

Fittings and Accessories

for Centralized Lubrication Systems and General Use



This brochure provides an overview of metallic pipe unions for fluid engineering.

This brochure is divided into the sections

- Solderless pipe unions with tapered sleeve acc. to DIN 3862
- SKF Quick Connectors
- Solderless pipe unions with cutting sleeve acc. to DIN EN ISO 8434-1 and DIN 2353
- Other accessories

Contents

Solderless pipe union with

tapered sleeve acc. to DIN 3862 4–18

| | |
|----------------------------------|--------|
| Adaptors | 6, 7 |
| Banjo fittings | 17, 18 |
| Bracketed connectors | 11 |
| Bulkhead connectors | 8 |
| Connectors | 5, 10 |
| Counterbores | 4 |
| Cross joints | 17 |
| Distributor manifold | 13–16 |
| Double tapered sleeves | 5 |
| Elbows | 8, 9 |
| Elbow connectors | 11 |
| Flat washers | 9 |
| Form counterbores | 4 |
| Reducing adapters | 7 |
| Reinforcing sockets | 5 |
| Screw plugs | 9 |
| Socket unions | 5 |
| Tapered sleeves | 5 |
| Tee connectors | 12 |
| Threaded sockets | 10 |
| Tube-to-tube-connector | 11 |
| Vent plugs | 9 |

SKF Quick Connectors 19–21

| | |
|--------------------------|--------|
| Adaptors | 19 |
| Banjo fittings | 20 |
| Check valve | 21 |
| Claw groove | 19 |
| Connector | 21 |
| Elbows | 20, 21 |
| Locking pin | 21 |
| Tube cutter | 19 |

Solderless pipe union with

cutting sleeve acc. to DIN EN ISO 8434-1/ DIN 2353 22–28

| | |
|--|--------|
| Banjo fittings | 24 |
| Cone plug | 28 |
| Connectors for pressure gauges | 25, 27 |
| Cutting sleeves | 21 |
| Elbow bulkhead connectors | 24 |
| Elbow connectors | 24 |
| Elbow screw-in connectors | 24 |
| Four-way connectors | 25 |
| L-screw-in connectors | 23 |

| | |
|--|--------|
| Reducing connectors | 22, 28 |
| Reducing connections | 26 |
| Screw plugs | 28 |
| Straight bulkhead connectors | 23, 27 |
| Straight connectors | 22 |
| Straight screw-in fitting | 26 |
| Straight screw-in connectors | 23, 27 |
| Straight screw-in glands | 22 |
| Tee connectors | 25, 27 |
| Tee screw-in connectors | 25 |
| Union nuts | 22 |
| Vent plug | 28 |

Accessories 29–44

| | |
|--|--------|
| Banjo fitting | 36 |
| Check valve | 40 |
| Coupling plug | 44 |
| Filler coupling | 44 |
| Fixing bolts | 29 |
| Fixing clips | 30 |
| High pressure hoses | 34, 35 |
| Hoses | 33 |
| Hoses suitable for self-installation | 34 |
| Lock washer | 29 |
| Nuts | 29 |
| Oil level gauges | 43 |
| Oil reservoirs | 42, 43 |
| Plastic tubing | 32 |
| Pressure gauges | 37 |
| Quick-disconnect couplings | 38 |
| Relief valves | 39 |
| Rotating joints | 36 |
| Safety valves | 40, 41 |
| Shut-off valves | 38 |
| Steel tubing | 31 |
| Topping-up pumps | 44 |
| Tube bending device | 31 |

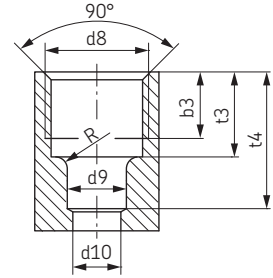
Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Counterbores

DIN 3854/DIN 3862 – for solderless tube connection

| Specification of counterbores | f.tube diam. | d9 ^{B11} | d10 | d8 | b3 | t3 | t4 | r |
|-------------------------------|--------------|-------------------|------|---------|-----|------|------|-----|
| 1102 ¹⁾ | 2.5 | 2.5 | 1.5 | M6×0.75 | 4.5 | 5.5 | 8.5 | 1.3 |
| 1404 | 4 | 4 | 3 | M8×1 | 6.5 | 8.5 | 12.5 | 1.6 |
| 1406 | 6 | 6 | 4.5 | M10×1 | 7 | 9 | 14 | 1.6 |
| 1408 | 8 | 8 | 6.5 | M14×1.5 | 9 | 11.5 | 18.5 | 1.6 |
| 1410 | 10 | 10 | 8.5 | M16×1.5 | 9 | 11.5 | 19.5 | 1.6 |
| 1412 | 12 | 12 | 10.5 | M18×1.5 | 9.5 | 12 | 22 | 1.6 |

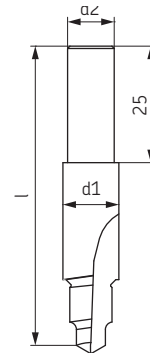


¹⁾ not shown in DIN standard

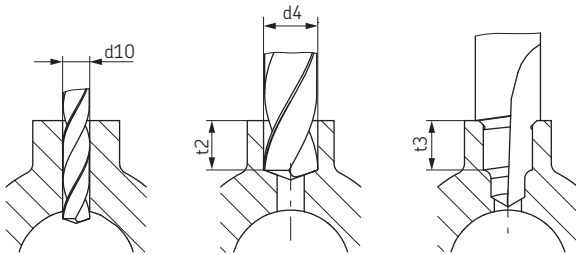
Form counterbores

to tap ports for solderless tube connection

| form counterbore Order No. | tube diam. | for counter-bore | l | d1 | d2 | d10 | d4 | Twist drill | |
|----------------------------|------------|------------------|------|----|----|------|-----|-------------|------|
| | | | | | | | | t2 | t3 |
| 902-111 | 2.5 | 1102 | 60.5 | 10 | | 1.5 | 5 | 4.5 | 5.5 |
| 904-411 | 4 | 1404 | 65 | 10 | | 3 | 6.5 | 7.5 | 8.5 |
| 906-411 | 6 | 1406 | 66 | 12 | 10 | 4.5 | 8.5 | 8 | 9 |
| 908-411 | 8 | 1408 | 70 | 16 | | 6.5 | 12 | 10.5 | 11.5 |
| 910-411 | 10 | 1410 | 72 | 18 | | 8.5 | 14 | 10.5 | 11.5 |
| 912-411 | 12 | 1412 | 75 | 20 | | 10.5 | 16 | 11 | 12 |



Provision of counterbore



predrill holes

bore hole to be tapped

counterbore with form counterbore up to the stop

Important note #3:

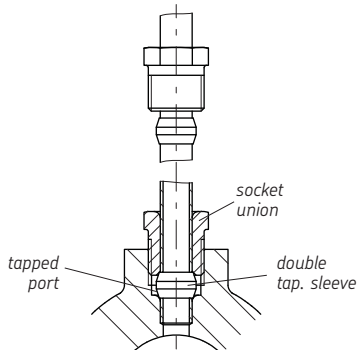
When using a hand drill, take care not to tilt the counterbore out of the drill axis. To avoid damages drill steadily without interruption. Increase pressure slightly at the stop.

Form counterbore enlarges bore hole diam. d4 to core hole for ISO thread.

Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Connectors for steel and copper tubing

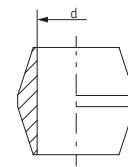


Installation (steel and copper tubing)

1. Push socket union and double tapered sleeve onto tube end.
2. Insert tube end into tapped port up to the stop
3. First tighten socket union finger-tight by hand. Then turn another $1\frac{1}{2}$ turns.

Double tapered sleeves – DIN 3862

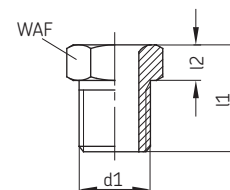
| Order No. | for tube diam. d | Material |
|------------|------------------|----------|
| 402-001 *) | 2.5 | brass |
| 404-001 | 4 | |
| 406-001 | 6 | |
| 408-001 | 8 | |
| 410-001 | 10 | |
| 412-001 | 12 | |



Socket unions – DIN 3871

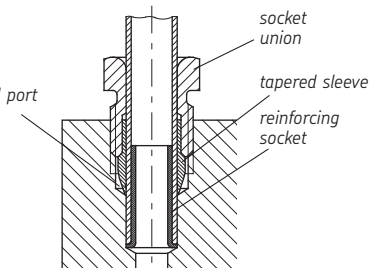
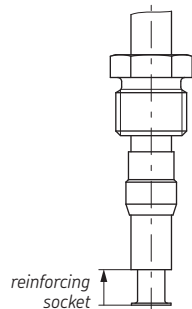
| Order No | for tube diam. d1 | l1 | l2 | WAF | |
|------------|-------------------|---------|----|-----|----|
| 402-002 *) | 2.5 | M6×0.75 | 9 | 3 | 7 |
| 404-002 | 4 | M8×1 | 12 | 4 | 8 |
| 406-002 | 6 | M10×1 | 13 | 4 | 10 |
| 408-202 | 8 | M14×1.5 | 16 | 4.5 | 14 |
| 410-002 | 10 | M16×1.5 | 17 | 5.5 | 17 |
| 412-002 | 12 | M18×1.5 | 18 | 6 | 19 |

Material: steel, galvanized surface



*) not shown in DIN standard

Connectors for steel, copper and plastic tubing



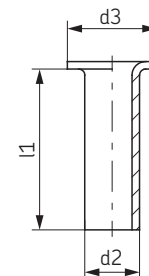
Installation (plastic tubing)

1. Insert reinforcing socket into plastic tube.
2. Push socket union and tapered sleeve onto tube end.
3. Insert tube end into counterbored port up to the stop.
4. First tighten socket union finger-tight by hand. Then turn another $1\frac{1}{2}$ turns.

Reinforcing sockets (if plastic tubing is used)

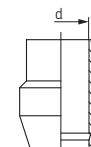
| Order No. | for tube | d 2 | d 3 | l1 |
|-----------|----------|-----|------|----|
| 402-603 | 2.5×0.5 | 1.4 | 2.3 | 8 |
| 404-603 | 4×0.85 | 2.2 | 3.8 | 10 |
| 406-603 | 6×1 | 3.9 | 5.8 | 12 |
| 406-613 | 6×1.25 | 3.4 | 5.8 | 12 |
| 408-603 | 8×1.25 | 5.4 | 7.8 | 15 |
| 410-603 | 10×1.5 | 6.9 | 9.8 | 18 |
| 412-603 | 12×1.5 | 8.9 | 11.8 | 20 |

Material: brass



Tapered sleeves – DIN 3862

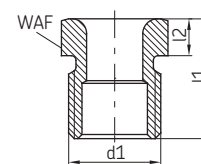
| Order No. | for tube diam. d | Material |
|-----------|------------------|----------|
| 402-611 | 2.5 | brass |
| 404-611 | 4 | |
| 406-611 | 6 | |
| 408-611 | 8 | |
| 410-611 | 10 | |
| 412-611 | 12 | |



Socket unions – DIN 3871

| Order No. | for tube diam. | d1 | l1 | l2 | WAF |
|---------------|----------------|---------|----|-----|-----|
| 402-612 | 2.5 | M6×0.75 | 9 | 3 | 7 |
| 404-612 | 4 | M8×1 | 12 | 4 | 8 |
| 404-612-MS *) | 4 | M8×1 | 12 | 4 | 8 |
| 406-612 | 6 | M10×1 | 13 | 4 | 10 |
| 406-612-MS *) | 6 | M10×1 | 13 | 4 | 10 |
| 408-612 | 8 | M14×1.5 | 16 | 4.5 | 14 |
| 408-612-MS *) | 8 | M14×1.5 | 16 | 4.5 | 14 |
| 410-612 | 10 | M16×1.5 | 17 | 5.5 | 17 |
| 410-612-MS *) | 10 | M16×1.5 | 17 | 5.5 | 17 |
| 412-612 | 12 | M18×1.5 | 18 | 6 | 19 |

Material: steel, galvanized surface, *) brass



Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Adaptors

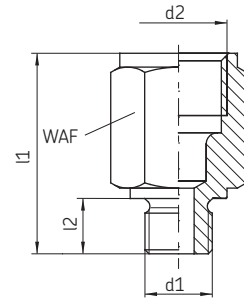
with cylindrical thread (sealed by flat washer to DIN 7603)

| Order No. | Tube diam. | d1 | d2 *) | l1 | l2 | WAF |
|-------------|------------|---------|---------|---------|---------|-----|
| 843-130-024 | 2.5 | M3 | M6×0.75 | 22 | 8.5 | 7 |
| 843-130-025 | | M4 | | 22 | 8.5 | 7 |
| 843-130-026 | | M5 | | 22 | 8.5 | 7 |
| 402-004 | | M6 | | 13 | 5.5 | 9 |
| 402-003 | | M6×0.75 | | 13 | 5.5 | 9 |
| 402-006 | | M8×1 | | 15 | 7.5 | 11 |
| 404-004 | 4 | M8×1 | M8×1 | 24 | 14 | 11 |
| 404-005 | | M8×1 | | 32 | 22 | 11 |
| 404-061 | | M5 | | 20 | 5.5 | 11 |
| 404-063 | | M8 | | 22 | 8 | 11 |
| 404-003 | | M8×1 | | 18 | 7.5 | 11 |
| 404-006 | | M10×1 | | 18 | 7.5 | 14 |
| 404-040 | | G 1/8 A | | 18 | 8 | 14 |
| 404-162 | | M12×1 | | 18 | 9 | 17 |
| 404-164 | | M14×1.5 | | 18 | 9 | 17 |
| 406-158 | | 6 | | M8×1 | M10×1 | 23 |
| 406-004 | M10×1 | | 18 | 7.5 | | 14 |
| 406-162 | M12×1 | | 19 | 9 | | 17 |
| 406-054 | G 1/4 A | | 20 | 10 | | 17 |
| 301-005 | M14×1.5 | | 18 | 9 | | 17 |
| 406-166 | M16×1.5 | | 19 | 9 | | 19 |
| 406-055 | G 3/8 A | 21 | 10 | 22 | | |
| 408-004 | 8 | M10×1 | M14×1.5 | 28 | 7.5 | 17 |
| 408-154 | | G 1/8 A | | 29 | 8 | 17 |
| 408-160 | | G 1/4 A | | 30 | 16 | 17 |
| 408-162 | | M12×1 | | 29 | 9 | 17 |
| 301-020 | | G 1/4 A | | 23 | 10 | 17 |
| 301-001 | | M14×1.5 | | 26 | 9 | 17 |
| 408-005 | | M16×1.5 | | 22 | 9 | 19 |
| 408-006 | | M18×1.5 | | 22 | 10 | 22 |
| 408-022 | | M22×1.5 | | 24 | 12 | 27 |
| 410-160 | | 10 | | M10×1 | M16×1.5 | 30 |
| 410-162 | M12×1 | | 31 | 9 | | 19 |
| 410-163 | G 1/4 A | | 30 | 10 | | 19 |
| 410-164 | M14×1.5 | | 29 | 9 | | 19 |
| 410-169 | G 1/4 A | | 52 | 16 | | 19 |
| 410-004 | M16×1.5 | | 23 | 9 | | 19 |
| 410-018 | M18×1.5 | | 24 | 10 | | 22 |
| 410-171 | G 1/2 A | | 24 | 12 | | 27 |
| 410-022 | M22×1.5 | | 24 | 12 | | 27 |
| 412-162 | 12 | | M12×1 | M18×1.5 | | 35 |
| 412-163 | | G 1/4 A | 35 | | 10 | 22 |
| 412-164 | | M14×1.5 | 33 | | 9 | 22 |
| 412-169 | | G 1/4 A | 41 | | 16 | 22 |
| 412-004 | | M18×1.5 | 24 | | 10 | 22 |
| 412-014 | | M22×1.5 | 26 | | 12 | 27 |

Material: steel, galvanized surface

| Order No | Tube diam. | d1 | d2 | l1 | l2 | WAF |
|-------------|------------|---------|---------|----|-----|-----|
| 301-134 | 4 | M10×1 | G 1/4 | 23 | 7.5 | 17 |
| 301-034 | 5.5 | M14×1.5 | G 1/4 | 22 | 9 | 17 |
| 267-001.17 | 6 | G 1/8 A | M10×1 | 24 | 8 | 14 |
| 406-163 | | M12×1 | | 19 | 9 | 17 |
| D301-005-MS | | M14×1.5 | | 20 | 9 | 17 |
| 406-167 | | M16×1.5 | | 19 | 9 | 19 |
| 267-001.19 | | M18×1.5 | | 21 | 10 | 22 |
| D408-004-MS | | M10×1 | | 29 | 7.5 | 17 |
| D301-001-MS | 8 | M14×1.5 | M14×1.5 | 28 | 9 | 17 |
| D301-020-MS | | G 1/4 A | | 30 | 10 | 17 |
| 267-001.13 | | G 1/2 A | | 24 | 12 | 27 |

Material: brass



Solderless pipe union with tapered sleeve acc. to DIN 3862

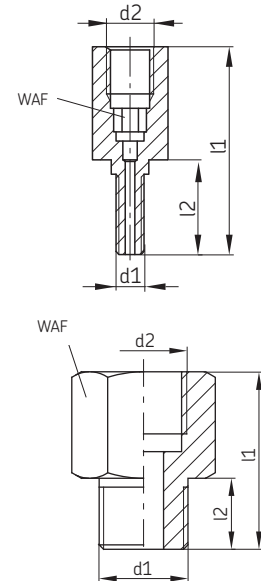
For pressures up to 45 bar

Reducing adapters

with cylindrical thread (sealed by flat washer to DIN 7603)

| Order No. | d1 | d2 | l1 | l2 | WAF | Material |
|---------------------------|------------|---------|------|-----|-----|---------------------------|
| 843-130-021 ¹⁾ | M3 | M5 | 22 | 10 | 3 | |
| 843-130-022 ¹⁾ | M4 | M5 | 22 | 10 | 3 | steel, galvanized surface |
| 843-130-023 ¹⁾ | M5 | M5 | 22 | 10 | 3 | |
| 406-024 | M10×1 | G 3/8 | 20 | 8 | 14 | brass, galvanized surface |
| 401-016-312 | M10×1 | G 1/4 | 26.5 | 7.5 | 17 | brass |
| 406-044-S1 | M10×1 tap. | G 3/4 | 22.5 | 8 | 17 | steel, galvanized surface |
| P-78.01 | M12×1 | G 3/4 | 27 | 8.5 | 19 | steel, galvanized surface |
| 401-013-161 | G 1/4 A | G 1/2 | 40 | 12 | 27 | steel, galvanized surface |
| 401-019-352 | M14×1.5 | G 3/8 | 20 | 9 | 17 | brass |
| 401-016-371 | M16×1.5 | G 1/4 | 30 | 12 | 19 | steel, galvanized surface |
| 243-001.10 | M16×1.5 | G 1/2 | 31 | 9 | 27 | |
| 267-001.47 | G 3/8 A | G 1/4 | 31 | 10 | 22 | brass |
| 267-001.60 | G 3/8 A | G 1/2 | 34 | | 27 | |
| 267-001.36 | M18×1.5 | G 3/8 | 32 | 10 | 22 | steel, galvanized surface |
| 243-001.20 | M18×1.5 | G 1/2 | | | 27 | |
| 44-1755-2029 | M20×1.5 | G 1/4 | 28 | 12 | 24 | steel, galvanized surface |
| 401-019-132 | | G 3/8 | 24 | | 27 | |
| DZ333 | | G 1/4 | 24 | | 27 | |
| 401-013-131 | G 1/2 A | G 1/2 | 40.5 | 12 | 27 | brass |
| DZ334 | | G 3/8 | 31 | | 27 | |
| 267-001.03 | | G 3/4 | 40 | | 36 | |
| 401-011-132 | G 1/2 A | G 1 | 49 | 14 | 41 | |
| 433-890-131 | G 1/2 A | G 1 1/4 | 53 | 14 | 55 | steel, galvanized surface |
| 401-013-171 | G 3/4 A | G 1/2 | 41 | 16 | 32 | |
| 401-013-111 | G 1 A | G 1/2 | 29 | 18 | 41 | |

¹⁾ With female thread



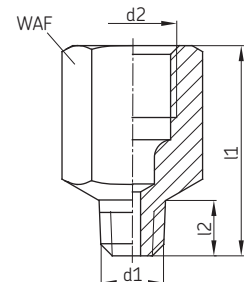
Adaptors

with tapered thread

Tapered threads are used **without washers**, as they are **self-sealing**.
It is not necessary to provide the ports with seal faces.

| Order No. | Tube diam. | d1 ¹⁾ | d2 | l1 | l2 | WAF | Material |
|-------------|------------|------------------|---------|------|-----|-----|---------------------------|
| 402-003K | | M6×0.75 tap. | | 11.5 | 4.5 | 8 | |
| 402-006K | 2.5 | M8×1 tap. | M6×0.75 | 15 | 8 | 9 | |
| 402-008K | | M10×1 tap. | | 16 | 7.5 | 12 | |
| 404-662K | | M6 tap. | | 19 | 5 | 11 | |
| 404-663K | | M6 tap. | | 20 | 6 | 11 | |
| 404-673K | | M6×0.75 tap. | | 20 | 6 | 11 | |
| 404-047K | | M7 tap. | | 20 | 6 | 11 | |
| 404-003K | | M8×1 tap. | | 17 | 7.4 | 11 | |
| 404-045 | | M8×1 tap. | | 62.5 | 7.4 | 11 | |
| 404-006K | 4 | M10×1 tap. | M8×1 | 16 | 7.4 | 11 | steel, galvanized surface |
| 401-004-512 | | M10×1 tap. | | 25 | 7.4 | 11 | |
| 404-040K | | R 1/8 tap. | | 16 | 6 | 11 | |
| 404-040K-US | | 1/8 NPTF | | 20 | 6.7 | 11 | |
| 404-054K | | R 1/4 tap. | | 14 | 9 | 14 | |
| 404-072 | | 1/4-28 UNF | | 20 | 5.6 | 11 | |
| 401-004-903 | | 1/4 BSF | | 20 | 5 | 11 | |
| 401-004-904 | | 1/16 BSF | | 18 | 5 | 11 | |
| 406-004K | | M10×1 tap. | | 23 | 7.4 | 14 | |
| 301-105K | 6 | M12×1 tap. | M10×1 | 18 | 7.4 | 14 | |
| 456-004K | | R 1/8 tap. | | 21 | 6 | 14 | |
| 406-054K | | R 1/4 tap. | | 20 | 9 | 17 | |

¹⁾ Tapered thread according to DIN 158. short, resp. according to DIN 2999



Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

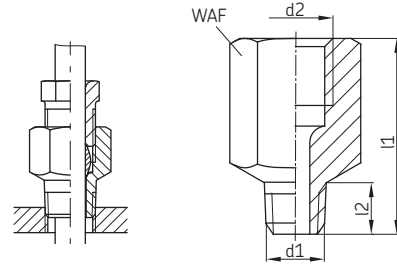
Bulkhead connectors

with tapered thread (for sealed tube passage through a wall without tube interruption)

| Order No. | Tube diam. | d1 ¹⁾ | d2 | l1 | l2 | WAF |
|-----------|------------|------------------|---------|----|-----|-----|
| 404-003DK | 4 | M8×1 tap. | M8×1 | 17 | 7.4 | 11 |
| 404-006DK | 4 | M10×1 tap. | M8×1 | 16 | 7.4 | 11 |
| 406-004DK | 6 | M10×1 tap. | M10×1 | 18 | 7.4 | 14 |
| 301-001DK | 8 | M14×1.5 tap. | M14×1.5 | 24 | 11 | 17 |
| 410-004DK | 10 | M16×1.5 tap. | M16×1.5 | 24 | 11 | 19 |

Material: steel, galvanized surface

¹⁾ Tapered thread according to DIN 158. short

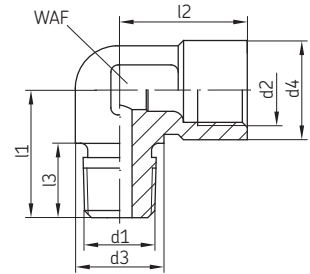


Elbows

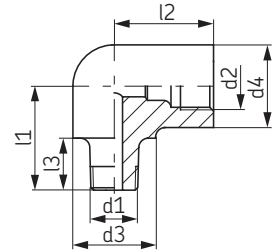
with tapered thread

| Order No. | Tube diam. | d1 ¹⁾ | d2) | d3 | d4 | l1 | l2 | l3 | WAF |
|-----------|------------|------------------|---------|------|------|------|----|------|-----|
| 504-510K | 4 | M10×1 tap. | M8×1 | 13 | 13 | 21 | 16 | 10 | 14 |
| 514-018K | 4 | R 1/8 tap. | M8×1 | 13 | 13 | 21 | 16 | 10 | |
| 506-508K | 6 | M8×1 tap. | M10×1 | 12.5 | 14 | 18 | 18 | 10.5 | |
| 506-510K | 6 | M10×1 tap. | M10×1 | 12.5 | 14 | 18 | 18 | 10.5 | |
| 506-512K | 6 | M12×1 tap. | M10×1 | 12.5 | 14 | 18 | 18 | 10.5 | |
| 508-512K | 8 | M12×1 tap. | M14×1.5 | 14 | 19.5 | 19.5 | 24 | 10 | |

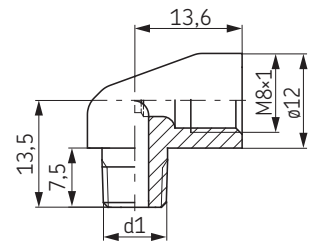
Material: die-cast zinc



| Order No. | Tube diam. | d1 ¹⁾ | d2 | d3 | d4 | l1 | l2 | l3 | Material |
|-------------|------------|------------------|---------|----|----|----|------|-----|----------|
| 502-206K | 2.5 | M6 tap. | M6×0.75 | - | 8 | 10 | 9.5 | 6 | steel |
| 506-202K | 6 | M10×1 tap. | M10×1 | 17 | 17 | 22 | 21 | 11 | brass |
| 403-006-651 | 6 | R 1/4 tap. | M10×1 | 14 | 14 | 17 | 17.5 | 8.5 | steel |



| Order No. | Tube diam. | d1 ¹⁾ | Material |
|-----------|------------|------------------|----------|
| 504-200K | | M6 tap. | brass |
| 504-201K | 4 | M8×1 tap. | |
| 504-202K | | M10×1 tap. | |
| 504-203K | | M6×0.75 tap. | |

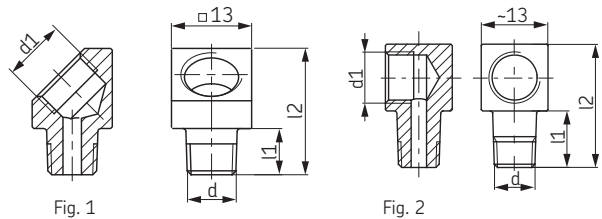


¹⁾ Tapered thread according to DIN 158. short, resp. according to DIN 2999

Elbows

| Order No. | d | d1 | l1 | l2 | Fig. |
|-----------|------------|-------|-----|----|------|
| 406-145K | M8×1 tap. | M10×1 | 7.5 | 21 | 1 |
| 406-045K | M10×1 tap. | M10×1 | 7.5 | 21 | 1 |
| 406-089K | M8×1 tap. | M10×1 | 11 | 24 | 2 |
| 406-090K | M10×1 tap. | M10×1 | 11 | 24 | 2 |
| 406-091K | R 1/8 tap. | G 1/8 | 11 | 24 | 2 |
| 406-092K | M10×1 tap. | M10×1 | 17 | 30 | 2 |
| 406-093K | R 1/8 tap. | M10×1 | 11 | 24 | 2 |

Material: steel, galvanized surface



Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

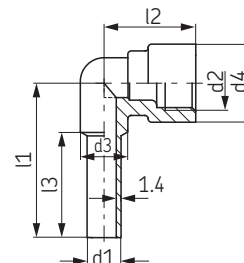
Elbows

with tube end (for installation in counterbores as per DIN 3854/DIN 3862)

| Order No. | Tube diam. d1 | d2 | d3 | d4 | l1 | l2 | l3 |
|-----------|---------------|----|---------|----|----|------|------|
| DY958 | 6 | 6 | M10×1 | 8 | 14 | 30.8 | 21 |
| DY960 | 8 | 8 | M14×1.5 | 11 | 18 | 37 | 24.5 |
| DY961 | 10 | 10 | M16×1.5 | 15 | 23 | 42.5 | 26.5 |
| DY962 | 12 | 12 | M18×1.5 | 15 | 23 | 46 | 26.5 |

Tube end for tube connection

Material: brass



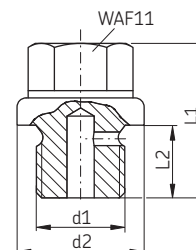
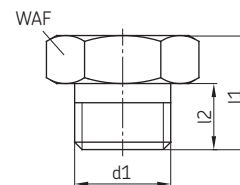
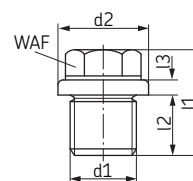
Screw plugs (sealed by flat washer to DIN 7603)

| Order No. | d1 | d2 | l1 | l2 | l3 | WAF | Material |
|-----------------------------------|---------|----|-----|-----|----|-----|------------------------------|
| DIN910-R1-8-5.8 | G 1/8 A | 14 | 17 | 8 | 3 | 11 | steel, galvanized surface |
| DIN910-R1-4×8-5.8 | G 1/4 A | 18 | 17 | 8 | 3 | 14 | |
| DIN910-R3-8-5.8 | G 3/8 A | 22 | 21 | 12 | 3 | 17 | |
| DIN910-R1-2-5.8 | G 1/2 A | 26 | 26 | 14 | 4 | 19 | |
| DIN910-R3-4-5.8 | G 3/4 A | 32 | 30 | 16 | 4 | 24 | |
| DIN910-R1-5.8 | G 1 A | 39 | 32 | 16 | 5 | 27 | steel, galvanized surface |
| 402-011 | M6×0.75 | | 9 | 5 | | 10 | |
| 404-011 | M8×1 | | 9.5 | 5.5 | | 11 | |
| 406-011 | M10×1 | | 12 | 7 | | 12 | |
| 408-211 | M12×1 | | 12 | 7 | | 17 | |
| 408-011 | M14×1.5 | | 12 | 7 | | 17 | |
| 410-011 | M16×1.5 | | 14 | 8 | | 19 | |
| 412-011 | M18×1.5 | | 15 | 10 | | 22 | |
| DIN 908-M10×1-5.8 ¹⁾ | M10×1 | 14 | 11 | 8 | 3 | 5 | steel, galvanized surface |
| DIN 908-M12×1.5-5.8 ¹⁾ | M12×1.5 | 17 | 15 | 12 | 3 | 6 | |
| DIN 908-M14×1.5-5.8 ¹⁾ | M14×1.5 | 19 | 15 | 12 | 3 | 6 | |

¹⁾ Hexagon socket

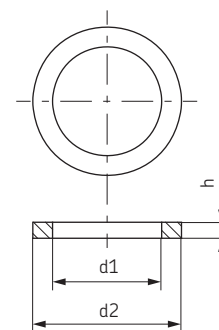
Vent plugs

| Order No. | d1 | d2 | l1 | l2 | Material |
|-------------|---------|----|----|----|--------------------|
| 833-330-016 | M10×1 | 14 | 17 | 8 | steel, |
| 833-330-021 | G 1/8 A | | | | galvanized surface |



Flat washers

| Order No. | d1 | d2 | h | Suitable for thread | | Material |
|--------------------|------|------|-----|---------------------|--------|----------|
| | | | | mm | inches | |
| 504-019-AL | 10.2 | 13.9 | 1.1 | M10 | G 1/8 | aluminum |
| DIN7603-A6×10-CU | 6.2 | 9.9 | 1 | M6 | - | copper |
| DIN7603-A8×11.5-CU | 8.2 | 11.4 | 1 | M8 | - | |
| 508-215-CU | 12.2 | 15.9 | 1.4 | M12 | - | |
| 508-320-CU | 12.2 | 15.9 | 2 | M12 | - | |
| DIN7603-A12×18-CU | 12.2 | 14.9 | 1 | M12 | - | copper |
| DIN7603-A14×18-CU | 14.2 | 17.9 | 1.5 | M14 | - | |
| 508-108 | 13.3 | 17.9 | 1.5 | - | G 1/4 | |
| DIN7603-A16×20-CU | 16.2 | 19.9 | 1.5 | M16 | - | |
| DIN7603-A17×21-CU | 17.2 | 20.9 | 1.5 | - | G 3/8 | |
| DIN7603-A18×22-CU | 18.2 | 21.9 | 1.5 | M18 | - | |
| DIN7603-A20×24-CU | 20.2 | 23.9 | 1.5 | M20 | - | |
| DIN7603-A21×26-CU | 21.2 | 25.9 | 1.5 | - | G 1/2 | |
| DIN7603-A22×27-CU | 22.2 | 26.9 | 1.5 | M22 | - | |
| DIN7603-A27×32-CU | 27.3 | 31.9 | 2 | M27 | - | |
| DIN7603-A30×36-CU | 30.3 | 35.9 | 2 | M30 | - | |
| DIN7603-A33×39-CU | 33.3 | 38.9 | 2 | M33 | - | |

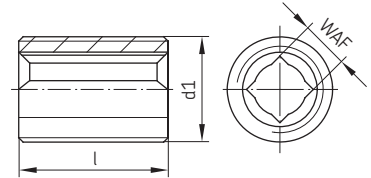


Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

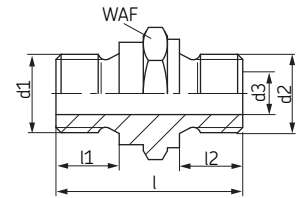
Threaded sockets

| Order No. | d1 | l | WAF | Material |
|-------------------------|---------------------------------|----|-----|----------|
| 404-203 | M8×1 | 13 | 3.5 | steel |
| 406-203 | M10×1 | 15 | 3.5 | |
| 406-243-B ¹⁾ | M10×1 | 18 | 3.5 | |
| 408-243-B ¹⁾ | M12×1 | 19 | 5.5 | |
| 458-012 | M12×1 | 17 | 5.5 | |
| 458-012-B ¹⁾ | M12×1 | 17 | 5.5 | |
| 408-023 | M14×1.5 | 18 | 5.5 | |
| 410-003 | M16×1.5 | 19 | 7 | |
| 410-003-B ¹⁾ | M16×1.5 | 19 | 7 | |
| 408-033-S3 | G ¹ / ₄ A | 15 | 5.5 | |

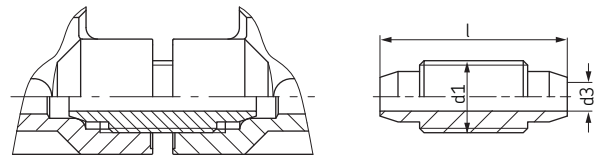


¹⁾ Coated with micro-encapsulated adhesive

| Order No. | d1 | d2 | d3 | l | l1 | l2 | WAF | Material |
|-------------|---------------------------------|---------------------------------|----|----|------|------|-----|------------|
| 406-103 | M10×1 | M12×1 | 5 | 20 | 6 | 7 | 14 | steel, |
| 408-103 | M12×1 | M14×1.5 | 6 | 21 | 7 | 7 | 17 | galvanized |
| 853-750-024 | G ¹ / ₄ A | G ¹ / ₄ A | 7 | 31 | 10.5 | 10.5 | 19 | surface |



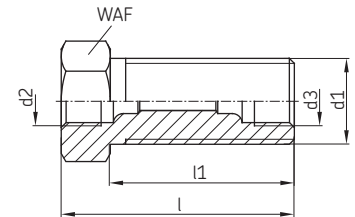
| Order No. | d1 | d3 | l | Material |
|-----------|-------|----|----|----------|
| 406-233 | M10×1 | 4 | 26 | brass |



Distributor connection

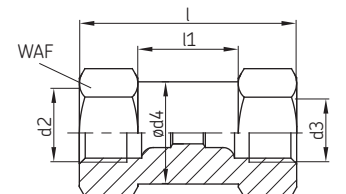
Connectors

| Order No. | Tube diam. | d1 | d2 | d3 | l | l1 | WAF | Material |
|----------------------------|------------|-------------------------------|---------|---------|----|----|-----|---------------------------------|
| 404-008 | 4 | M14×1.5 | M8×1 | M8×1 | 27 | 19 | 17 | steel, galvanized surface |
| 404-009 | 4 | M14×1.5 | M8×1 | M8×1 | 38 | 30 | 17 | |
| 406-008 | 6 | M14×1.5 | M10×1 | M10×1 | 30 | 20 | 17 | |
| 406-005 | 6 / 8 | M16×1.5 | M14×1.5 | M10×1 | 35 | 23 | 19 | |
| 408-008 | 8 | M20×1.5 | M14×1.5 | M14×1.5 | 40 | 28 | 24 | |
| 410-008 | 10 | M20×1.5 | M16×1.5 | M16×1.5 | 42 | 27 | 24 | |
| 412-008 | 12 | M24×1.5 | M18×1.5 | M18×1.5 | 48 | 33 | 27 | |
| 44-1755-2019 ¹⁾ | | R ¹ / ₄ | M10×1 | | 33 | | 24 | |



¹⁾ Hexagon socket

| Order No. | Tube diam. | d2 | d3 | ø d4 | l | l1 | WAF | Material |
|-----------|------------|---------|---------|------|----|----|-----|---------------------------------|
| 404-010 | 4 | M8×1 | M8×1 | 10.8 | 27 | 13 | 11 | steel, galvanized surface |
| 406-010 | 6 | M10×1 | M10×1 | 13.8 | 30 | 10 | 14 | |
| 406-805 | 6 / 8 | M14×1.5 | M10×1 | 16.8 | 35 | 11 | 17 | |
| 408-010 | 8 | M14×1.5 | M14×1.5 | 16.8 | 40 | 14 | 17 | |
| 410-010 | 10 | M16×1.5 | M16×1.5 | 18.8 | 42 | 13 | 19 | |
| 412-010 | 12 | M18×1.5 | M18×1.5 | 21.8 | 48 | 18 | 22 | |



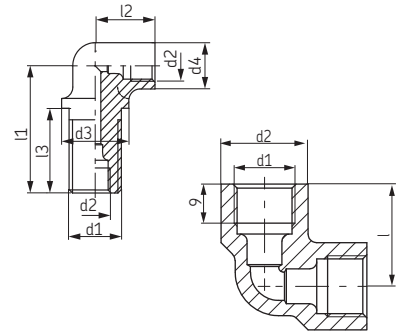
Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Elbow connectors

| Order No. | Tube diam. | d1 | d2 | d3 | d4 | l1 | l2 | l3 | Material |
|-----------|------------|---------|-------|------|----|----|------|----|---------------|
| 504-003 | 4 | | M8×1 | 18 | 12 | 33 | 16 | 22 | die-cast zinc |
| 504-103 | 4 | M14×1.5 | M8×1 | 18 | 12 | 33 | 18 | 22 | brass |
| 506-004 | 6 | | M10×1 | 16.5 | 14 | 27 | 17.5 | 15 | brass |

| Order No. | Tube diam. | d2 | d3 | d4 | l1 | l2 | Material |
|-----------|------------|---------|----|----|------|------|---------------|
| 408-013 | 8 | M14×1.5 | 20 | 20 | 23.5 | 23.5 | die-cast zinc |
| 410-013 | 10 | M16×1.5 | 21 | 21 | 26 | 26 | |



Bracketed connectors

| Order No. | Tube diam. | Material |
|-----------|------------|---------------|
| 504-004 | 4 | die-cast zinc |

| Order No. | Tube diam. | Material |
|-----------|------------|----------|
| 506-010 | 6 | brass |

| Order No. | Tube diam. | d | b | h | l | Material |
|-----------|------------|---------|----|----|----|----------|
| DAR506 | 6 | M10×1 | 15 | 20 | 12 | aluminum |
| DAR508 | 8 | M14×1.5 | 20 | 25 | 15 | |

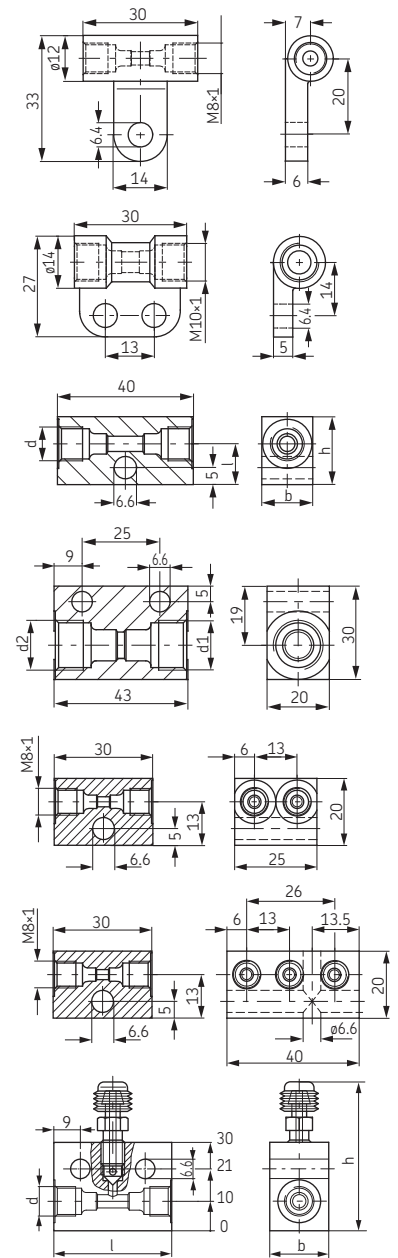
| Order No. | Tube diam. | d1 | d2 | Material |
|-----------|------------|---------|---------|---------------------------|
| DAR510 | 10 | M16×1.5 | M16×1.5 | steel, galvanized surface |
| DAR510-S1 | 8 / 10 | M14×1.5 | | |

| Order No. | Tube diam. | Material |
|-----------|------------|---------------------------|
| DAR524 | 4 | steel, galvanized surface |

| Order No. | Tube diam. | Material |
|-----------|------------|---------------------------|
| DAR534 | 4 | steel, galvanized surface |

Tube-to-tube-connector with air vent

| Order No. | Tube diam. | d | b | h | l | Material body |
|-------------|------------|-------|----|----|----|---------------|
| 995-001-104 | 4 | M8×1 | 20 | 50 | 40 | aluminum |
| 995-001-106 | 6 | M10×1 | | | | |

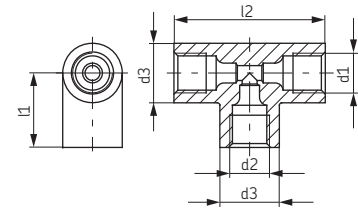


Solderless pipe union with tapered sleeve acc. to DIN 3862

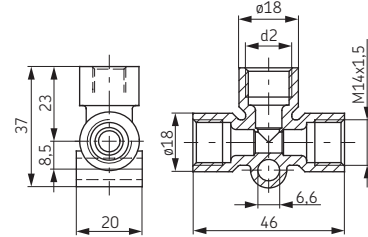
For pressures up to 45 bar

Tee connectors

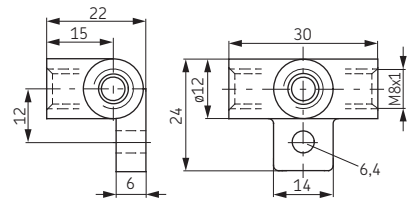
| Order No. | Tube diam. | d1 | d2 | d3 | l1 | l2 | Material |
|-----------|------------|---------|---------|----|----|------|---------------|
| 504-008 | 4 | M8×1 | M8×1 | 12 | 15 | 30.5 | die-cast zinc |
| 506-408 | 6 / 4 | M10×1 | M8×1 | 14 | 18 | 36 | |
| 506-008 | 6 | M10×1 | M10×1 | 14 | 18 | 36 | |
| 510-102 | 10 | M16×1.5 | M16×1.5 | 20 | 25 | 50 | |



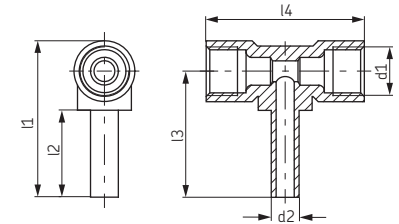
| Order No. | Tube diam. | d2 | Material |
|-----------|------------|---------|---------------|
| 508-602-2 | 8 / 6 | M10×1 | die-cast zinc |
| 508-002-2 | 8 | M14×1.5 | |



| Order No. | Tube diam. | Material |
|-----------|------------|---------------|
| 504-045 | 4 | die-cast zinc |

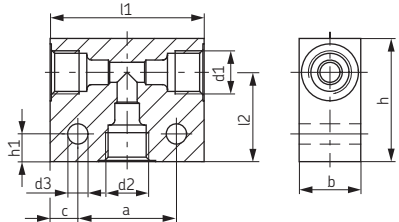


| Order No. | Tube diam. | d1 | d2 | l1 | l2 | l3 | l4 | Material |
|-----------|------------|---------|----|----|----|----|----|----------|
| DY964 | 6 | M10×1 | 6 | 40 | 22 | 32 | 37 | brass |
| DY966 | 8 | M14×1.5 | 8 | 45 | 25 | 36 | 46 | |

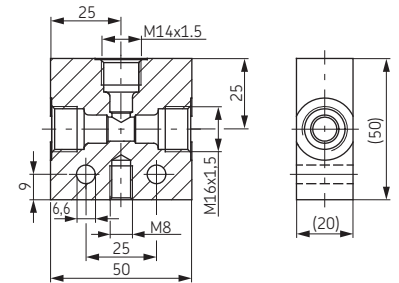


| Order No. | Tube diam. | d1 | d2 | d3 | a | b | c | h | h1 | l1 | l2 |
|----------------------|------------|---------|---------|-----|----|----|------|----|----|----|----|
| DAT506 | 6 | M10×1 | M10×1 | 6.6 | 22 | 20 | 9 | 30 | 9 | 40 | 20 |
| DAT508 | 8 | M14×1.5 | M14×1.5 | 6.6 | 32 | 20 | 9 | 40 | 9 | 50 | 29 |
| DAT510 ¹⁾ | 10 | M16×1.5 | M16×1.5 | 7 | 25 | 20 | 13.5 | 40 | 15 | 52 | 29 |
| DAT510-S5 | 6 | M16×1.5 | M10×1 | 7 | 25 | 25 | 13.5 | 40 | 15 | 52 | 29 |
| DAT512 | 12 | M18×1.5 | M18×1.5 | 6.6 | 42 | 25 | 9 | 40 | 9 | 60 | 29 |

Material: aluminum, ¹⁾ steel, galvanized surface



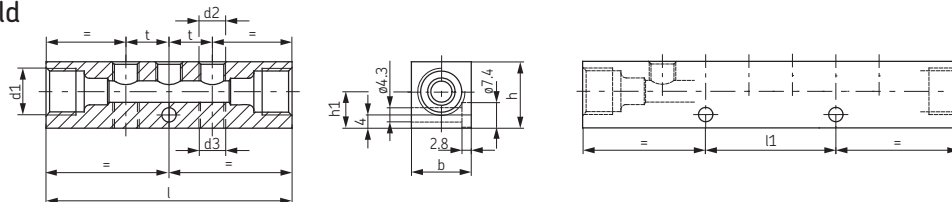
| Order No. | Tube diam. | Material |
|-----------|-------------------|---------------------------|
| DAT510-S1 | 8 (1×) 10 (2×) | steel, galvanized surface |



Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Distributor manifold



| Main tube port tube diam. | Order No. | Number of port | d1 | d2 | d3 | l | l1 | h | h1 | b | t |
|---------------------------|-----------|----------------|------|---------|----|----|----|----|------|----|----|
| 4 | 322-541 | 2 | M8×1 | 2x M8×1 | - | 49 | - | 17 | 10.5 | 13 | 13 |
| | 323-541 | 3 | M8×1 | 3x M8×1 | - | 62 | - | 17 | 10.5 | 13 | 13 |

| Main tube port tube diam. | Order No. | Number of port | d1 | d2 | d3 | l | l1 | h | h1 | b | t |
|---------------------------|-----------|----------------|-------|-----------|----|-----|-----|----|----|----|----|
| 6 | 321-661 | 1 | M10×1 | M10×1 | - | 41 | - | 20 | 11 | 18 | - |
| | 322-661 | 2 | M10×1 | 2x M10×1 | - | 58 | - | 20 | 11 | 18 | 17 |
| | 323-661 | 3 | M10×1 | 3x M10×1 | - | 75 | - | 20 | 11 | 18 | 17 |
| | 324-761 | 4 | M10×1 | 4x M10×1 | - | 92 | 34 | 20 | 11 | 18 | 17 |
| | 325-861 | 5 | M10×1 | 5x M10×1 | - | 109 | 51 | 20 | 11 | 18 | 17 |
| | 326-661 | 6 | M10×1 | 6x M10×1 | - | 126 | 68 | 20 | 11 | 18 | 17 |
| | 328-761 | 8 | M10×1 | 8x M10×1 | - | 160 | 52 | 20 | 11 | 18 | 17 |
| | 329-761 | 9 | M10×1 | 9x M10×1 | - | 177 | 119 | 20 | 11 | 18 | 17 |
| | 330-761 | 10 | M10×1 | 10x M10×1 | - | 194 | 136 | 20 | 11 | 18 | 17 |
| | 331-761 | 11 | M10×1 | 11x M10×1 | - | 211 | 153 | 20 | 11 | 18 | 17 |
| | 332-761 | 12 | M10×1 | 12x M10×1 | - | 228 | 170 | 20 | 11 | 18 | 17 |

| Main tube port tube diam. | Order No. | Number of port | d1 | d2 (above) | d3 (below) | l | l1 | h | h1 | b | t |
|---------------------------|-----------|----------------|-------|------------|------------|-----|-----|----|----|----|----|
| 6 | 322-861 | 2 | M10×1 | 1x M10×1 | 1x M10×1 | 41 | - | 20 | 11 | 18 | - |
| | 324-861 | 4 | M10×1 | 2x M10×1 | 2x M10×1 | 58 | - | 20 | 11 | 18 | 17 |
| | 326-663 | 6 | M10×1 | 3x M10×1 | 3x M10×1 | 77 | 52 | 17 | 11 | 18 | 19 |
| | 328-861 | 8 | M10×1 | 4x M10×1 | 4x M10×1 | 92 | 34 | 20 | 11 | 18 | 17 |
| | 330-861 | 10 | M10×1 | 5x M10×1 | 5x M10×1 | 109 | 51 | 20 | 11 | 18 | 17 |
| | 332-861 | 12 | M10×1 | 6x M10×1 | 6x M10×1 | 126 | 68 | 20 | 11 | 18 | 17 |
| | 334-861 | 14 | M10×1 | 7x M10×1 | 7x M10×1 | 143 | 85 | 20 | 11 | 18 | 17 |
| | 336-861 | 16 | M10×1 | 8x M10×1 | 8x M10×1 | 160 | 102 | 20 | 11 | 18 | 17 |
| | 338-861 | 18 | M10×1 | 9x M10×1 | 9x M10×1 | 177 | 119 | 20 | 11 | 18 | 17 |
| | 340-861 | 20 | M10×1 | 10x M10×1 | 10x M10×1 | 194 | 136 | 20 | 11 | 18 | 17 |
| | 342-861 | 22 | M10×1 | 11x M10×1 | 11x M10×1 | 211 | 153 | 20 | 11 | 18 | 17 |
| | 344-861 | 24 | M10×1 | 12x M10×1 | 12x M10×1 | 228 | 170 | 20 | 11 | 18 | 17 |

| Main tube port tube diam. | Order No. | Number of port | d1 | d2 | d3 | l | l1 | h | h1 | b | t |
|---------------------------|-----------|----------------|-------|----------|----|-----|----|----|------|----|----|
| 6 | 322-561 | 2 | M10×1 | 2x M8×1 | - | 52 | - | 17 | 10.5 | 13 | 13 |
| | 323-561 | 3 | M10×1 | 3x M8×1 | - | 65 | - | 17 | 10.5 | 13 | 13 |
| | 324-561 | 4 | M10×1 | 4x M8×1 | - | 78 | - | 17 | 10.5 | 13 | 13 |
| | 325-565 | 5 | M10×1 | 5x M8×1 | - | 91 | - | 17 | 10.5 | 13 | 13 |
| | 326-562 | 6 | M10×1 | 6x M8×1 | - | 104 | 52 | 20 | 11 | 18 | 13 |
| | 327-564 | 7 | M10×1 | 7x M8×1 | - | 117 | 39 | 20 | 11 | 18 | 13 |
| | 328-561 | 8 | M10×1 | 8x M8×1 | - | 130 | 52 | 17 | 10.5 | 13 | 13 |
| | 329-561 | 10 | M10×1 | 10x M8×1 | - | 156 | 78 | 17 | 10.5 | 13 | 13 |

| Main tube port tube diam. | Order No. | Number of port | d1 | d2 | d3 | l | l1 | h | h1 | b | t |
|---------------------------|------------|----------------|----------|----------|-----|-----|----|----|----|----|----|
| 8 | 321-581 | 1 | M14×1.5 | 1x M8×1 | - | 48 | - | 20 | 11 | 18 | - |
| | 322-581 | 2 | M14×1.5 | 2x M8×1 | - | 61 | - | 20 | 11 | 18 | 13 |
| | 322-661-S1 | 2 | M14×1.5 | 2x M10×1 | - | 72 | - | 20 | 11 | 18 | 22 |
| | 323-581 | 3 | M14×1.5 | 3x M8×1 | - | 74 | - | 20 | 11 | 18 | 13 |
| | 323-661-S1 | 3 | M14×1.5 | 3x M10×1 | - | 94 | - | 20 | 11 | 18 | 22 |
| | 324-581 | 4 | M14×1.5 | 4x M8×1 | - | 87 | - | 20 | 11 | 18 | 13 |
| | 325-581 | 5 | M14×1.5 | 5x M8×1 | - | 74 | - | 20 | 11 | 18 | 13 |
| | 326-581 | 6 | M14×1.5 | 6x M8×1 | - | 113 | 39 | 20 | 11 | 18 | 13 |
| | 327-581 | 7 | M14×1.5 | 7x M8×1 | - | 126 | 52 | 20 | 11 | 18 | 13 |
| | 328-581 | 8 | M14×1.5 | 8x M8×1 | - | 139 | 65 | 20 | 11 | 18 | 13 |
| | 329-581 | 9 | M14×1.5 | 9x M8×1 | - | 152 | 78 | 20 | 11 | 18 | 17 |
| | 330-581 | 10 | M14×1.5 | 10x M8×1 | - | 165 | 91 | 20 | 11 | 18 | 13 |
| 330-581-S1 | 10 | M14×1.5 | 10x M8×1 | - | 201 | 85 | 20 | 11 | 18 | 17 | |
| 331-581 | 11 | M14×1.5 | 11x M8×1 | - | 178 | 104 | 20 | 11 | 18 | 13 | |
| 332-581 | 12 | M14×1.5 | 12x M8×1 | - | 191 | 117 | 20 | 11 | 18 | 13 | |

Material: aluminum alloy

Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Standard manifolds, configurable *)

Order code

V **L** - [] [] [] [] [] []

Product series

Number of ports

01 = 1 port **05** = 5 ports
02 = 2 ports **06** = 6 ports
03 = 3 ports **08** = 8 ports
04 = 4 ports **10** = 10 ports

Design of outlet thread

A = Standard profile, M8×1 with counterbore for O-ring
B = Standard profile, M10×1 with counterbore for O-ring
C = Standard profile, M14×1.5 with counterbore for flat washer
D = Small profile, M8×1 with surface suitable for sealing with flat washer
E = Small profile, M10×1 with surface suitable for sealing with flat washer
F = Standard profile, M8×1 with surface suitable for flat washer
G = Standard profile, M10×1 with surface suitable for flat washer

Material

A = Aluminum; **E** = Stainless steel (only for outlet threads **A+B**)

Design of main line connection

G1 = G¹/₈ to DIN 3852-2, Form X, small
G2 = G¹/₄ to DIN 3852-2, Form X, small
M1 = M10×1 to DIN 3852-1, Form X, small
M2 = M14×1.5 to DIN 3852-1, Form X, small
M3 = M10×1 with counterbore for solderless pipe connection per DIN 3862
M4 = M14×1.5 with counterbore for solderless pipe connection per DIN 3862
 (can only be selected for normal profile)

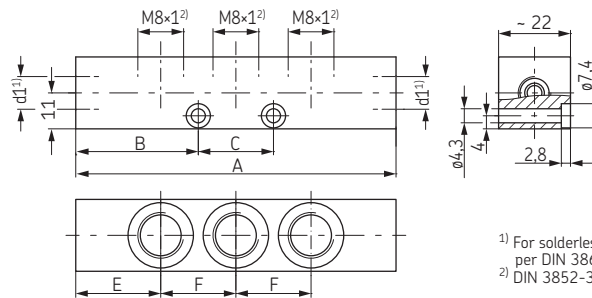
Order example

VL-02AAM3

- Product series VL
- 2 ports
- Standard profile made of aluminum
- M8×1 internal thread with counterbore for O-ring
- M10×1 main line connection with counterbore for solderless pipe connection per DIN 3862

Distributor manifold

Standard profile A



¹⁾ For solderless pipe connection per DIN 3862
²⁾ DIN 3852-3 Form W

| Main line connection d1 | Number of ports | Dimensions [mm] | | | | |
|--|-----------------|-----------------|------|-----|------|------|
| | | A | B | C | E | F |
| M10×1 (M3) | 1 | 40 | 20 | - | 20 | - |
| | 2 | 55 | 27.5 | - | 20 | 1x15 |
| | 3 | 70 | 27.5 | 15 | 20 | 2x15 |
| | 4 | 85 | 27.5 | 30 | 20 | 3x15 |
| | 5 | 100 | 27.5 | 45 | 20 | 4x15 |
| | 6 | 115 | 27.5 | 60 | 20 | 5x15 |
| | 8 | 145 | 27.5 | 90 | 20 | 7x15 |
| M10×1 (M1) G ¹ / ₈ (G1) | 10 | 175 | 27.5 | 120 | 20 | 9x15 |
| | 1 | 34 | 17 | - | 17 | - |
| | 2 | 49 | 24.5 | - | 17 | 1x15 |
| | 3 | 64 | 24.5 | 15 | 17 | 2x15 |
| | 4 | 79 | 24.5 | 30 | 17 | 3x15 |
| | 5 | 94 | 24.5 | 45 | 17 | 4x15 |
| | 6 | 109 | 24.5 | 60 | 17 | 5x15 |
| 8 | 139 | 24.5 | 90 | 17 | 7x15 | |
| 10 | 169 | 24.5 | 120 | 17 | 9x15 | |

| Main line connection d1 | Number of ports | Dimensions [mm] | | | | |
|--|-----------------|-----------------|------|-----|------|------|
| | | A | B | C | E | F |
| M14×1.5 (M4) | 1 | 48 | 24 | - | 24 | - |
| | 2 | 63 | 31.5 | - | 24 | 1x15 |
| | 3 | 78 | 31.5 | 15 | 24 | 2x15 |
| | 4 | 93 | 31.5 | 30 | 24 | 3x15 |
| | 5 | 108 | 31.5 | 45 | 24 | 4x15 |
| | 6 | 123 | 31.5 | 60 | 24 | 5x15 |
| | 8 | 153 | 31.5 | 90 | 24 | 7x15 |
| M14×1.5 (M2) G ¹ / ₄ (G2) | 10 | 183 | 31.5 | 120 | 24 | 9x15 |
| | 1 | 46 | 23 | - | 23 | - |
| | 2 | 61 | 30.5 | - | 23 | 1x15 |
| | 3 | 76 | 30.5 | 15 | 23 | 2x15 |
| | 4 | 91 | 30.5 | 30 | 23 | 3x15 |
| | 5 | 106 | 30.5 | 45 | 23 | 4x15 |
| | 6 | 121 | 30.5 | 60 | 23 | 5x15 |
| 8 | 151 | 30.5 | 90 | 23 | 7x15 | |
| 10 | 181 | 30.5 | 120 | 23 | 9x15 | |

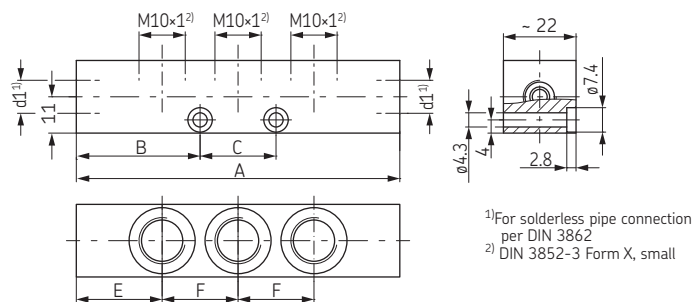
*) See also www.cadenas.com

Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Distributor manifold

Standard profile B

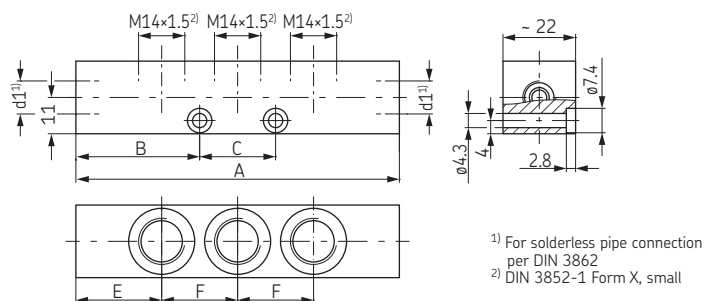


¹⁾ For solderless pipe connection per DIN 3862
²⁾ DIN 3852-3 Form X, small

| Main line connection d1 | Number of ports | Dimensions [mm] | | | | | |
|-------------------------|--|-----------------|------|------|----|------|------|
| | | A | B | C | E | F | |
| M10x1 (M3) | 1 | 40 | 20 | - | 20 | - | |
| | 2 | 57 | 28.5 | - | 20 | 1x17 | |
| | 3 | 74 | 28.5 | 17 | 20 | 2x17 | |
| | 4 | 91 | 28.5 | 34 | 20 | 3x17 | |
| | 5 | 108 | 28.5 | 51 | 20 | 4x17 | |
| | 6 | 125 | 28.5 | 68 | 20 | 5x17 | |
| | 8 | 159 | 28.5 | 102 | 20 | 7x17 | |
| | 10 | 193 | 28.5 | 136 | 20 | 9x17 | |
| | M10x1 (M1) G ¹ / ₈ (G1) | 1 | 34 | 17 | - | 17 | - |
| | | 2 | 51 | 25.5 | - | 17 | 1x17 |
| 3 | | 68 | 25.5 | 17 | 17 | 2x17 | |
| 4 | | 85 | 25.5 | 34 | 17 | 3x17 | |
| 5 | | 102 | 25.5 | 51 | 17 | 4x17 | |
| 6 | | 119 | 25.5 | 68 | 17 | 5x17 | |
| 8 | | 153 | 25.5 | 102 | 17 | 7x17 | |
| 10 | | 187 | 25.5 | 136 | 17 | 9x17 | |
| M14x1.5 (M4) | | 1 | 52 | 26 | - | 26 | - |
| | | 2 | 69 | 34.5 | - | 26 | 1x17 |
| | 3 | 86 | 34.5 | 17 | 26 | 2x17 | |
| | 4 | 103 | 34.5 | 34 | 26 | 3x17 | |
| | 5 | 120 | 34.5 | 51 | 26 | 4x17 | |
| | 6 | 137 | 34.5 | 68 | 26 | 5x17 | |
| | 8 | 171 | 34.5 | 102 | 26 | 7x17 | |
| | 10 | 205 | 34.5 | 136 | 26 | 9x17 | |
| | M14x1.5 (M2) G ¹ / ₄ (G2) | 1 | 46 | 23 | - | 23 | - |
| | | 2 | 63 | 31.5 | - | 23 | 1x17 |
| 3 | | 80 | 31.5 | 17 | 23 | 2x17 | |
| 4 | | 97 | 31.5 | 34 | 23 | 3x17 | |
| 5 | | 114 | 31.5 | 51 | 23 | 4x17 | |
| 6 | | 131 | 31.5 | 68 | 23 | 5x17 | |
| 8 | | 165 | 31.5 | 102 | 23 | 7x17 | |
| 10 | | 199 | 31.5 | 136 | 23 | 9x17 | |

Distributor manifold

Standard profile C



¹⁾ For solderless pipe connection per DIN 3862
²⁾ DIN 3852-1 Form X, small

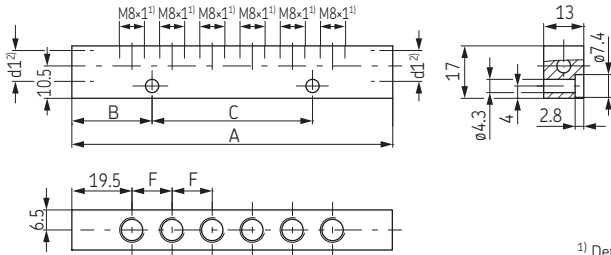
| Main line connection d1 | Number of ports | Dimensions [mm] | | | | | |
|-------------------------|-----------------|-----------------|----|-----|----|------|------|
| | | A | B | C | E | F | |
| M10x1 (M3) | 1 | 60 | 18 | 24 | 30 | - | |
| | 2 | 70 | 35 | - | 23 | 1x24 | |
| | 3 | 94 | 35 | 24 | 23 | 2x24 | |
| | 4 | 118 | 35 | 48 | 23 | 3x24 | |
| | 5 | 142 | 35 | 72 | 23 | 4x24 | |
| | 6 | 166 | 35 | 96 | 23 | 5x24 | |
| | 8 | 214 | 35 | 144 | 23 | 7x24 | |
| | 10 | 262 | 35 | 192 | 23 | 9x24 | |
| | M14x1.5 (M4) | 1 | 68 | 22 | 24 | 34 | - |
| | | 2 | 78 | 39 | - | 27 | 1x24 |
| 3 | | 102 | 39 | 24 | 27 | 2x24 | |
| 4 | | 126 | 39 | 48 | 27 | 3x24 | |
| 5 | | 150 | 39 | 72 | 27 | 4x24 | |
| 6 | | 174 | 39 | 96 | 27 | 5x24 | |
| 8 | | 222 | 39 | 144 | 27 | 7x24 | |
| 10 | | 270 | 39 | 192 | 27 | 9x24 | |

Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Distributor manifold

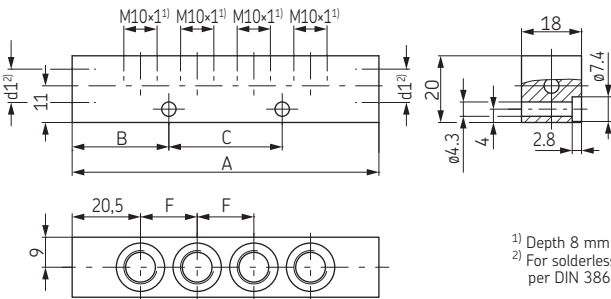
Small profile D



- ¹⁾ Depth 5.5 mm with surface suitable for flat washers
- ²⁾ DIN 3852-3 Form W

| Main line connection d1 | Number of ports | Dimensions [mm] | | | |
|-------------------------|-----------------|-----------------|------|----|------|
| | | A | B | C | F |
| M10×1 (M3) | 1 | 39 | 19.5 | - | - |
| | 2 | 52 | 26 | - | 1x13 |
| | 3 | 65 | 32.5 | - | 2x13 |
| | 4 | 78 | 39 | - | 3x13 |
| | 5 | 91 | 45.5 | - | 4x13 |
| | 6 | 104 | 26 | 52 | 5x13 |
| | 8 | 130 | 39 | 52 | 7x13 |
| | 10 | 156 | 39 | 78 | 9x13 |

Small profile E



- ¹⁾ Depth 8 mm
- ²⁾ For solderless pipe connection per DIN 3862

| Main line connection d1 | Number of ports | Dimensions [mm] | | | |
|-------------------------|-----------------|-----------------|------|-----|------|
| | | A | B | C | F |
| M10×1 (M3) | 1 | 41 | 20.5 | - | - |
| | 2 | 58 | 26 | - | 1x17 |
| | 3 | 75 | 37.5 | - | 2x17 |
| | 4 | 92 | 29 | 34 | 3x17 |
| | 5 | 109 | 29 | 51 | 4x17 |
| | 6 | 126 | 29 | 68 | 5x17 |
| | 8 | 160 | 29 | 102 | 7x17 |
| | 10 | 194 | 29 | 136 | 9x17 |

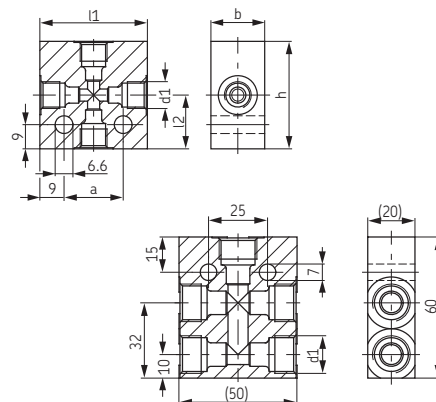
Solderless pipe union with tapered sleeve acc. to DIN 3862

For pressures up to 45 bar

Cross joints

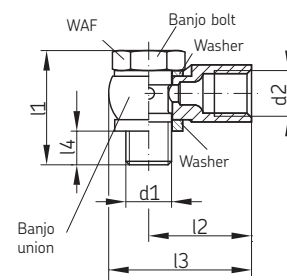
| Order No. | Tube diam. | d1 | a | b | h | l1 | l2 | Material |
|-----------|------------|------------|----|----|----|----|----|----------|
| DAK504-S1 | 4/6 | M10×1/M8×1 | 22 | 20 | 40 | 40 | 20 | aluminum |
| DAK506 | 6 | M10×1 | 22 | 20 | 40 | 40 | 20 | |
| DAK508 | 8 | M14×1.5 | 32 | 20 | 50 | 50 | 25 | |
| DAK510 | 10 | M16×1.5 | 25 | 20 | 56 | 50 | 28 | |
| DAK512 | 12 | M18×1.5 | 42 | 25 | 60 | 60 | 30 | |

| Order No. | Tube diam. | d1 | Material |
|-----------|------------|---------|---------------------------|
| DAK510-S1 | 10 | M16×1.5 | steel, galvanized surface |



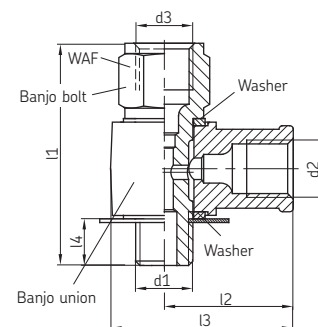
Banjo fittings

| Elbow | Order No. | Tube diam. | d1 | d2 | l1 | l2 | l3 | l4 | WAF |
|-------|-----------------------|------------|---------|---------|----|----|------|------|-----|
| | 502-161 ¹⁾ | 2.5 | M6 | M6×0.75 | 20 | 13 | 19 | 4.5 | 9 |
| | 502-101 ¹⁾ | 2.5 | M6×0.75 | M6×0.75 | 18 | 13 | 19 | 5 | 9 |
| | 502-102 ¹⁾ | 2.5 | M8×1 | M6×0.75 | 20 | 14 | 21 | 6.5 | 11 |
| | 504-161 ¹⁾ | 4 | M6 | M8×1 | 20 | 17 | 24 | 4.1 | 9 |
| | 504-162 ¹⁾ | 4 | M6×0.75 | M8×1 | 18 | 17 | 24 | 4.5 | 9 |
| | 504-411 ¹⁾ | 4 | M8 | M8×1 | 23 | 18 | 25 | 7.5 | 11 |
| | 504-401 ¹⁾ | 4 | M8×1 | M8×1 | 20 | 18 | 25 | 7 | 11 |
| | 504-101 | 4 | M8×1 | M8×1 | 26 | 18 | 25 | 6.5 | 11 |
| | 504-102 | 4 | M10×1 | M8×1 | 26 | 19 | 27.5 | 6.5 | 14 |
| | 504-108 | 4 | G 1/8 A | M8×1 | 27 | 19 | 27.5 | 6.8 | 14 |
| | 506-140 | 6 | M10×1 | M10×1 | 26 | 21 | 28.5 | 6.5 | 14 |
| | 506-142 | 6 | M12×1 | M10×1 | 34 | 25 | 35.2 | 7.5 | 17 |
| | 506-012 | 6 | M14×1.5 | M10×1 | 34 | 25 | 35.2 | 7.5 | 17 |
| | 506-145 | 6 | M16×1.5 | M10×1 | 35 | 30 | 41 | 8.7 | 19 |
| | 506-108 | 6 | G 1/8 A | M10×1 | 27 | 21 | 28.5 | 7 | 14 |
| | 506-214 | 6 | G 3/4 A | M10×1 | 35 | 25 | 35.2 | 8.5 | 17 |
| | 508-142 | 8 | M12×1 | M14×1.5 | 34 | 27 | 37 | 7.5 | 17 |
| | 508-144 | 8 | M14×1.5 | M14×1.5 | 34 | 27 | 37 | 7.5 | 17 |
| | 508-145 | 8 | M16×1.5 | M14×1.5 | 35 | 30 | 41 | 8.7 | 19 |
| | 508-024 | 8 | G 1/4 A | M14×1.5 | 35 | 27 | 37 | 8.5 | 17 |
| | 510-142 | 10 | M12×1 | M16×1.5 | 34 | 30 | 40 | 7.5 | 17 |
| | 510-145 | 10 | M16×1.5 | M16×1.5 | 35 | 30 | 41 | 10.7 | 19 |
| | 510-024 | 10 | G 3/4 A | M16×1.5 | 35 | 30 | 40 | 7.5 | 17 |



¹⁾ Miniature design

| L-type | Order No. | Tube diam. | d1 | d2 | d3 | l1 | l2 | l3 | l4 | WAF |
|--------|-------------|------------|---------|---------|---------|------|----|------|-----|-----|
| | 504-114 | 4 | M8×1 | M8×1 | M8×1 | 31 | 18 | 25.5 | 6.5 | 11 |
| | 504-115 | 4 | M10×1 | M8×1 | M8×1 | 31 | 19 | 27.5 | 6.5 | 14 |
| | 504-105 | 4 / 6 | M10×1 | M8×1 | M10×1 | 33 | 19 | 27.5 | 6.5 | 14 |
| | 405-619-061 | 4 / 6 | G 1/8 A | M8×1 | M10×1 | 33 | 19 | 27.5 | 6.3 | 14 |
| | 506-114 | 6 | M10×1 | M10×1 | M10×1 | 33 | 21 | 28.5 | 6.3 | 14 |
| | 506-342 | 6 | M12×1 | M10×1 | M10×1 | 38 | 25 | 35.2 | 7.5 | 17 |
| | 506-101 | 6 | M14×1.5 | M10×1 | M10×1 | 40 | 25 | 35.2 | 7.5 | 17 |
| | 586-342 | 6 / 8 | M12×1 | M10×1 | M14×1.5 | 44 | 25 | 35.2 | 7.5 | 17 |
| | 506-013 | 6 / 8 | M14×1.5 | M10×1 | M14×1.5 | 43 | 25 | 35.2 | 7.5 | 17 |
| | 506-345 | 6 / 10 | M12×1 | M10×1 | M16×1.5 | 48.5 | 25 | 35 | 7.7 | 19 |
| | 506-346 | 6 / 10 | M16×1.5 | M10×1 | M16×1.5 | 50 | 30 | 41 | 8.7 | 19 |
| | 508-342 | 8 | M12×1 | M14×1.5 | M14×1.5 | 44 | 27 | 37 | 7.5 | 17 |
| | 508-012 | 8 | M14×1.5 | M14×1.5 | M14×1.5 | 43 | 27 | 37 | 7.5 | 17 |
| | 508-034 | 8 | G 1/4 A | M14×1.5 | M14×1.5 | 44 | 27 | 37 | 7.5 | 17 |
| | 568-342 | 8 / 6 | M12×1 | M14×1.5 | M10×1 | 38 | 27 | 37 | 7.5 | 17 |
| | 508-304 | 8 / 6 | M14×1.5 | M14×1.5 | M10×1 | 40 | 27 | 37 | 7.5 | 17 |
| | 508-345 | 8 / 10 | M12×1 | M14×1.5 | M16×1.5 | 48.5 | 27 | 37 | 7.7 | 19 |
| | 508-346 | 8 / 10 | M16×1.5 | M14×1.5 | M16×1.5 | 50 | 30 | 41 | 8.7 | 19 |
| | 510-342 | 10 | M12×1 | M16×1.5 | M16×1.5 | 48.5 | 30 | 40 | 7.5 | 19 |
| | 510-344 | 10 | M16×1.5 | M16×1.5 | M16×1.5 | 50 | 30 | 41 | 8.7 | 19 |
| | 510-343 | 10 | G 3/4 A | M16×1.5 | M16×1.5 | 48.5 | 30 | 40 | 7.5 | 19 |
| | 510-346 | 10 / 6 | M16×1.5 | M16×1.5 | M10×1 | 50 | 30 | 41 | 8.7 | 19 |
| | 510-341 | 10 / 8 | M12×1 | M16×1.5 | M14×1.5 | 44 | 30 | 40 | 7.5 | 17 |

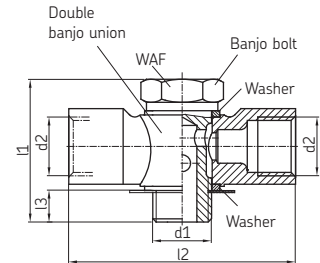


Solderless pipe union with tapered sleeve acc. to DIN 3862

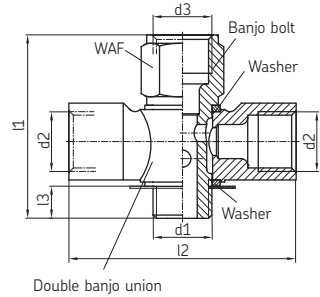
For pressures up to 45 bar

Banjo fittings

| Tee | Order No. | Tube diam. | d1 | d2 | l1 | l2 | l3 | WAF |
|-----|-----------|------------|---------|---------|----|----|-----|-----|
| | 504-109 | 4 | M8×1 | M8×1 | 26 | 38 | 6.5 | 11 |
| | 504-112 | 4 | M10×1 | M8×1 | 26 | 38 | 6.5 | 14 |
| | 506-242 | 6 | M12×1 | M10×1 | 34 | 48 | 7.5 | 17 |
| | 506-025 | 6 | M14×1.5 | M10×1 | 34 | 48 | 7.5 | 17 |
| | 508-242 | 8 | M12×1 | M14×1.5 | 34 | 54 | 7.5 | 17 |
| | 508-013 | 8 | M14×1.5 | M14×1.5 | 34 | 54 | 7.5 | 17 |
| | 508-025 | 8 | G 3/4 A | M14×1.5 | 35 | 54 | 7.5 | 17 |
| | 510-242 | 10 | M12×1 | M16×1.5 | 34 | 60 | 7.5 | 17 |



| Cross | Order No. | Tube diam. | d1 | d2 | d3 | l1 | l2 | l3 | WAF |
|-------|-----------|------------|---------|---------|---------|------|----|-----|-----|
| | 504-110 | 4 | M8×1 | M8×1 | M8×1 | 31 | 38 | 6.5 | 11 |
| | 504-111 | 4 | M10×1 | M8×1 | M8×1 | 31 | 38 | 6.5 | 14 |
| | 504-106 | 4 / 6 | M10×1 | M8×1 | M10×1 | 33 | 38 | 6.5 | 14 |
| | 506-442 | 6 | M12×1 | M10×1 | M10×1 | 38 | 48 | 7.5 | 17 |
| | 506-014 | 6 | M14×1.5 | M10×1 | M10×1 | 40 | 48 | 7.5 | 17 |
| | 586-442 | 6 / 8 | M12×1 | M10×1 | M14×1.5 | 44 | 48 | 7.5 | 17 |
| | 506-026 | 6 / 8 | M14×1.5 | M10×1 | M14×1.5 | 43 | 48 | 7.5 | 17 |
| | 508-442 | 8 | M12×1 | M14×1.5 | M14×1.5 | 44 | 54 | 7.5 | 17 |
| | 508-014 | 8 | M14×1.5 | M14×1.5 | M14×1.5 | 43 | 54 | 7.5 | 17 |
| | 568-442 | 8 / 6 | M12×1 | M14×1.5 | M10×1 | 38 | 54 | 7.5 | 17 |
| | 508-305 | 8 / 6 | M14×1.5 | M14×1.5 | M10×1 | 40 | 54 | 7.5 | 17 |
| | 510-442 | 10 | M12×1 | M16×1.5 | M16×1.5 | 48.5 | 60 | 7.5 | 19 |



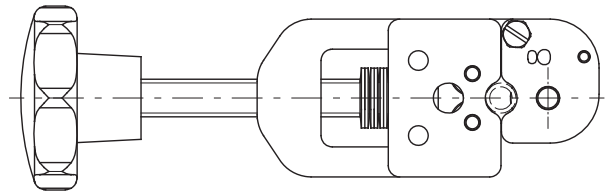
SKF Quick Connectors

For pressures up to 300 bar (metal tube with claw groove)

Tools for the preparation of claw grooves on the ends of steel tubes

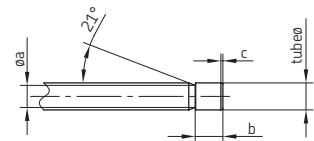
Tube cutter

| for tube diam. | Tube cutter Order No. | Cutting wheel Order No. |
|----------------|--------------------------|----------------------------|
| 4 | 169-000-336 | 844-330-006 |
| 6 | 169-000-337 | 844-330-007 |
| 8 | 169-000-338 | 844-330-007 |



Claw groove

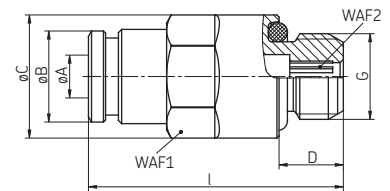
| for tube diam. | a ^{+0.3} | b ^{+0.2} | c |
|----------------|-------------------|-------------------|-------------|
| 4 | 3.1 | 5.0 | 0.3 ... 0.7 |
| 6 | 4.9 | 6.2 | 0.4 ... 0.9 |
| 8 | 6.9 | 6.2 | 0.5 ... 0.9 |



Adaptors

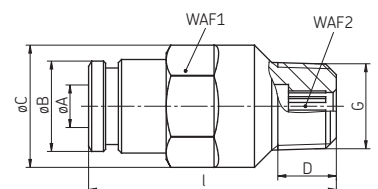
with cylindrical thread

| Order No. | Tube diam. | A | G | D | ø B | ø C | l | WAF1 | WAF2 | Seal |
|---------------|------------|---|-------|---|------|------|------|------|------|-----------|
| 404-003-VS | 4 | | M8×1 | 6 | 8.8 | 11.5 | 23.8 | 10 | 2.5 | NBR |
| 404-006-VS | 4 | | M10×1 | 6 | 8.8 | 13.5 | 23.8 | 12 | 2.5 | NBR |
| 404-006-S8-VS | 4 | | M10×1 | 6 | 8.8 | 13.5 | 23.8 | 12 | 2.5 | FKM (FPM) |
| 404-040-VS | 4 | | G 1/8 | 6 | 8.8 | 13.5 | 23.8 | 12 | 2.5 | NBR |
| 406-158-VS | 6 | | M8×1 | 6 | 11.7 | 13.2 | 30.5 | 12 | 3 | NBR |
| 406-004-VS | 6 | | M10×1 | 6 | 11.7 | 13.5 | 27 | 12 | 4 | NBR |
| 406-004-S8-VS | 6 | | M10×1 | 6 | 11.7 | 13.5 | 27 | 12 | 4 | FKM (FPM) |
| 456-004-VS | 6 | | G 3/8 | 6 | 11.7 | 13.5 | 27 | 12 | 4 | NBR |
| 406-054-VS | 6 | | G 1/4 | 7 | 11.7 | 16.4 | 28 | 12 | 4 | NBR |
| 406-162-VS | 6 | | M12×1 | 7 | 11.7 | 15.4 | 28 | 14 | 4 | NBR |
| 406-162-S8-VS | 6 | | M12×1 | 7 | 11.7 | 15.4 | 28 | 14 | 4 | FKM (FPM) |
| 408-004-VS | 8 | | M10×1 | 6 | 13.9 | 15.2 | 32.3 | 14 | 5 | NBR |
| 408-004-S8-VS | 8 | | M10×1 | 6 | 13.9 | 15.2 | 32.3 | 14 | 5 | FKM (FPM) |
| 408-162-VS | 8 | | M12×1 | 7 | 13.9 | 15.2 | 32.8 | 14 | 6 | NBR |
| 408-162-S8-VS | 8 | | M12×1 | 7 | 13.9 | 15.2 | 32.8 | 14 | 6 | FKM (FPM) |



with tapered thread

| Order No. | Tube diam. | A | G | D | ø B | ø C | l | WAF1 | WAF2 |
|----------------|------------|---|---------------|-----|------|------|------|------|------|
| 451-004-462-VS | 4 | | M6 tap. | 5.5 | 8.8 | 11.5 | 25.8 | 10 | 2.5 |
| 451-004-498-VS | 4 | | M8×1 tap. | 5.5 | 8.8 | 11.5 | 23.3 | 10 | 2.5 |
| 451-004-518-VS | 4 | | M10×1 tap. | 5.5 | 8.8 | 11.5 | 22.8 | 10 | 2.5 |
| 404-673K-V1-VS | 4 | | 1/4-28 SAE LT | 5.1 | 8.8 | 11.5 | 26.3 | 10 | 2.5 |
| 404-040K-V1-VS | 4 | | 3/8 NPTF | 8 | 8.8 | 11.5 | 24.8 | 10 | 2.5 |
| 451-006-468-VS | 6 | | M6 tap. | 5.5 | 11.7 | 13.5 | 30 | 12 | 2.5 |
| 451-006-498-VS | 6 | | M8×1 tap. | 5.5 | 11.7 | 13.5 | 29.5 | 12 | 4 |
| 451-006-518-VS | 6 | | M10×1 tap. | 5.5 | 11.7 | 13.5 | 27 | 12 | 4 |
| 406-423W-VS | 6 | | R 3/8 tap. | 6.5 | 11.7 | 13.5 | 28.5 | 12 | 4 |

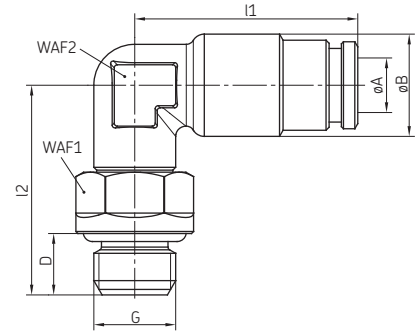


SKF Quick Connectors

For pressures up to 300 bar (metal tube with claw groove)

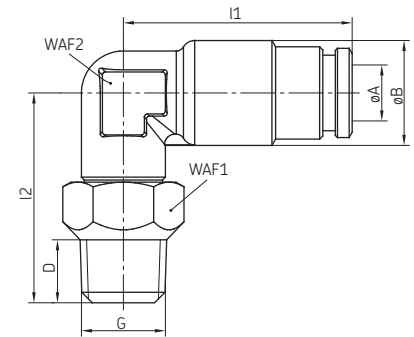
Elbows, pivoted with cylindrical thread

| Order No. | Tube diam. A | G | D | ø B | l1 | l2 | WAF1 | WAF2 | Seal |
|---------------|--------------|-------|---|------|------|------|------|------|-----------|
| 504-101-VS | 4 | M8×1 | 6 | 10 | 21.8 | 20.5 | 10 | 9 | NBR |
| 504-102-VS | 4 | M10×1 | 6 | 10 | 21.8 | 20.5 | 12 | 9 | NBR |
| 504-108-VS | 4 | G 1/8 | 6 | 10 | 21.8 | 20.5 | 12 | 9 | NBR |
| 506-139-VS | 6 | M8×1 | 6 | 12.5 | 26 | 21 | 10 | 10 | NBR |
| 506-140-VS | 6 | M10×1 | 6 | 12.5 | 26 | 21 | 12 | 10 | NBR |
| 506-140-S8-VS | 6 | M10×1 | 6 | 12.5 | 26 | 21 | 12 | 10 | FKM (FPM) |
| 506-108-VS | 6 | G 1/8 | 6 | 12.5 | 26 | 21 | 12 | 10 | NBR |
| 506-142-VS | 6 | M12×1 | 7 | 12.5 | 26 | 23 | 14 | 10 | NBR |
| 506-142-S8-VS | 6 | M12×1 | 7 | 12.5 | 26 | 23 | 14 | 10 | FKM (FPM) |
| 506-143-VS | 6 | G 1/4 | 7 | 12.5 | 26 | 23 | 15 | 10 | NBR |
| 508-142-VS | 8 | M12×1 | 7 | 14.5 | 28.8 | 23 | 14 | 12 | NBR |
| 508-142-S8-VS | 8 | M12×1 | 7 | 14.5 | 28.8 | 23 | 14 | 12 | FKM (FPM) |



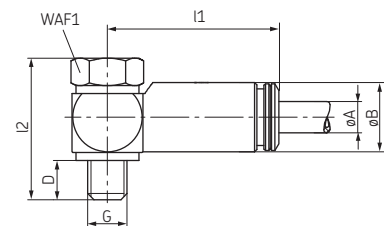
with tapered thread

| Order No. | Tube diam. A | G | D | ø B | l1 | l2 | WAF1 | WAF2 | Seal |
|-------------------|--------------|------------|-----|------|------|------|------|------|-----------|
| 455-546-048-VS | 4 | M6 tap. | 6 | 10 | 21.8 | 20 | 10 | 9 | NBR |
| 455-546-048-S8-VS | 4 | M6 tap. | 6 | 10 | 21.8 | 20 | 10 | 9 | FKM (FPM) |
| 455-529-048-VS | 4 | M8×1 tap. | 6 | 10 | 21.8 | 20 | 10 | 9 | NBR |
| 455-529-048-S8-VS | 4 | M8×1 tap. | 6 | 10 | 21.8 | 20 | 10 | 9 | FKM (FPM) |
| 455-531-048-VS | 4 | M10×1 tap. | 6 | 10 | 21.8 | 20 | 12 | 9 | NBR |
| 455-531-048-S8-VS | 4 | M10×1 tap. | 6 | 10 | 21.8 | 20 | 12 | 9 | FKM (FPM) |
| 455-569-048-VS | 4 | R 1/8 tap. | 7.5 | 10 | 21.8 | 20.5 | 12 | 9 | NBR |
| 455-529-068-VS | 6 | M8×1 tap. | 6 | 12.5 | 26 | 20 | 10 | 10 | NBR |
| 455-529-068-S8-VS | 6 | M8×1 tap. | 6 | 12.5 | 26 | 20 | 10 | 10 | FKM (FPM) |
| 455-531-068-VS | 6 | M10×1 tap. | 6 | 12.5 | 26 | 20.5 | 12 | 10 | NBR |
| 455-531-068-S8-VS | 6 | M10×1 tap. | 6 | 12.5 | 26 | 20.5 | 12 | 10 | FKM (FPM) |
| 455-565-068-VS | 6 | R 1/4 tap. | 11 | 12.5 | 26 | 24.5 | 14 | 10 | NBR |



Banjo fittings

| Order No. | Tube diam. A | G | D | ø B | l1 | l2 | WAF1 | Seal |
|----------------|--------------|-------|---|-----|------|------|------|------|
| 504-401-S1-VS | 4 | M5 | 5 | 8.8 | 21.8 | 18 | 8 | NBR |
| 504-411-VS | 4 | M8 | 7 | 8.8 | 23.8 | 20 | 12 | NBR |
| 504-103-VS | 4 | M10×1 | 7 | 8.8 | 24.8 | 22.5 | 14 | NBR |
| 445-519-041-VS | 4 | G 1/8 | 7 | 8.8 | 24.8 | 22.5 | 14 | NBR |

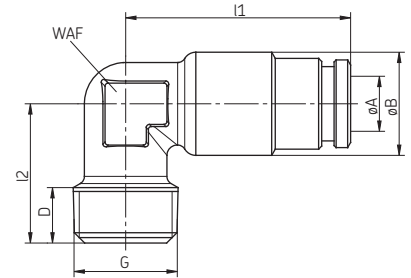


SKF Quick Connectors

For pressures up to 300 bar (metal tube with claw groove)

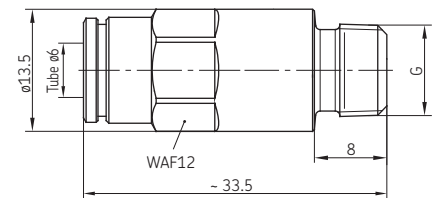
Elbows with tapered thread

| Order No. | Tube diam. | A G | D | ø B | l1 | l2 | WAF | Seal |
|-------------------|------------|---------------|------|------|------|------|-----|------|
| 453-004-471-VS | 4 | M6 tap. | 6 | 10 | 21.8 | 14 | 9 | NBR |
| 453-004-471-S8-VS | 4 | M6 tap. | 6 | 10 | 21.8 | 14 | 9 | FPM |
| 504-201-VS | 4 | M8×1 tap. | 6 | 10 | 21.8 | 13.5 | 9 | NBR |
| 504-201-S8-VS | 4 | M8×1 tap. | 6 | 10 | 21.8 | 13.5 | 9 | FPM |
| 504-202-VS | 4 | M10×1 tap. | 6 | 10 | 21.8 | 13.5 | 9 | NBR |
| 504-202-S8-VS | 4 | M10×1 tap. | 6 | 10 | 21.8 | 13.5 | 9 | FPM |
| 514-018-VS | 4 | R 1/8 tap. | 7.5 | 10 | 21.8 | 15 | 9 | NBR |
| 514-018-S8-VS | 4 | R 1/8 tap. | 7.5 | 10 | 21.8 | 15 | 9 | FPM |
| 504-200K-V1-VS | 4 | 1/4-28 SAE LT | 5.1 | 10 | 21.8 | 15.5 | 9 | NBR |
| 514-018K-V1-VS | 4 | 1/8 NPTF | 7 | 10 | 21.8 | 15 | 9 | NBR |
| <hr/> | | | | | | | | |
| 453-006-468-VS | 6 | M6 tap. | 6 | 12.5 | 26 | 15 | 10 | NBR |
| 453-006-468-S8-VS | 6 | M6 tap. | 6 | 12.5 | 26 | 15 | 10 | FPM |
| 506-508-VS | 6 | M8×1 tap. | 6.5 | 12.5 | 26 | 14 | 10 | NBR |
| 506-508-S8-VS | 6 | M8×1 tap. | 6.5 | 12.5 | 26 | 14 | 10 | FPM |
| 506-510-VS | 6 | M10×1 tap. | 6 | 12.5 | 26 | 14 | 10 | NBR |
| 506-510-S8-VS | 6 | M10×1 tap. | 6 | 12.5 | 26 | 14 | 10 | FPM |
| 506-511-VS | 6 | R 1/8 tap. | 8.5 | 12.5 | 26 | 16.5 | 10 | NBR |
| 506-511-S8-VS | 6 | R 1/8 tap. | 8.5 | 12.5 | 26 | 16.5 | 10 | FPM |
| 506-512-VS | 6 | M12×1 tap. | 7 | 12.5 | 26 | 15 | 10 | NBR |
| 453-006-651-VS | 6 | R 1/4 tap. | 11.5 | 12.5 | 26 | 19.5 | 10 | NBR |



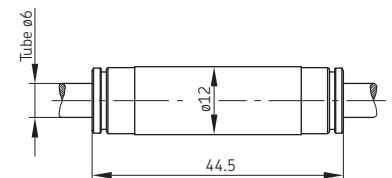
Check valve

| Order No. | Tube diam. | Opening pressure [bar] | G |
|------------|------------|------------------------|------------|
| VPKM-RV-VS | 6 | 3 ⁺² | M10×1 tap. |
| VPKG-RV-VS | 6 | 3 ⁺² | R 1/8 tap. |



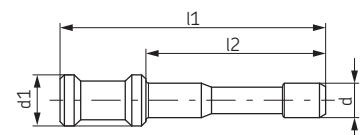
Connector

| Order No. | Tube diam. |
|------------|------------|
| 406-426-VS | 6 |



Locking pin

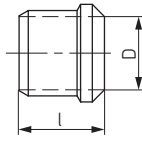
| Order No. | Tube diam. d | d1 | l1 | l2 |
|-------------|--------------|----|----|----|
| 450-204-002 | 4 | 6 | 31 | 21 |
| 450-206-002 | 6 | 8 | 37 | 25 |



Solderless pipe union with cutting-sleeve acc. to DIN EN ISO 8434-1 and DIN 2353

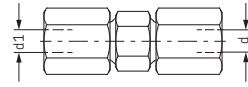
Cutting sleeves to DIN 3861/ISO 8434-1

| Order No. | D (tube diam.) | l | Pressure [bar] |
|----------------------------|-------------------|-----|-------------------|
| 404-301 ¹⁾ | 4 | 6 | 100 |
| 406-331 ¹⁾ | 6 | 7 | |
| 96-5708-0058 ¹⁾ | 8 | 7 | |
| 96-5710-0058 ¹⁾ | 10 | 7 | |
| 96-5712-0058 ¹⁾ | 12 | 7.5 | |
| 406-301 | 6 | 9.5 | 500 |
| 408-301 | 8 | 9.5 | |
| 410-301 | 10 | 10 | |
| 412-301 | 12 | 10 | |
| 415-301 | 15 | 10 | 400 |
| 418-301 | 18 | 10 | |



Material: steel, galvanized
surface (Cr-6 free)

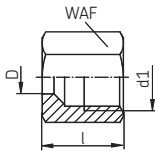
Straight connectors (tube to tube)



Reducing connectors

| Order No. | Tube diam. d. d1 | Order No. | Tube diam. d | Tube diam. d1 |
|-----------------------|---------------------|-----------|-----------------|------------------|
| 404-404 ¹⁾ | 4 | 504-410 | 6 | 4 |
| 406-406 | 6 | 504-412 | 8 | 4 |
| 408-408 | 8 | 506-410 | 8 | 6 |
| 410-410 | 10 | 506-412 | 10 | 6 |
| 412-412 | 12 | 508-410 | 10 | 8 |
| 415-415 | 15 | 506-413 | 12 | 6 |
| 418-418 | 18 | 508-412 | 12 | 8 |
| | | 510-410 | 12 | 10 |
| | | 508-413 | 15 | 8 |
| | | 510-412 | 15 | 10 |
| | | 512-410 | 15 | 12 |
| | | 510-413 | 18 | 10 |
| | | 512-412 | 18 | 12 |
| | | 515-410 | 18 | 15 |

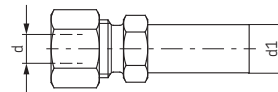
Union nuts to DIN 3870/ISO 8434-1



Material: steel,
galvanized surface
(Cr-6 free)

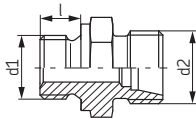
| Order No. | D (tube diam.) | d1 | l | WAF | Pressure [bar] |
|----------------------------|-------------------|---------|------|-----|-------------------|
| 404-302 ¹⁾ | 4 | M8×1 | 11 | 10 | 100 |
| 406-332 ¹⁾ | 6 | M10×1 | 11.5 | 14 | |
| 96-5608-0058 ¹⁾ | 8 | M12×1 | 12 | 14 | |
| 96-5610-0058 ¹⁾ | 10 | M14×1 | 12.5 | 17 | |
| 406-302 | 6 | M12×1.5 | 14.5 | 14 | |
| 408-302 | 8 | M14×1.5 | 14.5 | 17 | 500 |
| 410-302 | 10 | M16×1.5 | 15.5 | 19 | |
| 412-302 | 12 | M18×1.5 | 15.5 | 22 | 400 |
| 96-2815-0058 | 15 | M22×1.5 | 17 | 27 | |
| 96-2818-0058 | 18 | M26×1.5 | 18 | 32 | |

Reducing connectors



| Order No. | Tube diam. d | ø d1 |
|-------------|--------------|------|
| 408-406 | 6 | 8 |
| 410-406 | 6 | 10 |
| 443-706-121 | 6 | 12 |
| 443-706-151 | 6 | 15 |
| 443-706-181 | 6 | 18 |
| 410-408 | 8 | 10 |
| 443-708-121 | 8 | 12 |
| 443-708-151 | 8 | 15 |
| 443-708-181 | 8 | 18 |
| 443-710-061 | 10 | 8 |
| 412-410 | 10 | 12 |
| 415-410 | 10 | 15 |
| 443-710-181 | 10 | 18 |
| 443-712-151 | 12 | 15 |
| 418-412 | 12 | 18 |
| 422-412 | 12 | 22 |
| 443-715-181 | 15 | 18 |

Straight screw-in glands with short threaded end for screwing into thread



| Order No. | Tube diam. d | d1 | d2 | l |
|-----------|--------------|------------|---------|---|
| 406-323 | 6 | M10×1 tap. | M10×1 | – |
| 408-313 | 8 | M14×1.5 | M14×1.5 | 9 |
| 410-313 | 10 | M16×1.5 | M16×1.5 | 9 |
| 410-323 | 10 | M14×1.5 | M16×1.5 | 9 |

The cutting sleeve screw unions shown correspond to the L-series (light version).

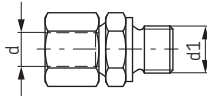
¹⁾ LL-series (extra light version)

Solderless pipe union with cutting-sleeve acc. to DIN EN ISO 8434-1 and DIN 2353

Straight screw-in connectors to DIN 2353

with metrical thread

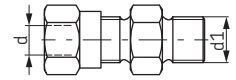
| Order No. | Tube diam. d | d1 | Series |
|--------------|--------------|------------|--------|
| 406-403 | 6 | M10×1 | |
| 410-403 | 10 | M14×1.5 | |
| 410-463 | 10 | M18×1.5 | |
| 412-423 | 12 | M14×1.5 | |
| 412-403 | 12 | M16×1.5 | |
| 412-433 | 12 | M18×1.5 | |
| 415-403 | 15 | M18×1.5 | L |
| 415-413 | 15 | M22×1.5 | |
| 418-403 | 18 | M22×1.5 | |
| 96-0319-0058 | 18 | M18×1.5 | |
| 96-0321-0058 | 22 | M22×1.5 | |
| 96-0322-0058 | 22 | M26×1.5 | |
| 96-0328-0058 | 28 | M33×2 | |
| 96-0335-0058 | 35 | M42×2 | |
| 96-0342-0058 | 42 | M48×2 | |
| <hr/> | | | |
| 96-1206-0058 | 6 | M12×1.5 | |
| 406-413 | 6 | M14×1.5 | |
| 408-413 | 8 | M14×1.5 | |
| 410-413 | 10 | M16×1.5 | |
| 412-453 | 12 | M18×1.5 | S |
| 96-1212-0058 | 12 | M18×1.5 | |
| 96-1214-0058 | 14 | M20×1.5 | |
| 96-1216-0058 | 16 | M22×1.5 | |
| 96-1220-0058 | 20 | M27×1.5 | |
| <hr/> | | | |
| 24-2105-2373 | 2.5 | M6 tap. | |
| 96-6002-0058 | 4 | M6×1 tap. | |
| 404-413 | 4 | M8×1 tap. | |
| 404-403 | 4 | M10×1 tap. | |
| 406-423 | 6 | M10×1 tap. | |
| 406-443 | 6 | M6 tap. | LL |
| 406-433 | 6 | M8×1 tap. | |
| 406-423 | 6 | M10×1 tap. | |
| 441-008-511 | 8 | M10×1 tap. | |
| 24-2105-2381 | 10 | M10×1 tap. | |
| 410-443 | 10 | M10×1 tap. | L |



Straight screw-in connectors to DIN 2353

with Whitworth pipe thread

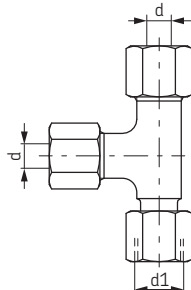
| Order No. | Tube diam. d | d1 | Series |
|--------------|--------------|---------|--------|
| 44-2573-6330 | 4 | G 1/4 A | |
| 406-403W | 6 | G 1/8 A | |
| 96-0204-0058 | 6 | G 1/4 A | |
| 406-463W | 6 | G 3/8 A | |
| 96-0203-0058 | 8 | G 1/8 A | |
| 408-403W | 8 | G 1/4 A | |
| 408-413W | 8 | G 3/8 A | |
| 408-453W | 8 | G 1/2 A | |
| 410-403W | 10 | G 1/4 A | |
| 410-413W | 10 | G 3/8 A | |
| 410-433W | 10 | G 1/2 A | |
| 412-423W | 12 | G 1/4 A | L |
| 412-403W | 12 | G 3/8 A | |
| 412-453W | 12 | G 1/2 A | |
| 415-443W | 15 | G 3/4 A | |
| 415-403W | 15 | G 1/2 A | |
| 415-433W | 15 | G 3/8 A | |
| 418-403W | 18 | G 1/2 A | |
| 418-413W | 18 | G 3/4 A | |
| 96-0223-0058 | 22 | G 1/2 A | |
| 96-0222-0058 | 22 | G 3/4 A | |
| 428-413W | 28 | G 3/4 A | |
| 96-0228-0058 | 28 | G 1 A | |
| <hr/> | | | |
| 96-1106-0058 | 6 | G 1/4 A | |
| 96-1108-0058 | 8 | G 1/4 A | |
| 96-1109-0058 | 8 | G 3/8 A | |
| 96-1111-0058 | 10 | G 1/4 A | |
| 96-1110-0058 | 10 | G 3/8 A | |
| 96-1112-0058 | 12 | G 3/8 A | S |
| 96-1113-0058 | 12 | G 1/2 A | |
| 96-1114-0058 | 14 | G 1/2 A | |
| 96-1117-0058 | 16 | G 3/8 A | |
| 96-1116-0058 | 16 | G 1/2 A | |
| 96-1121-0058 | 20 | G 1/2 A | |
| 96-1120-0058 | 20 | G 3/4 A | |



| | | | |
|--------------|----|------------|----|
| 404-403W | 4 | R 1/8 tap. | |
| 406-423W | 6 | R 1/8 tap. | |
| 408-423W | 8 | R 1/8 tap. | |
| 96-5909-0058 | 8 | R 1/4 tap. | LL |
| 96-5911-0058 | 10 | G 1/4 tap. | |
| 24-2105-2382 | 10 | G 1/8 tap. | |
| 96-5912-0058 | 11 | G 1/8 tap. | |
| 96-5913-0058 | 12 | G 3/8 tap. | |

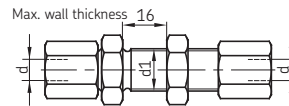
L-screw-in connectors directionally adjustable

| Order No. | Tube diam. d | d1 | Series |
|--------------|--------------|---------|--------|
| 443-406-061 | 6 | M12×1.5 | |
| 443-408-081 | 8 | M14×1.5 | |
| 443-410-101 | 10 | M16×1.5 | L |
| 443-412-121 | 12 | M18×1.5 | |
| 443-415-151 | 15 | M22×1.5 | |
| 443-418-181 | 18 | M26×1.5 | |
| <hr/> | | | |
| 443-406-351 | 6 | M14×1.5 | |
| 443-408-083 | 8 | M16×1.5 | |
| 96-3010-0060 | 10 | M18×1.5 | S |
| 96-3012-0060 | 12 | M20×1.5 | |
| 96-3014-0060 | 14 | M22×1.5 | |
| 96-3016-0060 | 16 | M24×1.5 | |
| <hr/> | | | |
| 443-410-211 | 10 | G 3/8 A | S |
| <hr/> | | | |
| 443-406-691 | 6 | G 1/8 A | L |
| 443-410-161 | 10 | G 1/4 A | |



Straight bulkhead connectors

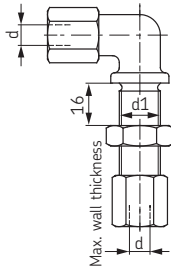
| Order No. | Tube diam. d | ø d1 |
|-----------|--------------|------|
| 406-416 | 6 | 12.5 |
| 408-416 | 8 | 14.5 |
| 410-416 | 10 | 16.5 |
| 412-416 | 12 | 18.5 |
| 415-416 | 15 | 22.5 |
| 418-416 | 18 | 26.5 |
| 422-416 | 22 | 30.5 |



LL-series (extra light version)
L-series (light version)
S-series (heavy duty version)

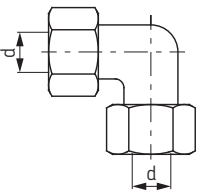
Solderless pipe union with cutting-sleeve acc. to DIN EN ISO 8434-1 and DIN 2353

Elbow bulkhead connectors



| Order No. | Tube diam. d | $\varnothing d1$ |
|-------------|--------------|------------------|
| 406-409 | 6 | 12.5 |
| 408-409 | 8 | 14.5 |
| 410-409 | 10 | 16.5 |
| 412-409 | 12 | 18.5 |
| 415-409 | 15 | 22.5 |
| 418-409 | 18 | 26.5 |
| 443-190-901 | 22 | 30.5 |

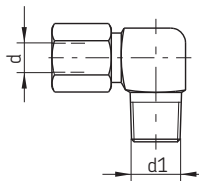
Elbow connectors



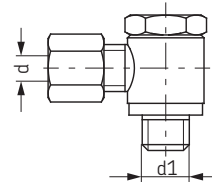
| Order No. | Tube diam. d |
|--------------|--------------|
| 406-404 | 6 |
| 96-0408-0058 | 8 |
| 410-404 | 10 |
| 412-404 | 12 |
| 443-215-001 | 15 |
| 443-218-001 | 18 |
| 443-290-001 | 22 |

Elbow screw-in connectors

| Order No. | Tube diam. d | d1 | Series |
|--------------|--------------|--------------|--------|
| 96-6202-0058 | 4 | M6 tap. | |
| 96-6204-0058 | 4 | M8x1 tap. | |
| 404-425 | 4 | M10x1 tap. | |
| 406-445 | 6 | M6 tap. | LL |
| 406-435 | 6 | M8x1 tap. | |
| 406-425 | 6 | M10x1 tap. | |
| 408-425 | 8 | M10x1 tap. | |
| 406-405 | 6 | M10x1 tap. | |
| 408-405 | 8 | M12x1.5 tap. | |
| 410-405 | 10 | M14x1.5 tap. | L |
| 412-405 | 12 | M16x1.5 tap. | |
| 415-405 | 15 | M18x1.5 tap. | |
| 410-425 | 10 | M16x1.5 tap. | S |
| 404-405W | 4 | R 1/8 tap. | |
| 96-6106-0058 | 6 | R 1/8 tap. | |
| 96-6108-0058 | 8 | R 1/8 tap. | LL |
| 96-6110-0058 | 10 | R 1/4 tap. | |
| 96-6112-0058 | 12 | R 1/4 tap. | |
| 406-405W | 6 | R 1/8 tap. | |
| 406-515W | 6 | R 1/4 tap. | |
| 408-425W | 8 | R 1/8 tap. | |
| 408-405W | 8 | R 1/4 tap. | L |
| 410-405W | 10 | R 1/4 tap. | |
| 412-405W | 12 | R 3/8 tap. | |
| 415-405W | 15 | R 1/2 tap. | |
| 418-405W | 18 | R 1/2 tap. | |
| 96-1406-0058 | 6 | R 1/4 tap. | |
| 96-1408-0058 | 8 | R 1/4 tap. | |
| 96-1410-0058 | 10 | R 3/8 tap. | S |
| 96-1412-0058 | 12 | R 3/8 tap. | |
| 96-1414-0058 | 14 | R 1/2 tap. | |
| 96-1416-0058 | 16 | R 1/2 tap. | |



Banjo fittings

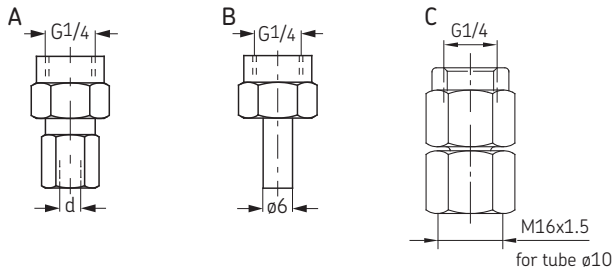


| Order No. | Tube diam. d | d1 | Series |
|--------------|--------------|---------|--------|
| 445-529-041 | 4 | M8x1 | LL |
| 445-531-061 | 6 | M10x1 | |
| 96-7808-0058 | 8 | M12x1.5 | |
| 445-535-101 | 10 | M14x1.5 | |
| 96-7812-0058 | 12 | M16x1.5 | L |
| 96-7815-0058 | 15 | M18x1.5 | |
| 96-7818-0058 | 18 | M22x1.5 | |
| 96-7822-0058 | 22 | M26x1.5 | |
| 96-8006-0058 | 6 | M12x1.5 | |
| 96-8008-0058 | 8 | M14x1.5 | |
| 96-8010-0058 | 10 | M16x1.5 | |
| 96-8012-0058 | 12 | M18x1.5 | S |
| 96-8014-0058 | 14 | M20x1.5 | |
| 96-8016-0058 | 16 | M22x1.5 | |
| 96-8020-0058 | 20 | M27x1.5 | |
| 96-7106-0058 | 6 | M10x1 | LL |
| 96-7108-0058 | 8 | M10x1 | |
| 96-7004-0058 | 4 | G 1/8 A | LL |
| 445-519-041 | 4 | G 1/8 A | |
| 445-519-061 | 6 | G 1/8 A | |
| 445-516-061 | 6 | G 1/4 A | |
| 445-516-081 | 8 | G 1/4 A | L |
| 445-516-101 | 10 | G 1/4 A | |
| 445-521-122 | 12 | G 3/8 A | |
| 445-513-181 | 18 | G 1/2 A | |
| 445-517-222 | 22 | G 3/4 A | |
| 96-7906-0058 | 6 | G 1/4 A | |
| 96-7908-0058 | 8 | G 1/4 A | |
| 96-7910-0058 | 10 | G 3/8 A | |
| 96-7912-0058 | 12 | G 3/8 A | S |
| 96-7914-0058 | 14 | G 1/2 A | |
| 96-7916-0058 | 16 | G 1/2 A | |
| 96-7920-0058 | 20 | G 3/4 A | |
| 96-7006-0058 | 6 | G 1/8 A | LL |
| 96-7008-0058 | 8 | G 1/8 A | |

LL-series (extra light version)
L-series (light version)
S-series (heavy duty version)

Solderless pipe union with cutting-sleeve acc. to DIN EN ISO 8434-1 and DIN 2353

Connectors for pressure gauges

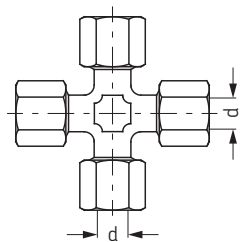


L = light version

S = heavy duty version

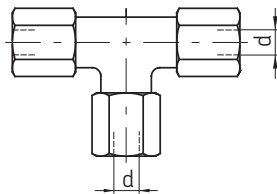
| Tube ø d | Order No. | Version | Tube ø d | Order No. | Version |
|----------|--------------|---------|----------|--------------|---------|
| 4 | 96-8804-0058 | C | 6 | 96-0406-0060 | A |
| 6 | 406-411 | A | 6 | 96-8906-0058 | C |
| 6 | 248-610.01 | B | 8 | 96-0408-0060 | A |
| 6 | 441-106-162 | C | 8 | 96-8908-0058 | C |
| 8 | 408-411 | A | 10 | 96-0410-0060 | A |
| 8 | 441-108-162 | C | 10 | 96-8910-0058 | C |
| 10 | 410-411 | A | 12 | 96-0412-0060 | A |
| 10 | 441-110-163 | C | 12 | 96-8912-0058 | C |
| 12 | 412-411 | A | | | |
| 12 | 441-112-162 | C | | | |

Four-way connectors



| Order No. | Tube diam. d |
|--------------|--------------|
| 96-2106-0058 | 6 |
| 446-308-001 | 8 |
| 446-310-001 | 10 |
| 446-312-001 | 12 |
| 446-315-001 | 15 |
| 96-2118-0058 | 18 |
| 96-2122-0058 | 22 |

Tee connectors



| Order No. | Tube diam. d |
|----------------------------|--------------|
| 96-6904-0058 ¹⁾ | 4 |
| 406-407 | 6 |
| 408-407 | 8 |
| 410-407 | 10 |
| 412-407 | 12 |
| 415-407 | 15 |
| 418-407 | 18 |
| 422-407 | 22 |

Tee screw-in connectors

| Order No. | Tube diam. d | d1 | Series |
|--------------|--------------|------------|--------|
| 96-6404-0058 | 4 | M8x1 tap. | |
| 96-6406-0058 | 6 | M10x1 tap. | LL |
| 96-6408-0058 | 8 | M10x1 tap. | |

| | | | |
|--------------|----|--------------|---|
| 96-0906-0058 | 6 | M10x1 tap. | |
| 96-0908-0058 | 8 | M12x1.5 tap. | |
| 445-910-551 | 10 | M14x1.5 tap. | L |
| 96-0912-0058 | 12 | M16x1.5 tap. | |
| 96-0915-0058 | 15 | M18x1.5 tap. | |

| | | | |
|--------------|----|--------------|---|
| 96-1806-0058 | 6 | M12x1.5 tap. | |
| 96-1808-0058 | 8 | M14x1.5 tap. | |
| 96-1810-0058 | 10 | M16x1.5 tap. | S |
| 96-1812-0058 | 12 | M18x1.5 tap. | |
| 96-1814-0058 | 14 | M20x1.5 tap. | |
| 96-1816-0058 | 16 | M22x1.5 tap. | |

| | | | |
|--------------|---|------------|----|
| 96-6304-0058 | 4 | R 1/8 tap. | |
| 96-6306-0058 | 6 | R 1/8 tap. | LL |
| 96-6308-0058 | 8 | R 1/8 tap. | |

| | | | |
|--------------|----|------------|---|
| 96-0806-0058 | 6 | R 1/8 tap. | |
| 96-0808-0058 | 8 | R 1/4 tap. | |
| 96-0810-0058 | 10 | R 1/4 tap. | L |
| 96-0812-0058 | 12 | R 3/8 tap. | |
| 96-0815-0058 | 15 | R 1/2 tap. | |
| 96-0818-0058 | 18 | R 1/2 tap. | |

| | | | |
|--------------|----|------------|---|
| 96-1706-0058 | 6 | R 1/4 tap. | |
| 96-1708-0058 | 8 | R 1/4 tap. | |
| 96-1710-0058 | 10 | R 3/8 tap. | S |
| 96-1712-0058 | 12 | R 3/8 tap. | |
| 96-1714-0058 | 14 | R 1/2 tap. | |
| 96-1716-0058 | 16 | R 1/2 tap. | |

| | | | |
|-------------|----|---------|---|
| 445-721-121 | 12 | G 3/8 A | |
| 445-713-151 | 15 | G 1/2 A | L |
| 445-717-221 | 22 | G 3/4 A | |

| | | | |
|-------------|----|---------|---|
| 445-735-101 | 10 | M14x1.5 | L |
| 445-739-151 | 15 | M18x1.5 | |

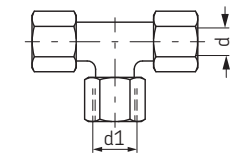
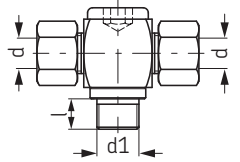
Tee screw-in connectors

directionally adjustable

| Order No. | Tube diam. d | d1 | Series |
|-----------|--------------|----|--------|
|-----------|--------------|----|--------|

| | | | |
|--------------|----|---------|---|
| 96-3106-0060 | 6 | M12x1.5 | |
| 444-808-351 | 8 | M14x1.5 | |
| 445-810-371 | 10 | M16x1.5 | L |
| 96-3112-0060 | 12 | M18x1.5 | |
| 96-3115-0060 | 15 | M22x1.5 | |
| 96-3118-0060 | 18 | M26x1.5 | |
| 96-3122-0060 | 22 | M30x1.5 | |

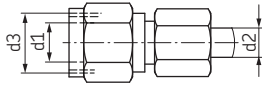
| | | | |
|--------------|----|---------|---|
| 445-806-351 | 6 | M14x1.5 | |
| 96-3208-0060 | 8 | M16x1.5 | |
| 96-3210-0060 | 10 | M18x1.5 | |
| 96-3212-0060 | 12 | M20x1.5 | S |
| 96-3214-0060 | 14 | M22x1.5 | |
| 96-3216-0060 | 16 | M24x1.5 | |
| 96-3220-0060 | 20 | M30x1.5 | |



LL-series (extra light version)
L-series (light version)
S-series (heavy duty version)

Solderless pipe union with cutting-sleeve acc. to DIN EN ISO 8434-1 and DIN 2353

Reducing connections

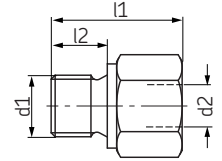


| Order No. | Tube diam. d1 | Tube diam. d2 | d3 | Series |
|--------------|---------------|---------------|---------|--------|
| 96-1406-0060 | 6 | 4 | M10×1 | LL |
| 96-1408-0060 | 8 | 4 | M12×1 | |
| 96-1410-0060 | 8 | 6 | M12×1 | |
| 96-1508-0060 | 8 | 6 | M14×1.5 | L |
| 96-1511-0060 | 10 | 6 | M16×1.5 | |
| 96-1512-0060 | 10 | 8 | M16×1.5 | |
| 96-1521-0060 | 12 | 6 | M18×1.5 | |
| 96-1522-0060 | 12 | 8 | M18×1.5 | |
| 96-1523-0060 | 12 | 10 | M18×1.5 | |
| 96-1531-0060 | 15 | 6 | M22×1.5 | |
| 96-1532-0060 | 15 | 8 | M22×1.5 | |
| 96-1533-0060 | 15 | 10 | M22×1.5 | |
| 96-1534-0060 | 15 | 12 | M22×1.5 | |
| 96-1541-0060 | 18 | 6 | M26×1.5 | |
| 96-1542-0060 | 18 | 8 | M26×1.5 | |
| 96-1543-0060 | 18 | 10 | M26×1.5 | |
| 96-1544-0060 | 18 | 12 | M26×1.5 | |
| 96-1545-0060 | 18 | 15 | M26×1.5 | |
| 96-1551-0060 | 22 | 6 | M30×2 | |
| 96-1552-0060 | 22 | 8 | M30×2 | |
| 96-1553-0060 | 22 | 10 | M30×2 | |
| 96-1554-0060 | 22 | 12 | M30×2 | |
| 96-1555-0060 | 22 | 15 | M30×2 | |
| 96-1556-0060 | 22 | 18 | M30×2 | |
| 96-1610-0060 | 8 | 6 | M16×1.5 | S |
| 96-1611-0060 | 10 | 6 | M18×1.5 | |
| 96-1612-0060 | 10 | 8 | M18×1.5 | |
| 96-1621-0060 | 12 | 6 | M20×1.5 | |
| 96-1622-0060 | 12 | 8 | M20×1.5 | |
| 96-1623-0060 | 12 | 10 | M20×1.5 | |
| 96-1631-0060 | 14 | 6 | M22×1.5 | |
| 96-1632-0060 | 14 | 8 | M22×1.5 | |
| 96-1633-0060 | 14 | 10 | M22×1.5 | |
| 96-1634-0060 | 14 | 12 | M22×1.5 | |
| 96-1641-0060 | 16 | 6 | M24×1.5 | |
| 96-1642-0060 | 16 | 8 | M24×1.5 | |
| 96-1643-0060 | 16 | 10 | M24×1.5 | |
| 96-1644-0060 | 16 | 12 | M24×1.5 | |
| 96-1645-0060 | 16 | 14 | M24×1.5 | |
| 96-1651-0060 | 20 | 6 | M30×2 | |
| 96-1652-0060 | 20 | 8 | M30×2 | |
| 96-1653-0060 | 20 | 10 | M30×2 | |
| 96-1654-0060 | 20 | 12 | M30×2 | |
| 96-1655-0060 | 20 | 14 | M30×2 | |
| 96-1656-0060 | 20 | 16 | M30×2 | |

LL-series (extra light version)
L-series (light version)
S-series (heavy duty version)

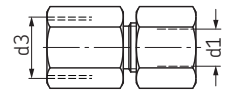
Reducing connections Sealing by sealing edge

| Order No. | d1 | Tube diam. d2 | l1 |
|--------------|-----------|---------------|------|
| 96-3114-0058 | G 1/8 A | G 1/4 | 31 |
| 96-3115-0058 | G 1/8 A | G 3/8 | 32 |
| 96-3116-0058 | G 1/4 A | G 1/8 | 28 |
| 96-3117-0058 | G 1/4 A | G 3/8 A | 36 |
| 96-3118-0058 | G 1/4 A | G 1/2 | 40 |
| 96-3119-0058 | G 1/4 A | G 3/4 | 43 |
| 96-3101-0058 | G 3/8 A | G 1/8 | 22.5 |
| 96-3120-0058 | G 3/8 A | G 1/4 | 36 |
| 96-3121-0058 | G 3/8 A | G 1/2 | 41 |
| 96-3122-0058 | G 3/8 A | G 3/4 | 44 |
| 96-3102-0058 | G 1/2 A | G 1/8 | 24 |
| 96-3103-0058 | G 1/2 A | G 1/4 | 24 |
| 96-3123-0058 | G 1/2 A | G 3/8 | 36 |
| 96-3124-0058 | G 1/2 A | G 3/4 | 46 |
| 96-3125-0058 | G 1/2 A | G 1 | 49 |
| 96-3126-0058 | G 1/2 A | G 1 1/4 | 53 |
| 96-3104-0058 | G 3/4 A | G 1/4 | 26 |
| 96-3105-0058 | G 3/4 A | G 3/8 | 26 |
| 96-3127-0058 | G 3/4 A | G 1/2 | 41 |
| 96-3128-0058 | G 3/4 A | G 1 | 51 |
| 96-3129-0058 | G 3/4 A | G 1 1/4 | 55 |
| 96-3130-0058 | G 3/4 A | G 1 1/2 | 57 |
| 96-3106-0058 | G 1 A | G 1/4 | 29 |
| 96-3107-0058 | G 1 A | G 3/8 | 29 |
| 96-3108-0058 | G 1 A | G 1/2 | 29 |
| 96-3131-0058 | G 1 A | G 3/4 | 47 |
| 96-3132-0058 | G 1 A | G 1 1/4 | 57 |
| 96-3133-0058 | G 1 A | G 1 1/2 | 59 |
| 96-3109-0058 | G 1 1/4 A | G 1/2 | 32 |
| 96-3110-0058 | G 1 1/4 A | G 3/4 | 32 |
| 96-3134-0058 | G 1 1/4 A | G 1 | 52 |
| 96-3135-0058 | G 1 1/4 A | G 1 1/2 | 60 |
| 96-3111-0058 | G 1 1/2 A | G 1/2 | 36 |
| 96-3112-0058 | G 1 1/2 A | G 3/4 | 36 |
| 96-3113-0058 | G 1 1/2 A | G 1 | 36 |
| 96-3136-0058 | G 1 1/2 A | G 1 1/4 | 58 |
| 96-3137-0058 | G 2 A | G 1 1/2 | 62 |



Straight screw-in fitting

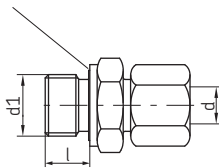
| Order No. | Tube diam. d1 | d3 | Series |
|--------------|---------------|---------|--------|
| 96-0506-0060 | 6 | M10×1 | L |
| 96-0508-0060 | 8 | M12×1.5 | |
| 96-0510-0060 | 10 | M14×1.5 | |
| 96-0512-0060 | 12 | M16×1.5 | |
| 96-0515-0060 | 15 | M18×1.5 | |
| 96-0518-0060 | 18 | M22×1.5 | |
| 96-0522-0060 | 22 | M26×1.5 | |
| 96-0606-0060 | 6 | M12×1.5 | S |
| 96-0608-0060 | 8 | M14×1.5 | |
| 96-0610-0060 | 10 | M16×1.5 | |
| 96-0612-0060 | 12 | M18×1.5 | |
| 96-0614-0060 | 14 | M20×1.5 | |
| 96-0616-0060 | 16 | M22×1.5 | |
| 96-0620-0060 | 20 | M27×2 | |
| 96-0706-0060 | 6 | G 1/8 A | L |
| 96-0708-0060 | 8 | G 1/4 A | |
| 96-0709-0060 | 8 | G 3/8 A | |
| 96-0710-0060 | 10 | G 1/4 A | |
| 96-0711-0060 | 10 | G 3/8 A | |
| 96-0712-0060 | 12 | G 3/8 A | |
| 96-0713-0060 | 12 | G 1/2 A | |
| 96-0715-0060 | 15 | G 1/2 A | |
| 96-0718-0060 | 18 | G 1/2 A | |
| 96-0722-0060 | 22 | G 3/4 A | |



Solderless pipe union with cutting-sleeve acc. to DIN EN ISO 8434-1 and DIN 2353

Straight screw-in connectors with Eolastic washer and E02 function nut

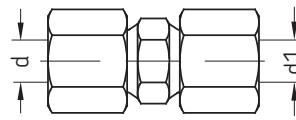
EOLASTIC washer



| Order No. | Tube diam. d | d1 |
|---|--------------|---|
| 471-004-191 ¹⁾ 471-004-311 ¹⁾ | 4 | G 1/8 A M10x1 |
| 471-006-192 471-006-161 471-006-311 471-006-351 | 6 | G 1/8 A G 3/4 A M10x1 M14x1.5 |
| 471-008-161 471-008-211 471-008-351 471-008-391 | 8 | G 1/4 A G 3/8 A M14x1.5 M18x1.5 |
| 471-010-161 471-010-211 471-010-312 471-010-351 471-010-391 | 10 | G 1/4 A G 3/8 A M10x1 M14x1.5 M18x1.5 |
| 471-012-161 471-012-211 471-012-391 | 12 | G 1/4 A G 3/8 A M18x1.5 |
| 471-015-131 | 15 | G 1/2 A |

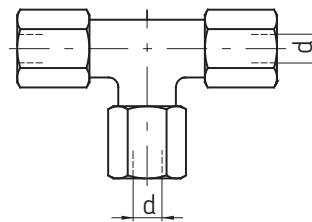
¹⁾ LL-series (extra light version)

Straight connectors (tube to tube) with E02 function nut



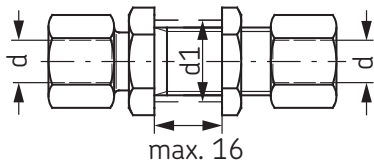
| Order No. | Tube diam. d, d1 |
|-------------|------------------|
| 474-506-061 | 6 |
| 474-508-081 | 8 |
| 474-510-101 | 10 |
| 474-512-121 | 12 |
| 474-515-151 | 15 |
| 474-518-181 | 18 |

Tee connectors with E02 function nut



| Order No. | Tube diam. d |
|-------------|--------------|
| 476-006-001 | 6 |
| 476-008-001 | 8 |
| 476-010-001 | 10 |
| 476-012-001 | 12 |
| 476-015-001 | 15 |

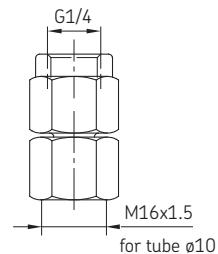
Straight bulkhead connectors with E02 function nut



| Order No. | Tube diam. d | d1 |
|-------------|--------------|------|
| 474-606-331 | 6 | 12.5 |
| 474-608-351 | 8 | 14.5 |
| 474-610-351 | 10 | 16.5 |
| 474-612-391 | 12 | 18.5 |
| 474-615-431 | 15 | 22.5 |
| 474-618-441 | 18 | 26.5 |

Max. operating pressure 315 bars

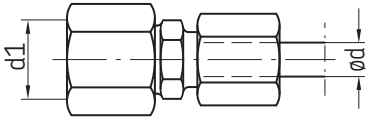
Connectors for pressure gauges with E02 function nut



| Order No. | Tube diam. d |
|-------------|--------------|
| 441-106-163 | 6 |
| 471-108-163 | 8 |
| 471-110-163 | 10 |
| 471-112-163 | 12 |

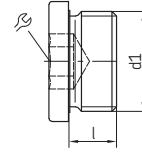
Solderless pipe union with cutting-sleeve acc. to DIN EN ISO 8434-1 and DIN 2353

Reducing connectors with E02 function nut



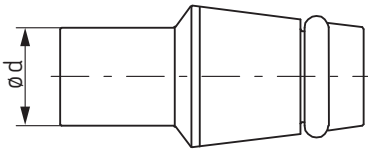
| Order No. | Tube diam. d | d1 |
|-------------|--------------|---------|
| 473-806-351 | 6 | M14×1.5 |
| 473-806-391 | 6 | M18×1.5 |
| 473-808-371 | 8 | M16×1.5 |
| 473-808-392 | 8 | M18×1.5 |
| 473-810-391 | 10 | M18×1.5 |

Screw plugs



| Order No. | d1 | l |
|-------------|---------|----|
| 466-411-001 | G 1 A | 16 |
| 466-413-001 | G 1/2 A | 14 |
| 466-416-001 | G 3/4 A | 12 |
| 466-418-001 | G 3/4 A | 16 |
| 466-419-001 | G 1/8 A | 7 |
| 466-431-001 | M10×1 | 7 |
| 466-435-003 | M14×1.5 | 11 |
| 466-439-001 | M18×1.5 | 12 |

Cone plug



| Order No. | Tube diam. d |
|-------------|--------------|
| 460-706-001 | 6 |
| 460-708-001 | 8 |
| 460-710-001 | 10 |
| 460-712-001 | 12 |

Vent plug

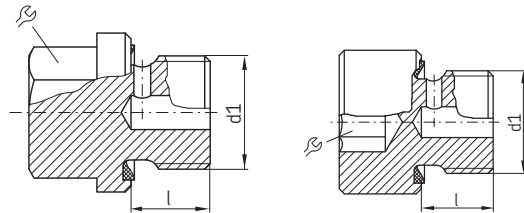


Fig. 1

Fig. 2

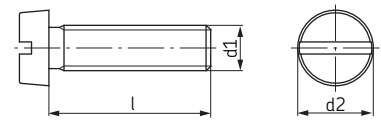
| Order No. | d1 | l | Figure |
|-------------|-------|---|--------|
| 466-431-006 | M10×1 | 7 | 1 |
| 466-431-005 | M10×1 | 7 | 2 |
| 466-431-009 | G 1/8 | 7 | 2 |

Accessories

Fixing bolts

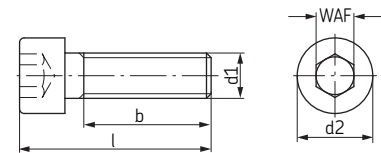
| Order No | d1 | l | d2 | Material |
|-----------------|----|----|-----|----------|
| DIN84-M3×5-4.8 | M3 | 5 | 5.5 | steel |
| DIN84-M5×8-4.8 | M5 | 8 | 8.5 | |
| DIN84-M5×16-4.8 | M5 | 16 | 8.5 | |
| DIN84-M5×20-4.8 | M5 | 20 | 8.5 | |
| DIN84-M6×16-4.8 | M6 | 16 | 10 | |
| DIN84-M6×20-4.8 | M6 | 20 | 10 | |
| DIN84-M6×25-4.8 | M6 | 25 | 10 | |

DIN84



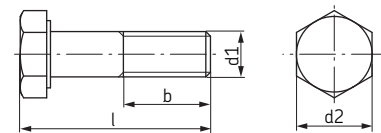
| Order No. | d1 | l | d2 | b | WAF | Material |
|------------------|----|----|----|----|-----|----------|
| DIN912-M4×20-8.8 | M4 | 20 | 7 | 14 | 3 | steel |
| DIN912-M6×16-8.8 | M6 | 16 | 10 | 18 | 5 | |
| DIN912-M6×25-8.8 | M6 | 25 | 10 | 18 | 5 | |
| DIN912-M6×60-8.8 | M6 | 60 | 10 | 18 | 5 | |
| DIN912-M8×16-8.8 | M8 | 16 | 13 | 12 | 6 | |

DIN912



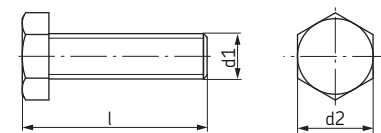
| Order No. | d1 | l | b | WAF | Material |
|------------------|----|----|----|-----|----------|
| DIN931-M6×30-5.8 | M6 | 30 | 18 | 10 | steel |

DIN931



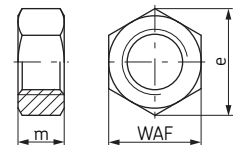
| Order No. | d1 | l | d2 | Material |
|----------------|----|----|-----|----------|
| DIN7513-BM4×20 | M4 | 20 | 7 | steel |
| DIN7513-BM4×25 | M4 | 25 | 7 | |
| DIN7513-BM5×10 | M5 | 10 | 8.5 | |
| DIN7513-BM6×16 | M6 | 16 | 10 | |
| DIN7513-BM6×25 | M6 | 25 | 10 | |

DIN7513



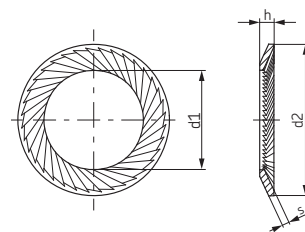
Nuts

| Order No. | Thread | m | WAF | e | Material |
|------------------|---------|---|-----|------|----------|
| DIN934-M5-8 | M5 | 4 | 8 | 9.2 | steel |
| DIN934-M6-8 | M6 | 5 | 10 | 11.5 | |
| DIN936-M14×1.5-5 | M14×1.5 | 8 | 22 | 25.4 | |
| DIN936-M16×1.5-5 | M16×1.5 | 8 | 24 | 27.7 | |
| DIN936-M20×1.5-5 | M20×1.5 | 9 | 30 | 34.6 | |



Lock washer

| Order No. | for bolt | d1 | d2 | s | h | Material |
|-----------|----------|------|----|-----|-----|--------------|
| 650-050 | M5 | 5.3 | 9 | 0.6 | 0.9 | spring steel |
| 650-060 | M6 | 6.4 | 10 | 0.7 | 0.9 | |
| 650-080 | M8 | 8.4 | 13 | 0.8 | 1.2 | |
| 650-100 | M10 | 10.5 | 16 | 1 | 1.5 | |
| 650-120 | M12 | 13 | 18 | 1.1 | 1.5 | |
| 650-140 | M14 | 15 | 22 | 1.2 | 1.8 | |
| 650-160 | M16 | 17 | 24 | 1.3 | 1.9 | |
| 650-180 | M18 | 19 | 27 | 1.5 | 2.2 | |
| 650-200 | M20 | 21 | 30 | 1.5 | 2.2 | |



Accessories

Fixing clips

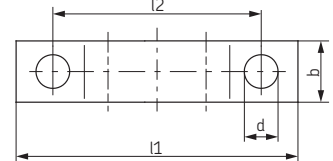
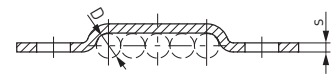
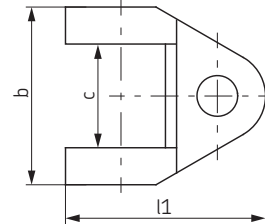
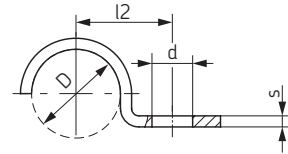
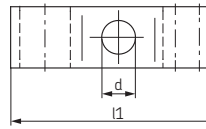
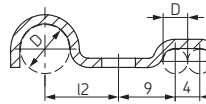
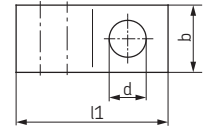
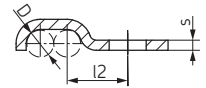
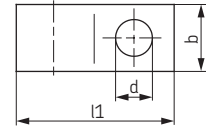
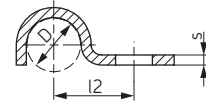
| Order No. | for tube diam. ø D | b | d | l1 | l2 | s |
|-----------|-----------------------|----|-----|-------|----|-----|
| 602-001 | 2.5 | 10 | 3.5 | 11.25 | 5 | 1.5 |
| 604-001 | 4 | 10 | 5.5 | 18.5 | 9 | 1.5 |
| 606-010 | 6 | 10 | 5.5 | 20.5 | 10 | 1.5 |
| 608-001 | 8 | 10 | 5.5 | 23.5 | 12 | 1.5 |
| 610-001 | 10 or 1 1/8" | 10 | 5.5 | 25.5 | 13 | 1.5 |
| 612-001 | 12 | 20 | 6.8 | 35 | 18 | 2 |

| Order No. | for tube diam. ø D | for tube diam. | b | d | l1 | l2 | s |
|-----------|-----------------------|----------------|----|-----|------|----|-----|
| 602-002 | 2.5 | 2 | | 3.5 | 13.8 | 5 | |
| 604-002 | 4 | 2 | 10 | 5.5 | 22.6 | 9 | 1.5 |
| 604-003 | 4 | 3 | | 5.5 | 26.6 | 9 | |

| Order No. | for tube diam. ø D | b | d | l1 | l2 | s |
|-----------|-----------------------|----|-----|----|----|-----|
| 608-003 | 8 / 4 | 10 | 5.5 | 34 | 12 | 1.5 |

| Order No. | for tube diam. or socket diam. of tee ø D | b | c | d | l1 | l2 | s |
|-----------|---|----|----|-----|------|----|-----|
| 604-004 | 12 | 24 | 14 | 5.5 | 27 | 13 | 1.5 |
| 606-014 | 14 or 1/4" | 30 | 15 | 6.3 | 32.5 | 16 | 2 |
| 608-004 | 18 or 3/8" | 36 | 20 | 7 | 40 | 21 | 2 |
| 610-004 | 20 or 1/2" | 36 | 20 | 7 | 40 | 21 | 2 |

| Order No. | ø D | for tube diam. diam. | for tube b d | l1 | l2 | s | Material |
|-------------------|-----|-------------------------|-----------------|----|----|-----|------------|
| 604-014 | 4 | 4 | 5.5 | 42 | 30 | 1.5 | mild steel |
| 604-015 | 4 | 5 | 5.5 | 46 | 34 | 1.5 | |
| 604-016 | 4 | 6 | 5.5 | 50 | 38 | 1.5 | |
| 604-018 | 4 | 8 | 5.5 | 58 | 46 | 1.5 | |
| DIN 72573-2×6-ST | 6 | 2 | 4.8 | 39 | 27 | 1 | |
| DIN 72573-3×6-ST | 6 | 3 | 4.8 | 45 | 33 | 1 | |
| DIN 72573-4×6-ST | 6 | 4 | 4.8 | 51 | 39 | 1 | |
| DIN 72573-5×6-ST | 6 | 5 | 4.8 | 57 | 45 | 1 | |
| DIN 72573-6×6-ST | 6 | 6 | 4.8 | 64 | 52 | 1 | |
| DIN 72573-2×8-ST | 8 | 2 | 4.8 | 43 | 31 | 1 | |
| DIN 72573-3×8-ST | 8 | 3 | 4.8 | 51 | 39 | 1 | |
| DIN 72573-4×8-ST | 8 | 4 | 4.8 | 59 | 47 | 1 | |
| DIN 72573-5×8-ST | 8 | 5 | 4.8 | 68 | 56 | 1 | |
| DIN 72573-6×8-ST | 8 | 6 | 4.8 | 76 | 64 | 1 | |
| DIN 72573-2×10-ST | 10 | 2 | 4.8 | 45 | 33 | 1 | |
| DIN 72573-3×10-ST | 10 | 3 | 4.8 | 55 | 43 | 1 | |
| DIN 72573-4×10-ST | 10 | 4 | 4.8 | 67 | 55 | 1 | |
| DIN 72573-5×10-ST | 10 | 5 | 4.8 | 77 | 65 | 1 | |



Accessories

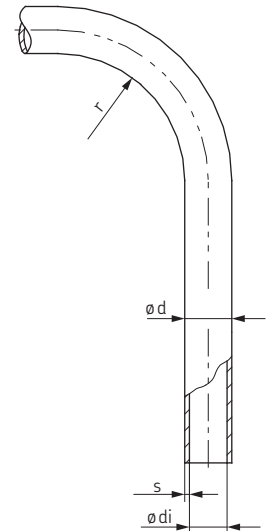
Steel tubing

| Order No. | \varnothing da [mm] | s [mm] | \varnothing di [mm] | Minimum bend radius r ¹⁾ [mm] | Permissible oper. pressure ²⁾ [bar] | Burst pressure [bar] |
|--|--------------------------|-----------|--------------------------|---|--|-------------------------|
| Steel pipe galvanized, Cr-6-free | | | | | | |
| WV-R06×0.7 VERZI | 6 ±0.05 | 0.7 | 4.6±0.11 | 12 | 320 | 850 |
| WV-R08×0.7 VERZI | 8 ±0.05 | 0.7 | 6.6±0.11 | 19 | 230 | 675 |
| WV-R010×0.7 VERZI | 10 ±0.05 | 0.7 | 8.6±0.13 | 27 | 180 | 550 |
| Steel pipe acc. to EN10305-4, galvanized, Cr-6-free | | | | | | |
| 982-120-041 | 4 ±0.05 | 0.7 | 2.6±0.10 | 12 | 368 | 952 |
| 982-120-040 | 4 ±0.08 | 1.0 | 2 ±0.15 | 12 | 500 | 1360 |
| 982-120-060 | 6 ±0.08 | 1.0 | 4 ±0.12 | 18 | 372 | 963 |
| 982-120-080 | 8 ±0.08 | 1.0 | 6 ±0.10 | 24 | 288 | 723 |
| 982-120-100 | 10 ±0.08 | 1.0 | 8 ±0.08 | 30 | 248 | 612 |
| 982-120-120 | 12 ±0.08 | 1.5 | 9 ±0.10 | 36 | 303 | 765 |
| Stainless steel pipe (material 1.4571) | | | | | | |
| D1127R02.5×0.5+A46 | 2.5±0.03 | 0.5 | 1.5±0.05 | 7.5 | 386 | 1664 |
| DIN2462-R04×1+A46 | 4 ±0.1 | 1 | 2 ±0.2 | 12 | 466 | 2080 |
| DIN2462-R06×1+A46 | 6 ±0.1 | 1 | 4 ±0.2 | 18 | 347 | 1473 |
| DIN2462-R08×1+A46 | 8 ±0.1 | 1 | 6 ±0.2 | 24 | 269 | 1105 |
| DIN2462-R010×1+A46 | 10 ±0.1 | 1 | 8 ±0.2 | 30 | 231 | 936 |

Temperature range -25 to +80 °C

¹⁾ For cold bending with bending device or by hand with grooved disk.

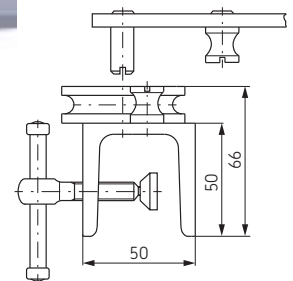
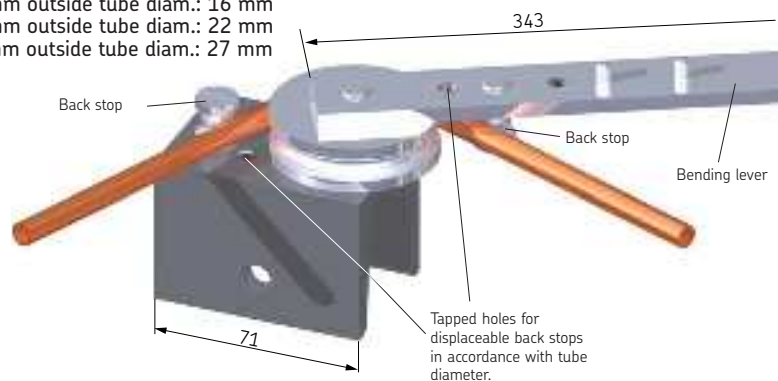
²⁾ Dynamic load according to DIN 2413



Tube bending device

This device contains all parts needed to bend tubes with a 4, 6, 8 and 10 mm outside diameter. Thin-walled steel tubes with a 10 mm outside diam. may be slightly flattened at the outer bend, but that is not essential with regard to strength or reduction of cross section.

Inner bending radius tube 4 mm outside tube diam.: 10 mm
 tube 6 mm outside tube diam.: 16 mm
 tube 8 mm outside tube diam.: 22 mm
 tube 10 mm outside tube diam.: 27 mm



Order No. 248-803.20

There is a special grooved disk for the bending tube with 12 mm o.d, order No. 248-803.17

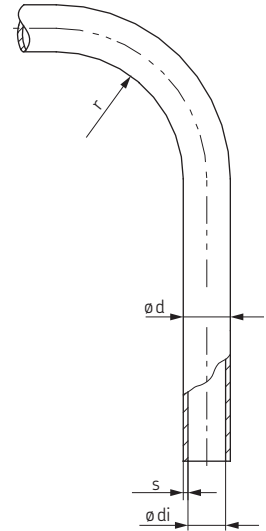
For older bending devices a retrofitting set for the bending tube with 4 mm is available, order No. 248-803.16

Accessories

Plastic tubing

WVN715, without plasticizer WVN716, flexible (containing plasticizer)

| Order No. ¹⁾ | ø da | s | ø di ^{+0.15} _{-0.05} | Smallest permissible bending radius r bent | | Perm. operating press. ³⁾ [bar] | Burst press. [bar] |
|-------------------------|----------|------|---|--|----------------------------|--|--------------------|
| | | | | freehand | with fixture ²⁾ | | |
| WVN715-R02.5x0.5 | 2.5 | 0.5 | 1.5 | 25 | 9 | 66 | 198 |
| WVN715-R04x0.85 | 4 | 0.85 | 2.3 | 38 | 14 | 72 | 216 |
| WVN715-R06x1 | 6 ±0.1 | 1 | 4 | 63 | 21 | 53 | 159 |
| WVN715-R06x1.25 | 6 | 1.25 | 3.5 | 63 | 21 | 70 | 210 |
| WVN715-R08x1.25 | 8 | 1.25 | 5.5 | 76 | 28 | 49 | 147 |
| WVN715-R010x1.5 | 10 | 1.5 | 7 | 89 | 35 | 47 | 141 |
| WVN715-R012x1 | 12 ±0.15 | 1 | 10 | 110 | 45 | 24 | 72 |
| WVN715-R012x1.5 | 12 | 1.5 | 9 | 110 | 45 | 38 | 114 |
| WVN716-R04x0.85 | 4 | 0.85 | 2.3 | 38 | 14 | 36 | 108 |
| WVN716-R06x1.25 | 6 ±0.1 | 1.25 | 3.5 | 63 | 21 | 35 | 105 |
| WVN716-R08x1.25 | 8 | 1.25 | 5.5 | 80 | 30 | 25 | 75 |



Color: natural colors, black lettering. Tubing available in green, red, black or brown on request.
Tubing with other dimensions or also filled with NLGI grade 2 grease or fluid grease on request.

Important note: For screwed tubing joints only use unions with reinforcing sockets!

Material WVN715: PA 12 H: polyamide 12, semirigid, unplasticized as per DIN 73378, stabilized against heat and aging.
(black tubing) PA 12 HL: polyamide 12, semirigid, unplasticized as per DIN 73378, stabilized against light, heat, and aging.

Material WVN716: PA 12 PH: polyamide 12, flexible, containing plasticizer as per DIN 73378, stabilized against heat and aging.
(black tubing) PA 12 PHL: polyamide 12, flexible, containing plasticizer as per DIN 73378, stabilized against light, heat, and aging.

Material properties:

- very good resistance and insensitivity to oils, greases, lubricants, all fuels, chlorinefree detergents and solvents.
- At room temperature good resistance to diluted mineral acids, organic acids, bases and saline solutions ⁴⁾
- inappropriate for concentrated mineral acids, concentrated acetic acid, phenols, cresols, chlorinated hydrocarbons, chlorine, acetones and ketones.

Permissible operating temperature: approx. -60 °C to +80 °C

¹⁾ The desired length. e.g. 50 meters, has to be added to the order No. **Order example: WVN716R06x1.25x50M**

²⁾ These minimal radii can be produced with the help of appropriate bending devices.
The tubing has to be heated to 150 °C for this purpose. The maximum duration of heating is 20 seconds.

³⁾ The operating pressures were determined by using DIN 73 378 acc. to the formula $P = \frac{20 \cdot \sigma_V \cdot s \cdot (rated)}{dm}$.

s = rated wall thickness [mm];
dm = da - s;
 σ_V = reference tension N/mm² at 23 °C

At higher temperatures the pressure drops in keeping with the pressure efficiency as per DIN 73378.

| Temperature ra [°C] | Pressure efficiency [%] |
|---------------------|-------------------------|
| up to 30 | 83 |
| up to 40 | 72 |
| up to 50 | 64 |
| up to 60 | 57 |
| up to 70 | 52 |
| up to 80 | 47 |

⁴⁾ In borderline cases it is advisable to contact SKF Lubrication Systems.

Accessories

Hoses

for main lines, operating pressure: 45 bars (for short time only)

| Standard | | Metalbraided | | | | Tube diam. d1 | Thread d3 | Rubber d2 | Metal-braided d4 | Max. increase in volume at ≈ 80 bars [cm ³ /m] |
|-------------------------|-----------|-------------------------|------------|-----------|---------|---------------|--------------|-----------|------------------|---|
| Order No. ²⁾ | Order No. | Order No. ²⁾ | Order No. | Order No. | | | | | | |
| 714-...(-VS) | 714-...-K | 714-...-M(-VS) | 714-...-MK | 4 | M8x1 | 11 | 12 \pm 0.5 | 2.5 | | |
| 716-...(-VS) | 716-...-K | 716-...-M(-VS) | 716-...-MK | 6 | M10x1 | 13 | 14 \pm 0.8 | 3.6 | | |
| 718-...(-VS) | 718-...-K | 718-...-M(-VS) | 718-...-MK | 8 | M14x1.5 | 15 | 16 \pm 0.8 | 4.4 | | |

Material: Hose: mineraloilresistant CR rubber inside; 2 layers of braided rayon; outside rubber conditionally oilresistant, resistant to light cracks and ozone.
Metal braid: galvanized steel wire; tube ends: galvanized steel tubing.

for secondary lines, operating pressure 15 bars (for short time only)

| Standard | | With tapered sleeve and socket union on both ends | | Tube diam. d1 | Thread d3 | Rubber d2 |
|-----------------------|--------------------------|---|-----------|---------------|-----------|-----------|
| Order No. | Order No. | Order No. | Order No. | | | |
| 734-... ³⁾ | 734-...-VS ³⁾ | 734-...-K ³⁾ | | 4 | M8x1 | 8.8 |

Material: Hose: oilproof rubber inside and outside with a layer of braided rayon
Tube ends: steel tubing
The ends of the tubing are bonded to the hose and cannot be detached.

Permissible operating temperature: -30 °C to $+70$ °C

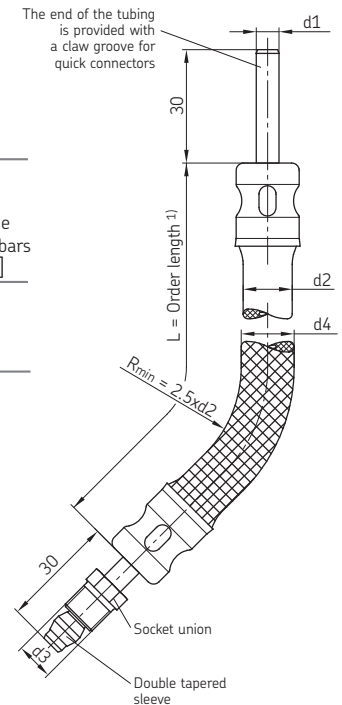
¹⁾ Order length in mm; other lengths available. Standardized lengths ± 5 mm with $\varnothing 4$ tubing: 180, 220, 260, 300, 380, 420, 450, 500, 580
with $\varnothing 6$ tubing: 220, 300, 340, 380, 420, 500, 580
with $\varnothing 8$ tubing: 340, 450, 580

Order examples:

Standard with socket unions and tapered sleeves, $\varnothing 4$ tubing, 300 mm lang, order No.: 714-300-K
Standard, $\varnothing 4$ tubing with claw groove for quick connectors, 300 mm long, order No.: 714-300-VS
Metal-braided, $\varnothing 6$ tubing, 420 mm lng, order No.: 716-420-M
Metal-braided, $\varnothing 8$ tubing, with claw groove for quick connectors, 450 mm long, order No.: 718-450-M-VS

²⁾ For Version with claw groove on ends of tubing for quick connectors, order No.: ...-VS

³⁾ **Important note:** To avoid damages do not use these hoses as main lines but only to connect distributors to lube points.



Accessories

Hoses suitable for self-installation, operating pressure 45 bars

| Tube diam. d1 | ① Male body | | ② Shell | | ③ Hose | | Increase in volume at ≈ 40 bars [cm ³ /m] |
|---------------|--------------------------------|-----|-------------|-----|-------------------------|---------------|--|
| | Order No. | WAF | Order No. | WAF | Order No. ¹⁾ | Hose diam. d2 | |
| 4 | 406-704-001(-VS) ²⁾ | 8 | 406-804-001 | 14 | WVN701-4 | 11 | 1 |
| 6 | 406-706-001(-VS) ²⁾ | 10 | 406-806-001 | 17 | WVN701-6 | 13 | 1.4 |
| 8 | 406-708-001(-VS) ²⁾ | 13 | 406-808-001 | 19 | WVN701-8 | 15 | 1.4 |

¹⁾ Please quote length when ordering. Max. length available 20 m.

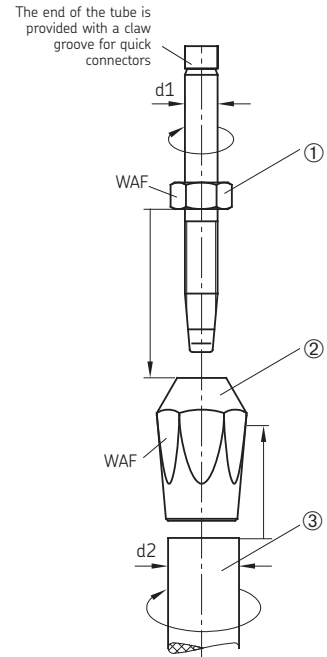
²⁾ For Version with claw groove on ends of tubing for quick connectors, order No.: ...-VS

Material: Hose: Perbunan, resistant to mineral oils, with two layers of braided rayon
Male body: steel, galvanized
Shell: brass

Permissible operating temperature: -40 °C to +100 °C

Installation instructions

- Apply thin film of oil to thread and inside of hose of parts ① ② ③ to be connected.
- Clamp shell ② in vise and screw in hose ③ by turning it to the left up to the stop.
- Important note:** To avoid damages screw in male body ① with a wrench up to the stop. **Do not tighten!**



High pressure hoses, operating pressure: 280 – 330 bars

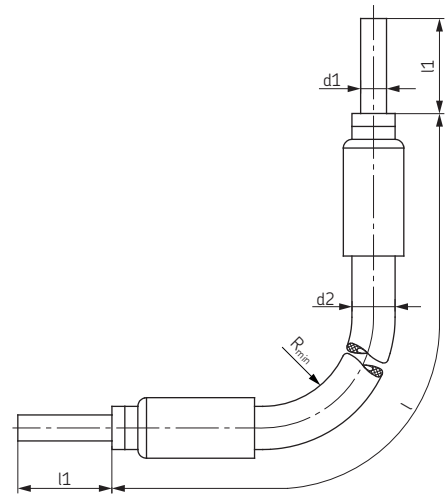
| Order No. | Tube diam. | Hose diam. | Length ¹⁾ | | Permissible operating pressure | | Burst pressure [bar] |
|-----------|------------------|------------------|----------------------|----|--------------------------------|-------|----------------------|
| | \varnothing d1 | \varnothing d2 | l ⁺ 5 | l1 | R _{min} | [bar] | |
| SLH6-180 | 6 | 10.9 | 180 | 22 | 19 | 225 | 900 |
| SLH8-180 | 8 | 13 | 180 | 30 | 32 | 210 | 830 |
| SLH10-180 | 10 | 14.5 | 180 | 30 | 44 | 175 | 690 |

¹⁾ Order length in mm; other lengths available.

Order example: highpressure hose SLH8, 600 mm long, order No.: SLH8-600

Material: Inner liner: PA 11/12 or PE-E
Reinforcement: 1 braided layer of synthetic fibre with high tensile strength
Outer cover: PA 11/12
Resistant to mineral oils.

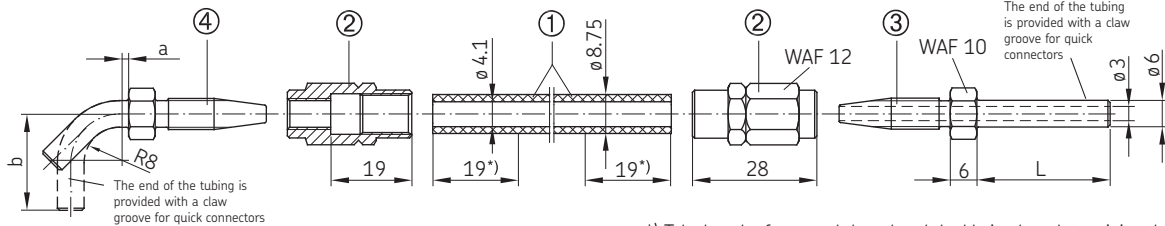
Permissible operating temperature: -40 °C to +100 °C



Accessories

High pressure hoses for self-installation

for main line for tube diam. 6 (NW4) (connection: pump – feeder) and secondary lines (connection: feeder – lubrication point)



*) Take length of engaged thread and double it when determining the length of the hose.

| Designation | Order No. | L | a | b |
|---|--------------------------------|----|----|----|
| ① High press. hose, max. length supplied 50 m | 982-750-091 | | | |
| High press. hose, max. length supplied 50 m filled with NLGI grade 2 grease | 982-750-091+AF2 | | | |
| ② Sleeve | 853-540-010 | | | |
| ③ Tube stud, straight | 853-370-002(-VS) ¹⁾ | 20 | | |
| | 853-380-002(-VS) ¹⁾ | 30 | | |
| | 853-390-002(-VS) ¹⁾ | 66 | | |
| | 853-380-004(-VS) ¹⁾ | | | |
| ④ Tube stud, 45° angle | 853-380-003 | | 2 | 21 |
| Tube stud, 90° angle | 853-380-003-VS ¹⁾ | | 2 | 35 |
| | 853-390-003(-VS) ¹⁾ | | 13 | 47 |

Technical data:

Hose: operating pressure: 325 bars
burst pressure: 800 bars
min. bending radius: 35 mm

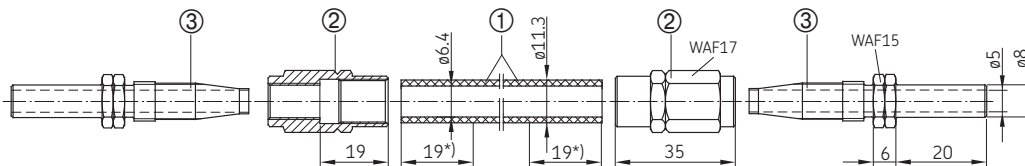
Material

Hose: Inner lining: unplasticized polyester
Inner layer: braided synthetic fibers
Outer cover: weatherproof polyurethane
Sleeve, tube stud: steel, galvanized

Permissible operating temperature: -30 °C to +70 °C

¹⁾ Version with claw groove on ends of tubing for quick connectors, order No.: ...-VS

for main line for tube diam. 8 (NW6) (connection: pump – feeder) and secondary lines (connection: feeder – lubrication point)



*) Take length of engaged thread and double it when determining the length of the hose.

| Designation | Order No. |
|---|-----------------|
| ① High press. hose, max. length supplied 50 m | 982-750-111 |
| High press. hose, max. length supplied 50 m filled with NLGI grade 2 grease | 982-750-111+AF2 |
| ② Sleeve | 406-808-005 |
| ③ Tube stud, straight | 406-708-005 |
| Tube stud, straight | 406-708-007 |
| Tube stud, 45° angle | 406-708-009 |
| Tube stud, 90° angle | 406-708-008 |

Technical data

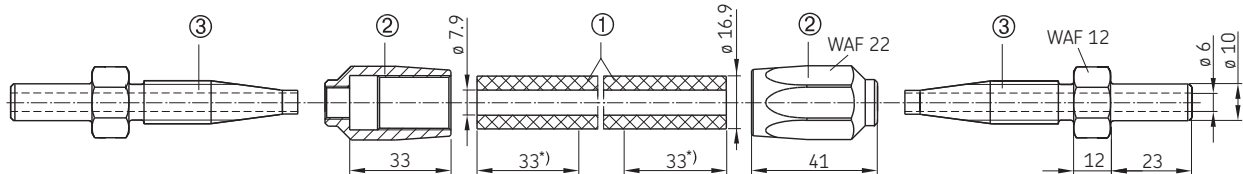
Hose: operating pressure: 280 bars static / 210 bars dynamic
burst pressure: 840 bar
min. bending radius: min. 50 mm

Material

Hose: Inner lining: unplasticized polyamide
Inner layer: braided synthetic fibers
Outer cover: weatherproof polyurethane, black
Sleeve, tube stud: steel, galvanized

Permissible operating temperature: -30 °C to +70 °C

for main lines for tube diam. 10 (NW8) (connection: pump – feeder)



*) Take length of engaged thread and double it when determining the length of the hose.

| Designation | Order No. |
|---|---------------|
| ① High press. hose, max. length supplied 100 m | WVN711-10 |
| High press. hose, max. length supplied 50 m filled with NLGI grade 2 grease | WVN711-10+AF2 |
| ② Sleeve | 406-810-002 |
| ③ Tube stud, straight | 406-710-002 |

Technical data

Hose: operating pressure: 130 bars
burst pressure: 315 bars
min. bending radius: 55 mm

Material

Hose: Inner lining: Perbunan
Inner layer: diagonally woven synthetic fibers
Outer cover: weatherproof neoprene

Sleeve: aluminum
Tube stud: steel, galvanized

Permissible operating temperature: -40 °C to +100 °C

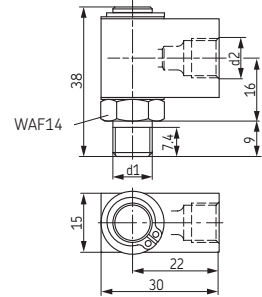
Accessories

Rotating joints

Rotating joints connect fixed tubing with oscillating and rotating machine parts.

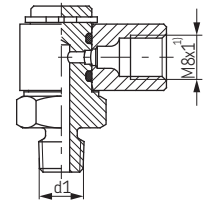
| Order No. | Tube outside diam. | d1 | d2 *) | Max. Speed [rpm] | Max. pressure oil [bar] | Max. pressure air [bar] |
|-------------|--------------------|---------|-------|------------------|-------------------------|-------------------------|
| 401-504-192 | 4 | G 1/8 A | M8x1 | | | |
| 401-504-292 | 4 | M8x1 | M8x1 | 100 | 30 | 8 |
| 401-506-313 | 6 | M10x1 | M10x1 | | | |

Flow media: mineral oils, oiled compressed air



Banjo fitting, rotatable

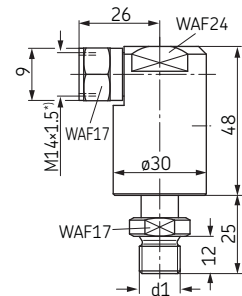
| Order No. | Tube outside diam. | d1 |
|-------------|--------------------|------------|
| 405-549-049 | 4 | M8x1 tap. |
| 405-551-049 | 4 | M10x1 tap. |



| Order No. | Tube outside diam. | d1 | Max. speed [rpm] | Max. pressure oil [bar] | Max. pressure air [bar] |
|-----------|--------------------|------------|------------------|-------------------------|-------------------------|
| DLY930-2 | 8 | G 1/4 A | 1400 | 20 ¹⁾ | 8 |
| DLY931 | | R 1/8 tap. | | | |

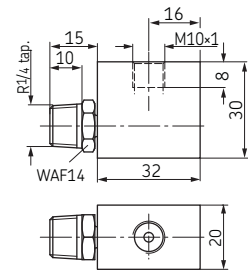
Flow media: mineral oils, oiled compressed air

¹⁾ 30 bars in singleline centralized lubrication systems for a short time.



| Order No. | Tube outside diam. | Max. speed [rpm] | Max. pressure [bar] |
|-----------|--------------------|------------------|---------------------|
| DLY932 | 6 | 1400 | 5 |

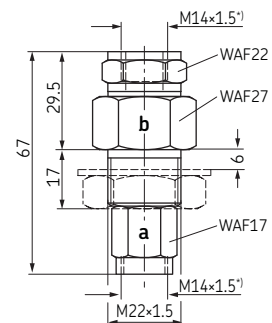
Flow medium: mineral oil



| Order No. | Tube outside diam. | Max. speed [rpm] | Max. pressure [bar] |
|-----------|--------------------|------------------|---------------------|
| 408-120 | 8 | 20 | 10 |

Flow medium: mineral oil

The rotating joint is also available with nut DIN936M22x1.5 and spring washer DIN137-B22.



^{*)} Ports tapped for solderless tube connection

Accessories

Pressure gauges

| Order No. | Indication range | |
|-------------|-----------------------|------------|
| 248-602.25 | 0-10 bars | |
| 169-102-506 | 0-25 bars / 0-360 psi | |
| 248-602.20 | 0-40 bars | for grease |
| 169-104 008 | 0-40 bars | for oil |
| 169-106-004 | 0-60 bars | |

Fixed by means of a double tapered sleeve and socket union (solderless tube connection) in counterbore acc. to DIN 3854/DIN 3862.

| Order No. | Indication range | Adaptor Order No. | d |
|-------------|-----------------------------------|-------------------|---------|
| 169-101-004 | 0-10 bar | | |
| 169-102-020 | 0-25 bar / 0-363 psi / 0-2.5 Mpa | | |
| 169-104-020 | 0-40 bar / 0-580 psi / 0-4 Mpa | | |
| 169-106-020 | 0-60 bar / 0-870 psi / 0-6 Mpa | 301-134 | M10×1 |
| 169-110-020 | 0-100 bar / 0-1450 psi / 0-10 Mpa | 301-034 | M14×1.5 |
| 169-116-000 | 0-160 bar | | |
| 169-125-020 | 0-250 bar / 0-3625 psi / 0-25 Mpa | | |

Washer, order No. 248-610.02, must be ordered separately for every pressure gauge.

Damped version with glycerine filling

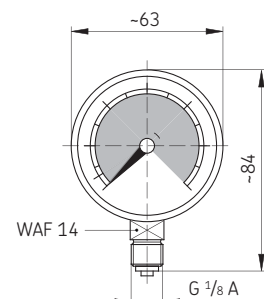
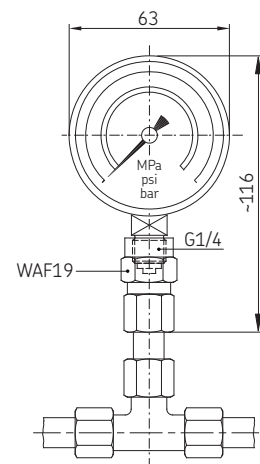
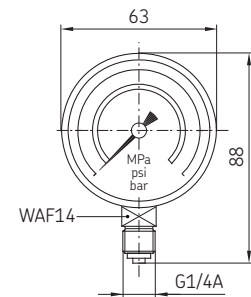
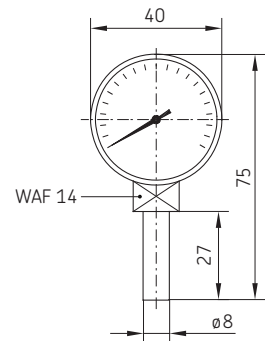
| Order No. | Indication range | Mounting position |
|-------------|-----------------------------------|-------------------|
| 169-102-015 | 0-25 bar / 0-363 psi / 0-2.5 Mpa | vertically |
| 169-104-015 | 0-40 bar / 0-580 psi / 0-4 Mpa | |
| 169-106-015 | 0-60 bar / 0-870 psi / 0-6 Mpa | |
| 169-110-015 | 0-100 bar / 0-1450 psi / 0-10 Mpa | |
| 169-125-015 | 0-250 bar / 0-3625 psi / 0-25 Mpa | |
| 169-140-001 | 0-400 bars | |

Washer, order No. 248-610.02, must be ordered separately for every pressure gauge.

Version with visualization

| Order No. | Indication range | Mounting position |
|-------------|-----------------------|-------------------|
| 169-101-607 | 0-16 bars / 0-1.6 MPa | vertically |
| 169-104-011 | 0-40 bars / 0-4 MPa | |
| 169-106-011 | 0-60 bars / 0-6 MPa | |
| 169-110-010 | 0-100 bars / 0-10 MPa | |

Washer, order No. 248-610.02, must be ordered separately for every pressure gauge.



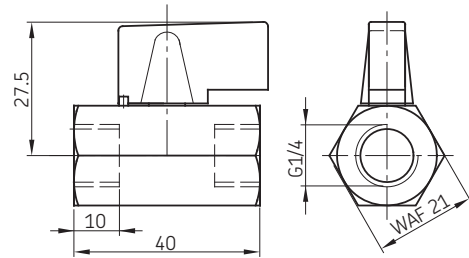
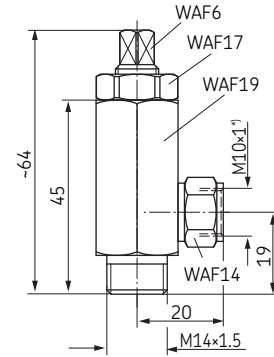
Accessories

Shut-off valves

| Order No. | Max. pressure [bar] | Max. temperature [°C] | Spindleway |
|-----------|---------------------|-----------------------|--------------|
| 202-085-S | 60 | 80 | max. 3 revs. |

Direction of flow optional

| Order No. | Max. pressure [bar] | Max. temperature [°C] |
|-------------|---------------------|-----------------------|
| 161-600-036 | 16 | 90 |



^{*)} Ports tapped for solderless tube connection

Quick-disconnect couplings

Coupling, complete

| Order No. | Tube diam. | d1 *) | l2 | Flow direction |
|-----------|------------|---------|------|----------------|
| 207-168-2 | 6 | M10x1 | 62 | optional |
| 207-188-2 | 8 | M14x1.5 | 66,5 | |

Outer coupling member

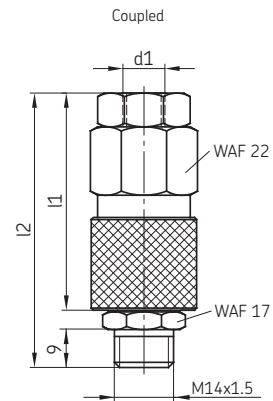
| Order No. | Tube diam. | l1 |
|-------------|------------|------|
| 207-168.U7 | 6 | 48,5 |
| 207-188.U11 | 8 | 53 |

Inner coupling member

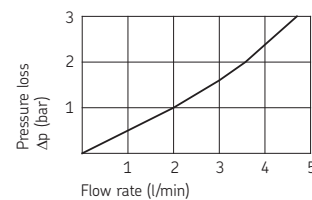
| Order No. | 207-168.U2 |
|-----------|------------|
|-----------|------------|

Both coupling members are shut off when disconnected!

^{*)} Ports tapped for solderless tube connection



Pressure loss as a function of the flow rate based on an operating oil viscosity of 140 mm²/s



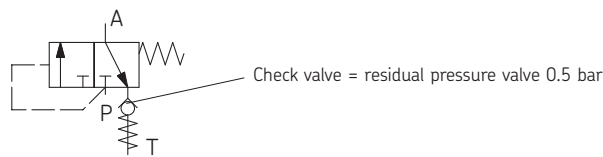
Accessories

Relief valves

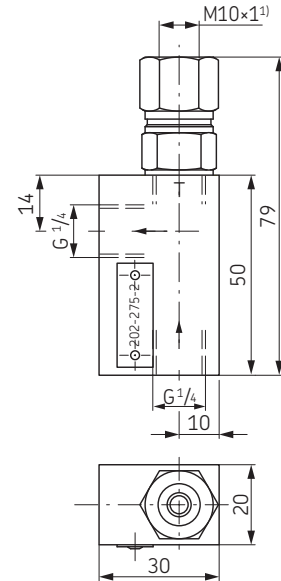
These valves are installed in distributor systems fitted with a pump without pressure relief equipment, mainly in the main line downstream from the pump.

With longer main lines and high viscosity oils, the pressure relief time, which influences the reversing of the distributors, can become too long. The installation of the second relief valve at a suitable position in the main line, e.g. at half the main line length, may remedy this problem.

Order No. 202-275-2



A = Outlet
P = Inlet
T (R) = Return

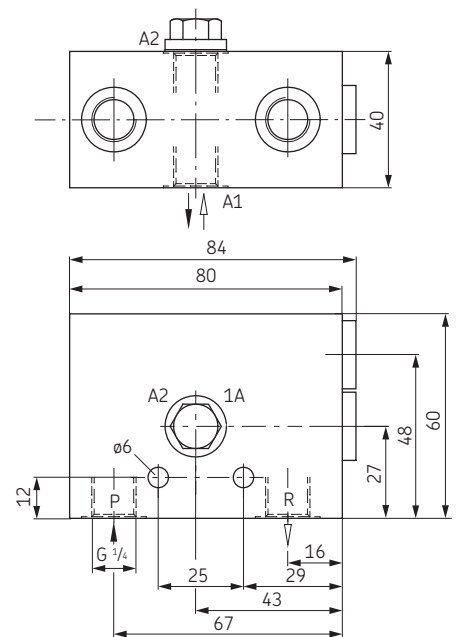
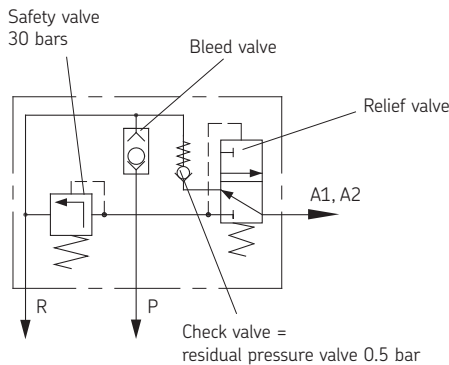
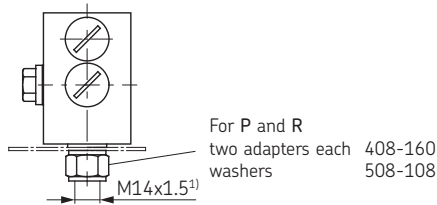


Relief valve with bleed valve and safety valve

Order No. 202-175-30

Adaptors ^{*)} for tube diam. 6: Order No. 406-054
for tube diam. 8: Order No. 301-020
for tube diam. 10: Order No. 410-163

Fitted to reservoir



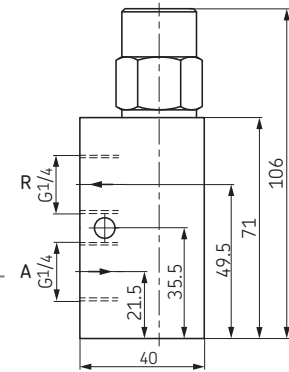
^{*)} Ports tapped for solderless tube connection

Accessories

Safety valves, adjustable (poppet valve)

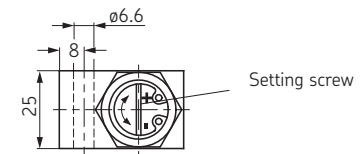
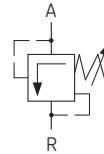
Hydraulic characteristics

| Order No. | Rated flow rate [l/min] | Adjustable pres. range [bar] | Operating pres. max. [bar] | Oil temperature max. | Viscosity range mm ² /s | Seal |
|-----------------|-------------------------|------------------------------|----------------------------|----------------------|------------------------------------|-----------|
| WVN200-10E6 | | 1 to 6 | 40 | | | NBR |
| WVN200-10E12 | | 3 to 12 | 40 | | | NBR |
| WVN200-10E12-S8 | see | 3 to 12 | 40 | | | FKM (FPM) |
| WVN200-10E25 | pressure- | 4 to 25 | 40 | 80 °C | 20 to 1000 | NBR |
| WVN200-10E25-S8 | loss | 4 to 25 | 40 | | | FKM (FPM) |
| WVN200-10E35 | parameter | 4 to 35 | 40 | | | NBR |
| WVN200-10E60 | | 12 to 60 | 70 | | | NBR |
| WVN200-10E60-S8 | | 12 to 60 | 70 | | | FKM (FPM) |

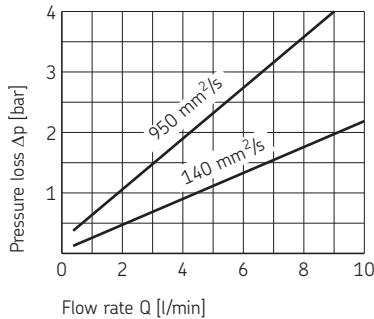


General characteristics

Design: poppet valve with hydraulic cushioning directly controlled
 Lubricant: oil
 Connecting thread: G 1/4
 Mounting position: optional



Pressure loss parameter



With increasing flow rate, the pressure upstream from the valve will also rise in accordance with the curves.

Adaptors *)

for valves **WVN200-10E6 to WVN200-10E35**

for tube diam. 8: Order No. 301-020
 for tube diam. 10: Order No. 410-163
 for tube diam. 12: Order No. 412-163

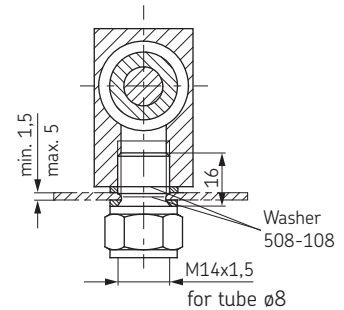
Washer: Order No. 508-108

for valve **WVN200-10E60**

for tube diam. 8: Order No. 408-403W
 for tube diam. 10: Order No. 410-403W
 Washer: Order No. 508-108

If installed on a reservoir, use **two special adaptors 408-160** with long tube ends.

*) Ports tapped for solderless tube connection



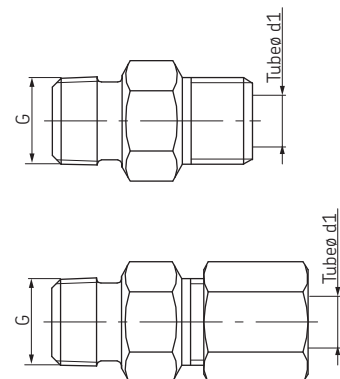
Check valve (Kugelventile)

| Order No. | Tube diam. d1 | G | Opening pressure [bar] | Pressure, max. [bar] | Series |
|-------------|---------------|------------|------------------------|----------------------|--------|
| VPG-RV | 4 | R 1/8 tap. | 10 | 100 | LL |
| VPG-RV6 | 6 | R 1/8 tap. | 10 | 315 | L |
| VPG-RV8 | 8 | R 1/8 tap. | 10 | 315 | L |
| VPM-RV4 | 4 | M10x1 tap. | 10 | 100 | LL |
| VPM-RV | 6 | M10x1 tap. | 10 | 315 | L |
| VPM-RV8 | 8 | M10x1 tap. | 10 | 315 | L |
| VPM-RV10 | 10 | M10x1 tap. | 10 | 315 | L |
| VPKG-RV | 6 | R 1/8 tap. | 3 | 100 | LL |
| VPKM-RV-S3* | 6 | M10x1 tap. | 3 | 100 | LL |
| VPKM-RV-S4 | 6 | M10x1 tap. | 2 | 100 | LL |

* Stainless steel

Check valves for quick connectors, see page 21.

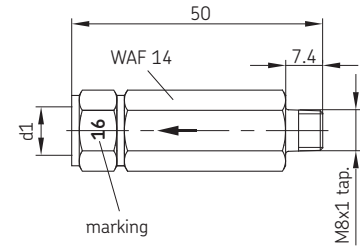
LL-series = extra light version, L-series = light version



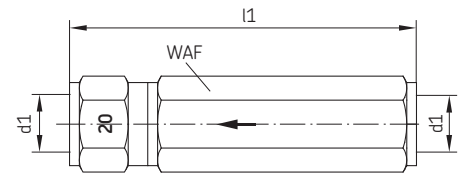
Accessories

Safety valves, (ball valves) for flow rates from 0.5 to 2 l/min

| Order No. | Tube diam. | Opening pressure [bar] | Marking | d1 *) |
|-----------------|------------|------------------------|---------|-------|
| WVN200-4A0.4 | 4 | 0.4 | 04 | M8×1 |
| WVN200-4A5 | | 5 | 5 | |
| WVN200-4A8 | | 8 | 8 | |
| WVN200-4A12 | | 12 | 12 | |
| WVN200-4A16 | | 16 | 16 | |
| WVN200-4A25 | 25 | 25 | 25 | |
| WVN200-4A0.4-S1 | 6 | 0.4 | 04 | M10×1 |

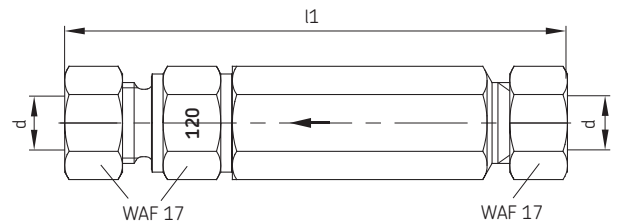


| Order No. | Tube diam. | Opening pressure [bar] | Marking | d1 *) | l1 | WAF |
|---------------------------|------------|------------------------|---------|---------|------|-----|
| WVN200-6B0.5 | 6 | 0.5 | 05 | M10×1 | 61 | 14 |
| WVN200-6B3 | | 3 | 3 | | | |
| WVN200-6B8 | | 8 | 8 | | | |
| WVN200-6B12 | | 12 | 12 | | | |
| WVN200-6B16 | | 16 | 16 | | | |
| WVN200-6B20 | | 20 | 20 | | | |
| WVN200-6B40 | 40 | 40 | 40 | | | |
| WVN200-8B0 | 8 | 0.04 | 0 | M14×1.5 | 71 | 17 |
| WVN200-8B3 | | 3 | 3 | | | |
| WVN200-8B5 | | 5 | 5 | | | |
| WVN200-8B12 | | 12 | 12 | | | |
| WVN200-8B16 | | 16 | 16 | | | |
| WVN200-8B20 | | 20 | 20 | | | |
| WVN200-8B32 | 32 | 32 | 32 | | | |
| WVN200-10B0 | 10 | 0.04 | 0 | M16×1.5 | 80 | 19 |
| WVN200-10B0.5 | | 0.5 | 05 | | | |
| WVN200-10B1 | | 1.2 | 12 | | | |
| WVN200-10B32 | | 32 | 32 | | | |
| 161-212-054 ¹⁾ | 8 | 20 | 20 | M14×1.5 | 84.5 | 17 |



¹⁾ This valve is designed as a plunger valve. Because of this design it can also be used for regulating tasks, whereas the ball valves should be used as safety valves..

| Order No. | Tube diam. d | Opening pressure [bar] | Marking | l1 |
|------------------|--------------|------------------------|---------|----|
| WVN200-8D50 | 8 | 50 | 50 | 84 |
| WVN200-8D75 | | 75 | 75 | |
| WVN200-8D120 | | 120 | 120 | |
| WVN200-8D220 | | 220 | 220 | |
| WVN200-10D120-S1 | 10 | 120 | 120 | 87 |
| WVN200-10D220-S1 | | 220 | 220 | |



Cutting sleeve screw unions according to DIN 2353

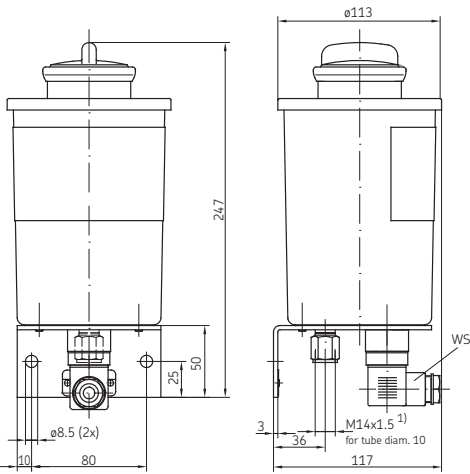
*) Ports tapped for solderless tube connection

Accessories

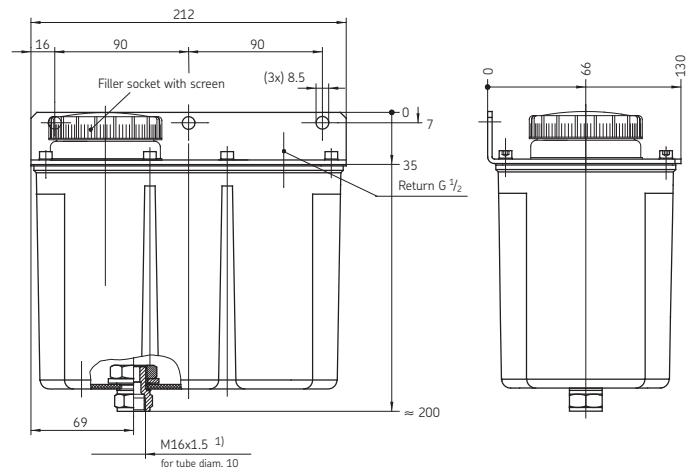
Oil reservoirs – plastic

Plastic reservoirs

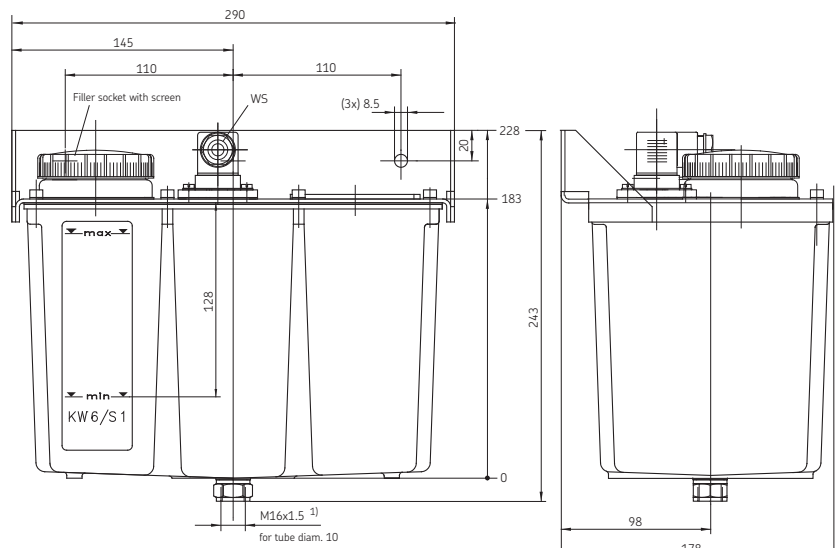
| Order No. | Reservoir capacity [liters] | Level indicator WS | Type of contact | Seal material |
|---|-----------------------------|---|---|--------------------------------|
| K1 KW1 KW1-S2 | 1 | – for min. filling level for min. filling level | – NC NC | NBR |
| K3-S2 KW3-S1 KW3-S3 KW3-S5 | 3 | – for min. filling level for min. and max. filling level for min. filling level with advance warning | – changeover 1 NC, 1 NO | NBR |
| K6-S5 KW6-S1 KW6-S2 KW6-S81 KW6-V57 | 6 | – for min. filling level for min. filling level with advance warning for min. filling level for min. filling level with advance warning | – changeover 2 NCs changeover NBR | NBR NBR NBR FKM (FPM) |



1-liter reservoir (shown: KW1)



3-liter reservoir (shown: K3-S2)



6-liter reservoir (shown: KW6-S1)

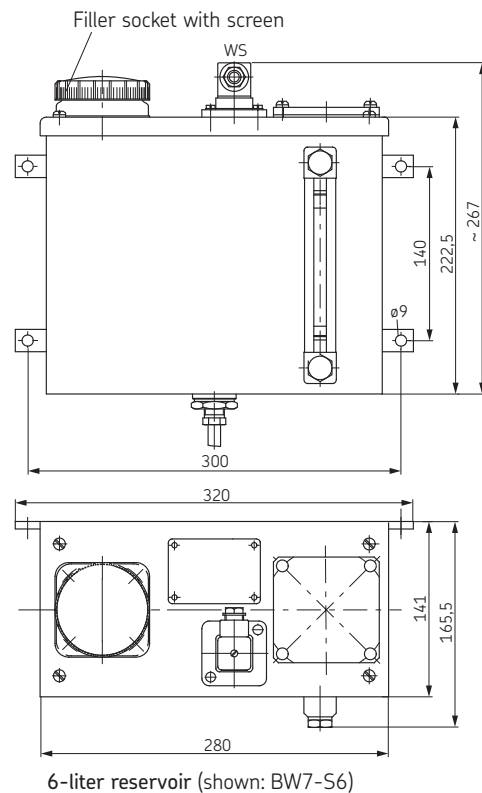
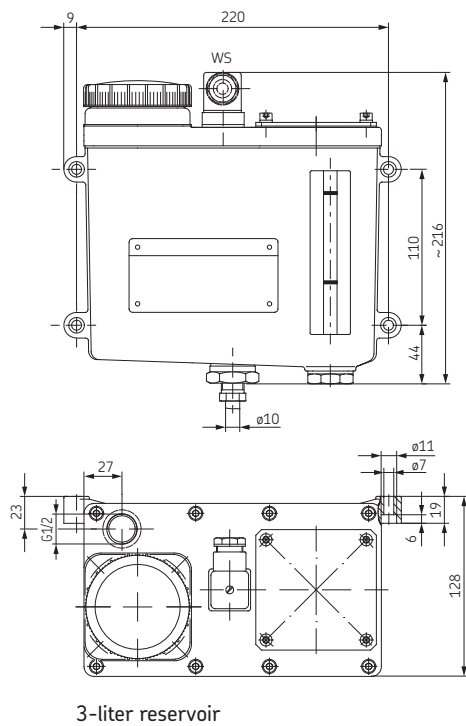
¹⁾ Ports tapped for solderless tube connection to DIN 2367

Accessories

Oil reservoirs – metal

Metal reservoirs

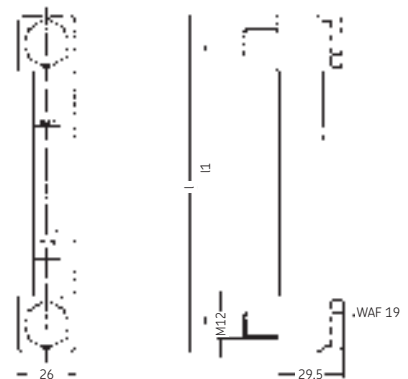
| Order No. | Reservoir capacity [liters] | Level indicator WS | Type of contact | Seal material |
|---|-----------------------------|---|---|---|
| B3-S1 BW3-S81 162-210-005 | 3 | - for min. filling level for min. filling level | - changeover changeover | NBR FKM (FPM) NBR |
| B7 BW7-S6 BW7-S7 BW7-S8 BW7-S11 BW7-S12 162-310-005 | 6 | - for min. and max. filling level for min. filling level with advance warning for min. filling level for min. filling level with advance warning for min. filling level with advance warning for min. filling level | - 2 NCs 2 NCs changeover 1 NO, 1 NC 1 NO, 1 NC changeover | NBR NBR NBR FKM (FPM) NBR NBR NBR |



Oil level gauges for metal reservoir

| Order No. | Reservoir capacity [liters] | l | l1 |
|-------------|-----------------------------|-----|-----|
| 995-003-044 | 6 | 152 | 127 |
| 995-003-040 | 6 | 190 | 165 |
| 995-003-041 | 15 and 30 | 215 | 190 |
| 995-003-042 | 50 | 279 | 254 |
| 995-003-043 | 100 | 305 | 280 |

Type: NBR
FKM (FPM) on request



Accessories

Filler coupling for oil and fluid grease

Coupling plug

| Order No. | Fig. | øA | L | Respective dust cover Order No. | Respective coupling socket Order No. |
|-------------|------|-------------------------------|------|---------------------------------|--------------------------------------|
| 995-001-501 | 1 | G ¹ / ₄ | 57.5 | 995-001-503 | 995-002-073 |
| 995-001-502 | 1 | G ¹ / ₂ | 82 | 995-001-504 | 995-001-950 |
| 995-000-705 | 2 | G ¹ / ₄ | - | - | 995-001-500 |
| 995-001-260 | 3 | G ¹ / ₂ | 83 | - | - |

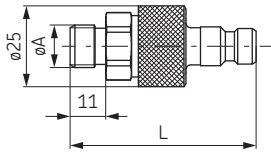


Fig. 1

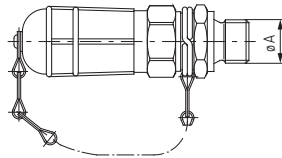


Fig. 2

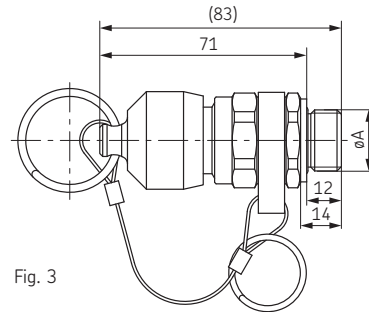


Fig. 3

Topping-up pumps

| Order No. | Drum (kg) | Medium | Operating | Trolley | |
|-------------|-----------|----------|-------------------|---------|------|
| 169-000-004 | 15 | | | | |
| 169-000-012 | 10 | NLGI 1,2 | manually operated | no | - |
| 169-000-016 | 20 | | | | |
| 169-000-056 | 25 | | | | |
| 169-000-082 | 25 / 50 | 00/000 | manually operated | yes | |
| 169-000-084 | 25 | 00/000 | manually operated | yes | Fig. |
| 169-000-042 | 25 | NLGI 1,2 | manually operated | yes | - |
| 169-000-054 | 50 | | | | |
| 169-000-342 | 25 | NLGI 1,2 | manually operated | no | - |
| 169-000-018 | 25 | 00 to 2 | pneum. operated | yes | |

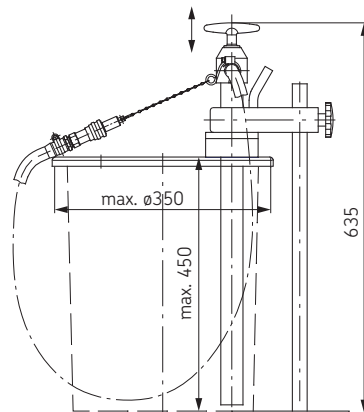


Fig.

Lined writing area with 25 horizontal lines.

**Important information on product usage**

SKF and Lincoln lubrication systems or their components are not approved for use with gases, liquefied gases, pressurized gases in solution and fluids with a vapor pressure exceeding normal atmospheric pressure (1 013 mbar) by more than 0,5 bar at their maximum permissible temperature.

Additional brochures for further information

1-0116-EN *Filters*

1-9201-EN *Transport of Lubricants in Centralized Lubrication Systems*

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