEERING - 2 of 4

In-line Tube mounting

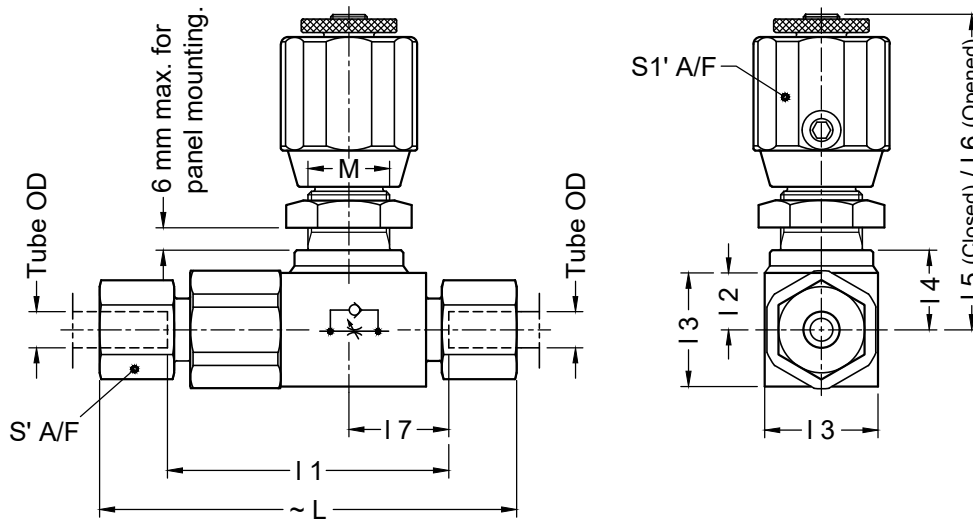


Table-2

| Part code  | Tube OD | Pressure Series | Pressure (bar) | Size  | I 1   | I 3  | I 4  | I 5   | I 6   | I 7  | M       | S  | S1 | L     |
|------------|---------|-----------------|----------------|-------|-------|------|------|-------|-------|------|---------|----|----|-------|
| TC06PL-2.0 | 06      | L               | 250            | NG-06 | 57.0  | 25.0 | 17.5 | 69.5  | 76.5  | 20.0 | M18x1.5 | 14 | 30 | 87.0  |
| TC08PL-2.0 | 08      | L               | 250            |       | 57.0  |      |      |       |       | 20.0 |         | 17 |    | 87.0  |
| TC06PS-2.0 | 06      | S               | 315            |       | 61.0  |      |      |       |       | 22.0 |         | 17 |    | 91.0  |
| TC08PS-2.0 | 08      | S               | 315            |       | 61.0  |      |      |       |       | 22.0 |         | 19 |    | 91.0  |
| TC10PL-2.0 | 10      | L               | 250            | NG-08 | 63.0  | 30.0 | 20.0 | 72.0  | 79.0  | 21.0 | M18x1.5 | 19 | 30 | 93.0  |
| TC10PS-2.0 | 10      | S               | 315            |       | 64.0  |      |      |       |       | 21.5 |         | 22 |    | 97.0  |
| TC12PS-2.0 | 12      | S               | 315            |       | 64.0  |      |      |       |       | 21.5 |         | 24 |    | 97.0  |
| TC12PL-2.0 | 12      | L               | 250            | NG-10 | 70.0  | 35.0 | 23.5 | 89.0  | 99.0  | 22.0 | M22x1.5 | 22 | 41 | 100.0 |
| TC15PL-2.0 | 15      | L               | 250            |       | 72.0  |      |      |       |       | 23.0 |         | 27 |    | 102.0 |
| TC16PS-2.0 | 16      | S               | 315            |       | 74.0  |      |      |       |       | 23.5 |         | 30 |    | 110.0 |
| TC18PL-2.0 | 18      | L               | 160            | NG-15 | 80.5  | 45.0 | 28.5 | 94.0  | 104.0 | 24.5 | M22x1.5 | 32 | 41 | 113.5 |
| TC20PS-2.0 | 20      | S               | 315            |       | 82.5  |      |      |       |       | 25.5 |         | 36 |    | 125.5 |
| TC22PL-2.0 | 22      | L               | 160            | NG-20 | 109.0 | 50.0 | 35.0 | 128.0 | 145.0 | 36.5 | M36x2.0 | 36 | 50 | 142.0 |
| TC25PS-2.0 | 25      | S               | 315            |       | 108.0 |      |      |       |       | 36.0 |         | 46 |    | 156.0 |
| TC28PL-2.0 | 28      | L               | 100            | NG-25 | 120.0 | 60.0 | 40.0 | 133.0 | 150.0 | 39.5 | M36x2.0 | 41 | 50 | 153.0 |
| TC30PS-2.0 | 30      | S               | 250            |       | 120.0 |      |      |       |       | 39.5 |         | 50 |    | 173.0 |
| TC35PL-2.0 | 35      | L               | 100            | NG-30 | 130.0 | 70.0 | 45.0 | 138.0 | 155.0 | 40.5 | M36x2.0 | 50 | 50 | 173.0 |
| TC42PL-2.0 | 42      | L               | 100            |       | 129.0 |      |      |       |       | 40.0 |         | 60 |    | 175.0 |
| TC38PS-2.0 | 38      | S               | 250            |       | 131.0 |      |      |       |       | 41.0 |         | 60 |    | 193.0 |

### Technical Specifications

|                               |                                                                                                                 |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Construction                  | Conical throttling spool with rotation of hand knob for flow adjustment.<br>Poppet valve for free reverse flow. |
| Mounting style                | Inline port or tube mounting.                                                                                   |
| Mounting position             | Optional                                                                                                        |
| Flow direction                | Adjustable throttled flow from A to B, free flow from B to A.                                                   |
| Operating pressure            | Refer Table -1 and Table-2.                                                                                     |
| Hydraulic medium              | Mineral oil.                                                                                                    |
| Viscosity range               | 10 cSt to 380 cSt.                                                                                              |
| Fluid temperature range       | -20 °C to +80 °C                                                                                                |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15                                                                                        |
| Nom. flow handling capacity   | Refer graphs                                                                                                    |



The right connection  
The right environment

## Throttle / Check Valves TCG / TC

Ref. No. H04737  
Release: Apr 2025

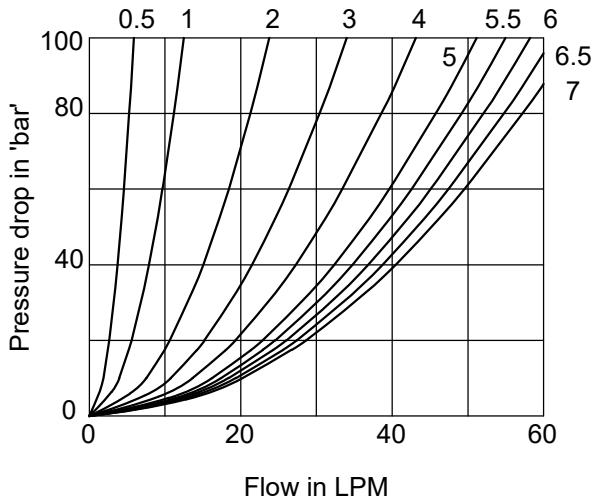
ENGINEERING - 3 of 4

### Expected performance curves

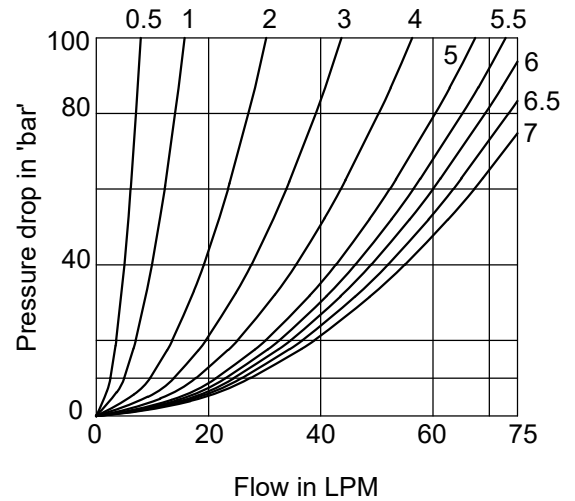
Oil used : ISO VG 68  
Viscosity : 68 cSt @ 40 °C  
Direction of flow : A to B

Graphs below shows Throttle position (No. of turns) from Closed position

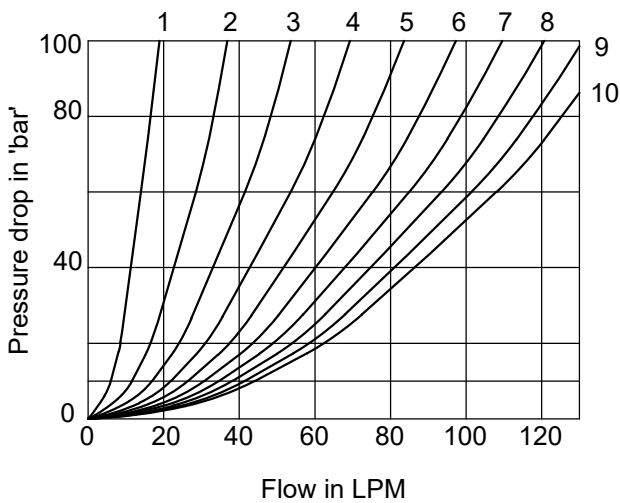
**NG-06**



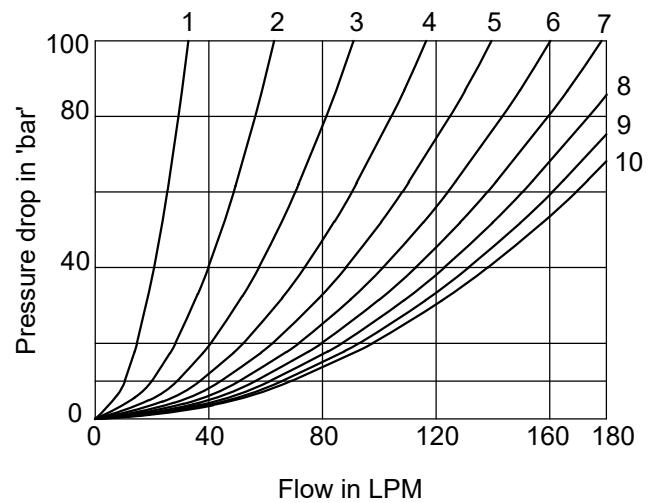
**NG-08**



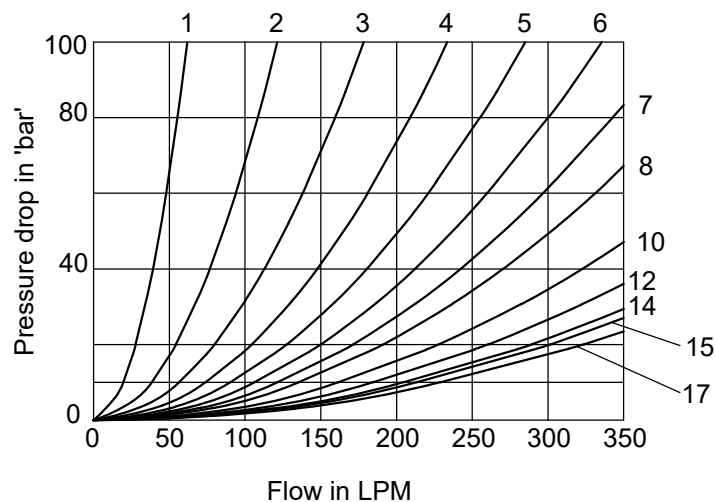
**NG-10**



**NG-15**



**NG-20, NG-25 and NG-30**





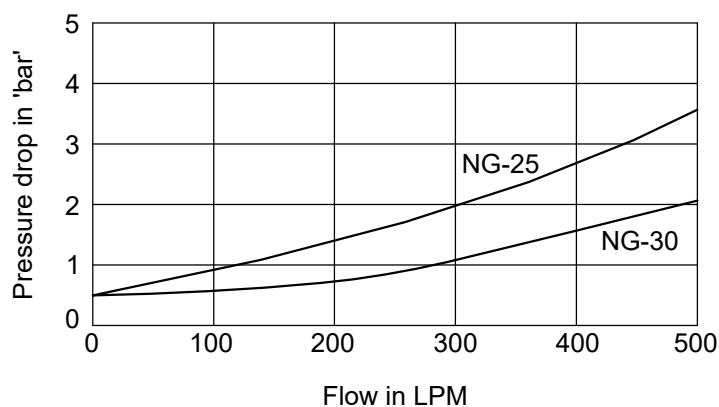
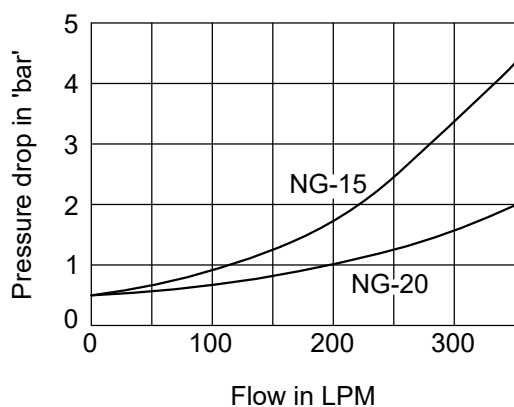
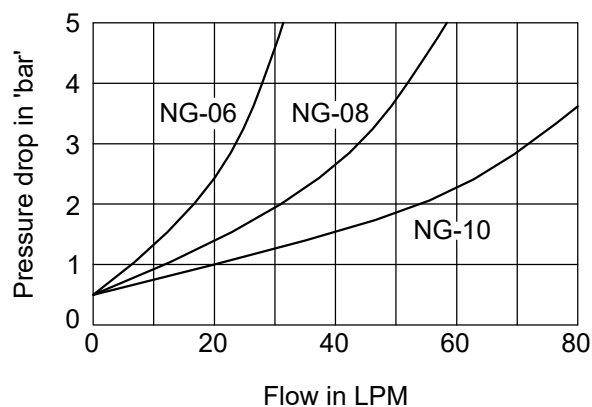
The right connection  
The right environment

## Throttle / Check Valves TCG / TC

Ref. No. H04737  
Release: Apr 2025

ENGINEERING - 4 of 4

Direction of free flow from 'B' to 'A'



## Ordering Code

|                                                              |               |                                                     |     |  |  |     |
|--------------------------------------------------------------|---------------|-----------------------------------------------------|-----|--|--|-----|
|                                                              |               | TC                                                  | G02 |  |  | 2.0 |
| Throttle / Check Valve                                       |               | Design Series<br>Subject to revision                |     |  |  |     |
| For Valves with<br>G Ports                                   | G 1/4         | Seals                                               |     |  |  |     |
|                                                              | G3/8          | <b>Omit</b> Nitrile                                 |     |  |  |     |
|                                                              | G 1/2         | <b>V</b> FKM (Viton)                                |     |  |  |     |
|                                                              | G3/4          | Pressure Series<br>(For valves with tube ends only) |     |  |  |     |
|                                                              | G 1           | <b>Omit</b> For valves with G threads               |     |  |  |     |
|                                                              | G1.1/4        | <b>L</b> Low Pressure                               |     |  |  |     |
|                                                              | G1.1/2        | <b>S</b> High Pressure                              |     |  |  |     |
| For Valves with Tube ends<br>(Will have Double bite ferrule) | Tube<br>sizes | 6                                                   |     |  |  |     |
|                                                              |               | 8                                                   |     |  |  |     |
|                                                              |               | 10                                                  |     |  |  |     |
|                                                              |               | 12                                                  |     |  |  |     |
|                                                              |               | 15                                                  |     |  |  |     |
|                                                              |               | 16                                                  |     |  |  |     |
|                                                              |               | 18                                                  |     |  |  |     |
|                                                              |               | 20                                                  |     |  |  |     |
|                                                              |               | 22                                                  |     |  |  |     |
|                                                              |               | 25                                                  |     |  |  |     |
|                                                              |               | 28                                                  |     |  |  |     |
|                                                              |               | 30                                                  |     |  |  |     |
|                                                              |               | 35                                                  |     |  |  |     |
|                                                              |               | 38                                                  |     |  |  |     |
|                                                              |               | 42                                                  |     |  |  |     |

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product,  
the actual product supplied may look different than shown above.



The right connection  
The right environment

## Throttle / Check Valves, Sub-plate mounting TCMS

Ref. No. H06105  
Release: Apr 2025

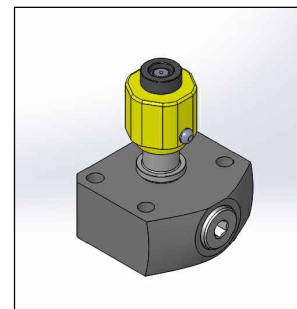
ENGINEERING - 1 of 4

### Description

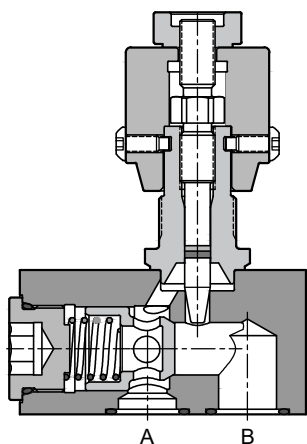
The Valve allows accurate adjustment of flow by throttling action. The throttling can be varied by rotation of the Hand knob.

The valve is also equipped with a built - in check valve for free reverse flow.

The mounting Interface conforms to ISO 5781

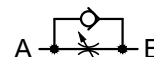


### Section



Model : TCMS

Hydraulic Symbol



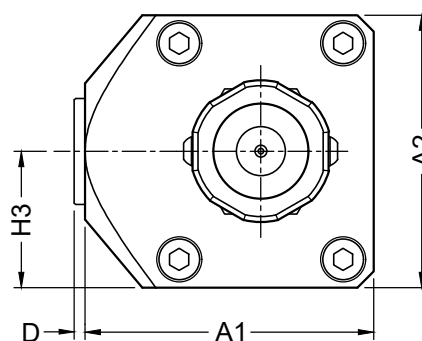
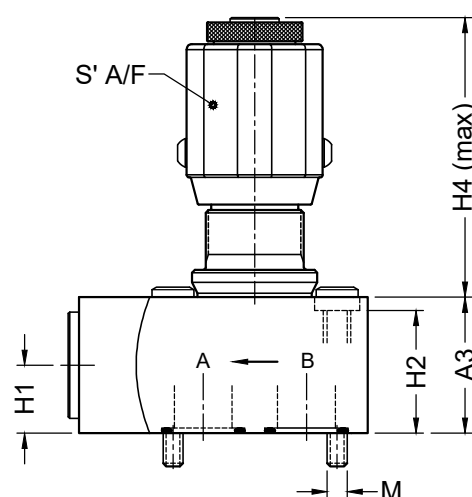
### Unit Dimensions

Sub-plate mounting

Dimensions in mm.

| Part code         | A1  | A2  | A3 | H1   | H2   | H3   | H4 (max) | D | S  |
|-------------------|-----|-----|----|------|------|------|----------|---|----|
| <b>TCMS06-2.0</b> | 60  | 44  | 25 | 12.5 | 22.5 | 22.0 | 64.0     | 3 | 30 |
| <b>TCMS10-3.0</b> | 81  | 88  | 40 | 22.5 | 40.0 | 44.0 | 81.5     | 3 | 41 |
| <b>TCMS20-2.0</b> | 106 | 100 | 50 | 25.0 | 45.0 | 50.0 | 120.0    | 4 | 50 |
| <b>TCMS30-2.0</b> | 135 | 117 | 70 | 35.0 | 65.0 | 58.5 | 120.0    | 4 | 50 |

| Part code         | Valve fixing screws, 10.9 grade | Torque |
|-------------------|---------------------------------|--------|
| <b>TCMS06-2.0</b> | M5 x 0.8 x 30 Long, 4 Nos       | 5 Nm   |
| <b>TCMS10-3.0</b> | M10 x 1.5 x 55 Long, 4 Nos      | 40 Nm  |
| <b>TCMS20-2.0</b> | M10 x 1.5 x 60 Long, 4 Nos      | 52 Nm  |
| <b>TCMS30-2.0</b> | M10 x 1.5 x 80 Long, 6 Nos      | 55 Nm  |





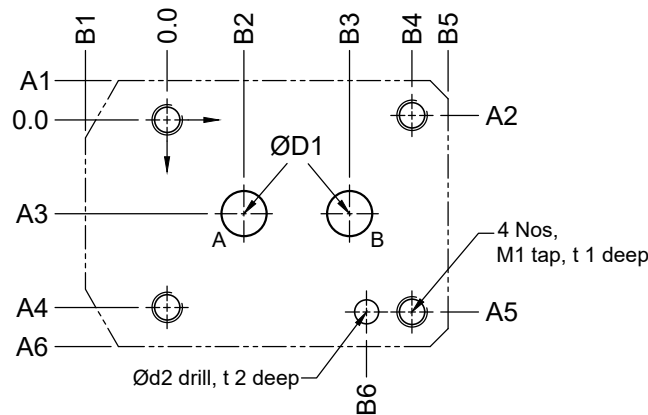
The right connection  
The right environment

## Throttle / Check Valves, Sub-plate mounting TCMS

Ref. No. H06105  
Release: Apr 2025

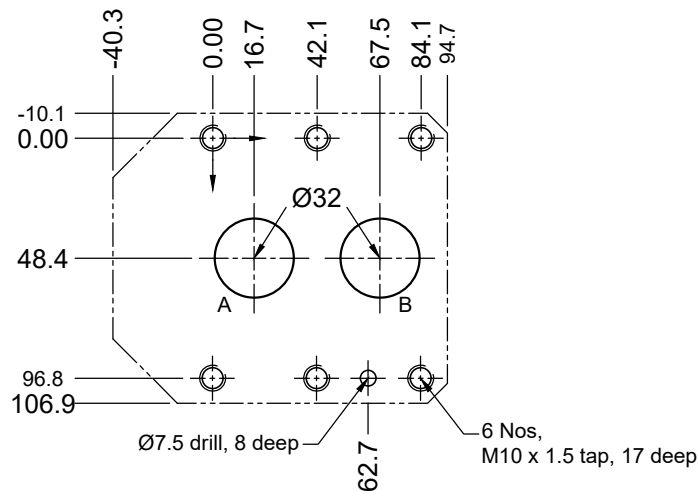
ENGINEERING - 2 of 4

Interface details for NG-06, NG-10 and NG-20 as per ISO 5871

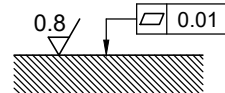


| Part code  | ØD1  | A1     | A2    | A3   | A4   | A5    | A6    | B1    | B2   | B3   | B4   | B5   | B6   | M1        | t 1 | Ød2 | t 2 |
|------------|------|--------|-------|------|------|-------|-------|-------|------|------|------|------|------|-----------|-----|-----|-----|
| TCMS06-2.0 | 7.5  | -6.50  | -0.75 | 15.5 | 31.0 | 31.75 | 37.5  | -13.5 | 12.7 | 30.2 | 40.5 | 46.5 | 33.0 | M5 x 0.8  | 9   | 4.0 | 5   |
| TCMS10-2.0 | 14.0 | -10.65 | 0.00  | 33.3 | 66.7 | 66.7  | 77.35 | -27.5 | 7.1  | 35.7 | 42.9 | 53.5 | 31.8 | M10 x 1.5 | 17  | 7.5 | 8   |
| TCMS20-2.0 | 22.0 | -10.30 | 0.00  | 39.7 | 79.4 | 79.4  | 89.7  | -34.5 | 11.1 | 49.2 | 60.3 | 71.5 | 44.5 | M10 x 1.5 | 17  | 7.5 | 8   |

Interface details for TCMS30-2.0



Required surface finish  
on Interface area



### Technical Specifications

Construction-----Conical throttling spool with rotation of hand knob for flow adjustment.  
Poppet valve for free reverse flow.

Mounting style -----Sub-plate mounting.

Mounting Interface -----As per ISO 5781

Mounting position -----Optional

Flow direction -----Adjustable throttled flow from A to B, free flow from B to A.

Operating pressure -----315 bar.

Hydraulic medium -----Mineral oil.

Viscosity range -----10 cSt to 380 cSt.

Fluid temperature range ----- -20 °C to +80 °C

Fluid cleanliness requirement -----As per ISO 4406 20/18/15

Nom. flow handling capacity -----Refer graphs



The right connection  
The right environment

# Pressure Gauge Isolator Valve 1GI

Ref. No. H03154  
Release: Apr 2025

ENGINEERING - 1 of 2

## Description

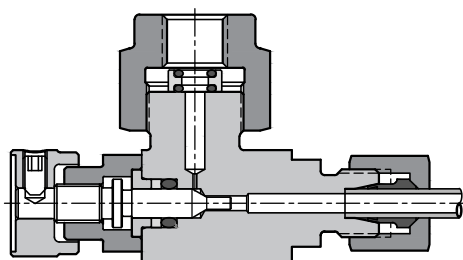
Gauge Isolator valves, 1GI are meant for applications where a pressure gauge is connected to a pressure line and needs to be isolated when not in use. These can be mounted on a hydraulic manifold or a control panel.

These Isolator valves offer following advantages,

- Simple machining of the interface /panel
- Quick assembly,
- Ease of axial orientation of the Pressure gauge face for proper alignment.
- Compact and elegant assembly,
- Easy readability of the gauge.



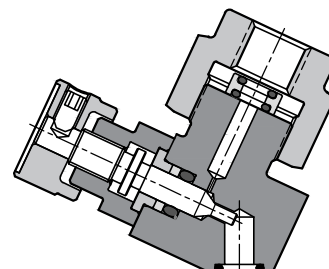
## Section



Panel Mounting, Model: 1GIP



Hydraulic Symbol

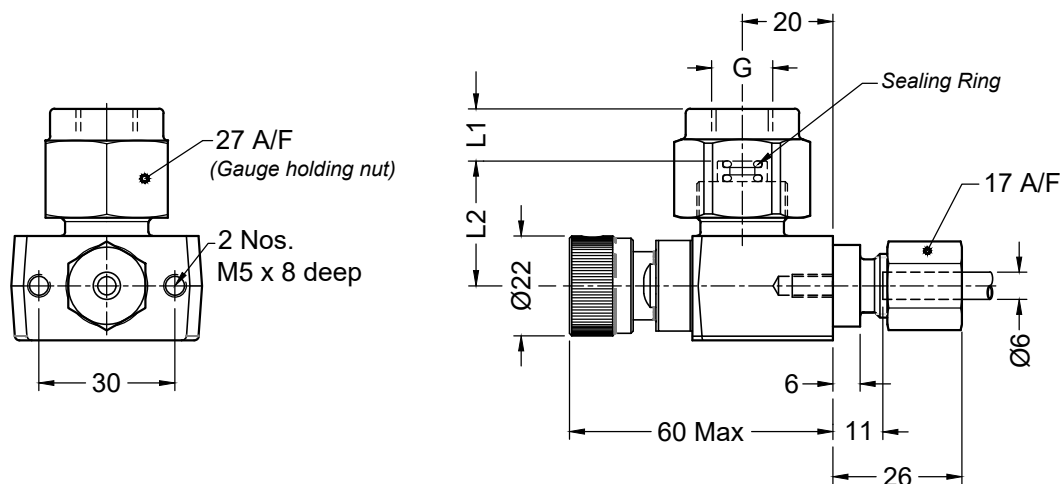


Sub-plate Mounting, Model: 1GIM

## Unit Dimensions

Gauge Isolator Valve, Panel Mounting, Model: **1GIP**

Dimensions in mm.



| G  | G 1/4 | G 3/8 | G 1/2 |
|----|-------|-------|-------|
| L1 | 11.5  | 11.5  | 12.5  |
| L2 | 27.5  | 27.5  | 28.5  |



The right connection  
The right environment

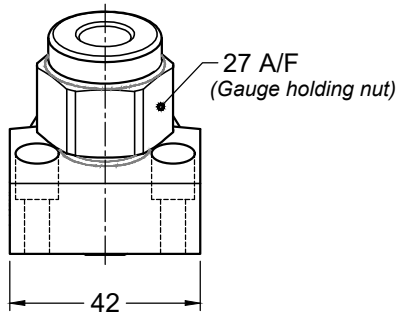
# Pressure Gauge Isolator Valve 1GI

Ref. No. H03154  
Release: Apr 2025

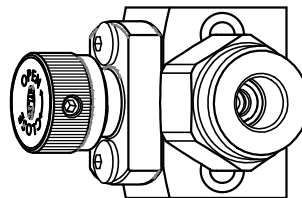
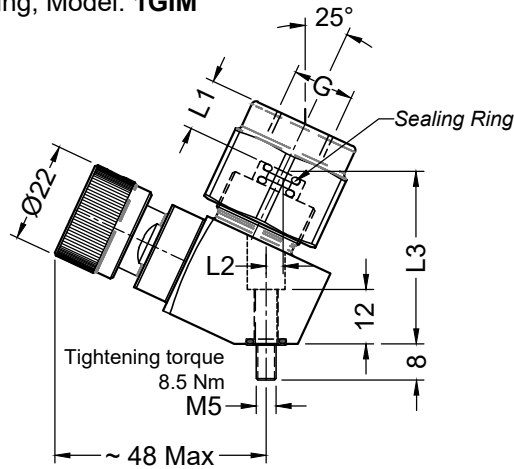
ENGINEERING - 2 of 2

## Unit Dimensions

Gauge Isolator Valve, Subplate Mounting, Model: **1GIM**

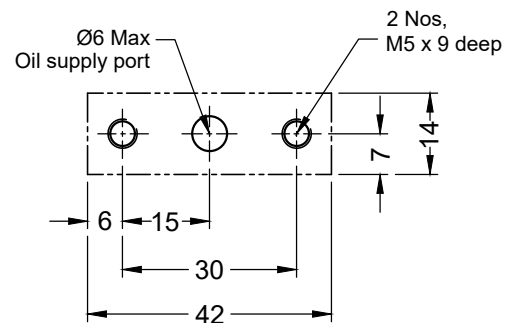


Mounting screws are not in scope of supply



| G  | G 1/4 | G 3/8 | G 1/2 |
|----|-------|-------|-------|
| L1 | 11.5  | 11.5  | 12.5  |
| L2 | 4.0   | 4.0   | 4.5   |
| L3 | 38.5  | 38.5  | 39.5  |

### Mounting Interface



## Technical Specifications

|                               |                                    |
|-------------------------------|------------------------------------|
| Construction                  | Seat type                          |
| Mounting                      | Sub-plate mounted or Panel mounted |
| Interface standard            | Factory standard.                  |
| Mounting position             | Optional                           |
| Operating pressure            | 350 bar.                           |
| Hydraulic medium              | Mineral oil.                       |
| Fluid temperature range       | -20 °C to +70 °C.                  |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15           |

### Instructions for Pressure Gauge assembly How to orient and tighten the gauge face to the desired position?

- Screw in the *Gauge holding Nut* onto the valve till its bottom face of it touches the face of the valve body.
- Insert the sealing ring provided with the valve, from the top of the nut.
- Screw in the gauge into the *Gauge Holding Nut* till its sealing face touches the sealing ring.
- Loosen the gauge (if required) by rotating it in anti-clockwise direction till the face of the gauge points towards desired position.
- Mount the Gauge Isolating Valve on to the sub-plate or panel.
- Rotate the Gauge Holding Nut by means of a spanner in anti-clockwise direction to tighten the gauge onto the sealing ring.
- While rotating the nut, hold the gauge to its proper orientation.

## Ordering Code

|                                          |  |            |                                             |                                      |  |            |
|------------------------------------------|--|------------|---------------------------------------------|--------------------------------------|--|------------|
| <b>1GI</b>                               |  | <b>M</b>   | <b>G02</b>                                  |                                      |  | <b>2.0</b> |
| Gauge Isolator Valve<br>(with hand knob) |  |            |                                             | Design Series<br>Subject to revision |  |            |
| Sub plate mounting                       |  | <b>M</b>   | Seals                                       |                                      |  |            |
| Panel mounting                           |  | <b>P</b>   |                                             |                                      |  |            |
| Gauge Port                               |  |            | <b>Omit</b> Nitrile<br><b>V</b> FKM (Viton) |                                      |  |            |
| G 1/4                                    |  | <b>G02</b> |                                             |                                      |  |            |
| G 3/8                                    |  | <b>G03</b> |                                             |                                      |  |            |
| G 1/2                                    |  | <b>G04</b> |                                             |                                      |  |            |

Note : Add prefix 316 to the existing part numbers  
e.g. **316-1GIMG02-2.0**

Note : Add prefix 316 to the existing part code for SS 316 valves.  
e.g. **316-1GIMG02-2.0**

All rights reserved.  
Subject to change without notice.

Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.







The right connection  
The right environment

# Pressure Gauge Isolator Valve

## 1GI06PS \*\*

Ref. No. H05427  
Release: Apr 2025

ENGINEERING - 2 of 2

### Technical Specifications

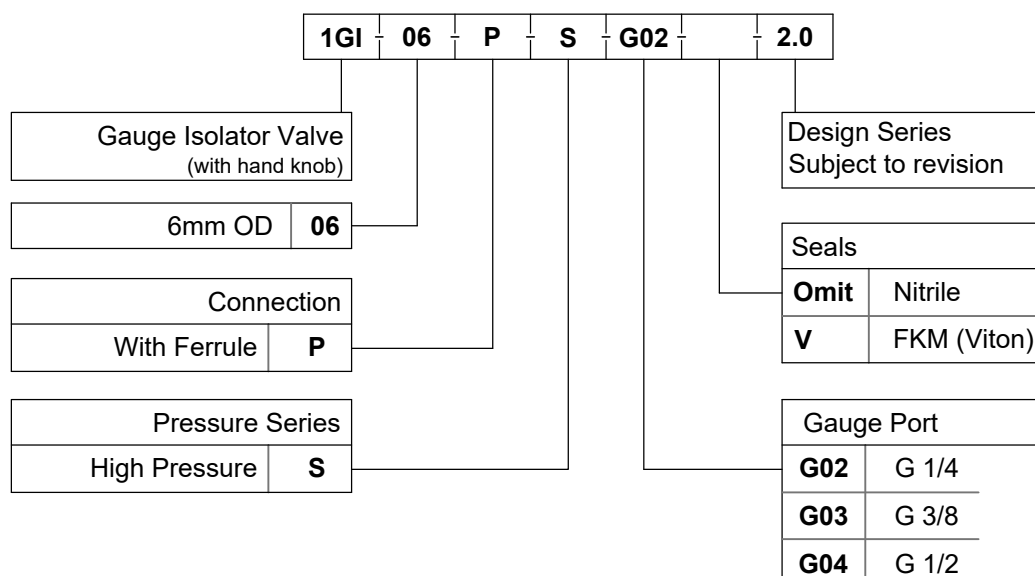
|                               |                          |
|-------------------------------|--------------------------|
| Construction                  | Seat type                |
| Mounting                      | Panel mounting           |
| Mounting position             | Optional                 |
| Operating pressure            | 350 bar.                 |
| Hydraulic medium              | Mineral oil.             |
| Viscosity range               | 10 cSt to 380 cSt        |
| Fluid temperature range       | -20 °C to +70 °C.        |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15 |

### Instructions for Pressure Gauge assembly

*How to orient and tighten the gauge face to the desired position?*

- Screw in the *Gauge holding Nut* onto the valve till its bottom face of it touches the face of the valve body.
- Insert the sealing ring provided with the valve, from the top of the nut.
- Screw in the gauge into the *Gauge Holding Nut* till its sealing face touches the sealing ring.
- Loosen the gauge (if required) by rotating it in anti-clockwise direction till the face of the gauge points towards desired position.
- Mount the Gauge Isolating Valve on to the sub-plate or panel.
- Rotate the Gauge Holding Nut by means of a spanner in anti-clockwise direction to tighten the gauge onto the sealing ring.
- While rotating the nut, hold the gauge to its proper orientation.

### Ordering Code



Note : Add prefix 316 to the existing part code for SS 316 valves.  
e.g. **316-1GI06PSG02-2.0**



The right connection  
The right environment

## Pressure Gauge Mounting Block GMB

Ref. No. H14287  
Release: Apr 2025

ENGINEERING - 1 of 2

### Description

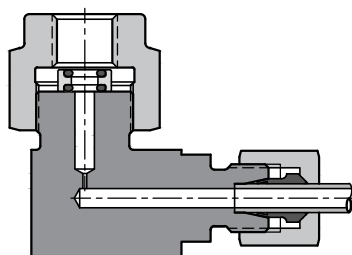
Gauge mounting blocks GMB are meant for applications where a pressure gauge is permanently connected to a pressure line (no isolator valve in between) and needs to be mounted on a hydraulic manifold or a control panel.

The mounting blocks offer following advantages,

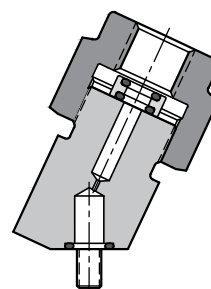
- Simple machining of the interface /panel
- Quick assembly,
- Ease of axial orientation of the Pressure gauge face for proper alignment.
- Compact and elegant assembly,
- Easy readability of the gauge.



### Section



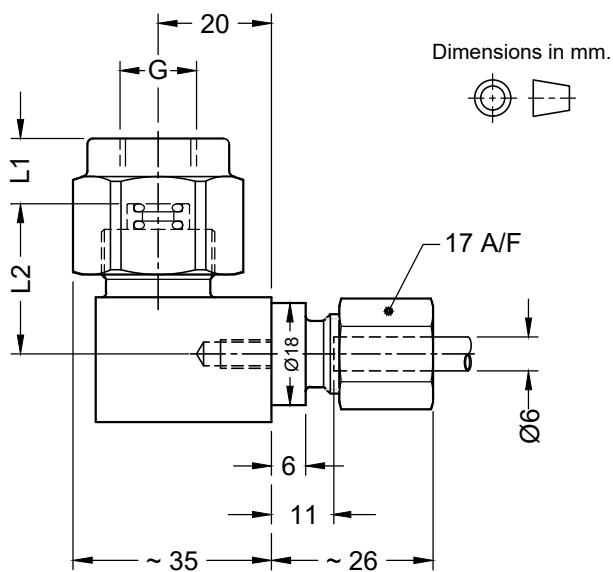
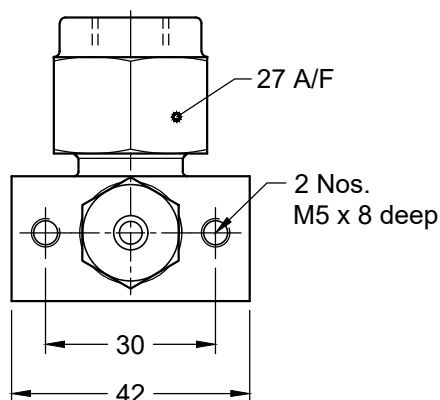
Panel Mounting, Model: GMB-P



Panel Mounting, Model: GMB-M

### Unit Dimensions

Gauge mounting Block, Panel Mounting  
Model: GMB-P



| G  | G 1/4 | G 3/8 | G 1/2 |
|----|-------|-------|-------|
| L1 | 11.5  | 11.5  | 12.5  |
| L2 | 27.5  | 28.5  | 28.5  |



The right connection  
The right environment

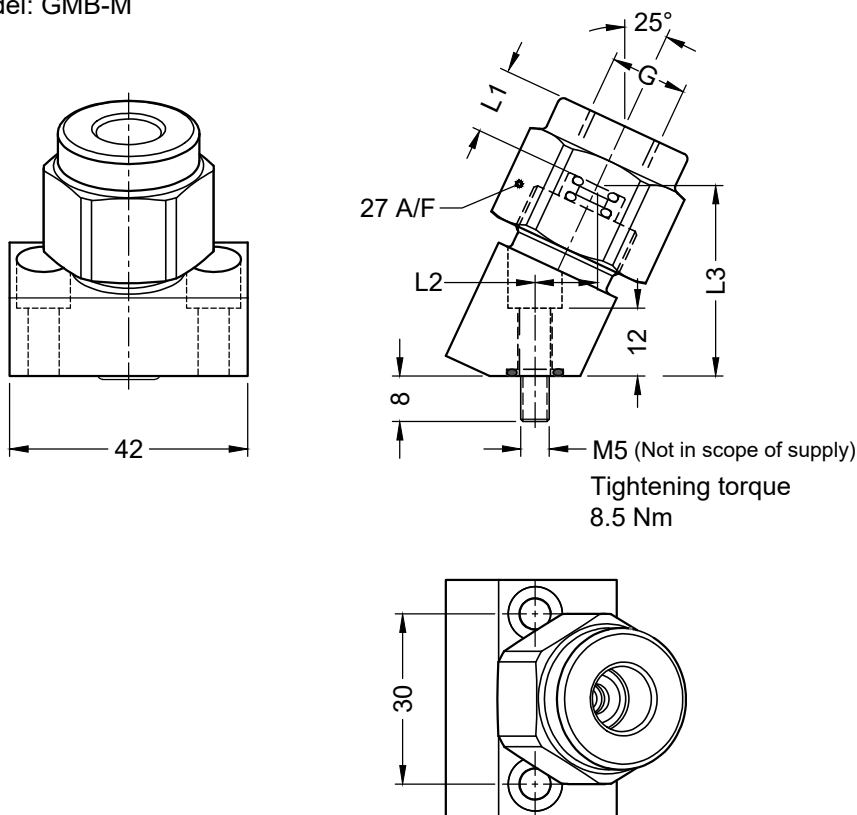
## Pressure Gauge Mounting Block GMB

Ref. No. H14287  
Release: Apr 2025

ENGINEERING - 2 of 2

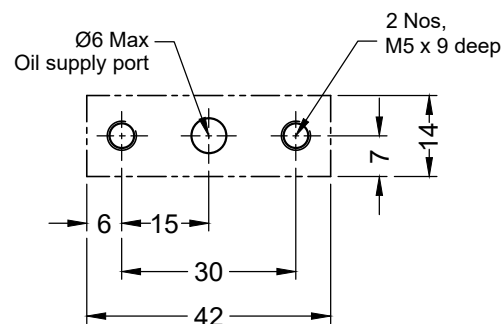
### Unit Dimensions

Gauge mounting Block, Subplate Mounting  
Model: GMB-M



| G  | G 1/4 | G 3/8 | G 1/2 |
|----|-------|-------|-------|
| L1 | 11.5  | 11.5  | 12.5  |
| L2 | 11.0  | 11.5  | 11.5  |
| L3 | 33.5  | 33.5  | 34.5  |

### Mounting Interface



### Technical Specifications

Mounting ----- Sub-plate mounted or Panel mounted  
Interface standard ----- Factory standard.  
Mounting position ----- Optional  
Operating pressure ----- 350 bar.  
Hydraulic medium ----- Mineral oil.  
Fluid temperature range ----- -20 °C to +70 °C.

### Ordering Code

|                      |            |                                      |             |
|----------------------|------------|--------------------------------------|-------------|
| <b>GMB</b>           | <b>M</b>   | <b>G02</b>                           | <b>2.0</b>  |
| Gauge Mounting Block |            | Design Series<br>Subject to revision |             |
| Sub plate mounting   | <b>M</b>   |                                      |             |
| Panel mounting       | <b>P</b>   |                                      |             |
| Gauge Port           |            | Seals                                |             |
| G 1/4                | <b>G02</b> | <b>Omit</b>                          | Nitrile     |
| G 3/8                | <b>G03</b> | <b>V</b>                             | FKM (Viton) |
| G 1/2                | <b>G04</b> |                                      |             |

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

# Pressure Gauge Isolator Valve (PUSH TO READ)

**GI**

Ref. No. H03542  
Release: Apr 2025

ENGINEERING - 1 of 3

## Description

The Pressure gauge Isolator valve, model **GI** is meant for checking the system pressure to which it is connected, whenever required.

The valve is a spool type, spring off-set, manually operated device.

In normal condition, the valve blocks the pressure port and keeps the pressure gauge connected to the drain. Thus isolating the gauge from system pressure surges and eliminating continuous pressure strain on the gauge.

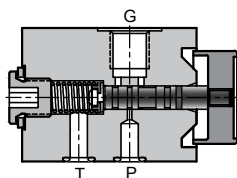
By pushing the actuator knob of the valve, system pressure can be read on the gauge.

The valve is available either for Sub-plate mounting on a sub-plate or back face mounting or with threaded ports.

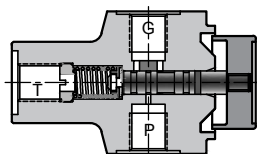
The pressure gauge can either be directly mounted on the valve or can be connected remotely.



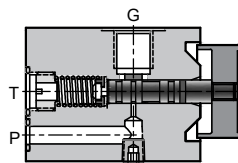
## Section



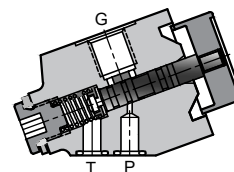
**Sub-plate Mounting**  
Model: **GIM**



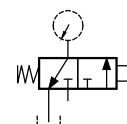
**Panel mounting**  
Model: **GIP**



**Back face Mounting**  
Model: **GIB**



**Sub-plate Mounting**  
Model: **GIMH**

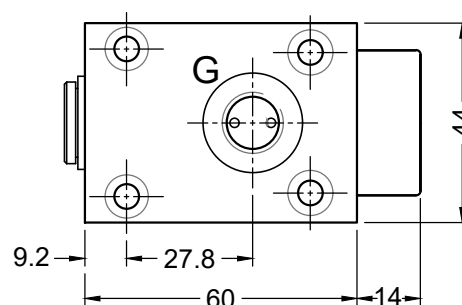
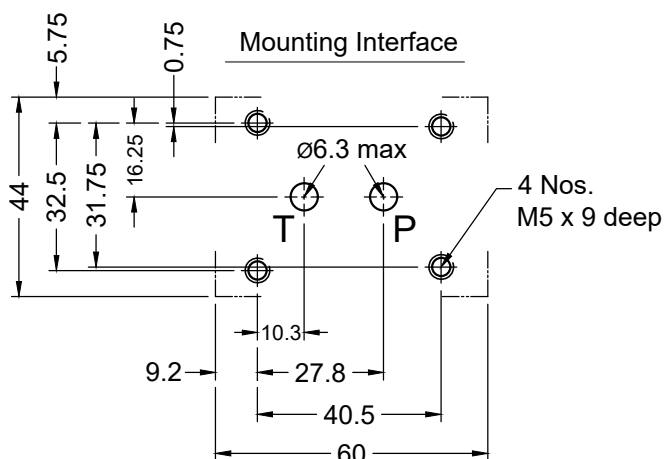
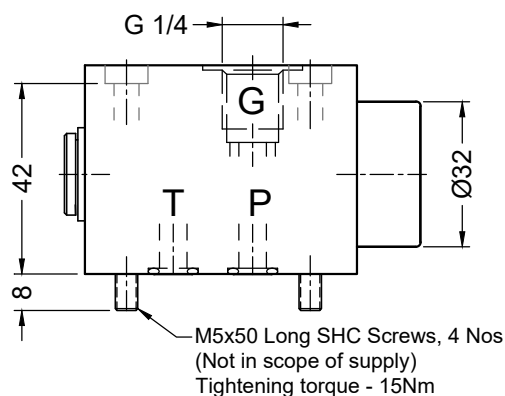
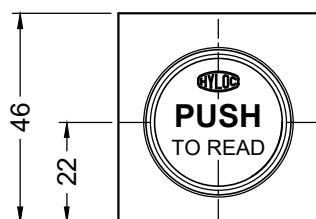


Hydraulic Symbol

## Unit Dimensions

Gauge Isolator Valve, Sub-plate Mounting, Model: **GIM**

Dimensions in mm.





The right connection  
The right environment

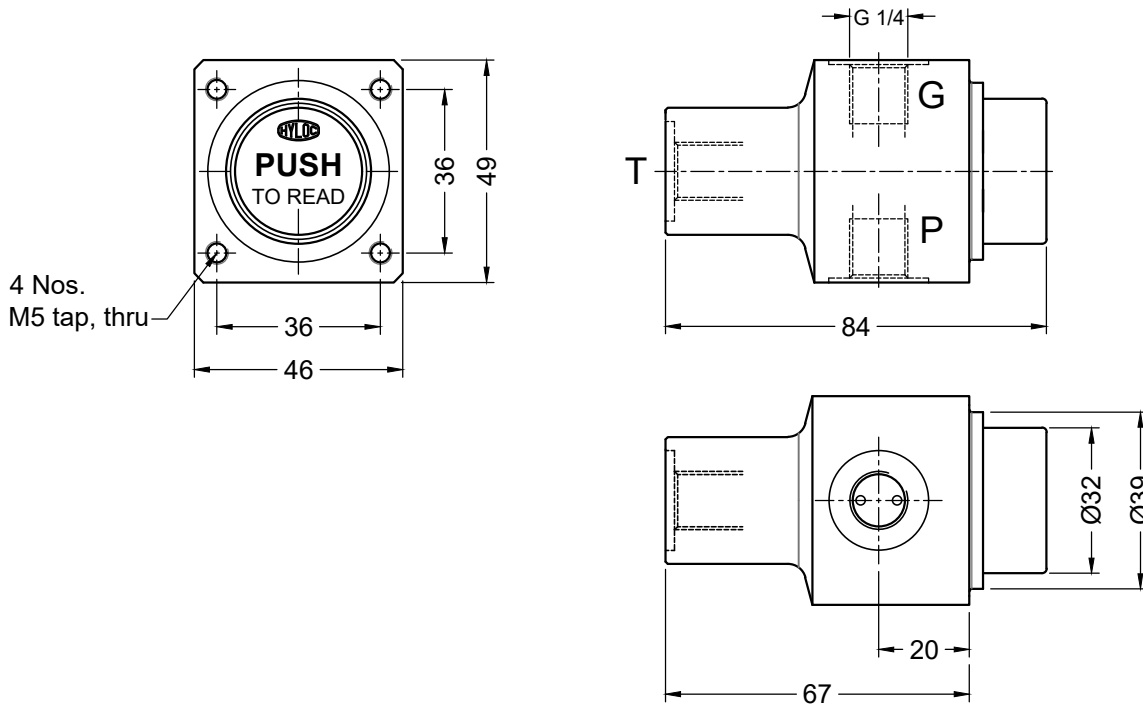
# Pressure Gauge Isolator Valve (PUSH TO READ) GI

Ref. No. H03542  
Release: Apr 2025

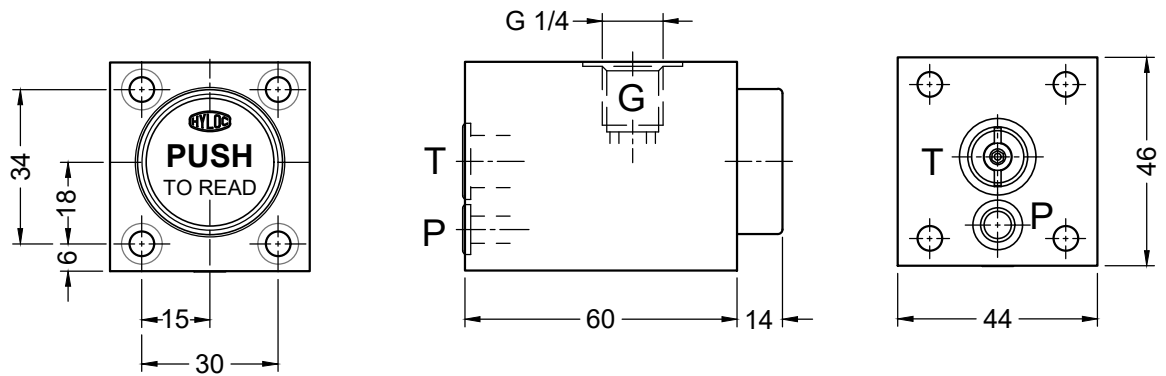
ENGINEERING - 2 of 3

## Unit Dimensions

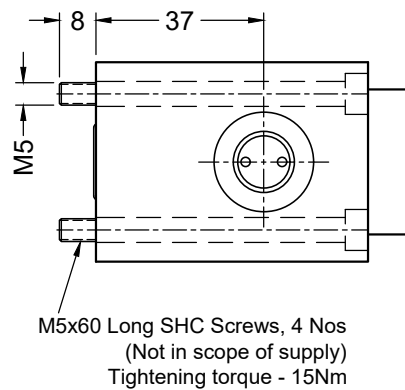
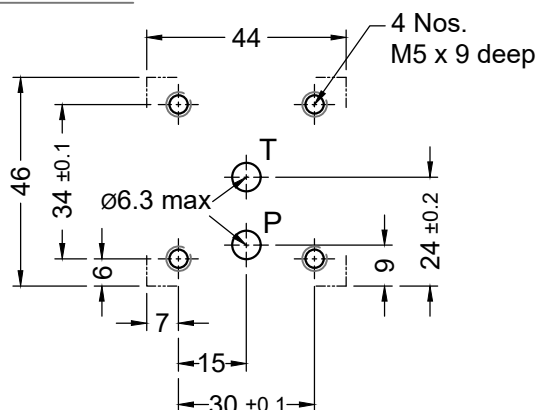
Gauge Isolator Valve, panel mounting, Model: **GIP**



Gauge Isolator Valve, Back face mounting, Model: **GIB**



## Mounting Interface







The right connection  
The right environment

# Pressure Gauge Isolator Valve 1GIMS

Ref. No. H14651  
Release: Apr 2025

ENGINEERING - 1 of 2

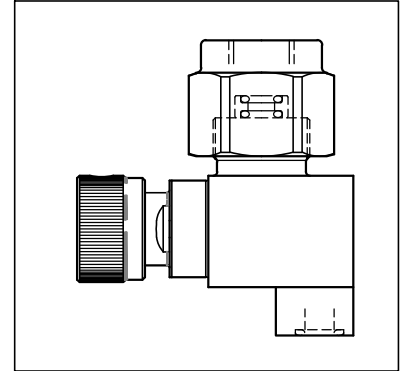
## Description

Gauge Isolator valves, 1GIMS are meant for applications where a pressure gauge is connected to a pressure line and needs to be isolated when not in use.

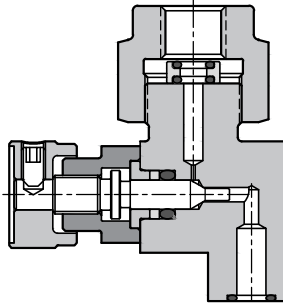
These can be mounted on a hydraulic manifold.

These Isolator valves offer following advantages,

- Simple machining of the interface,
- Quick assembly,
- Ease of axial orientation of the Pressure gauge face for proper alignment.
- Compact and elegant assembly,
- Easy readability of the gauge.



## Section



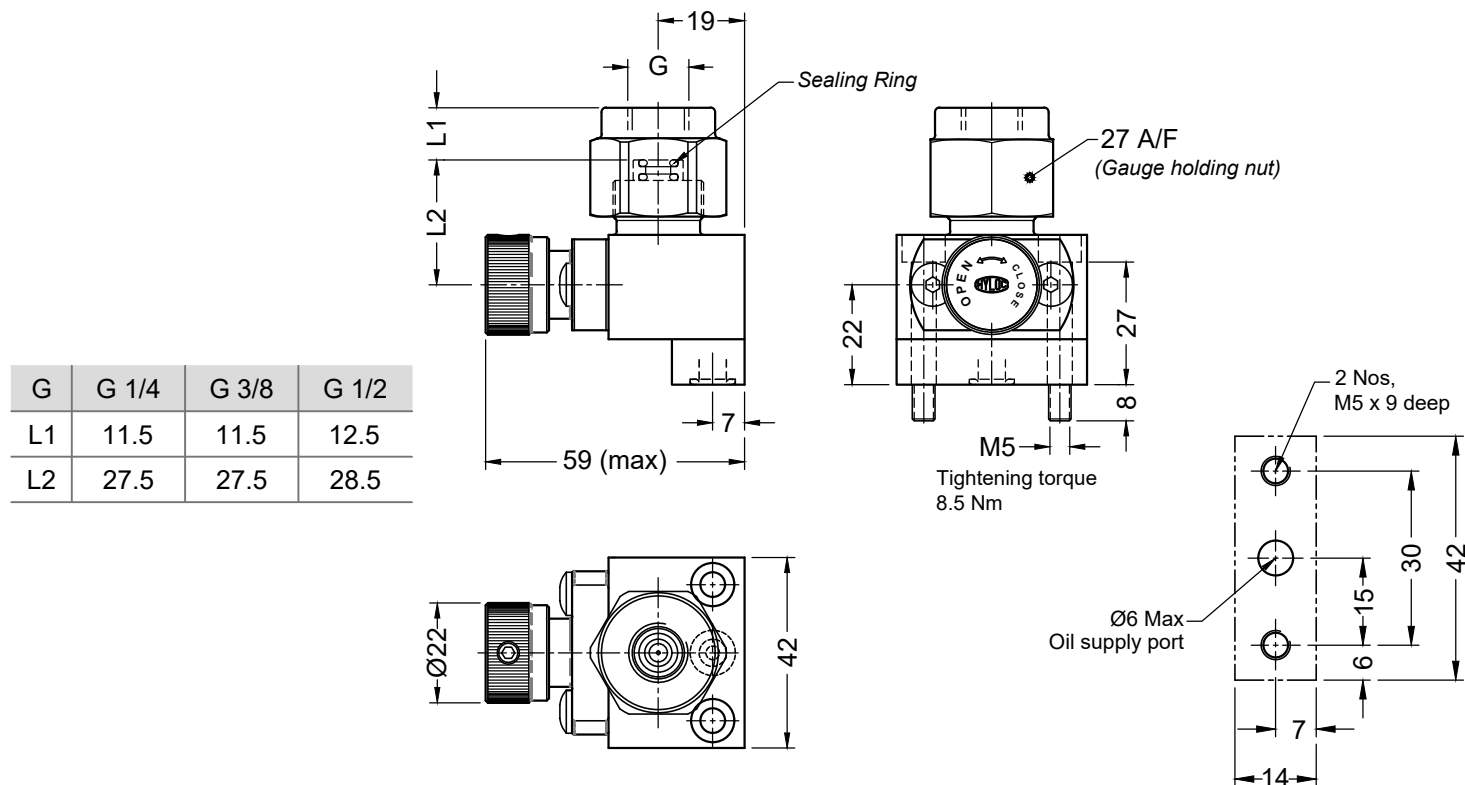
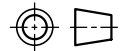
Hydraulic Symbol

Sub-plate Mounting, Model: 1GIMS

## Unit Dimensions

Gauge Isolator Valve, Sub-plate Mounting, Model: **1GIMS**

Dimensions in mm.



Mounting screws are not in scope of supply

Mounting Interface



The right connection  
The right environment

# Pressure Gauge Isolator Valve 1GIMS

Ref. No. H14651  
Release: Apr 2025

ENGINEERING - 2 of 2

## Technical Specifications

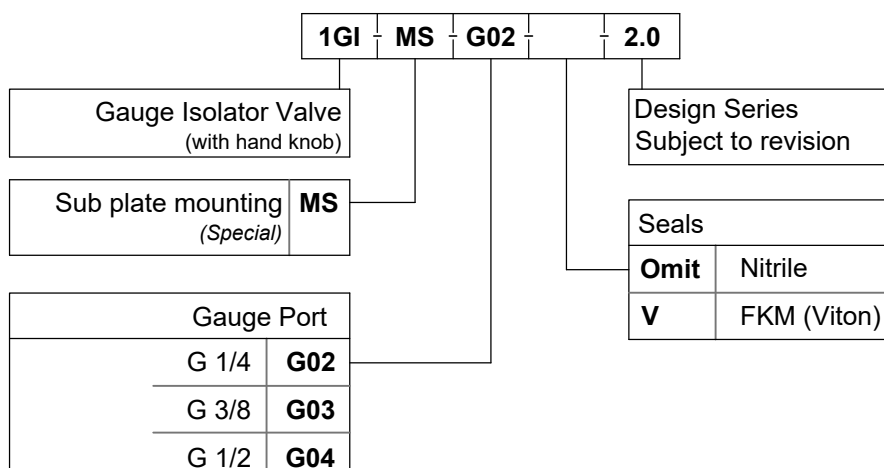
|                               |                          |
|-------------------------------|--------------------------|
| Construction                  | Seat type                |
| Mounting                      | Sub-plate mounted        |
| Interface standard            | Factory standard.        |
| Mounting position             | Optional                 |
| Operating pressure            | 350 bar.                 |
| Hydraulic medium              | Mineral oil.             |
| Fluid temperature range       | -20 °C to +70 °C.        |
| Fluid cleanliness requirement | As per ISO 4406 20/18/15 |

### Instructions for Pressure Gauge assembly

*How to orient and tighten the gauge face to the desired position?*

- Screw in the *Gauge holding Nut* onto the valve till its bottom face of it touches the face of the valve body.
- Insert the sealing ring provided with the valve, from the top of the nut.
- Screw in the gauge into the *Gauge Holding Nut* till its sealing face touches the sealing ring.
- Loosen the gauge (if required) by rotating it in anti-clockwise direction till the face of the gauge points towards desired position.
- Mount the Gauge Isolating Valve on to the sub-plate or panel.
- Rotate the Gauge Holding Nut by means of a spanner in anti-clockwise direction to tighten the gauge onto the sealing ring.
- While rotating the nut, hold the gauge to its proper orientation.

## Ordering Code



All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.





The right connection  
The right environment

## Quick Disconnect Coupling QDC

Ref. No. H03297  
Release: Apr 2025

ENGINEERING - 1 of 2

### Description

Quick disconnect couplings are designed for applications, where fast connection and disconnection of hydraulic lines is a need of the system.

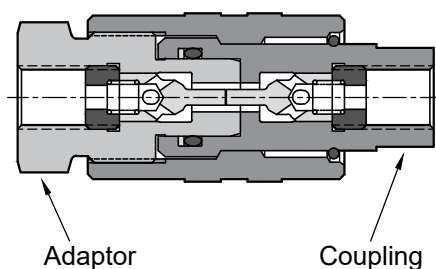
These couplings when connected offers unrestricted flow passage.

They are designed for reliable and safe operations by avoiding premature flow before the coupling is fully closed.

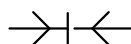


### Section

(Self sealing Coupling, Self sealing adaptor illustrated)



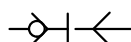
Hydraulic Symbol



Through type Adaptor  
Through type Coupling

AT

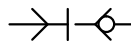
CT



Self sealing Adaptor  
Through type Coupling

AS

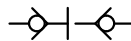
CT



Through type Adaptor  
Self sealing Coupling

AT

CS



Self sealing Adaptor  
Self sealing Coupling

AS

CS

### Unit Dimensions

End connections (Female threading)

BSP - **G**

Metric - **M**

Dimensions in mm.

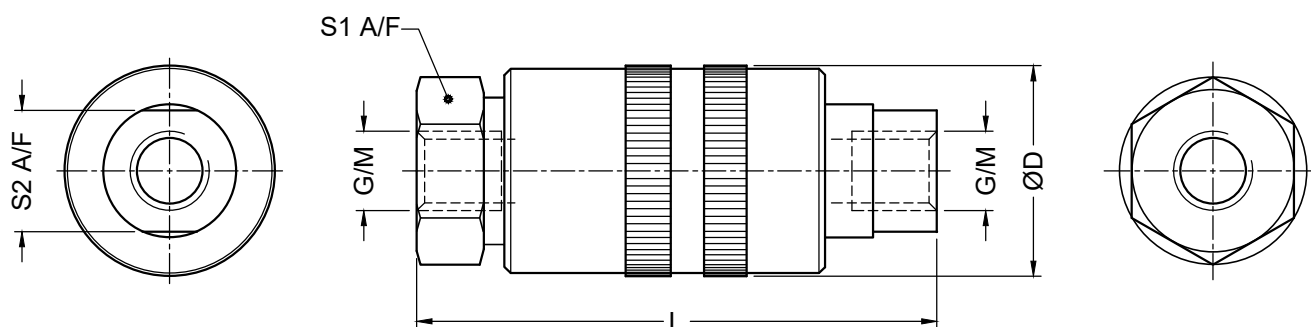


Table No. 1

| Pressure (bar) | G     | M       | S1 | S2 | ØD | L   | Mass (Kg) |
|----------------|-------|---------|----|----|----|-----|-----------|
| 800            | G 1/4 | M14x1.5 | 27 | 19 | 35 | 86  | 0.45      |
| 800            | G 3/8 | M18x1.5 | 32 | 22 | 37 | 88  | 0.53      |
| 600            | G 1/2 | M22x1.5 | 41 | 30 | 46 | 116 | 1.05      |
| 500            | G 3/4 | M26x1.5 | 50 | 36 | 56 | 130 | 1.80      |
| 400            | G 1   | M33x2.0 | 55 | 41 | 62 | 150 | 2.35      |



The right connection  
The right environment

## Quick Disconnect Coupling QDC

Ref. No. H03297  
Release: Apr 2025

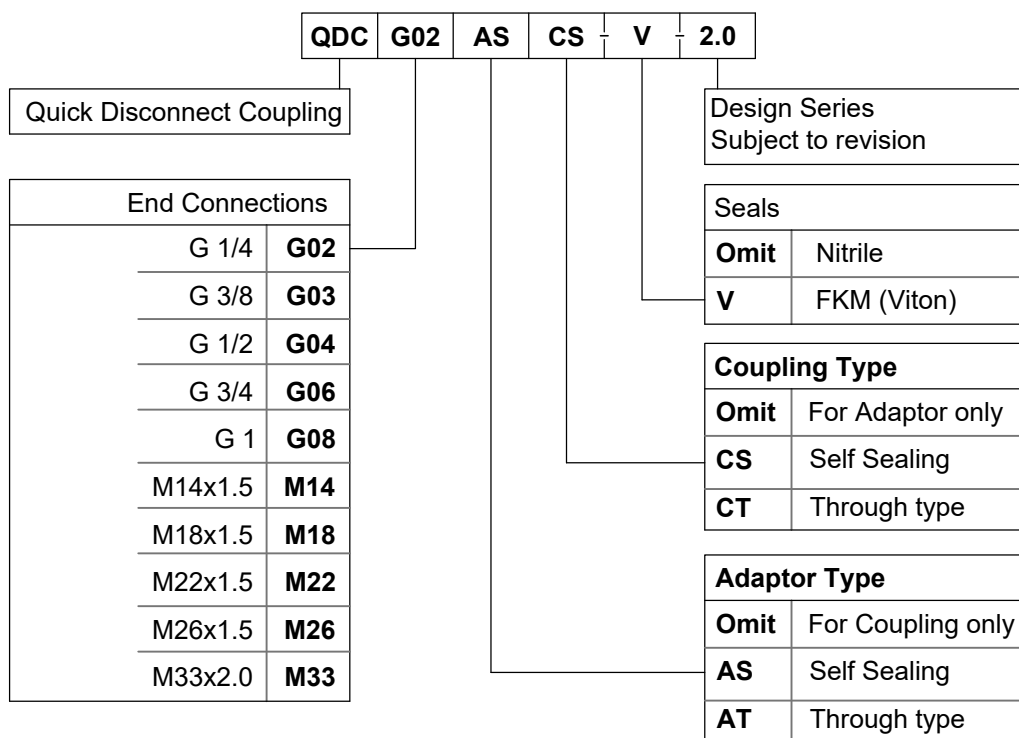
ENGINEERING - 2 of 2

### Technical Specifications

Construction ----- Poppet type  
Operating pressure ----- Refer Table No. 1  
Hydraulic medium ----- Mineral oil.  
Viscosity range ----- 10 cSt to 380 cSt  
Fluid temperature range ----- -20 °C to +80 °C.  
Fluid cleanliness requirement ----- As per ISO 4406 20/18/15

**Caution : Pressure on the hydraulic lines must be released before they are connected / disconnected.**

### Ordering Code



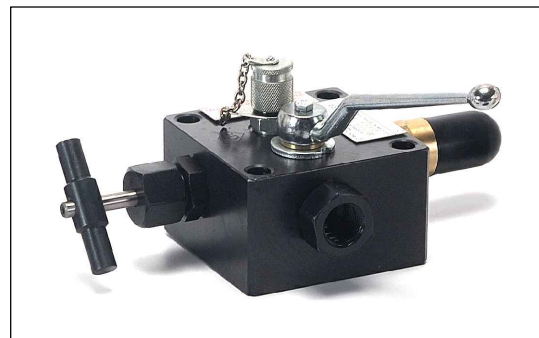
Note : Add prefix 316 to the above part code for SS 316 Quick disconnect couplings.  
e.g. **316-QDCG02ASCS-2.0**

## Description

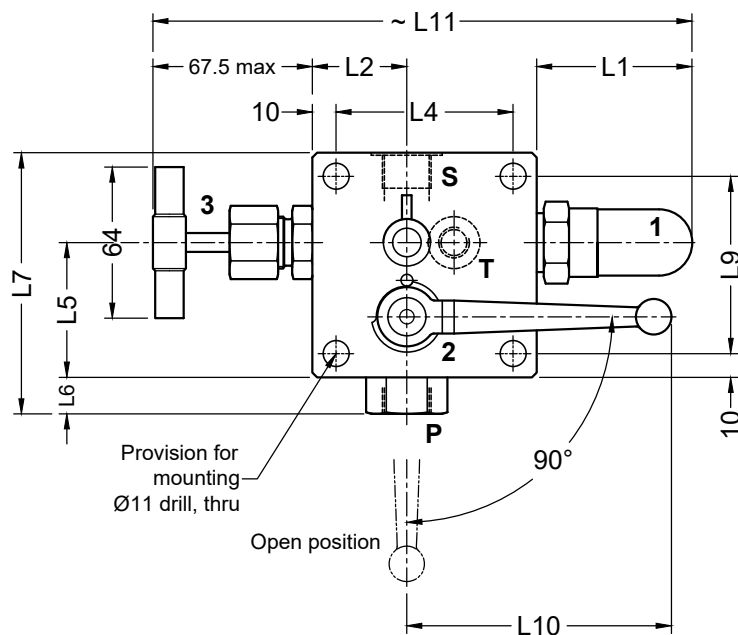
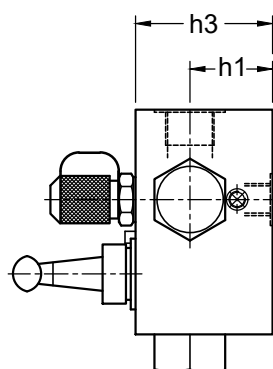
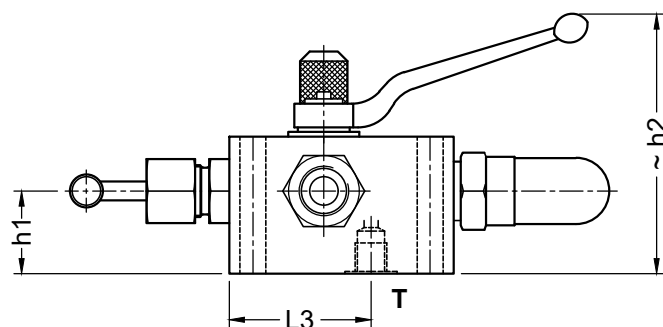
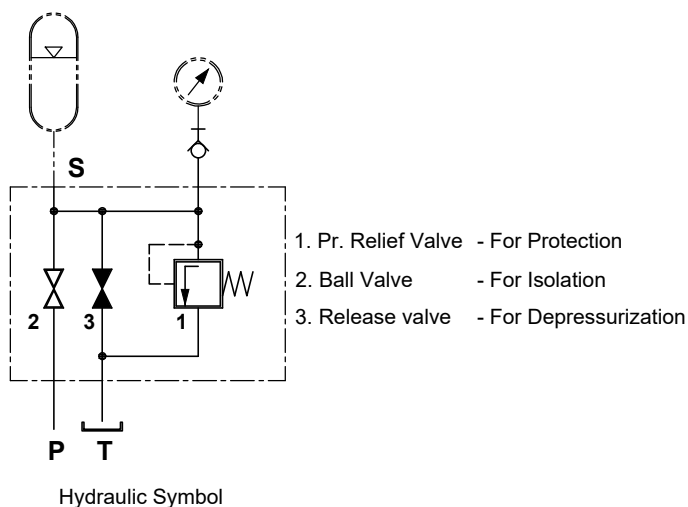
The block is intended for

- Protection
- Isolation and
- Depressurization of a hydraulic accumulators.

Hyloc make Accumulator Safety Blocks are Compact, block shaped unit with adjustable Relief valve.



## Unit dimensions



| Part code | L1 | L2 | L3 | L4 | L5 | L6   | L7    | L9  | L10 | L11   | h1 | h2  | h3 | S               | P               | T              |
|-----------|----|----|----|----|----|------|-------|-----|-----|-------|----|-----|----|-----------------|-----------------|----------------|
| ASB 10    | 65 | 40 | 60 | 75 | 57 | 15.5 | 110.5 | 75  | 112 | 227.5 | 35 | 110 | 58 | G 1/2, 15 deep  | G 1/2, 15 deep  | G 1/4, 13 deep |
| ASB 20    | 80 | 41 | 69 | 90 | 67 | 16.5 | 121.5 | 85  | 187 | 295.5 | 39 | 128 | 70 | G 3/4, 17 deep  | G 3/4, 17 deep  | G 3/8, 13 deep |
| ASB 32    | 80 | 41 | 69 | 90 | 67 | 38.0 | 158.0 | 100 | 187 | 295.5 | 39 | 128 | 70 | G1.1/4, 21 deep | G1.1/4, 21 deep | G 3/8, 13 deep |



The right connection  
The right environment

# Accumulator Safety Block ASB

Ref. No. H05648  
Release: Apr 2025

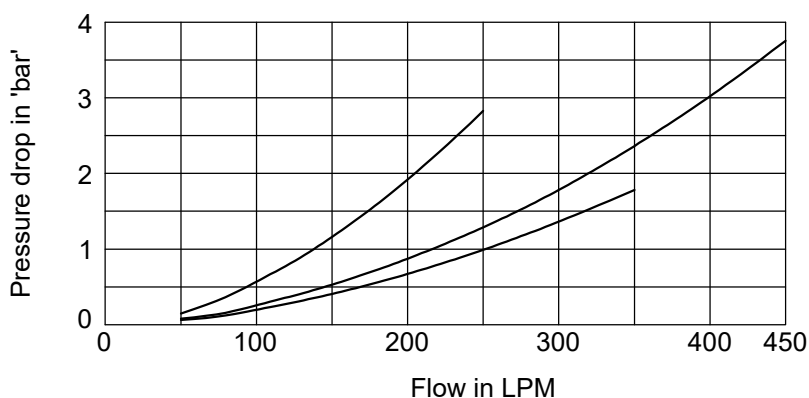
ENGINEERING - 2 of 2

## Technical Specifications

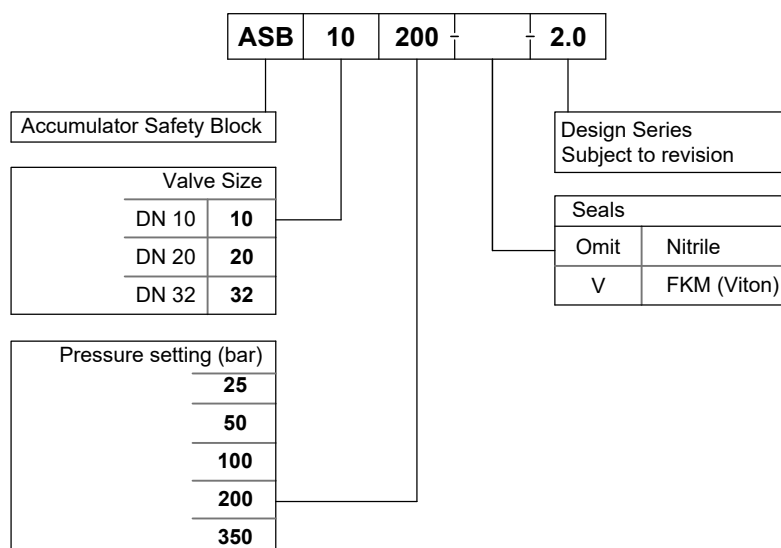
|                          |                                                        |                                    |                                   |
|--------------------------|--------------------------------------------------------|------------------------------------|-----------------------------------|
| Construction-----        | 1. Relief Valve - Poppet type (Metal to metal sealing) | Pressure setting ranges -----      | 0 to 25, 50, 100, 200 and 350 bar |
|                          | 2. Ball valve - Ball and synthetic seat type           | Hydraulic medium-----              | Mineral oil                       |
|                          | 3. Shut off valve - Seat type (Metal to metal sealing) | Viscosity range-----               | 10 cSt to 380 cSt                 |
| Mounting style-----      | Threaded ports                                         | Fluid temperature range -----      | -20 °C to +70 °C                  |
| Interface-----           | Factory standard                                       | Fluid cleanliness requirement----- | As per ISO 4406 20/18/15          |
| Mounting position-----   | Optional                                               | Mass -----                         | <b>ASB 10</b> ---- 4.5 Kg         |
| Flow direction-----      | Port 'P' to 'S' and Port 'S' to 'P'                    |                                    | <b>ASB 20</b> ---- 7.0 Kg         |
| Operating pressure ----- | Port 'P' and Port 'S' --- 350 bar                      |                                    | <b>ASB 32</b> ---- 8.0 Kg         |
|                          | Port 'T' --- 16 bar                                    | Flow handling capacity-----        | Refer graphs                      |

## Expected performance curves

Oil used : ISO VG 68 with viscosity of 68 cSt at 40 °C



## Ordering Code



All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Quick Release Coupling QRC

Ref. No. H14014  
Release: Apr 2025

ENGINEERING - 1 of 2

### Description

QRC (Quick Release Couplings) are poppet type valves designed as per International standard, ISO 7241-1, Series "A"

Material of construction will be Carbon steel having surface treatment of Trivalent Zinc plating.

This series offers worldwide interchangeability and availability of sizes ranging from G 1/4 to G1

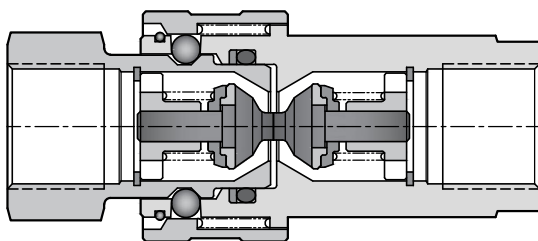
This makes 'QRC' series one of the most widely used in a range of hydraulic applications mainly in industrial and agriculture segments.

Some of the benefits are as under -

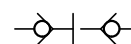
- The Poppet valve with Elastomer seal provides maximum sealing when disconnected.
- Compact Slim design
- Simple to use.



### Section



Hydraulic Symbol



### Unit Dimensions

End connections (Female threading)  
BSP - G

Dimensions in mm.

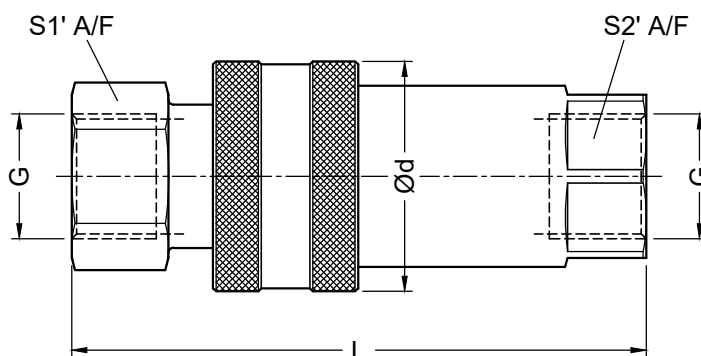


Table No. 1

| G     | Pressure (bar) | Ød | L   | S1 | S2 |
|-------|----------------|----|-----|----|----|
| G 1/4 | 315            | 26 | 65  | 19 | 19 |
| G 3/8 | 315            | 31 | 77  | 22 | 22 |
| G 1/2 | 250            | 38 | 88  | 27 | 27 |
| G 3/4 | 250            | 50 | 110 | 36 | 36 |
| G1    | 250            | 55 | 127 | 41 | 41 |



The right connection  
The right environment

## Quick Release Coupling QRC

Ref. No. H14014  
Release: Apr 2025

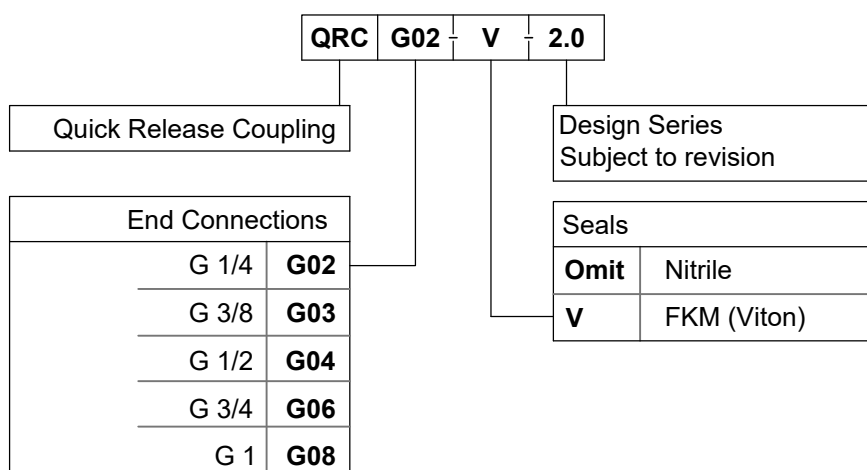
ENGINEERING - 2 of 2

### Technical Specifications

|                                      |                                                         |
|--------------------------------------|---------------------------------------------------------|
| Construction                         | Poppet type                                             |
| Interchangeability                   | ISO 7241-1 series 'A'                                   |
| Valve system                         | Poppet type                                             |
| Mechanical connections               | Locking Balls                                           |
| Connection system                    | Pulling back the sleeve and pushing one half into other |
| Disconnect system                    | Pulling back the sleeve                                 |
| Connection with residual pressure    | Not allowed                                             |
| Disconnection with residual pressure | Not allowed                                             |
| Construction of material             | Carbon steel                                            |
| Surface treatment                    | Crome III Zinc plating                                  |
| Seals                                | NBR                                                     |
| Operating pressure                   | Refer table no.1                                        |
| Hydraulic medium                     | Mineral oil.                                            |
| Viscosity range                      | 10 cSt to 380 cSt.                                      |
| Fluid temperature range              | -20 °C to +80 °C.                                       |
| Fluid cleanliness                    | As per ISO 4406 20/18/15                                |
| Max Flow handling capacity           |                                                         |

|       |        |        |         |         |
|-------|--------|--------|---------|---------|
| G 1/4 | G 3/8  | G 1/2  | G 3/4   | G 1     |
| 3 lpm | 23 lpm | 45 lpm | 106 lpm | 189 lpm |

### Ordering Code



All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.



The right connection  
The right environment

## Ball Valves BV - G

Ref. No. H14649  
Release: Apr 2025

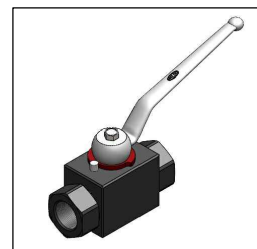
ENGINEERING - 1 of 2

### Description

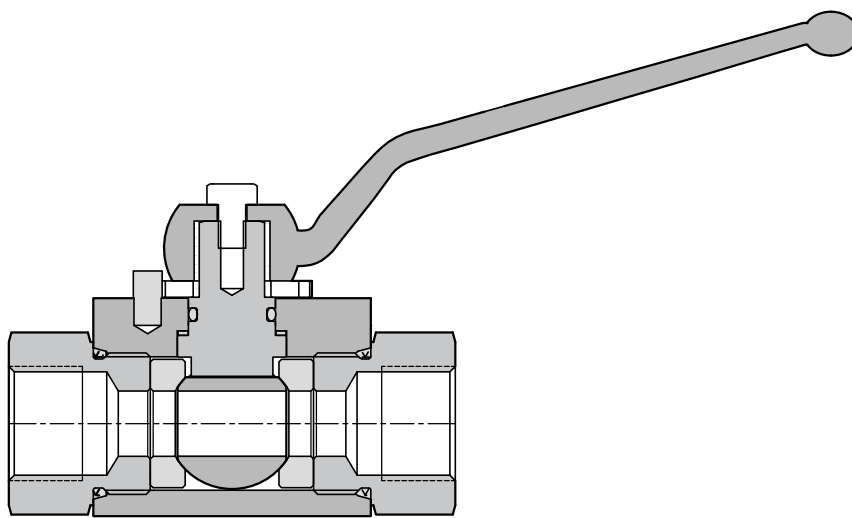
These are bi-directional, In-line valves, which are mostly used in all hydraulic application.

Ball valves, Series BV are having BSPP ports at inlet as well as outlet.

The Sizes are ranging from G 1/8 to G 1



### Section



### Unit Dimensions

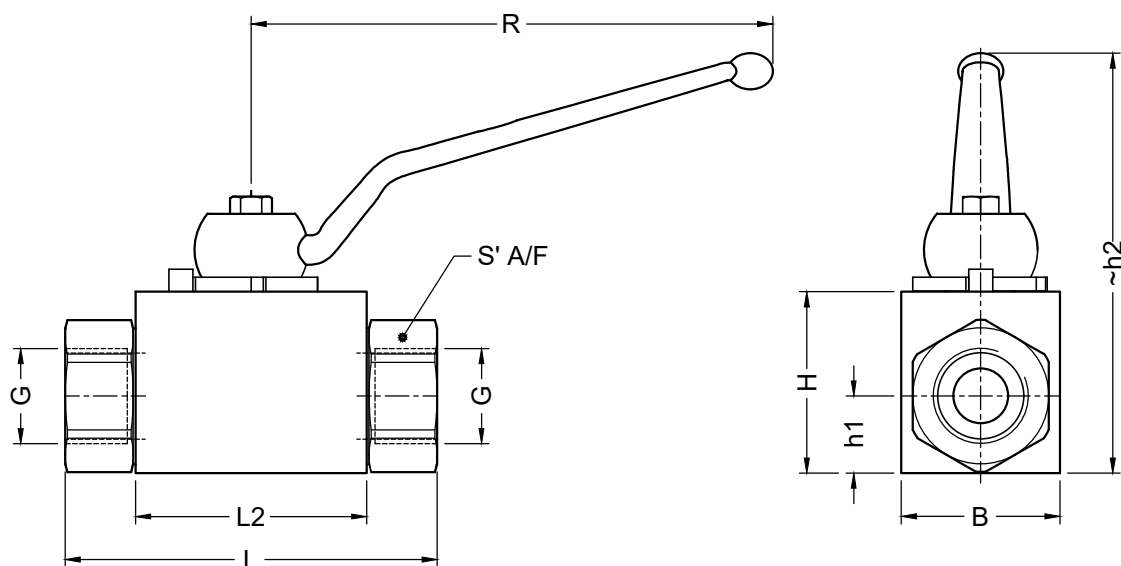


Table 1

| Part code        | G     | Pr. (bar) | h1   | h2  | B  | H  | R   | S  | L2 | L   |
|------------------|-------|-----------|------|-----|----|----|-----|----|----|-----|
| <b>BVG01-2.0</b> | G 1/8 | 500       | 10   | 55  | 20 | 25 | 76  | 19 | 36 | 69  |
| <b>BVG02-2.0</b> | G 1/4 | 500       | 10   | 55  | 20 | 25 | 76  | 19 | 36 | 69  |
| <b>BVG03-2.0</b> | G 3/8 | 500       | 14.5 | 68  | 30 | 35 | 100 | 24 | 45 | 73  |
| <b>BVG04-2.0</b> | G 1/2 | 500       | 17   | 92  | 35 | 40 | 125 | 30 | 51 | 82  |
| <b>BVG06-2.0</b> | G 3/4 | 315       | 24   | 106 | 45 | 55 | 187 | 41 | 60 | 93  |
| <b>BVG08-2.0</b> | G 1   | 315       | 26   | 118 | 55 | 60 | 187 | 50 | 70 | 115 |



The right connection  
The right environment

## Ball Valves BV - G

Ref. No. H14649  
Release: Apr 2025

ENGINEERING - 2 of 2

### Technical Specifications

Construction----- Inline threaded body hand lever

Mounting style ----- Inline

Mounting position ----- Optional

Flow direction ----- Bi-directional

Operating pressure ----- Refer Table 1

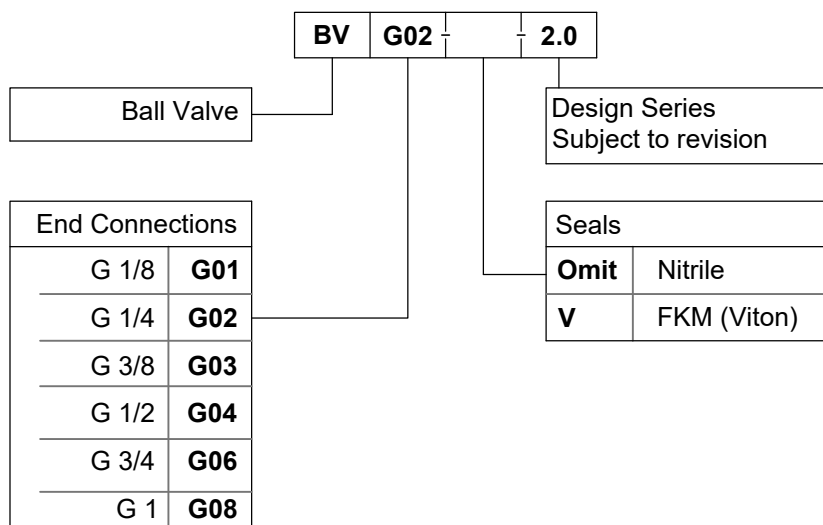
Hydraulic medium ----- Mineral oil.

Viscosity range ----- 10 cSt to 380 cSt.

Fluid cleanliness requirement ----- As per ISO 4406 20/18/15

Fluid temperature range ----- -20 °C to +70 °C

### Ordering Code







|    |                       |                           |
|----|-----------------------|---------------------------|
| 01 | Diagnostic Couplings  | <a href="#">Datasheet</a> |
| 02 | Diagnostic Connectors | <a href="#">Datasheet</a> |



The right connection  
The right environment

## Diagnostic Couplings MMC

Ref. No. H04312  
Release: Apr 2025  
ENGINEERING - 1 of 2

### Description

Diagnostic Couplings are intended to provide facility to access system pressure for the purpose of pressure measurement.

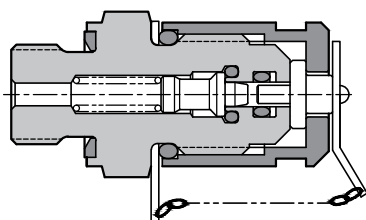
For transmitting pressure through these couplings to the measuring devices, no special tools are needed. These couplings can be connected by hand even at rated pressure.

These couplings are equipped with protective caps to avoid ingress of foreign particles, when the couplings are not in use. This is also a safety device against vibration.

These couplings also can be used for purging air from the system.  
Working pressure 630 bar (9000 PSI) according to ISO 15171-2



### Section



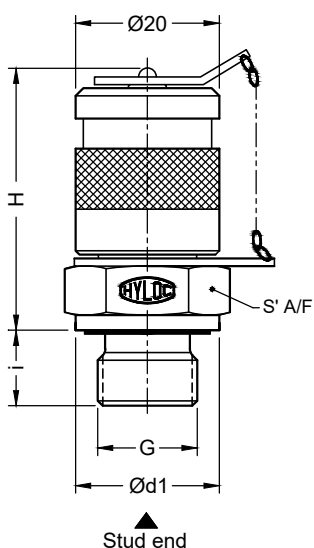
Hydraulic Symbol



### Unit Dimensions

For **M16x2.0 (1620)**, **M16x1.5 (1615)** micro bore hose end

Dimensions in mm



| Stud end threads | Sealing details                           | Working Pressure | Ød1   | i    | H  | S  |
|------------------|-------------------------------------------|------------------|-------|------|----|----|
| ISO 228 - G 1/8  | Elastomeric seal<br>(DIN 3852)            | 400 bar          | 14    | 8    | 38 | 17 |
| ISO 228 - G 1/4  |                                           | 630 bar          | 19    | 10   | 35 | 19 |
| ISO 228 - G 3/8  |                                           | 630 bar          | 22    | 10   | 35 | 22 |
| M10 x 1.0        | Elastomeric seal<br>(DIN 3852)            | 630 bar          | 14    | 8.5  | 40 | 17 |
|                  |                                           |                  |       | *9.5 |    |    |
| M12 x 1.5        |                                           |                  | 17    | 10   | 35 | 17 |
|                  |                                           |                  |       | * 11 |    |    |
| M14 x 1.5        |                                           |                  | 19    | 10   | 35 | 19 |
|                  |                                           | *11.5            |       |      |    |    |
| M16 x 1.5        | O Ring<br>(ISO 6149)                      | 22               | 10    | 35   | 22 |    |
|                  |                                           |                  | *12.5 |      |    |    |
| 7/16"-20 UNF     | O Ring<br>(SAE J514)                      | 630 bar          | 14.1  | 9    | 35 | 17 |
| 9/16"-18 UNF     |                                           |                  | 17.3  | 10   | 35 | 19 |
| 1/8" NPTF        | Self sealing<br>threads                   | 400 bar          | ---   | 9.7  | 35 | 17 |
| 1/4" NPTF        |                                           |                  | ---   | 14.2 | 35 | 17 |
| ISO 7/1 - R 1/8  | Sealing by suitable<br>jointing solutions | 400 bar          | ---   | 7.5  | 35 | 17 |
| ISO 7/1 - R 1/4  |                                           | 630 bar          | ---   | 11   | 35 | 17 |

\* Marked dimensions are for stud ends with O ring sealing



The right connection  
The right environment

## Diagnostic Couplings MMC

Ref. No. H04312  
Release: Apr 2025

ENGINEERING - 2 of 2

### Technical Specifications

Construction ----- Spring loaded, poppet type, opens on assembly by micro bore hose.

Mounting position ----- Optional

Hydraulic medium ----- Mineral oil

Sealings ----- NBR (Standard)

Temperature range ----- Sealing by NBR -30 °C to +100 °C

Sealing by FKM -20 °C to + 200 °C

### Ordering Code

|            |             |            |          |          |           |
|------------|-------------|------------|----------|----------|-----------|
| <b>MMC</b> | <b>1620</b> | <b>G02</b> | <b>E</b> | <b>V</b> | <b>20</b> |
|------------|-------------|------------|----------|----------|-----------|

Diagnostic Coupling

Design Series  
Subject to revision

Micro bore flex hose thread size

M16x2.0    **1620**

M16x1.5    **1615**

Seals

Omit for Nitrile

**V**    FKM (Viton)

Stud ends    Code

G 1/8    **G01**

G 1/4    **G02**

G 3/8    **G03**

M10 x 1.0    **M10**

M12 x 1.5    **M12**

M14 x 1.5    **M14**

M16 x 1.5    **M16**

7/16"-20 UNF    **S04**

9/16"-18 UNF    **S06**

1/8" NPTF    **N01**

1/4" NPTF    **N02**

R 1/8    **R01**

R 1/4    **R02**

Stud end Sealing

**E**    Elastomeric seal

**O**    O' Ring

Note : Add prefix 316 to the above part code for SS 316 Diagnostic couplings.  
e.g. **316-MMC1620G02E-20**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product,  
the actual product supplied may look different than shown above.



The right connection  
The right environment

## Diagnostic Connector MMC - VK

Ref. No. H11212  
Release: Apr 2025  
ENGINEERING - 1 of 2

### Description

Diagnostic Connectors are intended to provide facility to access system pressure for the purpose of pressure measurement.

For transmitting pressure through these connectors to the measuring devices, no special tools are needed. These connectors can be connected by hand even at rated pressure.

These connectors are equipped with protective caps to avoid ingress of foreign particles, when the connectors are not in use. This is also a safety device against vibration.

These connectors are also equipped with Swivel nut and O ring, which can be directly connected to any fitting having tube end as per ISO 8434-1

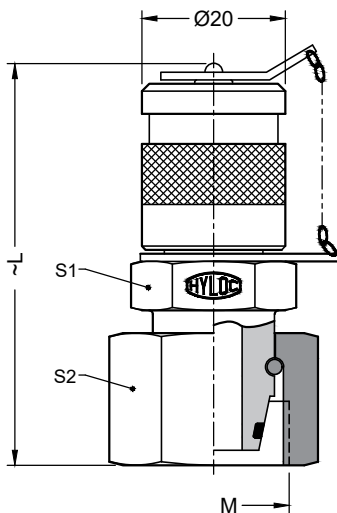
These couplings also can be used for purging air from the system.  
Working pressure 630 bar (9000 PSI) according to ISO 15171-2



### Unit Dimensions

For **M16x2.0 (1620)**, **M16x1.5 (1615)** micro bore hose end

Hydraulic Symbol



Dimensions in MM

| Tube OD | Pressure | M         | L  | S1 | S2 |
|---------|----------|-----------|----|----|----|
| 6L      | 315 bar  | M12 x 1.5 | 52 | 17 | 14 |
| 8L      |          | M14 x 1.5 | 52 | 17 | 17 |
| 10L     |          | M16 x 1.5 | 52 | 17 | 19 |
| 12L     |          | M18 x 1.5 | 52 | 17 | 22 |
| 15L     |          | M22 x 1.5 | 52 | 19 | 27 |
| 18L     | 160 bar  | M26 x 1.5 | 52 | 22 | 32 |
| 22L     |          | M30 x 2.0 | 60 | 27 | 36 |
| 6S      | 630 bar  | M14 x 1.5 | 52 | 17 | 17 |
| 8S      |          | M16 x 1.5 | 52 | 17 | 19 |
| 10S     |          | M18 x 1.5 | 52 | 17 | 22 |
| 12S     |          | M20 x 1.5 | 52 | 17 | 24 |
| 16S     | 400 bar  | M24 x 1.5 | 52 | 22 | 30 |
| 20S     |          | M30 x 2.0 | 63 | 27 | 36 |



The right connection  
The right environment

## Diagnostic Connectors MMC - VK

Ref. No. H11212  
Release: Apr 2025

ENGINEERING - 2 of 2

### Technical Specifications

Construction ----- Spring loaded, poppet type, opens on assembly by micro bore hose.

Mounting position ----- Optional

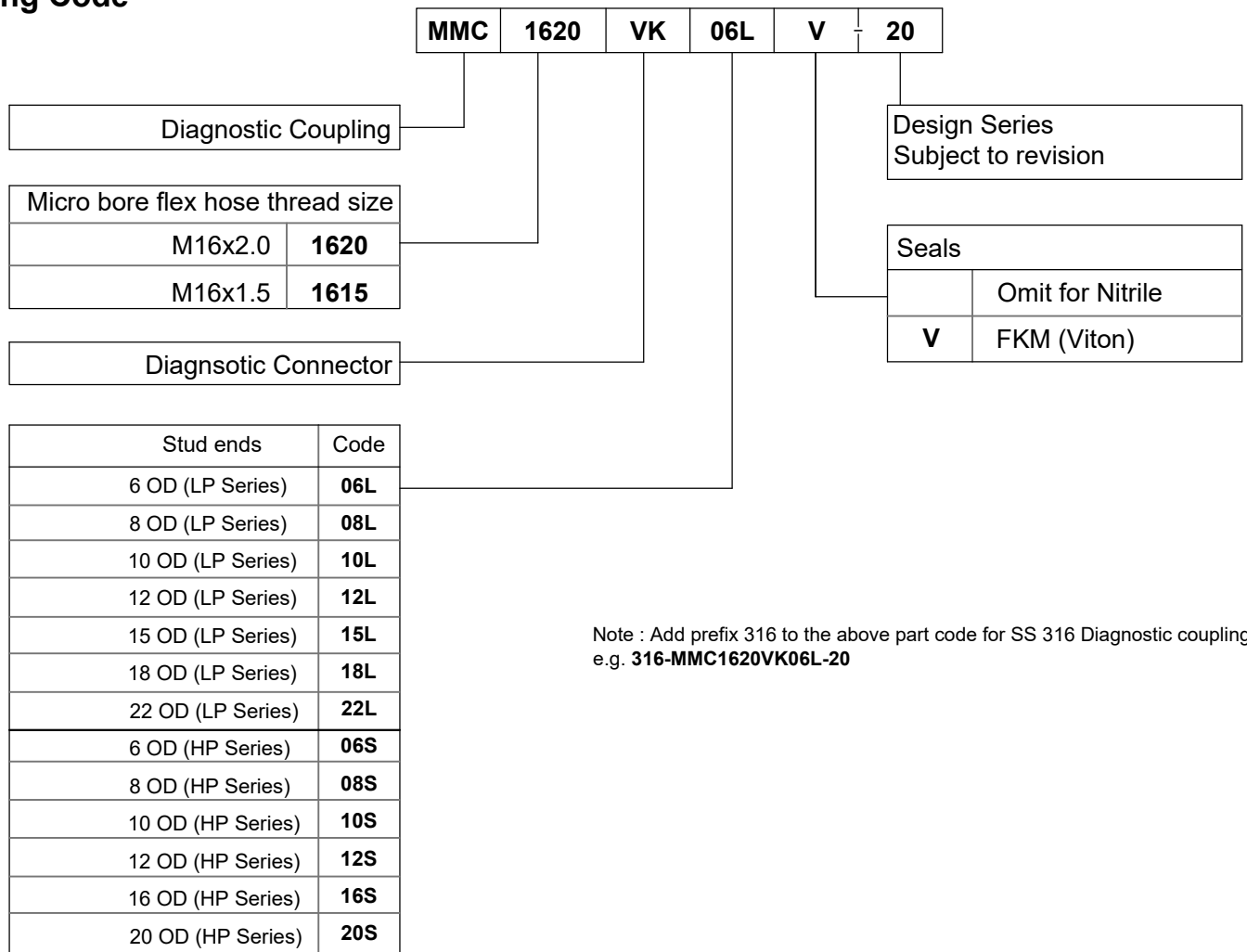
Hydraulic medium ----- Mineral oil

Sealings ----- NBR (Standard)

Temperature range ----- Sealing by NBR -30 °C to +100 °C

Sealing by FKM -20 °C to + 200 °C

### Ordering Code



Note : Add prefix 316 to the above part code for SS 316 Diagnostic couplings.  
e.g. **316-MMC1620VK06L-20**

All rights reserved.  
Subject to change without notice.  
Due to continuous improvement in the design of the product,  
the actual product supplied may look different than shown above.

|    |                                    |                           |
|----|------------------------------------|---------------------------|
| 01 | Bar Manifold - CETOP 3             | <a href="#">Datasheet</a> |
| 02 | Bar Manifold - CETOP 5             | <a href="#">Datasheet</a> |
| 03 | Ferrule Crimping Machine           | <a href="#">Datasheet</a> |
| 04 | Straight Couplings with Diagnostic | <a href="#">Datasheet</a> |



The right connection  
The right environment

# Multi station bar manifold for mounting four port valves having interface conforming to ISO 4401-03-04

**BM-CETOP-03-XX-2.0**

Ref. No. H14741  
Release: Apr 2025

ENGINEERING - 1 of 2

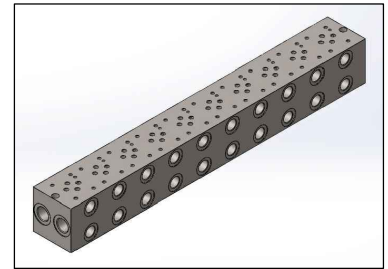
## Description

These bar manifolds are designed to connect valves having interface conforming to ISO 4401-03-04

Valves can be assembled parallel to each other with minimum space.

These manifold connects all 'P' ports of the interface to a common passage which is sized to provide minimum pressure drop.

The maximum number of interfaces available on manifold bar are 10.

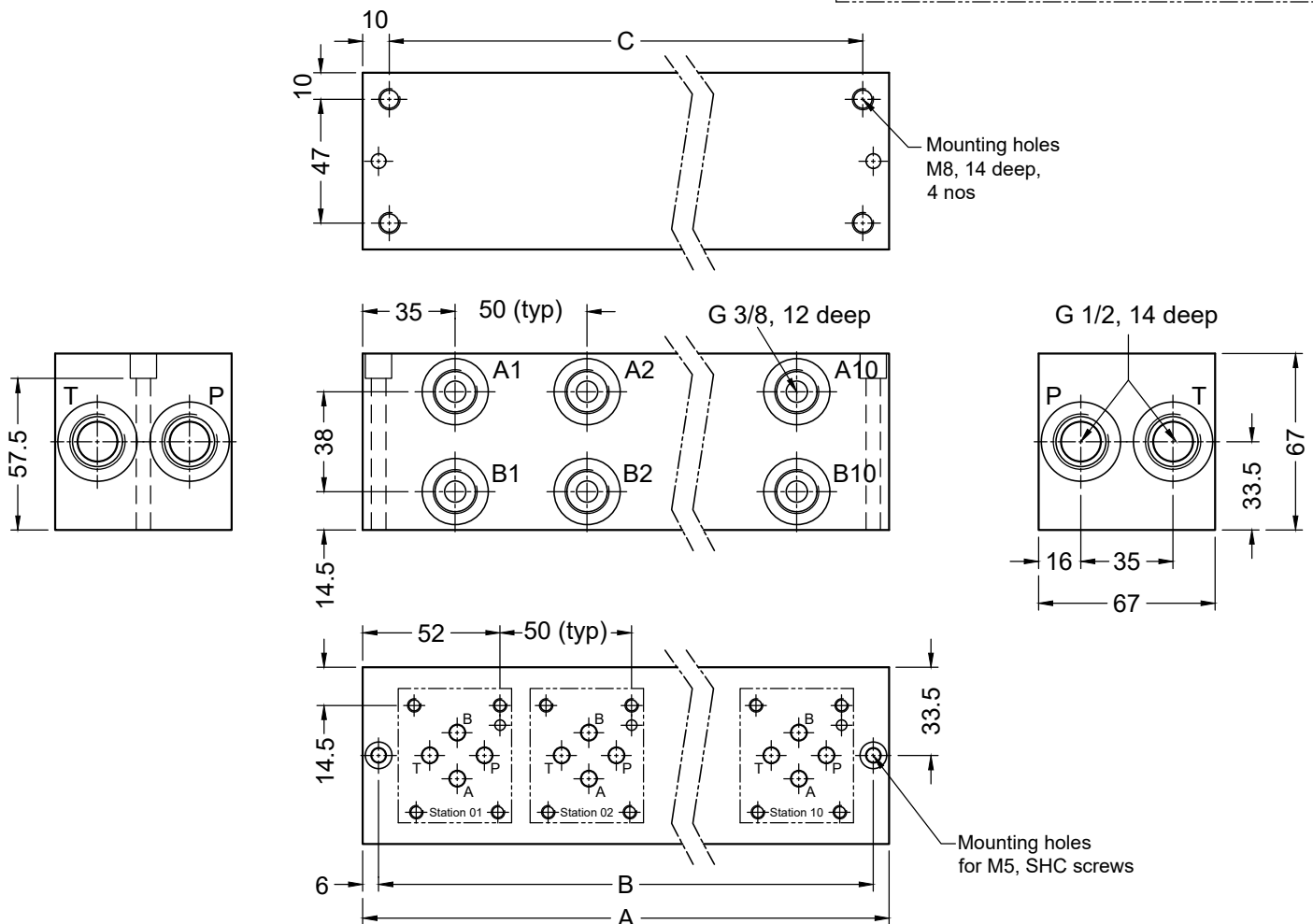
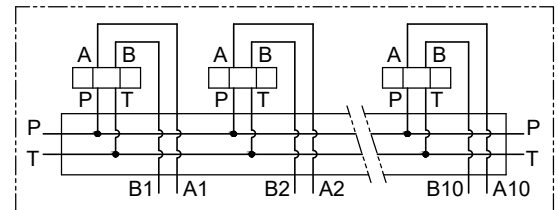


## Unit Dimensions

Dimensions in mm.



### Hydraulic Symbol



Material : Carbon Steel (Max. Working pressure - 315 bar)

| No. of Stations | 01             | 02             | 03             | 04             | 05             | 06             | 07             | 08             | 09             | 10             |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Part number     | BM-CETOP-03-01 | BM-CETOP-03-02 | BM-CETOP-03-03 | BM-CETOP-03-04 | BM-CETOP-03-05 | BM-CETOP-03-06 | BM-CETOP-03-07 | BM-CETOP-03-08 | BM-CETOP-03-09 | BM-CETOP-03-10 |
| A               | 70             | 120            | 170            | 220            | 270            | 320            | 370            | 420            | 470            | 520            |
| B               | 58             | 108            | 158            | 208            | 258            | 308            | 358            | 408            | 458            | 508            |
| C               | 50             | 100            | 150            | 200            | 250            | 300            | 350            | 400            | 450            | 500            |



The right connection  
The right environment

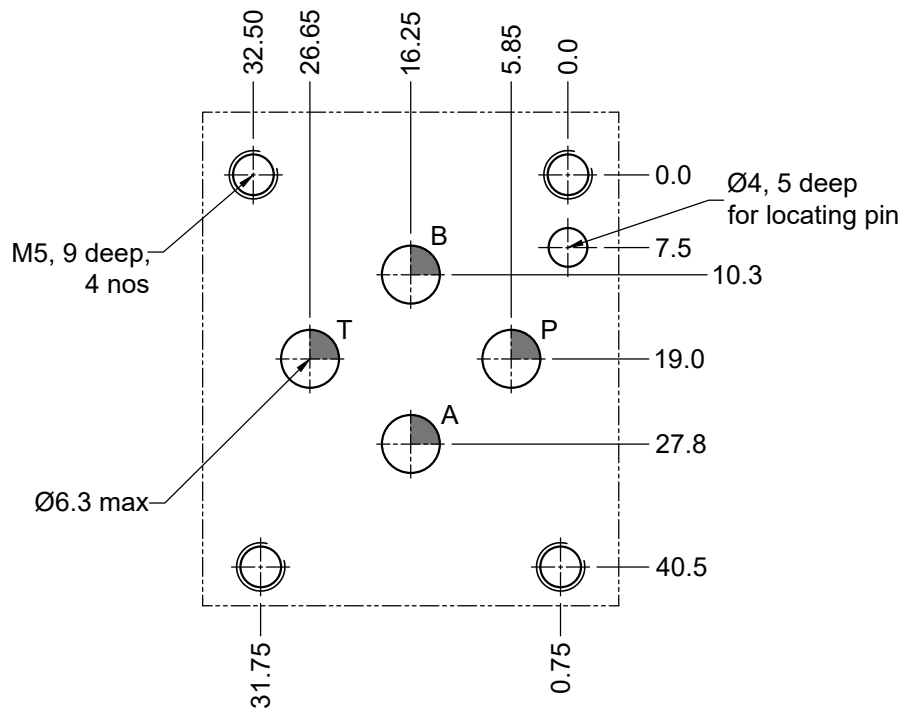
Multi station bar manifold for mounting  
four port valves having interface conforming to  
ISO 4401-03-04

**BM-CETOP-03-XX-2.0**

Ref. No. H14741  
Release: Apr 2025

ENGINEERING - 2 of 2

## Interface details



## Ordering Code

| BM                                 | CETOP- 03 | 06 | 2.0                                  |
|------------------------------------|-----------|----|--------------------------------------|
| Bar Manifold                       |           |    | Design Series<br>Subject to revision |
| Interface as per<br>ISO 4401-03-04 |           |    |                                      |
| Number of stations                 |           |    |                                      |
| 01                                 |           |    |                                      |
| 02                                 |           |    |                                      |
| 03                                 |           |    |                                      |
| 04                                 |           |    |                                      |
| 05                                 |           |    |                                      |
| 06                                 |           |    |                                      |
| 07                                 |           |    |                                      |
| 08                                 |           |    |                                      |
| 09                                 |           |    |                                      |
| 10                                 |           |    |                                      |





The right connection  
The right environment

# Multi station bar manifold for mounting four port valves having interface conforming to ISO 4401-05-04

**BM-CETOP-05-XX-2.0**

Ref. No. H14742  
Release: Apr 2025

ENGINEERING - 1 of 2

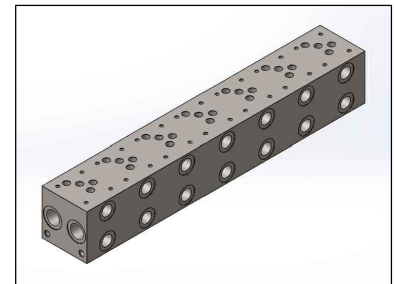
## Description

These bar manifolds are designed to connect valves having interface conforming to ISO 4401-05-04

Valves can be assembled parallel to each other with minimum space.

These manifold connects all 'P' ports of the interface to a common passage which is sized to provide minimum pressure drop.

The maximum number of interfaces available on manifold bar are 07.

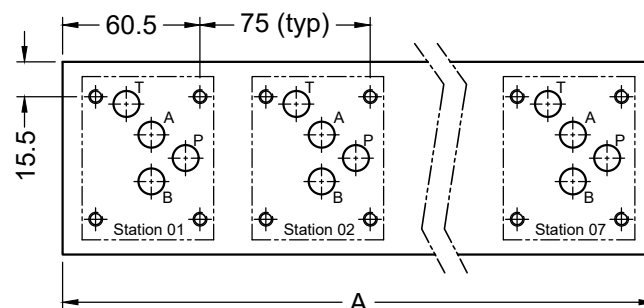
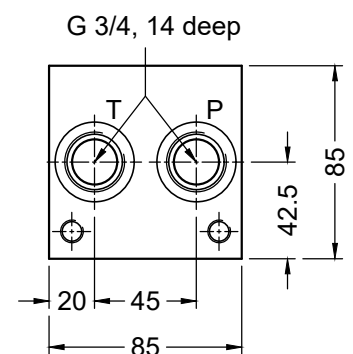
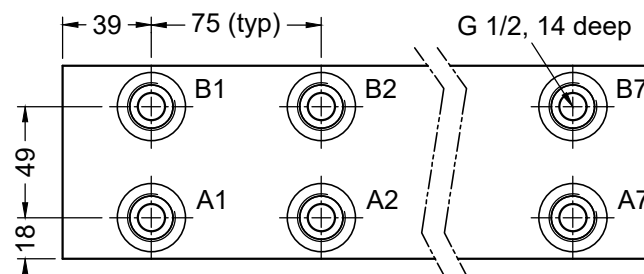
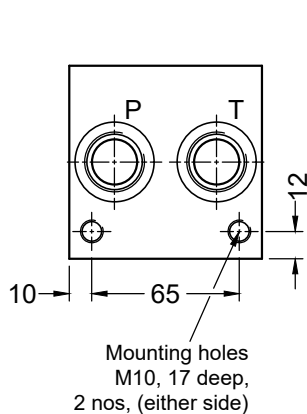
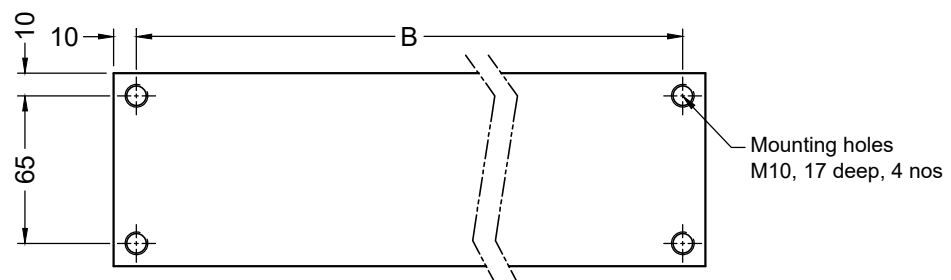
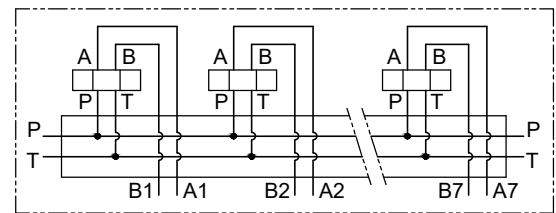


## Unit Dimensions

Dimensions in mm.



Hydraulic Symbol



Material : Carbon Steel (Max. Working pressure - 315 bar)

| No. of Stations | 01             | 02             | 03             | 04             | 05             | 06             | 07             |
|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Part number     | BM-CETOP-05-01 | BM-CETOP-05-02 | BM-CETOP-05-03 | BM-CETOP-05-04 | BM-CETOP-05-05 | BM-CETOP-05-06 | BM-CETOP-05-07 |
| A               | 75             | 150            | 225            | 300            | 375            | 450            | 525            |
| B               | 55             | 130            | 205            | 280            | 355            | 430            | 505            |



The right connection  
The right environment

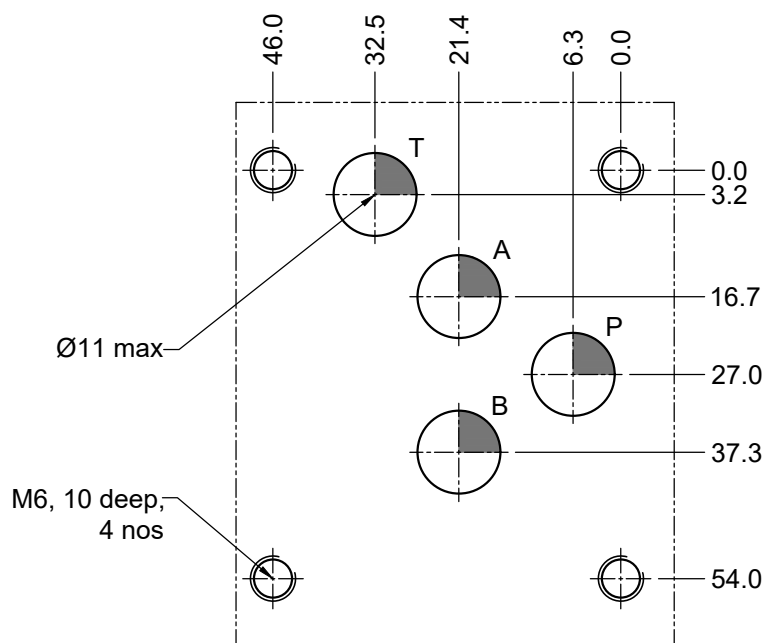
Multi station bar manifold for mounting  
four port valves having interface conforming to  
ISO 4401-05-04

**BM-CETOP-05-XX-2.0**

Ref. No. H14742  
Release: Apr 2025

ENGINEERING - 2 of 2

## Interface details



## Ordering Code

| BM CETOP-05 03 2.0                 |  |  |                                      |
|------------------------------------|--|--|--------------------------------------|
| Bar Manifold                       |  |  | Design Series<br>Subject to revision |
| Interface as per<br>ISO 4401-05-04 |  |  |                                      |
| Number of stations                 |  |  |                                      |
| 01                                 |  |  |                                      |
| 02                                 |  |  |                                      |
| 03                                 |  |  |                                      |
| 04                                 |  |  |                                      |
| 05                                 |  |  |                                      |
| 06                                 |  |  |                                      |
| 07                                 |  |  |                                      |



The right connection  
The right environment

## Ferrule Crimping Machine EHFCM

Ref. No. H13949  
Release: April 2025  
ENGINEERING - 1 of 1

### Description

Ferrule crimping machine is used to crimp the ferrules on seamless tubes, both Carbon steel and Stainless Steel.

The machine is designed to crimp from 6mm to 42mm in L series and 6mm to 38mm in S series.

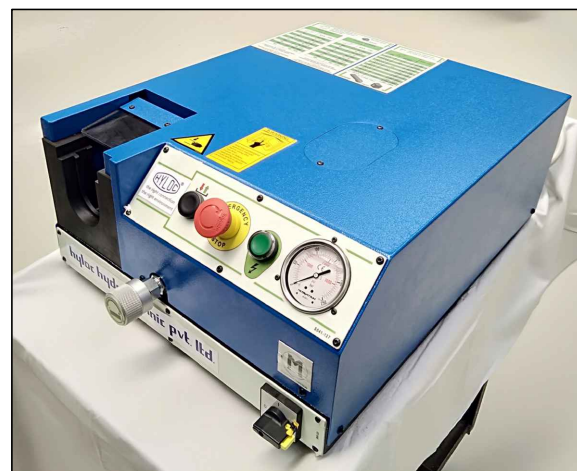
The machine has facility to set the required pressure for ferrule crimping of any size on the tube.

The main advantage of this machine is - It can make n' number of ferrule joints quickly. Human fatigue is totally eliminated.

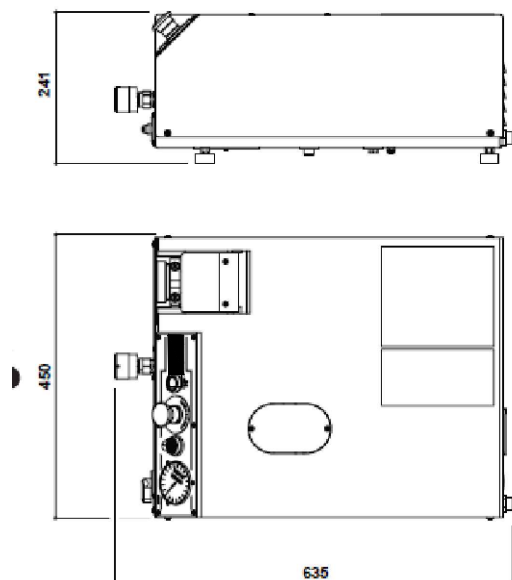
Machine can be moved to any location with ease.

The machine design is compact and has all its drives and controls built in to the machine body itself.

The Hydraulic system is covered to the extent possible to avoid it from coming in contact with open ambience.



### Unit Dimensions



### Technical Specifications

|                                     |                                      |
|-------------------------------------|--------------------------------------|
| Sizes for ferrule crimping          | 6L to 42L and 6S to 38S              |
| Electrical Motor                    | 0.736 Kw (1Hp)                       |
| Electrical connection               | 3 Phase                              |
| Operator controls voltage           | 12 - 24Volt + / - 10%                |
| Required Oil quantity               | 1.3 Litres                           |
| Oil grade                           | VG46 or VG68                         |
| Noise pressure level                | < or = 70 dB (A)                     |
| Weight of the machine (Static)      | 58 Kg                                |
| Max. admissible ambient temperature | +40 °C                               |
| Max. admissible relative humidity   | 80%                                  |
| Supply condition                    | Machine will be supplied without oil |

### Ordering Code

|              |                                              |
|--------------|----------------------------------------------|
| <b>EHFCM</b> | — Electro Hydraulic Ferrule Crimping machine |
|--------------|----------------------------------------------|

All rights reserved.

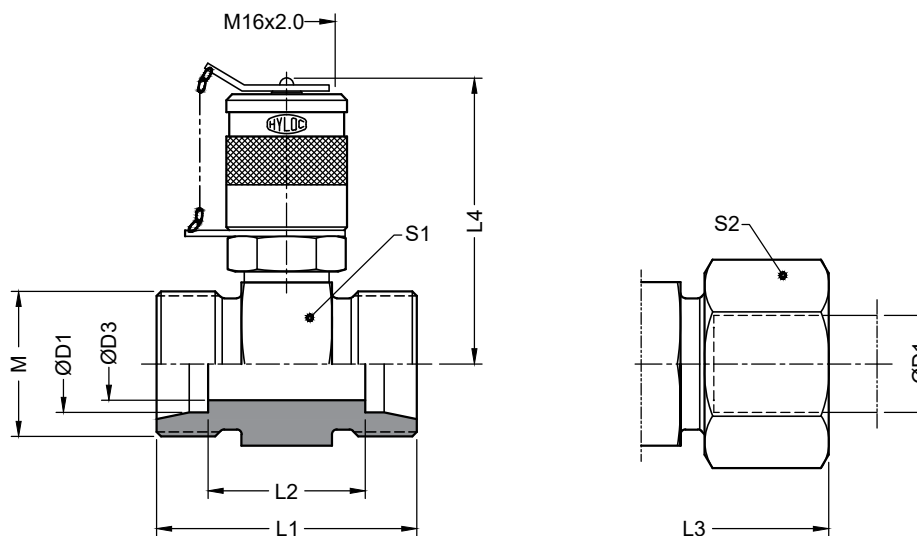
Subject to change without notice.

Due to continuous improvement in the design of the product, the actual product supplied may look different than shown above.

# GMMC Straight Couplings with Diagnostic

24° Tube end as per ISO 8434-1

Dimensions in mm



| Series                              | Part No.<br>Body | Part No.<br>Assembly | D1<br> | D3 | L1 | L2 | Approx.<br>L3 | Approx.<br>L4 | S1 | S2 |
|-------------------------------------|------------------|----------------------|-----------------------------------------------------------------------------------------|----|----|----|---------------|---------------|----|----|
| <b>L</b><br><b>Light</b><br>250 bar | <b>GMMC06XL</b>  | <b>GMMC06PL</b>      | 06                                                                                      | 4  | 35 | 21 | 56            | 50            | 24 | 14 |
|                                     | <b>GMMC08XL</b>  | <b>GMMC08PL</b>      | 08                                                                                      | 6  | 35 | 21 | 55            | 50            | 24 | 17 |
|                                     | <b>GMMC10XL</b>  | <b>GMMC10PL</b>      | 10                                                                                      | 7  | 37 | 23 | 59            | 50            | 24 | 19 |
|                                     | <b>GMMC12XL</b>  | <b>GMMC12PL</b>      | 12                                                                                      | 8  | 37 | 23 | 58            | 51.5          | 27 | 22 |
|                                     | <b>GMMC15XL</b>  | <b>GMMC15PL</b>      | 15                                                                                      | 11 | 39 | 25 | 62            | 53            | 30 | 27 |
|                                     | <b>GMMC18XL</b>  | <b>GMMC18PL</b>      | 18                                                                                      | 14 | 39 | 24 | 63            | 54            | 32 | 32 |
|                                     | <b>GMMC22XL</b>  | <b>GMMC22PL</b>      | 22                                                                                      | 18 | 43 | 28 | 68            | 56            | 36 | 36 |
|                                     | <b>GMMC28XL</b>  | <b>GMMC28PL</b>      | 28                                                                                      | 23 | 43 | 28 | 70            | 58.5          | 41 | 41 |
|                                     | <b>GMMC35XL</b>  | <b>GMMC35PL</b>      | 35                                                                                      | 30 | 47 | 26 | 78            | 61            | 46 | 50 |
|                                     | <b>GMMC42XL</b>  | <b>GMMC42PL</b>      | 42                                                                                      | 36 | 47 | 25 | 78            | 65.5          | 55 | 60 |
| <b>S</b><br><b>Heavy</b><br>630 bar | <b>GMMC06XS</b>  | <b>GMMC06PS</b>      | 06                                                                                      | 4  | 39 | 25 | 60            | 50            | 24 | 17 |
|                                     | <b>GMMC08XS</b>  | <b>GMMC08PS</b>      | 08                                                                                      | 5  | 39 | 25 | 59            | 50            | 24 | 19 |
|                                     | <b>GMMC10XS</b>  | <b>GMMC10PS</b>      | 10                                                                                      | 7  | 39 | 24 | 63            | 50            | 24 | 22 |
|                                     | <b>GMMC12XS</b>  | <b>GMMC12PS</b>      | 12                                                                                      | 7  | 39 | 24 | 62            | 50            | 24 | 24 |
|                                     | <b>GMMC16XS</b>  | <b>GMMC16PS</b>      | 16                                                                                      | 11 | 43 | 26 | 69            | 53            | 30 | 30 |
|                                     | <b>GMMC20XS</b>  | <b>GMMC20PS</b>      | 20                                                                                      | 15 | 47 | 26 | 77            | 56            | 36 | 36 |
|                                     | <b>GMMC25XS</b>  | <b>GMMC25PS</b>      | 25                                                                                      | 20 | 51 | 27 | 83            | 58.5          | 41 | 46 |
|                                     | <b>GMMC30XS</b>  | <b>GMMC30PS</b>      | 30                                                                                      | 25 | 55 | 28 | 90            | 61            | 46 | 50 |
|                                     | <b>GMMC38XS</b>  | <b>GMMC38PS</b>      | 38                                                                                      | 32 | 61 | 29 | 98            | 65.5          | 55 | 60 |

Assembly consists of Double bite ferrule.

For soft seal ferrules, replace 'P' with 'SRD' in Part code. Example : GMMC16SRDS

Standard material : Carbon Steel

For Stainless steel material, add prefix 316 - to the part code

Example : 316-GMMC16PS

Standard surface treatment : Chrome free Alkaline Zinc Plating.

For Zinc Nickel surface treatment, add suffix - ZnNi

Example : GMMC16PS-ZnNi

# hyloc hydrotechnic pvt. ltd.

Plot. No. 88, Machhe Industrial Estate,  
Machhe, Belagavi 590 014, Karnataka, INDIA  
Ph : +91 831 241 2777

Email : [sales@hyloc.co.in](mailto:sales@hyloc.co.in)

Web : [www.hyloc.co.in](http://www.hyloc.co.in)

[www.hyloc.co.in](http://www.hyloc.co.in)

