

DK-LOK

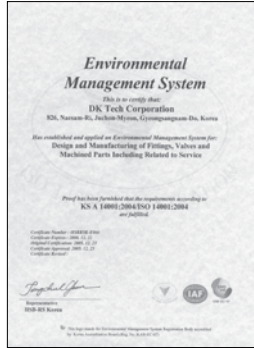
Fittings & Valves

DK DIN Bite Type Tube Fitting

for DIN 2353/ISO 8434-1

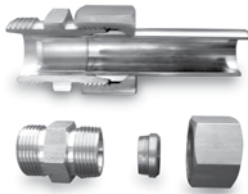
No.04
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Design

The DK DIN bite type tube fitting is a flareless metric fitting that consists of a body, a progressive ring (sleeve) and a nut. On assembly, two cutting edges of the progressive ring bite into the outer surface of the tube ensuring the holding for high Tube pressure.



Available in three series, DK DIN bite type tube fittings and accessories are manufactured in accordance with DIN2353/DIN EN ISO8434-1. The fittings and components in this catalog are intended solely for the assembly of connections for fluid applications.

Function of DK DIN bite type tube fitting

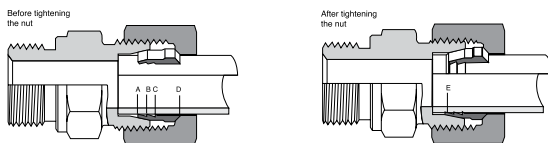
DK DIN bite type tube fitting produces a low to high pressure, leak free connection of tubes and components in fluid systems. The basic function of the DK DIN bite type tube fitting is the controlled progressive bite of the ring (sleeve) into the tube due to a unique internal geometry.

The front cutting edge (A) has already started cutting into the tube before the second cutting edge (B) starts. As soon as both cutting edges have cut the tube to the designed depth further advance is limited by the stop edge (C).

Owing to the design of both cutting edges and stop edge all forces arising are equally distributed. This distribution along with the specially designed interior collar (D) of the ring guarantees increased safety, particularly with regard to vibration and flexure stresses. The design and function of the cutting ring ensure that service vibration loading is not present in the areas of the tubing where the bite is made.

The stop edge causes a sharp increase in tightening forces which is clearly perceptible. After assembly, a visible collar (E) of cut tube material must completely fill the space in front of the first cutting edge. With stainless steel tube and hose connections made from free cutting steel, the collar is less due to the harder material.

During assembly, it is absolutely essential that the tube is held firmly against the stop in the inner cone of the fitting; if not, the cutting process will not take place satisfactorily. Reassembly can be performed an unlimited number of times.



Material specification

| | | |
|----------------------------|-----------------|--|
| Fitting Materials | Steel | DIN 3859 |
| | Brass | CuZn35Ni2 in accordance with DIN17660/17672, Material No. 2.0540 |
| | Stainless Steel | X6CrNiMoTi 17122 to DIN17440 Material No. 1.4571 or ASTM A479 type 316 |
| Elastomer Materials | Buna-N | |
| | Viton | DIN 17660 FPM(VITON) |

Pressure and temperature load Capability

Pressure Load Capability

Definition of pressures specified in the catalog:

a)Nominal pressure PN

The nominal pressure as referred to in DIN 2401, part 1 draft.

b)Working pressure PB

The permissible working pressure for a component is based on the material and the operation temperature (TB) during trouble-free operation (DIN 2401, part 1 draft).

Pressure Ranges

| Series | Steel / Brass* | | 1.4571(SS316) | |
|--------|----------------|----------|---------------|----------|
| | Size | Pressure | Size | Pressure |
| LL | 4-12 | 100 bar | 4-8 | 100 bar |
| L | 6-18 | 315 bar | 6-15 | 250 bar |
| | - | - | 18-22 | 160 bar |
| S | 22-42 | 160 bar | 28-42 | 100 bar |
| | 6-14 | 630 bar | 6-14 | 630 bar |
| | 16-30 | 400 bar | 16-25 | 400 bar |
| | 38 | 315 bar | 30-38 | 315 bar |

Brass*:Pressure range of brass should be adapter 30% below of the steel.

Pressure reductions

Recommended pressure reductions (determined by the fluid medium) for higher service temperatures.

| Materials Of fittings | Temperature range | | Pressure Reductions |
|-----------------------|-------------------|----------------|---------------------|
| | °C | °F | |
| Steel | -40° to + 120°C | -40°F to 250°F | - |
| Brass | -60° to + 175°C | -75°F to 350°F | 30% |
| 1.4571 | -60° to + 20°C | -75°F to 70°F | - |
| 1.4571 | + 50°C | +120°F | 4% |
| 1.4571 | + 100°C | +212°F | 11% |
| 1.4571 | + 200°C | +400°F | 20% |
| 1.4571 | + 300°C | +570°F | 29% |
| 1.4571 | + 400°C | +750°F | 33% |

If the tube material used deviates from the fitting material, the tube is to be checked separately with regard to the permissible temperature range and the possible pressure reductions required. Male stud fittings may require additional pressure reductions, due to the mating port material, and the sealing mechanism must also be taken into account. For male stud fittings with cutting face, additional sealants may be required.

Fluids

DK DIN fittings are designed for the use of commercial hydraulic oils. If special fluids please contact our application engineers.

Permissible operating temperature(TB) range

A) For fittings materials

| Material | Temperature |
|-----------------|------------------------------------|
| Steel | -40°C to + 120°C (DIN 3859) |
| Brass | -60°C to + 175°C (DIN 17660/17672) |
| Stainless steel | -60°C to + 400°C (DIN 17440) |

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

B) For sealing materials

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

Tubing guide

•Seamless precision steel tube St 37.4

We recommend the use of seamless precision steel tubes with dimensions to DIN 2391, part 1, material St 37.4 to DIN 1630, type NBK. The following tube wall thickness are suitable for use;

| Tube O.D (D) | Tolerance | Wall Thickness (t) | Design Pressure | | Weight |
|--------------|-----------|--------------------|-----------------|-------------|--------|
| | | | DIN 2413 | | |
| | | | I Static | III Dynamic | |
| 4 | ±0.1 | 0.5 | 313 | 274 | 0.047 |
| | | 0.75 | 409 | 391 | 0.060 |
| | | 1 | 522 | 500 | 0.074 |
| 6 | ±0.1 | 0.75 | 333 | 289 | 0.103 |
| | | 1 | 389 | 372 | 0.123 |
| | | 1.5 | 549 | 526 | 0.166 |
| | | 2 | 692 | 662 | 0.197 |
| 8 | ±0.1 | 2.25 | 757 | 725 | 0.208 |
| | | 1 | 333 | 288 | 0.173 |
| | | 1.5 | 431 | 412 | 0.240 |
| 10 | ±0.1 | 2 | 549 | 526 | 0.296 |
| | | 2.5 | 658 | 630 | 0.339 |
| | | 1 | 282 | 248 | 0.222 |
| | | 1.5 | 373 | 357 | 0.314 |
| 12 | ±0.08 | 2 | 479 | 458 | 0.395 |
| | | 2.5 | 576 | 551 | 0.462 |
| | | 3 | 666 | 638 | 0.518 |
| | | 1 | 235 | 209 | 0.271 |
| | | 1.5 | 353 | 303 | 0.389 |
| 15 | ±0.08 | 2 | 409 | 391 | 0.493 |
| | | 2.5 | 495 | 474 | 0.586 |
| | | 3 | 576 | 551 | 0.606 |
| | | 3.5 | 651 | 624 | 0.734 |
| | | 1 | 188 | 171 | 0.345 |
| 16 | ±0.08 | 1.5 | 282 | 248 | 0.499 |
| | | 2 | 336 | 321 | 0.641 |
| | | 2.5 | 409 | 391 | 0.771 |
| | | 3 | 478 | 458 | 0.888 |
| 18 | ±0.08 | 1 | 176 | 160 | 0.370 |
| | | 1.5 | 264 | 234 | 0.536 |
| | | 2 | 353 | 303 | 0.691 |
| | | 2.5 | 386 | 370 | 0.832 |
| | | 3 | 452 | 433 | 0.962 |
| 20 | ±0.08 | 1 | 157 | 143 | 0.419 |
| | | 1.5 | 235 | 209 | 0.610 |
| | | 2 | 313 | 273 | 0.789 |
| | | 2.5 | 348 | 333 | 0.956 |
| | | 3 | 409 | 391 | 1.110 |
| 22 | ±0.08 | 1.5 | 212 | 191 | 0.684 |
| | | 2 | 282 | 249 | 0.888 |
| | | 2.5 | 353 | 303 | 1.08 |
| | | 3 | 373 | 357 | 1.26 |
| | | 3.5 | 426 | 408 | 1.424 |
| 22 | ±0.08 | 4 | 478 | 458 | 1.578 |
| | | 1 | 128 | 118 | 0.518 |
| | | 1.5 | 192 | 174 | 0.758 |
| | | 2 | 256 | 227 | 0.986 |
| 22 | ±0.08 | 2.5 | 320 | 278 | 1.202 |
| | | 3 | 343 | 328 | 1.406 |

| Tube O.D (D) | Tolerance | Wall Thickness (t) | Design Pressure | | Weight |
|--------------|-----------|--------------------|-----------------|-------------|--------|
| | | | DIN 2413 | | |
| | | | I Static | III Dynamic | |
| 25 | ±0.08 | 2 | 226 | 201 | 1.134 |
| | | 2.5 | 282 | 248 | 1.387 |
| | | 3 | 338 | 292 | 1.628 |
| | | 4 | 394 | 378 | 2.072 |
| | | 4.5 | 437 | 418 | 2.275 |
| 28 | ±0.08 | 5 | 478 | 458 | 2.446 |
| | | 1.5 | 151 | 139 | 0.980 |
| | | 2 | 201 | 181 | 1.282 |
| | | 2.5 | 252 | 223 | 1.572 |
| | | 3 | 302 | 264 | 1.850 |
| 30 | ±0.08 | 4 | 357 | 342 | 2.368 |
| | | 5 | 434 | 415 | 2.836 |
| | | 2 | 188 | 171 | 1.381 |
| | | 2.5 | 235 | 210 | 1.695 |
| | | 3 | 282 | 248 | 2.00 |
| 35 | ±0.15 | 4 | 336 | 321 | 2.57 |
| | | 5 | 409 | 391 | 3.08 |
| | | 2 | 161 | 147 | 1.63 |
| | | 2.5 | 201 | 181 | 2.00 |
| | | 3 | 242 | 215 | 2.37 |
| | | 4 | 322 | 280 | 3.06 |
| 38 | ±0.15 | 5 | 357 | 342 | 3.69 |
| | | 6 | 409 | 401 | 4.29 |
| | | 2.5 | 186 | 168 | 2.189 |
| | | 3 | 223 | 200 | 2.589 |
| | | 4 | 297 | 260 | 3.35 |
| | | 5 | 332 | 318 | 4.07 |
| | | 6 | 390 | 373 | 4.74 |
| 42 | ±0.2 | 7 | 446 | 427 | 5.35 |
| | | 2 | 134 | 124 | 1.973 |
| | | 3 | 201 | 181 | 2.89 |
| | | 4 | 269 | 237 | 3.75 |

•Seamless precision stainless steel 1.4571

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

The following tube wall thickness are suitable for use ;

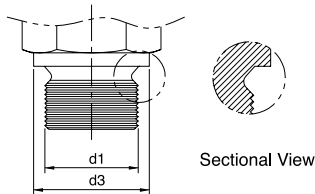
| Tube O.D (D) | Tolerance | Wall Thickness (t) | Design Pressure | | Weight | Tube O.D (D) | Tolerance | Wall Thickness (t) | Design Pressure | | Weight |
|--------------|-----------|--------------------|-----------------|-------------|--------|--------------|-----------|--------------------|-----------------|-------------|--------|
| | | | DIN 2413 | | | | | | DIN 2413 | | |
| | | | I Static | III Dynamic | | | | | I Static | III Dynamic | |
| mm | mm | mm | bar | bar | Kg/m | 20 | | 2.5 | 368 | 291 | 1.095 |
| 4 | ±0.1 | 0.75 | 391 | 376 | 0.061 | 20 | ±0.08 | 3 | 357 | 343 | 1.277 |
| 4 | | 1 | 500 | 480 | 0.075 | 20 | | 3.5 | 408 | 392 | 1.433 |
| 6 | ±0.1 | 1 | 372 | 357 | 0.125 | 20 | | 4 | 458 | 439 | 1.600 |
| 6 | | 1.5 | 526 | 505 | 0.168 | 22 | ±0.08 | 2 | 267 | 218 | 1.002 |
| 6 | | 2 | 662 | 637 | 0.200 | 22 | | 2.5 | 334 | 267 | 1.220 |
| 6 | | 2.25 | 725 | 696 | 0.211 | 22 | | 3 | 328 | 315 | 1.426 |
| 8 | ±0.1 | 1 | 347 | 277 | 0.175 | 25 | ±0.08 | 2 | 235 | 193 | 1.152 |
| 8 | | 1.5 | 412 | 396 | 0.244 | 25 | | 2.5 | 294 | 238 | 1.408 |
| 8 | | 2 | 526 | 505 | 0.300 | 25 | | 3 | 353 | 281 | 1.635 |
| 8 | | 2.5 | 630 | 604 | 0.344 | 25 | | 4 | 378 | 363 | 2.092 |
| 10 | ±0.08 | 1 | 294 | 238 | 0.225 | 25 | | 4.5 | 418 | 402 | 2.307 |
| 10 | | 1.5 | 357 | 343 | 0.319 | 25 | | 5 | 458 | 439 | 2.501 |
| 10 | | 2 | 458 | 439 | 0.401 | 28 | ±0.08 | 2 | 210 | 174 | 1.302 |
| 10 | | 2.5 | 551 | 529 | 0.469 | 28 | | 2.5 | 263 | 214 | 1.594 |
| 12 | ±0.08 | 1 | 245 | 201 | 0.275 | 28 | | 3 | 315 | 253 | 1.874 |
| 12 | | 1.5 | 368 | 291 | 0.394 | 28 | | 4 | 342 | 328 | 2.402 |
| 12 | | 2 | 391 | 376 | 0.501 | 28 | | 5 | 415 | 399 | 2.876 |
| 12 | | 2.5 | 474 | 455 | 0.594 | 30 | | ±0.08 | 3 | 294 | 238 |
| 12 | | 3 | 551 | 529 | 0.615 | 30 | 4 | | 321 | 309 | 2.605 |
| 12 | | 3.5 | 624 | 599 | 0.744 | 30 | 5 | | 391 | 376 | 3.400 |
| 15 | ±0.08 | 1.5 | 294 | 238 | 0.507 | 35 | ±0.15 | 2 | 168 | 141 | 1.644 |
| 15 | | 2 | 321 | 309 | 0.651 | 35 | | 2.5 | 210 | 174 | 2.018 |
| 15 | | 2.5 | 391 | 376 | 0.782 | 35 | ±0.15 | 3 | 252 | 206 | 2.392 |
| 15 | | 3 | 458 | 439 | 0.901 | 35 | | 4 | 336 | 269 | 3.086 |
| 16 | ±0.08 | 2 | 368 | 291 | 0.701 | 35 | ±0.15 | 5 | 342 | 328 | 3.742 |
| 16 | | 2.5 | 370 | 355 | 0.845 | 35 | | 6 | 401 | 385 | 4.351 |
| 16 | | 3 | 433 | 416 | 0.977 | 38 | | ±0.15 | 4 | 309 | 249 |
| 18 | ±0.08 | 1.5 | 245 | 201 | 0.620 | 38 | 5 | | 318 | 305 | 4.131 |
| 18 | | 2 | 327 | 262 | 0.801 | 38 | 6 | | 373 | 358 | 4.807 |
| 18 | | 2.5 | 333 | 320 | 0.967 | 38 | 7 | | 427 | 410 | 5.426 |
| 18 | | 3 | 391 | 376 | 1.126 | 42 | ±0.2 | 3 | 210 | 174 | 2.930 |
| 18 | | | | | 42 | 4 | | 280 | 227 | 3.798 | |

Stud Ends & Tapped Hole Forms for tube Fittings.

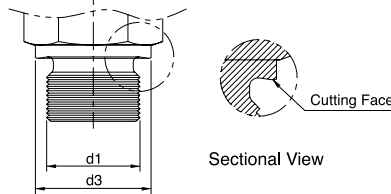
This standard specifies dimensions for stud ends and tapped holes with metric fine pitch thread and pipe thread for use with Compression fittings, valves and screw plugs, general outlay of types.

Forms of stud Ends

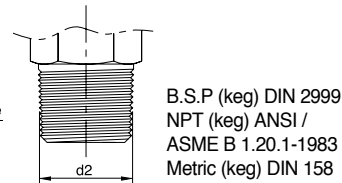
Form A (DIN 3852 Part 1+2)
With sealing by washer



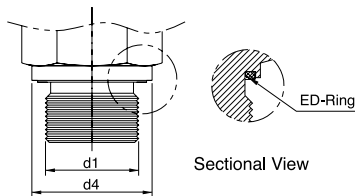
Form B (DIN 3852 Part 1+2)
With sealing by compression against face of body



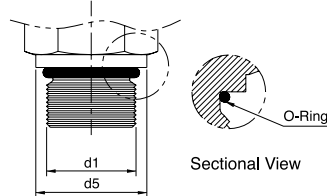
Form C (DIN 3852 Part 1+2)
With sealing in tapered thread



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



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



| Thread size for | | d3 | d4 -0.2 | d5 ±0.1 |
|------------------------|------------------------|----|---------|---------|
| Form A,B and E,F d1 | Form C stud ends d2 | | | |
| M8 X 1.0 | M8 X 1.0 keg. | - | - | 10.9 |
| M10 X 1.0 | M10 X 1.0 keg. | 14 | 13.9 | 12.9 |
| M12 X 1.5 | M12 X 1.5 keg. | 17 | 16.9 | 16.9 |
| M14 X 1.5 | M14 X 1.5 keg. | 19 | 18.9 | 18.9 |
| M16 X 1.5 | M16 X 1.5 keg. | 21 | 21.9 | 20.9 |
| M18 X 1.5 | M18 X 1.5 keg. | 23 | 23.9 | 22.9 |
| M20 X 1.5 | M20 X 1.5 keg. | 25 | 25.9 | 24.9 |
| M22 X 1.5 | M12 X 1.5 keg. | 27 | 26.9 | 26.9 |
| M26 X 1.5 | - | 31 | 31.9 | 30.9 |
| M 27 X 2.0 | - | 32 | 31.9 | 31.9 |
| M 33 X 2.0 | - | 39 | 39.9 | 37.9 |
| M 42 X 2.0 | - | 49 | 49.9 | 47.9 |
| M 48 X 2.0 | - | 55 | 54.9 | 54.9 |
| G 1/8 | 1/8 NPT | 14 | 13.9 | - |
| G 1/4 | 1/4 NPT | 18 | 18.9 | - |
| G 3/8 | 3/8 NPT | 22 | 21.9 | - |
| G 1/2 | 1/2 NPT | 26 | 26.9 | - |
| G 3/4 | 3/4 NPT | 32 | 31.9 | - |
| G 1 | 1 NPT | 39 | 39.9 | - |
| G 1 1/4 | 1 1/4 NPT | 49 | 49.9 | - |
| G 1 1/2 | 1 1/2 NPT | 55 | 54.9 | - |

| Thread size for | | d3 | d4 -0.2 | d5 ±0.1 |
|------------------------|------------------------|----|---------|---------|
| Form A,B and E,F d1 | Form C stud ends d2 | | | |
| 7/16 - 20UNF | R 1/8 keg. | - | - | 14.4 |
| 9/16 - 18UNF | R 1/4 keg. | - | - | 17.6 |
| 3/4 - 16UNF | R 3/8 keg. | - | - | 22.3 |
| 7/8 - 14UNF | R 1/2 keg. | - | - | 25.5 |
| 1 1/16 - 12UN | R 3/4 keg. | - | - | 31.9 |
| 1 5/16 - 12UN | R 1 keg. | - | - | 38.2 |

Note : DK Standards Sealing Material is NBR (-20°C to + 100°C)
Other Sealing Materials are available on Request.

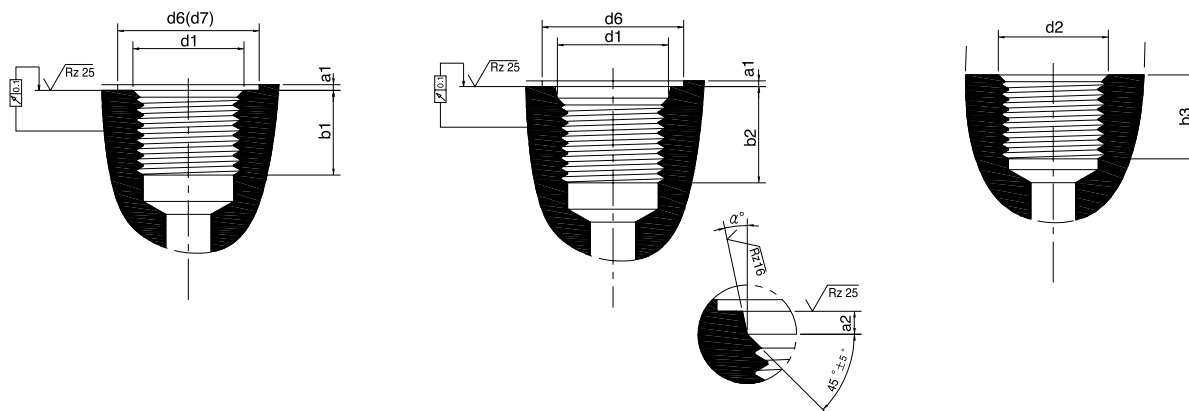
Forms of tapped holes

Form X (DIN 3852 Part 1+2)
For parallel Stud Ends. (From A,B)

* d7 is for Stud Ends From E

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

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



| Thread size for | | d6 min | d7 | a1 max | a2 +0.4 | b1 min | b2 min | b3 min | $\alpha \pm 1^\circ$ |
|------------------------------|---------------------------|-----------|----|-----------|---------|-----------|-----------|-----------|----------------------|
| Form X, W Tapped Holes d1 | Form Z Tapped Holes d2 | | | | | | | | |
| M 8 X 1.0 | M8 X 1.0 keg. | 13 | - | 1 | 1.6 | - | 10 | 5.5 | 12 |
| M 10 X 1.0 | M1.0 X 1.0 keg. | 15 | 15 | 1 | 1.6 | 8 | 10 | 5.5 | 12 |
| M 12 X 1.5 | M12 X 1.5 keg. | 18 | 18 | 1.5 | 2.4 | 12 | 11.5 | 8.5 | 12 |
| M 14 X 1.5 | M14 X 1.5 keg. | 20 | 20 | 1.5 | 2.4 | 12 | 11.5 | 8.5 | 15 |
| M 16 X 1.5 | M16 X 1.5 keg. | 22 | 23 | 1.5 | 2.4 | 12 | 13 | 8.5 | 15 |
| M 18 X 1.5 | M18 X 1.5 keg. | 24 | 25 | 2 | 2.4 | 12 | 14.5 | 8.5 | 15 |
| M 20 X 1.5 | M20 X 1.5 keg. | 26 | 27 | 2 | 2.4 | 14 | 14 | 10.5 | 15 |
| M 22 X 1.5 | M12 X 1.5 keg. | 28 | 28 | 2.5 | 2.4 | 14 | 15.5 | 10.5 | 15 |
| M 26 X 1.5 | - | 32 | 33 | 2.5 | 3.1 | 16 | 16 | - | 15 |
| M 27 X 2.0 | - | 33 | 33 | 2.5 | 3.1 | 16 | 19 | - | 15 |
| M 33 X 2.0 | - | 40 | 41 | 2.5 | 3.1 | 18 | 19 | - | 15 |
| M 42 X 2.0 | - | 50 | 51 | 2.5 | 3.1 | 20 | 19.5 | - | 15 |
| M 48 X 2.0 | - | 56 | 56 | 2.5 | 3.1 | 22 | 22 | - | 15 |
| G 1/8 | 1/8 NPT | 15 | 15 | 1 | - | 8 | - | 6.9 | - |
| G 1/4 | 1/4 NPT | 19 | 20 | 1.5 | - | 12 | - | 10 | - |
| G 3/8 | 3/8 NPT | 23 | 23 | 2 | - | 12 | - | 10.3 | - |
| G 1/2 | 1/2 NPT | 27 | 28 | 2.5 | - | 14 | - | 13.6 | - |
| G 3/4 | 3/4 NPT | 33 | 33 | 2.5 | - | 16 | - | 14.1 | - |
| G 1 | 1 NPT | 40 | 41 | 2.5 | - | 18 | - | 16.8 | - |
| G 1 1/4 | 1 1/4 NPT | 50 | 51 | 2.5 | - | 20 | - | 17.3 | - |
| G 1 1/2 | 1 1/2 NPT | 56 | 56 | 2.5 | - | 22 | - | 17.3 | - |
| 7/16 - 20UNF | R 1/8 keg. | 21 | - | 1.6 | 2.4 | - | 11.5 | 5.5 | 12 |
| 9/16 - 18UNF | R 1/4 keg. | 25 | - | 1.6 | 2.5 | - | 12.7 | 8.5 | 12 |
| 3/4 - 16UNF | R 3/8 keg. | 30 | - | 2.4 | 2.5 | - | 14.3 | 8.5 | 15 |
| 7/8 - 14UNF | R 1/2 keg. | 34 | - | 2.4 | 2.5 | - | 16.7 | 10.5 | 15 |
| 1 1/16 - 12UN | R 3/4 keg. | 41 | - | 2.4 | 3.3 | - | 19 | 13 | 15 |
| 1 5/16 - 12UN | R 1 keg. | 49 | - | 3.2 | 3.3 | - | 19 | 16 | 15 |
| 1 5/8 - 12UN | R 1 1/4 keg. | 58 | - | 3.2 | 3.3 | - | 19 | 17 | 15 |
| - | R 1 1/2 keg. | - | - | - | - | - | - | 17 | - |

IDK-LOK® DK DIN Bite Type Tube Fitting

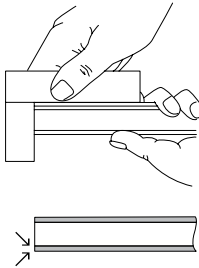
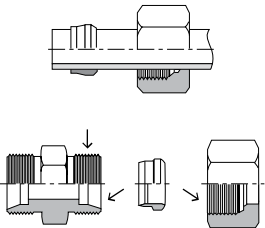
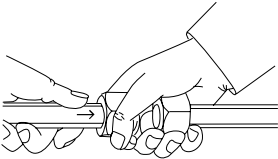
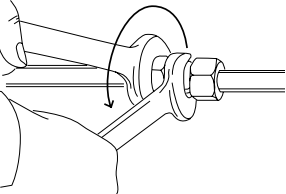
This assembly instruction applicable to DIN 2353 fittings shows suitable make-up of fittings into seamless pipe in accordance with DIN 3859.

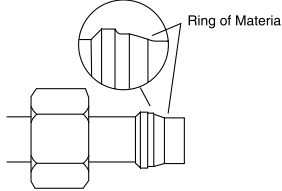
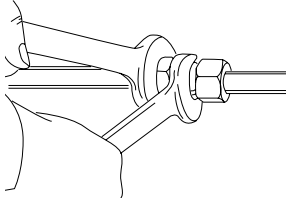
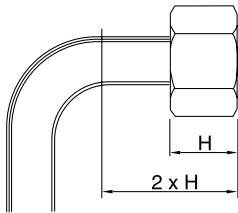
3 Methods might be employed for assembling -

- Assemble the fitting body directly.
- Using pre-swaging tool for assembly.
- Assemble standpipe & cone fitting with O-ring

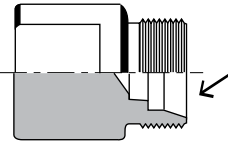
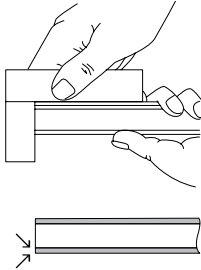
In order to ensure positive assembly, stainless steel fittings should be always pre-assembly In and oiled pre-assembly tool. (see page 8)

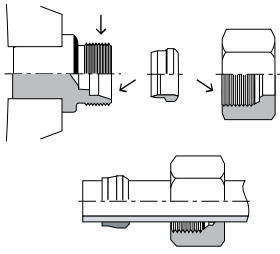
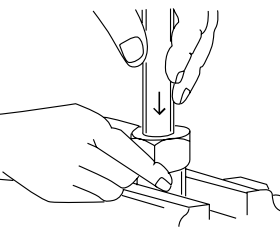
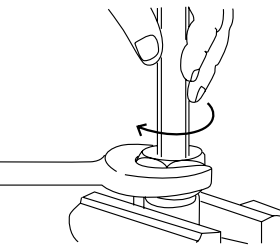
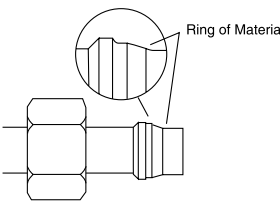
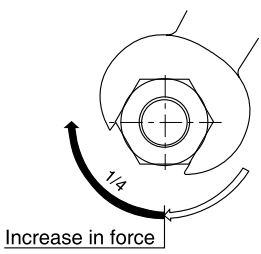
◆ Assemble the fitting body directly.

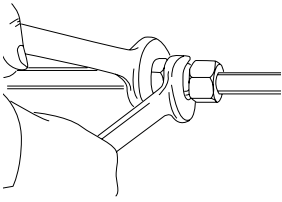
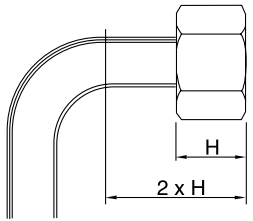
| | |
|---|---|
|  | <p>1.0 Saw the tube at right angle. An angular offset of 1/2° in relation to the tube axis is permissible.</p> <p>1.1 After clean, lightly deburr tube ends at the inside and outside edge.</p> <p>1.2 Don't use a tube cutter because this would cause formation of considerable burrs and an angular cut. Use sawing machine or device instead.</p> |
|  | <p>2.0 Lubricate thread and inside of fitting body also cutting ring and thread of nut. Don't use grease.</p> <p>2.1 Place nut and cutting ring on tube shown. Ensure cutting ring and nut are facing the right way.</p> |
|  | <p>3.0 Press tube into fitting body, up to tube abutment, then hand-tighten the nut.</p> |
|  | <p>4.0 Make sure the nut is in hand tight position, then the 1 1/2 turns with wrench by holding fitting body with a second wrench. (Never turn fitting body, hold body and turn nut)</p> <p>Caution! Any deviating number of tightening turns reduces the nominal pressure and the service life of the fitting and may cause leakages or slipping of the tube.</p> |

| | |
|--|---|
|  | <p>5.0 Check penetration of cutting edge. A visible ring of material should fill the space in front of the cutting ring and face. Cutting ring may turn on tube, but should not be capable of axial displacement.</p> |
|  | <p>6.0 Each time the fitting is disassembled, the nut must be retightened firmly using the same torque as required for final assembly.</p> |
|  | <p>7.0 Minimum length of straight tube and for tube bends, up to start of the bending radius must be at least twice (2 X H) the nut length (H)</p> |

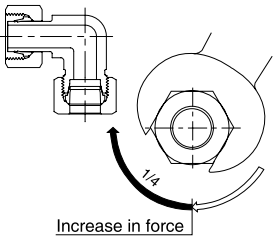
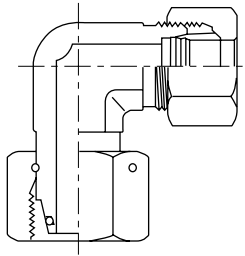
◆ Using pre-swaging tool for assembly.

| | |
|---|--|
|  | <p>1.0 In order to ensure positive assembly DK-Lok Corporation DIN fittings should always be pre-assembled in on oiled pre-assembly tool. For direct assembly, torque-controlled assembly or mechanical pre-assembly, which are also possible. Please refer to separate assembly instructions.</p> |
|  | <p>2.0 Saw the tube at right angle. An angular offset of 1/2° in relation to the tube axis is permissible.</p> <p>2.1 After clean, lightly deburr tube end at the inside and outside edge.</p> <p>2.2 Don't use a tube cutter because this would cause formation of considerable burrs and an angular cut. Use sawing machine or device instead.</p> |

| | |
|---|---|
|  | <p>3.0 Lubricate thread and inside of fittings body also cutting ring and thread of nut. Don't use grease.</p> <p>3.1 Please nut and cutting ring on tube shown. Ensure cutting ring and nut are facing the right way.</p> |
|  | <p>4.0 Press tube into fitting body, up to tube abutment, then hand-tighten the nut.</p> |
|  | <p>5.0 Make sure the nut is in hand tight position, then the 1 1/4 turns with wrench by holding fitting body with a second wrench(Never turn fitting body, hold body and turn nut)</p> <p>Caution! Application of deviating numbers of tightening turns reduces the nominal pressure rating and the life of the fitting which cause leakage or slipping of the tube.</p> |
|  | <p>6.0 Check penetration of cutting edge. A visible ring of material should fill the space in front of the cutting ring and face. Cutting ring may turn on tube but should not be capable of axial displacement.</p> |
|  | <p>7.0 Tighten nut until a noticeable increase in force is required. Beyond this point, tighten the nut by 1/4 turn with wrench for final assembly. Hold fitting body by means of a wrench.</p> <p>7.1 With unfavorable mounting conditions and great tube dimensions, final assembly must be completed in via with the fitting body.</p> <p>Caution! Any deviating number of tightening turns reduces the nominal pressure and the service life of the fitting and may cause leakages or slipping of the fitting.</p> |

| | |
|---|--|
|  | <p>8.0 Each time the fitting is disassembled, the nut must be retightened firmly using the same torque as required for final assembly.</p> |
|  | <p>9.0 Minimum length of straight tube and for tube bends, up to start of the bending radius must be at least twice (2xH) the nut length (H)</p> |

◆ Assemble standpipe & cone fitting with O-ring.

| | |
|---|---|
|  | <p>1.0 Standpipes are generally supplied with pre-assembled cutting ring Tighten the nut 1/4 turn with wrench beyond the point of a noticeable increase in force. Hold fitting body firmly by means of wrench</p> <p>1.1 With unfavorable mounting conditions and great tube dimensions, final assembly must be completed in a vice with the fitting body to be subsequently installed.</p> <p>Caution! Any deviating number of tightening turns reduces the nominal pressure and the service life of the fitting and may cause leakages or slipping of the fitting.</p> |
|  | <p>2.0 Oil O-ring Tighten nut 1/4 of a turn beyond the point of a noticeable increase in force. Hold fitting body firmly by means of wrench.</p> <p>2.1 With unfavorable mounting conditions and great tube dimensions, final assembly must be completed in a vice with the fitting body to be subsequently installed.</p> <p>Caution! Any deviating number of tightening turns reduces the nominal pressure and the service life of the fitting and may cause leakages or slipping of the fitting.</p> |

Ordering Information

Example

1. Tube to Tube Connection

| | | | | |
|-----------|---|-----------|----------|----------|
| NT | - | 12 | S | S |
| ① | | ② | ③ | ⑥ |

2. Tube to Thread Connection

| | | | | | | | |
|------------|---|-----------|----------|-------------|-----------|---|----------|
| NMC | - | 10 | L | -02G | ED | - | S |
| ① | | ② | ③ | ④ | ⑤ | | ⑥ |

3. Tube to Tube Port

| | | | | |
|------------|---|-----------|----------|----------|
| NEW | - | 16 | S | S |
| ① | | ② | ③ | ⑥ |

4. Tube Port to Female Port

| | | | | | | | |
|-------------|---|-----------|----------|-------------|-----------|---|----------|
| NMGE | - | 16 | S | -04G | ED | - | C |
| ① | | ② | ③ | ④ | ⑤ | | ⑥ |

5. Male /Female Adapter

| | | | | | |
|-------------|---|------------|-------------|---|----------|
| NAMF | - | 04G | -03G | - | C |
| ① | | ④ | | | ⑥ |

① Name of Fitting : "Refer to Index"

② Tube O.D. Designator

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

③ Series Designator

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

④-a. Thread Designator (Pipe Thread)

| Nominal Size | | 1/8" | 1/4" | 3/8" | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" |
|--------------|-----------------------------------|------|------|------|------|------|-----|--------|--------|
| Identifier | ANSI/ASME B1.20.1 NPT | 01N | 02N | 03N | 04N | 06N | 08N | 10N | 12N |
| | DIN-ISO 228(DIN 259) BSP/Parallel | 01G | 02G | 03G | 04G | 06G | 08G | 10G | 12G |
| | DIN-2999 BSP Tapered | 01R | 02R | 03R | 04R | 06R | 08R | 10R | 12R |

④-b. Thread Designator (Metric Thread)

| Nominal Size | | M8X1.0 | M10X1.0 | M12X1.5 | M14X1.5 | | M27X2.0 | M33X2.0 | M42X2.0 | M48X2.0 |
|--------------|---------------------|--------|---------|---------|---------|-------|---------|---------|---------|---------|
| Identifier | DIN 158 Taper (Keg) | M8K | M10K | M12K | M14K | | | | | |
| | DIN-13 Parallel | M8X1.0 | M10X1.0 | M12X1.5 | M14X1.5 | | M27X2.0 | M33X2.0 | M42X2.0 | M48X2.0 |

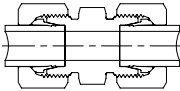
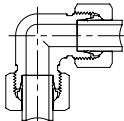
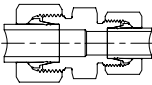
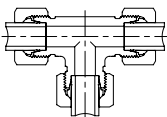
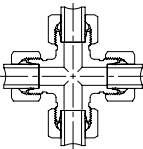
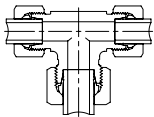
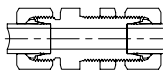
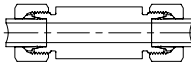
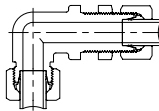
④-c. Thread Designator (Unified)

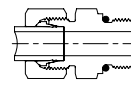
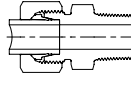


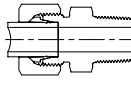
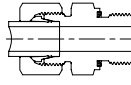
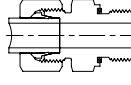
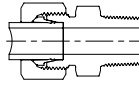
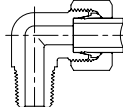
| Size | 7/16-20UNF | 9/16-18UNF | 3/4-16UNF | 7/8-14UNF | 1.1/16-12UN | 1.5/16-12UN | 1.5/8-12UN |
|------------|------------|------------|-----------|-----------|-------------|-------------|------------|
| Identifier | 4U | 6U | 8U | 10U | 12U | 16U | 20U |

⑤ Elastomer Seal: ED-Ring & O-Ring (Refer to Sealing Material)

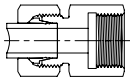
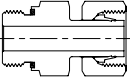
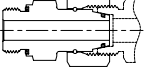
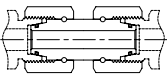
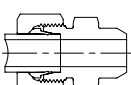
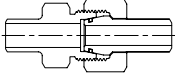
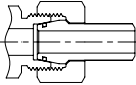
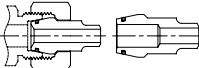
⑥ Material Designator

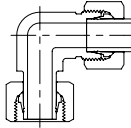
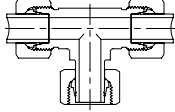
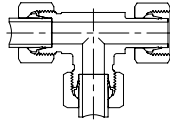
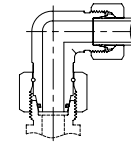
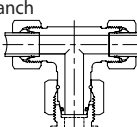
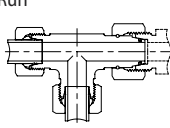
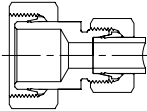
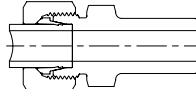
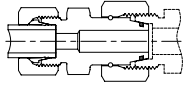
| Material | Carbon Steel (DIN 3859) | Stainless Steel | | Brass |
|------------|-------------------------|------------------|-------------------------|----------------------------|
| | | DIN 17440/1.4571 | ASTM A276/A479 TYPE 316 | DIN 17660/17672 MN. 2.0540 |
| Identifier | C | 4571 | S | B |

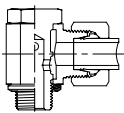
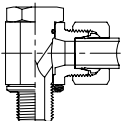
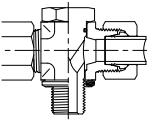
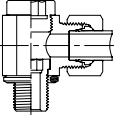
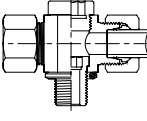
| Tube To Tube | EO | EMB | VOLZ | VOSS | WALPRO |
|--|-----|-----|------|------------------|--------|
| NU Straight Union  | G | E | G-V | 111... 112... | P-GV |
| 16 | | | | | |
| NL Union Elbow  | W | F | W-V | 119... 120... | P-WV |
| 16 | | | | | |
| NUR Reducing Union  | GR | | GR-V | | P-GV |
| 17 | | | | | |
| NT Union Tee  | T | G | T-V | 133... 134... | P-TV |
| 18 | | | | | |
| NX Union Cross  | K | H | K-V | 135... 136... | P-KV |
| 18 | | | | | |
| NTR Reducing Tee  | TR | | | | P-TV |
| 19 | | | | | |
| NBU Bulkhead Union  | SV | K | GS-V | 137... | P-GSV |
| 16 | | | | | |
| NBUW Welding Bulkhead Union  | ESV | N | ES-V | 141... | P-ESV |
| 16 | | | | | |
| NBL Bulkhead Union Elbow  | WSV | L | WS-V | 138... | P-WSV |
| 16 | | | | | |

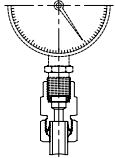
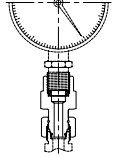
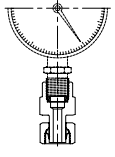
| Tube To Male Thread | EO | EMB | VOLZ | VOSS | WALPRO |
|---|--------------------|-----------|--------------------|--------------------------------|----------------------------|
| NOM-U/M Male Connector (Unified and Metric Parallel) with O-Ring  | GEUN/ UN GEO | | | 182... | P-GEV.U P-GEV.M -FOF |
| 22 | | | | | |
| NMC-R Male Connector (BSP Tapered)  | GE-R | AP-R | GE- V..RK | 103... 104... | P-GEV..RK |
| 23, 24 | | | | | |
| NMC-G Male Connector (BSP Parallel)  | GE-M | A-M | GE- V..M | 110.. | P-GEV..R |
| 23, 24 | | | | | |
| NMC-M Male Connector (Metric Parallel)  | GE-M | A-M | GE- V..M | 109... | P-GEV..M |
| 25 | | | | | |
| NMC-MK Male Connector (Metric Taper)  | GE-M | A-M | GE- V..M | 109... | P-GEV..M |
| 25 | | | | | |
| NMC-GE Male Connector (BSP Parallel) with ED-Ring  | GE-R- ED | A- RWD | GE-V.. RWD | 184... | P-GEV..R- WD |
| 26 | | | | | |
| NMC-ME Male Connector (Metric Parallel) with ED-Ring  | GE-M- ED | A- MWD | GE-V.. MWD | 184... | P-GEV..M- WD |
| 27 | | | | | |
| NMC-N Male Connector (NPT Thread)  | GE- NPT | A/NPT | GE-V.. NPT | 105... 106 | P-GEV.. NPT |
| 28 | | | | | |
| NLM-R/M Male Elbow (BSP Tapered / Metric Taper)  | WE-R -M | B-R -M | WE- V..R ..M | 115... 116 113... 114 | P-WEV..RK ..MK |
| 29 | | | | | |

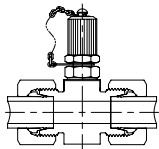
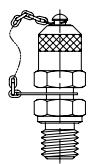
IDK-LOK® DK DIN Bite Type Tube Fitting

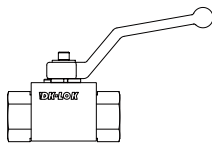
| Tube To Female Thread | EO | EMB | VOLZ | VOSS | WALPRO |
|--|------------------------|----------------------------|------------------------|------------------|-------------------------------|
| NFC-G/M Female Connector (BSP Tapered / Metric Parallel)  | GAI-R -M | AL-R -M | GAIV. R..M | 144... 134... | P-GAV..R ..M |
| 30 | | | | | |
| Tube Stud To Female Port | EO | EMB | VOLZ | VOSS | WALPRO |
| NA-GE / ME Adaptor (BSP Tapered / Metric Parallel) with ED-Ring  | EVGE- R-ED -M-ED | VA- Rwd -Mwd | EGV.. RWD -MWD | 177... 174... | P-EGES. R-WD-SV M-WD-SV |
| 31 | | | | | |
| NEGE-GE / ME Swivel Adaptor (BSP Tapered / Metric Parallel) with ED-Ring  | EVGE- R-ED -M-ED | VAD- KO -Rwd -Mwd | EGVD ..RWD ..MWD | | EGESD. R-WD M-WD |
| 32 | | | | | |
| Tube To Tube (Swivel) | EO | EMB | VOLZ | VOSS | WALPRO |
| NUE Swivel Union with Cone  | GAI-R -M | AL-R -M | GAIV. R..M | 144... 134... | P- GAV..R ..M |
| 33 | | | | | |
| Weld Fittings | EO | EMB | VOLZ | VOSS | WALPRO |
| NAS Welding Connector  | AS | V | GAS-V | 139.. | P-ASV |
| 34 | | | | | |
| NASK Welding Connector with NC  | AS | ESNO | ASKK ..OD | | |
| 34 | | | | | |
| NC Welding Nipple with O-ring  | SKA | SNO | SK-A ..OD | 070.. | SN |
| 35 | | | | | |
| NCR Reducing Welding Nipple with O-ring  | SKAR | SNR | | | |
| 35 | | | | | |

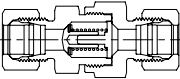
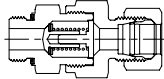
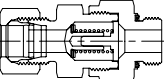
| Tube To Tube Stud | EO | EMB | VOLZ | VOSS | WALPRO |
|--|------|----------------|--------------|------------------|-----------|
| NLA Adjustable Elbow with Standpipe  | EVW | vb | EW-V | 158.. | P-EWV-SV |
| 37 | | | | | |
| NBTA Adjustable Branch Tee with Standpipe  | GE-R | AP-R | GE- V..RK | 103... 104... | P-GEV..RK |
| 37 | | | | | |
| NRTA Adjustable Run Tee with Standpipe  | EVL | vd | EL-V | 162.. | P-ELV-SV |
| 38 | | | | | |
| NEW Swivel Adjustable Elbow with Cone  | EW | VB- DKO | EWVD | | P-EWVD |
| 38 | | | | | |
| NET Swivel Adjustable Branch Tee with Cone  | ET | VCD- KO | ETVD | | P-ETVD |
| 39 | | | | | |
| NEL Swivel Adjustable Run Tee with Cone  | EL | VD- DKO | ELVD | | P-ELVD |
| 39 | | | | | |
| NKOR Standpipe Reducer  | KOR | RL, RS | | | |
| 40 | | | | | |
| NR Reducer  | | | KOR-V | 148 ..78 | P-REDV-SV |
| 41 | | | | | |
| NRED Swivel Reducing Adaptor with Cone  | RED | RLDKO RSDKO | REDV | | P-REDVD |
| 42 | | | | | |

| Banjo Fittings | | EO | EMB | VOLZ | VOSS | WALPRO |
|---|---|------------------|-------------|----------------------|---------------------------|------------------|
| NSLM-G/M Banjo Fitting (BSP Parallel / Metric Parallel) |  | SWVE- R -M | SBD-R -M | | 152../153. 150../151.. | |
| 43 | | | | | | |
| NWH-G/M High Pressure Banjo Fitting (BSP Parallel / Metric Parallel) |  | | SBE-R -M | EWHV -..R -..M | 157.. 155.. | P-RSWV..R ..M |
| 44 | | | | | | |
| NTH-G/M High Pressure Banjo Fitting (BSP Parallel / Metric Parallel) |  | | | ETHV -..R -..M | | P-RSTV..R ..M |
| 45 | | | | | | |
| NSVW-G/M Throttlefree Banjo Fitting (BSP Parallel / Metric Parallel) |  | DSVW- R -M | SB-R -M | | | |
| 46 | | | | | | |
| NSVT-G/M Throttlefree Banjo Fitting (BSP Parallel / Metric Parallel) |  | DSVT- R -M | SG-R -M | | | |
| 47 | | | | | | |

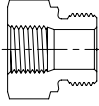
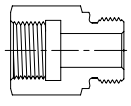
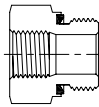
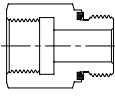
| Gauge Connector | | EO | EMB | VOLZ | VOSS | WALPRO |
|---|---|------|------------|-------------|-------|-------------------|
| NGC-G Pressure Gauge Connector (BSP Parallel) |  | MAV | O | MA- V..R | 142.. | V-MAV..R |
| 48 | | | | | | |
| NGE-G Swivel Gauge Connector (BSP Parallel) |  | MAVE | VOD- KO | MAVD..R | | EMASD.. |
| 48 | | | | | | |
| NGA-G Gauge Adaptor (BSP Parallel) |  | | | MAEV..R | | P-EMAS ..R..SV |
| 48 | | | | | | |

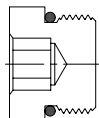
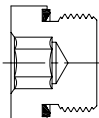
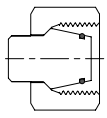
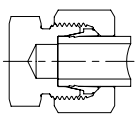
| Test Coupling | | EO | EMB | VOLZ | VOSS | WALPRO |
|---|---|------------|-----|------|------|--------|
| NGMA Tee Test Coupling with Threaded Connection |  | GMA3 | | | | |
| 49 | | | | | | |
| NEMA Test Coupling with Threaded Connection |  | GE- MA3 | | | | |
| 49 | | | | | | |








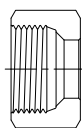

| V87 Ball Valves | | EO | EMB | VOLZ | VOSS | WALPRO |
|---------------------------|--|----|-----|------|------|--------|
| V87 Ball Valves |  | | | | | |
| 50 | | | | | | |

| Non Return Valves | | EO | EMB | VOLZ | VOSS | WALPRO |
|---|---|-----------------------|--------------------|--------------------------|----------------|-----------------------------|
| NCVU Non Return Valves |  | RHD | RD | RS-V | 600.. | P-RV |
| 52 | | | | | | |
| NCV GE-L/S NCV ME-L/S Non Return Valves |  | RHV-R- ED -M-ED | RV- Rwd -Mwd | RSW -..RWD -..MWD | 602.. 601.. | P-RVV ..R..WD ..M..WD |
| 53 | | | | | | |
| NCV L/S-GE NCV L/S-ME Non Return Valves |  | RHZ-R- ED -M-ED | RZ- Rwd -Mwd | RSVZ -..RWD -..MWD | 604.. 603.. | P-RVZ ..R..WD ..M..WD |
| 54 | | | | | | |

IDK-LOK® DK DIN Bite Type Tube Fitting

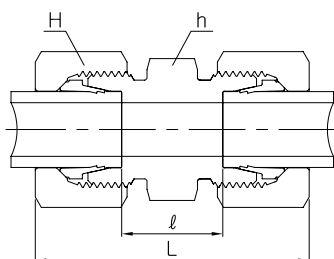
| Male & Female Adaptors | EO | EMB | VOLZ | VOSS | WALPRO |
|--|-------|-------|-------------|-------|---------|
| NHB Male Female Adaptor (BSP Parallel)  | RI | RI | RIAS | 149.. | RED |
| 55 | | | | | |
| NABMF Male Female Adaptor (BSP Parallel)  | RI | RI | RIBS | 149.. | RED |
| 55 | | | | | |
| NHB-GE Male Female Adaptor (BSP Parallel) with ED-Ring  | RI-ED | RI-WD | RIAS- WD | | RED..WD |
| 56 | | | | | |
| NABMF-GE Male Female Adaptor (BSP Parallel) with ED-Ring  | RI-ED | RI-WD | RIBS- WD | | RED..WD |
| 56 | | | | | |

| Plugs and Caps | EO | EMB | VOLZ | VOSS | WALPRO |
|---|----------------------|----------------------|----------|--------|------------------|
| NVSTI Blanking Plugs with O-Ring for ports  | VSIT M-OR | | | | |
| 57 | | | | | |
| NVSTI-GED / MED Blanking Plugs with ED-Ring for ports  | VSIT R-ED M-ED | VSCH- Rwd -Mwd | VSCH..WD | 189... | VS-R-WD -M-WD |
| 57 | | | | | |
| NP Blanking Plug with O-Ring  | VKA | STO-O | VSTO..OD | | VS.. |
| 58 | | | | | |
| NCA Tube Cap  | ROV | VSCHK | EISV | | |
| 58 | | | | | |

| Spare Parts | EO | EMB | VOLZ | VOSS | WALPRO |
|--|------|-----|------|-------|------------|
| NIL Tube Insert  | VH | VSH | VS-H | 020.. | EH |
| 59 | | | | | |
| NBUN Bulkhead Lock Nut  | GM | GM | G-M | 080.. | |
| 59 | | | | | |
| NKA Sealing Ring for NWH, NTH & NSWVE  | DKA | DKA | DKRA | 080.. | |
| 59 | | | | | |
| NKAZ Sealing Ring for NSVW, NSVT  | DKAZ | | | 081.. | |
| 59 | | | | | |
| NKI Sealing Ring for NGC  | DKI | DKI | DKRI | 080.. | DKR |
| 59 | | | | | |
| NED ED-Ring  | ED | | WD-R | | |
| 60 | | | | | |
| NOR O-Ring  | OR | | OD-R | | |
| 60 | | | | | |
| NN Nut  | M | m | U-M | 004 | M |
| 60 | | | | | |
| NS Cutting Ring  | DPR | s | S-DR | 007.. | S-R P-R |
| 60 | | | | | |

Straight Union

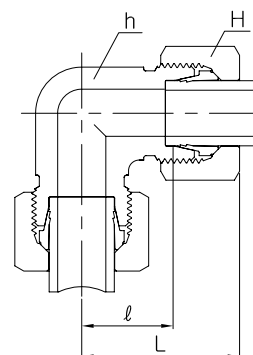
NU



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

Union Elbow

NL

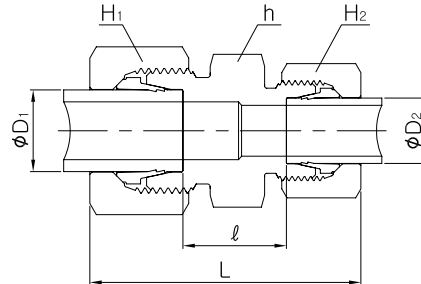


| Series | Part No. | Tube O.D | H | h | L | ℓ |
|-----------------------------------|----------|----------|----|----|----|------|
| LL very light PN 100 | NL-04LL | 4 | 10 | 9 | 21 | 11 |
| | NL-06LL | 6 | 12 | 9 | 21 | 9.5 |
| | NL-08LL | 8 | 14 | 12 | 23 | 11.5 |
| | NL-10LL | 10 | 17 | 14 | 24 | 12.5 |
| | NL-12LL | 12 | 19 | 17 | 25 | 13 |
| L light PN 315 | NL-06L | 6 | 14 | 12 | 27 | 12 |
| | NL-08L | 8 | 17 | 12 | 29 | 14 |
| | NL-10L | 10 | 19 | 14 | 30 | 15 |
| | NL-12L | 12 | 22 | 17 | 32 | 17 |
| | NL-15L | 15 | 27 | 19 | 36 | 21 |
| PN 160 | NL-18L | 18 | 32 | 24 | 40 | 23.5 |
| | NL-22L | 22 | 36 | 27 | 44 | 27.5 |
| | NL-28L | 28 | 41 | 36 | 47 | 30.5 |
| | NL-35L | 35 | 50 | 41 | 56 | 34.5 |
| S heavy PN 630 | NL-42L | 42 | 60 | 50 | 63 | 40 |
| | NL-06S | 6 | 17 | 12 | 31 | 16 |
| | NL-08S | 8 | 19 | 14 | 32 | 17 |
| | NL-10S | 10 | 22 | 17 | 34 | 17.5 |
| | NL-12S | 12 | 24 | 17 | 38 | 21.5 |
| PN 400 | NL-14S | 14 | 27 | 19 | 40 | 22 |
| | NL-16S | 16 | 30 | 24 | 43 | 24.5 |
| | NL-20S | 20 | 36 | 27 | 48 | 26.5 |
| | NL-25S | 25 | 46 | 36 | 54 | 30 |
| PN 315 | NL-30S | 30 | 50 | 41 | 62 | 35.5 |
| | NL-38S | 38 | 60 | 50 | 72 | 41 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Reducing Union

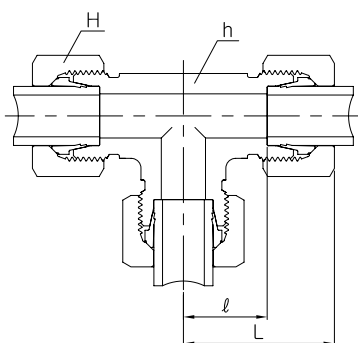
NUR



| Series | Part No. | Tube O.D | | H ₁ | H ₂ | h | L | ℓ |
|----------------------|------------|----------------|----------------|----------------|----------------|----|----|------|
| | | D ₁ | D ₂ | | | | | |
| L light PN 315 | NUR08L-06L | 8 | 6 | 17 | 14 | 14 | 40 | 11 |
| | NUR10L-06L | 10 | 6 | 19 | 14 | 17 | 41 | 12 |
| | NUR10L-08L | 10 | 8 | 19 | 17 | 17 | 41 | 12 |
| | NUR12L-06L | 12 | 6 | 22 | 14 | 19 | 42 | 13 |
| | NUR12L-08L | 12 | 8 | 22 | 17 | 19 | 42 | 13 |
| | NUR12L-10L | 12 | 10 | 22 | 19 | 19 | 43 | 14 |
| | NUR15L-10L | 15 | 10 | 27 | 19 | 24 | 45 | 15 |
| | NUR15L-12L | 15 | 12 | 27 | 22 | 24 | 45 | 15 |
| | NUR18L-10L | 18 | 10 | 32 | 19 | 27 | 46 | 15.5 |
| | NUR18L-12L | 18 | 12 | 32 | 22 | 27 | 46 | 15.5 |
| PN 160 | NUR18L-15L | 18 | 15 | 32 | 27 | 27 | 48 | 16.5 |
| | NUR22L-12L | 22 | 12 | 36 | 22 | 32 | 48 | 17.5 |
| | NUR22L-15L | 22 | 15 | 36 | 27 | 32 | 50 | 18.5 |
| | NUR22L-18L | 22 | 18 | 36 | 32 | 32 | 50 | 18 |
| | NUR28L-18L | 28 | 18 | 41 | 32 | 41 | 52 | 19 |
| | NUR28L-22L | 28 | 22 | 41 | 36 | 41 | 54 | 21 |
| | NUR35L-22L | 35 | 22 | 50 | 36 | 46 | 59 | 21 |
| S heavy PN 630 | NUR35L-28L | 35 | 28 | 50 | 41 | 46 | 59 | 21 |
| | NUR08S-06S | 8 | 6 | 19 | 17 | 17 | 47 | 18 |
| | NUR10S-06S | 10 | 6 | 22 | 17 | 19 | 48 | 17.5 |
| | NUR10S-08S | 10 | 8 | 22 | 19 | 19 | 48 | 17.5 |
| | NUR12S-06S | 12 | 6 | 24 | 17 | 22 | 50 | 19.5 |
| | NUR12S-08S | 12 | 8 | 24 | 19 | 22 | 50 | 19.5 |
| | NUR12S-10S | 12 | 10 | 24 | 22 | 22 | 51 | 19 |
| | NUR14S-10S | 14 | 10 | 27 | 22 | 24 | 54 | 20.5 |
| PN 400 | NUR14S-12S | 14 | 12 | 27 | 24 | 24 | 54 | 20.5 |
| | NUR16S-12S | 16 | 12 | 30 | 24 | 27 | 54 | 20 |
| | NUR16S-14S | 16 | 14 | 30 | 27 | 27 | 57 | 21.5 |
| | NUR20S-10S | 20 | 10 | 36 | 22 | 32 | 60 | 22 |
| | NUR20S-12S | 20 | 12 | 36 | 24 | 32 | 60 | 22 |
| | NUR20S-16S | 20 | 16 | 36 | 30 | 32 | 63 | 23 |
| | NUR25S-16S | 25 | 16 | 46 | 30 | 41 | 68 | 25 |
| | NUR25S-20S | 25 | 20 | 46 | 36 | 41 | 71 | 25.5 |
| PN 315 | NUR30S-20S | 30 | 20 | 50 | 36 | 46 | 74 | 26 |
| | NUR30S-25S | 30 | 25 | 50 | 46 | 46 | 77 | 26.5 |
| | NUR38S-30S | 38 | 30 | 60 | 50 | 55 | 87 | 29.5 |

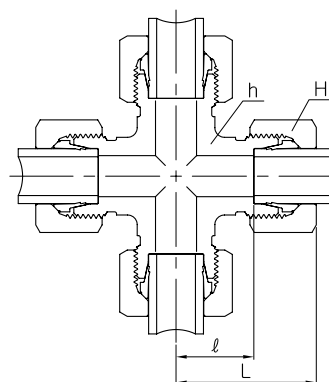
All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Union Tee

NT

| Series | Part No. | Tube O.D | H | h | L | ℓ |
|-----------------------------------|----------|----------|----|----|----|------|
| LL very light PN 100 | NT-04LL | 4 | 10 | 9 | 21 | 11 |
| | NT-06LL | 6 | 12 | 9 | 21 | 9.5 |
| | NT-08LL | 8 | 14 | 12 | 23 | 11.5 |
| | NT-10LL | 10 | 17 | 14 | 24 | 12.5 |
| | NT-12LL | 12 | 19 | 14 | 27 | 15 |
| L light PN 315 | NT-06L | 6 | 14 | 12 | 27 | 12 |
| | NT-08L | 8 | 17 | 12 | 29 | 14 |
| | NT-10L | 10 | 19 | 14 | 30 | 15 |
| | NT-12L | 12 | 22 | 17 | 32 | 17 |
| | NT-15L | 15 | 27 | 19 | 36 | 21 |
| PN 160 | NT-22L | 22 | 36 | 27 | 44 | 27.5 |
| | NT-28L | 28 | 41 | 36 | 47 | 30.5 |
| | NT-35L | 35 | 50 | 41 | 56 | 34.5 |
| | NT-42L | 42 | 60 | 50 | 63 | 40 |
| S heavy PN 630 | NT-06S | 6 | 17 | 12 | 31 | 16 |
| | NT-08S | 8 | 19 | 14 | 32 | 17 |
| | NT-10S | 10 | 22 | 17 | 34 | 17.5 |
| | NT-12S | 12 | 24 | 17 | 38 | 21.5 |
| | NT-14S | 14 | 27 | 19 | 40 | 22 |
| PN 400 | NT-16S | 16 | 30 | 24 | 43 | 24.5 |
| | NT-20S | 20 | 36 | 27 | 48 | 26.5 |
| | NT-25S | 25 | 46 | 36 | 54 | 30 |
| | NT-30S | 30 | 50 | 41 | 62 | 35.5 |
| PN 315 | NT-38S | 38 | 60 | 50 | 72 | 41 |

Union Cross

NX

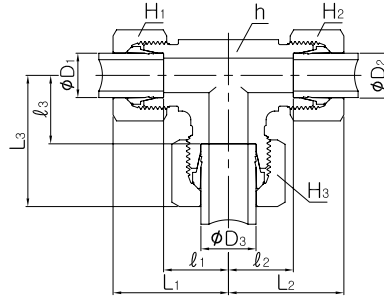
| Series | Part No. | Tube O.D | H | h | L | ℓ |
|-----------------------------------|----------|----------|----|----|----|------|
| LL very light PN 100 | NX-04LL | 4 | 10 | 9 | 21 | 11 |
| | NX-06LL | 6 | 12 | 9 | 21 | 9.5 |
| | NX-08LL | 8 | 14 | 12 | 23 | 11.5 |
| | NX-10LL | 10 | 17 | 14 | 24 | 12.5 |
| | NX-12LL | 12 | 19 | 14 | 27 | 15 |
| L light PN 315 | NX-06L | 6 | 14 | 12 | 27 | 12 |
| | NX-08L | 8 | 17 | 12 | 29 | 14 |
| | NX-10L | 10 | 19 | 14 | 30 | 15 |
| | NX-12L | 12 | 22 | 17 | 32 | 17 |
| | NX-15L | 15 | 27 | 19 | 36 | 21 |
| PN 160 | NX-22L | 22 | 36 | 27 | 44 | 27.5 |
| | NX-28L | 28 | 41 | 36 | 47 | 30.5 |
| | NX-35L | 35 | 50 | 41 | 56 | 34.5 |
| | NX-42L | 42 | 60 | 50 | 63 | 40 |
| S heavy PN 630 | NX-06S | 6 | 17 | 12 | 31 | 16 |
| | NX-08S | 8 | 19 | 14 | 32 | 17 |
| | NX-10S | 10 | 22 | 17 | 34 | 17.5 |
| | NX-12S | 12 | 24 | 17 | 38 | 21.5 |
| | NX-14S | 14 | 27 | 19 | 40 | 22 |
| PN 400 | NX-16S | 16 | 30 | 24 | 43 | 24.5 |
| | NX-20S | 20 | 36 | 27 | 48 | 26.5 |
| | NX-25S | 25 | 46 | 36 | 54 | 30 |
| | NX-30S | 30 | 50 | 41 | 62 | 35.5 |
| PN 315 | NX-38S | 38 | 60 | 50 | 72 | 41 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

IDK-LOK[®] DK DIN Bite Type Tube Fitting

Reducing Tee

NTR

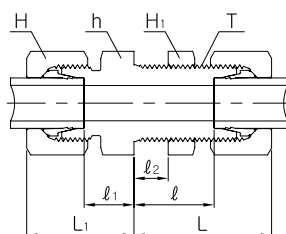


| Series | Part No. | Tube O.D | | | H ₁ | H ₂ | H ₃ | h | L ₁ | L ₂ | L ₃ | ℓ ₁ | ℓ ₂ | ℓ ₃ |
|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----|----------------|----------------|----------------|----------------|----------------|----------------|
| | | D ₁ | D ₂ | D ₃ | | | | | | | | | | |
| L light PN 315 | NTR06L-06L-08L | 6 | 6 | 8 | 14 | 14 | 17 | 14 | 29 | 29 | 29 | 14 | 14 | 14 |
| | NTR08L-08L-06L | 8 | 8 | 6 | 17 | 17 | 14 | 14 | 29 | 29 | 29 | 14 | 14 | 14 |
| | NTR06L-06L-10L | 6 | 6 | 10 | 14 | 14 | 19 | 14 | 30 | 30 | 30 | 15 | 15 | 15 |
| | NTR08L-08L-10L | 8 | 8 | 10 | 17 | 17 | 19 | 14 | 30 | 30 | 30 | 15 | 15 | 15 |
| | NTR10L-10L-06L | 10 | 10 | 6 | 19 | 19 | 14 | 14 | 30 | 30 | 30 | 15 | 15 | 15 |
| | NTR10L-10L-08L | 10 | 10 | 8 | 19 | 19 | 17 | 14 | 30 | 30 | 30 | 15 | 15 | 15 |
| PN 315 | NTR10L-06L-10L | 10 | 6 | 10 | 19 | 14 | 19 | 14 | 30 | 30 | 30 | 15 | 15 | 15 |
| | NTR08L-08L-12L | 8 | 8 | 12 | 17 | 17 | 22 | 17 | 32 | 32 | 32 | 17 | 17 | 17 |
| | NTR12L-12L-06L | 12 | 12 | 6 | 22 | 22 | 14 | 17 | 32 | 32 | 32 | 17 | 17 | 17 |
| | NTR12L-08L-08L | 12 | 8 | 8 | 22 | 17 | 17 | 17 | 32 | 32 | 32 | 17 | 17 | 17 |
| | NTR12L-12L-08L | 12 | 12 | 8 | 22 | 22 | 17 | 17 | 32 | 32 | 32 | 17 | 17 | 17 |
| | NTR12L-10L-10L | 12 | 10 | 10 | 22 | 19 | 19 | 17 | 32 | 32 | 32 | 17 | 17 | 17 |
| PN 315 | NTR12L-12L-10L | 12 | 12 | 10 | 22 | 22 | 19 | 17 | 32 | 32 | 32 | 17 | 17 | 17 |
| | NTR12L-10L-12L | 12 | 10 | 12 | 22 | 19 | 22 | 17 | 32 | 32 | 32 | 17 | 17 | 17 |
| | NTR10L-10L-15L | 10 | 10 | 15 | 19 | 19 | 27 | 19 | 36 | 36 | 36 | 21 | 21 | 21 |
| | NTR12L-12L-15L | 12 | 12 | 15 | 22 | 22 | 27 | 19 | 36 | 36 | 36 | 21 | 21 | 21 |
| | NTR15L-15L-06L | 15 | 15 | 6 | 27 | 27 | 14 | 19 | 36 | 36 | 36 | 21 | 21 | 21 |
| | NTR15L-15L-10L | 15 | 15 | 10 | 27 | 27 | 19 | 19 | 36 | 36 | 36 | 21 | 21 | 21 |
| PN 315 | NTR15L-12L-12L | 15 | 12 | 12 | 27 | 22 | 22 | 19 | 36 | 36 | 36 | 21 | 21 | 21 |
| | NTR15L-15L-12L | 15 | 15 | 12 | 27 | 27 | 22 | 19 | 36 | 36 | 36 | 21 | 21 | 21 |
| | NTR15L-12L-15L | 15 | 12 | 15 | 27 | 22 | 27 | 19 | 36 | 36 | 36 | 21 | 21 | 21 |
| | NTR12L-12L-18L | 12 | 12 | 18 | 22 | 22 | 32 | 24 | 39 | 39 | 40 | 24 | 24 | 23.5 |
| | NTR18L-10L-10L | 18 | 10 | 10 | 32 | 19 | 19 | 24 | 40 | 39 | 39 | 23.5 | 24 | 24 |
| | NTR18L-18L-10L | 18 | 18 | 10 | 32 | 32 | 19 | 24 | 40 | 40 | 39 | 23.5 | 23.5 | 24 |
| PN 160 | NTR18L-18L-12L | 18 | 18 | 12 | 32 | 32 | 22 | 24 | 40 | 40 | 39 | 23.5 | 23.5 | 24 |
| | NTR18L-18L-15L | 18 | 18 | 15 | 32 | 32 | 27 | 24 | 40 | 40 | 39 | 23.5 | 23.5 | 24 |
| | NTR18L-10L-18L | 18 | 10 | 18 | 32 | 19 | 32 | 24 | 40 | 39 | 40 | 23.5 | 24 | 23.5 |
| | NTR22L-22L-10L | 22 | 22 | 10 | 36 | 36 | 19 | 27 | 44 | 44 | 43 | 27.5 | 27.5 | 28 |
| | NTR22L-22L-12L | 22 | 22 | 12 | 36 | 36 | 22 | 27 | 44 | 44 | 43 | 27.5 | 27.5 | 28 |
| | NTR22L-15L-15L | 22 | 15 | 15 | 36 | 27 | 27 | 27 | 44 | 43 | 43 | 27.5 | 28 | 28 |
| PN 160 | NTR22L-22L-15L | 22 | 22 | 15 | 36 | 36 | 27 | 27 | 44 | 44 | 43 | 27.5 | 27.5 | 28 |
| | NTR22L-18L-18L | 22 | 18 | 18 | 36 | 32 | 32 | 27 | 44 | 44 | 44 | 27.5 | 27.5 | 27.5 |
| | NTR22L-22L-18L | 22 | 22 | 18 | 36 | 36 | 32 | 27 | 44 | 44 | 44 | 27.5 | 27.5 | 27.5 |
| | NTR22L-18L-22L | 22 | 18 | 22 | 36 | 32 | 36 | 27 | 44 | 44 | 44 | 27.5 | 27.5 | 27.5 |
| | NTR28L-28L-10L | 28 | 28 | 10 | 41 | 41 | 19 | 36 | 47 | 44 | 46 | 30.5 | 30.5 | 31 |
| | NTR28L-28L-12L | 28 | 28 | 12 | 41 | 41 | 22 | 36 | 47 | 47 | 46 | 30.5 | 30.5 | 31 |
| S heavy PN630 | NTR28L-28L-15L | 28 | 28 | 15 | 41 | 41 | 27 | 36 | 47 | 47 | 46 | 30.5 | 30.5 | 31 |
| | NTR28L-28L-18L | 28 | 28 | 18 | 41 | 41 | 32 | 36 | 47 | 47 | 47 | 30.5 | 30.5 | 30.5 |
| | NTR28L-22L-22L | 28 | 22 | 22 | 41 | 36 | 36 | 36 | 47 | 47 | 47 | 30.5 | 30.5 | 30.5 |
| | NTR28L-28L-22L | 28 | 28 | 22 | 41 | 41 | 36 | 36 | 47 | 47 | 47 | 30.5 | 30.5 | 30.5 |
| | NTR10S-10S-06S | 10 | 10 | 6 | 22 | 22 | 17 | 17 | 34 | 34 | 33 | 17.5 | 17.5 | 18 |
| | NTR12S-08S-08S | 12 | 8 | 8 | 24 | 19 | 19 | 17 | 38 | 37 | 37 | 21.5 | 22 | 22 |
| PN400 | NTR12S-12S-08S | 12 | 12 | 8 | 24 | 24 | 19 | 17 | 38 | 38 | 37 | 21.5 | 21.5 | 22 |
| | NTR12S-12S-10S | 12 | 12 | 10 | 24 | 24 | 22 | 17 | 38 | 38 | 38 | 21.5 | 21.5 | 21.5 |
| | NTR12S-12S-16S | 12 | 12 | 16 | 24 | 24 | 30 | 24 | 42 | 42 | 43 | 25.5 | 25.5 | 24.5 |
| | NTR16S-16S-06S | 16 | 16 | 6 | 30 | 30 | 17 | 24 | 43 | 43 | 41 | 24.5 | 24.5 | 26 |
| | NTR16S-16S-08S | 16 | 16 | 8 | 30 | 30 | 19 | 24 | 43 | 43 | 41 | 24.5 | 24.5 | 26 |
| | NTR16S-16S-10S | 16 | 16 | 10 | 30 | 30 | 22 | 24 | 43 | 43 | 42 | 24.5 | 24.5 | 25.5 |
| PN 400 | NTR16S-16S-12S | 16 | 16 | 12 | 30 | 30 | 24 | 24 | 43 | 43 | 42 | 24.5 | 24.5 | 25.5 |
| | NTR16S-16S-20S | 16 | 16 | 20 | 30 | 30 | 36 | 27 | 47 | 47 | 48 | 28.5 | 28.5 | 26.5 |
| | NTR20S-20S-10S | 20 | 20 | 10 | 36 | 36 | 22 | 27 | 48 | 48 | 46 | 26.5 | 26.5 | 29.5 |
| | NTR20S-20S-12S | 20 | 20 | 12 | 36 | 36 | 24 | 27 | 48 | 48 | 46 | 26.5 | 26.5 | 29.5 |
| PN400 | NTR20S-20S-16S | 20 | 20 | 16 | 36 | 36 | 30 | 27 | 48 | 48 | 47 | 26.5 | 26.5 | 28.5 |
| | NTR20S-20S-25S | 20 | 20 | 25 | 36 | 36 | 46 | 36 | 53 | 53 | 54 | 31.5 | 31.5 | 30 |
| | NTR25S-25S-16S | 25 | 25 | 16 | 46 | 46 | 30 | 36 | 54 | 54 | 52 | 30 | 30 | 33.5 |
| | NTR25S-25S-20S | 25 | 25 | 20 | 46 | 46 | 36 | 36 | 54 | 54 | 53 | 30 | 30 | 31.5 |
| PN400 | NTR25S-25S-30S | 25 | 25 | 30 | 46 | 46 | 50 | 41 | 61 | 61 | 62 | 37 | 37 | 35.5 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Bulkhead Union

NBU



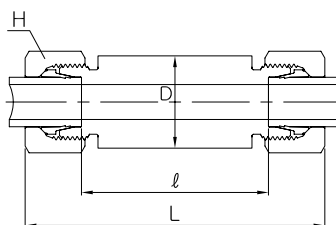
* $l_2 = \text{max. } 16 \text{ mm}$

| Series | Part No. | Tube O.D | H | H ₁ | h | L | L ₁ | ℓ | ℓ ₁ | T |
|----------------------|----------|----------|----|----------------|----|----|----------------|------|----------------|------------|
| L light PN 315 | NBU-06L | 6 | 14 | 17 | 17 | 42 | 22 | 27 | 7 | M 12 x 1.5 |
| | NBU-08L | 8 | 17 | 19 | 19 | 42 | 23 | 27 | 8 | M 14 x 1.5 |
| | NBU-10L | 10 | 19 | 22 | 22 | 43 | 25 | 28 | 10 | M 16 x 1.5 |
| | NBU-12L | 12 | 22 | 24 | 24 | 44 | 25 | 29 | 10 | M 18 x 1.5 |
| | NBU-15L | 15 | 27 | 30 | 27 | 46 | 27 | 31 | 12 | M 22 x 1.5 |
| PN 160 | NBU-18L | 18 | 32 | 36 | 32 | 49 | 30 | 32.5 | 13.5 | M 26 x 1.5 |
| | NBU-22L | 22 | 36 | 41 | 36 | 51 | 33 | 34.5 | 16.5 | M 30 x 2 |
| | NBU-28L | 28 | 41 | 46 | 41 | 52 | 35 | 35.5 | 18.5 | M 36 x 2 |
| | NBU-35L | 35 | 50 | 55 | 50 | 58 | 40 | 36.5 | 18.5 | M 45 x 2 |
| S heavy PN 630 | NBU-42L | 42 | 60 | 65 | 60 | 59 | 42 | 36 | 19 | M 52 x 2 |
| | NBU-06S | 6 | 17 | 19 | 19 | 44 | 27 | 29 | 12 | M 14 x 1.5 |
| | NBU-08S | 8 | 19 | 22 | 22 | 44 | 28 | 29 | 13 | M 16 x 1.5 |
| | NBU-10S | 10 | 22 | 24 | 24 | 46 | 31 | 29.5 | 14.5 | M 18 x 1.5 |
| PN 400 | NBU-12S | 12 | 24 | 27 | 27 | 47 | 31 | 30.5 | 14.5 | M 20 x 1.5 |
| | NBU-14S | 14 | 27 | 30 | 30 | 50 | 35 | 32 | 17 | M 22 x 1.5 |
| | NBU-16S | 16 | 30 | 32 | 32 | 50 | 35 | 31.5 | 16.5 | M 24 x 1.5 |
| | NBU-20S | 20 | 36 | 41 | 41 | 55 | 39 | 33.5 | 17.5 | M 30 x 2 |
| PN 315 | NBU-25S | 25 | 46 | 46 | 46 | 59 | 44 | 35 | 20 | M 36 x 2 |
| | NBU-30S | 30 | 50 | 50 | 50 | 64 | 48 | 37.5 | 21.5 | M 42 x 2 |
| | NBU-38S | 38 | 60 | 65 | 65 | 68 | 53 | 37 | 22 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Welding Bulkhead Union

NBUW



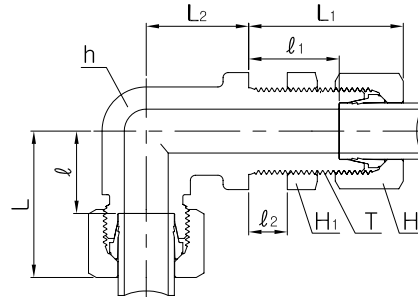
| Series | Part No. | Tube O.D | D | H | L | ℓ |
|----------------------|----------|----------|----|----|-----|----|
| L light PN 315 | NBUW-06L | 6 | 18 | 14 | 85 | 56 |
| | NBUW-08L | 8 | 20 | 17 | 85 | 56 |
| | NBUW-10L | 10 | 22 | 19 | 87 | 58 |
| | NBUW-12L | 12 | 25 | 22 | 87 | 58 |
| | NBUW-15L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

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

Bulkhead Union Elbow

NBL



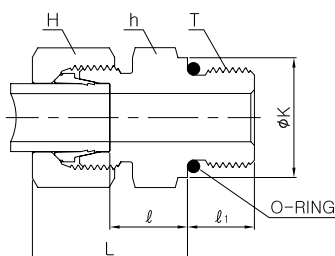
* l_2 = max. 16 mm

| Series | Part No. | Tube O.D | H | H ₁ | h | L | L ₁ | L ₂ | ℓ | ℓ ₁ | T |
|----------------------|----------|----------|----|----------------|----|----|----------------|----------------|------|----------------|------------|
| L light PN 315 | NBL-06L | 6 | 14 | 17 | 12 | 27 | 42 | 14 | 12 | 27 | M 12 x 1.5 |
| | NBL-08L | 8 | 17 | 19 | 12 | 29 | 42 | 17 | 14 | 27 | M 14 x 1.5 |
| | NBL-10L | 10 | 19 | 22 | 14 | 30 | 43 | 18 | 15 | 28 | M 16 x 1.5 |
| | NBL-12L | 12 | 22 | 24 | 17 | 32 | 44 | 20 | 17 | 29 | M 18 x 1.5 |
| | NBL-15L | 15 | 27 | 30 | 19 | 36 | 46 | 23 | 21 | 31 | M 22 x 1.5 |
| | NBL-18L | 18 | 32 | 36 | 24 | 40 | 49 | 24 | 23.5 | 32.5 | M 26 x 1.5 |
| PN 160 | NBL-22L | 22 | 36 | 41 | 27 | 44 | 51 | 30 | 27.5 | 34.5 | M 30 x 2 |
| | NBL-28L | 28 | 41 | 46 | 36 | 47 | 52 | 34 | 30.5 | 35.5 | M 36 x 2 |
| | NBL-35L | 35 | 50 | 55 | 41 | 56 | 58 | 39 | 34.5 | 36.5 | M 45 x 2 |
| | NBL-42L | 42 | 60 | 65 | 50 | 63 | 59 | 43 | 40 | 36 | M 52 x 2 |
| S heavy PN 630 | NBL-06S | 6 | 17 | 19 | 12 | 31 | 44 | 17 | 16 | 29 | M 14 x 1.5 |
| | NBL-08S | 8 | 19 | 22 | 14 | 32 | 44 | 18 | 17 | 29 | M 16 x 1.5 |
| | NBL-10S | 10 | 22 | 24 | 17 | 34 | 46 | 20 | 17.5 | 29.5 | M 18 x 1.5 |
| | NBL-12S | 12 | 24 | 27 | 17 | 38 | 47 | 21 | 21.5 | 30.5 | M 20 x 1.5 |
| | NBL-14S | 14 | 27 | 30 | 19 | 40 | 50 | 23 | 22 | 32 | M 22 x 1.5 |
| PN 400 | NBL-16S | 16 | 30 | 32 | 24 | 43 | 50 | 24 | 24.5 | 31.5 | M 24 x 1.5 |
| | NBL-20S | 20 | 36 | 41 | 27 | 48 | 55 | 30 | 26.5 | 33.5 | M 30 x 2 |
| | NBL-25S | 25 | 46 | 46 | 36 | 54 | 59 | 34 | 30 | 35 | M 36 x 2 |
| | NBL-30S | 30 | 50 | 50 | 41 | 62 | 64 | 39 | 35.5 | 37.5 | M 42 x 2 |
| PN 315 | NBL-38S | 38 | 60 | 65 | 50 | 72 | 68 | 43 | 41 | 37 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

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

NOM-U/M



* DIN 3852 Form "F" stud end
 * O-ring of NBR standard, of FPM on request

for Unified

| Series | Part No. | Tube O.D | H | h | K | L | ℓ ₁ | ℓ | T U(Unified) |
|----------------------|-------------|----------|----|----|------|----|----------------|------|-----------------|
| L light PN 315 | NOM 08L-4U | 8 | 17 | 17 | 14.4 | 25 | 9 | 10 | 7/16-20 UNF-2A |
| | NOM 10L-4U | 10 | 19 | 17 | 14.4 | 26 | 10 | 11 | 7/16-20 UNF-2A |
| | NOM 12L-6U | 12 | 22 | 19 | 17.6 | 26 | 10 | 11 | 9/16-18 UNF-2A |
| | NOM 12L-8U | 12 | 22 | 24 | 22.3 | 28 | 11 | 13 | 3/4-16 UNF-2A |
| | NOM 12L-10U | 12 | 22 | 27 | 25.5 | 29 | 12.7 | 14.3 | 7/8-14 UNF-2A |
| | NOM 15L-8U | 15 | 27 | 24 | 22.3 | 29 | 11 | 14 | 3/4-16 UNF-2A |
| | NOM 15L-10U | 15 | 27 | 27 | 25.5 | 30 | 12.7 | 15.3 | 7/8-14 UNF-2A |
| PN 160 | NOM 18L-8U | 18 | 32 | 27 | 22.3 | 31 | 11 | 14.5 | 3/4-16 UNF-2A |
| | NOM 18L-10U | 18 | 32 | 27 | 25.5 | 31 | 12.7 | 14.8 | 7/8-14 UNF-2A |
| | NOM 22L-10U | 22 | 36 | 32 | 25.5 | 33 | 12.7 | 16.8 | 7/8-14 UNF-2A |
| | NOM 22L-12U | 22 | 36 | 32 | 31.9 | 33 | 15 | 16.5 | 1 1/16-12 UN-2A |
| | NOM 22L-16U | 22 | 36 | 41 | 38.2 | 34 | 15 | 17.5 | 1 5/16-12 UN-2A |
| | NOM 28L-12U | 28 | 41 | 41 | 31.9 | 34 | 15 | 17.5 | 1 1/16-12 UN-2A |
| | NOM 28L-16U | 28 | 41 | 41 | 38.2 | 34 | 15 | 17.5 | 1 5/16-12 UN-2A |
| S heavy PN630 | NOM 35L-16U | 35 | 50 | 46 | 38.2 | 39 | 15 | 17.5 | 1 5/16-12 UN-2A |
| | NOM 35L-20U | 35 | 50 | 50 | 47.7 | 39 | 15 | 17.5 | 1 5/8-12 UN-2A |
| | NOM 42L-20U | 42 | 60 | 55 | 47.7 | 42 | 15 | 19 | 1 5/8-12 UN-2A |
| | NOM 08S-4U | 8 | 19 | 17 | 16 | 30 | 9 | 15 | 7/16-20 UNF-2A |
| | NOM 10S-6U | 10 | 22 | 19 | 17.6 | 31 | 10 | 14.5 | 9/16-18 UNF-2A |
| PN 400 | NOM 12S-6U | 12 | 24 | 22 | 17.6 | 31 | 10 | 14.5 | 9/16-18 UNF-2A |
| | NOM 12S-8U | 12 | 24 | 24 | 22.3 | 34 | 11 | 17.5 | 3/4-16 UNF-2A |
| | NOM 16S-8U | 16 | 30 | 24 | 22.3 | 34 | 11 | 15.5 | 3/4-16 UNF-2A |
| | NOM 16S-10U | 16 | 30 | 27 | 25.5 | 37 | 12.7 | 18.8 | 7/8-14 UNF-2A |
| | NOM 20S-8U | 20 | 36 | 32 | 22.3 | 42 | 11 | 20.5 | 3/4-16 UNF-2A |
| | NOM 20S-10U | 20 | 36 | 32 | 25.5 | 42 | 12.7 | 20.8 | 7/8-14 UNF-2A |
| | NOM 20S-12U | 20 | 36 | 32 | 31.9 | 42 | 15 | 20.5 | 1 1/16-12 UN-2A |
| PN 315 | NOM 25S-12U | 25 | 46 | 36 | 31.9 | 47 | 15 | 23 | 1 1/16-12 UN-2A |
| | NOM 25S-16U | 25 | 46 | 41 | 38.2 | 47 | 15 | 23 | 1 5/16-12 UN-2A |
| | NOM 30S-16U | 30 | 50 | 46 | 38.2 | 50 | 15 | 23.5 | 1 5/16-12 UN-2A |
| | NOM 30S-20U | 30 | 50 | 50 | 47.7 | 50 | 15 | 23.5 | 1 5/8-12 UN-2A |
| | NOM 38S-20U | 38 | 60 | 55 | 47.7 | 57 | 15 | 26 | 1 5/8-12 UN-2A |

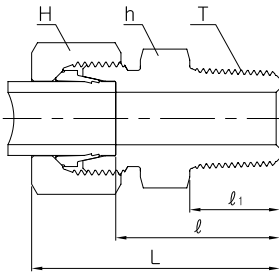
for Metric Parallel

| Series | Part No. | Tube O.D | H | h | K | L | ℓ ₁ | ℓ | T M(Metric) |
|----------------------|---------------|----------|----|----|----|----|----------------|------|----------------|
| L light PN 315 | NOM 06L-10M10 | 6 | 14 | 14 | - | 23 | 10 | 8.5 | M 10 x 1 |
| | NOM 08L-12M15 | 8 | 17 | 17 | - | 25 | 11.5 | 10 | M 12 x 1.5 |
| | NOM 10L-14M15 | 10 | 19 | 19 | - | 26 | 11.5 | 11 | M 14 x 1.5 |
| | NOM 12L-16M15 | 12 | 22 | 22 | - | 27 | 13 | 12 | M 16 x 1.5 |
| | NOM 15L-18M15 | 15 | 27 | 24 | - | 29 | 14.5 | 13.5 | M 18 x 1.5 |
| | NOM 18L-22M15 | 18 | 32 | 27 | - | 30 | 15.5 | 14 | M 22 x 1.5 |
| PN 160 | NOM 22L-26M15 | 22 | 36 | 32 | - | 32 | 16 | 16 | M 26 x 1.5 |
| | NOM 28L-33M20 | 28 | 41 | 41 | 38 | 34 | 19 | 17.5 | M 33 x 2 |
| | NOM 35L-42M20 | 35 | 50 | 50 | 48 | 39 | 19.5 | 17.5 | M 42 x 2 |
| S heavy PN630 | NOM 06S-12M15 | 6 | 17 | 17 | - | 27 | 11.5 | 12 | M 12 x 1.5 |
| | NOM 08S-14M15 | 8 | 19 | 19 | - | 27 | 11.5 | 12 | M 14 x 1.5 |
| | NOM 10S-16M15 | 10 | 22 | 22 | - | 29 | 13 | 12.5 | M 16 x 1.5 |
| | NOM 12S-18M15 | 12 | 24 | 24 | - | 29 | 14.5 | 13 | M 18 x 1.5 |
| PN 400 | NOM 16S-22M15 | 16 | 30 | 27 | - | 33 | 15.5 | 15 | M 22 x 1.5 |
| | NOM 20S-27M20 | 20 | 36 | 32 | - | 37 | 19 | 15 | M 27 x 2 |
| | NOM 25S-33M20 | 25 | 46 | 41 | 38 | 41 | 19 | 17 | M 33 x 2 |
| | NOM 30S-42M20 | 30 | 50 | 50 | 48 | 45 | 19.5 | 18.5 | M 42 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Male Connector(BSP Tapered)

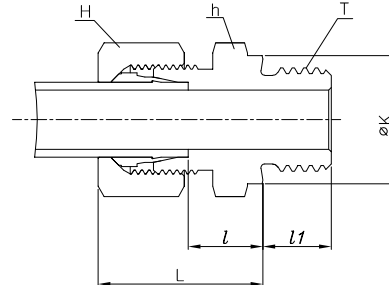
NMC-R



* DIN 3852 Form "C" stud end

Male Connector(BSP Parallel)

NMC-G



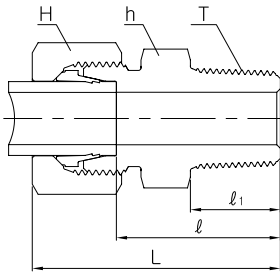
* DIN 3852 Form "B" stud end

| Series | Part No. | Tube O.D | H | h | K | L | ℓ | ℓ ₁ | T R(PT), G(PF) |
|-------------------------------|--------------|----------|----|----|------|------|------|----------------|-------------------|
| LL very light PN 100 | NMC 04LL-01R | 4 | 10 | 11 | - | 26 | 16 | 8 | PT 1/8 |
| | NMC 06LL-01R | 6 | 12 | 11 | - | 26 | 14.5 | 8 | PT 1/8 |
| | NMC 08LL-01R | 8 | 14 | 12 | - | 28 | 16.5 | 8 | PT 1/8 |
| | NMC 08LL-02R | 8 | 14 | 14 | - | 32 | 20.5 | 12 | PT 1/4 |
| | NMC 10LL-02R | 10 | 17 | 14 | - | 32 | 20.5 | 12 | PT 1/4 |
| | NMC 12LL-02R | 12 | 19 | 17 | - | 32 | 20 | 12 | PT 1/4 |
| L light PN 315 | NMC 12LL-03R | 12 | 19 | 17 | - | 32 | 20 | 12 | PT 3/8 |
| | NMC 06L-01G | 6 | 14 | 14 | 14 | 23 | 8.5 | 8 | PF 1/8 |
| | NMC 06L-01R | 6 | 14 | 12 | - | 30 | 15 | 8 | PT 1/8 |
| | NMC 06L-02G | 6 | 14 | 19 | 18 | 25 | 10 | 12 | PF 1/4 |
| | NMC 06L-03G | 6 | 14 | 22 | 22 | 26 | 11.5 | 12 | PF 3/8 |
| | NMC 06L-04G | 6 | 14 | 27 | 26 | 27 | 12 | 14 | PF 1/2 |
| | NMC 08L-01G | 8 | 17 | 14 | 14 | 23 | 8.5 | 8 | PF 1/8 |
| | NMC 08L-02G | 8 | 17 | 19 | 18 | 25 | 10 | 12 | PF 1/4 |
| | NMC 08L-02R | 8 | 17 | 17 | - | 35 | 20 | 12 | PT 1/4 |
| | NMC 08L-03G | 8 | 17 | 22 | 22 | 26 | 11.5 | 12 | PF 3/8 |
| | NMC 08L-04G | 8 | 17 | 27 | 26 | 27 | 12 | 14 | PF 1/2 |
| | NMC 10L-02G | 10 | 19 | 19 | 18 | 26 | 11 | 12 | PF 1/4 |
| | NMC 10L-02R | 10 | 19 | 17 | - | 36 | 21 | 12 | PT 1/4 |
| | NMC 10L-03G | 10 | 19 | 22 | 22 | 27 | 12.5 | 12 | PF 3/8 |
| | NMC 10L-04G | 10 | 19 | 27 | 26 | 28 | 13 | 14 | PF 1/2 |
| | NMC 12L-02R | 12 | 22 | 19 | - | 37 | 22 | 12 | PT 1/4" |
| | NMC 12L-02G | 12 | 22 | 19 | 18 | 27 | 12 | 12 | PF 1/4" |
| | NMC 12L-03G | 12 | 22 | 22 | 22 | 27 | 12.5 | 12 | PF 3/8 |
| | NMC 12L-03R | 12 | 22 | 19 | - | 37 | 22 | 12 | PT 3/8 |
| | NMC 12L-04G | 12 | 22 | 27 | 26 | 28 | 13 | 14 | PF 1/2 |
| | NMC 12L-04R | 12 | 22 | 24 | - | 39 | 24 | 14 | PT 1/2 |
| | NMC 12L-06G | 12 | 22 | 32 | 32 | 29 | 14 | 16 | PF 3/4 |
| | NMC 15L-03R | 15 | 27 | 24 | - | 38 | 23 | 12 | PT 3/8 |
| | NMC 15L-03G | 15 | 27 | 24 | 22 | 29 | 13.5 | 12 | PF 3/8 |
| | NMC 15L-04G | 15 | 27 | 27 | 26 | 29 | 14 | 14 | PF 1/2 |
| | NMC 15L-04R | 15 | 27 | 24 | - | 40 | 25 | 14 | PT 1/2 |
| NMC 15L-06G | 15 | 27 | 32 | 32 | 30 | 15 | 16 | PF 3/4 | |
| NMC 18L-03G | 18 | 32 | 27 | 22 | 29.5 | 14 | 12 | PF 3/8 | |
| NMC 18L-04G | 18 | 32 | 27 | 26 | 31 | 14.5 | 14 | PF 1/2 | |
| NMC 18L-04R | 18 | 32 | 27 | - | 41 | 25.5 | 14 | PT 1/2 | |
| NMC 18L-06G | 22 | 32 | 32 | 32 | 30 | 14.5 | 16 | PF 3/4 | |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Male Connector(BSP Tapered)

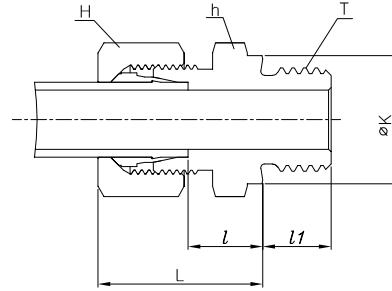
NMC-R



* DIN 3852 Form "C" stud end

Male Connector(BSP Parallel)

NMC-G



* DIN 3852 Form "B" stud end

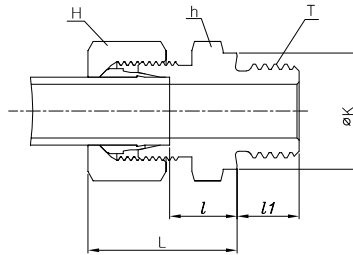
| Series | Part No. | Tube O.D | H | h | K | L | ℓ | ℓ ₁ | T R(PT), G(PF) |
|----------------------|-------------|-------------|----|----|----|----|------|----------------|-------------------|
| L light PN 160 | NMC 22L-06G | 22 | 36 | 32 | 32 | 33 | 16.5 | 16 | PF 3/4 |
| | NMC 22L-04G | 22 | 36 | 32 | 26 | 33 | 16.5 | 14 | PF 1/2 |
| | NMC 22L-06R | 22 | 36 | 32 | - | 46 | 29.5 | 16 | PT 3/4 |
| | NMC 28L-08G | 28 | 41 | 41 | 39 | 34 | 17.5 | 18 | PF 1 |
| | NMC 28L-06G | 28 | 41 | 41 | 32 | 34 | 17.5 | 16 | PF 3/4 |
| | NMC 35L-08G | 35 | 50 | 46 | 39 | 39 | 17.5 | 18 | PF 1 |
| | NMC 35L-10G | 35 | 50 | 50 | 49 | 39 | 17.5 | 20 | PF 1 1/4 |
| | NMC 42L-12G | 42 | 60 | 55 | 55 | 42 | 19 | 22 | PF 1 1/2 |
| S heavy PN 630 | NMC 06S-02G | 6 | 17 | 19 | 18 | 28 | 13 | 12 | PF 1/4 |
| | NMC 06S-04G | 6 | 17 | 27 | 26 | 33 | 18 | 14 | PF 1/2 |
| | NMC 08S-02G | 8 | 19 | 19 | 18 | 30 | 15 | 12 | PF 1/4 |
| | NMC 08S-03G | 8 | 19 | 22 | 22 | 30 | 15.5 | 12 | PF 3/8 |
| | NMC 10S-02G | 10 | 22 | 19 | 18 | 31 | 14.5 | 12 | PF 1/4 |
| | NMC 10S-03G | 10 | 22 | 22 | 22 | 31 | 15 | 12 | PF 3/8 |
| | NMC 10S-04G | 10 | 22 | 27 | 26 | 34 | 17.5 | 14 | PF 1/2 |
| | NMC 12S-02G | 12 | 24 | 22 | 18 | 33 | 16.5 | 12 | PF 1/4 |
| | NMC 12S-03G | 12 | 24 | 22 | 22 | 33 | 17 | 12 | PF 3/8 |
| | NMC 12S-04G | 12 | 24 | 27 | 26 | 34 | 17.5 | 14 | PF 1/2 |
| | NMC 14S-03G | 14 | 27 | 24 | 22 | 36 | 18.5 | 12 | PF 3/8 |
| | NMC 14S-04G | 14 | 27 | 27 | 26 | 37 | 19 | 14 | PF 1/2 |
| PN 400 | NMC 16S-04G | 16 | 30 | 27 | 26 | 37 | 18.5 | 14 | PF 1/2 |
| | NMC 16S-03G | 16 | 30 | 27 | 22 | 36 | 18 | 12 | PF 3/8 |
| | NMC 16S-06G | 16 | 30 | 32 | 32 | 39 | 20.5 | 16 | PF 3/4 |
| | NMC 20S-04G | 20 | 36 | 32 | 26 | 42 | 20.5 | 14 | PF 1/2 |
| | NMC 20S-06G | 20 | 36 | 32 | 32 | 42 | 20.5 | 16 | PF 3/4 |
| | NMC 25S-08G | 25 | 46 | 41 | 39 | 47 | 23 | 18 | PF 1 |
| | NMC 25S-06G | 25 | 46 | 41 | 32 | 47 | 23 | 16 | PF 3/4 |
| | PN 250 | NMC 30S-08G | 30 | 50 | 46 | 39 | 50 | 23.5 | 18 |
| NMC 30S-10G | | 30 | 50 | 50 | 49 | 50 | 23.5 | 20 | PF 1 1/4 |
| NMC 38S-10G | | 38 | 60 | 55 | 49 | 57 | 26 | 20 | PF 1 1/4 |
| NMC 38S-12G | | 38 | 60 | 55 | 55 | 57 | 26 | 22 | PF 1 1/2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

Male Connector(Metric Parallel)

NMC-M

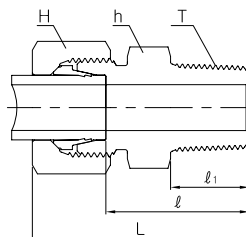


| Series | Part No. | Tube O.D | H | h | K | L | ℓ | ℓ ₁ | T M(Metric) |
|----------------------|---------------|----------|----|----|----|------|------|----------------|----------------|
| L light PN 315 | NMC 06L-10M10 | 6 | 14 | 14 | 14 | 23 | 8.5 | 8 | M 10 x 1 |
| | NMC 08L-12M15 | 8 | 17 | 17 | 17 | 25 | 10 | 12 | M 12 x 1.5 |
| | NMC 08L-18M15 | 8 | 17 | 24 | 23 | 26 | 11.5 | 12 | M 18 x 1.5 |
| | NMC 10L-14M15 | 10 | 19 | 19 | 19 | 26 | 11 | 12 | M 14 x 1.5 |
| | NMC 10L-16M15 | 10 | 19 | 22 | 21 | 27 | 12 | 12 | M 16 x 1.5 |
| | NMC 10L-18M15 | 10 | 19 | 24 | 23 | 27 | 12.5 | 12 | M 18 x 1.5 |
| | NMC 10L-22M15 | 10 | 19 | 27 | 27 | 29 | 14 | 14 | M 22 x 1.5 |
| | NMC 12L-14M15 | 12 | 22 | 19 | 19 | 26 | 11 | 12 | M 14 x 1.5 |
| | NMC 12L-16M15 | 12 | 22 | 22 | 21 | 27 | 12.5 | 12 | M 16 x 1.5 |
| | NMC 12L-18M15 | 12 | 22 | 24 | 23 | 27 | 12.5 | 12 | M 18 x 1.5 |
| | NMC 12L-22M15 | 12 | 22 | 27 | 27 | 29 | 14 | 14 | M 22 x 1.5 |
| | NMC 15L-16M15 | 15 | 27 | 24 | 21 | 28 | 13 | 12 | M 16 x 1.5 |
| | NMC 15L-18M15 | 15 | 27 | 24 | 23 | 29 | 13.5 | 12 | M 18 x 1.5 |
| | NMC 15L-22M15 | 15 | 27 | 27 | 27 | 30 | 15 | 14 | M 22 x 1.5 |
| | NMC 18L-18M15 | 18 | 32 | 27 | 23 | 30 | 14 | 12 | M 18 x 1.5 |
| NMC 18L-22M15 | 18 | 32 | 27 | 27 | 31 | 14.5 | 14 | M 22 x 1.5 | |
| PN 160 | NMC 22L-22M15 | 22 | 36 | 32 | 27 | 33 | 16.5 | 14 | M 22 x 1.5 |
| | NMC 22L-26M15 | 22 | 36 | 32 | 31 | 33 | 16.5 | 16 | M 26 x 1.5 |
| | NMC 28L-33M20 | 28 | 41 | 41 | 39 | 34 | 17.5 | 18 | M 33 x 2 |
| | NMC 35L-42M20 | 35 | 50 | 50 | 49 | 39 | 17.5 | 20 | M 42 x 2 |
| | NMC 42L-48M20 | 42 | 60 | 55 | 55 | 42 | 19 | 22 | M 48 x 2 |
| S heavy PN 630 | NMC 06S-12M15 | 6 | 17 | 17 | 17 | 28 | 13 | 12 | M 12 x 1.5 |
| | NMC 08S-14M15 | 8 | 19 | 19 | 19 | 30 | 15 | 12 | M 14 x 1.5 |
| | NMC 10S-16M15 | 10 | 22 | 22 | 21 | 31 | 15 | 12 | M 16 x 1.5 |
| | NMC 12S-18M15 | 12 | 24 | 24 | 23 | 33 | 17 | 12 | M 18 x 1.5 |
| | NMC 12S-22M15 | 12 | 24 | 27 | 27 | 34 | 17.5 | 14 | M 22 x 1.5 |
| NMC 14S-20M15 | 14 | 27 | 27 | 25 | 37 | 19 | 14 | M 20 x 1.5 | |
| PN 400 | NMC 16S-18M15 | 16 | 30 | 27 | 23 | 36 | 18 | 12 | M 18 x 1.5 |
| | NMC 16S-22M15 | 16 | 30 | 27 | 27 | 37 | 18.5 | 14 | M 22 x 1.5 |
| | NMC 20S-27M20 | 20 | 36 | 32 | 32 | 42 | 20.5 | 16 | M 27 x 2 |
| | NMC 25S-33M20 | 25 | 46 | 41 | 39 | 47 | 23 | 18 | M 33 x 2 |
| PN 250 | NMC 30S-42M20 | 30 | 50 | 50 | 49 | 50 | 23.5 | 20 | M 42 x 2 |
| | NMC 38S-48M20 | 38 | 60 | 55 | 55 | 57 | 26 | 22 | M 48 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Male Connector(Metric Tapered)

NMC-MK

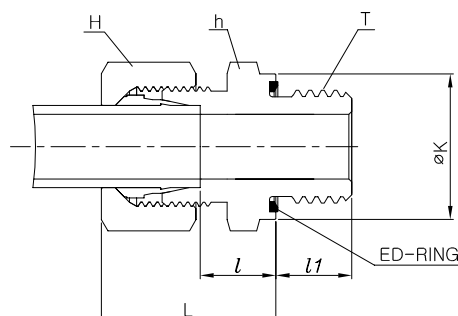


* DIN 3852 Form "C" stud end

| Series | Part No. | Tube O.D | H | h | K | L | ℓ | ℓ ₁ | T M(Metric) |
|----------------------------|-----------------|----------|----|----|---|----|------|----------------|----------------|
| LL very light PN 100 | NMC 04LL-6M10K | 4 | 10 | 9 | - | 26 | 16 | 8 | M 6 x 1 Keg |
| | NMC 04LL-8M10K | 4 | 10 | 10 | - | 26 | 16 | 8 | M 8 x 1 Keg |
| | NMC 06LL-10M10K | 6 | 12 | 11 | - | 26 | 14.5 | 8 | M10 x 1 Keg |
| | NMC 08LL-10M10K | 8 | 14 | 12 | - | 28 | 16.5 | 8 | M10 x 1 Keg |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Male Connector(BSP Parallel) with *ED-Ring

NMC-GE

* DIN 3852 Form "E" stud end

* ED-ring of NBR standard, of FPM on request

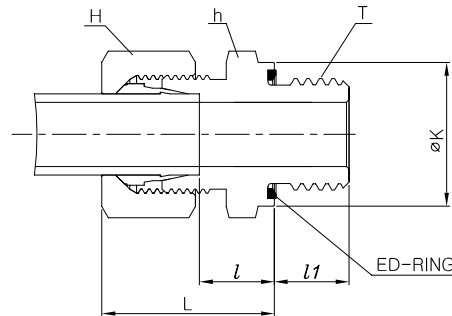
| Series | Part No. | Tube O.D | H | h | K | L | ℓ | ℓ ₁ | T G (PF) |
|----------------------|--------------|----------|----|----|----|------|------|----------------|-------------|
| L light PN 315 | NMC 06L-01GE | 6 | 14 | 14 | 14 | 23 | 8.5 | 8 | 1/8 |
| | NMC 06L-02GE | 6 | 14 | 19 | 19 | 25 | 10 | 12 | 1/4 |
| | NMC 08L-01GE | 8 | 17 | 14 | 14 | 24 | 9.5 | 8 | 1/8 |
| | NMC 08L-02GE | 8 | 17 | 19 | 19 | 25 | 10 | 12 | 1/4 |
| | NMC 08L-03GE | 8 | 17 | 22 | 22 | 26 | 11.5 | 12 | 3/8 |
| | NMC 10L-02GE | 10 | 19 | 19 | 19 | 26 | 11 | 12 | 1/4 |
| | NMC 10L-03GE | 10 | 19 | 22 | 22 | 27 | 12.5 | 12 | 3/8 |
| | NMC 10L-04GE | 10 | 19 | 27 | 27 | 28 | 13 | 14 | 1/2 |
| | NMC 12L-02GE | 12 | 22 | 19 | 19 | 27 | 12 | 12 | 1/4 |
| | NMC 12L-03GE | 12 | 22 | 22 | 22 | 27 | 12.5 | 12 | 3/8 |
| | NMC 12L-04GE | 12 | 22 | 27 | 27 | 28 | 13 | 14 | 1/2 |
| | NMC 15L-03GE | 15 | 27 | 24 | 22 | 29 | 13.5 | 12 | 3/8 |
| | NMC 15L-04GE | 15 | 27 | 27 | 27 | 29 | 14 | 14 | 1/2 |
| | NMC 18L-04GE | 18 | 32 | 27 | 27 | 31 | 14.5 | 14 | 1/2 |
| NMC 18L-06GE | 18 | 32 | 32 | 32 | 31 | 14.5 | 16 | 3/4 | |
| PN 160 | NMC 22L-06GE | 22 | 36 | 32 | 32 | 33 | 16.5 | 16 | 3/4 |
| | NMC 28L-08GE | 28 | 41 | 41 | 40 | 34 | 17.5 | 18 | 1 |
| | NMC 35L-10GE | 35 | 50 | 50 | 50 | 39 | 17.5 | 20 | 1 1/4 |
| | NMC 42L-12GE | 42 | 60 | 55 | 55 | 42 | 19 | 22 | 1 1/2 |
| S heavy PN 630 | NMC 06S-02GE | 6 | 17 | 19 | 19 | 28 | 13 | 12 | 1/4 |
| | NMC 08S-02GE | 8 | 19 | 19 | 19 | 30 | 15 | 12 | 1/4 |
| | NMC 08S-03GE | 8 | 19 | 22 | 22 | 30 | 15.5 | 12 | 3/8 |
| | NMC 10S-02GE | 10 | 22 | 19 | 19 | 31 | 14.5 | 12 | 1/4 |
| | NMC 10S-03GE | 10 | 22 | 22 | 22 | 31 | 15 | 12 | 3/8 |
| | NMC 10S-04GE | 10 | 22 | 27 | 27 | 34 | 17.5 | 14 | 1/2 |
| | NMC 12S-02GE | 12 | 24 | 22 | 19 | 33 | 16.5 | 12 | 1/4 |
| | NMC 12S-03GE | 12 | 24 | 22 | 22 | 33 | 17 | 12 | 3/8 |
| | NMC 12S-04GE | 12 | 24 | 27 | 32 | 34 | 17.5 | 14 | 1/2 |
| PN 400 | NMC 14S-04GE | 14 | 27 | 27 | 27 | 37 | 19 | 14 | 1/2 |
| | NMC 16S-03GE | 16 | 30 | 27 | 22 | 36 | 18 | 12 | 3/8 |
| | NMC 16S-04GE | 16 | 30 | 27 | 27 | 37 | 18.5 | 14 | 1/2 |
| | NMC 16S-06GE | 16 | 30 | 32 | 27 | 39 | 20.5 | 16 | 3/4 |
| | NMC 20S-06GE | 20 | 36 | 32 | 32 | 42 | 20.5 | 16 | 3/4 |
| | NMC 25S-04GE | 25 | 46 | 41 | 27 | 47 | 23 | 14 | 1/2 |
| | NMC 25S-06GE | 25 | 46 | 41 | 32 | 47 | 23 | 16 | 3/4 |
| | NMC 25S-08GE | 25 | 46 | 41 | 40 | 47 | 23 | 18 | 1 |
| PN 315 | NMC 30S-10GE | 30 | 50 | 50 | 50 | 50 | 23.5 | 20 | 1 1/4 |
| | NMC 38S-12GE | 38 | 60 | 55 | 55 | 57 | 26 | 22 | 1 1/2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

Male Connector(Metric Parallel) with *ED-Ring

NMC-ME



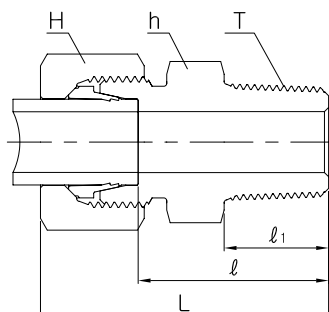
* DIN 3852 Form "E" stud end

* ED-ring of NBR standard, of FPM on request

| Series | Part No. | Tube O.D | H | h | K | L | ℓ | ℓ ₁ | T M(Metric) |
|----------------------|-----------------|----------|----|----|----|----|------|----------------|----------------|
| L light PN 315 | NMC 06L-10M10E | 6 | 14 | 14 | 14 | 23 | 8.5 | 8 | M 10 x 1 |
| | NMC 08L-12M15E | 8 | 17 | 17 | 17 | 25 | 10 | 12 | M 12 x 1.5 |
| | NMC 10L-14M15E | 10 | 19 | 19 | 19 | 26 | 11 | 12 | M 14 x 1.5 |
| | NMC 12L-16M15E | 12 | 22 | 22 | 22 | 27 | 12.5 | 12 | M 16 x 1.5 |
| | NMC 12L-18M15E | 12 | 22 | 24 | 24 | 27 | 12.5 | 12 | M 18 x 1.5 |
| | NMC 12L-22M15E | 12 | 22 | 27 | 27 | 29 | 14 | 14 | M 22 x 1.5 |
| | NMC 15L-18M15E | 15 | 27 | 24 | 24 | 29 | 13.5 | 12 | M 18 x 1.5 |
| | NMC 15L-22M15E. | 15 | 27 | 27 | 27 | 30 | 15 | 14 | M 22 x 1.5 |
| PN 160 | NMC 18L-22M15E | 18 | 32 | 27 | 27 | 31 | 14.5 | 14 | M 22 x 1.5 |
| | NMC 22L-26M15E | 22 | 36 | 32 | 32 | 33 | 16.5 | 16 | M 26 x 1.5 |
| | NMC 28L-33M20E | 28 | 41 | 41 | 40 | 34 | 17.5 | 18 | M 33 x 2 |
| | NMC 35L-42M20E | 35 | 50 | 50 | 50 | 39 | 17.5 | 20 | M 42 x 2 |
| S heavy PN 630 | NMC 42L-48M20E | 42 | 60 | 55 | 55 | 42 | 19 | 22 | M 48 x 2 |
| | NMC 06 S-12M15E | 6 | 17 | 17 | 17 | 28 | 13 | 12 | M 12 x 1.5 |
| | NMC 08S-14M15E | 8 | 19 | 19 | 19 | 30 | 15 | 12 | M 14 x 1.5 |
| | NMC 10S-16M15E | 10 | 22 | 22 | 22 | 31 | 15 | 12 | M 16 x 1.5 |
| | NMC 12S-18M15E | 12 | 24 | 24 | 24 | 33 | 17 | 12 | M 18 x 1.5 |
| PN 400 | NMC 14S-20M15E | 14 | 27 | 27 | 26 | 37 | 19 | 14 | M 20 x 1.5 |
| | NMC 16S-22M15E | 16 | 30 | 27 | 27 | 37 | 18.5 | 14 | M 22 x 1.5 |
| | NMC 20S-27M20E | 20 | 36 | 32 | 32 | 42 | 20.5 | 16 | M 27 x 2 |
| | NMC 25S-33M20E | 25 | 46 | 41 | 40 | 47 | 23 | 18 | M 33 x 2 |
| PN 315 | NMC 30S-42M20E | 30 | 50 | 50 | 50 | 50 | 23.5 | 20 | M 42 x 2 |
| | NMC 38S-48M20E | 38 | 60 | 55 | 55 | 57 | 26 | 22 | M 48 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Male Connector(NPT Thread)

NMC-N

* DIN 3852 Form "C" stud end

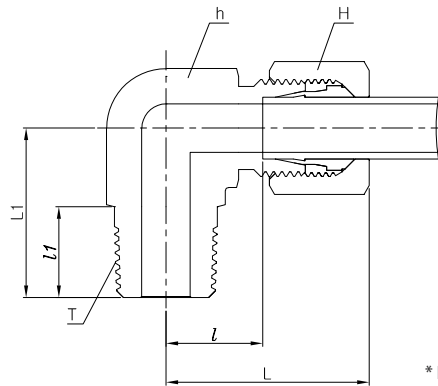
| Series | Part No. | Tube O.D | H | h | L | ℓ | ℓ ₁ | T N(NPT) |
|-----------------------------------|--------------|----------|----|----|----|------|----------------|-------------|
| LL very light PN 100 | NMC 04LL-01N | 4 | 10 | 11 | 28 | 18.5 | 9.9 | 1/8-27 |
| | NMC 06LL-01N | 6 | 12 | 11 | 28 | 16.5 | 9.9 | 1/8-27 |
| | NMC 08LL-01N | 8 | 14 | 12 | 30 | 18.5 | 9.9 | 1/8-27 |
| L light PN 315 | NMC 06L-01N | 6 | 14 | 12 | 32 | 17 | 9.9 | 1/8-27 |
| | NMC 06L-02N | 6 | 14 | 17 | 38 | 23 | 14.2 | 1/4-18 |
| | NMC 08L-02N | 8 | 17 | 17 | 38 | 23 | 14.2 | 1/4-18 |
| | NMC 10L-02N | 10 | 19 | 17 | 39 | 24 | 14.2 | 1/4-18 |
| | NMC 10L-03N | 10 | 19 | 19 | 40 | 25 | 14.2 | 3/8-18 |
| | NMC 12L-02N | 12 | 22 | 19 | 40 | 25 | 14.2 | 1/4-18 |
| | NMC 12L-03N | 12 | 22 | 19 | 40 | 25 | 14.2 | 3/8-18 |
| | NMC 12L-04N | 12 | 22 | 22 | 45 | 30 | 19.1 | 1/2-14 |
| | NMC 15L-04N | 15 | 27 | 24 | 46 | 31 | 19.1 | 1/2-14 |
| PN 160 | NMC 18L-04N | 18 | 32 | 27 | 48 | 31.5 | 19.1 | 1/2-14 |
| | NMC 22L-06N | 22 | 36 | 32 | 50 | 33.5 | 19.1 | 3/4-14 |
| | NMC 28L-08N | 28 | 41 | 41 | 56 | 39.5 | 23.9 | 1-11.5 |
| | NMC 35L-10N | 35 | 50 | 46 | 62 | 40.5 | 23.9 | 1 1/4-11.5 |
| S heavy PN 630 | NMC 42L-12N | 42 | 60 | 55 | 65 | 42 | 25.4 | 1 1/2-11.5 |
| | NMC 06S-02N | 6 | 17 | 17 | 43 | 28 | 14.2 | 1/4-18 |
| | NMC 08S-02N | 8 | 19 | 17 | 43 | 28 | 14.2 | 1/4-18 |
| | NMC 10S-02N | 10 | 22 | 19 | 44 | 27.5 | 14.2 | 1/4-18 |
| | NMC 10S-03N | 10 | 22 | 19 | 44 | 27.5 | 14.2 | 3/8-18 |
| | NMC 12S-02N | 12 | 24 | 22 | 46 | 29.5 | 14.2 | 1/4-18 |
| | NMC 12S-03N | 12 | 24 | 22 | 46 | 29.5 | 14.2 | 3/8-18 |
| | NMC 12S-04N | 12 | 24 | 22 | 51 | 34.5 | 19.1 | 1/2-14 |
| PN 400 | NMC 14S-04N | 14 | 27 | 24 | 54 | 36 | 19.1 | 1/2-14 |
| | NMC 16S-04N | 16 | 30 | 27 | 54 | 35.5 | 19.1 | 1/2-14 |
| | NMC 20S-06N | 20 | 36 | 32 | 59 | 37.5 | 19.1 | 3/4-14 |
| | NMC 25S-08N | 25 | 46 | 41 | 69 | 45 | 23.9 | 1-11.5 |
| PN 315 | NMC 30S-10N | 30 | 50 | 46 | 73 | 46.5 | 23.9 | 1 1/4-11.5 |
| | NMC 38S-12N | 38 | 60 | 55 | 80 | 49 | 25.4 | 1 1/2-11.5 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

Male Elbow(BSP Tapered/Metric Tapered)

NLM-R / M

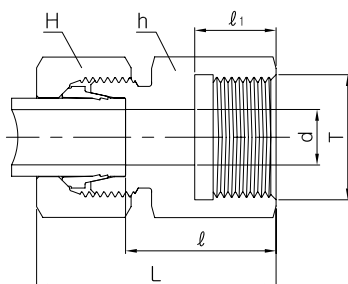


* DIN 3852 Form "C" stud end

| Series | Part No. | | Tube O.D | H | h | L | L1 | ℓ | Metric Taper | | R(PT) | |
|--------------------------------------|--------------|-----------------|----------|----|----|----|----|------|--------------|----|-------|----|
| | | | | | | | | | T | ℓ1 | T | ℓ1 |
| LL very light PN 100 | NLM 04LL-01R | NLM 04LL-8M10K | 4 | 10 | 9 | 21 | 17 | 11 | M 8x1 Keg | 8 | 1/8 | 10 |
| | NLM 06LL-01R | NLM 06LL-10M10K | 6 | 12 | 9 | 21 | 17 | 9.5 | M 10x1 Keg | 8 | 1/8 | 10 |
| | NLM 08LL-01R | NLM 08LL-10M10K | 8 | 14 | 12 | 23 | 20 | 11.5 | M 10x1 Keg | 8 | 1/8 | 10 |
| | NLM 10LL-02R | - | 10 | 17 | 14 | 24 | 23 | 12.5 | - | - | 1/4 | 14 |
| | NLM 12LL-02R | - | 12 | 19 | 17 | 25 | 23 | 13 | - | - | 1/4 | 14 |
| L light PN 315 | NLM 06L-01R | NLM 06L-10M10K | 6 | 14 | 12 | 27 | 20 | 12 | M 10x 1 Keg | 8 | 1/8 | 10 |
| | NLM 08L-02R | NLM 08L-12M15K | 8 | 17 | 12 | 29 | 26 | 14 | M 12x1.5 Keg | 12 | 1/4 | 14 |
| | NLM 10L-02R | NLM 10L-14M15K | 10 | 19 | 14 | 30 | 27 | 15 | M 14x1.5 Keg | 12 | 1/4 | 14 |
| | NLM 12L-03R | NLM 12L-16M15K | 12 | 22 | 17 | 32 | 28 | 17 | M 16x1.5 Keg | 14 | 3/8 | 15 |
| | NLM 15L-04R | NLM 15L-18M15K | 15 | 27 | 19 | 36 | 34 | 21 | M 18x1.5 Keg | 14 | 1/2 | 19 |
| | NLM 18L-04R | NLM 18L-22M15K | 18 | 32 | 24 | 40 | 36 | 23.5 | M 22x1.5 Keg | 17 | 1/2 | 19 |
| S heavy PN 400 | NLM 06S-02R | NLM 06S-12M15K | 6 | 17 | 12 | 31 | 26 | 16 | M 12x1.5 Keg | 12 | 1/4 | 14 |
| | NLM 08S-02R | NLM 08S-14M15K | 8 | 19 | 14 | 32 | 27 | 17 | M 14x1.5 Keg | 12 | 1/4 | 14 |
| | NLM 10S-03R | NLM 10S-16M15K | 10 | 22 | 17 | 34 | 28 | 17.5 | M 16x1.5 Keg | 12 | 3/8 | 15 |
| | NLM 12S-03R | NLM 12S-18M15K | 12 | 24 | 17 | 38 | 28 | 21.5 | M 18x1.5 Keg | 12 | 3/8 | 15 |
| | NLM 14S-04R | NLM 14S-20M15K | 14 | 27 | 19 | 40 | 32 | 22 | M 20x1.5 Keg | 14 | 1/2 | 19 |
| | NLM 16S-04R | NLM 16S-22M15K | 16 | 30 | 24 | 43 | 32 | 24.5 | M 22x1.5 Keg | 17 | 1/2 | 19 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Female Connector(BSP Parallel/Metric Parallel)

NFC-G /M

* DIN 3852 Form "Y" stud end

for BSP Parallel

| Series | Part No. | Tube O.D | d | H | h | L | ℓ | ℓ ₁ | T G(PF) |
|-----------------------------|-------------|----------|----|----|----|----|------|----------------|------------|
| L light PN 315 | NFC 06L-01G | 6 | 4 | 14 | 14 | 34 | 19 | 12 | 1/8 |
| | NFC 08L-02G | 8 | 6 | 17 | 19 | 39 | 24 | 17 | 1/4 |
| | NFC 08L-03G | 8 | 6 | 17 | 24 | 40 | 25 | 17 | 3/8 |
| | NFC 08L-04G | 8 | 6 | 17 | 27 | 44 | 29 | 20 | 1/2 |
| | NFC 10L-02G | 10 | 8 | 19 | 19 | 40 | 25 | 17 | 1/4 |
| | NFC 10L-03G | 10 | 8 | 19 | 24 | 41 | 26 | 17 | 3/8 |
| | NFC 10L-04G | 10 | 8 | 19 | 27 | 45 | 30 | 20 | 1/2 |
| | NFC 12L-03G | 12 | 10 | 22 | 24 | 41 | 26 | 17 | 3/8 |
| | NFC 12L-04G | 12 | 10 | 22 | 27 | 45 | 30 | 20 | 1/2 |
| | NFC 15L-04G | 15 | 12 | 27 | 27 | 46 | 31 | 20 | 1/2 |
| PN 160 | NFC 18L-04G | 18 | 15 | 32 | 27 | 47 | 30.5 | 20 | 1/2 |
| | NFC 22L-06G | 22 | 19 | 36 | 36 | 52 | 35.5 | 22 | 3/4 |
| | NFC 28L-08G | 28 | 24 | 41 | 41 | 55 | 38 | 24.5 | 1 |
| | NFC 35L-10G | 35 | 30 | 50 | 55 | 63 | 41 | 26.5 | 1 1/4 |
| | NFC 42L-12G | 42 | 36 | 60 | 60 | 65 | 42.5 | 28.5 | 1 1/2 |
| S heavy PN 630 | NFC 06S-02G | 6 | 4 | 17 | 19 | 41 | 26 | 17 | 1/4 |
| | NFC 08S-02G | 8 | 5 | 19 | 19 | 41 | 26 | 17 | 1/4 |
| | NFC 10S-03G | 10 | 7 | 22 | 24 | 43 | 26.5 | 17 | 3/8 |
| | NFC 12S-03G | 12 | 8 | 24 | 24 | 43 | 26.5 | 17 | 3/8 |
| | NFC 14S-04G | 14 | 10 | 27 | 30 | 50 | 32 | 20 | 1/2 |
| PN 400 | NFC 16S-04G | 16 | 12 | 30 | 30 | 50 | 31.5 | 20 | 1/2 |
| | NFC 20S-06G | 20 | 16 | 36 | 36 | 56 | 34.5 | 22 | 3/4 |
| | NFC 25S-08G | 25 | 20 | 46 | 41 | 62 | 37.5 | 24.5 | 1 |
| | NFC 30S-10G | 30 | 25 | 50 | 55 | 69 | 42 | 26.5 | 1 1/4 |
| PN 315 | NFC 38S-12G | 38 | 32 | 60 | 60 | 74 | 43.5 | 28.5 | 1 1/2 |

for Metric Parallel

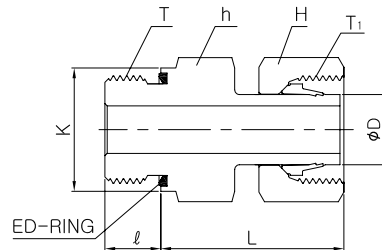
| Series | Part No. | Tube O.D | d | H | h | L | ℓ | ℓ ₁ | T M(Metric) |
|-----------------------------|---------------|----------|----|----|----|----|------|----------------|----------------|
| L light PN 315 | NFC 06L-10M10 | 6 | 4 | 14 | 14 | 34 | 19.5 | 12.5 | M 10 x 1 |
| | NFC 08L-12M15 | 8 | 6 | 17 | 17 | 39 | 24 | 17 | M 12 x 1.5 |
| | NFC 10L-14M15 | 10 | 8 | 19 | 19 | 40 | 25 | 17 | M 14 x 1.5 |
| | NFC 12L-16M15 | 12 | 10 | 22 | 22 | 41 | 26 | 17 | M 16 x 1.5 |
| | NFC 15L-18M15 | 15 | 12 | 27 | 24 | 43 | 28 | 17 | M 18 x 1.5 |
| PN 160 | NFC 18L-22M15 | 18 | 15 | 32 | 30 | 46 | 29.5 | 19 | M 22 x 1.5 |
| | NFC 22L-26M15 | 22 | 19 | 36 | 32 | 51 | 34.5 | 21 | M 26 x 1.5 |
| | NFC 28L-33M20 | 28 | 24 | 41 | 41 | 54 | 37.5 | 24 | M 33 x 2 |
| | NFC 35L-42M20 | 35 | 30 | 50 | 55 | 62 | 40.5 | 26 | M 42 x 2 |
| S heavy PN 630 | NFC 42L-48M20 | 42 | 36 | 60 | 60 | 65 | 42 | 28 | M 48 x 2 |
| | NFC 06S-12M15 | 6 | 4 | 17 | 17 | 41 | 26 | 17 | M 12 x 1.5 |
| | NFC 08S-14M15 | 8 | 5 | 19 | 19 | 41 | 26 | 17 | M 14 x 1.5 |
| | NFC 10S-16M15 | 10 | 7 | 22 | 22 | 43 | 26.5 | 17 | M 16 x 1.5 |
| | NFC 12S-18M15 | 12 | 8 | 24 | 24 | 44 | 27.5 | 17 | M 18 x 1.5 |
| PN 400 | NFC 14S-20M15 | 14 | 10 | 27 | 27 | 49 | 31 | 19 | M 20 x 1.5 |
| | NFC 16S-22M15 | 16 | 12 | 30 | 30 | 49 | 30.5 | 19 | M 22 x 1.5 |
| | NFC 20S-27M20 | 20 | 16 | 36 | 36 | 56 | 34.5 | 22 | M 27 x 2 |
| | NFC 25S-33M20 | 25 | 20 | 46 | 41 | 61 | 37 | 24 | M 33 x 2 |
| PN 315 | NFC 30S-42M20 | 30 | 25 | 50 | 55 | 68 | 41.5 | 26 | M 42 x 2 |
| PN 315 | NFC 38S-48M20 | 38 | 32 | 60 | 60 | 74 | 43 | 28 | M 48 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

Adapter(BSP Parallel / Metric Parallel) with *ED-Ring

NA-GE / ME



* DIN 3852 Form "E" stud end

* ED-ring of NBR standard, of FPM on request

for BSP Parallel

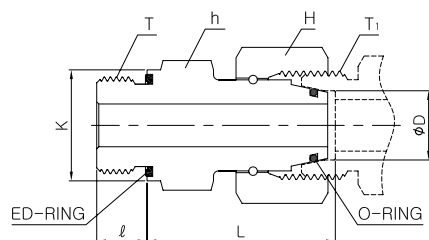
| Series | Part No. | Tube O.D D | H | h | K | L | ℓ | T G(PF) | T ₁ M(Metric) |
|----------------------|-------------|------------|----|----|----|------|----|------------|-----------------------------|
| L light PN 315 | NA 06L-01GE | 6 | 14 | 14 | 14 | 24.5 | 8 | 1/8 | M 12 x 1.5 |
| | NA 08L-02GE | 8 | 17 | 19 | 19 | 29.5 | 12 | 1/4 | M 14 x 1.5 |
| | NA 10L-02GE | 10 | 19 | 19 | 19 | 27.5 | 12 | 1/4 | M 16 x 1.5 |
| | NA 12L-03GE | 12 | 22 | 22 | 22 | 34 | 12 | 3/8 | M 18 x 1.5 |
| | NA 15L-04GE | 15 | 27 | 27 | 27 | 32 | 14 | 1/2 | M 22 x 1.5 |
| PN 160 | NA 18L-04GE | 18 | 32 | 27 | 27 | 31.5 | 14 | 1/2 | M 26 x 1.5 |
| | NA 22L-06GE | 22 | 36 | 32 | 32 | 32.5 | 16 | 3/4 | M 30 x 2 |
| | NA 28L-08GE | 28 | 41 | 41 | 40 | 35 | 18 | 1 | M 36 x 2 |
| | NA 35L-10GE | 35 | 50 | 50 | 50 | 42.5 | 20 | 1 1/4 | M 45 x 2 |
| S heavy PN 630 | NA 42L-12GE | 42 | 60 | 55 | 55 | 46.5 | 22 | 1 1/2 | M 52 x 2 |
| | NA 06S-02GE | 6 | 17 | 19 | 19 | 27 | 12 | 1/4 | M 14 x 1.5 |
| | NA 08S-02GE | 8 | 19 | 19 | 19 | 29.5 | 12 | 1/4 | M 16 x 1.5 |
| | NA 10S-03GE | 10 | 22 | 22 | 22 | 32 | 12 | 3/8 | M 18 x 1.5 |
| | NA 12S-03GE | 12 | 24 | 22 | 22 | 34 | 12 | 3/8 | M 20 x 1.5 |
| PN 400 | NA 12S-04GE | 12 | 24 | 27 | 27 | 34.5 | 14 | 1/2 | M 20 x 1.5 |
| | NA 14S-04GE | 14 | 27 | 27 | 27 | 36.5 | 14 | 1/2 | M 22 x 1.5 |
| | NA 16S-04GE | 16 | 30 | 27 | 27 | 37 | 14 | 1/2 | M 24 x 1.5 |
| | NA 16S-06GE | 16 | 30 | 32 | 32 | 39 | 16 | 3/4 | M 24 x 1.5 |
| | NA 20S-06GE | 20 | 36 | 32 | 32 | 43 | 16 | 3/4 | M 30 x 2 |
| PN315 | NA 25S-08GE | 25 | 46 | 41 | 40 | 48 | 18 | 1 | M 36 x 2 |
| | NA 30S-10GE | 30 | 50 | 50 | 50 | 51 | 20 | 1 1/4 | M 42 x 2 |
| | NA 38S-12GE | 38 | 60 | 55 | 55 | 60 | 22 | 1 1/2 | M 52 x 2 |

for Metric Parallel

| Series | Part No. | Tube O.D | H | h | K | L | ℓ | T M(Metric) | T ₁ M(Metric) |
|----------------------|---------------|----------|----|----|----|------|----|----------------|-----------------------------|
| L light PN 315 | NA 06L-10M10E | 6 | 14 | 14 | 14 | 24.5 | 8 | M 10 x 1 | M 12 x 1.5 |
| | NA 08L-12M15E | 8 | 17 | 17 | 17 | 26.5 | 12 | M 12 x 1.5 | M 14 x 1.5 |
| | NA 10L-14M15E | 10 | 19 | 19 | 19 | 27.5 | 12 | M 14 x 1.5 | M 16 x 1.5 |
| | NA 12L-16M15E | 12 | 22 | 22 | 22 | 30.5 | 12 | M 16 x 1.5 | M 18 x 1.5 |
| | NA 15L-18M15E | 15 | 27 | 24 | 24 | 31.5 | 14 | M 18 x 1.5 | M 22 x 1.5 |
| PN 160 | NA 18L-22M15E | 18 | 32 | 27 | 27 | 31.5 | 14 | M 22 x 1.5 | M 26 x 1.5 |
| | NA 22L-26M15E | 22 | 36 | 32 | 32 | 32.5 | 16 | M 26 x 1.5 | M 30 x 2 |
| | NA 28L-33M20E | 28 | 41 | 41 | 40 | 35 | 18 | M 33 x 2 | M 36 x 2 |
| | NA 35L-42M20E | 35 | 50 | 50 | 50 | 42.5 | 20 | M 42 x 2 | M 45 x 2 |
| S heavy PN 630 | NA 42L-48M20E | 42 | 60 | 55 | 55 | 46.5 | 22 | M 48 x 2 | M 52 x 2 |
| | NA 06S-12M15E | 6 | 17 | 17 | 17 | 27 | 12 | M 12 x 1.5 | M 14 x 1.5 |
| | NA 08S-14M15E | 8 | 19 | 19 | 19 | 29.5 | 12 | M 14 x 1.5 | M 16 x 1.5 |
| | NA 10S-16M15E | 10 | 22 | 22 | 22 | 32 | 12 | M 16 x 1.5 | M 18 x 1.5 |
| | NA 12S-18M15E | 12 | 24 | 24 | 24 | 34 | 12 | M 18 x 1.5 | M 20 x 1.5 |
| PN 400 | NA 14S-20M15E | 14 | 27 | 27 | 27 | 36.5 | 14 | M 20 x 1.5 | M 22 x 1.5 |
| | NA 16S-22M15E | 16 | 30 | 27 | 27 | 37 | 14 | M 22 x 1.5 | M 24 x 1.5 |
| | NA 20S-27M20E | 20 | 36 | 32 | 32 | 43 | 16 | M 27 x 2 | M 30 x 2 |
| | NA 25S-33M20E | 25 | 46 | 41 | 40 | 48 | 18 | M 33 x 2 | M 36 x 2 |
| PN 315 | NA 30S-42M20E | 30 | 50 | 50 | 50 | 51 | 20 | M 42 x 2 | M 42 x 2 |
| | NA 38S-48M20E | 38 | 60 | 55 | 55 | 60 | 22 | M 48 x 2 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
 Tube stud have to swage for nut and cutting ring. Please see final assembly on page 10.
 Nut and cutting ring are not supplied.

Swivel Adapter(BSP Parallel / Metric Parallel) with Cone and *ED-Ring

NEGE-GE / ME

* DIN 3852 Form "E" stud end
 * ED-ring and O-ring of NBR standard,
 of FPM on request

for BSP Parallel

| Series | Part No. | Tube O.D.D | H | h | K | L | ℓ | T G(PF) | T1 M(Metric) |
|----------------------|---------------|------------|----|----|----|------|----|------------|-----------------|
| L light PN 315 | NEGE 06L-01GE | 6 | 14 | 14 | 14 | 24.5 | 8 | 1/8 | M 12 x 1.5 |
| | NEGE 08L-02GE | 8 | 17 | 19 | 19 | 29.5 | 12 | 1/4 | M 14 x 1.5 |
| | NEGE 10L-02GE | 10 | 19 | 19 | 19 | 27.5 | 12 | 1/4 | M 16 x 1.5 |
| | NEGE 12L-03GE | 12 | 22 | 22 | 22 | 34 | 12 | 3/8 | M 18 x 1.5 |
| | NEGE 15L-04GE | 15 | 27 | 27 | 27 | 32 | 14 | 1/2 | M 22 x 1.5 |
| PN 160 | NEGE 18L-04GE | 18 | 32 | 27 | 27 | 31.5 | 14 | 1/2 | M 26 x 1.5 |
| | NEGE 22L-06GE | 22 | 36 | 32 | 32 | 32.5 | 16 | 3/4 | M 30 x 2 |
| | NEGE 28L-08GE | 28 | 41 | 41 | 40 | 35 | 18 | 1 | M 36 x 2 |
| | NEGE 35L-10GE | 35 | 50 | 50 | 50 | 42.5 | 20 | 1-1/4 | M 45 x 2 |
| S light PN 315 | NEGE 06S-02GE | 6 | 17 | 19 | 19 | 27 | 12 | 1/4 | M 14 x 1.5 |
| | NEGE 08S-02GE | 8 | 19 | 19 | 19 | 29.5 | 12 | 1/4 | M 16 x 1.5 |
| | NEGE 10S-03GE | 10 | 22 | 22 | 22 | 32 | 12 | 3/8 | M 18 x 1.5 |
| | NEGE 12S-03GE | 12 | 24 | 22 | 27 | 34 | 12 | 3/8 | M 20 x 1.5 |
| | NEGE 14S-04GE | 14 | 27 | 27 | 27 | 36.5 | 14 | 1/2 | M 22 x 1.5 |
| PN 400 | NEGE 16S-04GE | 16 | 30 | 27 | 27 | 37 | 14 | 1/2 | M 24 x 1.5 |
| | NEGE 20S-06GE | 20 | 36 | 32 | 32 | 43 | 16 | 3/4 | M 30 x 2 |
| | NEGE 25S-08GE | 25 | 46 | 41 | 40 | 48 | 18 | 1 | M 36 x 2 |
| PN 315 | NEGE 30S-10GE | 30 | 50 | 50 | 50 | 51 | 20 | 1-1/4 | M 42 x 2 |
| | NEGE 38S-12GE | 38 | 60 | 55 | 55 | 60 | 22 | 1-1/2 | M 52 x 2 |

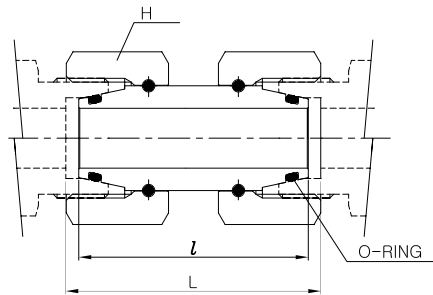
for Metric Parallel

| Series | Part No. | Tube O.D D | H | h | K | L | ℓ | T M(Metric) | T1 M(Metric) |
|----------------------|-----------------|------------|----|----|----|------|----|----------------|-----------------|
| L light PN 315 | NEGE 06L-10M10E | 6 | 14 | 14 | 14 | 24.5 | 8 | M 10 x 1 | M 12 x 1.5 |
| | NEGE 08L-12M15E | 8 | 17 | 19 | 17 | 26.5 | 12 | M 12 x 1.5 | M 14 x 1.5 |
| | NEGE 10L-14M15E | 10 | 19 | 19 | 19 | 27.5 | 12 | M 14 x 1.5 | M 16 x 1.5 |
| | NEGE 12L-16M15E | 12 | 22 | 22 | 22 | 30.5 | 12 | M 16 x 1.5 | M 18 x 1.5 |
| | NEGE 15L-18M15E | 15 | 27 | 24 | 24 | 31.5 | 12 | M 18 x 1.5 | M 22 x 1.5 |
| PN 160 | NEGE 18L-22M15E | 18 | 32 | 27 | 27 | 31.5 | 14 | M 22 x 1.5 | M 26 x 1.5 |
| | NEGE 22L-26M15E | 22 | 36 | 32 | 32 | 32.5 | 16 | M 26 x 1.5 | M 30 x 2 |
| | NEGE 28L-33M20E | 28 | 41 | 41 | 40 | 35 | 18 | M 33 x 2 | M 36 x 2 |
| | NEGE 35L-42M20E | 35 | 50 | 50 | 50 | 42.5 | 20 | M 42 x 2 | M 45 x 2 |
| S light PN 315 | NEGE 06S-12M15E | 6 | 17 | 17 | 17 | 27 | 12 | M 12 x 1.5 | M 14 x 1.5 |
| | NEGE 08S-14M15E | 8 | 19 | 19 | 19 | 29.5 | 12 | M 14 x 1.5 | M 16 x 1.5 |
| | NEGE 10S-16M15E | 10 | 22 | 22 | 22 | 32 | 12 | M 16 x 1.5 | M 18 x 1.5 |
| | NEGE 12S-18M15E | 12 | 24 | 24 | 24 | 34 | 12 | M 18 x 1.5 | M 20 x 1.5 |
| | NEGE 14S-20M15E | 14 | 27 | 27 | 26 | 36.5 | 14 | M 20 x 1.5 | M 22 x 1.5 |
| PN 400 | NEGE 16S-22M15E | 16 | 30 | 27 | 27 | 37 | 14 | M 22 x 1.5 | M 24 x 1.5 |
| | NEGE 20S-27M20E | 20 | 36 | 32 | 32 | 43 | 16 | M 27 x 2 | M 30 x 2 |
| | NEGE 25S-33M20E | 25 | 46 | 41 | 40 | 48 | 18 | M 33 x 2 | M 36 x 2 |
| PN 315 | NEGE 30S-42M20E | 30 | 50 | 50 | 50 | 51 | 20 | M 42 x 2 | M 42 x 2 |
| | NEGE 38S-48M20E | 38 | 60 | 55 | 55 | 60 | 22 | M 48 x 2 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
 Please see final assembly on page 10.

Swivel Union with Cone

NUE



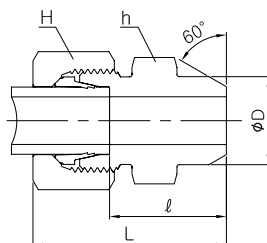
* O-ring of NBR standard, of FPM on request

| Series | Part No. | Tube O.D | H | L | ℓ |
|-----------------------------|----------|----------|----|------|------|
| L light PN 500 | NUE-06L | 6 | 17 | 36 | 34 |
| | NUE-08L | 8 | 17 | 36 | 34 |
| | NUE-10L | 10 | 19 | 37 | 36 |
| PN 400 | NUE-12L | 12 | 22 | 37 | 36 |
| | NUE-15L | 15 | 27 | 40 | 39 |
| | NUE-18L | 18 | 32 | 42.5 | 40.5 |
| PN 250 | NUE-22L | 22 | 36 | 47 | 45 |
| | NUE-28L | 28 | 46 | 49 | 47 |
| | NUE-35L | 35 | 50 | 58 | 53 |
| | NUE-42L | 42 | 60 | 59 | 53 |
| S light PN 315 | NUE-06S | 6 | 17 | 39 | 37 |
| | NUE-08S | 8 | 19 | 39 | 37 |
| | NUE-10S | 10 | 22 | 43 | 41 |
| PN 630 | NUE-12S | 12 | 24 | 44 | 43 |
| | NUE-14S | 14 | 27 | 48 | 45 |
| | NUE-16S | 16 | 30 | 50 | 46 |
| PN 400 | NUE-20S | 20 | 36 | 60 | 55 |
| | NUE-25S | 25 | 46 | 66 | 58 |
| | NUE-30S | 30 | 50 | 73 | 62 |
| | NUE-38S | 38 | 60 | 83 | 67 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
Please see final assembly on page 10.

Welding Connector

NAS

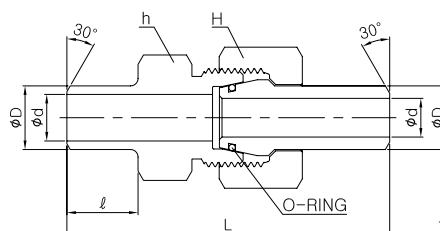


| Series | Part No. | Tube O.D | D | H | h | L | ℓ |
|----------------------|----------|----------|----|----|----|----|------|
| L light PN 315 | NAS-06L | 6 | 10 | 14 | 12 | 29 | 14 |
| | NAS-08L | 8 | 12 | 17 | 14 | 31 | 16 |
| | NAS-10L | 10 | 14 | 19 | 17 | 33 | 18 |
| | NAS-12L | 12 | 16 | 22 | 19 | 33 | 18 |
| | NAS-15L | 15 | 19 | 27 | 22 | 37 | 22 |
| PN 160 | NAS-18L | 18 | 22 | 32 | 27 | 40 | 23.5 |
| | NAS-22L | 22 | 27 | 36 | 32 | 45 | 28.5 |
| | NAS-28L | 28 | 32 | 41 | 41 | 47 | 30.5 |
| | NAS-35L | 35 | 40 | 50 | 46 | 54 | 32.5 |
| | NAS-42L | 42 | 46 | 60 | 55 | 58 | 35 |
| S heavy PN 360 | NAS-06S | 6 | 11 | 17 | 14 | 34 | 19 |
| | NAS-08S | 8 | 13 | 19 | 17 | 36 | 21 |
| | NAS-10S | 10 | 15 | 22 | 19 | 39 | 22.5 |
| | NAS-12S | 12 | 17 | 24 | 22 | 41 | 24.5 |
| | NAS-14S | 14 | 19 | 27 | 24 | 45 | 27 |
| PN 400 | NAS-16S | 16 | 21 | 30 | 27 | 45 | 26.5 |
| | NAS-20S | 20 | 26 | 36 | 32 | 51 | 29.5 |
| | NAS-25S | 25 | 31 | 46 | 41 | 56 | 32 |
| | NAS-30S | 30 | 36 | 50 | 46 | 62 | 35.5 |
| PN 315 | NAS-38S | 38 | 44 | 60 | 55 | 69 | 38 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Welding Connector with NC

NASK



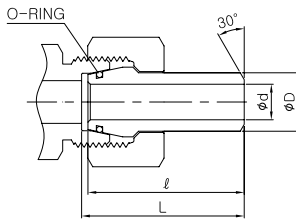
* O-ring of NBR standard, of FPM on request

| Series | Part No. | Tube O.D | d | H | h | L | ℓ |
|--------|---------------|----------|----|----|----|------|------|
| PN 248 | NASK 10 x 1.0 | 10 | 8 | 22 | 19 | 58 | 10 |
| PN 357 | NASK 10 x 1.5 | 10 | 7 | 22 | 19 | 58 | 10 |
| PN 458 | NASK 10 x 2.0 | 10 | 6 | 22 | 19 | 58 | 10 |
| PN 303 | NASK 12 x 1.5 | 12 | 9 | 24 | 22 | 65 | 15 |
| PN 391 | NASK 12 x 2.0 | 12 | 8 | 24 | 22 | 65 | 15 |
| PN 474 | NASK 12 x 2.5 | 12 | 7 | 24 | 22 | 65 | 15 |
| PN 234 | NASK 16 x 1.5 | 16 | 13 | 30 | 27 | 74.5 | 16.5 |
| PN 303 | NASK 16 x 2.0 | 16 | 12 | 30 | 27 | 74.5 | 16.5 |
| PN 370 | NASK 16 x 2.5 | 16 | 11 | 30 | 27 | 74.5 | 16.5 |
| PN 433 | NASK 16 x 3.0 | 16 | 10 | 30 | 27 | 74.5 | 16.5 |
| PN 249 | NASK 20 x 1.5 | 20 | 16 | 36 | 32 | 84 | 19 |
| PN 305 | NASK 20 x 2.5 | 20 | 15 | 36 | 32 | 84 | 19 |
| PN 357 | NASK 20 x 3.0 | 20 | 14 | 36 | 32 | 84 | 19 |
| PN 458 | NASK 20 x 4.0 | 20 | 12 | 36 | 32 | 84 | 19 |
| PN 292 | NASK 25 x 3.0 | 25 | 19 | 46 | 41 | 94.5 | 19.5 |
| PN 348 | NASK 25 x 4.0 | 25 | 17 | 46 | 41 | 94.5 | 19.5 |
| PN 458 | NASK 25 x 5.0 | 25 | 15 | 46 | 41 | 94.5 | 19.5 |
| PN 248 | NASK 30 x 3.0 | 30 | 24 | 50 | 46 | 102 | 23 |
| PN 321 | NASK 30 x 4.0 | 30 | 22 | 50 | 46 | 102 | 23 |
| PN 391 | NASK 30 x 5.0 | 30 | 20 | 50 | 46 | 102 | 23 |
| PN 460 | NASK 30 x 6.0 | 30 | 18 | 50 | 46 | 102 | 23 |
| PN 260 | NASK 38 x 4.0 | 38 | 30 | 60 | 55 | 111 | 23 |
| PN 318 | NASK 38 x 5.0 | 38 | 28 | 60 | 55 | 111 | 23 |
| PN 373 | NASK 38 x 6.0 | 38 | 26 | 60 | 55 | 111 | 23 |
| PN 427 | NASK 38 x 7.0 | 38 | 24 | 60 | 55 | 111 | 23 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Welding Nipple with *O-Ring

NC



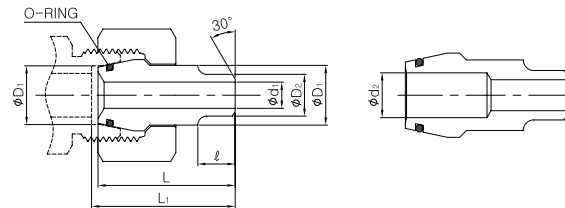
* O-ring of NBR standard, of FPM on request

| Series | | Part No. | Tube O.D D | d | L | ℓ |
|----------|--------------|-------------|---------------|----|------|------|
| Fittings | NAK and Tube | | | | | |
| PN 630 | PB 248 | NC 10 x 1.0 | 10 | 8 | 35.5 | 33 |
| | PB 357 | NC 10 x 1.5 | 10 | 7 | 35.5 | 33 |
| | PB 458 | NC 10 x 2.0 | 10 | 6 | 35.5 | 33 |
| PN 630 | PB 303 | NC 12 x 1.5 | 12 | 9 | 35.5 | 33 |
| | PB 391 | NC 12 x 2.0 | 12 | 8 | 35.5 | 33 |
| | PB 474 | NC 12 x 2.5 | 12 | 7 | 35.5 | 33 |
| PN 400 | PB 234 | NC 16 x 1.5 | 16 | 13 | 42.5 | 39 |
| | PB 303 | NC 16 x 2.0 | 16 | 12 | 42.5 | 39 |
| | PB 370 | NC 16 x 2.5 | 16 | 11 | 42.5 | 39 |
| PN 400 | PB 433 | NC 16 x 3.0 | 16 | 10 | 42.5 | 39 |
| | PB 249 | NC 20 x 2.0 | 20 | 16 | 47.5 | 43.5 |
| | PB 305 | NC 20 x 2.5 | 20 | 15 | 47.5 | 43.5 |
| PN 400 | PB 357 | NC 20 x 3.0 | 20 | 14 | 47.5 | 43.5 |
| | PB 458 | NC 20 x 4.0 | 20 | 12 | 47.5 | 43.5 |
| | PB 292 | NC 25 x 3.0 | 25 | 19 | 55 | 49.5 |
| PN 400 | PB 348 | NC 25 x 4.0 | 25 | 17 | 55 | 49.5 |
| | PB 458 | NC 25 x 5.0 | 25 | 15 | 55 | 49.5 |
| | PB 248 | NC 30 x 3.0 | 30 | 24 | 58.5 | 51.5 |
| PN 400 | PB 321 | NC 30 x 4.0 | 30 | 22 | 58.5 | 51.5 |
| | PB 391 | NC 30 x 5.0 | 30 | 20 | 58.5 | 51.5 |
| | PB 460 | NC 30 x 6.0 | 30 | 18 | 58.5 | 51.5 |
| PN 315 | PB 260 | NC 38 x 4.0 | 38 | 30 | 66 | 56.5 |
| | PB 318 | NC 38 x 5.0 | 38 | 28 | 66 | 56.5 |
| | PB 373 | NC 38 x 6.0 | 38 | 26 | 66 | 56.5 |
| | PB 427 | NC 38 x 7.0 | 38 | 24 | 66 | 56.5 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Reducing Welding Nipple with *O-Ring

NCR

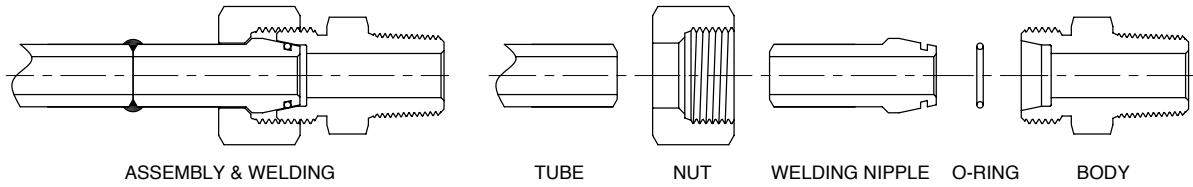


* O-ring of NBR standard, of FPM on request

| Series | | Part No. | Tube O.D | | d1 | d2 | L1 | L | ℓ |
|----------|---------------|----------------|----------|----|----|----|------|------|----|
| Fittings | NAKR and Tube | | D1 | D2 | | | | | |
| PN 630 | PB 526 | NCR 1006 x 1.5 | 10 | 6 | 3 | 5 | 37.5 | 35 | 12 |
| | PB 526 | NCR 1008 x 2.0 | 10 | 8 | 4 | - | 37.5 | 35 | 12 |
| | PB 526 | NCR 1208 x 2.0 | 12 | 8 | 4 | 6 | 37.5 | 35 | 14 |
| PN 400 | PB 357 | NCR 1210 x 1.5 | 12 | 10 | 7 | - | 37.5 | 35 | 14 |
| | PB 474 | NCR 1612 x 2.5 | 16 | 12 | 7 | - | 46.5 | 43 | 15 |
| | PB 474 | NCR 2012 x 2.5 | 20 | 12 | 7 | - | 51.5 | 47.5 | 15 |
| PN 400 | PB 433 | NCR 2016 x 3.0 | 20 | 16 | 10 | - | 53.5 | 49.5 | 17 |
| | PB 433 | NCR 2516 x 3.0 | 25 | 16 | 10 | - | 56.5 | 51 | 17 |
| | PB 458 | NCR 2520 x 4.0 | 25 | 20 | 12 | - | 59.5 | 54 | 20 |
| PN 400 | PB 303 | NCR 3016 x 2.0 | 30 | 16 | 12 | - | 67 | 60 | 17 |
| | PB 303 | NCR 3020 x 2.5 | 30 | 20 | 15 | - | 70 | 63 | 20 |
| | PB 292 | NCR 3025 x 3.0 | 30 | 25 | 19 | - | 70 | 63 | 20 |
| PN 400 | PB 303 | NCR 3816 x 2.0 | 38 | 16 | 12 | - | 79 | 69.5 | 17 |
| | PB 303 | NCR 3820 x 2.5 | 38 | 20 | 15 | - | 82 | 72.5 | 20 |
| | PB 292 | NCR 3825 x 3.0 | 38 | 25 | 19 | - | 82 | 72.5 | 20 |
| | PB 321 | NCR 3830 x 4.0 | 38 | 30 | 22 | - | 82 | 72.5 | 20 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Technical & Instruction for Welding Nipple



1. Cut the tube at right angle.
2. Deburr tube end at the inside and outside.
3. Place the nut on the welding nipple, as shown.
Welding nipple and tube according to the applicable guide lines for welding.
4. De-scale the weld and clean the o-ring groove.
5. Place the supplied o-ring into the body groove. O-ring must not be twisted.
6. Tighten nut by hand. The nut has to be tightened by 1/3 turn from hand tight with spanner.

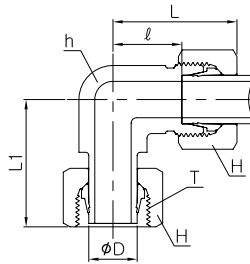
Various Welding Nipple Assembly

| | | | |
|----------|----------------------------------|--------------------------------|--------------------------------|
| Part No. | NGV | NWV | NTV |
| | NU (WITHOUT SLEEVE) + NAK | NL (WITHOUT SLEEVE) + NAK | NT (WITHOUT SLEEVE) + NAK |
| FIGURE | | | |
| Part No. | NWSEV | NGEV-N/R | NGEV-G/M |
| | NSWVE (WITHOUT SLEEVE) + NAK | NMC-N/R (WITHOUT SLEEVE) + NAK | NMC-G/M (WITHOUT SLEEVE) + NAK |
| FIGURE | | | |
| Part No. | NGUV | NWEV-R/M | NGM-G/M |
| | NMC-GE/ME (WITHOUT SLEEVE) + NAK | NLM-RM (WITHOUT SLEEVE) + NAK | NFC-G/M (WITHOUT SLEEVE) + NAK |
| FIGURE | | | |

IDK-LOK® DK DIN Bite Type Tube Fitting

Adjustable Elbow with Standpipe

NLA

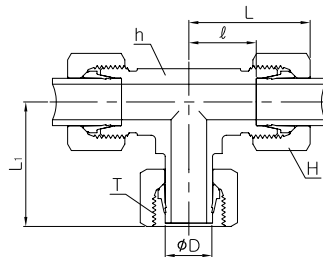


| Series | Part No. | Tube O.D D | H | h | L | L1 | ℓ | T |
|----------------------|----------|------------|----|----|----|------|------|------------|
| L light PN 315 | NLA-06L | 6 | 14 | 12 | 27 | 26 | 12 | M 12 x 1.5 |
| | NLA-08L | 8 | 17 | 12 | 29 | 27.5 | 14 | M 14 x 1.5 |
| | NLA-10L | 10 | 19 | 14 | 30 | 29 | 15 | M 16 x 1.5 |
| | NLA-12L | 12 | 22 | 17 | 32 | 29.5 | 17 | M 18 x 1.5 |
| | NLA-15L | 15 | 27 | 19 | 36 | 32.5 | 21 | M 22 x 1.5 |
| PN 160 | NLA-18L | 18 | 32 | 24 | 40 | 35.5 | 23.5 | M 26 x 1.5 |
| | NLA-22L | 22 | 36 | 27 | 44 | 38.5 | 27.5 | M 30 x 2 |
| | NLA-28L | 28 | 41 | 36 | 47 | 41.5 | 30.5 | M 36 x 2 |
| | NLA-35L | 35 | 50 | 41 | 56 | 51 | 34.5 | M 45 x 2 |
| S heavy PN 630 | NLA-42L | 42 | 60 | 50 | 63 | 56 | 40 | M 52 x 2 |
| | NLA-06S | 6 | 17 | 12 | 31 | 27 | 16 | M 14 x 1.5 |
| | NLA-08S | 8 | 19 | 14 | 32 | 27.5 | 17 | M 16 x 1.5 |
| | NLA-10S | 10 | 22 | 17 | 34 | 30 | 17.5 | M 18 x 1.5 |
| | NLA-12S | 12 | 24 | 17 | 38 | 31 | 21.5 | M 20 x 1.5 |
| PN 400 | NLA-14S | 14 | 27 | 19 | 40 | 35 | 22 | M 22 x 1.5 |
| | NLA-16S | 16 | 30 | 24 | 43 | 36.5 | 24.5 | M 24 x 1.5 |
| | NLA-20S | 20 | 36 | 27 | 48 | 44.5 | 26.5 | M 30 x 2 |
| | NLA-25S | 25 | 46 | 36 | 54 | 50 | 30 | M 36 x 2 |
| PN 315 | NLA-30S | 30 | 50 | 41 | 62 | 55 | 35.5 | M 42 x 2 |
| | NLA-38S | 38 | 60 | 50 | 72 | 63 | 41 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
Tube stud have to swage for nut and cutting ring. Please see final assembly on page 10. Nut and cutting ring are not supplied.

Adjustable Branch Tee with Standpipe

NBTA

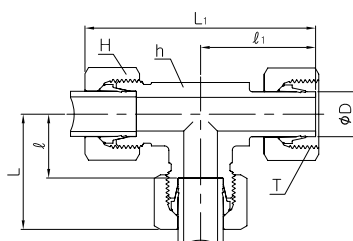


| Series | Part No. | Tube O.D D | H | h | L | L1 | ℓ | T |
|----------------------|----------|------------|----|----|----|------|------|------------|
| L light PN 315 | NBTA-06L | 6 | 14 | 12 | 27 | 26 | 12 | M 12 x 1.5 |
| | NBTA-08L | 8 | 17 | 12 | 29 | 27.5 | 14 | M 14 x 1.5 |
| | NBTA-10L | 10 | 19 | 14 | 30 | 29 | 15 | M 16 x 1.5 |
| | NBTA-12L | 12 | 22 | 17 | 32 | 29.5 | 17 | M 18 x 1.5 |
| | NBTA-15L | 15 | 27 | 19 | 36 | 32.5 | 21 | M 22 x 1.5 |
| PN 160 | NBTA-18L | 18 | 32 | 24 | 40 | 35.5 | 23.5 | M 26 x 1.5 |
| | NBTA-22L | 22 | 36 | 27 | 44 | 38.5 | 27.5 | M 30 x 2 |
| | NBTA-28L | 28 | 41 | 36 | 47 | 41.5 | 30.5 | M 36 x 2 |
| | NBTA-35L | 35 | 50 | 41 | 56 | 51 | 34.5 | M 45 x 2 |
| S heavy PN 630 | NBTA-42L | 42 | 60 | 50 | 63 | 56 | 40 | M 52 x 2 |
| | NBTA-06S | 6 | 17 | 12 | 31 | 27 | 16 | M 14 x 1.5 |
| | NBTA-08S | 8 | 19 | 14 | 32 | 27.5 | 17 | M 16 x 1.5 |
| | NBTA-10S | 10 | 22 | 17 | 34 | 30 | 17.5 | M 18 x 1.5 |
| | NBTA-12S | 12 | 24 | 17 | 38 | 31 | 21.5 | M 20 x 1.5 |
| PN 400 | NBTA-14S | 14 | 27 | 19 | 40 | 35 | 22 | M 22 x 1.5 |
| | NBTA-16S | 16 | 30 | 24 | 43 | 36.5 | 24.5 | M 24 x 1.5 |
| | NBTA-20S | 20 | 36 | 27 | 48 | 44.5 | 26.5 | M 30 x 2 |
| | NBTA-25S | 25 | 46 | 36 | 54 | 50 | 30 | M 36 x 2 |
| PN 315 | NBTA-30S | 30 | 50 | 41 | 62 | 55 | 35.5 | M 42 x 2 |
| | NBTA-38S | 38 | 60 | 50 | 72 | 63 | 41 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
Tube stud have to swage for nut and cutting ring. Please see final assembly on page 10. Nut and cutting ring are not supplied.

Adjustable Run Tee with Standpipe

NRTA

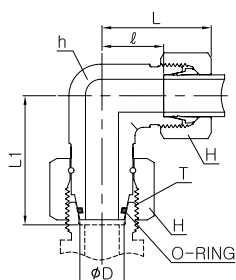


| Series | Part No. | Tube O.D D | h | H | L | L1 | ℓ | ℓ1 | T |
|----------------------|----------|---------------|----|----|----|-----|------|------|------------|
| L light PN 315 | NRTA-06L | 6 | 12 | 14 | 27 | 53 | 12 | 26 | M 12 x 1.5 |
| | NRTA-08L | 8 | 12 | 17 | 29 | 56 | 14 | 27.5 | M 14 x 1.5 |
| | NRTA-10L | 10 | 14 | 19 | 30 | 59 | 15 | 29 | M 16 x 1.5 |
| | NRTA-12L | 12 | 17 | 22 | 32 | 62 | 17 | 29.5 | M 18 x 1.5 |
| | NRTA-15L | 15 | 19 | 27 | 36 | 69 | 21 | 32.5 | M 22 x 1.5 |
| PN 160 | NRTA-18L | 18 | 24 | 32 | 40 | 75 | 23.5 | 35.5 | M 26 x 1.5 |
| | NRTA-22L | 22 | 27 | 36 | 44 | 83 | 27.5 | 38.5 | M 30 x 2 |
| | NRTA-28L | 28 | 36 | 41 | 47 | 91 | 30.5 | 41.5 | M 36 x 2 |
| | NRTA-35L | 35 | 41 | 50 | 56 | 111 | 34.5 | 51 | M 45 x 2 |
| S heavy PN 630 | NRTA-42L | 42 | 50 | 60 | 63 | 123 | 40 | 56 | M 52 x 2 |
| | NRTA-06S | 6 | 12 | 17 | 31 | 58 | 16 | 27 | M 14 x 1.5 |
| | NRTA-08S | 8 | 14 | 19 | 32 | 61 | 17 | 27.5 | M 16 x 1.5 |
| | NRTA-10S | 10 | 17 | 22 | 34 | 66 | 17.5 | 30 | M 18 x 1.5 |
| | NRTA-12S | 12 | 17 | 24 | 38 | 71 | 21.5 | 31 | M 20 x 1.5 |
| PN 400 | NRTA-14S | 14 | 19 | 27 | 40 | 75 | 22 | 35 | M 22 x 1.5 |
| | NRTA-16S | 16 | 24 | 30 | 43 | 79 | 24.5 | 36.5 | M 24 x 1.5 |
| | NRTA-20S | 20 | 27 | 36 | 48 | 93 | 26.5 | 44.5 | M 30 x 2 |
| PN 315 | NRTA-25S | 25 | 36 | 46 | 54 | 105 | 30 | 50 | M 36 x 2 |
| | NRTA-30S | 30 | 41 | 50 | 62 | 119 | 35.5 | 55 | M 42 x 2 |
| PN 315 | NRTA-38S | 38 | 50 | 60 | 72 | 138 | 41 | 63 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
Tube stud have to swage for nut and cutting ring. Please see final assembly on page 10. Nut and cutting ring are not supplied.

Swivel Adjustable Elbow with Cone

NEW



* O-ring of NBR standard, of FPM on request

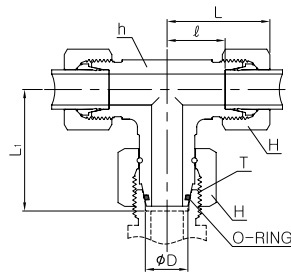
| Series | Part No. | Tube O.D D | H | h | L | ℓ | L1 | T |
|----------------------|----------|---------------|----|----|----|------|------|------------|
| L light PN 315 | NEW-06L | 6 | 14 | 12 | 27 | 12 | 26 | M 12 x 1.5 |
| | NEW-08L | 8 | 17 | 12 | 29 | 14 | 27.5 | M 14 x 1.5 |
| | NEW-10L | 10 | 19 | 14 | 30 | 15 | 29 | M 16 x 1.5 |
| | NEW-12L | 12 | 22 | 17 | 32 | 17 | 29.5 | M 18 x 1.5 |
| | NEW-15L | 15 | 27 | 19 | 36 | 21 | 32.5 | M 22 x 1.5 |
| | NEW-18L | 18 | 32 | 24 | 40 | 23.5 | 35.5 | M 26 x 1.5 |
| PN 160 | NEW-22L | 22 | 36 | 27 | 44 | 27.5 | 38.5 | M 30 x 2 |
| | NEW-28L | 28 | 41 | 36 | 47 | 30.5 | 41.5 | M 36 x 2 |
| | NEW-35L | 35 | 50 | 41 | 56 | 34.5 | 51 | M 45 x 2 |
| | NEW-42L | 42 | 60 | 50 | 63 | 40 | 56 | M 52 x 2 |
| S heavy PN 630 | NEW-06S | 6 | 17 | 12 | 31 | 16 | 27 | M 14 x 1.5 |
| | NEW-08S | 8 | 19 | 14 | 32 | 17 | 27.5 | M 16 x 1.5 |
| | NEW-10S | 10 | 22 | 17 | 34 | 17.5 | 30 | M 18 x 1.5 |
| | NEW-12S | 12 | 24 | 17 | 38 | 21.5 | 31 | M 20 x 1.5 |
| | NEW-14S | 14 | 27 | 19 | 40 | 22 | 35 | M 22 x 1.5 |
| PN 400 | NEW-16S | 16 | 30 | 24 | 43 | 24.5 | 36.5 | M 24 x 1.5 |
| | NEW-20S | 20 | 36 | 27 | 48 | 26.5 | 44.5 | M 30 x 2 |
| | NEW-25S | 25 | 36 | 36 | 54 | 30 | 50 | M 36 x 2 |
| | NEW-30S | 30 | 50 | 41 | 62 | 35.5 | 55 | M 42 x 2 |
| PN 315 | NEW-38S | 38 | 60 | 50 | 72 | 41 | 63 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
Please see final assembly on page 10.

IDK-LOK® DK DIN Bite Type Tube Fitting

Swivel Adjustable Branch Tee with Cone

NET



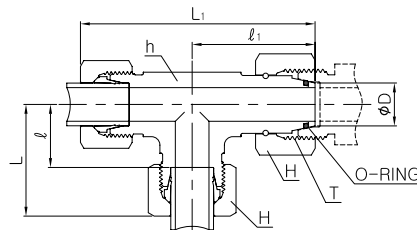
* O-ring of NBR standard, of FPM on request

| Series | Part No. | Tube O.D D | H | h | L | L ₁ | ℓ | T |
|----------------------|----------|---------------|----|----|----|----------------|------|------------|
| L light PN 315 | NET-06L | 6 | 14 | 12 | 27 | 26 | 12 | M 12 x 1.5 |
| | NET-08L | 8 | 17 | 12 | 29 | 27.5 | 14 | M 14 x 1.5 |
| | NET-10L | 10 | 19 | 14 | 30 | 29 | 15 | M 16 x 1.5 |
| | NET-12L | 12 | 22 | 17 | 32 | 29.5 | 17 | M 18 x 1.5 |
| | NET-15L | 15 | 27 | 19 | 36 | 32.5 | 21 | M 22 x 1.5 |
| | NET-18L | 18 | 32 | 24 | 40 | 35.5 | 23.5 | M 26 x 1.5 |
| PN 160 | NET-22L | 22 | 36 | 27 | 44 | 38.5 | 27.5 | M 30 x 2 |
| | NET-28L | 28 | 41 | 36 | 47 | 41.5 | 30.5 | M 36 x 2 |
| | NET-35L | 35 | 50 | 41 | 56 | 51 | 34.5 | M 45 x 2 |
| | NET-42L | 42 | 60 | 50 | 63 | 56 | 40 | M 52 x 2 |
| S heavy PN 630 | NET-06S | 6 | 17 | 12 | 31 | 27 | 16 | M 14 x 1.5 |
| | NET-08S | 8 | 19 | 14 | 32 | 27.5 | 17 | M 16 x 1.5 |
| | NET-10S | 10 | 22 | 17 | 34 | 30 | 17.5 | M 18 x 1.5 |
| | NET-12S | 12 | 24 | 17 | 38 | 31 | 21.5 | M 20 x 1.5 |
| | NET-14S | 14 | 27 | 19 | 40 | 35 | 22 | M 22 x 1.5 |
| PN 400 | NET-16S | 16 | 30 | 24 | 43 | 36.5 | 24.5 | M 24 x 1.5 |
| | NET-20S | 20 | 36 | 27 | 48 | 44.5 | 26.5 | M 30 x 2 |
| | NET-25S | 25 | 46 | 36 | 54 | 50 | 30 | M 36 x 2 |
| PN 315 | NET-30S | 30 | 50 | 41 | 62 | 55 | 35.5 | M 42 x 2 |
| | NET-38S | 38 | 60 | 50 | 72 | 63 | 41 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
Please see final assembly on page 10.

Swivel Adjustable Run Tee with Cone

NEL

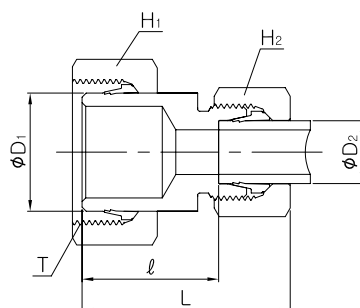


* O-ring of NBR standard, of FPM on request

| Series | Part No. | Tube O.D D | H | h | L | L ₁ | ℓ | ℓ ₁ | T |
|----------------------|----------|---------------|----|----|----|----------------|------|----------------|------------|
| L light PN 315 | NEL-06L | 6 | 14 | 12 | 27 | 53 | 12 | 26 | M 12 x 1.5 |
| | NEL-08L | 8 | 17 | 12 | 29 | 56 | 14 | 27.5 | M 14 x 1.5 |
| | NEL-10L | 10 | 19 | 14 | 30 | 59 | 15 | 29 | M 16 x 1.5 |
| | NEL-12L | 12 | 22 | 17 | 32 | 61 | 17 | 29.5 | M 18 x 1.5 |
| | NEL-15L | 15 | 27 | 19 | 36 | 69 | 21 | 32.5 | M 22 x 1.5 |
| | NEL-18L | 18 | 32 | 24 | 40 | 75 | 23.5 | 35.5 | M 26 x 1.5 |
| PN 160 | NEL-22L | 22 | 36 | 27 | 44 | 82 | 27.5 | 38.5 | M 30 x 2 |
| | NEL-28L | 28 | 41 | 36 | 47 | 89 | 30.5 | 41.5 | M 36 x 2 |
| | NEL-35L | 35 | 50 | 41 | 56 | 107 | 34.5 | 51 | M 45 x 2 |
| | NEL-42L | 42 | 60 | 50 | 63 | 119 | 40 | 56 | M 52 x 2 |
| S heavy PN 630 | NEL-06S | 6 | 17 | 12 | 31 | 58 | 16 | 27 | M 14 x 1.5 |
| | NEL-08S | 8 | 19 | 14 | 32 | 59 | 17 | 27.5 | M 16 x 1.5 |
| | NEL-10S | 10 | 22 | 17 | 34 | 64 | 17.5 | 30 | M 18 x 1.5 |
| | NEL-12S | 12 | 24 | 17 | 38 | 69 | 21.5 | 31 | M 20 x 1.5 |
| | NEL-14S | 14 | 27 | 19 | 40 | 75 | 22 | 35 | M 22 x 1.5 |
| PN 400 | NEL-16S | 16 | 30 | 24 | 43 | 79 | 24.5 | 36.5 | M 24 x 1.5 |
| | NEL-20S | 20 | 36 | 27 | 48 | 93 | 26.5 | 44.5 | M 30 x 2 |
| | NEL-25S | 25 | 46 | 36 | 54 | 104 | 30 | 50 | M 36 x 2 |
| PN 315 | NEL-30S | 30 | 50 | 41 | 62 | 117 | 35.5 | 55 | M 42 x 2 |
| | NEL-38S | 38 | 60 | 50 | 72 | 135 | 41 | 63 | M 52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.
Please see final assembly on page 10.

Standpipe Reducer



Series L

| Series | Part No. | Tube O.D | | H ₁ | H ₂ | L | l | T |
|--------|--------------|----------------|----------------|----------------|----------------|----|------|-----------|
| | | D ₁ | D ₂ | | | | | |
| PN 315 | NKOR 08L-06L | 8 | 6 | 17 | 14 | 38 | 23.5 | M14 x 1.5 |
| PN 315 | NKOR 10L-06L | 10 | 6 | 19 | 14 | 38 | 23.5 | M16 x 1.5 |
| | NKOR 10L-08L | 10 | 8 | 19 | 17 | 38 | 23.5 | M16 x 1.5 |
| PN 315 | NKOR 12L-06L | 12 | 6 | 22 | 14 | 38 | 23.5 | M18 x 1.5 |
| | NKOR 12L-08L | 12 | 8 | 22 | 17 | 38 | 23.5 | M18 x 1.5 |
| PN 315 | NKOR 12L-10L | 12 | 10 | 22 | 19 | 39 | 24.5 | M18 x 1.5 |
| | NKOR 15L-06L | 15 | 6 | 27 | 14 | 38 | 23.5 | M22 x 1.5 |
| PN 315 | NKOR 15L-08L | 15 | 8 | 27 | 17 | 38 | 23.5 | M22 x 1.5 |
| | NKOR 15L-10L | 15 | 10 | 27 | 19 | 39 | 24.5 | M22 x 1.5 |
| PN 315 | NKOR 15L-12L | 15 | 12 | 27 | 22 | 39 | 24.5 | M22 x 1.5 |
| | NKOR 18L-06L | 18 | 6 | 32 | 14 | 39 | 24.5 | M26 x 1.5 |
| PN 315 | NKOR 18L-08L | 18 | 8 | 32 | 17 | 39 | 24.5 | M26 x 1.5 |
| | NKOR 18L-10L | 18 | 10 | 32 | 19 | 40 | 25.5 | M26 x 1.5 |
| PN 315 | NKOR 18L-12L | 18 | 12 | 32 | 22 | 40 | 25.5 | M26 x 1.5 |
| | NKOR 18L-15L | 18 | 15 | 32 | 27 | 42 | 26.5 | M26 x 1.5 |
| PN 160 | NKOR 22L-06L | 22 | 6 | 36 | 14 | 40 | 25.5 | M30 x 2 |
| | NKOR 22L-08L | 22 | 8 | 36 | 17 | 40 | 25.5 | M30 x 2 |
| PN 160 | NKOR 22L-10L | 22 | 10 | 36 | 19 | 41 | 26.5 | M30 x 2 |
| | NKOR 22L-12L | 22 | 12 | 36 | 22 | 41 | 26.5 | M30 x 2 |
| PN 160 | NKOR 22L-15L | 22 | 15 | 36 | 27 | 43 | 27.5 | M30 x 2 |
| | NKOR 22L-18L | 22 | 18 | 36 | 32 | 43 | 27 | M30 x 2 |
| PN 160 | NKOR 28L-06L | 28 | 6 | 41 | 14 | 41 | 26.5 | M36 x 2 |
| | NKOR 28L-08L | 28 | 8 | 41 | 17 | 41 | 26.5 | M36 x 2 |
| PN 160 | NKOR 28L-10L | 28 | 10 | 41 | 19 | 42 | 27.5 | M36 x 2 |
| | NKOR 28L-12L | 28 | 12 | 41 | 22 | 42 | 27.5 | M36 x 2 |
| PN 160 | NKOR 28L-15L | 28 | 15 | 41 | 27 | 44 | 28.5 | M36 x 2 |
| | NKOR 28L-18L | 28 | 18 | 41 | 32 | 44 | 28 | M36 x 2 |
| PN 160 | NKOR 28L-22L | 28 | 22 | 41 | 36 | 46 | 30 | M36 x 2 |
| | NKOR 35L-06L | 35 | 6 | 50 | 14 | 46 | 31.5 | M45 x 2 |
| PN 160 | NKOR 35L-08L | 35 | 8 | 50 | 17 | 46 | 31.5 | M45 x 2 |
| | NKOR 35L-10L | 35 | 10 | 50 | 19 | 47 | 32.5 | M45 x 2 |
| PN 160 | NKOR 35L-12L | 35 | 12 | 50 | 22 | 47 | 32.5 | M45 x 2 |
| | NKOR 35L-15L | 35 | 15 | 50 | 27 | 49 | 33.5 | M45 x 2 |
| PN 160 | NKOR 35L-18L | 35 | 18 | 50 | 32 | 49 | 33 | M45 x 2 |
| | NKOR 35L-22L | 35 | 22 | 50 | 36 | 51 | 35 | M45 x 2 |
| PN 160 | NKOR 35L-28L | 35 | 28 | 50 | 41 | 52 | 35 | M45 x 2 |
| | NKOR 42L-10L | 42 | 10 | 60 | 19 | 48 | 33.5 | M52 x 2 |
| PN 160 | NKOR 42L-12L | 42 | 12 | 60 | 22 | 48 | 33.5 | M52 x 2 |
| | NKOR 42L-15L | 42 | 15 | 60 | 27 | 50 | 34.5 | M52 x 2 |
| PN 160 | NKOR 42L-18L | 42 | 18 | 60 | 32 | 50 | 34 | M52 x 2 |
| | NKOR 42L-22L | 42 | 22 | 60 | 36 | 52 | 36 | M52 x 2 |
| PN 160 | NKOR 42L-28L | 42 | 28 | 60 | 41 | 53 | 36 | M52 x 2 |
| | NKOR 42L-35L | 42 | 35 | 60 | 50 | 57 | 35 | M52 x 2 |

Series S

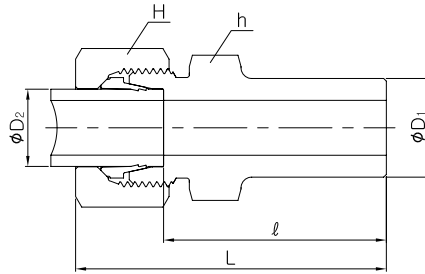
| Series | Part No. | Tube O.D | | H ₁ | H ₂ | L | l | T |
|--------|--------------|----------------|----------------|----------------|----------------|----|------|-----------|
| | | D ₁ | D ₂ | | | | | |
| PN 630 | NKOR 08S-06S | 8 | 6 | 19 | 17 | 40 | 25 | M16 x 1.5 |
| PN 630 | NKOR 10S-06S | 10 | 6 | 22 | 17 | 41 | 26 | M18 x 1.5 |
| | NKOR 10S-08S | 10 | 8 | 22 | 19 | 41 | 26 | M18 x 1.5 |
| PN 630 | NKOR 12S-06S | 12 | 6 | 24 | 17 | 42 | 27 | M20 x 1.5 |
| | NKOR 12S-08S | 12 | 8 | 24 | 19 | 42 | 27 | M20 x 1.5 |
| PN 630 | NKOR 12S-10S | 12 | 10 | 24 | 22 | 43 | 26.5 | M20 x 1.5 |
| | NKOR 14S-06S | 14 | 6 | 27 | 17 | 44 | 29 | M22 x 1.5 |
| PN 630 | NKOR 14S-08S | 14 | 8 | 27 | 19 | 44 | 29 | M22 x 1.5 |
| | NKOR 14S-10S | 14 | 10 | 27 | 22 | 45 | 28.5 | M22 x 1.5 |
| PN 630 | NKOR 14S-12S | 14 | 12 | 27 | 24 | 45 | 28.5 | M22 x 1.5 |
| | NKOR 16S-06S | 16 | 6 | 30 | 17 | 44 | 29 | M24 x 1.5 |
| PN 400 | NKOR 16S-08S | 16 | 8 | 30 | 19 | 44 | 29 | M24 x 1.5 |
| | NKOR 16S-10S | 16 | 10 | 30 | 22 | 45 | 28.5 | M24 x 1.5 |
| PN 400 | NKOR 16S-12S | 16 | 12 | 30 | 24 | 45 | 28.5 | M24 x 1.5 |
| | NKOR 16S-14S | 16 | 14 | 30 | 27 | 48 | 30 | M24 x 1.5 |
| PN 400 | NKOR 20S-06S | 20 | 6 | 36 | 17 | 49 | 34 | M30 x 2 |
| | NKOR 20S-08S | 20 | 8 | 36 | 19 | 49 | 34 | M30 x 2 |
| PN 400 | NKOR 20S-10S | 20 | 10 | 36 | 22 | 50 | 33.5 | M30 x 2 |
| | NKOR 20S-12S | 20 | 12 | 36 | 24 | 50 | 33.5 | M30 x 2 |
| PN 400 | NKOR 20S-14S | 20 | 14 | 36 | 27 | 53 | 35 | M30 x 2 |
| | NKOR 20S-16S | 20 | 16 | 36 | 30 | 53 | 34.5 | M30 x 2 |
| PN 400 | NKOR 25S-06S | 25 | 6 | 46 | 17 | 52 | 37 | M36 x 2 |
| | NKOR 25S-08S | 25 | 8 | 46 | 19 | 52 | 37 | M36 x 2 |
| PN 400 | NKOR 25S-10S | 25 | 10 | 46 | 22 | 53 | 36.5 | M36 x 2 |
| | NKOR 25S-12S | 25 | 12 | 46 | 24 | 53 | 36.5 | M36 x 2 |
| PN 400 | NKOR 25S-14S | 25 | 14 | 46 | 27 | 55 | 37 | M36 x 2 |
| | NKOR 25S-16S | 25 | 16 | 46 | 30 | 55 | 36.5 | M36 x 2 |
| PN 400 | NKOR 25S-20S | 25 | 20 | 46 | 36 | 59 | 37.5 | M36 x 2 |
| | NKOR 30S-06S | 30 | 6 | 50 | 17 | 54 | 39 | M42 x 2 |
| PN 400 | NKOR 30S-08S | 30 | 8 | 50 | 19 | 54 | 39 | M42 x 2 |
| | NKOR 30S-10S | 30 | 10 | 50 | 22 | 55 | 38.5 | M42 x 2 |
| PN 400 | NKOR 30S-12S | 30 | 12 | 50 | 24 | 55 | 38.5 | M42 x 2 |
| | NKOR 30S-14S | 30 | 14 | 50 | 27 | 58 | 40 | M42 x 2 |
| PN 400 | NKOR 30S-16S | 30 | 16 | 50 | 30 | 58 | 39.5 | M42 x 2 |
| | NKOR 30S-20S | 30 | 20 | 50 | 36 | 61 | 39.5 | M42 x 2 |
| PN 400 | NKOR 30S-25S | 30 | 25 | 50 | 46 | 64 | 40 | M42 x 2 |
| | NKOR 38S-06S | 38 | 6 | 60 | 17 | 58 | 43 | M52 x 2 |
| PN 315 | NKOR 38S-08S | 38 | 8 | 60 | 19 | 58 | 43 | M52 x 2 |
| | NKOR 38S-10S | 38 | 10 | 60 | 22 | 59 | 42.5 | M52 x 2 |
| PN 315 | NKOR 38S-12S | 38 | 12 | 60 | 24 | 59 | 42.5 | M52 x 2 |
| | NKOR 38S-14S | 38 | 14 | 60 | 27 | 62 | 44 | M52 x 2 |
| PN 315 | NKOR 38S-16S | 38 | 16 | 60 | 30 | 62 | 43.5 | M52 x 2 |
| | NKOR 38S-20S | 38 | 20 | 60 | 36 | 65 | 43.5 | M52 x 2 |
| PN 315 | NKOR 38S-25S | 38 | 25 | 60 | 46 | 68 | 44 | M52 x 2 |
| | NKOR 38S-30S | 38 | 30 | 60 | 50 | 71 | 44.5 | M52 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters. Tube stud have to swage for nut and cutting ring. Please see final assembly on page 10. Nut and cutting ring are not supplied.

IDK-LOK® DK DIN Bite Type Tube Fitting

Reducer

NR



Series L

| Series | Part No. | Tube O.D | | H | h | L | ℓ |
|------------|------------|----------|----|----|----|------|------|
| | | D1 | D2 | | | | |
| L | NR 08L-06L | 8 | 6 | 14 | 12 | 40 | 25.5 |
| | NR 10L-06L | 10 | 6 | 14 | 12 | 42 | 27.5 |
| | NR 10L-08L | 10 | 8 | 17 | 14 | 43 | 27.5 |
| | NR 12L-06L | 12 | 6 | 14 | 14 | 42 | 27.5 |
| | NR 12L-08L | 12 | 8 | 17 | 14 | 43 | 27.5 |
| | NR 12L-10L | 12 | 10 | 19 | 17 | 44 | 28.5 |
| | NR 15L-06L | 15 | 6 | 14 | 19 | 44 | 29 |
| | NR 15L-08L | 15 | 8 | 17 | 19 | 44 | 29 |
| | NR 15L-10L | 15 | 10 | 19 | 19 | 45 | 30 |
| | NR 15L-12L | 15 | 12 | 22 | 19 | 45 | 30 |
| | NR 18L-06L | 18 | 6 | 14 | 19 | 46 | 31 |
| | NR 18L-08L | 18 | 8 | 17 | 19 | 46 | 31 |
| | NR 18L-10L | 18 | 10 | 19 | 19 | 47 | 32 |
| | NR 18L-12L | 18 | 12 | 22 | 19 | 47 | 32 |
| | NR 18L-15L | 18 | 15 | 27 | 22 | 49 | 33 |
| | NR 22L-06L | 22 | 6 | 14 | 24 | 48 | 33 |
| | NR 22L-08L | 22 | 8 | 17 | 24 | 48 | 33 |
| | NR 22L-10L | 22 | 10 | 19 | 24 | 49 | 34 |
| NR 22L-12L | 22 | 12 | 22 | 24 | 49 | 34 | |
| NR 22L-15L | 22 | 15 | 27 | 24 | 50 | 35 | |
| NR 22L-18L | 22 | 18 | 32 | 27 | 51 | 34.5 | |
| NR 28L-06L | 28 | 6 | 14 | 30 | 48 | 33 | |
| NR 28L-08L | 28 | 8 | 17 | 30 | 48 | 33 | |
| NR 28L-10L | 28 | 10 | 19 | 30 | 49 | 34 | |
| NR 28L-12L | 28 | 12 | 22 | 30 | 49 | 34 | |
| NR 28L-15L | 28 | 15 | 27 | 30 | 50 | 35 | |
| NR 28L-18L | 28 | 18 | 32 | 30 | 51 | 36 | |
| NR 28L-22L | 28 | 22 | 36 | 32 | 53 | 36.5 | |
| NR 35L-06L | 35 | 6 | 14 | 36 | 53 | 38.5 | |
| NR 35L-08L | 35 | 8 | 17 | 36 | 53 | 38.5 | |
| NR 35L-10L | 35 | 10 | 19 | 36 | 55 | 39.5 | |
| NR 35L-12L | 35 | 12 | 22 | 36 | 55 | 39.5 | |
| NR 35L-15L | 35 | 15 | 27 | 36 | 56 | 40.5 | |
| NR 35L-18L | 35 | 18 | 32 | 36 | 56 | 40 | |
| NR 35L-22L | 35 | 22 | 36 | 36 | 58 | 42 | |
| NR 35L-28L | 35 | 28 | 41 | 36 | 59 | 42 | |
| NR 42L-06L | 42 | 6 | 14 | 46 | 56 | 41 | |
| NR 42L-08L | 42 | 8 | 17 | 46 | 56 | 41 | |
| NR 42L-10L | 42 | 10 | 19 | 46 | 58 | 42 | |
| NR 42L-12L | 42 | 12 | 22 | 46 | 58 | 42 | |
| NR 42L-15L | 42 | 15 | 27 | 46 | 60 | 43 | |
| NR 42L-18L | 42 | 18 | 32 | 46 | 60 | 42.5 | |
| NR 42L-22L | 42 | 22 | 36 | 46 | 62 | 44.5 | |
| NR 42L-28L | 42 | 28 | 41 | 46 | 64 | 44.5 | |
| NR 42L-35L | 42 | 35 | 50 | 46 | 67 | 43.5 | |

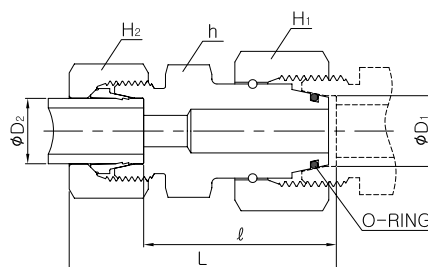
Series S

| Series | Part No. | Tube O.D | | H | h | L | ℓ |
|------------|------------|----------|----|----|----|------|------|
| | | D1 | D2 | | | | |
| PN 630 | NR 08S-06S | 8 | 6 | 17 | 14 | 43 | 28 |
| | NR 10S-06S | 10 | 6 | 17 | 14 | 45 | 30.5 |
| | NR 10S-08S | 10 | 8 | 19 | 17 | 45 | 30.5 |
| | NR 12S-06S | 12 | 6 | 17 | 14 | 47 | 32.5 |
| | NR 12S-08S | 12 | 8 | 19 | 17 | 47 | 32.5 |
| | NR 12S-10S | 12 | 10 | 22 | 19 | 48 | 32 |
| | NR 14S-06S | 14 | 6 | 17 | 17 | 51 | 36.5 |
| | NR 14S-08S | 14 | 8 | 19 | 17 | 51 | 36.5 |
| | NR 14S-10S | 14 | 10 | 22 | 19 | 52 | 36 |
| | NR 14S-12S | 14 | 12 | 24 | 22 | 52 | 36 |
| | NR 16S-06S | 16 | 6 | 17 | 17 | 53 | 38.5 |
| | NR 16S-08S | 16 | 8 | 19 | 17 | 53 | 38.5 |
| | NR 16S-10S | 16 | 10 | 22 | 19 | 54 | 38 |
| | NR 16S-12S | 16 | 12 | 24 | 22 | 55 | 38.5 |
| | NR 16S-14S | 16 | 14 | 27 | 22 | 57 | 39.5 |
| | NR 20S-06S | 20 | 6 | 17 | 22 | 58 | 43 |
| | NR 20S-08S | 20 | 8 | 19 | 22 | 58 | 43 |
| | NR 20S-10S | 20 | 10 | 22 | 22 | 59 | 42.5 |
| NR 20S-12S | 20 | 12 | 24 | 22 | 59 | 42.5 | |
| NR 20S-14S | 20 | 14 | 27 | 22 | 62 | 44 | |
| NR 20S-16S | 20 | 16 | 30 | 24 | 62 | 43.5 | |
| NR 25S-06S | 25 | 6 | 17 | 27 | 62 | 47.5 | |
| NR 25S-08S | 25 | 8 | 19 | 27 | 62 | 47.5 | |
| NR 25S-10S | 25 | 10 | 22 | 27 | 63 | 47 | |
| NR 25S-12S | 25 | 12 | 24 | 27 | 63 | 47 | |
| NR 25S-14S | 25 | 14 | 27 | 27 | 66 | 48.5 | |
| NR 25S-16S | 25 | 16 | 30 | 27 | 66 | 48 | |
| NR 25S-20S | 25 | 20 | 36 | 30 | 70 | 48 | |
| NR 30S-06S | 30 | 6 | 17 | 32 | 67 | 52 | |
| NR 30S-08S | 30 | 8 | 19 | 32 | 67 | 52 | |
| NR 30S-10S | 30 | 10 | 22 | 32 | 68 | 51.5 | |
| NR 30S-12S | 30 | 12 | 24 | 32 | 68 | 51.5 | |
| NR 30S-14S | 30 | 14 | 27 | 32 | 71 | 53 | |
| NR 30S-16S | 30 | 16 | 30 | 32 | 71 | 52.5 | |
| NR 30S-20S | 30 | 20 | 36 | 32 | 74 | 52.5 | |
| NR 30S-25S | 30 | 25 | 46 | 36 | 77 | 53 | |
| NR 38S-06S | 38 | 6 | 17 | 41 | 72 | 57 | |
| NR 38S-08S | 38 | 8 | 19 | 41 | 72 | 57 | |
| NR 38S-10S | 38 | 10 | 22 | 41 | 73 | 56.5 | |
| NR 38S-12S | 38 | 12 | 24 | 41 | 73 | 56.5 | |
| NR 38S-14S | 38 | 14 | 27 | 41 | 76 | 58 | |
| NR 38S-16S | 38 | 16 | 30 | 41 | 76 | 57.5 | |
| NR 38S-20S | 38 | 20 | 36 | 41 | 79 | 57.5 | |
| NR 38S-25S | 38 | 25 | 46 | 41 | 82 | 58 | |
| NR 38S-30S | 38 | 30 | 50 | 46 | 89 | 58.5 | |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Swivel Reducing Adapter with Cone

NRED



* O-ring of NBR standard, of FPM on request

Series L

| Series | Part No. | Tube O.D | | H ₁ | H ₂ | h | L | ℓ |
|--------|--------------|----------------|----------------|----------------|----------------|------|------|------|
| | | D ₁ | D ₂ | | | | | |
| PN 315 | NRED 08L-06L | 8 | 6 | 17 | 14 | 14 | 39 | 24.5 |
| PN 315 | NRED 10L-06L | 10 | 6 | 19 | 14 | 17 | 39.5 | 24.5 |
| | NRED 10L-08L | 10 | 8 | 19 | 17 | 17 | 39.5 | 24.5 |
| PN 315 | NRED 12L-06L | 12 | 6 | 22 | 14 | 17 | 40 | 25 |
| | NRED 12L-08L | 12 | 8 | 22 | 17 | 17 | 40 | 25 |
| PN 315 | NRED 12L-10L | 12 | 10 | 22 | 19 | 17 | 41 | 26 |
| | NRED 15L-06L | 15 | 6 | 27 | 14 | 22 | 42 | 27.5 |
| PN 315 | NRED 15L-08L | 15 | 8 | 27 | 17 | 22 | 42 | 27.5 |
| | NRED 15L-10L | 15 | 10 | 27 | 19 | 22 | 43 | 28.5 |
| PN 315 | NRED 15L-12L | 15 | 12 | 27 | 22 | 22 | 43 | 28.5 |
| | NRED 18L-06L | 18 | 6 | 32 | 14 | 25 | 43 | 28 |
| PN 315 | NRED 18L-08L | 18 | 8 | 32 | 17 | 25 | 43 | 28 |
| | NRED 18L-10L | 18 | 10 | 32 | 19 | 25 | 44.5 | 29.5 |
| PN 315 | NRED 18L-12L | 18 | 12 | 32 | 22 | 25 | 44.5 | 29.5 |
| | NRED 18L-15L | 18 | 15 | 32 | 27 | 25 | 45.5 | 30.5 |
| PN 160 | NRED 22L-06L | 22 | 6 | 36 | 14 | 28.5 | 47 | 32 |
| | NRED 22L-08L | 22 | 8 | 36 | 17 | 28.5 | 47 | 32 |
| PN 160 | NRED 22L-10L | 22 | 10 | 36 | 19 | 28.5 | 48 | 33 |
| | NRED 22L-12L | 22 | 12 | 36 | 22 | 28.5 | 48 | 33 |
| PN 160 | NRED 22L-15L | 22 | 15 | 36 | 27 | 28.5 | 49 | 34 |
| | NRED 22L-18L | 22 | 18 | 36 | 32 | 28.5 | 50 | 33.5 |
| PN 160 | NRED 28L-06L | 28 | 6 | 41 | 14 | 36 | 49 | 34 |
| | NRED 28L-08L | 28 | 8 | 41 | 17 | 36 | 49 | 34 |
| PN 160 | NRED 28L-10L | 28 | 10 | 41 | 19 | 36 | 50 | 35 |
| | NRED 28L-12L | 28 | 12 | 41 | 22 | 36 | 50 | 35 |
| PN 160 | NRED 28L-15L | 28 | 15 | 41 | 27 | 36 | 51 | 36 |
| | NRED 28L-18L | 28 | 18 | 41 | 32 | 36 | 52 | 35.5 |
| PN 160 | NRED 28L-22L | 28 | 22 | 41 | 36 | 36 | 54 | 37.5 |
| | NRED 35L-06L | 35 | 6 | 50 | 14 | 46 | 55 | 40 |
| PN 160 | NRED 35L-08L | 35 | 8 | 50 | 17 | 46 | 55 | 40 |
| | NRED 35L-10L | 35 | 10 | 50 | 19 | 46 | 56 | 41 |
| PN 160 | NRED 35L-12L | 35 | 12 | 50 | 22 | 46 | 56 | 41 |
| | NRED 35L-15L | 35 | 15 | 50 | 27 | 46 | 57 | 42 |
| PN 160 | NRED 35L-18L | 35 | 18 | 50 | 32 | 46 | 58 | 41.5 |
| | NRED 35L-22L | 35 | 22 | 50 | 36 | 46 | 60 | 43.5 |
| PN 160 | NRED 35L-28L | 35 | 28 | 50 | 41 | 46 | 60 | 43.5 |
| | NRED 42L-06L | 42 | 6 | 60 | 14 | 50 | 55 | 40.5 |
| PN 160 | NRED 42L-08L | 42 | 8 | 60 | 17 | 50 | 55 | 40.5 |
| | NRED 42L-10L | 42 | 10 | 60 | 19 | 50 | 56 | 41.5 |
| PN 160 | NRED 42L-12L | 42 | 12 | 60 | 22 | 50 | 56 | 41.5 |
| | NRED 42L-15L | 42 | 15 | 60 | 27 | 50 | 58 | 42.5 |
| PN 160 | NRED 42L-18L | 42 | 18 | 60 | 32 | 50 | 58 | 42 |
| | NRED 42L-22L | 42 | 22 | 60 | 36 | 50 | 60 | 44 |
| PN 160 | NRED 42L-28L | 42 | 28 | 60 | 41 | 50 | 61 | 44 |
| | NRED 42L-35L | 42 | 35 | 60 | 50 | 50 | 65 | 43 |

Series S

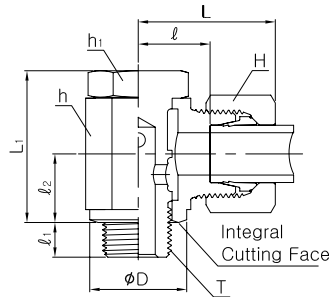
| Series | Part No. | Tube O.D | | H ₁ | H ₂ | h | L | ℓ |
|--------|--------------|----------------|----------------|----------------|----------------|------|------|------|
| | | D ₁ | D ₂ | | | | | |
| PN 630 | NRED 08S-06S | 8 | 6 | 19 | 17 | 17 | 44 | 28 |
| PN 630 | NRED 10S-06S | 10 | 6 | 22 | 17 | 17 | 44 | 29.5 |
| | NRED 10S-08S | 10 | 8 | 22 | 19 | 17 | 44 | 29.5 |
| PN 630 | NRED 12S-06S | 12 | 6 | 24 | 17 | 19 | 45 | 30 |
| | NRED 12S-08S | 12 | 8 | 24 | 19 | 19 | 45 | 30 |
| PN 630 | NRED 12S-10S | 12 | 10 | 24 | 22 | 19 | 46 | 29.5 |
| | NRED 14S-06S | 14 | 6 | 27 | 17 | 22 | 47.5 | 33 |
| PN 630 | NRED 14S-08S | 14 | 8 | 27 | 19 | 22 | 47.5 | 33 |
| | NRED 14S-10S | 14 | 10 | 27 | 22 | 22 | 48.5 | 32.5 |
| PN 630 | NRED 14S-12S | 14 | 12 | 27 | 24 | 22 | 48.5 | 32.5 |
| | NRED 16S-06S | 16 | 6 | 30 | 17 | 24 | 50 | 35 |
| PN 630 | NRED 16S-08S | 16 | 8 | 30 | 19 | 24 | 50 | 35 |
| | NRED 16S-10S | 16 | 10 | 30 | 22 | 24 | 51 | 34.5 |
| PN 630 | NRED 16S-12S | 16 | 12 | 30 | 24 | 24 | 51 | 34.5 |
| | NRED 16S-14S | 16 | 14 | 30 | 27 | 24 | 54 | 36 |
| PN 400 | NRED 20S-06S | 20 | 6 | 36 | 17 | 28.5 | 54 | 39 |
| | NRED 20S-08S | 20 | 8 | 36 | 19 | 28.5 | 54 | 39 |
| PN 400 | NRED 20S-10S | 20 | 10 | 36 | 22 | 28.5 | 55 | 38.5 |
| | NRED 20S-12S | 20 | 12 | 36 | 24 | 28.5 | 55 | 38.5 |
| PN 400 | NRED 20S-14S | 20 | 14 | 36 | 27 | 28.5 | 58 | 40 |
| | NRED 20S-16S | 20 | 16 | 36 | 30 | 28.5 | 58 | 39.5 |
| PN 400 | NRED 25S-06S | 25 | 6 | 46 | 17 | 36 | 58 | 43.5 |
| | NRED 25S-08S | 25 | 8 | 46 | 19 | 36 | 58 | 43.5 |
| PN 400 | NRED 25S-10S | 25 | 10 | 46 | 22 | 36 | 59 | 43 |
| | NRED 25S-12S | 25 | 12 | 46 | 24 | 36 | 59 | 43 |
| PN 400 | NRED 25S-14S | 25 | 14 | 46 | 27 | 36 | 62 | 44.5 |
| | NRED 25S-16S | 25 | 16 | 46 | 30 | 36 | 62 | 44 |
| PN 400 | NRED 25S-20S | 25 | 20 | 46 | 36 | 36 | 66 | 44 |
| | NRED 30S-06S | 30 | 6 | 50 | 17 | 41 | 66 | 51 |
| PN 400 | NRED 30S-08S | 30 | 8 | 50 | 19 | 41 | 66 | 51 |
| | NRED 30S-10S | 30 | 10 | 50 | 22 | 41 | 67 | 50.5 |
| PN 400 | NRED 30S-12S | 30 | 12 | 50 | 24 | 41 | 67 | 50.5 |
| | NRED 30S-14S | 30 | 14 | 50 | 27 | 41 | 70 | 52 |
| PN 400 | NRED 30S-16S | 30 | 16 | 50 | 30 | 41 | 70 | 51.5 |
| | NRED 30S-20S | 30 | 20 | 50 | 36 | 41 | 73 | 51.5 |
| PN 400 | NRED 30S-25S | 30 | 25 | 50 | 46 | 41 | 76 | 52 |
| | NRED 38S-06S | 38 | 6 | 60 | 17 | 50 | 70.5 | 56 |
| PN 400 | NRED 38S-08S | 38 | 8 | 60 | 19 | 50 | 70.5 | 56 |
| | NRED 38S-10S | 38 | 10 | 60 | 22 | 50 | 71.5 | 55.5 |
| PN 400 | NRED 38S-12S | 38 | 12 | 60 | 24 | 50 | 71.5 | 55.5 |
| | NRED 38S-14S | 38 | 14 | 60 | 27 | 50 | 74.5 | 57 |
| PN 400 | NRED 38S-16S | 38 | 16 | 60 | 30 | 50 | 74.5 | 56.5 |
| | NRED 38S-20S | 38 | 20 | 60 | 36 | 50 | 78.5 | 56.5 |
| PN 400 | NRED 38S-25S | 38 | 25 | 60 | 46 | 50 | 81.5 | 57 |
| | NRED 38S-30S | 38 | 30 | 60 | 50 | 50 | 85.5 | 58.5 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters. Please see final assembly on page 10.

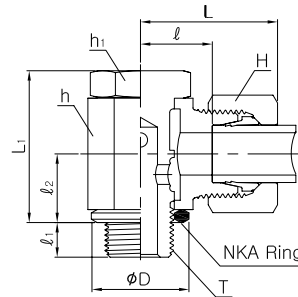
IDK-LOK® DK DIN Bite Type Tube Fitting

Banjo Fittings(BSP Parallel / Metric Parallel)

NSLM-G/M



For tube O.D up to 15mm



For tube O.D 16mm and larger

for BSP Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | T G(PF) | *MA |
|----------------------|--------------|----------|------|----|----|----------------|----|----------------|------|----------------|----------------|------------|-----|
| L light PN 315 | NSLM 06L-01G | 6 | 14.5 | 14 | 14 | 14 | 25 | 21 | 10.5 | 6 | 10 | 1/8 | 20 |
| | NSLM 08L-02G | 8 | 18.5 | 17 | 19 | 19 | 28 | 27 | 13 | 9 | 13 | 1/4 | 45 |
| | NSLM 10L-02G | 10 | 18.5 | 19 | 19 | 19 | 29 | 27 | 14 | 9 | 13 | 1/4 | 45 |
| | NSLM 12L-03G | 12 | 22.5 | 22 | 22 | 22 | 30 | 32 | 15.5 | 9 | 15 | 3/8 | 70 |
| | NSLM 15L-04G | 15 | 26.5 | 27 | 27 | 27 | 34 | 37.5 | 19 | 11 | 18 | 1/2 | 100 |
| PB 160 | NSLM 18L-04G | 18 | 26 | 32 | 30 | 27 | 37 | 44 | 20.5 | 11 | 21.5 | 1/2 | 100 |
| | NSLM 22L-06G | 22 | 32 | 36 | 36 | 32 | 42 | 49 | 25.5 | 13 | 24 | 3/4 | 140 |
| S heavy PB 250 | NSLM 06S-02G | 6 | 18.5 | 17 | 19 | 19 | 30 | 27 | 15 | 9 | 13 | 1/4 | 45 |
| | NSLM 08S-02G | 8 | 18.5 | 19 | 19 | 19 | 30 | 27 | 15 | 9 | 13 | 1/4 | 45 |
| | NSLM 10S-03G | 10 | 22.5 | 22 | 22 | 22 | 32 | 32 | 16 | 9 | 15 | 3/8 | 70 |
| | NSLM 12S-03G | 12 | 22.5 | 24 | 24 | 24 | 33 | 37 | 17 | 9 | 18 | 3/8 | 70 |
| | NSLM 14S-04G | 14 | 26.5 | 27 | 27 | 27 | 38 | 37 | 20 | 11 | 18 | 1/4 | 100 |
| PN 400 | NSLM 16S-04G | 16 | 26 | 30 | 30 | 27 | 40 | 44 | 21.5 | 11 | 21.5 | 1/2 | 100 |
| | NSLM 20S-06G | 20 | 32 | 36 | 36 | 32 | 46 | 49 | 24.5 | 13 | 24 | 3/4 | 140 |

for Metric Parallel

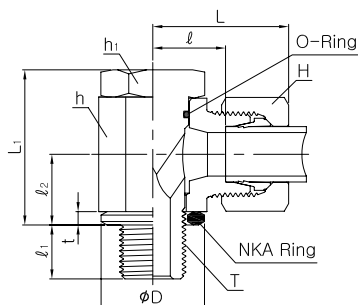
| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | T M(Metric) | *MA |
|----------------------|----------------|----------|------|----|----|----------------|----|----------------|------|----------------|----------------|----------------|-----|
| L light PB 250 | NSLM 06L-10M10 | 6 | 14.5 | 14 | 14 | 14 | 25 | 21.5 | 10.5 | 6 | 10 | M 10 x 1 | 25 |
| | NSLM 08L-12M15 | 8 | 17.5 | 17 | 17 | 17 | 27 | 25 | 12 | 9 | 12 | M 12 x 1.5 | 40 |
| | NSLM 10L-14M15 | 10 | 19.5 | 19 | 19 | 19 | 29 | 27 | 14 | 9 | 13 | M 14 x 1.5 | 55 |
| | NSLM 12L-16M15 | 12 | 21.5 | 22 | 22 | 22 | 30 | 32 | 15.5 | 9 | 15 | M 16 x 1.5 | 65 |
| | NSLM 15L-18M15 | 15 | 23.5 | 27 | 24 | 24 | 33 | 37.5 | 17.5 | 9 | 18 | M 18 x 1.5 | 90 |
| PB 160 | NSLM 18L-22M15 | 18 | 27 | 32 | 30 | 27 | 37 | 44 | 20.5 | 11 | 21.5 | M 22 x 1.5 | 130 |
| | NSLM 22L-26M15 | 22 | 31 | 36 | 36 | 32 | 42 | 49 | 25.5 | 13 | 24 | M 26 x 1.5 | 140 |
| S heavy PB 250 | NSLM 06S-12M15 | 6 | 17.5 | 17 | 17 | 17 | 29 | 25 | 14 | 9 | 12 | M 12 x 1.5 | 40 |
| | NSLM 08S-14M15 | 8 | 19.5 | 19 | 19 | 19 | 30 | 27 | 15 | 9 | 13 | M 14 x 1.5 | 55 |
| | NSLM 10S-16M15 | 10 | 21.5 | 22 | 22 | 22 | 32 | 32 | 16 | 9 | 15 | M 16 x 1.5 | 65 |
| | NSLM 12S-18M15 | 12 | 23.5 | 24 | 24 | 24 | 33 | 37 | 17 | 9 | 18 | M 18 x 1.5 | 90 |
| | NSLM 14S-20M15 | 14 | 25.5 | 27 | 27 | 27 | 38 | 37 | 20 | 11 | 18 | M 20 x 1.5 | 120 |
| PB 160ar | NSLM 16S-22M15 | 16 | 27 | 30 | 30 | 27 | 40 | 44 | 21.5 | 11 | 21.5 | M 22 x 1.5 | 130 |
| | NSLM 20S-27M20 | 20 | 32 | 36 | 36 | 32 | 46 | 49 | 24.5 | 13 | 24 | M 27 x 2 | 150 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

*MA is recommended tightening torque(Nm) for male G and M

High Pressure Banjo Fittings(BSP Parallel / Metric Parallel)

NWH-G/M



* O-ring of NBR standard, of FPM on request

for BSP Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | t | T G(PF) | *MA |
|----------------------|-------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|-----|---------|-----|
| L light PB 315 | NWH 06L-01G | 6 | 14 | 14 | 17 | 17 | 27 | 24 | 12 | 8 | 10.5 | 2.5 | 1/8 | 20 |
| | NWH 08L-02G | 8 | 18 | 17 | 22 | 19 | 29 | 30 | 14.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NWH 10L-02G | 10 | 18 | 19 | 22 | 19 | 30 | 30 | 15.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NWH 12L-03G | 12 | 22 | 22 | 27 | 24 | 33 | 36 | 18 | 12 | 16.5 | 3 | 3/8 | 75 |
| | NWH 15L-04G | 15 | 26 | 27 | 32 | 30 | 37 | 45 | 21.5 | 14 | 21.5 | 4.5 | 1/2 | 130 |
| PB 160 | NWH 18L-04G | 18 | 26 | 32 | 32 | 30 | 37 | 45 | 21 | 14 | 21.5 | 4.5 | 1/2 | 130 |
| | NWH 22L-06G | 22 | 32 | 36 | 41 | 36 | 44 | 53 | 27.5 | 16 | 24 | 3.5 | 3/4 | 250 |
| | NWH 28L-08G | 28 | 39 | 41 | 50 | 46 | 49 | 66 | 32 | 18 | 30.5 | 3.5 | 1 | 350 |
| | NWH 35L-10G | 35 | 49 | 50 | 60 | 55 | 58 | 76 | 36 | 20 | 35.5 | 3.5 | 1-1/4 | 600 |
| S heavy PB 400 | NWH 42L-12G | 42 | 55 | 60 | 70 | 60 | 63 | 87 | 40.5 | 22 | 40.5 | 3.5 | 1-1/2 | 800 |
| | NWH 06S-02G | 6 | 18 | 17 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NWH 08S-02G | 8 | 18 | 19 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NWH 10S-03G | 10 | 22 | 22 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3 | 3/8 | 75 |
| | NWH 12S-03G | 12 | 22 | 24 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3 | 3/8 | 75 |
| PB 250 | NWH 16S-04G | 16 | 26 | 30 | 32 | 30 | 40 | 45 | 22 | 14 | 21.5 | 4.5 | 1/2 | 130 |
| | NWH 20S-06G | 20 | 32 | 36 | 41 | 36 | 48 | 53 | 26.5 | 16 | 24 | 3.5 | 3/4 | 250 |
| | NWH 25S-08G | 25 | 39 | 46 | 50 | 46 | 56 | 66 | 31.5 | 18 | 30.5 | 3.5 | 1 | 350 |
| | NWH 30S-10G | 30 | 49 | 50 | 60 | 55 | 64 | 76 | 37 | 20 | 34.5 | 3.5 | 1-1/4 | 600 |
| | NWH 38S-12G | 38 | 55 | 60 | 70 | 60 | 72 | 87 | 41.5 | 22 | 40.5 | 3.5 | 1-1/2 | 800 |

for Metric Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | t | T M(Metric) | *MA |
|----------------------|---------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|----------|-------------|-----|
| L light PB 315 | NWH 06L-10M10 | 6 | 14 | 14 | 17 | 17 | 27 | 24 | 12 | 8 | 10.5 | 2.5 | M 10 x 1 | 25 |
| | NWH 08L-12M15 | 8 | 17 | 17 | 22 | 19 | 29 | 30 | 14.5 | 12 | 14 | 3 | M 12 x 1.5 | 50 |
| | NWH 10L-14M15 | 10 | 19 | 19 | 22 | 19 | 30 | 30 | 15.5 | 12 | 14 | 3 | M 14 x 1.5 | 60 |
| | NWH 12L-16M15 | 12 | 21 | 22 | 27 | 24 | 33 | 36 | 18 | 12 | 16.5 | 3 | M 16 x 1.5 | 90 |
| | NWH 15L-18M15 | 15 | 23 | 27 | 30 | 27 | 36 | 39.5 | 20.5 | 12 | 18.5 | 3 | M 18 x 1.5 | 110 |
| PB 160 | NWH 18L-22M15 | 18 | 27 | 32 | 32 | 30 | 37 | 45 | 21 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 150 |
| | NWH 22L-26M15 | 22 | 31 | 36 | 41 | 36 | 44 | 53 | 27.5 | 16 | 24 | 3.5 | M 26 x 1.5 | 350 |
| | NWH 28L-33M20 | 28 | 39 | 41 | 50 | 46 | 49 | 66 | 32 | 18 | 30.5 | 3.5 | M 33 x 2 | 400 |
| | NWH 35L-42M20 | 35 | 49 | 50 | 60 | 55 | 58 | 76 | 36 | 20 | 35.5 | 3.5 | M 42 x 2 | 600 |
| L heavy PB 400 | NWH 42L-48M20 | 42 | 55 | 60 | 70 | 60 | 63 | 87 | 40.5 | 22 | 40.5 | 3.5 | M 48 x 2 | 800 |
| | NWH 06S-12M15 | 6 | 17 | 17 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | M 12 x 1.5 | 50 |
| | NWH 08S-14M15 | 8 | 19 | 19 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | M 14 x 1.5 | 60 |
| | NWH 10S-16M15 | 10 | 21 | 22 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3 | M 16 x 1.5 | 90 |
| | NWH 12S-18M16 | 12 | 23 | 24 | 30 | 27 | 36 | 39.5 | 20 | 12 | 18.5 | 3 | M 18 x 1.5 | 110 |
| PB 250 | NWH 16S-22M15 | 16 | 27 | 30 | 32 | 30 | 40 | 45 | 22 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 150 |
| | NWH 20S-27M20 | 20 | 32 | 36 | 41 | 36 | 48 | 53 | 26.5 | 16 | 24 | 3.5 | M 27 x 2 | 350 |
| | NWH 25S-33M20 | 25 | 39 | 46 | 50 | 46 | 56 | 66 | 31.5 | 18 | 30.5 | 3.5 | M 33 x 2 | 400 |
| | NWH 30S-42M20 | 30 | 49 | 50 | 60 | 55 | 64 | 76 | 37 | 20 | 35.5 | 3.5 | M 42 x 2 | 600 |
| NWH 38S-48M20 | 38 | 55 | 60 | 70 | 60 | 72 | 87 | 41.5 | 22 | 40.5 | 3.5 | M 48 x 2 | 800 | |

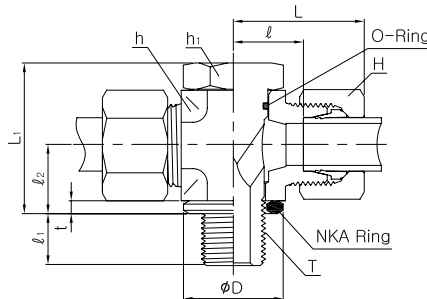
All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

*MA is recommended tightening torque(Nm) for male G and M

IDK-LOK® DK DIN Bite Type Tube Fitting

High Pressure Banjo Fittings(BSP Parallel / Metric Parallel)

NTH-G/M



* O-ring of NBR standard, of FPM on request

for BSP Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | t | T G(PF) | *MA |
|----------------------|-------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|-----|---------|-----|
| L light PB 315 | NTH 06L-01G | 6 | 14 | 14 | 17 | 17 | 27 | 24 | 12 | 8 | 10.5 | 2.5 | 1/8 | 20 |
| | NTH 08L-02G | 8 | 18 | 17 | 22 | 19 | 29 | 30 | 14.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NTH 10L-02G | 10 | 18 | 19 | 22 | 19 | 30 | 30 | 15.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NTH 12L-03G | 12 | 22 | 22 | 27 | 24 | 33 | 36 | 18 | 12 | 16.5 | 3 | 3/8 | 75 |
| | NTH 15L-04G | 15 | 26 | 27 | 32 | 30 | 37 | 45 | 21.5 | 14 | 21.5 | 4.5 | 1/2 | 130 |
| PB 160 | NTH 18L-04G | 18 | 26 | 32 | 32 | 30 | 37 | 45 | 21 | 14 | 21.5 | 4.5 | 1/2 | 130 |
| | NTH 22L-06G | 22 | 32 | 36 | 41 | 36 | 44 | 53 | 27.5 | 16 | 24 | 3.5 | 3/4 | 250 |
| | NTH 28L-08G | 28 | 39 | 41 | 50 | 46 | 49 | 66 | 32 | 18 | 30.5 | 3.5 | 1 | 350 |
| | NTH 35L-10G | 35 | 49 | 50 | 60 | 55 | 58 | 76 | 36 | 20 | 35.5 | 3.5 | 1-1/4 | 600 |
| | NTH 42L-12G | 42 | 55 | 60 | 70 | 60 | 63 | 87 | 40.5 | 22 | 40.5 | 3.5 | 1-1/2 | 800 |
| S heavy PB 400 | NTH 06S-02G | 6 | 18 | 17 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NTH 08S-02G | 8 | 18 | 19 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | 1/4 | 50 |
| | NTH 10S-03G | 10 | 22 | 22 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3 | 3/8 | 75 |
| | NTH 12S-03G | 12 | 22 | 24 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3 | 3/8 | 75 |
| | NTH 16S-04G | 16 | 26 | 30 | 32 | 30 | 40 | 45 | 22 | 14 | 21.5 | 4.5 | 1/2 | 130 |
| PB 250 | NTH 20S-06G | 20 | 32 | 36 | 41 | 36 | 48 | 53 | 26.5 | 16 | 24 | 3.5 | 3/4 | 250 |
| | NTH 25S-08G | 25 | 39 | 46 | 50 | 46 | 56 | 66 | 31.5 | 18 | 30.5 | 3.5 | 1 | 350 |
| | NTH 30S-10G | 30 | 49 | 50 | 60 | 55 | 64 | 76 | 37 | 20 | 35.5 | 3.5 | 1-1/4 | 600 |
| | NTH 38S-12G | 38 | 55 | 60 | 70 | 60 | 72 | 87 | 41.5 | 22 | 40.5 | 3.5 | 1-1/2 | 800 |

for Metric Parallel

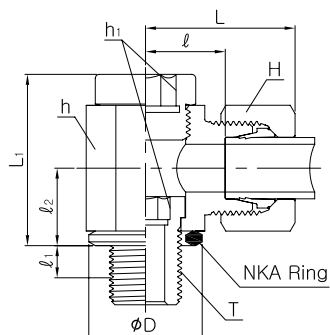
| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | t | T M(Metric) | *MA |
|----------------------|---------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|-----|-------------|-----|
| L light PB 315 | NTH 06L-10M10 | 6 | 14 | 14 | 17 | 17 | 27 | 24 | 12 | 8 | 10.5 | 2.5 | M 10 x 1 | 25 |
| | NTH 08L-12M15 | 8 | 17 | 17 | 22 | 19 | 29 | 30 | 14.5 | 12 | 14 | 3 | M 12 x 1.5 | 50 |
| | NTH 10L-14M15 | 10 | 19 | 19 | 22 | 19 | 30 | 30 | 15.5 | 12 | 14 | 3 | M 14 x 1.5 | 60 |
| | NTH 12L-16M15 | 12 | 21 | 22 | 27 | 24 | 33 | 36 | 18 | 12 | 16.5 | 3 | M 16 x 1.5 | 90 |
| | NTH 15L-18M15 | 15 | 23 | 27 | 30 | 27 | 36 | 39.5 | 20.5 | 12 | 18.5 | 3 | M 18 x 1.5 | 110 |
| PB 160 | NTH 18L-22M15 | 18 | 27 | 32 | 32 | 30 | 37 | 45 | 21 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 150 |
| | NTH 22L-26M15 | 22 | 31 | 36 | 41 | 36 | 44 | 53 | 27.5 | 16 | 24 | 3.5 | M 26 x 1.5 | 350 |
| | NTH 28L-33M20 | 28 | 39 | 41 | 50 | 46 | 49 | 66 | 32 | 18 | 30.5 | 3.5 | M 33 x 2 | 400 |
| | NTH 35L-42M20 | 35 | 49 | 50 | 60 | 55 | 58 | 76 | 36 | 20 | 35.5 | 3.5 | M 42 x 2 | 600 |
| | NTH 42L-48M20 | 42 | 55 | 60 | 70 | 60 | 63 | 87 | 40.5 | 22 | 40.5 | 3.5 | M 48 x 2 | 800 |
| L heavy PB 400 | NTH 06S-12M15 | 6 | 17 | 17 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | M 12 x 1.5 | 50 |
| | NTH 08S-14M15 | 8 | 19 | 19 | 22 | 19 | 31 | 30 | 16.5 | 12 | 14 | 3 | M 14 x 1.5 | 60 |
| | NTH 10S-16M15 | 10 | 21 | 22 | 27 | 24 | 35 | 36 | 18.5 | 12 | 16.5 | 3 | M 16 x 1.5 | 90 |
| | NTH 12S-18M15 | 12 | 23 | 24 | 30 | 27 | 36 | 39.5 | 20 | 12 | 18.5 | 3 | M 18 x 1.5 | 110 |
| | NTH 16S-22M15 | 16 | 27 | 30 | 32 | 30 | 40 | 45 | 22 | 14 | 21.5 | 4.5 | M 22 x 1.5 | 150 |
| PB 250 | NTH 20S-27M20 | 20 | 32 | 36 | 41 | 36 | 48 | 53 | 26.5 | 16 | 24 | 3.5 | M 27 x 2 | 350 |
| | NTH 25S-33M20 | 25 | 39 | 46 | 50 | 46 | 56 | 66 | 31.5 | 18 | 30.5 | 3.5 | M 33 x 2 | 400 |
| | NTH 30S-42M20 | 30 | 49 | 50 | 60 | 55 | 64 | 76 | 37 | 20 | 35.5 | 3.5 | M 42 x 2 | 600 |
| | NTH 38S-48M20 | 38 | 55 | 60 | 70 | 60 | 72 | 87 | 41.5 | 22 | 40.5 | 3.5 | M 48 x 2 | 800 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

*MA is recommended tightening torque(Nm) for male G and M

Throttle-Free Banjo Fittings(BSP Parallel / Metric Parallel)

NSVW-G/M



for BSP Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | T G(PF) |
|----------------------|--------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|------------|
| L light PB 250 | NSVW 06L-01G | 6 | 14 | 14 | 19 | 6 | 27 | 24 | 12.5 | 8 | 12 | 1/8 |
| | NSVW 08L-02G | 8 | 18 | 17 | 22 | 8 | 29 | 30 | 14.5 | 12 | 16 | 1/4 |
| | NSVW 10L-02G | 10 | 18 | 19 | 22 | 8 | 30 | 30 | 15.5 | 12 | 16 | 1/4 |
| | NSVW 12L-03G | 12 | 22 | 22 | 27 | 10 | 33 | 37 | 18 | 12 | 18 | 3/8 |
| PB 100 | NSVW 15L-04G | 15 | 26 | 27 | 32 | 12 | 37 | 42 | 22 | 14 | 21 | 1/2 |
| | NSVW 18L-04G | 18 | 26 | 32 | 36 | 12 | 38 | 46 | 21.5 | 14 | 23 | 1/2 |
| | NSVW 22L-06G | 22 | 32 | 36 | 46 | 17 | 45 | 58 | 28.5 | 16 | 28 | 3/4 |
| | NSVW 28L-08G | 28 | 39 | 41 | 50 | 22 | 48 | 64 | 31.5 | 18 | 32 | 1 |
| | NSVW 35L-10G | 35 | 49 | 50 | 60 | 27 | 57 | 76 | 35.5 | 20 | 37 | 1-1/4 |
| | NSVW 42L-12G | 42 | 55 | 60 | 65 | 32 | 63 | 85 | 40 | 22 | 42 | 1-1/2 |
| S light PB 400 | NSVW 06S-02G | 6 | 18 | 17 | 22 | 8 | 31 | 30 | 16.5 | 12 | 16 | 1/4 |
| | NSVW 08S-02G | 8 | 18 | 19 | 22 | 8 | 31 | 30 | 16.5 | 12 | 16 | 1/4 |
| | NSVW 10S-03G | 10 | 22 | 22 | 27 | 10 | 35 | 37 | 18.5 | 12 | 18 | 3/8 |
| | NSVW 12S-03G | 12 | 22 | 24 | 27 | 10 | 35 | 37 | 18.5 | 12 | 18 | 3/8 |
| | NSVW 14S-04G | 14 | 26 | 27 | 32 | 12 | 41 | 42 | 23 | 14 | 21 | 1/2 |
| | NSVW 16S-04G | 16 | 26 | 30 | 36 | 12 | 41 | 46 | 22.5 | 14 | 23 | 1/2 |
| PB 250 | NSVW 20S-06G | 20 | 32 | 36 | 46 | 17 | 49 | 58 | 27.5 | 16 | 28 | 3/4 |
| | NSVW 25S-08G | 25 | 39 | 46 | 50 | 22 | 55 | 64 | 31.5 | 18 | 32 | 1 |
| | NSVW 30S-10G | 30 | 49 | 50 | 60 | 27 | 63 | 76 | 36.5 | 20 | 37 | 1-1/4 |
| | NSVW 38S-12G | 38 | 55 | 60 | 70 | 32 | 72 | 85 | 41 | 22 | 42 | 1-1/2 |

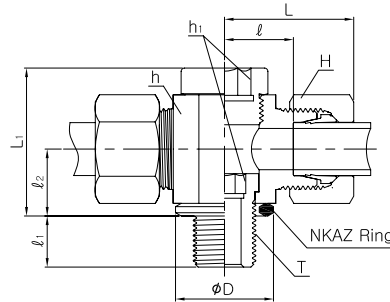
for Metric Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | T M(Metric) |
|----------------------|----------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|----------------|
| L light PB 250 | NSVW 06L-10M10 | 6 | 14 | 14 | 19 | 6 | 27 | 24 | 12.5 | 8 | 12 | M 10 x 1 |
| | NSVW 08L-12M15 | 8 | 17 | 17 | 22 | 6 | 29 | 30 | 14.5 | 12 | 15 | M 12 x 1.5 |
| | NSVW 10L-14M15 | 10 | 19 | 19 | 22 | 8 | 30 | 30 | 15.5 | 12 | 16 | M 14 x 1.5 |
| | NSVW 12L-16M15 | 12 | 21 | 22 | 27 | 10 | 33 | 37 | 18 | 12 | 18 | M 16 x 1.5 |
| PB 100 | NSVW 15L-18M15 | 15 | 23 | 27 | 30 | 12 | 36 | 40 | 21 | 12 | 20 | M 18 x 1.5 |
| | NSVW 18L-22M15 | 18 | 27 | 32 | 36 | 14 | 38 | 46 | 21.5 | 14 | 23 | M 22 x 1.5 |
| | NSVW 22L-26M15 | 22 | 31 | 36 | 41 | 17 | 42 | 51 | 26 | 16 | 25 | M 26 x 1.5 |
| | NSVW 28L-33M20 | 28 | 39 | 41 | 50 | 22 | 48 | 64 | 31.5 | 18 | 32 | M 33 x 2 |
| | NSVW 35L-42M20 | 35 | 49 | 50 | 60 | 27 | 57 | 76 | 35.5 | 20 | 37 | M 42 x 2 |
| | NSVW 42L-48M20 | 42 | 55 | 60 | 65 | 32 | 63 | 85 | 40 | 22 | 42 | M 48 x 2 |
| L heavy PB 400 | NSVW 06S-12M15 | 6 | 17 | 17 | 22 | 6 | 31 | 30 | 16.5 | 12 | 15 | M 12 x 1.5 |
| | NSVW 08S-14M15 | 8 | 19 | 19 | 22 | 8 | 31 | 30 | 16.5 | 12 | 16 | M 14 x 1.5 |
| | NSVW 10S-16M15 | 10 | 21 | 22 | 27 | 10 | 35 | 37 | 18.5 | 12 | 18 | M 16 x 1.5 |
| | NSVW 12S-18M15 | 12 | 23 | 24 | 30 | 12 | 37 | 41 | 20.5 | 12 | 20 | M 18 x 1.5 |
| | NSVW 14S-20M15 | 14 | 25 | 27 | 32 | 12 | 41 | 42 | 23 | 14 | 21 | M 20 x 1.5 |
| | NSVW 16S-22M15 | 16 | 27 | 30 | 36 | 14 | 41 | 46 | 22.5 | 14 | 23 | M 22 x 1.5 |
| PB 250 | NSVW 20S-27M20 | 20 | 32 | 36 | 46 | 17 | 49 | 58 | 27.5 | 16 | 28 | M 27 x 2 |
| | NSVW 25S-33M20 | 25 | 39 | 46 | 50 | 22 | 55 | 64 | 31 | 18 | 32 | M 33 x 2 |
| | NSVW 30S-42M20 | 30 | 49 | 50 | 60 | 27 | 63 | 76 | 36.5 | 20 | 37 | M 42 x 2 |
| | NSVW 38S-48M20 | 38 | 55 | 60 | 70 | 32 | 72 | 85 | 41 | 22 | 42 | M 48 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Throttle-Free Banjo Fittings(BSP Parallel / Metric Parallel)

NSVT-G/M



for BSP Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | T G(PF) |
|----------------------|--------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|------------|
| L light PB 250 | NSVT 06L-01G | 6 | 14 | 14 | 18 | 6 | 27 | 24 | 12 | 8 | 12 | 1/8 |
| | NSVT 08L-02G | 8 | 18 | 17 | 22 | 8 | 29 | 30 | 14 | 12 | 15 | 1/4 |
| | NSVT 10L-02G | 10 | 18 | 19 | 22 | 8 | 30 | 30 | 15 | 12 | 15 | 1/4 |
| | NSVT 12L-03G | 12 | 22 | 22 | 27 | 10 | 32 | 36 | 17.5 | 12 | 18 | 3/8 |
| | NSVT 15L-04G | 15 | 26 | 27 | 30 | 12 | 35 | 40 | 20 | 14 | 20 | 1/2 |
| PB 100 | NSVT 18L-04G | 18 | 26 | 32 | 30 | 12 | 36 | 40 | 19.5 | 14 | 20 | 1/2 |
| | NSVT 22L-06G | 22 | 32 | 36 | 41 | 17 | 43 | 52 | 27 | 16 | 25 | 3/4 |
| | NSVT 28L-08G | 28 | 39 | 41 | 46 | 22 | 46 | 58 | 29.5 | 18 | 29 | 1 |
| | NSVT 35L-10G | 35 | 49 | 50 | 55 | 27 | 55 | 69 | 33 | 20 | 34 | 1-1/4 |
| | NSVT 42L-12G | 42 | 55 | 60 | 65 | 32 | 63 | 84 | 40 | 22 | 41 | 1-1/2 |
| S heavy PB 400 | NSVT 06S-02G | 6 | 18 | 17 | 22 | 8 | 31 | 30 | 16 | 12 | 15 | 1/4 |
| | NSVT 08S-02G | 8 | 18 | 19 | 22 | 8 | 31 | 30 | 16 | 12 | 15 | 1/4 |
| | NSVT 10S-03G | 10 | 22 | 22 | 27 | 10 | 34 | 36 | 18 | 12 | 18 | 3/8 |
| | NSVT 12S-03G | 12 | 22 | 24 | 27 | 10 | 34 | 36 | 18 | 12 | 18 | 3/8 |
| | NSVT 14S-04G | 14 | 26 | 27 | 32 | 12 | 40 | 42 | 22 | 14 | 21 | 1/2 |
| PB 250 | NSVT 16S-04G | 16 | 26 | 30 | 32 | 12 | 40 | 42 | 21.5 | 14 | 21 | 1/2 |
| | NSVT 20S-06G | 20 | 32 | 36 | 46 | 17 | 50 | 57 | 28.5 | 16 | 28 | 3/4 |
| | NSVT 25S-08G | 25 | 39 | 46 | 50 | 22 | 55 | 62 | 31 | 18 | 31 | 1 |
| | NSVT 30S-10G | 30 | 49 | 50 | 60 | 27 | 63 | 74 | 36.5 | 20 | 36 | 1-1/4 |
| | NSVT 38S-12G | 38 | 55 | 60 | 70 | 32 | 72 | 84 | 41 | 22 | 41 | 1-1/2 |

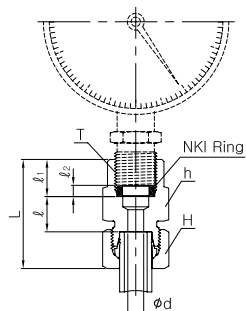
for Metric Parallel

| Series | Part No. | Tube O.D | D | H | h | h ₁ | L | L ₁ | ℓ | ℓ ₁ | ℓ ₂ | T M(Metric) |
|----------------------|----------------|----------|----|----|----|----------------|----|----------------|------|----------------|----------------|----------------|
| L light PB 250 | NSVT 06L-10M10 | 6 | 14 | 14 | 18 | 6 | 27 | 24 | 12 | 8 | 12 | M 10 x 1 |
| | NSVT 08L-12M15 | 8 | 17 | 17 | 20 | 6 | 28 | 27 | 13 | 12 | 14 | M 12 x 1.5 |
| | NSVT 10L-14M15 | 10 | 19 | 19 | 22 | 8 | 30 | 30 | 15 | 12 | 15 | M 14 x 1.5 |
| | NSVT 12L-16M15 | 12 | 21 | 22 | 27 | 10 | 32 | 36 | 17.5 | 12 | 18 | M 16 x 1.5 |
| | NSVT 15L-18M15 | 15 | 23 | 27 | 30 | 12 | 35 | 39 | 20 | 12 | 19 | M 18 x 1.5 |
| PB 100 | NSVT 18L-22M15 | 18 | 27 | 32 | 32 | 14 | 37 | 41 | 20.5 | 14 | 20 | M 22 x 1.5 |
| | NSVT 22L-26M15 | 22 | 31 | 36 | 36 | 17 | 41 | 46 | 24.5 | 16 | 22 | M 26 x 1.5 |
| | NSVT 28L-33M20 | 28 | 39 | 41 | 46 | 22 | 46 | 55 | 29.5 | 18 | 29 | M 33 x 2 |
| | NSVT 35L-42M20 | 35 | 49 | 50 | 55 | 27 | 55 | 69 | 33 | 20 | 33 | M 42 x 2 |
| | NSVT 42L-48M20 | 42 | 55 | 60 | 65 | 32 | 63 | 84 | 40 | 22 | 41 | M 48 x 2 |
| L heavy PB 400 | NSVT 06S-12M15 | 6 | 17 | 17 | 20 | 6 | 30 | 27 | 15 | 12 | 14 | M 12 x 1.5 |
| | NSVT 08S-14M15 | 8 | 19 | 19 | 22 | 8 | 31 | 30 | 16 | 12 | 15 | M 14 x 1.5 |
| | NSVT 10S-16M15 | 10 | 21 | 22 | 27 | 10 | 34 | 36 | 18 | 12 | 18 | M 16 x 1.5 |
| | NSVT 12S-18M15 | 12 | 23 | 24 | 30 | 12 | 36 | 39 | 19.5 | 12 | 19 | M 18 x 1.5 |
| | NSVT 14S-20M15 | 14 | 25 | 27 | 32 | 12 | 40 | 41 | 22 | 14 | 20 | M 20 x 1.5 |
| PB 250 | NSVT 16S-22M15 | 16 | 27 | 30 | 36 | 14 | 42 | 45 | 23.5 | 14 | 22 | M 22 x 1.5 |
| | NSVT 20S-27M20 | 20 | 32 | 36 | 46 | 17 | 50 | 58 | 28.5 | 16 | 28 | M 27 x 2 |
| | NSVT 25S-33M20 | 25 | 39 | 46 | 50 | 22 | 55 | 62 | 31 | 18 | 31 | M 33 x 2 |
| | NSVT 30S-42M20 | 30 | 49 | 50 | 60 | 27 | 63 | 74 | 36.5 | 20 | 36 | M 42 x 2 |
| | NSVT 38S-48M20 | 38 | 55 | 60 | 70 | 32 | 72 | 84 | 41 | 22 | 41 | M 48 x 2 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Pressure Gauge Connector(BSP Parallel)

NGC-G

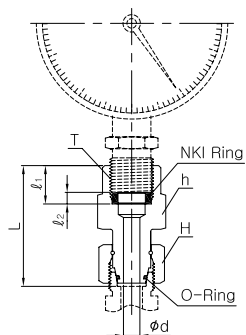


| Series | Part No. | Tube O.D | d | H | h | L | ℓ | ℓ ₁ | ℓ ₂ | T G(PF) |
|-----------------------------|-------------|----------|-----|----|----|----|------|----------------|----------------|------------|
| L light PN 315 | NGC 06L-02G | 6 | 2.5 | 14 | 19 | 37 | 7.5 | 14.5 | 4.5 | 1/4 |
| | NGC 08L-02G | 8 | 5.5 | 17 | 19 | 37 | 7.5 | 14.5 | 4.5 | 1/4 |
| | NGC 10L-02G | 10 | 5.5 | 19 | 19 | 38 | 8.5 | 14.5 | 4.5 | 1/4 |
| | NGC 12L-02G | 12 | 5.5 | 22 | 19 | 38 | 8.5 | 14.5 | 4.5 | 1/4 |
| S heavy PN 630 | NGC 06S-04G | 6 | 3.5 | 17 | 27 | 46 | 11 | 20 | 5 | 1/2 |
| | NGC 08S-04G | 8 | 3.5 | 19 | 27 | 46 | 11 | 20 | 5 | 1/2 |
| | NGC 10S-04G | 10 | 7 | 22 | 27 | 47 | 10.5 | 20 | 5 | 1/2 |
| | NGC 12S-04G | 12 | 7 | 24 | 27 | 47 | 10.5 | 20 | 5 | 1/2 |

All dimensions are in millimeters.

Swivel Gauge Connector(BSP Parallel)

NGE-G

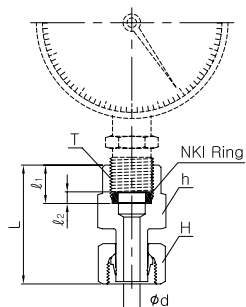


| Series | Part No. | Tube O.D | d | H | h | L | ℓ ₁ | ℓ ₂ | T G(PF) |
|-----------------------------|-------------|----------|-----|----|----|------|----------------|----------------|------------|
| L light PN 315 | NGE 06L-02G | 6 | 2.5 | 14 | 19 | 35.5 | 14.5 | 4.5 | 1/4 |
| | NGE 08L-02G | 8 | 4 | 17 | 19 | 35.5 | 14.5 | 4.5 | 1/4 |
| | NGE 10L-02G | 10 | 5.5 | 19 | 19 | 36 | 14.5 | 4.5 | 1/4 |
| | NGE 12L-02G | 12 | 5.5 | 22 | 19 | 36 | 14.5 | 4.5 | 1/4 |
| S heavy PN 630 | NGE 06S-04G | 6 | 2.5 | 17 | 27 | 42.5 | 20 | 5 | 1/2 |
| | NGE 08S-04G | 8 | 4 | 19 | 27 | 43 | 20 | 5 | 1/2 |
| | NGE 10S-04G | 10 | 6 | 22 | 27 | 43.5 | 20 | 5 | 1/2 |
| | NGE 12S-04G | 12 | 7 | 24 | 27 | 45 | 20 | 5 | 1/2 |
| | NGE 06S-02G | 6 | 2.5 | 17 | 19 | 35.5 | 14.5 | 4.5 | 1/4 |
| | NGE 08S-02G | 8 | 4 | 19 | 19 | 35.5 | 14.5 | 4.5 | 1/4 |
| | NGE 10S-02G | 10 | 6 | 22 | 19 | 36 | 14.5 | 4.5 | 1/4 |
| | NGE 12S-02G | 12 | 7 | 24 | 19 | 39 | 14.5 | 4.5 | 1/4 |

All dimensions are in millimeters.

Gauge Adaptor(BSP Parallel)

NGA-G



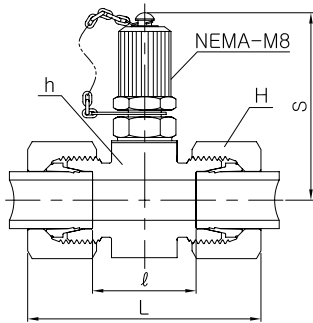
| Series | Part No. | Tube O.D | d | H | h | L | ℓ ₁ | ℓ ₂ | T G(PF) |
|-----------------------------|-------------|----------|-----|----|----|------|----------------|----------------|------------|
| L light PN 315 | NGA 06L-02G | 6 | 3.5 | 14 | 19 | 38 | 14.5 | 4.5 | 1/4 |
| | NGA 08L-02G | 8 | 5.5 | 17 | 19 | 38 | 14.5 | 4.5 | 1/4 |
| | NGA 10L-02G | 10 | 7.5 | 19 | 19 | 39.5 | 14.5 | 4.5 | 1/4 |
| | NGA 12L-02G | 12 | 9 | 22 | 19 | 40.5 | 14.5 | 4.5 | 1/4 |
| S heavy PN 630 | NGA 06S-04G | 6 | 3.5 | 17 | 27 | 45 | 20 | 5 | 1/2 |
| | NGA 08S-04G | 8 | 4.5 | 19 | 27 | 45 | 20 | 5 | 1/2 |
| | NGA 10S-04G | 10 | 6.5 | 22 | 27 | 47 | 20 | 5 | 1/2 |
| | NGA 12S-04G | 12 | 7.5 | 24 | 27 | 47.5 | 20 | 5 | 1/2 |

All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

Tee Test Coupling with Threaded Connection

NGMA

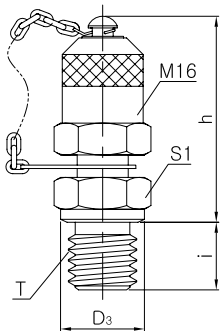


| Series | Part No. | Tube O.D | H | h | L | ℓ | S |
|----------------------|----------|----------|----|----|----|------|------|
| L light PB 315 | NGMA-06L | 6 | 14 | 24 | 50 | 20.5 | 45 |
| | NGMA-08L | 8 | 17 | 24 | 50 | 20.5 | 45 |
| | NGMA-10L | 10 | 19 | 24 | 52 | 22.5 | 45 |
| | NGMA-12L | 12 | 22 | 24 | 52 | 22.5 | 45 |
| | NGMA-15L | 15 | 27 | 30 | 55 | 24.5 | 48 |
| PB 160 | NGMA-18L | 18 | 32 | 32 | 56 | 23.5 | 49 |
| | NGMA-22L | 22 | 36 | 36 | 60 | 27.5 | 51 |
| | NGMA-28L | 28 | 41 | 41 | 61 | 27.5 | 53 |
| | NGMA-35L | 35 | 50 | 46 | 69 | 25.5 | 56 |
| S heavy PB 360 | NGMA-42L | 42 | 60 | 55 | 70 | 24.5 | 60 |
| | NGMA-06S | 6 | 17 | 24 | 54 | 24.5 | 45 |
| | NGMA-08S | 8 | 19 | 24 | 54 | 24.5 | 45 |
| PB 360 | NGMA-10S | 10 | 22 | 24 | 56 | 23.5 | 45 |
| | NGMA-12S | 12 | 24 | 24 | 56 | 23.5 | 45 |
| | NGMA-14S | 14 | 27 | 27 | 62 | 26.5 | 46 |
| | PB 400 | NGMA-16S | 16 | 30 | 30 | 62 | 25.5 |
| NGMA-20S | | 20 | 36 | 36 | 69 | 25.5 | 51 |
| NGMA-25S | | 25 | 46 | 41 | 75 | 26.5 | 53 |
| NGMA-30S | | 30 | 50 | 46 | 81 | 27.5 | 56 |
| PB 315 | NGMA-38S | 38 | 60 | 55 | 90 | 29 | 60 |

All dimensions are in millimeters.

Test Coupling with Threaded Connection

NEMA



| Series | Part No. | D3 | h | i | S1 | T |
|--------|------------|----|----|----|----|------------|
| PB 630 | NEMA-01G | 14 | 36 | 8 | 17 | PF 1/8 |
| | NEMA-02G | 18 | 36 | 10 | 19 | PF 1/4 |
| | NEMA-03G | 22 | 36 | 12 | 22 | PF 3/8 |
| | NEMA-04G | 26 | 36 | 14 | 27 | PF 1/2 |
| PB 630 | NEMA-10M10 | 14 | 36 | 8 | 17 | M 10 x 1 |
| | NEMA-12M15 | 17 | 36 | 12 | 17 | M 12 x 1.5 |
| | NEMA-14M15 | 19 | 36 | 12 | 19 | M 14 x 1.5 |
| | NEMA-16M15 | 21 | 36 | 12 | 22 | M 16 x 1.5 |

All dimensions are in millimeters.

General Standard For V87 Series Ball Valve



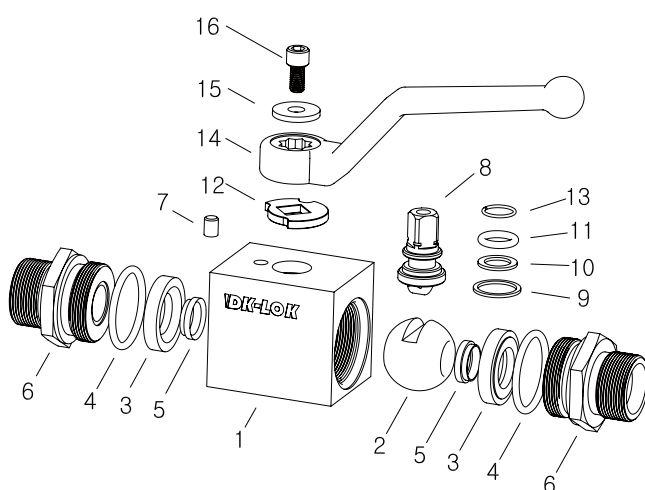
■ Feature

- Pressure Rating up to 500 bar (7,250 psi).
- Positive stop with robust stop pin.
- Various end ports including DIN Standard port.

■ Application

- Hydraulic fluids.
- Compressed Air
- Fuel oil system

■ Material of Construction



| Component | Valve Body Material | |
|-----------------|---------------------|-------------|
| | DIN | ASTM |
| 1. Body | DIN 1.4404 | A276 SS316L |
| 2. Ball | DIN 1.4404 | A276 SS316L |
| 3. Seat | POM | |
| 4. o-ring | FKM | |
| 5. Seat Guide | DIN 1.4404 | A276 SS316L |
| 6. Connector | DIN 1.4404 | A276 SS316L |
| 7. Pin | STAINLESS STEEL | |
| 8. Stem | DIN 1.4404 | A276 SS316L |
| 9. Bearing | POM | |
| 10. Stem ring | POM | |
| 11. Stem o-ring | FKM | |
| 12. Stopper | STAINLESS STEEL | |
| 13. Snap ring | STAINLESS STEEL | |
| 14. Handle | STAINLESS STEEL | |
| 15. Washer | STAINLESS STEEL | |
| 16. Screw | STAINLESS STEEL | |

- Wetted parts and lubricants listed in blue.
- Fluorinated-based lubricant

■ Factory Testing

Every valve is tested with nitrogen gas @ 1,000 psig(68bar) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM. The stem packing is tested with nitrogen gas@1,000 psig for no detectable leakages.

■ Material of Construction

Rating based on valve with standard POM SEAT.

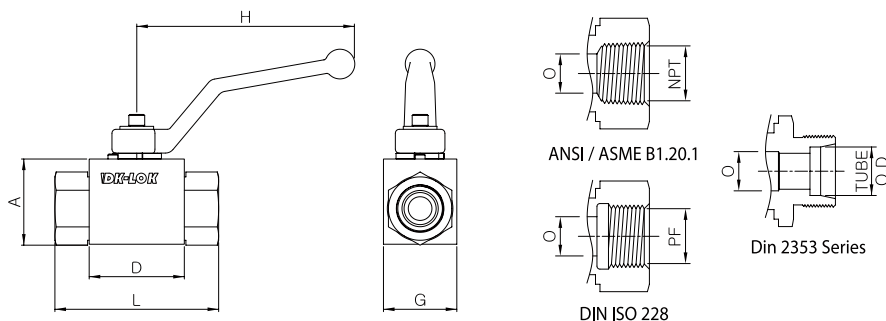
| O-ring Materials | Designator | Temperature Rating ° C (°F) |
|------------------|------------|-----------------------------|
| V87A | POM | -30 to 100 (-22 to 212) |
| V87B | | |
| V87C | | |
| V87D | PTFE | -54 to 65 (-65 to 149) |
| | POM | -30 to 90 (-22 to 194) |
| V87E | PTFE | -54 to 57 (-22 to 135) |
| | POM | -30 to 85 (-22 to 185) |
| | PTFE | -54 to 52 (-65 to 126) |

■ Optional O-ring Materials

FKM O-Rings are standard. Add the designator to the ordering Number for valve with optional O-ring material.

| O-ring Materials | Designator | Temperature Rating ° C (°F) |
|------------------|------------|-----------------------------|
| FKM | Nil | -23 ~ 190 (-10 ~ 375) |
| NBR | BN | -23 ~ 121 (-10 ~ 250) |
| EPDM | EP | -45 ~ 148 (-50 ~ 300) |
| FFKM | KZ | -30 ~ 210 (-22 ~ 410) |

IDK-LOK® DK DIN Bite Type Tube Fitting



Ordering Information and Table of Dimensions

| Basic Ordering Number | End Connections | DIN O | PN (bar) | Dimensions, mm | | | | | | | | |
|-----------------------|-----------------|--------------------|----------|----------------|----|----|------|------|----|----|------|-----|
| | | | | A | G | D | L | H | | | | |
| V87A- | F2N | 1/8 in. Female NPT | 4 | 35 | 30 | 42 | 71 | 110 | | | | |
| | F4N | 1/4 in. Female NPT | 6 | | | | | | | | | |
| | F2G | 1/8 in. Female PF | 4 | | | | | | | | | |
| | F4G | 1/4 in. Female PF | 6 | | | | | | | | | |
| | N6L | 6mm | 6 | | | | 500 | | 35 | 30 | 42 | 76 |
| | N8L | 8mm | | | | | | | | | | |
| | N10L | 10mm | | | | | | | | | | |
| | N8S | 8mm | 4 | | | | 500 | | 35 | 42 | 76 | 110 |
| | N10S | 10mm | 6 | | | | | | | | | |
| N12S | 12mm | 8 | | | | | | | | | | |
| V87B- | F6N | 3/8 in. Female NPT | 10 | 500 | 40 | 35 | 44.4 | 73 | | | | |
| | F6G | 3/8 in. Female PF | | | | | | 79.5 | | | | |
| | N12L | 12mm | | | | | | 82.5 | | | | |
| | N14S | 14mm | | | | | | | | | | |
| V87C- | F8N | 1/2 in. Female NPT | 13 | 500 | 43 | 37 | 48.4 | 83 | | | | |
| | F8G | 1/2 in. Female PF | | | | | | 87 | | | | |
| | N15L | 15mm | | | | | | 89 | | | | |
| | N18L | 18mm | | | | | | 93 | | | | |
| | N16S | 16mm | | | | | | | | | | |
| | N20S | 20mm | | | | | | | | | | |
| V87D- | F12N | 3/4 in. Female NPT | 20 | 400 | 55 | 45 | 62.5 | 95 | | | | |
| | F12G | 3/4 in. Female PF | | | | | | 110 | | | | |
| | N22L | 22mm | | | | | | 111 | | | | |
| | N25S | 25mm | | | | | | | | | | |
| V87E- | F16N | 1 in. Female NPT | 20 | 350 | 65 | 55 | 66.5 | 112 | | | | |
| | F16G | 1 in. Female PF | | | | | | 117 | | | | |
| | N28L | 28mm | 25 | | | | | 350 | 65 | 55 | 66.5 | 119 |
| | N35L | 35mm | | | | | | | | | | |
| | N42L | 42mm | | | | | | | | | | |
| | N30S | 30mm | | | | | | | | | | |
| | N38S | 38mm | | | | | | | | | | |

Factory Testing

Select valve basic ordering number, applicable options, and body material.

V87A - F4N -
V87B - N12L -
V87D - N30S -

BN-
↓

EP-
↓

KZ-
↓

PE
↓

S
↓

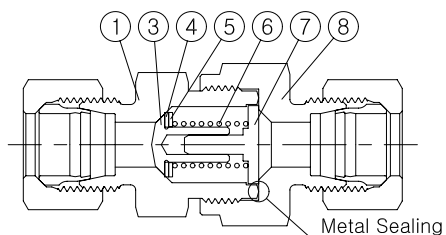
L
↓

| O-ring Material Designator | Seat Material Designator | Valve Body Material Designator |
|---|--------------------------|---|
| Nil : FKM BN : NBR EP : EPDM KZ : FFKM | PE : PTFE Nil : POM | S : 316 stainless steel L : 316L stainless steel |

Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. Dk Tech accepts no liability for any improper selection, installation, operation or maintenance.

General Standard for Non-Return Valves



■ Material of Construction

| No. | Description | Material | Q'ty |
|-----|--------------|-----------------|------|
| *1 | Body | Carbon Steel | 1 |
| *2 | Connector | Carbon Steel | 1 |
| *3 | Poppet | Carbon Steel | 1 |
| ↑ 4 | Seat | FKM | 1 |
| *5 | Seat Support | Carbon Steel | 1 |
| 6 | Spring | Stainless Steel | 1 |
| *7 | Stopper | Carbon Steel | 1 |

* On request of stainless steel 316 or brass available

↑ On request of NBR or EPDM available

■ Feature

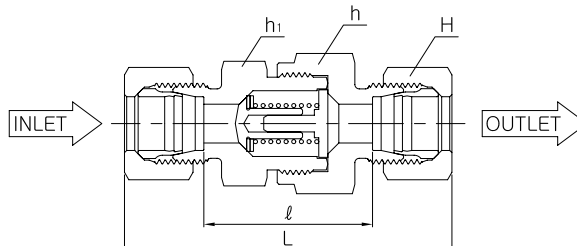
- Opening pressure : Standard setting is 14.5 psig (1 bar) and 7.3 to 43.5 psig (0.5 to 3 bar) available.
- Temperature range : -4 to 212°C (-20 to 100°C)
- Sealing is 90° tapered cone (item no.③).

■ Application

- Non Return valves are applicable with hydraulic fluid and compressed air.
- For other fluid contact for our sales department.

Non-Return Valves

NCVU

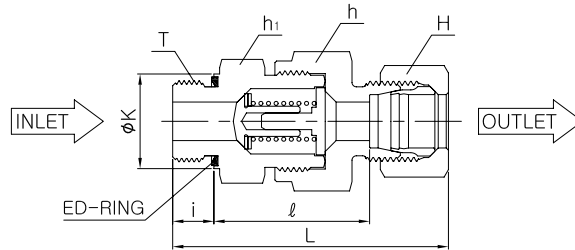


| Series | Part No. | Tube O.D | H | h | h ₁ | L | ℓ |
|----------------------|----------|----------|----|----|----------------|-------|------|
| L light PB 250 | NCVU-06L | 6 | 14 | 17 | 17 | 58 | 29 |
| | NCVU-08L | 8 | 17 | 19 | 19 | 59 | 30 |
| | NCVU-10L | 10 | 19 | 24 | 22 | 69.5 | 40.5 |
| | NCVU-12L | 12 | 22 | 30 | 27 | 72.5 | 43.5 |
| PB 100 | NCVU-15L | 15 | 27 | 32 | 27 | 77.5 | 47.5 |
| | NCVU-18L | 18 | 32 | 36 | 36 | 83.5 | 51.5 |
| | NCVU-22L | 22 | 36 | 46 | 41 | 93.5 | 61.5 |
| | NCVU-28L | 28 | 41 | 55 | 50 | 102.5 | 69.5 |
| | NCVU-35L | 35 | 50 | 60 | 60 | 117.5 | 74.5 |
| | NCVU-42L | 42 | 60 | 70 | 65 | 119 | 74 |
| S heavy PB 400 | NCVU-06S | 6 | 17 | 19 | 19 | 63.5 | 34.5 |
| | NCVU-08S | 8 | 19 | 19 | 19 | 63.5 | 34.5 |
| | NCVU-10S | 10 | 22 | 24 | 22 | 72.5 | 40.5 |
| | NCVU-12S | 12 | 24 | 27 | 24 | 74.5 | 42.5 |
| | NCVU-14S | 14 | 27 | 32 | 27 | 82.5 | 47.5 |
| | NCVU-16S | 16 | 30 | 36 | 32 | 86.5 | 50.5 |
| | NCVU-20S | 20 | 36 | 46 | 41 | 97.5 | 54.5 |
| PB 250 | NCVU-25S | 25 | 46 | 50 | 46 | 106.5 | 58.5 |
| | NCVU-30S | 30 | 50 | 60 | 60 | 122.5 | 69.5 |
| | NCVU-38S | 38 | 60 | 70 | 65 | 136.5 | 75.5 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Non-Return Valves

NCV GE-L/S, NCV ME-L/S



From "E" stud end

* ED-ring of NBR standard, of FPM on request

for BSP Parallel

| Series | Part No. | Tube O.D | H | h | h ₁ | K | L | ℓ | i | T G(PF) |
|----------------------|-------------|----------|----|----|----------------|----|------|------|----|------------|
| L light PB 250 | NCV01GE-06L | 6 | 14 | 17 | 17 | 14 | 42.5 | 28 | 8 | 1/8 |
| | NCV02GE-08L | 8 | 17 | 19 | 19 | 19 | 44.5 | 30 | 12 | 1/4 |
| | NCV02GE-10L | 10 | 19 | 24 | 22 | 19 | 53 | 38.5 | 12 | 1/4 |
| | NCV03GE-12L | 12 | 22 | 30 | 27 | 22 | 57 | 42.5 | 12 | 3/8 |
| PB 160 | NCV04GE-15L | 15 | 27 | 32 | 27 | 27 | 60.5 | 45.5 | 14 | 1/2 |
| | NCV04GE-18L | 18 | 32 | 36 | 36 | 27 | 66 | 50 | 14 | 1/2 |
| PB 100 | NCV06GE-22L | 22 | 36 | 46 | 41 | 32 | 71 | 53 | 16 | 3/4 |
| | NCV08GE-28L | 28 | 41 | 55 | 50 | 40 | 79.5 | 63 | 18 | 1 |
| | NCV10GE-35L | 35 | 50 | 60 | 60 | 50 | 90.5 | 69 | 20 | 1-1/4 |
| S heavy PB 400 | NCV12GE-42L | 42 | 60 | 70 | 65 | 55 | 91 | 68.5 | 22 | 1-1/2 |
| | NCV02GE-06S | 6 | 17 | 19 | 19 | 19 | 46 | 31.5 | 12 | 1/4 |
| | NCV02GE-08S | 8 | 19 | 19 | 19 | 19 | 46 | 31.5 | 12 | 1/4 |
| | NCV03GE-10S | 10 | 22 | 24 | 22 | 22 | 54 | 38 | 12 | 3/8 |
| | NCV03GE-12S | 12 | 24 | 27 | 24 | 22 | 57 | 41 | 12 | 3/8 |
| PB 250 | NCV04GE-14S | 14 | 27 | 32 | 27 | 27 | 62 | 44.5 | 14 | 1/2 |
| | NCV04GE-16S | 16 | 30 | 36 | 32 | 27 | 66 | 48 | 14 | 1/2 |
| | NCV06GE-20S | 20 | 36 | 46 | 41 | 32 | 73.5 | 52 | 16 | 3/4 |
| | NCV08GE-25S | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | 1 |
| | NCV10GE-30S | 30 | 50 | 60 | 60 | 50 | 90.5 | 64 | 20 | 1-1/4 |
| | NCV12GE-38S | 38 | 60 | 70 | 65 | 55 | 100 | 69.5 | 22 | 1-1/2 |

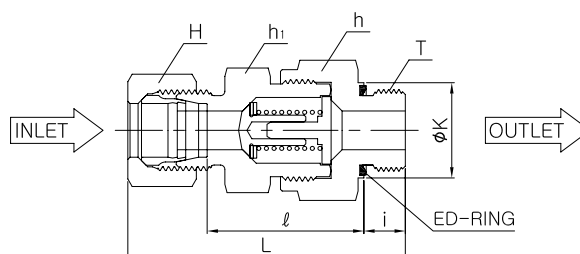
for Metric Parallel

| Series | Part No. | Tube O.D | H | h | h ₁ | K | L | ℓ | i | T M(Metric) |
|----------------------|---------------|----------|----|----|----------------|----|------|------|----|----------------|
| L light PB 250 | NCV10M10E-06L | 6 | 14 | 17 | 17 | 14 | 42.5 | 28 | 8 | M 10 x 1.0 |
| | NCV12M15E-08L | 8 | 17 | 19 | 19 | 17 | 43.5 | 30 | 12 | M 12 x 1.5 |
| | NCV14M15E-10L | 10 | 19 | 24 | 22 | 19 | 53 | 38.5 | 12 | M 14 x 1.5 |
| | NCV16M15E-12L | 12 | 22 | 30 | 27 | 22 | 57 | 42.5 | 12 | M 16 x 1.5 |
| PB 160 | NCV18M15E-15L | 15 | 27 | 32 | 27 | 24 | 60.5 | 45.5 | 12 | M 18 x 1.5 |
| | NCV22M15E-18L | 18 | 32 | 36 | 36 | 27 | 66 | 50 | 14 | M 22 x 1.5 |
| PB 100 | NCV26M15E-22L | 22 | 36 | 46 | 41 | 32 | 71 | 55 | 16 | M 26 x 1.5 |
| | NCV33M20E-28L | 28 | 41 | 55 | 50 | 40 | 79.5 | 63 | 18 | M 33 x 2.0 |
| | NCV42M20E-35L | 35 | 50 | 60 | 60 | 50 | 90.5 | 69 | 20 | M 42 x 2.0 |
| S heavy PB 400 | NCV48M20E-42L | 42 | 60 | 70 | 65 | 55 | 91 | 67.5 | 22 | M 48 x 2.0 |
| | NCV12M15E-06S | 6 | 17 | 19 | 19 | 17 | 46 | 31.5 | 12 | M 12 x 1.5 |
| | NCV14M15E-08S | 8 | 19 | 19 | 19 | 19 | 46 | 31.5 | 12 | M 14 x 1.5 |
| | NCV16M15E-10S | 10 | 22 | 24 | 22 | 22 | 54 | 38 | 12 | M 16 x 1.5 |
| | NCV18M15E-12S | 12 | 24 | 27 | 24 | 24 | 57 | 41 | 12 | M 18 x 1.5 |
| PB 250 | NCV20M15E-14S | 14 | 27 | 32 | 27 | 26 | 62 | 44.5 | 14 | M 20 x 1.5 |
| | NCV22M15E-16S | 16 | 30 | 36 | 32 | 27 | 66 | 48 | 14 | M 22 x 1.5 |
| | NCV27M20E-20S | 20 | 36 | 46 | 41 | 32 | 73.5 | 52 | 16 | M 27 x 2.0 |
| | NCV33M20E-25S | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | M 33 x 2.0 |
| | NCV42M20E-30S | 30 | 50 | 60 | 60 | 50 | 90.5 | 64 | 20 | M 42 x 2.0 |
| | NCV48M20E-38S | 38 | 60 | 70 | 65 | 55 | 100 | 69.5 | 22 | M 48 x 2.0 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Non-Return Valves

NCV L/S-GE, NCV L/S-ME



From "E" stud end

* ED-ring of NBR standard, of FPM on request

for BSP Parallel

| Series | Part No. | Tube O.D | H | h | h ₁ | K | L | ℓ | i | T G(PF) |
|----------------------|-------------|----------|----|----|----------------|----|------|------|----|------------|
| L light PB 250 | NCV06L-01GE | 6 | 14 | 17 | 17 | 14 | 41 | 26.5 | 8 | 1/8 |
| | NCV08L-02GE | 8 | 17 | 19 | 19 | 19 | 43 | 28.5 | 12 | 1/4 |
| | NCV10L-02GE | 10 | 19 | 24 | 22 | 19 | 53 | 38.5 | 12 | 1/4 |
| | NCV12L-03GE | 12 | 22 | 30 | 27 | 22 | 55 | 40.5 | 12 | 3/8 |
| | NCV15L-04GE | 15 | 27 | 32 | 27 | 27 | 57.5 | 42.5 | 14 | 1/2 |
| PB 160 | NCV18L-04GE | 18 | 32 | 36 | 36 | 27 | 64 | 48 | 14 | 1/2 |
| | NCV22L-06GE | 22 | 36 | 46 | 41 | 32 | 72 | 56 | 16 | 3/4 |
| PB 100 | NCV28L-08GE | 28 | 41 | 55 | 50 | 40 | 80.5 | 64 | 18 | 1 |
| | NCV35L-10GE | 35 | 50 | 60 | 60 | 50 | 91.5 | 70 | 20 | 1-1/4 |
| | NCV42L-12GE | 42 | 60 | 70 | 65 | 55 | 93 | 70.5 | 22 | 1-1/2 |
| S heavy PB 400 | NCV06S-02GE | 6 | 17 | 19 | 19 | 19 | 46 | 31.5 | 12 | 1/4 |
| | NCV08S-02GE | 8 | 19 | 19 | 19 | 19 | 46 | 31.5 | 12 | 1/4 |
| | NCV10S-03GE | 10 | 22 | 24 | 22 | 22 | 54 | 38 | 12 | 3/8 |
| | NCV12S-03GE | 12 | 24 | 27 | 24 | 22 | 57 | 41 | 12 | 3/8 |
| | NCV14S-04GE | 14 | 27 | 32 | 27 | 27 | 61 | 43.5 | 14 | 1/2 |
| | NCV16S-04GE | 16 | 30 | 36 | 32 | 27 | 64 | 46 | 14 | 1/2 |
| PB 250 | NCV20S-06GE | 20 | 36 | 46 | 41 | 32 | 71.5 | 50 | 16 | 3/4 |
| | NCV25S-08GE | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | 1 |
| | NCV30S-10GE | 30 | 50 | 60 | 60 | 50 | 90.5 | 64 | 20 | 1-1/4 |
| | NCV38S-12GE | 38 | 60 | 70 | 65 | 55 | 102 | 71.5 | 22 | 1-1/2 |

for Metric Parallel

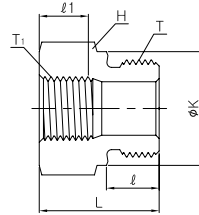
| Series | Part No. | Tube O.D | H | h | h ₁ | K | L | ℓ | i | T M(Metric) |
|----------------------|---------------|----------|----|----|----------------|----|------|------|----|----------------|
| L light PB 250 | NCV06L-10M10E | 6 | 14 | 17 | 17 | 14 | 41 | 26.5 | 8 | M 10 x 1.0 |
| | NCV08L-12M15E | 8 | 17 | 19 | 19 | 17 | 43 | 28.5 | 12 | M 12 x 1.5 |
| | NCV10L-14M15E | 10 | 19 | 24 | 22 | 19 | 53 | 38.5 | 12 | M 14 x 1.5 |
| | NCV12L-16M15E | 12 | 22 | 30 | 27 | 22 | 55 | 40.5 | 12 | M 16 x 1.5 |
| | NCV15L-18M15E | 15 | 27 | 32 | 27 | 24 | 57.5 | 42.5 | 12 | M 18 x 1.5 |
| PB 160 | NCV18L-22M15E | 18 | 32 | 36 | 36 | 27 | 64 | 48 | 14 | M 22 x 1.5 |
| | NCV22L-26M15E | 22 | 36 | 46 | 41 | 32 | 72 | 56 | 16 | M 26 x 1.5 |
| PB 100 | NCV28L-33M20E | 28 | 41 | 55 | 50 | 40 | 80.5 | 64 | 18 | M 33 x 2.0 |
| | NCV35L-42M20E | 35 | 50 | 60 | 60 | 50 | 91.5 | 70 | 20 | M 42 x 2.0 |
| | NCV42L-48M20E | 42 | 60 | 70 | 65 | 55 | 93 | 70.5 | 22 | M 48 x 2.0 |
| S heavy PB 400 | NCV06S-12M15E | 6 | 17 | 19 | 19 | 17 | 46 | 31.5 | 12 | M 12 x 1.5 |
| | NCV08S-14M15E | 8 | 19 | 19 | 19 | 19 | 46 | 31.5 | 12 | M 14 x 1.5 |
| | NCV10S-16M15E | 10 | 22 | 24 | 22 | 22 | 54 | 38 | 12 | M 16 x 1.5 |
| | NCV12S-18M15E | 12 | 24 | 27 | 24 | 24 | 57 | 41 | 12 | M 18 x 1.5 |
| | NCV14S-20M15E | 14 | 27 | 32 | 27 | 26 | 61 | 43.5 | 14 | M 20 x 1.5 |
| | NCV16S-22M15E | 16 | 30 | 36 | 32 | 27 | 64 | 46 | 14 | M 22 x 1.5 |
| PB 250 | NCV20S-27M20E | 20 | 36 | 46 | 41 | 32 | 71.5 | 50 | 16 | M 27 x 2.0 |
| | NCV25S-33M20E | 25 | 46 | 50 | 46 | 40 | 78.5 | 54.5 | 18 | M 33 x 2.0 |
| | NCV30S-42M20E | 30 | 50 | 60 | 60 | 50 | 90.5 | 65 | 20 | M 42 x 2.0 |
| | NCV38S-48M20E | 38 | 60 | 70 | 65 | 55 | 102 | 71.5 | 22 | M 48 x 2.0 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

Male Female Adapter(BSP Parallel)

NHB



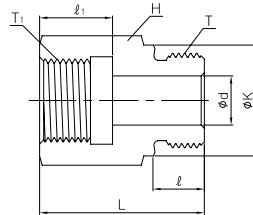
* DIN 3852 Form "B" stud end

| PB | Part No. | H | K | L | ℓ | ℓ ₁ | Male stud T G(PF) | Female stud T ₁ G(PF) |
|--------|------------|----|----|------|----|----------------|----------------------|-------------------------------------|
| PB 630 | NHB 03-01G | 22 | 22 | 22.5 | 12 | 8 | 3/8 | 1/8 |
| PB 630 | NHB 04-01G | 27 | 26 | 24 | 14 | 8 | 1/2 | 1/8 |
| PB 400 | NHB 04-02G | 27 | 26 | 24 | 14 | 12 | 1/2 | 1/4 |
| PB 400 | NHB 06-02G | 32 | 32 | 26 | 16 | 12 | 3/4 | 1/4 |
| | NHB 06-03G | 32 | 32 | 26 | 16 | 12 | 3/4 | 3/8 |
| PB 400 | NHB 08-02G | 41 | 39 | 29 | 18 | 12 | 1 | 1/4 |
| | NHB 08-03G | 41 | 39 | 29 | 18 | 12 | 1 | 3/8 |
| | NHB 08-04G | 41 | 39 | 29 | 18 | 14 | 1 | 1/2 |
| PB 250 | NHB 10-04G | 50 | 49 | 32 | 20 | 14 | 1 1/4 | 1/2 |
| | NHB 10-06G | 50 | 49 | 32 | 20 | 16 | 1 1/4 | 3/4 |
| PB 250 | NHB 12-04G | 55 | 55 | 36 | 22 | 14 | 1 1/2 | 1/2 |
| | NHB 12-06G | 55 | 55 | 36 | 22 | 16 | 1 1/2 | 3/4 |
| | NHB 12-08G | 55 | 55 | 36 | 22 | 18 | 1 1/2 | 1 |

All dimensions are in millimeters.

Male Female Adapter(BSP Parallel)

NABMF



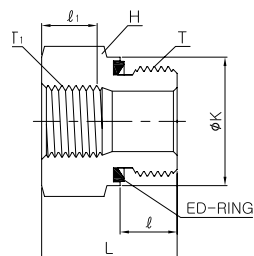
* DIN 3852 Form "B" stud end

| PB | Part No. | d | H | K | L | ℓ | ℓ ₁ | Male stud T G(PF) | Female stud T ₁ G(PF) |
|--------|--------------|----|----|----|----|----|----------------|----------------------|-------------------------------------|
| PB 630 | NABMF 01-02G | 4 | 19 | 14 | 31 | 8 | 17 | 1/8 | 1/4 |
| | NABMF 01-03G | 4 | 24 | 14 | 32 | 8 | 17 | 1/8 | 3/8 |
| PB 630 | NABMF 02-01G | 5 | 19 | 18 | 28 | 12 | 12 | 1/4 | 1/8 |
| | NABMF 02-03G | 5 | 24 | 18 | 36 | 12 | 17 | 1/4 | 3/8 |
| | NABMF 02-04G | 5 | 30 | 18 | 40 | 12 | 20 | 1/4 | 1/2 |
| PB 400 | NABMF 02-06G | 5 | 36 | 18 | 43 | 12 | 22 | 1/4 | 3/4 |
| PB 630 | NABMF 03-02G | 8 | 22 | 22 | 36 | 12 | 17 | 3/8 | 1/4 |
| | NABMF 03-04G | 8 | 30 | 22 | 41 | 12 | 20 | 3/8 | 1/2 |
| PB 250 | NABMF 03-06G | 8 | 36 | 22 | 44 | 12 | 22 | 3/8 | 3/4 |
| PB 400 | NABMF 04-03G | 12 | 27 | 26 | 36 | 14 | 17 | 1/2 | 3/8 |
| | NABMF 04-06G | 12 | 36 | 26 | 46 | 14 | 22 | 1/2 | 3/4 |
| | NABMF 04-08G | 12 | 41 | 26 | 49 | 14 | 24.5 | 1/2 | 1 |
| PB 250 | NABMF 04-10G | 10 | 55 | 26 | 53 | 14 | 26.5 | 1/2 | 1 1/4 |
| PB 400 | NABMF 06-04G | 16 | 32 | 32 | 41 | 16 | 20 | 3/4 | 1/2 |
| | NABMF 06-08G | 16 | 41 | 32 | 51 | 16 | 24.5 | 3/4 | 1 |
| | NABMF 06-10G | 16 | 55 | 32 | 55 | 16 | 26.5 | 3/4 | 1 1/4 |
| PB 250 | NABMF 06-12G | 16 | 60 | 32 | 57 | 16 | 28.5 | 3/4 | 1 1/2 |
| PB 400 | NABMF 08-06G | 20 | 41 | 39 | 47 | 18 | 22 | 1 | 3/4 |
| PB 250 | NABMF 08-10G | 20 | 55 | 39 | 57 | 18 | 26.5 | 1 | 1 1/4 |
| | NABMF 08-12G | 20 | 60 | 39 | 59 | 18 | 28.5 | 1 | 1 1/2 |
| PB 250 | NABMF 10-08G | 25 | 50 | 49 | 52 | 20 | 24.5 | 1 1/4 | 1 |
| | NABMF 10-12G | 25 | 60 | 49 | 60 | 20 | 28.5 | 1 1/4 | 1 1/2 |
| PB 250 | NABMF 12-10G | 32 | 55 | 55 | 58 | 22 | 26.5 | 1 1/2 | 1 1/4 |
| PB 250 | NABMF 16-12G | 40 | 70 | 68 | 62 | 24 | 28.5 | 2 | 1 1/2 |

All dimensions are in millimeters.

Male Female Adaptor(BSP Parallel) with *ED-Ring

NHB-GE



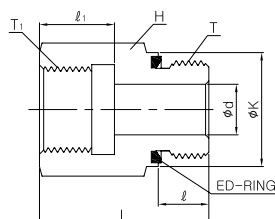
* DIN 3852 Form "E" stud end
* ED-ring of NBR standard, of FPM on request

| PB | Part No. | H | K | L | ℓ | ℓ ₁ | Male stud T G(PF) | Female stud T ₁ G(PF) |
|--------|--------------|----|----|------|----|----------------|----------------------|-------------------------------------|
| PB 630 | NHB 03GE-01G | 22 | 22 | 22.5 | 12 | 8 | 3/8 | 1/8 |
| PB 630 | NHB 04GE-01G | 27 | 26 | 24 | 14 | 8 | 1/2 | 1/8 |
| PB 400 | NHB 04GE-02G | 27 | 26 | 24 | 14 | 12 | 1/2 | 1/4 |
| PB 400 | NHB 06GE-02G | 32 | 32 | 26 | 16 | 12 | 3/4 | 1/4 |
| | NHB 06GE-03G | 32 | 32 | 26 | 16 | 12 | 3/4 | 3/8 |
| PB 400 | NHB 08GE-02G | 41 | 39 | 29 | 18 | 12 | 1 | 1/4 |
| | NHB 08GE-03G | 41 | 39 | 29 | 18 | 12 | 1 | 3/8 |
| | NHB 08GE-04G | 41 | 39 | 29 | 18 | 14 | 1 | 1/2 |
| PB 250 | NHB 10GE-04G | 50 | 49 | 32 | 20 | 14 | 1 1/4 | 1/2 |
| | NHB 10GE-06G | 50 | 49 | 32 | 20 | 16 | 1 1/4 | 3/4 |
| PB 250 | NHB 12GE-04G | 55 | 55 | 36 | 22 | 14 | 1 1/2 | 1/2 |
| | NHB 12GE-06G | 55 | 55 | 36 | 22 | 16 | 1 1/2 | 3/4 |
| | NHB 12GE-08G | 55 | 55 | 36 | 22 | 18 | 1 1/2 | 1 |

All dimensions are in millimeters.

Male Female Adaptor(BSP Parallel) with *ED-Ring

NABMF-GE



* DIN 3852 Form "E" stud end
* ED-ring of NBR standard, of FPM on request

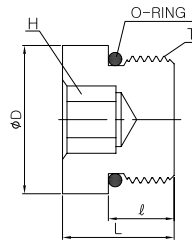
| PB | Part No. | d | H | K | L | ℓ | ℓ ₁ | Male stud T G(PF) | Female stud T ₁ G(PF) |
|--------|----------------|----|----|----|----|----|----------------|----------------------|-------------------------------------|
| PB 630 | NABMF 01GE-02G | 4 | 19 | 14 | 31 | 8 | 17 | 1/8 | 1/4 |
| | NABMF 01GE-03G | 4 | 24 | 14 | 32 | 8 | 17 | 1/8 | 3/8 |
| PB 630 | NABMF 02GE-01G | 5 | 19 | 18 | 28 | 12 | 12 | 1/4 | 1/8 |
| | NABMF 02GE-03G | 5 | 24 | 18 | 36 | 12 | 17 | 1/4 | 3/8 |
| | NABMF 02GE-04G | 5 | 30 | 18 | 40 | 12 | 20 | 1/4 | 1/2 |
| PB 400 | NABMF 02GE-06G | 5 | 36 | 18 | 43 | 12 | 22 | 1/4 | 3/4 |
| PB 630 | NABMF 03GE-02G | 8 | 22 | 22 | 36 | 12 | 17 | 3/8 | 1/4 |
| | NABMF 03GE-04G | 8 | 30 | 22 | 41 | 12 | 20 | 3/8 | 1/2 |
| PB 250 | NABMF 03GE-06G | 8 | 36 | 22 | 44 | 12 | 22 | 3/8 | 3/4 |
| PB 400 | NABMF 04GE-03G | 12 | 27 | 26 | 36 | 14 | 17 | 1/2 | 3/8 |
| | NABMF 04GE-06G | 12 | 36 | 26 | 46 | 14 | 22 | 1/2 | 3/4 |
| PB 400 | NABMF 04GE-08G | 12 | 41 | 26 | 49 | 14 | 24.5 | 1/2 | 1 |
| | NABMF 04GE-10G | 10 | 55 | 26 | 53 | 14 | 26.5 | 1/2 | 1 1/4 |
| PB 400 | NABMF 06GE-04G | 16 | 32 | 32 | 41 | 16 | 20 | 3/4 | 1/2 |
| | NABMF 06GE-08G | 16 | 41 | 32 | 51 | 16 | 24.5 | 3/4 | 1 |
| PB 400 | NABMF 06GE-10G | 16 | 55 | 32 | 55 | 16 | 26.5 | 3/4 | 1 1/4 |
| | NABMF 06GE-12G | 16 | 60 | 32 | 57 | 16 | 28.5 | 3/4 | 1 1/2 |
| PB 400 | NABMF 08GE-06G | 20 | 41 | 39 | 47 | 18 | 22 | 1 | 3/4 |
| PB 250 | NABMF 08GE-10G | 20 | 55 | 39 | 57 | 18 | 26.5 | 1 | 1 1/4 |
| | NABMF 08GE-12G | 20 | 60 | 39 | 59 | 18 | 28.5 | 1 | 1 1/2 |
| PB 250 | NABMF 10GE-08G | 25 | 50 | 49 | 52 | 20 | 24.5 | 1 1/4 | 1 |
| | NABMF 10GE-12G | 25 | 60 | 49 | 60 | 20 | 28.5 | 1 1/4 | 1 1/2 |
| PB 250 | NABMF 12GE-10G | 32 | 55 | 55 | 58 | 22 | 26.5 | 1 1/2 | 1 1/4 |
| PB 250 | NABMF 16GE-12G | 40 | 70 | 68 | 62 | 24 | 28.5 | 2 | 1 1/2 |

All dimensions are in millimeters.

IDK-LOK® DK DIN Bite Type Tube Fitting

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

NVSTI



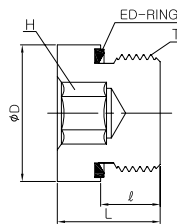
* O-ring of NBR standard, of FPM on request

| Series | Part No.(M) | T M(Metric) | D | H | L | ℓ |
|--------|-------------|----------------|----|----|------|------|
| PB 630 | NVSTI-10M10 | M 10 x 1 | 13 | 5 | 14 | 10 |
| | NVSTI-12M15 | M 12 x 1.5 | 17 | 6 | 16.5 | 11.5 |
| | NVSTI-14M15 | M 14 x 1.5 | 19 | 6 | 16.5 | 11.5 |
| | NVSTI-16M15 | M 16 x 1.5 | 21 | 6 | 18 | 13 |
| | NVSTI-18M15 | M 18 x 1.5 | 23 | 8 | 19.5 | 14.5 |
| PB 400 | NVSTI-22M15 | M 22 x 1.5 | 27 | 10 | 20.5 | 15.5 |
| | NVSTI-26M15 | M 26 x 1.5 | 31 | 12 | 21 | 16 |
| | NVSTI-27M20 | M 27 x 2 | 32 | 12 | 24 | 19 |
| | NVSTI-33M20 | M 33 x 2 | 38 | 17 | 25.5 | 19 |
| | NVSTI-42M20 | M 42 x 2 | 48 | 22 | 26 | 19.5 |

All dimensions are in millimeters.

Blanking Plugs with *ED-Ring for Ports

NVSTI-GE / ME



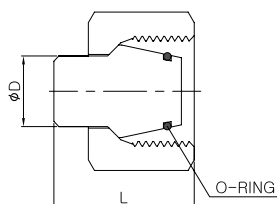
* ED-ring of NBR standard, of FPM on request

| PB | Part No. | Part No.(G) | T M(Metric) | T G(PF) | D | H | L | ℓ |
|--------|--------------|-------------|----------------|------------|------|----|------|----|
| PB 400 | NVSTI-10M10E | NVSTI-01GE | M 10 x 1 | 1/8 | 14 | 5 | 12 | 8 |
| | NVSTI-12M15E | - | M 12 x 1.5 | - | 17 | 6 | 17 | 12 |
| | NVSTI-14M15E | NVSTI-02GE | M 14 x 1.5 | 1/4 | 19 | 6 | 17 | 12 |
| | NVSTI-16M15E | NVSTI-03GE | M 16 x 1.5 | 3/8 | 22 | 8 | 17 | 12 |
| | NVSTI-18M15E | - | M 18 x 1.5 | - | 23.9 | 8 | 17 | 12 |
| | NVSTI-20M15E | - | M 20 x 1.5 | - | 25.9 | 10 | 19 | 14 |
| | NVSTI-22M15E | NVSTI-04GE | M 22 x 1.5 | 1/2 | 27 | 10 | 19 | 14 |
| | NVSTI-26M15E | - | M 26 x 1.5 | - | 31.9 | 12 | 21 | 16 |
| | NVSTI-27M20E | NVSTI-06GE | M 27 x 2 | 3/4 | 32 | 12 | 21 | 16 |
| | NVSTI-33M20E | NVSTI-08GE | M 33 x 2 | 1 | 39.9 | 17 | 22.5 | 16 |
| PB 250 | NVSTI-42M20E | NVSTI-10GE | M 42 x 2 | 1 1/4 | 49.9 | 22 | 22.5 | 16 |
| | NVSTI-48M20E | NVSTI-12GE | M 48 x 2 | 1 1/2 | 55 | 24 | 22.5 | 16 |

All dimensions are in millimeters.

Blanking Plug with *O-Ring

NP



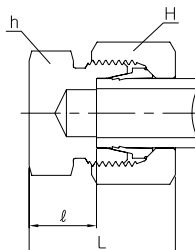
* O-ring of NBR standard, of FPM on request

| Series | Part No.(M) | Tube O.D D | L |
|--------------------------------|-------------|---------------|------|
| L light PN315/PN630 | NP-06L/S | 6 | 18.5 |
| | NP-08L/S | 8 | 18.5 |
| | NP-10L/S | 10 | 20 |
| | NP-12L/S | 12 | 20.5 |
| | NP-15L | 15 | 20.5 |
| | NP-18L | 18 | 22.5 |
| PN 160 | NP-22L | 22 | 25 |
| | NP-28L | 28 | 25.5 |
| | NP-35L | 35 | 30 |
| | NP-42L | 42 | 30 |
| S heavy PN 630 PN 400 | NP-14S | 14 | 22.5 |
| | NP-16S | 16 | 23.5 |
| | NP-20S | 20 | 28.5 |
| | NP-25S | 25 | 29 |
| | NP-30S | 30 | 30.5 |
| PN 315 | NP-38S | 38 | 33 |

All dimensions are in millimeters.

Tube Cap

NCA

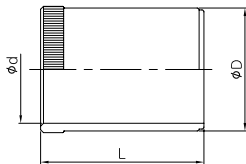


| Series | Part No. | Tube O.D | H | h | L | ℓ |
|----------------------|----------|----------|----|----|----|--------|
| L light PN 315 | NCA-06L | 6 | 14 | 12 | 22 | 7 |
| | NCA-08L | 8 | 17 | 14 | 23 | 8 |
| | NCA-10L | 10 | 19 | 17 | 24 | 9 |
| | NCA-12L | 12 | 22 | 19 | 25 | 10 |
| | NCA-15L | 15 | 27 | 24 | 26 | 11 |
| | NCA-18L | 18 | 32 | 27 | 28 | 11.5 |
| PN 160 | NCA-22L | 22 | 36 | 32 | 30 | 13.5 |
| | NCA-28L | 28 | 41 | 41 | 31 | 14.5 |
| | NCA-35L | 35 | 50 | 46 | 36 | 14.5 |
| | NCA-42L | 42 | 60 | 55 | 39 | 16 |
| S heavy PN 630 | NCA-06S | 6 | 17 | 14 | 26 | 11 |
| | NCA-08S | 8 | 19 | 17 | 28 | 13 |
| | NCA-10S | 10 | 22 | 19 | 29 | 12.5 |
| | NCA-12S | 12 | 24 | 22 | 31 | 14.5 |
| | NCA-14S | 14 | 27 | 24 | 34 | 16 |
| PN 400 | NCA-16S | 16 | 30 | 27 | 34 | 15.5 |
| | NCA-20S | 20 | 36 | 32 | 39 | 17.5 |
| | NCA-25S | 25 | 46 | 41 | 44 | 20 |
| | NCA-30S | 30 | 50 | 46 | 47 | 20.5 |
| PN 315 | NCA-38S | 38 | 60 | 55 | 54 | 23 |

All dimensions given approx. figure with tighten nut. All dimensions are in millimeters.

Tube Insurt

NIL

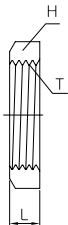


| Part No. | Tube O.D | Tube I.D | d | D | L | Part No. | Tube O.D | Tube I.D | d | D | L |
|-----------|----------|----------|------|------|------|------------|----------|----------|------|------|------|
| NIL6-1 | 6 | 4 | 2.6 | 3.8 | 15.5 | NIL 20-1.5 | 20 | 17 | 15.2 | 16.8 | 20 |
| NIL6-0.75 | 6 | 4.5 | 3.1 | 4.3 | 12.5 | NIL 20-1 | 20 | 18 | 16.2 | 17.8 | 22 |
| NIL6-0.5 | 6 | 5 | 3.6 | 4.8 | 15.5 | NIL 22-1.5 | 22 | 19 | 17.2 | 18.8 | 18 |
| NIL8-1 | 8 | 6 | 4.6 | 5.8 | 15.5 | NIL 22-1 | 22 | 20 | 18.2 | 19.8 | 18 |
| NIL10-1.5 | 10 | 7 | 5.6 | 6.8 | 17 | NIL 25-2 | 25 | 21 | 19.2 | 20.8 | 21.5 |
| NIL10-1 | 10 | 8 | 6.6 | 7.8 | 16.5 | NIL 25-1.5 | 25 | 22 | 20.2 | 21.8 | 23.5 |
| NIL12-1.5 | 12 | 9 | 7.6 | 8.8 | 16.5 | NIL 28-2 | 28 | 24 | 22.2 | 23.8 | 18 |
| NIL12-1 | 12 | 10 | 8.6 | 9.8 | 16.5 | NIL 28-1.5 | 28 | 25 | 23.2 | 24.8 | 18 |
| NIL15-1.5 | 15 | 12 | 10.2 | 11.8 | 17 | NIL 30-2 | 30 | 26 | 24.2 | 25.8 | 23.5 |
| NIL15-1 | 15 | 13 | 11.2 | 12.8 | 17 | NIL 35-2 | 35 | 31 | 28.8 | 30.8 | 22.5 |
| NIL16-1 | 16 | 14 | 12.2 | 13.8 | 17 | NIL 38-3 | 38 | 32 | 29.8 | 31.8 | 26.5 |
| NIL18-1.5 | 18 | 15 | 13.2 | 14.8 | 17.5 | NIL 38-2.5 | 38 | 33 | 30.8 | 32.8 | 26.5 |
| NIL18-1 | 18 | 16 | 14.2 | 15.8 | 17.5 | NIL 42-2 | 42 | 38 | 35.8 | 37.8 | 23.5 |

All dimensions are in millimeters.

Bulkhead Lock Nut

NBUN

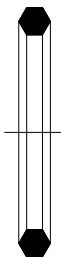


| Series | Part No. | Tube O.D | | H | L | T |
|--------|--------------|----------|-------|----|----|------------|
| | | Light | Heavy | | | |
| L | NBUN 06L | 6 | - | 17 | 6 | M 12 x 1.5 |
| L/S | NBUN 08L-06S | 8 | 6 | 19 | 6 | M 14 x 1.5 |
| L/S | NBUN 10L-08S | 10 | 8 | 22 | 6 | M 16 x 1.5 |
| L/S | NBUN 12L-10S | 12 | 1 | 24 | 6 | M 18 x 1.5 |
| S | NBUN 12S | - | 12 | 27 | 6 | M 20 x 1.5 |
| L/S | NBUN 15L-14S | 15 | 14 | 30 | 7 | M 22 x 1.5 |
| S | NBUN 16S | - | 16 | 32 | 7 | M 24 x 1.5 |
| L | NBUN 18L | 18 | - | 36 | 8 | M 26 x 1.5 |
| L/S | NBUN 22L-25S | 22 | 20 | 41 | 8 | M 30 x 2 |
| L/S | NBUN 28L-25S | 28 | 25 | 46 | 9 | M 36 x 2 |
| S | NBUN 30S | - | 30 | 50 | 9 | M 42 x 2 |
| L | NBUN 35S | 35 | - | 55 | 9 | M 45 x 2 |
| L/S | NBUN 42L-38S | 42 | 38 | 65 | 10 | M 52 x 2 |

All dimensions are in millimeters.

Sealing Ring for NWH/NTH and NSWVE

NKA



| Part No. | External Thread |
|--------------|------------------|
| NKA-01G | PF 1/8 |
| NKA-02G | PF 1/4 |
| NKA-03G | PF 3/8 |
| NKA-04G | PF 1/2 |
| NKA-06G | PF 3/4 |
| NKA-08G | PF 1 |
| NKA-10G42M20 | PF 1-1/4/M42 x 2 |
| NKA-12G48M20 | PF 1-1/2/M48 x 2 |
| NKA-M10 | M 10 x 1 |
| NKA-M12 | M 12 x 1.5 |
| NKA-M14 | M 14 x 1.5 |
| NKA-M16 | M 16 x 1.5 |
| NKA-M18 | M 18 x 1.5 |
| NKA-M20 | M 20 x 1.5 |
| NKA-M22 | M 22 x 1.5 |
| NKA-M22X4.5 | M 22 x 1.5 |
| NKA-M26 | M 26 x 1.5 |
| NKA-M26X3.5 | M 26 x 1.5 |
| NKA-M27 | M 27 x 2 |
| NKA-M33 | M 33 x 2 |

Sealing Ring for NSVW/NSVT

NKAZ

| Part No. | External Thread |
|----------------|------------------|
| NKAZ-01G | PF 1/8 |
| NKAZ-02G | PF 1/4 |
| NKAZ-03G | PF 3/8 |
| NKAZ-04G | PF 1/2 |
| NKAZ-06G | PF 3/4 |
| NKAZ-08G | PF 1 |
| NKAZ-10G42M20 | PF 1-1/4/M42 x 2 |
| NKAZ-12G48M20 | PF 1-1/2/M48 x 2 |
| NKAZ-10M10 | M 10 x 1 |
| NKAZ-12M15 | M 12 x 1.5 |
| NKAZ-14M15 | M 14 x 1.5 |
| NKAZ-16M15 | M 16 x 1.5 |
| NKAZ-18M15 | M 18 x 1.5 |
| NKAZ-20M15 | M 20 x 1.5 |
| NKAZ-22M15 | M 22 x 1.5 |
| NKAZ-22M15X4.5 | M 22 x 1.5 |
| NKAZ-26M15 | M 26 x 1.5 |
| NKAZ-26M15X3.5 | M 26 x 1.5 |
| NKAZ-27M20 | M 27 x 2 |
| NKAZ-33M20 | M 33 x 2 |

Sealing Ring for NGC

NKI

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

ED-Ring

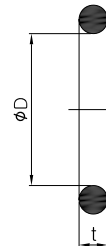
NED



| Part No. | For Male Thread | |
|----------|-----------------|-------|
| | Metric | G(PF) |
| NED-NM8 | M 8 x 1 | - |
| NED-N01G | M 10 x 1 | 1/8 |
| NED-NM12 | M 12 x 1.5 | - |
| NED-N02G | M 14 x 1.5 | 1/4 |
| NED-NM16 | M 16 x 1.5 | - |
| NED-N03G | - | 3/8 |
| NED-NM18 | M 18 x 1.5 | - |
| NED-NM20 | M 20 x 1.5 | - |
| NED-N04G | - | 1/2 |
| NED-NM22 | M 22 x 1.5 | - |
| NED-N06G | M 26 x 1.5 | 3/4 |
| | M 27 x 1.5 | - |
| NED-N08G | M 33 x 2 | 1 |
| NED-N10G | M 42 x 2 | 1 1/4 |
| NED-N12G | M 48 x 2 | 1 1/2 |

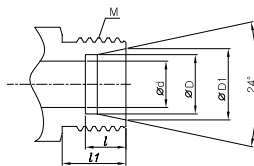
O-Ring

NOR



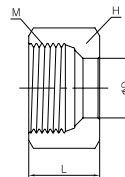
| Part No. | D | t |
|----------|------|-----|
| NOR-NS06 | 4 | 1.5 |
| NOR-NS08 | 6 | 1.5 |
| NOR-NS10 | 7.5 | 1.5 |
| NOR-NS12 | 9 | 1.5 |
| NOR-NS14 | 10 | 2 |
| NOR-NS16 | 12 | 2 |
| NOR-NS18 | 15 | 2 |
| NOR-NS20 | 16.3 | 2.4 |
| NOR-NS22 | 20 | 2 |
| NOR-NS25 | 20.3 | 2.4 |
| NOR-NS30 | 25.3 | 2.4 |
| NOR-NS28 | 26 | 2 |
| NOR-NS35 | 32 | 2.5 |
| NOR-NS38 | 33.3 | 2.4 |
| NOR-NS42 | 38 | 2.5 |

Tube end Dimension



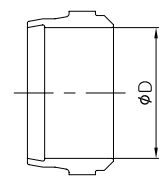
Nut

NN



Cutting Ring

NS



| Series | Part No. Nut | Part No. Cutting Ring | Tube O.D | DN Size | D | D ₁ | d | H | L | M | ℓ | ℓ ₁ |
|-------------------------|-------------------|-----------------------|----------|---------|----|----------------|-----|----|------|------------|------------|----------------|
| LL very light | NN-04LL | NS-04LL | 4 | 3 | 4 | 5 | 3 | 10 | 11.5 | M 8 x 1.0 | 4 | 8 |
| | NN-06LL | NS-06LL | 6 | 4 | 6 | 7.5 | 4.5 | 12 | 12 | M 10 x 1.0 | 5.5 | 8 |
| | NN-08LL | NS-08LL | 8 | 6 | 8 | 9.5 | 6 | 14 | 12.5 | M 12 x 1.0 | 5.5 | 9 |
| | NN-10LL | NS-10LL | 10 | 8 | 10 | 11.5 | 8 | 17 | 12.5 | M 14 x 1.0 | 6 | 9 |
| | NN-12LL | NS-12LL | 12 | 10 | 12 | 13.5 | 10 | 19 | 13 | M 16 x 1.0 | 6 | 9 |
| L light | NN-06L | NS-06 | 6 | 4 | 6 | 8.1 | 4 | 14 | 15 | M 12 x 1.5 | 7 | 10 |
| | NN-08L | NS-08 | 8 | 6 | 8 | 10.1 | 6 | 17 | 15 | M 14 x 1.5 | 7 | 10 |
| | NN-10L | NS-10 | 10 | 8 | 10 | 12.3 | 8 | 19 | 16 | M 16 x 1.5 | 7 | 11 |
| | NN-12L | NS-12 | 12 | 10 | 12 | 14.3 | 10 | 22 | 16 | M 18 x 1.5 | 7 | 11 |
| | NN-15L | NS-15 | 15 | 12 | 15 | 17.3 | 12 | 27 | 17.5 | M 22 x 1.5 | 7 | 12 |
| | NN-18L | NS-18 | 18 | 16 | 18 | 20.3 | 15 | 32 | 18 | M 26 x 1.5 | 7.5 | 12 |
| | NN-22L | NS-22 | 22 | 20 | 22 | 24.3 | 19 | 36 | 20.5 | M 30 x 2 | 7.5 | 14 |
| | NN-28L | NS-28 | 28 | 25 | 28 | 30.3 | 24 | 41 | 21 | M 36 x 2 | 7.5 | 14 |
| | NN-35L | NS-35 | 35 | 32 | 35 | 38 | 30 | 50 | 24 | M 45 x 2 | 10.5 | 16 |
| | NN-42L | NS-42 | 42 | 40 | 42 | 45 | 36 | 60 | 24 | M 52 x 2 | 11 | 16 |
| | S heavy | NN-06S | NS-06 | 6 | 3 | 6 | 8.1 | 4 | 17 | 16.5 | M 14 x 1.5 | 7 |
| NN-08S | | NS-08 | 8 | 4 | 8 | 10.1 | 5 | 19 | 16.5 | M 16 x 1.5 | 7 | 12 |
| NN-10S | | NS-10 | 10 | 6 | 10 | 12.3 | 7 | 22 | 17.5 | M 18 x 1.5 | 7.5 | 12 |
| NN-12S | | NS-12 | 12 | 8 | 12 | 14.3 | 8 | 24 | 18 | M 20 x 1.5 | 7.5 | 12 |
| NN-14S | | NS-14 | 14 | 10 | 14 | 16.3 | 10 | 27 | 20.5 | M 22 x 1.5 | 8 | 14 |
| NN-16S | | NS-16 | 16 | 12 | 16 | 18.3 | 12 | 30 | 21 | M 24 x 1.5 | 8.5 | 14 |
| NN-20S | | NS-20 | 20 | 16 | 20 | 22.9 | 16 | 36 | 24 | M 30 x 2 | 10.5 | 16 |
| NN-25S | | NS-25 | 25 | 20 | 25 | 27.9 | 20 | 46 | 27 | M 36 x 2 | 12 | 18 |
| NN-30S | | NS-30 | 30 | 25 | 30 | 33 | 25 | 50 | 29.5 | M 42 x 2 | 13.5 | 20 |
| NN-38S | | NS-38 | 38 | 32 | 38 | 41 | 32 | 60 | 32.5 | M 52 x 2 | 16 | 22 |

All dimensions are in millimeters.

