

Valves and connections for SF_6



DILO. Sustainably tight.

Made ∎ in ∎ Germany

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General



DILO offers the widest valves and couplings product range in the world. Whether for medium voltage switchgear, high voltage switchgear or gas-insulated lines (GIL) our products always meet your requirements.

When using the DILO coupling system a leak rate of better than 1×10^{-8} mbar l/sec. is achieved corresponding to less than 1 cm³ in 3 years.

The DILO sealing principle prevents the loss of SF_6 gas and moisture from penetrating the SF_6 gas system. DILO couplings will eliminate the loss of SF_6 gas by incorrect gas handling. Thanks to their reliability, quality and durability DILO couplings are the world's most widely used connecting system for SF_6 switchgear.

General

| The DILO seal principle | 05 |
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The DILO seal principle

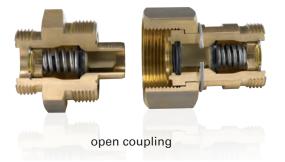
DILO is a seal principle without intermediate seal in the form of groove and tongue with little depth of immersion. This principle guarantees permanent tightness at high static and dynamic alternating stresses which might result from vacuum and pressure in connection with high temperatures and vibrations inside the tubing systems.

Sealing in accordance with the DILO principle is effected by direct contact of the sealing profiles of the groove and tongue parts. The different radii of curvature of groove and tongue are in a certain relation to each other. Thus, two ring-shaped sealing areas are produced which create high stability.

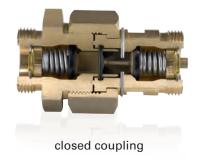
The additional braking surface prevents plastic deformations at the ring-shaped sealing areas.

DILO fittings are easy to assemble and require no maintenance. They can loosened and reconnected as often as desired. Thus, the re-use of the DILO seal is guaranteed. Due to the little depth of immersion of DILO groove and tongue the tubes can be immediately pulled out laterally after loosing the clamping nut.

The DILO seal principle



DILO couplings allow a connection to be made by simply screwing the two coupling parts together. Before the metal to metal seal closes the pressure and vacuum tight coupling is sealed



inside by means of an O-ring. When loosening the coupling parts again the same O-ring prevents gas loss whilst the self seal valves close.

Advantages of application

- Self-closing coupling system
- Pressure and vacuum-tight even when coupling and uncoupling
- Permanent tightness even when frequently connected and disconnected
- Applicable up to PN 64 bar

- Suitable for temperatures from -40 °C to +80 °C
- Direct connection to DILO service carts without adapter
- Available in different materials even for outdoor switchgear

Explanation of DILO-pressure stages

| Series | ML1 | Valves | Accessories | Hoses |
|----------------------|------|--------|-------------|-------|
| Pressure stage up to | PN64 | | PN50 / 64 | |

DILO-Type explanation

Explanation of abbreviations used in our catalogue

ML Soldering-stub unions with metric connecting dimensions

Illustration of different structural shapes of DILO-soldering unions

A Soldering union

- B Screw-in stub-soldering union
- M Gauge connecting union

Material standards

Material No. DIN **Material designation DILO** material code letter 1.4571 X6CrNiMoTi17-12-2 С CW614N Ρ CuZn39Pb3 Т EN AW-6082 EN AW-ALSi1MgMn Е 1.4305 X10CrNiS189 CW713R CuZn37Mn3Al2PbSi Н







Surface treatment and cleaning

Before dispatch or storage, the finished valves and fittings must be treated as follows:

- austenitic material is cleaned
- brass material is cleaned
- aluminium material is anodised, the thread is lubricated with Molykote

Version

Version of the screw-in stub with O-ring sealing (can also be supplied in special design with edge acc. to DIN 3852-1 form B and DIN EN ISO 1179-4 form B).

Design of the screw-in holes for the isometric thread as well as for Whitworth-pipe threads according to DIN 3852-1 form X and DIN EN ISO 1179-1.

Technical data of threads

| Type of thread | Standards | Code designation | Illustration |
|------------------|---------------------------------|------------------|--------------|
| Metric thread | DIN 13 thread angle 60° | М | |
| Whitworth thread | DIN/ISO 228 thread angle 55° | G | |

Soldering process

DILO-soldering unions can be soldered by the well-known "autogenous" soldering techniques.

Packing

Parts are all hermetically sealed in PVC to ensure they are kept free of dust and dirt. The unions are protected against damage by plastic caps.

O-ring and rubber seal

For all coupling parts an EPDM rubber seal is used as sealing material.

Quality assurance

Quality assurance takes the first place within the DILO-organization. Our approved and authorized experts permanently check the material carefully. The entire raw material is ordered according to DILO approval-/ order regulations. Thus it is guaranteed that all necessary tests have been carried out which is confirmed in test certificates according to EN 10204 (3.1).

By marking of the raw materials and finished products, the identity of materials is guaranteed. Our fittings areTÜV-approved. Furthermore a certificate according to ISO 9001:2008 is available.

Approvals and tests

DILO products have been approved by international classification organisations such as:

- Certification according to ISO 9001:2008
- HP0 approval as pressure equipment manufacturer
- Production control in accordance witch EC 97/23 regulations

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Symbols for valves and fittings

Soldering stub soldering-union





Screw-in stub-soldering union





Gauge connection union





Coupled coupling





Coupling halfs



Hose



Blanking disk





Transition piece





Ball valve





Mounting instructions

General

- Specify the pipe lenghts exactly and cut off rectangularly.
- Burr the pipe extremity and clean it metallically bright.
- Apply the soldering flux where soldering is to be carried out.
- When soldering, use the auxiliary means recommended by DILO and observe the instructions of the soldering materials supplier.
- Do not touch the soldered parts until the solder has solidified and cooled down (Do not quench the soldering area with water).
- Remove the soldering material by rinsing with water and by pickling is.
- Dry union before mounting.
- When mounting only use the connecting components not being damaged by impacts or by overflowed soldering material.
- It must be strictly observed that the tubing system is tension-free supported and that the tubing sections align to each other. Possible divergences can be straightened with the DILO straightening tool.
- Before final mounting, check that all DILO-groove and tongue parts are clear of impurities.
- In order to reduce the friction, the tube unions should be greased with suitable grease at the threads and contact surfaces of the clamping nut, especially when made of austenitic materials. Thus the torque is better converted into axial force and galling of the threads is avoided. When selecting the grease, observe the operating temperatures, the media, the corrosive degree and the materials.
- A fast and strong tightening of the clamping nut guarantees perfect tightness.

The standard version of the screw-in stub of the DILO screw-in unions is equipped with O-ring sealing.

When mounting DILO screw-in unions we recommend using softmetal-sealings (e. g. copper plates opposite the housing or block) for sealing of screw-in stub DIN 3852-1 form B and DIN EN ISO 1179-4.

When all these instructions are observed the mounting will be simple and time-saving. Pipes which are too short or not precisely aligned will require extra work.



Mounting instructions

Mounting illustration:



1. Rectangularly saw off the pipes



2. Deburring of the pipe extremities inside and outside



3. Clean to a bright metallic finish



4. Apply the soldering flux on the pipe



5. Apply the soldering flux at the part to be soldered



6. Use of auxiliary materials

Mounting instructions



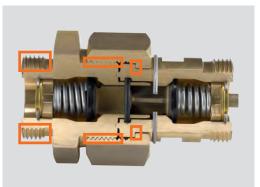
7. Observe the instructions of the soldering materials supplier



8. Before assembling clean the DILO tongue and groove part



9. Lubricate with appropriate lubricants



10. Lubricating points at a DILO tube union



 Tighten fast and strongly the clamping nut by counteracting force according to torque table



12. A screw in plug is sealed into a housing or block with an O ring or copper seal ring.

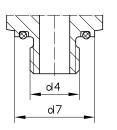


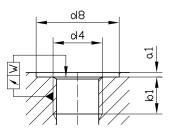
Mounting example

Screw-in stub with O-ring sealing

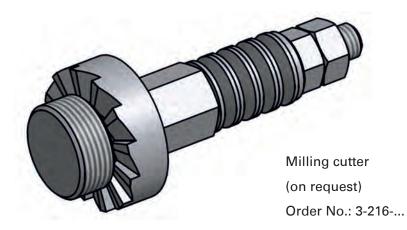
Torque see torque diagram Screw-in thread

Screw-in hole see table Make screw-in hole according to DIN 3852-1 form X and DIN EN ISO 1179-1 Use milling cutter for tight seat





| DN | d4 | d7 | d8 | a1 | b1 | W |
|----|----------------------|----|----|-----|----|-----|
| 8 | M16 x 1,5 G 3/8 A | 26 | 27 | 1,5 | 14 | 0,1 |
| 12 | G 1/2 A | 36 | 37 | 2,5 | 16 | 0,1 |
| 20 | M33 x 2 G 1 A | 49 | 50 | 2,5 | 20 | 0,2 |
| 40 | G 1 1/2 A | 65 | 66 | 2,5 | 24 | 0,2 |



Torque table

| DILO profile connection | | | |
|-------------------------|-------------------------|-----------|--|
| Size of jaw | Material | Torque Nm | |
| 24 | AL | 40 | |
| 24 | Stainless steel / Brass | 40 | |
| 32 | AL | 62 | |
| 32 | Stainless steel / Brass | 77 | |
| 41 | AL | 88 | |
| 41 | Stainless steel / Brass | 120 | |
| 50 | AL | 110 | |
| 50 | Stainless steel / Brass | 140 | |
| 65 | Stainless steel / Brass | 150 | |

| Screw-in thread | | | |
|-----------------|------------------------------|-----------|--|
| Screw-in thread | Material | Torque Nm | |
| G1/4 | AL | 15 | |
| G3/8 | AL | 40 | |
| G3/8 | Stainless steel / Brass | 40 | |
| G1/2 | AL | 68 | |
| G1A | AL | 120 | |
| G1A | Stainless steel / Brass | 130 | |
| G1½ | AL | 120 | |
| G1½ | Brass | 140 | |
| M16x1,5 | AL / Stainless steel / Brass | 40 | |
| M33x2 | AL | 120 | |
| M33x2 | Stainless steel / Brass | 130 | |

| Coupling 3-408-R | Torque 15 Nm |
|------------------|--------------|
| - | |

| Coupling 3-888-R | Torque 15 Nm |
|------------------|--------------|
| | |

| Coupling DN40 | Torque 80 Nm |
|---------------|--------------|
|---------------|--------------|

| Covering caps | | |
|---------------|-----------|--|
| Size of jaw | Torque Nm | |
| 24 | 20 | |
| 32 | 40 | |
| 50 | 40 | |

DILO couplings DN6





The coupling allows to establish a connection by simply fitting both coupling parts into each other. Before load relieving of the coupling seats the pressure- and vacuum tight coupling is sealed inside with an O-ring during the coupling process. The coupling is forced to be open in coupled position. If both coupling sides are separated again the sealing seats shut off automatically.

All couplings are temperature-resistant from -40 °C to +80 °C.

The suitable connecting parts for DILO couplings must be ordered separately.

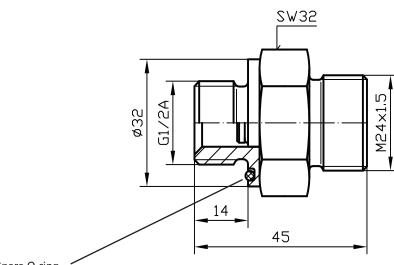
DILO couplings DN6

| 3-408-R005 | Coupling groove part / BG PN10 DN6 | 16 |
|------------------------|---|----|
| 3-408-R006 | Flange coupling PN10 DN6 | 17 |
| 3-408-R009 | Gauge connecting piece DN6 | 18 |
| 3-408-R007 | Covering cap DN6 | 18 |
| 3-408-R001 | Coupling tongue part PN10 DN6 | 19 |
| ∎ 6-1161-R013 | Coupling tongue part PN10 DN6 with connecting coupling for measuring device | 20 |
| 3-408-R021/R022 | Soldering stub connection DN16 | 21 |
| 3-408-R020 | Gauge connecting coupling DN6 | 21 |
| 3-419-R004 | Transition piece to DN8 connections | 22 |
| 3-419-R003 | Adapter piece | 23 |

BG PN10 DN6 Coupling groove part

Order No.: 3-408-R005 T Material: AL





3-408-R001 3-408-R007 3-408-R007 3-408-R020 3-408-R020 3-408-R021/22

Suitable connecting parts

Spare O-ring Order No. 05-0057-R087

PN10 DN6 Flange coupling



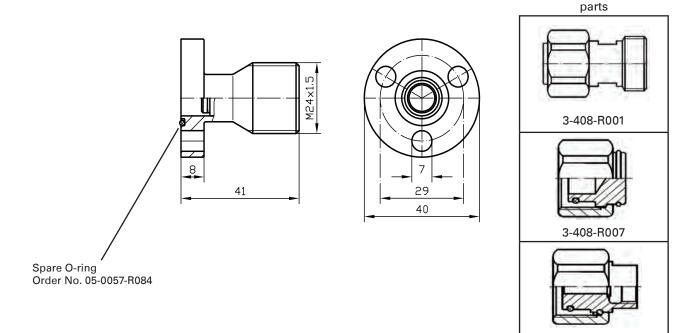
Suitable connecting

3-408-R020

3-408-R021/22

Order No.: 3-408-R006 T Material: AL





PN10 DN6 Gauge connecting piece

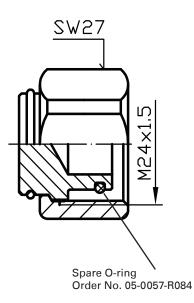
Order No.: 3-408-R009 T Material: AL



PN10 DN6 Covering cap

Order No.: 3-408-R007 T Material: AL



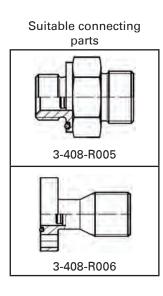


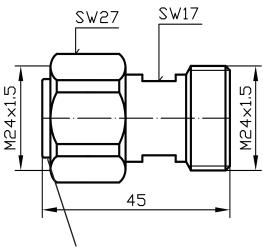
PN10 DN6 Coupling tongue part



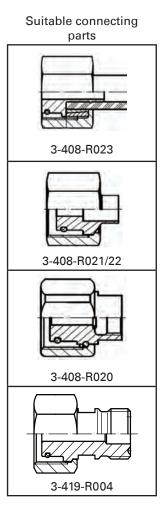
Order No.: 3-408-R001 T Material: AL





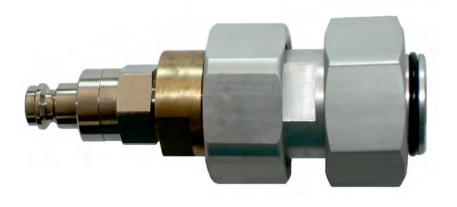


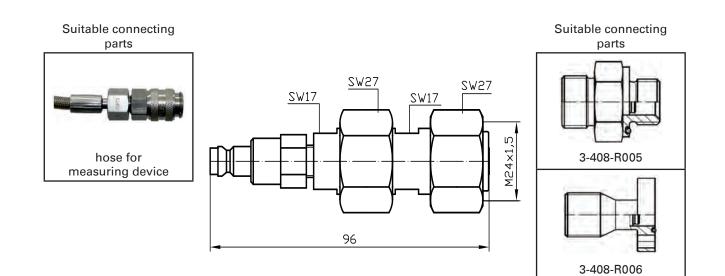
Spare O-ring Order No. 05-0057-R084



PN10 DN6 Coupling tongue part with connecting coupling for measuring device

Order No.: 6-1161-R013 Material: AL / Brass



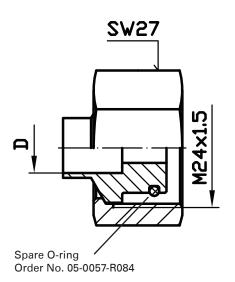


PN10 DN6 Soldering stub connection



Order No.: 3-408-R021 C D = 10 mm 3-408-R022 C D = 6 mm Material: Stainless steel

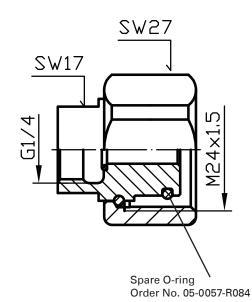




PN10 DN6 Gauge connecting coupling

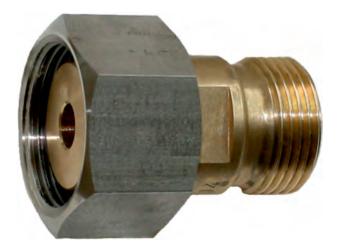
Order No.: 3-408-R020 T Material: AL

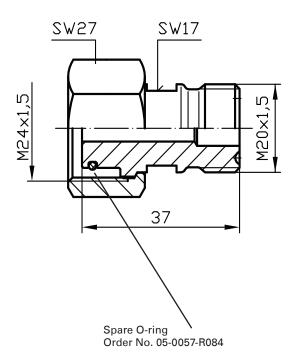




PN10 DN6 Transition piece to DN8 connections

Order No.: 3-419-R004 Material: Stainless steel / Brass



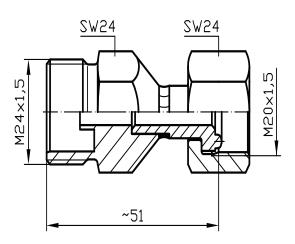


PN10 DN6 Adapter piece



Order No.: 3-419-R003 Material: Stainless steel / Brass





DILO couplings DN7





The plug connection allows to establish a connection by simply fitting both coupling parts into each other. Before load relieving of the coupling seats the pressure- and vacuum tight coupling is sealed inside with an Oring during the coupling process. The coupling is forced to be open in coupled position. If both coupling sides are separated again the sealing seats shut off automatically.

All couplings are temperature-resistant from -40 °C to +80 °C.

The suitable connecting parts for DILO couplings must be ordered separately.

DILO couplings DN7

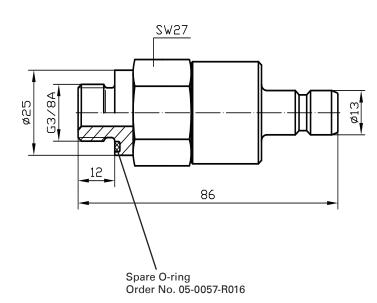
| 3-308-R003 | Plug connection groove part PN30 DN7 | 26 |
|------------|---|----|
| 3-308-R016 | Covering cap for plug connection groove part PN30 DN7 | 27 |
| | Diverse and estimate a set DN20 DN7 | 20 |

- 3-308-R002 Plug connection tongue part PN30 DN7 28
 6-11161-R015 Plug connection tongue part PN30 DN7 29
 - with connecting coupling for measuring device
- 3-308-R006 Covering cap for plug connection 30 tongue part PN30 DN7

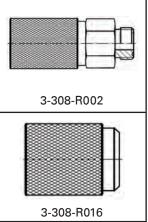
PN30 DN7 Plug connection groove part

Order No.: 3-308-R003 T Material: AL





Suitable connecting parts

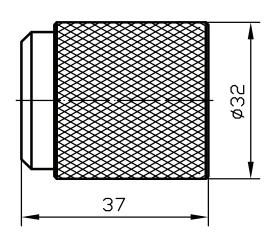


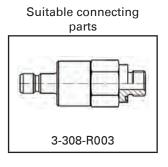
PN30 DN6 Covering cap for plug connection groove part



Order No.: 3-308-R016 T Material: AL



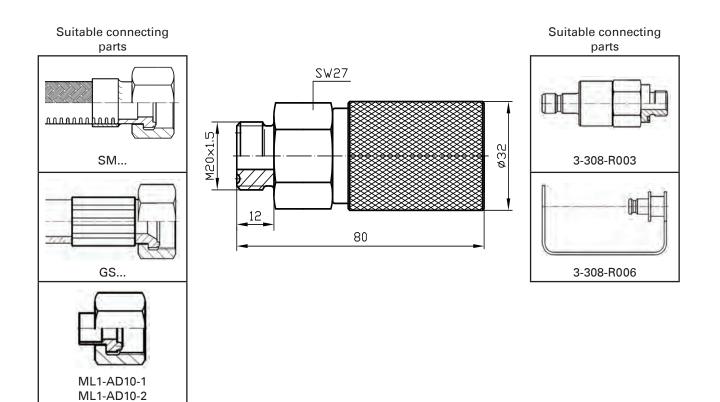




PN30 DN7 Plug connection tongue part

Order No.: 3-308-R002 T Material: AL





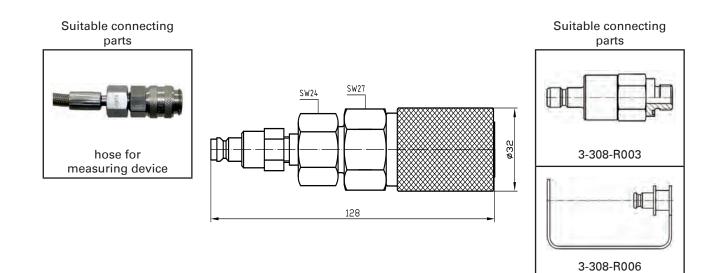
3-251-R001



PN30 DN7 Plug connection tongue part with connecting coupling for measuring device

Order No.: 6-1161-R015 Material: AL

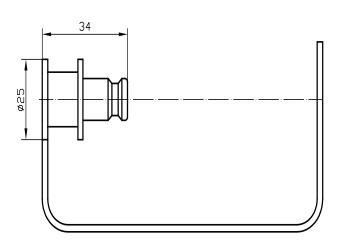


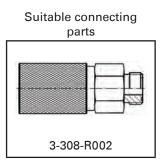


PN30 DN7 Covering cap for plug connection tongue part

Order No.: 3-308-R006 Material: PVC







DILO couplings DN8





The coupling allows to establish a connection by simply fitting both coupling parts into each other. Before load relieving of the coupling seats the pressure- and vacuum tight coupling is sealed inside with an O-ring during the coupling process. The coupling is forced to be open in coupled position. If both coupling sides are separated again the sealing seats shut off automatically.

All couplings are temperature-resistant from -40 °C to +80 °C. In special version these couplings are also available for a temperature range of -60 °C to +80 °C.

The suitable connecting parts for DILO couplings must be ordered separately.

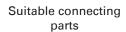
DILO couplings DN8

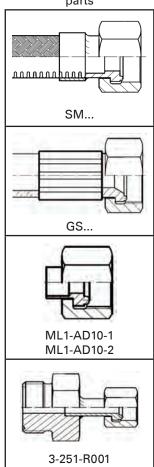
| VK/A-02/8 | Coupling groove part / A PN64 DN8 | 32 |
|----------------------|---|----|
| ■VK/B(G)-03/8 | Coupling groove part PN64 DN8 with O-ring | 33 |
| SK-272-R001 | Flange coupling PN64 DN8 | 34 |
| SK-272-R003 | Flange coupling PN64 DN8 | 35 |
| 3-778-R001 | Flange coupling PN64 DN8 with 2-hole flange | 36 |
| ■VK/KN-04/8 | Covering cap für coupling groove part PN64 DN8 | 37 |
| VK/F-02/8 | Coupling tongue part PN64 DN8 | 38 |
| 6 -1161-R011 | Coupling tongue part PN64 DN8 with connecting coupling for measuring device | 39 |
| SK-372-R020/ R021 | Gauge connecting coupling PN64 DN8 | 40 |

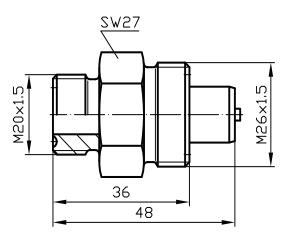
A PN64 DN8 Coupling groove part

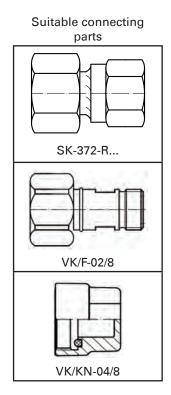


| Order No. | Material | |
|-------------|-----------------|--|
| VK/A-02/8 T | AL | |
| VK/A-02/8 E | Stainless steel | |
| VK/A-02/8 P | Brass | |







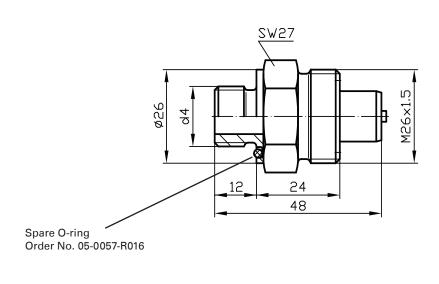


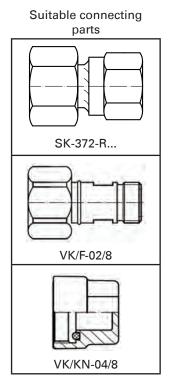
PN64 DN8 Coupling groove part with O-ring





| d4 | Order No. | Material |
|-----------|--------------|-----------------|
| M16 x 1,5 | VK/B-03/8 T | AL |
| M16 x 1,5 | VK/B-03/8 E | Stainless steel |
| M16 x 1,5 | VK/B-03/8 H | Brass |
| G 3/8 A | VK/BG-03/8 T | AL |
| G 3/8 A | VK/BG-03/8 E | Stainless steel |
| G 3/8 A | VK/BG-03/8 H | Brass |



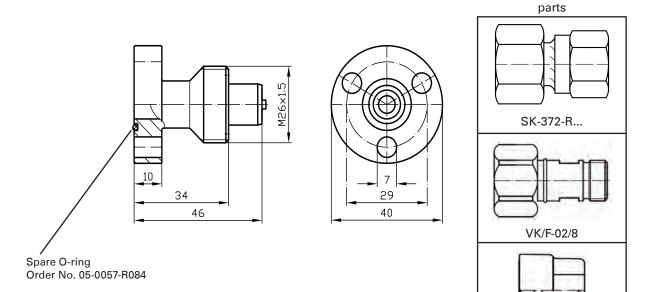


In special version the screw-in thread can also be supplied with sealing edge according to DIN 3852-1 and DIN EN ISO 1179.

PN64 DN8 Flange coupling

Order No.: SK-272-R001 T Material: AL





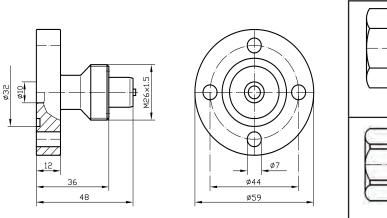
Suitable connecting

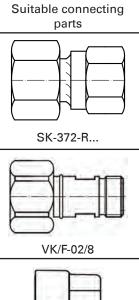
VK/KN-04/8

PN64 DN8 Flange coupling

Order No.: SK-272-R003 T Material: AL





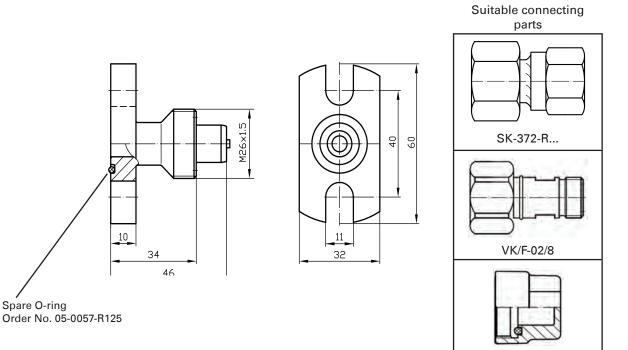


VK/KN-04/8

PN64 DN8 Flange coupling with 2-hole flange

Order No.: 3-778-R001 T Material: AL





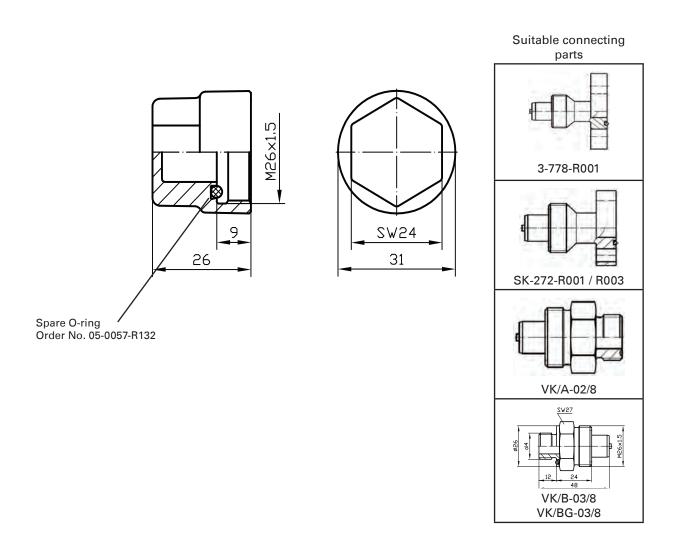
VK/KN-04/8

PN64 DN8 Covering cap for coupling groove part





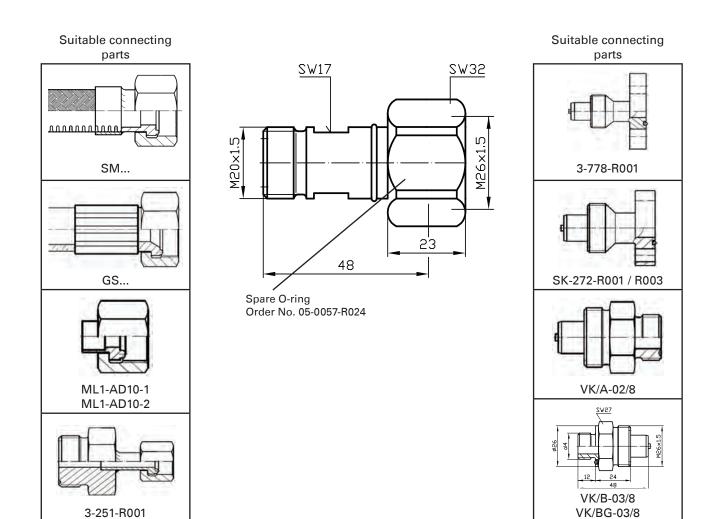
| Order No. | Material |
|--------------|-----------------|
| VK/KN-04/8 T | AL |
| VK/KN-04/8 E | Stainless steel |



PN64 DN8 Coupling tongue part



| Order No. | Material |
|-------------|-----------------|
| VK/F-02/8 T | AL |
| VK/F-02/8 E | Stainless steel |
| VK/F-02/8 P | Brass |



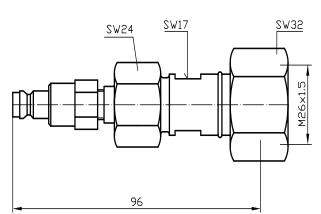


PN64 DN8 Coupling tongue part with connecting coupling for measuring device

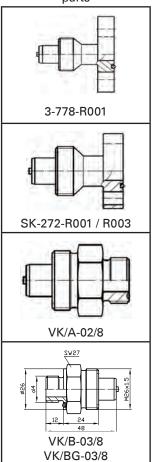
Order No.: 6-1161-R011 Material: Brass







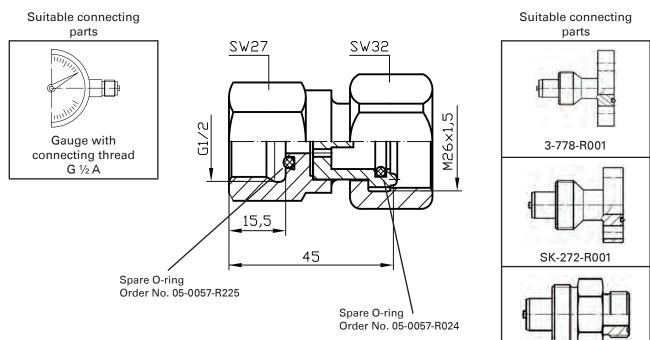
Suitable connecting parts



PN64 DN8 Gauge connecting coupling

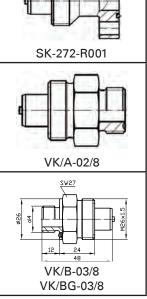


| Order No. | Material |
|---------------|-----------------|
| SK-372-R020 P | Brass |
| SK-372-R021 C | Stainless steel |



Description

The gauge connecting coupling serves as connecting piece to a coupling groove part DN8. When coupling, a pin in the gauge connecting coupling opens the flow of the opposite coupling groove part (forced opening). This allows to read the present operating pressure on the screwed-in gauge. When disconnecting, the concial nipple of the groove part is closed by spring load (pressure and vacuum tight). If the gauge connecting coupling is not connected the gauge shows "zero pressure". The connecting coupling allows to install the gauge in any required position (rotatable 360°).



DILO couplings DN12





The coupling allows to establish a connection by simply fitting both coupling parts into each other. Before load relieving of the coupling seats the pressure- and vacuum tight coupling is sealed inside with an O-ring during the coupling process. The coupling is forced to be open in coupled position. If both coupling sides are separated again the sealing seats shut off automatically.

All couplings are temperature-resistant from -40 °C to +80 °C. In special version these couplings are also available for a temperature range of -60 °C to +80 °C.

The suitable connecting parts for DILO couplings must be ordered separately.

DILO couplings DN12

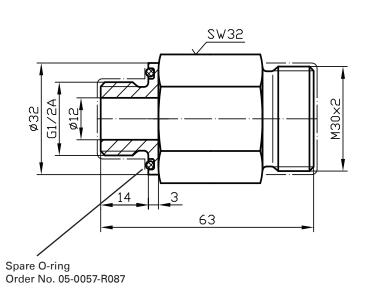
| 3-888-R005 | Coupling groove part / BG PN10 DN12 | 42 |
|---------------------|--|----|
| 3-888-R007 | Covering cap | 43 |
| 3-888-R001 | Coupling tongue part PN10 DN12 | 44 |
| 6 -1161-R014 | Coupling tongue part PN10 DN12 with connecting coupling for measuring device | 45 |
| 3-888-R031 | Gauge connecting coupling PN10 DN12 | 46 |
| 3-888-R009 | Gauge connecting coupling PN10 DN12 | 47 |

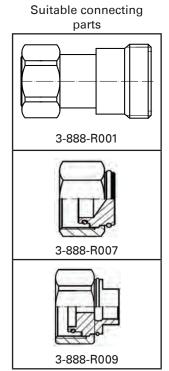
DILO couplings DN12

BG PN10 DN12 Coupling groove part

Order No.: 3-888-R005 T Material: AL



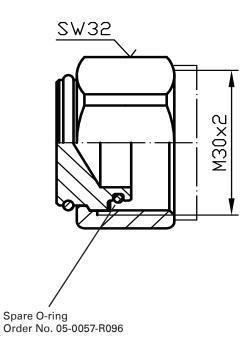




PN10 DN12 Covering cap

Order No.: 3-888-R007 T Material: AL





Suitable connecting parts



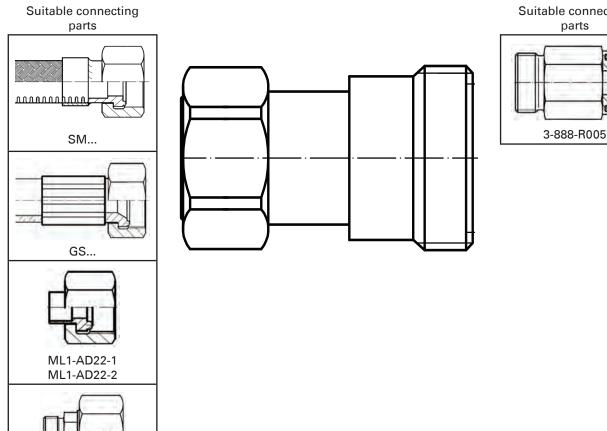


DILO couplings DN12

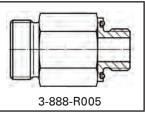
PN10 DN12 Coupling tongue part

Order No.: 3-888-R001 T Material: AL





Suitable connecting



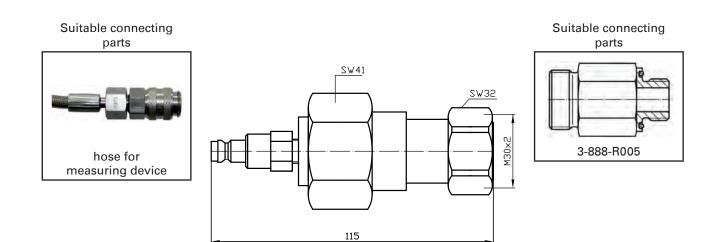
3-240



PN10 DN12 Coupling tongue part with connecting coupling for measuring device

Order No.: 6-1161-R014 Material: AL

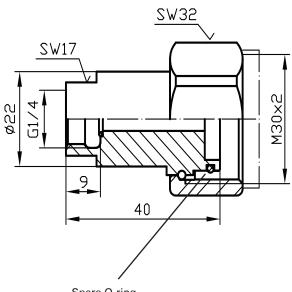




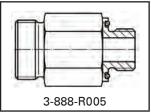
PN10 DN12 Gauge connecting coupling

Order No.: 3-888-R031 T Material: AL





Spare O-ring Order No. 05-0057-R096 Suitable connecting parts

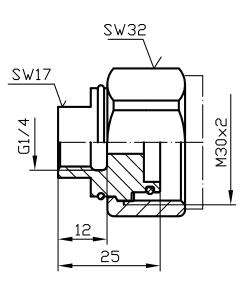


PN10 DN12 Gauge connecting coupling

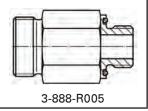


Order No.: 3-888-R009 T Material: AL









DILO couplings DN12





The plug connection allows to establish a connection by simply fitting both coupling parts into each other. Before load relieving of the coupling seats the pressure- and vacuum tight coupling is sealed inside with an Oring during the coupling process. The coupling is forced to be open in coupled position. If both coupling sides are separated again the sealing seats shut off automatically.

All couplings are temperature-resistant from -40 °C to +80 °C.

The suitable connecting parts for DILO couplings must be ordered separately.

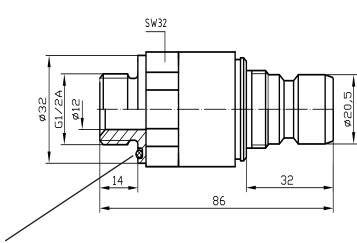
DILO couplings DN12

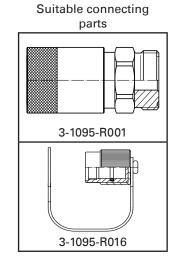
- 3-1095-R005 Plug connection groove part PN8 DN12 50
- 3-1095-R016 Covering cap für plug connection 51 groove part PN8 DN12
- 3-1095-R001 Plug connection tongue part PN8 DN12 52
- 3-1095-R002 Plug connection tongue part PN8 DN12 53 with connecting coupling for measuring device
- 3-1095-R017 Density gauge connection PN8 DN12 54

PN8 DN12 Plug connection groove part

Order No.: 3-1095-R005 T Material: AL







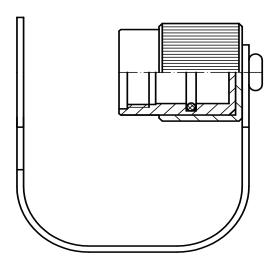
Spare O-ring Order No. 05-0057-R087

PN8 DN12 Covering cap for plug connection groove part



Order No.: 3-1095-R016 T Material: AL





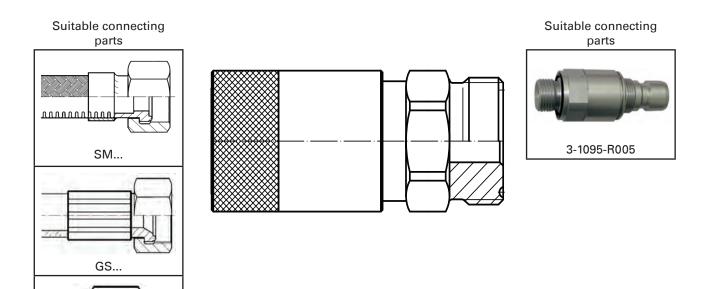


3-1095-R005

PN8 DN12 Plug connection tongue part

Order No.: 3-1095-R001 T Material: AL





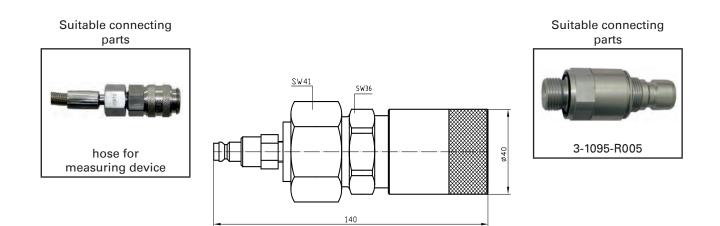
ML1-AD22-1 ML1-AD22-2



PN8 DN12 Plug connection tongue part with connecting coupling for measuring device

Order No.: 3-1095-R002 T Material: AL

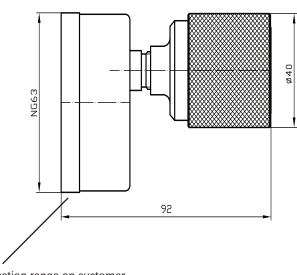




PN8 DN12 Density gauge connection

Order No.: 3-1095-R017 T Material: AL







Indication range on customer request

DILO couplings DN20





The coupling allows to establish a connection by simply fitting both coupling parts into each other. Before load relieving of the coupling seats the pressure- and vacuum tight coupling is sealed inside with an O-ring during the coupling process. The coupling is forced to be open in coupled position. If both coupling sides are separated again the sealing seats shut off automatically.

All couplings are temperature-resistant from -40 °C to +80 °C. In special version these couplings are also available for a temperature range of -60 °C to +80 °C.

The suitable connecting parts for DILO couplings must be ordered separately.

DILO couplings DN20

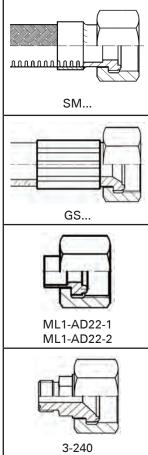
| VK/A-02/20 | Coupling groove part / A PN64 DN20 | 56 |
|---------------------|--|----|
| ■VK/B(G)-03/20 | Coupling groove part PN64 DN20 with O-ring | 57 |
| VK/FL-01/20 | Flange coupling PN64 DN20 | 58 |
| 3-777-R001 | Flange coupling PN64 DN20 with 2-hole flange | 59 |
| 3-685-R001 | Flange coupling PN64 DN20 | 60 |
| ■VK/KN-04/20 | Covering cap for coupling groove part PN64 DN20 | 61 |
| VK/F-02/20 | Coupling tongue part PN64 DN20 | 62 |
| 3 -1121-R003 | DN20 Quick coupling | 63 |
| ∎ 6-1161-R012 | Coupling tongue part PN64 DN20 with connecting coupling for measuring device | 64 |
| 6 -1206-R001 | Coupling tongue part | 65 |
| 6-1092-R006 | Coupling tongue part | 66 |
| ■ 6-1281-R001 | Coupling tongue part with air filter | 67 |
| SK-282-R020 | Gauge connecting coupling PN64 DN20 | 68 |

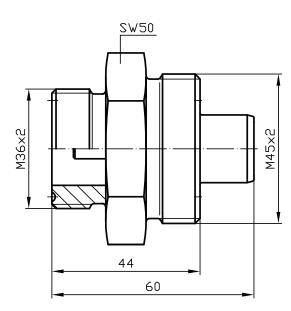


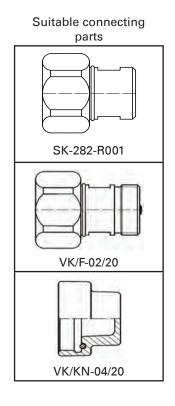


| Order No. | Material |
|--------------|-----------------|
| VK/A-02/20 T | AL |
| VK/A-02/20 P | Brass |
| VK/A-02/20 E | Stainless steel |







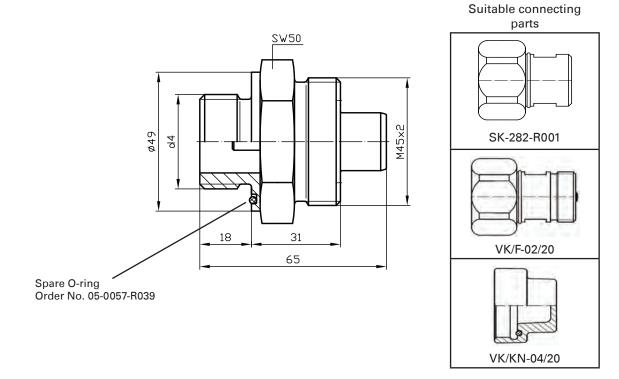


PN64 DN20 Coupling groove part with O-ring





| d4 | Order No. | Material |
|---------|---------------|-----------------|
| M33 x 2 | VK/B-03/20 T | AL |
| M33 x 2 | VK/B-03/20 P | Brass |
| M33 x 2 | VK/B-03/20 E | Stainless steel |
| G 1 A | VK/BG-03/20 T | AL |
| G 1 A | VK/BG-03/20 P | Brass |
| G 1 A | VK/BG-03/20 E | Stainless steel |

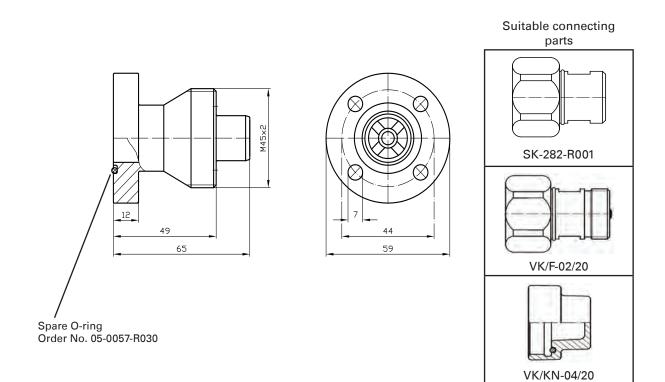


In special version the screw-in thread can also be supplied with sealing edge according to DIN 3852-1 and DIN EN ISO 1179.

PN64 DN20 Flange coupling



| Order No. | Material |
|---------------|-----------------|
| VK/FL-01/20 T | AL |
| VK/FL-01/20 E | Stainless steel |

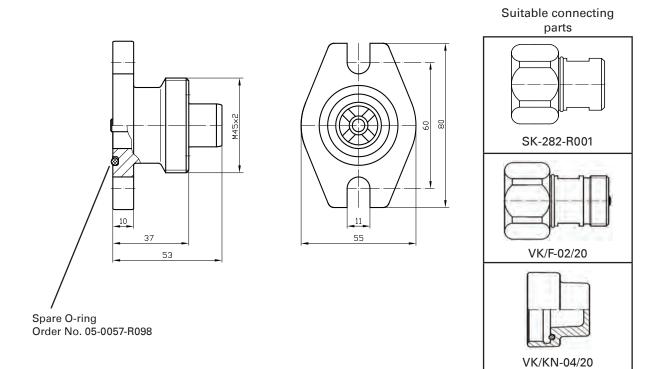


PN64 DN20 Flange coupling with 2-hole flange



Order No.: 3-777-R001 T Material: AL

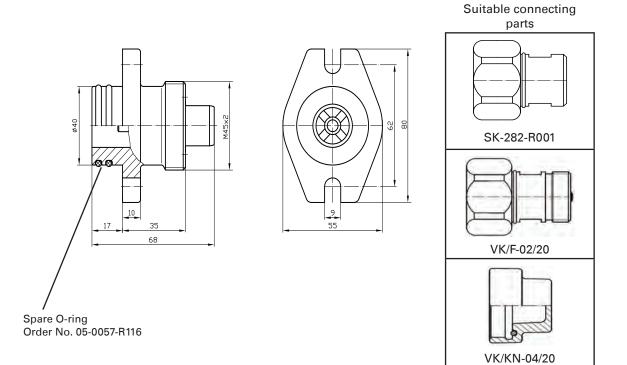




PN64 DN20 Flange coupling

Order No.: 3-685-R001 T Material: AL



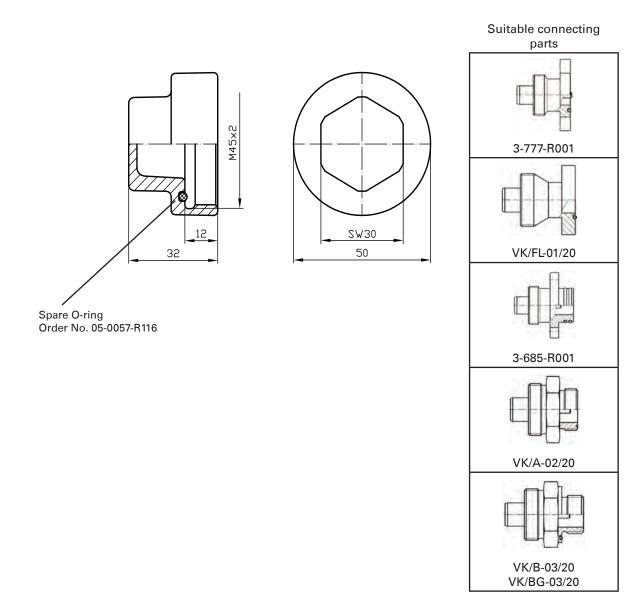


PN64 DN20 Covering cap for coupling groove part





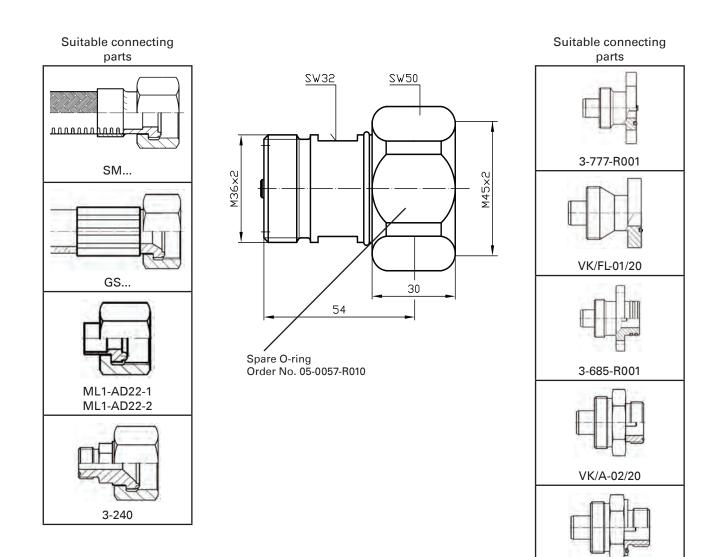
| Order No. | Material |
|---------------|-----------------|
| VK/KN-04/20 T | AL |
| VK/KN-04/20 E | Stainless steel |



PN64 DN20 Coupling tongue part



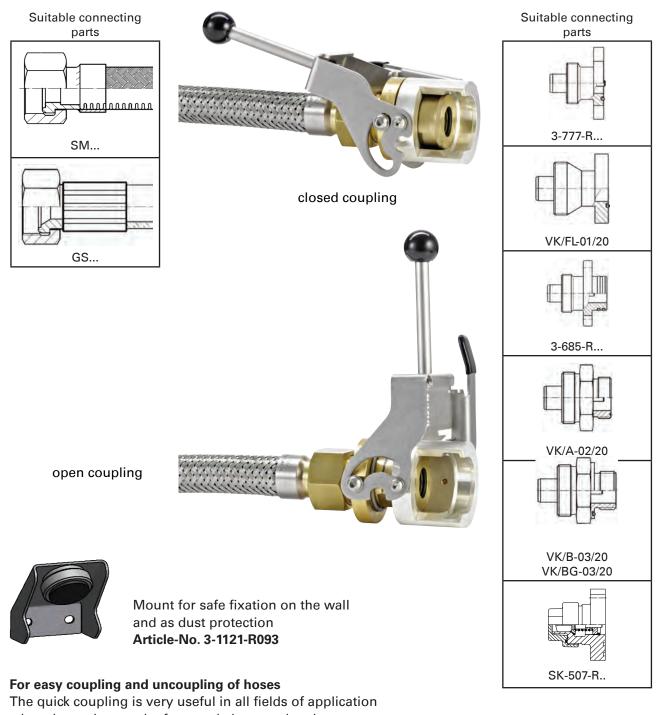
| Order No. | Material |
|--------------|-----------------|
| VK/F-02/20 T | AL |
| VK/F-02/20 E | Stainless steel |
| VK/F-02/20 P | Brass |



VK/B-03/20 VK/BG-03/20

3-1121-R003 DN20 Quick coupling





where hoses have to be frequently loosened and reconnected e. g. during final tests of completely mounted GIS fields. Thanks to the clamp lock the DN20 hoses can easily be connected without any loss of SF_6 gas. Thus the handling times in GIS production are shortened and productivity is increased considerably.

Important note:

The quick coupling is only compatible with DILO coupling groove parts of version 2 (additional "V2" stamp on the flange or wrench size).

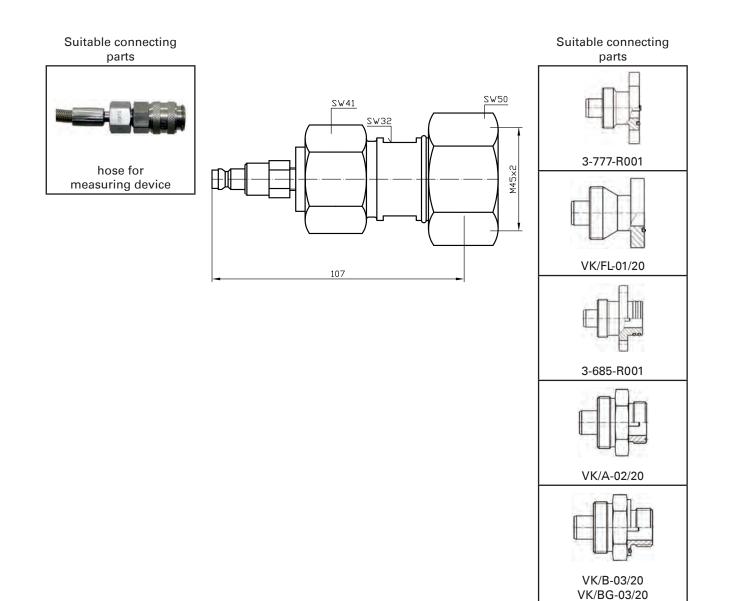
Please see our product video!



PN64 DN20 Coupling tongue part with connecting coupling for measuring device

Order No.: 6-1161-R012 Material: Brass



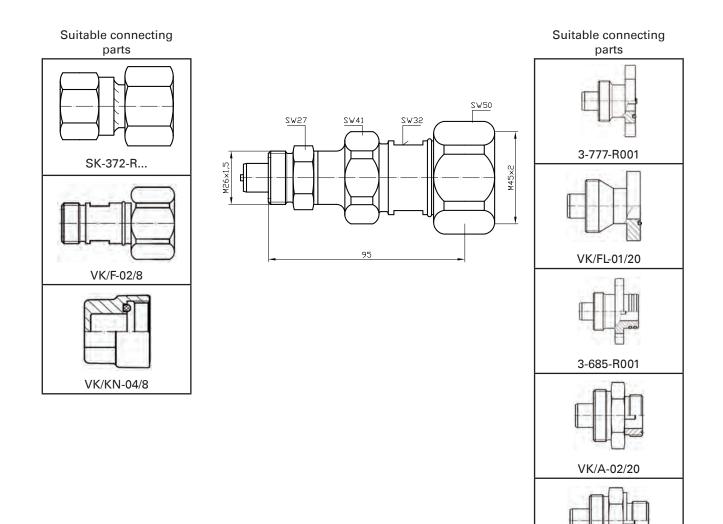




PN64 DN20 Coupling tongue part

Order No.: 6-1206-R001 Material: Brass



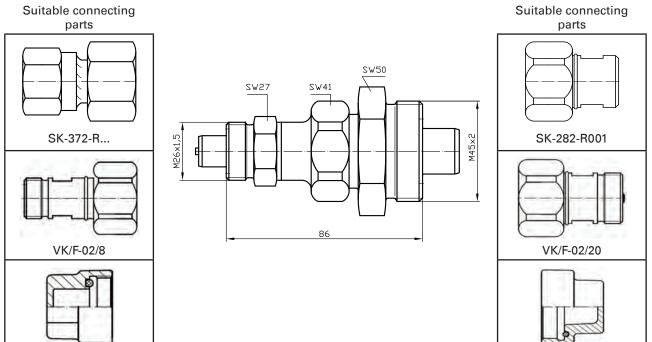


VK/B-03/20 VK/BG-03/20

PN64 DN20 Coupling tongue part with connecting coupling for measuring device

Order No.: 6-1092-R006 Material: Brass





VK/KN-04/20

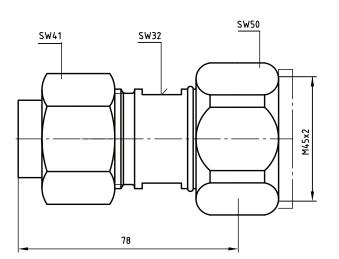
VK/KN-04/8

PN64 DN20 Coupling tongue part with air filter

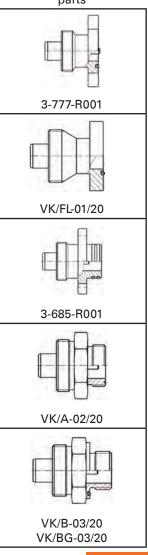


Order No.: 6-1281-R001 Material: Brass





Suitable connecting parts



Description

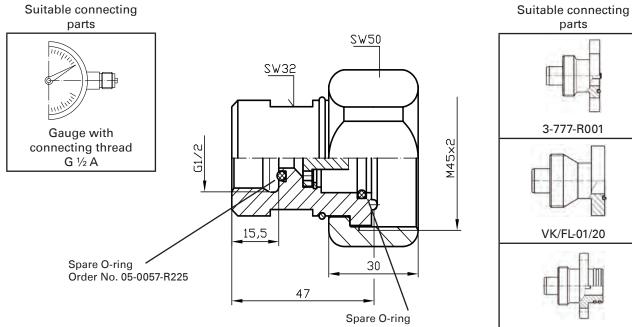
This coupling tongue part allows gas compartments which are under vacuum to be flooded with air after the SF_6 gas recovery and it is not necessary to use any service cart.

The integrated 100- μm filter sieve prevents dirt particles from ambient air penetrating the gas compartment during the flooding process.

PN64 DN20 Gauge connecting coupling



| Order No. | Material |
|---------------|----------|
| SK-282-R020 T | AL |
| SK-282-R020 P | Brass |



Order No. 05-0057-R010

Description

The gauge connecting coupling serves as connecting piece to a coupling groove part DN20. When coupling, a pin in the gauge connecting coupling opens the flow of the opposite coupling groove part (forced opening). This allows to read the present operating pressure on the screwed-in gauge. When disconnecting, the concial nipple of the groove part is closed by spring load (pressure and vacuum tight). If the gauge connecting coupling is not connected the gauge shows "zero pressure". The connecting coupling allows to install the gauge in any required position (rotatable 360°).

3-777-R001 VK/FL-01/20 3-685-R001 VK/A-02/20 VK/B-03/20

VK/BG-03/20

parts

DILO couplings DN40





The coupling allows to establish a connection by simply fitting both coupling parts into each other. Before load relieving of the coupling seats the pressure- and vacuum tight coupling is sealed inside with an O-ring during the coupling process. The coupling is forced to be open in coupled position. If both coupling sides are separated again the sealing seats shut off automatically.

All couplings are temperature-resistant from -40 °C to +80 °C.

The suitable connecting parts for DILO couplings must be ordered separately.

DILO couplings DN40

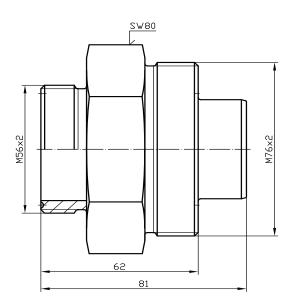
| VK/A-02/40 | Coupling groove part / A PN16 DN40 | 70 |
|-------------|------------------------------------|----|
| VK/FL-01/40 | Flange coupling PN16 DN40 | 71 |

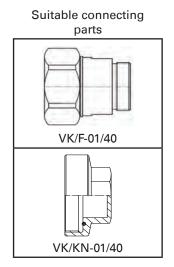
- VK/KN-01/40 Covering cap PN16 DN40
 72
- VK/F-01/40 Coupling tongue part PN16 DN40 73
- C 1000 D001 Coursing to react DN10 DN10 70
- 6-1092-R001 Coupling tongue part PN16 DN40
 74

A PN16 DN40 Coupling groove part

Order No.: VK/A-02/40 E Material: Stainless steel



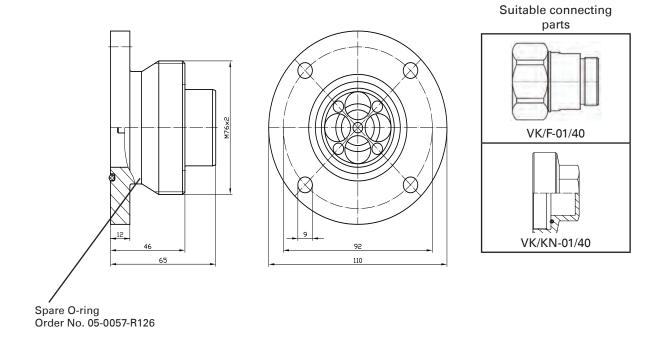




PN16 DN40 Flange coupling

Order No.: VK/FL-01/40 E Material: Stainless steel

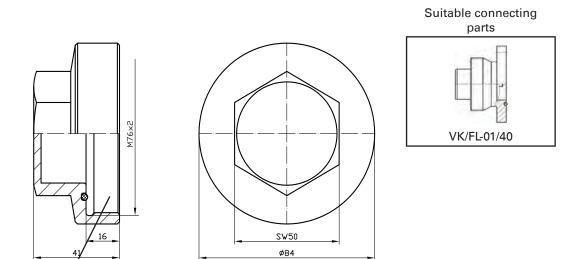




PN16 DN40 Covering cap

Order No.: VK/KN-01/40 T Material: AL





C 3106-05

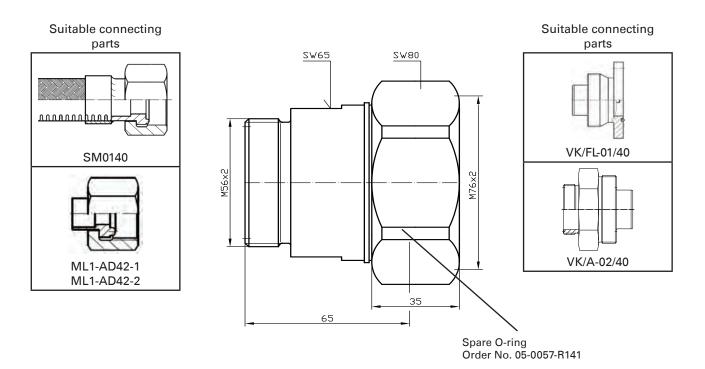
Spare O-ring Order No. 05-0057-R126

PN16 DN40 Coupling tongue part



Order No.: VK/F-01/40 E Material: Stainless steel

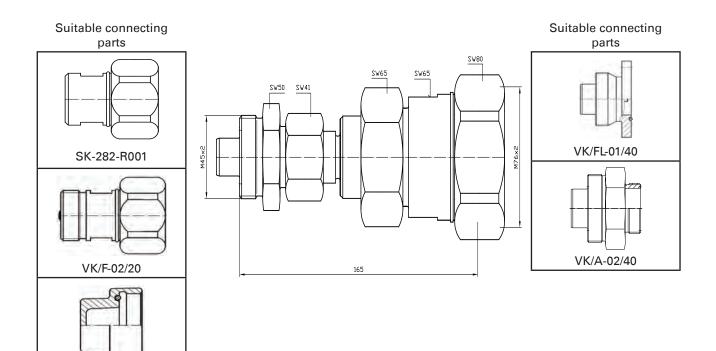




PN16 DN40 Coupling tongue part

Order No: 6-1092-R001 Material: Brass/ Stainless steel

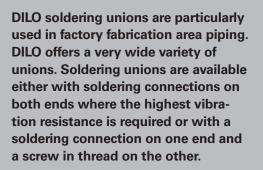




DILO soldering unions







DILO soldering unions withstand pressures up to 64 bar.

Different materials are available for all applications.

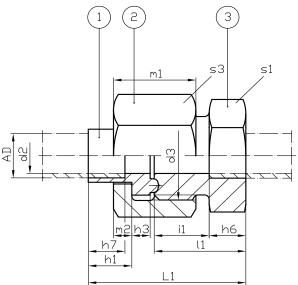
The suitable connecting parts for DILO couplings must be ordered separately.

DILO soldering unions of the ML1 series for pressures up to PN64

| ML1A-AD | Soldering stub-soldering union PN64 | 76 |
|--------------------------|--|----|
| ML1BO-AD | Screw-in stub-soldering union PN64 with O-ring | 77 |
| ML1M-AD10 | Gauge union PN64 DN8 | 78 |
| 3-328-R020 | Gauge union PN64 DN8 | 79 |
| ML18 | Blanking disk PN64 | 80 |
| VST03 | Plug PN64 | 81 |
| <mark>-</mark> 05-1545-R | Tee piece | 82 |
| 05-1545-R | Angle piece | 83 |
| <mark>-</mark> 05-1545-R | Plug-in angle piece | 84 |
| | | |

PN64 Soldering stub-soldering union





| Tube outside diameter Ø AD | d2 | d3 | L1 | 11 | h1 | h3 | h6 | h7 | m1 | m2 | i1 | s1 | s3 | Order No. |
|-------------------------------|----|---------|----|----|------|----|----|----|----|----|----|----|----|-------------|
| 10 | 8 | M20x1,5 | 35 | 20 | 9,5 | 4 | 8 | 8 | 18 | 4 | 12 | 22 | 24 | ML1A-AD10 P |
| 10 | 8 | M20x1,5 | 35 | 20 | 9,5 | 4 | 8 | 8 | 18 | 4 | 12 | 22 | 24 | ML1A-AD10 C |
| 15 | 12 | M26x1,5 | 52 | 22 | 13,5 | 5 | 10 | 10 | 20 | 5 | 12 | 27 | 32 | ML1A-AD15 P |
| 22 | 19 | M36x2 | 54 | 31 | 15,5 | 6 | 12 | 12 | 26 | 7 | 16 | 41 | 41 | ML1A-AD22 P |
| 22 | 19 | M36x2 | 54 | 31 | 15,5 | 6 | 12 | 12 | 26 | 7 | 16 | 41 | 41 | ML1A-AD22 C |
| 42 | 35 | M56x2 | 65 | 37 | 19,5 | 7 | 20 | 20 | 29 | 7 | 18 | 60 | 65 | ML1A-AD42 P |
| 42 | 35 | M56x2 | 65 | 37 | 19,5 | 7 | 20 | 20 | 29 | 7 | 18 | 60 | 65 | ML1A-AD42 C |

| Piece | Designation | Order No. | Material |
|-------|--------------------------------|-----------|---------------------------------|
| 1 | Soldering shoulder-tongue part | ML1-AD1 | P = Brass / C = Stainless steel |
| 2 | Clamping nut | ML1-AD2 | P = Brass / C = Stainless steel |
| 3 | Soldering stub-groove part | ML1-AD3 | P = Brass / C = Stainless steel |

Note: For the nominal width (outside diameter 10) the clamping nut is made of stainless steel.



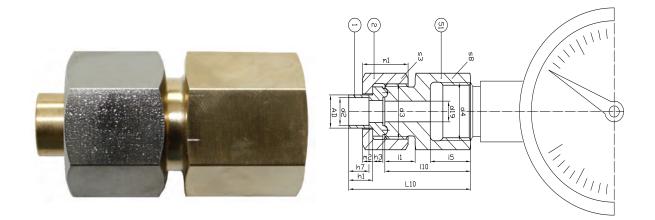
PN64 Screw-in stub-soldering union with O-ring

| Tube outside d2 d3 d4 d7 l2 l2 b1 b3 b7 m1 m2 i1 l2 b2 s2 s3 c order No | | | | | | | | | | | | | | | | | |
|---|--|-------------------------|---------------|-----|------|------|------|----------|-----|-----|---------------|--------------------|-------------------|-----------------|--------|-------|-----------------|
| Tube outside diameter Ø AD | d2 | d3 | d4 | d7 | L2 | 12 | h1 | h3 | h7 | m1 | m2 | i1 | i2 | a2 | s2 | s3 | Order No. |
| 10 | 8 | M20x1,5 | M16x1,5 | 26 | 40 | 25 | 9,5 | 4 | 8 | 18 | 4 | 12 | 12 | 2 | 27 | 24 | ML1BO-AD10 P |
| 10 | 8 | M20x1,5 | M16x1,5 | 26 | 40 | 25 | 9,5 | 4 | 8 | 18 | 4 | 12 12 2 27 24 ML1B | | | | | ML1BO-AD10T |
| 10 | 8 M20x1,5 G 3/8 A 26 40 25 9,5 4 8 18 4 1 | | | | | 12 | 12 | 2 | 27 | 24 | ML1BO-AD10G P | | | | | | |
| 10 | 8 | M20x1,5 | G 3/8 A | 26 | 40 | 25 | 9,5 | 4 | 8 | 18 | 4 | 12 | 12 | 2 | 27 | 24 | ML1BO-AD10GT |
| 15 | 12 | M26x1,5 | G ½ A | 32 | 47 | 27 | 13,5 | 5 | 10 | 20 | 5 | 12 | 14 | 3 | 32 | 32 | ML1BO-AD15G P |
| 22 | 19 | M36x2 | M33x2 | 49 | 59 | 36 | 15,5 | 6 | 12 | 26 | 7 | 16 | 18 | 3 | 50 | 41 | ML1BO-AD22 P |
| 22 | 19 | M36x2 | M33x2 | 49 | 59 | 36 | 15,5 | 6 | 12 | 26 | 7 | 16 | 18 | 3 | 50 | 41 | ML1BO-AD22T |
| 22 | 19 | M36x2 | G1A | 49 | 59 | 36 | 15,5 | 6 | 12 | 26 | 7 | 16 | 18 | 3 | 50 | 41 | ML1BO-AD22G P |
| 22 | 19 | M36x2 | G 1 A | 49 | 59 | 36 | 15,5 | 6 | 12 | 26 | 7 | 16 | 18 | 3 | 50 | 41 | ML1BO-AD22GT |
| 42 | 35 | M56x2 | G 1½ A | 65 | 69 | 41 | 19,5 | 7 | 20 | 29 | 7 | 18 | 22 | 3 | 65 | 65 | ML1BO-AD42G P |
| | | | | | | | | | | | | | | | | | |
| Piece | Des | signation | 1 | | | | Orde | er No | э. | | | | Mat | eria | I | | |
| 1 | Sol | dering sl | noulder-t | ong | ue p | art | ML1 | AD_ | | | -1 | | P = | Bra | ss / (| C = S | Stainless steel |
| 2 | Cla | mping n | | ML1 | AD_ | | | -2 | | P = | Bra | ss / (| C = S | Stainless steel | | | |
| 13 | Scr (M | ew-in stu 16x1,5 / N | ıb //33x2) | | ML1 | -AD_ | | | -13 | | P = | Bra | ss /T | - = A | L | | |
| 14 | Screw-in stub (G 3/8 A / G ½ A / G 1 A / G 1½ A) | | | | | | | ML1-AD14 | | | | | P = Brass /T = AL | | | | |

Note: For the nominal width (outside diameter 10) the clamping nut is made of stainless steel. Regarding material AL only part 13 or 14 is made of AL, part 1 and 2 are made of stainless steel.

In special version the screw-in thread can also be supplied with sealing edge according to DIN 3852-1 and DIN EN ISO 1179.

PN64 DN8 Gauge union



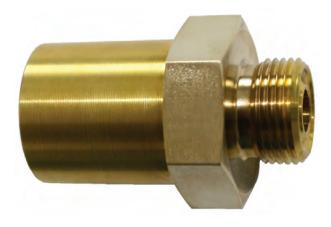
| Tube outside diameter Ø AD | d2 | d3 | d4 | d19 | L10 | I10 | h1 | h3 | h7 | m1 | m2 | i1 | i5 | s3 | s8 | Order No. |
|----------------------------------|----|---------|-------|-----|-----|-----|-----|----|----|----|----|----|----|----|----|--------------|
| 10 | 8 | M20x1,5 | G 1/2 | 7,5 | 49 | 34 | 9,5 | 4 | 8 | 18 | 4 | 12 | 16 | 24 | 24 | ML1M-AD10/51 |
| 10 | 8 | M20x1,5 | G 1/4 | 5,5 | 44 | 29 | 9,5 | 4 | 8 | 18 | 4 | 12 | 13 | 24 | 22 | ML1M-AD10/59 |

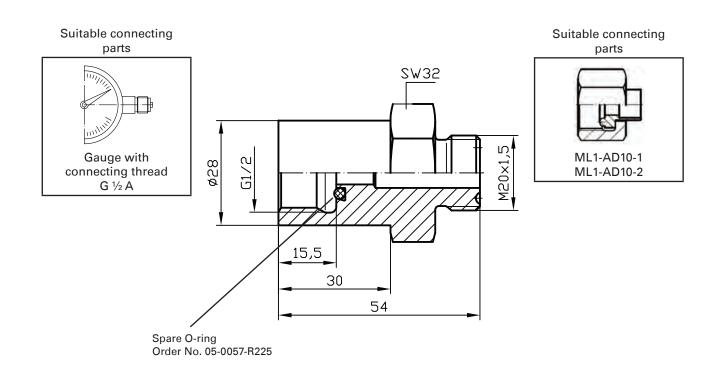
| Piece | Designation | Order No. | Material |
|-------|--------------------------------|--------------|-----------------|
| 1 | Soldering shoulder-tongue part | ML1-AD10-1 P | Brass |
| 2 | Clamping nut | ML1-AD10-2 C | Stainless steel |
| 3 | Gauge connecting piece | M1-10-51 P | Brass |
| 3 | Gauge connecting piece | M1-10-59 P | Brass |

PN64 DN8 Gauge union



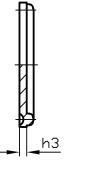
Order No.: 3-328-R020 P Material: Brass

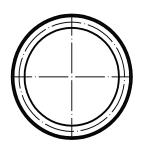




PN64 Blanking disk



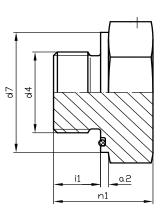




| Tube outside diameter Ø AD | h3 | Order No. | Material |
|----------------------------|-----|------------|----------|
| 10 | 1,5 | ML1-10-8 P | Brass |
| 22 | 2 | ML1-22-8 P | Brass |
| 42 | 3 | ML1-42-8 P | Brass |

pn64 Plug



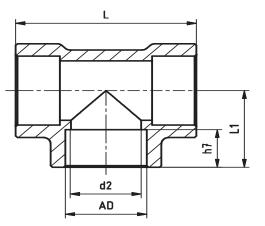


| Metric fine thread ISO | | | | | | | | v | Vhitworth pipe threa | ad | Spare O-ring |
|------------------------|----|----|----|----|----|-----------------|----------|---------|----------------------|----------|--------------|
| d4 | d7 | n1 | i1 | a2 | s2 | Order No. | Material | d4 | Order No. | Material | Order No. |
| | 23 | 23 | 12 | 2 | 24 | | | G 1/4 A | VST03 / G 1/4 AT | AL | 05-0057-R088 |
| M16x1,5 | 26 | 24 | 12 | 2 | 27 | VST03 / M16x1,5 | AL | G 3/8 A | VST03 / G 3/8 AT | AL | 05-0057-R016 |
| | 36 | 32 | 15 | 3 | 36 | | | G 1/2 A | VST03 / G 1/2 AT | AL | 05-0057-R033 |
| M33x2 | 49 | 38 | 18 | 3 | 50 | VST03 / M33x2T | AL | G1A | VST03 / G 1 AT | AL | 05-0057-R039 |
| | 65 | 45 | 22 | 3 | 65 | | | G 1½ A | VST03 / G 11/2 AT | AL | 05-0057-R126 |



Tee piece

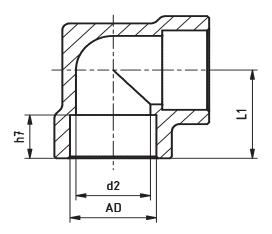




| Tube outside diameter Ø AD | PN | d2 | L | L1 | h7 | Order No. | Material |
|-------------------------------|----|----|----|------|----|--------------|----------|
| 10 | 64 | 8 | 29 | 14,5 | 8 | 05-1545-R001 | Brass |
| 15 | 64 | 12 | 38 | 19 | 10 | 05-1545-R004 | Brass |
| 22 | 64 | 19 | 49 | 24,5 | 12 | 05-1545-R002 | Brass |
| 42 | 25 | 39 | 90 | 45 | 20 | 05-1545-R003 | Brass |

Angle piece

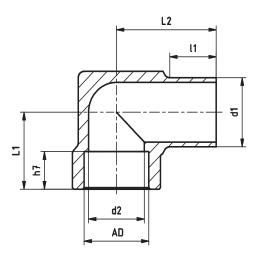




| Tube outside diameter Ø AD | PN | d2 | L1 | h7 | Order No. | Material |
|-------------------------------|----|----|------|----|--------------|----------|
| 10 | 64 | 8 | 14,5 | 8 | 05-1545-R005 | Brass |
| 15 | 64 | 12 | 19 | 10 | 05-1545-R008 | Brass |
| 22 | 64 | 19 | 24,5 | 12 | 05-1545-R006 | Brass |
| 42 | 25 | 39 | 45 | 20 | 05-1545-R007 | Brass |

Plug-in angle piece





| Tube outside diameter Ø AD | PN | d2 | L1 | h7 | L2 | d1 | 11 | Order No. | Material |
|-------------------------------|----|----|------|----|------|----|----|--------------|----------|
| 10 | 64 | 8 | 14,5 | 8 | 21,5 | 10 | 10 | 05-1545-R010 | Brass |
| 15 | 64 | 12 | 19 | 10 | 26 | 15 | 13 | 05-1545-R011 | Brass |
| 22 | 64 | 19 | 24,5 | 12 | 34 | 22 | 16 | 05-1545-R012 | Brass |
| 42 | 25 | 39 | 45 | 20 | 56,4 | 42 | 24 | 05-1545-R013 | Brass |

DILO ball valves





The ball valve has a compact design and is maintenance-free. The notch on the spindle head and the position of the handle show the flow rate (closed or opened). The flow rate is controlled by a ball which is stored in a sealing. Each ball valve is tested for tightness in our works.

All ball valves are temperature-resistant from -40 °C to +80 °C.

The suitable connecting parts must be ordered separately.

DILO ball valves for pressures up to PN64

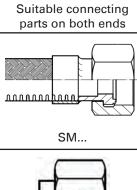
| 3-365-R001 | Ball valve PN64 DN8 | 84 |
|------------|---------------------|----|
| | | |

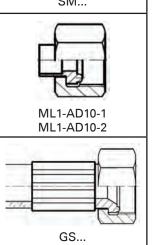
- 3-365-R008 Ball valve with handwheel PN64 DN8 85
- **3-383-R001** Ball valve PN64 DN20 86
- 3-679-R001 Ball valve PN25 DN40 87

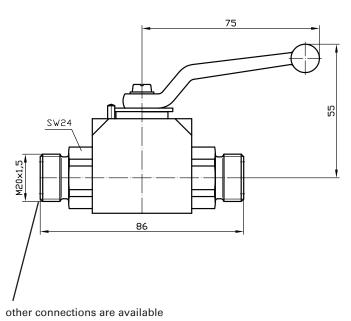
PN64 DN8 Ball valve

Order No.: 3-365-R001 P Material: Brass









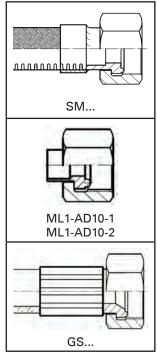
PN64 DN8 Ball valve with handwheel

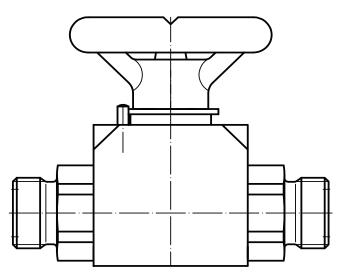


Order No.: 3-365-R008 P Material: Brass



Suitable connecting parts on both ends

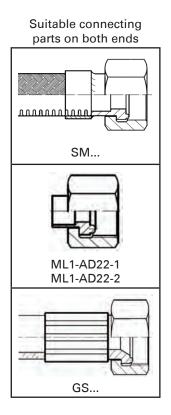


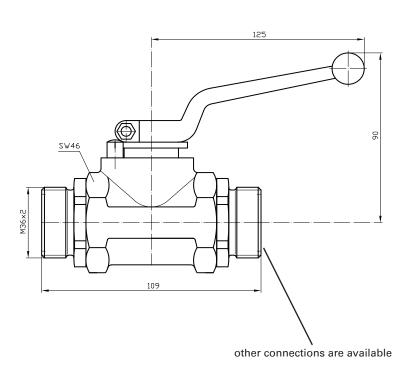


PN64 DN20 Ball valve

Order No.: 3-383-R001 P Material: Brass







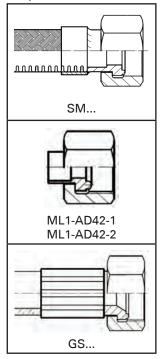
PN25 DN40 Ball valve

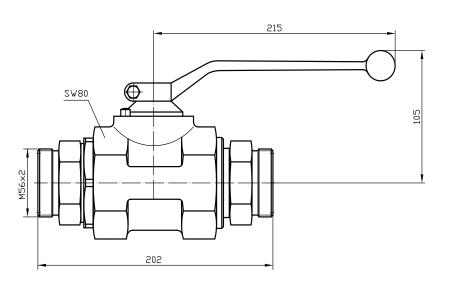


Order No.: 3-679-R001 P Material: Brass



Suitable connecting parts on both ends





DILO hoses





We also offer wire braided stainless steel hoses as well as rubber hoses. Both hose types can be used up to 64 bar. They are pressure and vacuum tight and are available with different coupling connections. No matter whether you need a hose for connection to $SF_{\rm g}$ maintenance devices, gas insulated fabrication plants or other devices, we can offer the appropriate hose connection.

The suitable connecting parts must be ordered separately.

DILO hoses for pressures up to PN64

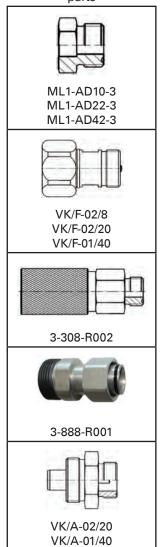
| SM01 | Wire braided hose DN8 / DN20 / DN40 | 90 |
|---------|--|----|
| SM03 | Wire braided hose with elbow connection DN8 / DN20 / DN40 | 91 |
| SM07 | Wire braided hose with elbow connections DN8 / DN20 | 92 |
| SM10 | Wire braided hose with protective hose DN8 / DN20 / DN40 | 93 |
| GS01 | Rubber hose DN8 / DN20 / DN40 | 94 |
| GS03 | Rubber hose with elbow connection DN8 / DN20 | 95 |
| Orderin | ig examples | 96 |

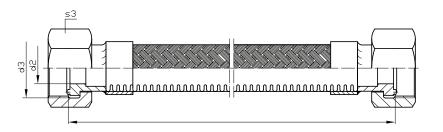
DN8 / DN20 / DN40 Wire braided hose



| admissible static operating pressure at 20°C SF 3 | nominal pressure level DIN EN ISO 10380 SF 4 | AD | DN | d2 | d3 | s3 | minimum bending radius / onetime bending | nominal bending radius / frequent movements | Order No.* NL in mm |
|--|---|----|----|----|---------|----|--|---|---------------------|
| 64 | 64 | 10 | 8 | 8 | M20x1,5 | 24 | 38 | 130 | SM018L |
| 55 | 40 | 22 | 20 | 19 | M36x2 | 41 | 70 | 170 | SM0120L |
| 60 | 40 | 42 | 40 | 35 | M56x2 | 65 | 130 | 300 | SM0140L |

Suitable connecting parts





*Ordering example see page 94

Structure of the rust- and acid resistant wire braided hose:

Full metal wall made of 1.4404 with outside wire sheating made of stainless steel, both ends completely equipped with DILO-connections made of brass.

(For nominal diameter AD10 the clamping nut is made of stainless steel).

Supply length: max. 25 m

DN8 / DN20 / DN40 Wire braided hose with elbow connection

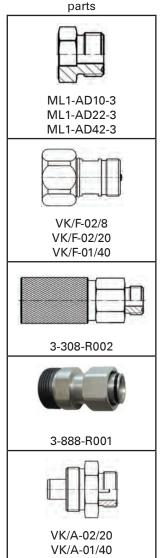


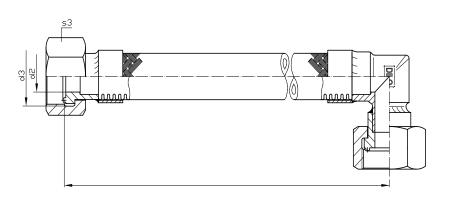
*Ordering examples see page 94



| admissible static operating pressure at 20°C SF 3 | nominal pressure level DIN EN ISO 10380 SF 4 | AD | DN | d2 | d3 | s3 | minimum bending radius / onetime bending | nominal bending radius / frequent movements | Order No.* NL in mm |
|--|---|----|----|----|---------|----|--|---|---------------------|
| 64 | 64 | 10 | 8 | 8 | M20x1,5 | 24 | 38 | 130 | SM038L |
| 55 | 40 | 22 | 20 | 19 | M36x2 | 41 | 70 | 170 | SM0320L |
| 60 | 40 | 42 | 40 | 35 | M56x2 | 65 | 130 | 300 | SM0340L |

Suitable connecting





Structure of the rust- and acid resistant wire braided hose:

Full metal wall made of 1.4404 with outside wire sheating made of stainless steel, both ends completely equipped with DILO-connections made of brass.

(For nominal diameter AD10 the clamping nut is made of stainless steel).

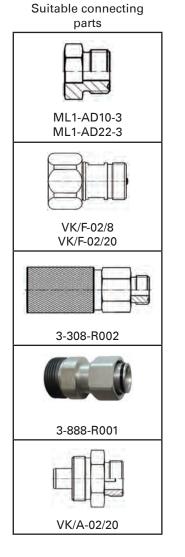
Supply length: max. 25 m

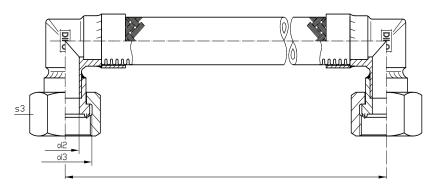
Wire braided hose with elbow connections



| admissible static opera- ting pressure at 20°C SF 3 | nominal pressure level DIN EN ISO 10380 SF 4 | AD | DN | d2 | d3 | s3 | minimum bending radi- us / onetime bending | nominal ben- ding radius / frequent movements | Order No.* NL in mm |
|--|---|----|----|----|---------|----|---|--|---------------------|
| 64 | 64 | 10 | 8 | 8 | M20x1,5 | 24 | 38 | 130 | SM078L |
| 55 | 40 | 22 | 20 | 19 | M36x2 | 41 | 70 | 170 | SM0720L |

*Ordering example see page 94





Structure of the rust- and acid resistant wire braided hose:

Full metal wall made of 1.4404 with outside wire sheating made of stainless steel, both ends completely equipped with DILO-connections made of brass.

(For nominal diameter AD10 the clamping nut is made of stainless steel).

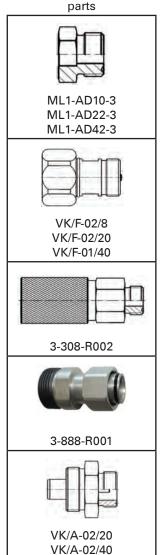
Supply length: max. 25 m



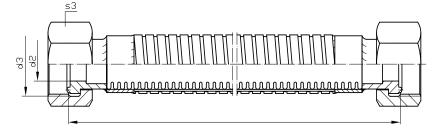


| admissible static opera- ting pressure at 20°C SF 3 | nominal pressure level DIN EN ISO 10380 SF 4 | AD | DN | d2 | d3 | s3 | minimum bending radi- us / onetime bending | nominal ben- ding radius / frequent movements | Order No.* NL in mm |
|--|---|----|----|----|---------|----|---|--|---------------------|
| 64 | 64 | 10 | 8 | 8 | M20x1,5 | 24 | 38 | 130 | SM108L |
| 55 | 40 | 22 | 20 | 19 | M36x2 | 41 | 70 | 170 | SM1020L |
| 60 | 40 | 42 | 40 | 35 | M56x2 | 65 | 130 | 300 | SM1040L |

Suitable connecting



*Ordering example see page 94



Structure of the rust- and acid resistant wire braided hose:

Full metal wall made of 1.4404 with outside wire sheating made of stainless steel, both ends completely equipped with DILO-connections made of brass.

(For nominal diameter AD10 the clamping nut is made of stainless steel).

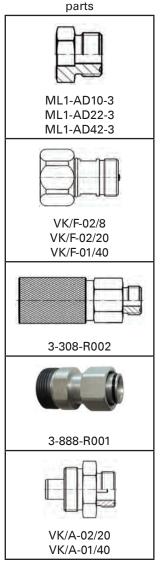
Protective hose, resistant to twisting, flexible, high tensile with high mechanical strength in accordance with DIN EN ISO 15465. Supply length: max. 25 m

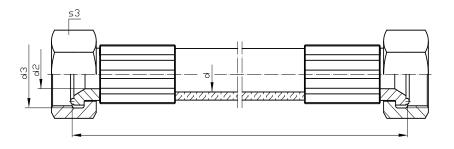
DN8 / DN20 / DN40 **Rubber hose**



| Pressure stage bar | Fitting AD | Hose DN | Hose d | Fitting d2 | Fitting d3 | Fitting s3 | Bending radius | Order No.* NL in mm |
|-----------------------|---------------|------------|-----------|---------------|---------------|---------------|-------------------|---------------------|
| 64 | 10 | 8 | 7,9 | 5,5 | M20x1,5 | 24 | 50 | GS0108L |
| 50 | 22 | 20 | 19 | 15,5 | M36x2 | 41 | 240 | GS0120L |
| 64 | 42 | 40 | 38 | 33 | M56x2 | 65 | 500 | GS0140L |

Suitable connecting





*Ordering example see page 94

Range of application and temperature:

From -40 °C up to +100 °C according to the medium used (see DIN EN 853/854)

Materials and composition:

The hoses consist of an internal layer made of synthetic rubber which is oil- and waterproof and of external rubber layer whick is oil- and weatherproof.

Fitting material: Brass

(For nominal diameter AD10 the clamping nut is made of stainless steel)

The hose fitting is made in pressnipple form.

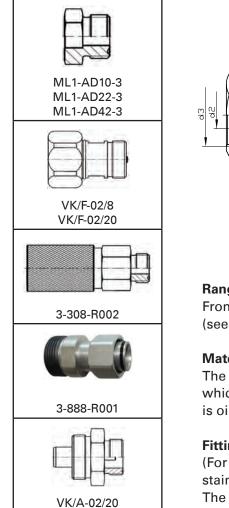
Rubber hose with elbow connection



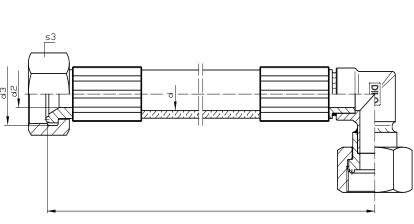


| Pressure stage bar | Fitting AD | Hose DN | Hose d | Fitting d2 | Fitting d3 | Fitting s3 | Bending radius | Order No.* | NL in mm |
|-----------------------|---------------|------------|-----------|---------------|---------------|---------------|-------------------|------------|----------|
| 64 | 10 | 8 | 7,9 | 5,5 | M20x1,5 | 24 | 50 | GS0308L _ | |
| 50 | 22 | 20 | 19 | 15,5 | M36x2 | 41 | 240 | GS0320L _ | |

*Ordering example see page 94



Suitable connecting parts



Range of application and temperature:

From -40 °C up to +100 °C according to the medium used (see DIN EN 853/854)

Materials and composition:

The hoses consist of an internal layer made of synthetic rubber which is oil- and waterproof and of external rubber layer whick is oil- and weatherproof.

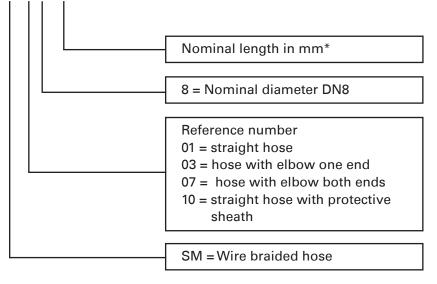
Fitting material: Brass

(For nominal diameter AD10 the clamping nut is made of stainless steel) The hose fitting is made in pressnipple form.

Ordering examples Wire braided hoses and rubber hoses

Wire braided hoses

Ordering example: SM 018 L00450

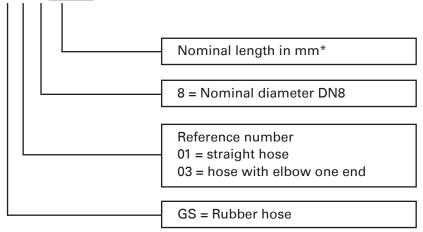


*Wire braided hoses are available in the following length increments:

| Length | Length increment |
|-----------------|------------------|
| < 1 m | 50 mm |
| 1 m bis < 5 m | 100 mm |
| 5 m bis < 10 m | 500 mm |
| 10 m bis < 20 m | 1 m |

Rubber hoses

Ordering example: GS 01 08 L00450



*Rubber hoses are available in the following length increments:

Length Length increment

| < 1 m | 50 mm |
|-----------------|--------|
| 1 m bis < 5 m | 100 mm |
| 5 m bis < 10 m | 500 mm |
| 10 m bis < 20 m | 1 m |

DILO transition pieces and adapters





Our product range comprises a large variety of transition pieces and adapters to establish connections between components with different nominal lengths. Thus DILO connecting couplings and hoses allow the comfortable adaption to other coupling systems on switchgear.

The suitable connecting parts must be ordered separately.

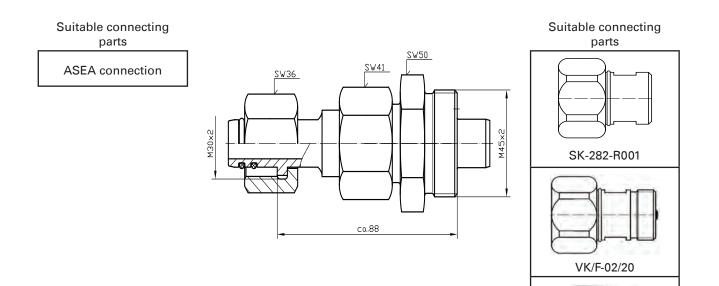
DILO transition pieces and adapters for pressures up to PN64

| 6-1033-R001/ 6-1058-R/ SK-279-R / 6-1027-R | Adapter DILO couplings DN20 ASEA / Magrini / Siemens/ Westinghouse | 98 - 101 |
|--|--|-----------|
| 3-920-R002/R001 | Adapter - Hansen connection | 102 - 103 |
| 3 -353-R005/R006 | Adapter DILO DN8 - Michelin valve | 104 - 105 |
| ■ 6-1059-R/6-1203-R | Adapter with flange coupling on both ends | 106 |
| K022R02 | Tee piece with DILO couplings | 107 |
| 3-351-R001 P | Screw-in stub | 108 |
| SK-386 T/3-240-R/ 3-251-R001/3-314-R001 | Transition pieces | 109 - 112 |
| ■ 3-227-R001/3-311-R001/ 3-984-R001 | Intermediate pieces | 113 |
| 3-816-R001/R002/ R003/R005 | Transition pieces | 114 - 117 |
| K018R02/R06/ 3-717-R/K018R07/ K018R | Angle pieces | 118 - 122 |
| K 020R | Tee pieces | 123 - 124 |
| 3-718-R006/R036 | Distributor | 125 - 126 |
| 3 -1026-R002 | Tubings | 127 |

PN64 DN20 Adapter DN20 DILO coupling -ASEA connection

Order No.: 6-1033-R001 Material: Brass



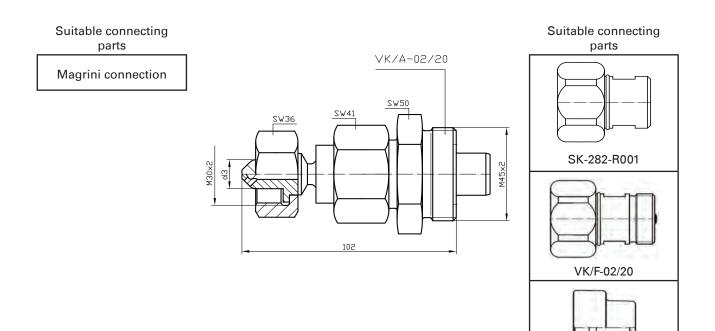




PN64 DN20 Adapter DN20 DILO coupling -Magrini connection



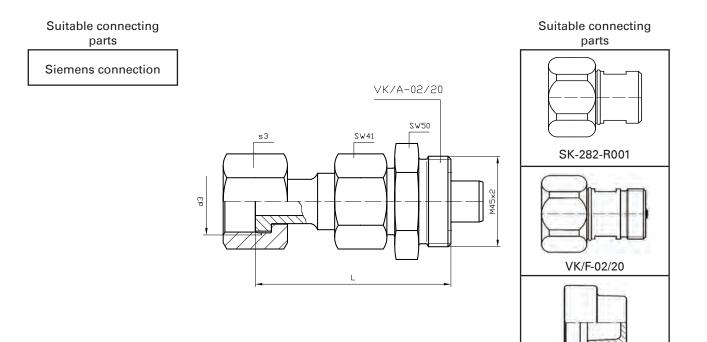
| d3 | Order No. | Material |
|------|-------------|----------|
| Ø 14 | 6-1058-R001 | Brass |
| Ø 16 | 6-1058-R002 | Brass |



PN64 DN20 Adapter DN20 DILO coupling -Siemens connection



| d3 | L | S3 | Order No. | Material |
|---------|----|----|---------------|----------|
| G 3/4 | 97 | 32 | SK-279-R001 P | Brass |
| G 1 | 98 | 41 | SK-279-R002 P | Brass |
| G 1 1/4 | 93 | 50 | SK-279-R003 P | Brass |

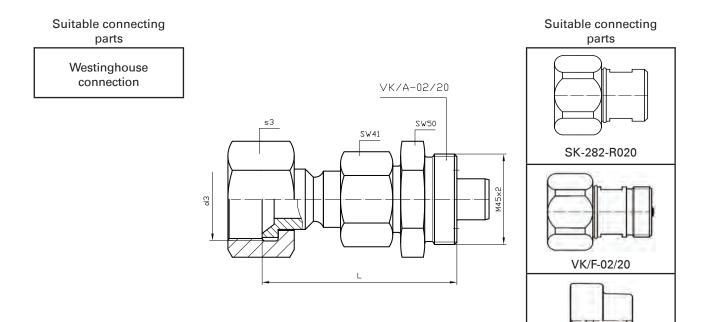




PN64 DN20 Adapter DN20 DILO coupling -Westinghouse connection



| d3 | L | S3 | Order No. | Material |
|---------------|----|----|-------------|----------|
| 1 5/8 - 12UN | 97 | 50 | 6-1027-R001 | Brass |
| 1 5/16 - 12UN | 95 | 41 | 6-1027-R002 | Brass |
| 1 1/16 - 12UN | 90 | 32 | 6-1027-R003 | Brass |



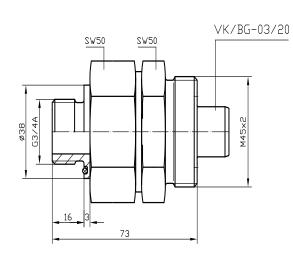
PN64 DN20 Adapter DN20 DILO coupling -Hansen connection

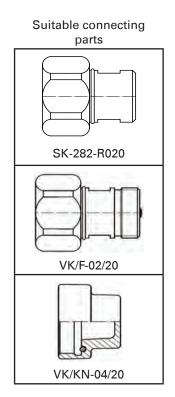
Order No.: 3-920-R002 P Material: Brass



Suitable connecting parts

Hansen connection G 3/4 A







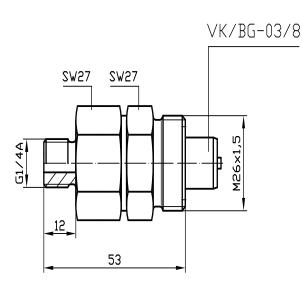
PN64 DN8 Adapter DN8 DILO coupling -Hansen connection

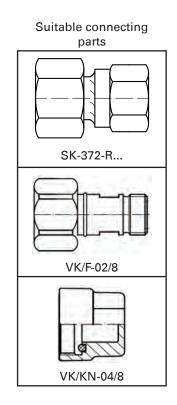
Order No.: 3-920-R001 P Material: Brass



Suitable connecting parts

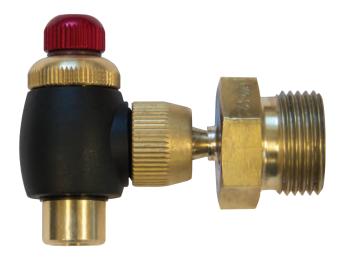
Hansen connection G 1/4 A

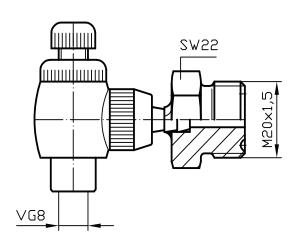


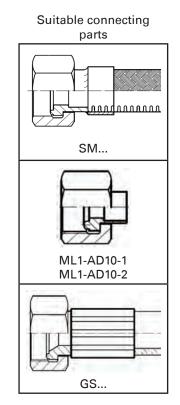


PN2 DN8 DILO DN8 adapter – Michelin valve

Order No.: 3-353-R005 P Material: Brass



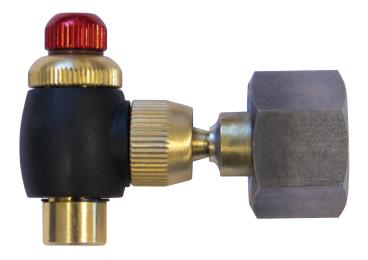


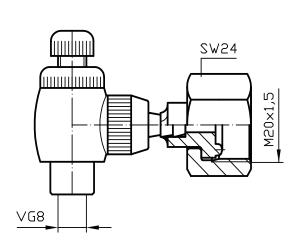


PN2 DN8 DILO DN8 adapter – Michelin valve



Order No.: 3-353-R006 P Material: Brass





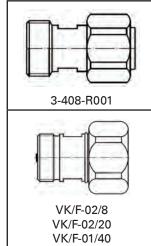
Suitable connecting parts ML1-AD10-3 ML1-AD10-3 VK/F-02/8 VK/F-02/8 VK/A-02/8

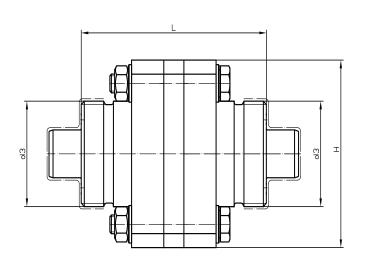
Adapter with flange coupling on both ends



| DN | for coupling tongue part | d3 | L | н | PN | Order No. | Material |
|----|-----------------------------|---------|-----|-------|----|-------------|-----------------|
| 6 | 3-408-R001 | M24x1,5 | 92 | Ø 40 | 10 | 6-1059-R004 | AL |
| 8 | VK/F-02/8 | M26x1,5 | 74 | Ø 40 | 64 | 6-1059-R012 | AL |
| 20 | VK/F-02/20 | M45x2 | 92 | Ø 80 | 64 | 6-1059-R011 | AL |
| 40 | VK/F-01/40 | M76x2 | 102 | Ø 110 | 16 | 6-1203-R001 | Stainless steel |

Suitable connecting parts on both ends



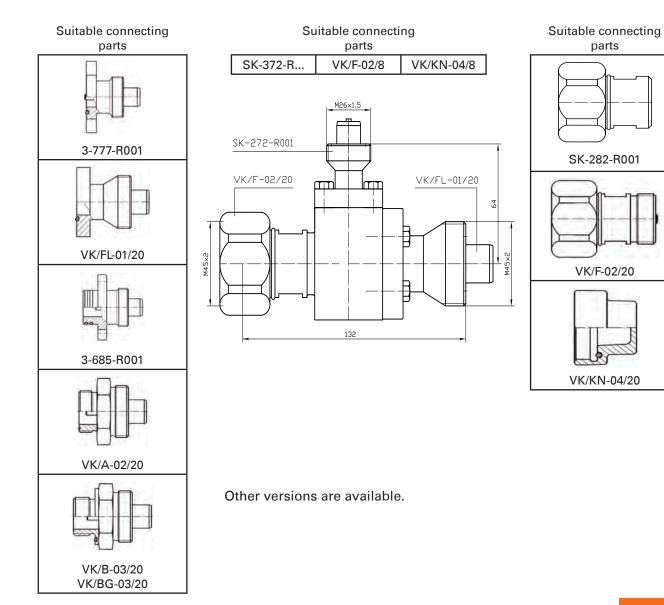


PN64 DN8 / DN20 Tee piece with DILO couplings



Order No.: K022R02 Material: AL

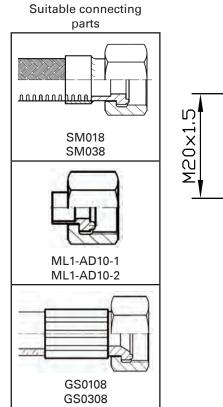


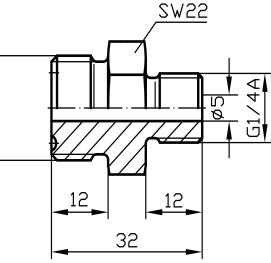


PN64 DN8 Screw-in stub

Order No.: 3-351-R001 P Material: Brass







Suitable connecting parts

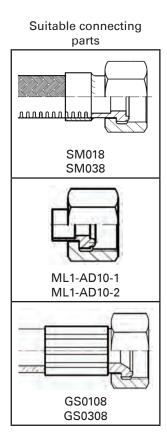
G ¼ internal thread

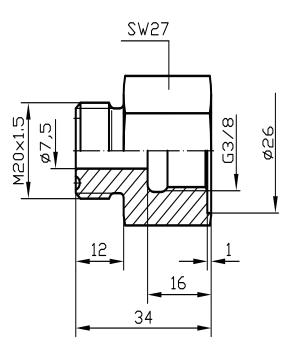
PN64 DN8 Transition piece DN8



Order No.: SK-386 T Material: AL





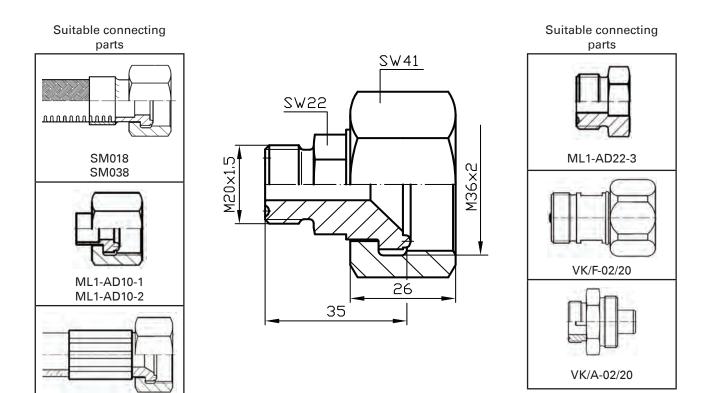


Suitable connecting parts

G 3/8 external thread



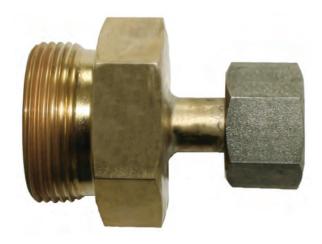
| Order No. | Material |
|--------------|-----------------|
| 3-240-R001 P | Brass |
| 3-240-R002 C | Stainless steel |

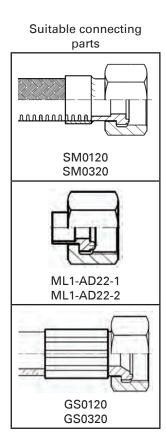


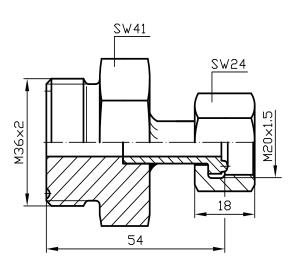
GS0108 GS0308



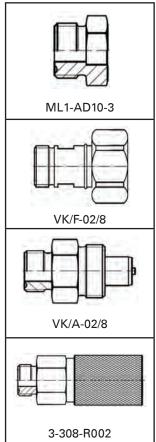
Order No.: 3-251-R001 P Material: Brass







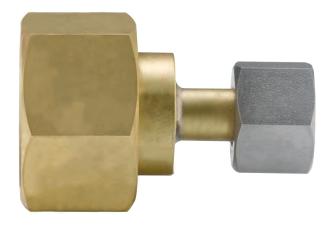


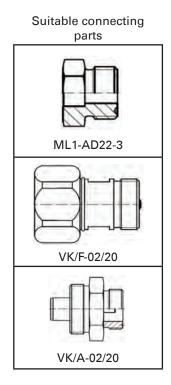


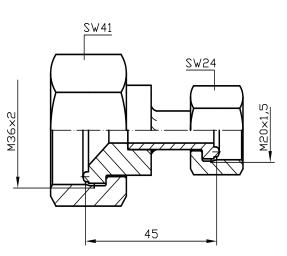
DILO transition pieces and adapters

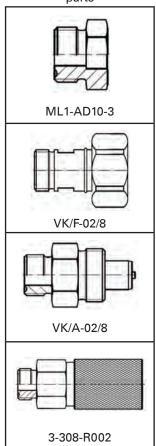
PN64 DN20 / DN8 Transition piece

Order No.: 3-314-R001 P Material: Brass







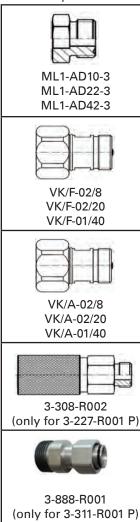


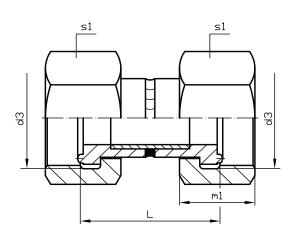
PN64 DN8 / DN20 / DN40 Intermediate piece





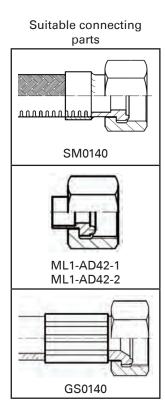
| AD | d3 | L | m1 | s1 | Order No. | Material |
|----|---------|----|----|----|--------------|----------|
| 10 | M20x1,5 | 32 | 18 | 24 | 3-227-R001 P | Brass |
| 22 | M36x2 | 48 | 26 | 41 | 3-311-R001 P | Brass |
| 42 | M56x2 | 58 | 29 | 65 | 3-984-R001 P | Brass |

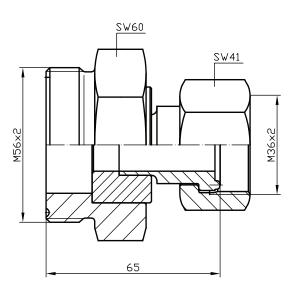


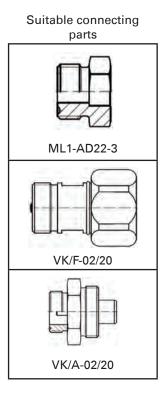


Order No.: 3-816-R001 P Material: Brass



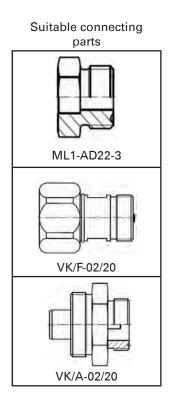


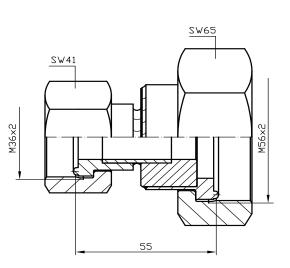


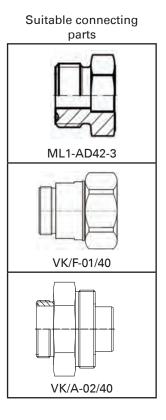


Order No.: 3-816-R002 Material: Brass



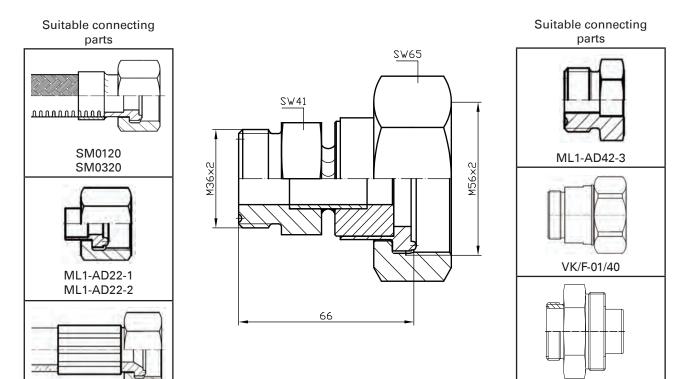






Order No.: 3-816-R003 Material: Brass





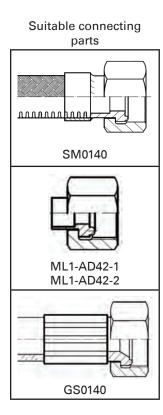
VK/A-02/40

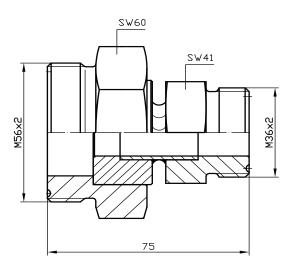
GS0120 GS0320

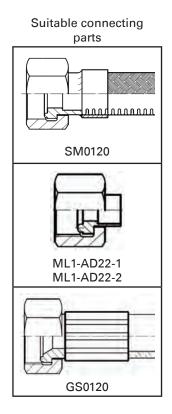


Order No.: 3-816-R005 P Material: Brass





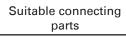


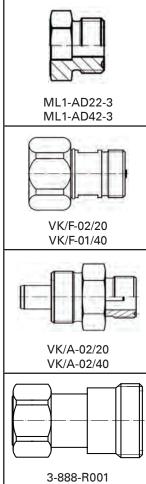


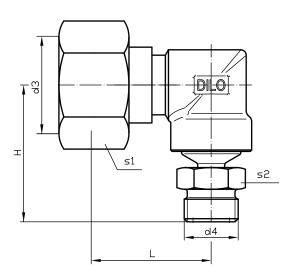
PN64 DN8 /DN20 / DN40 Angle piece

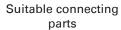


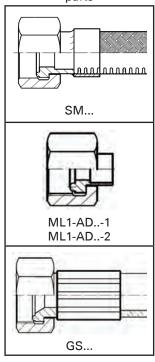
| AD | d3 | d4 | L | н | s1 | s2 | Bestellnummer | Werkstoff |
|-------|-------|---------|----|----|----|----|---------------|-----------|
| 10/22 | M36x2 | M20x1,5 | 45 | 51 | 41 | 22 | K018R02 | Brass |
| 22/42 | M56x2 | M36x2 | 64 | 81 | 65 | 41 | K018R06 | Brass |









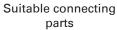


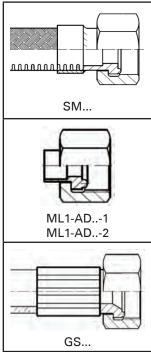
PN64 DN8 /DN20 / DN40 Angle piece

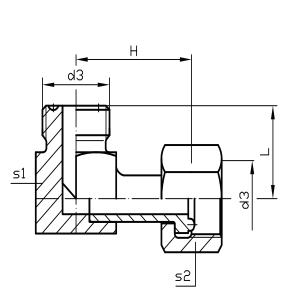


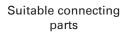


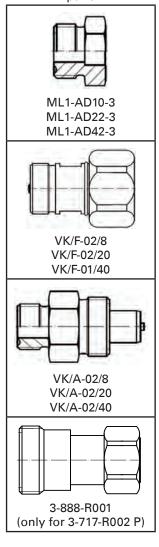
| AD | d3 | L | н | s1 | s2 | Order No. | Material |
|----|---------|----|----|----|----|--------------|----------|
| 10 | M20x1,5 | 32 | 31 | 22 | 24 | 3-717-R001 P | Brass |
| 22 | M36x2 | 48 | 46 | 36 | 41 | 3-717-R002 P | Brass |
| 42 | M56x2 | 58 | 65 | 60 | 65 | K018R07 | Brass |







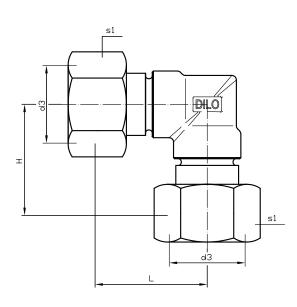


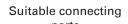


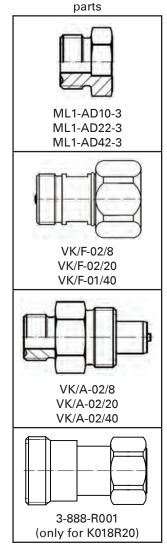
PN64 DN8 /DN20 / DN40 Angle piece



| AD | d3 | L | н | s1 | Order No. | Material |
|----|---------|----|----|----|-----------|----------|
| 10 | M20x1,5 | 32 | 32 | 24 | K018R10 | Brass |
| 22 | M36x2 | 50 | 50 | 41 | K018R20 | Brass |
| 42 | M56x2 | 65 | 80 | 65 | K018R32 | Brass |



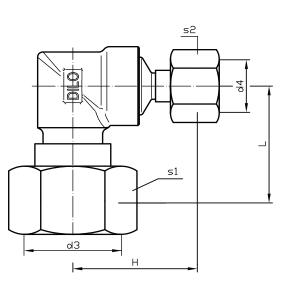


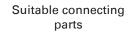


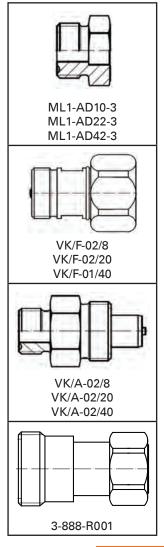
PN64 DN8 / DN20 / DN40 Angle piece



| | ۹D | d3 | d4 | L | н | s1 | s2 | Order No. | Material |
|----|------|-------|---------|----|----|----|----|-----------|----------|
| 10 |)/22 | M36x2 | M20x1,5 | 45 | 46 | 41 | 24 | K018R27 | Brass |
| 22 | 2/42 | M56x2 | M36x2 | 64 | 72 | 65 | 41 | K018R31 | Brass |





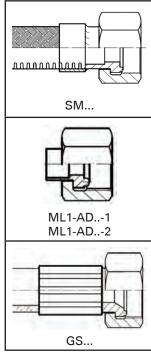


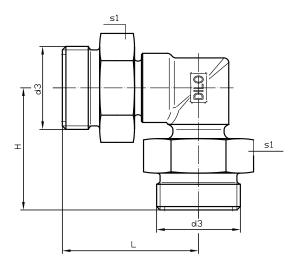
PN64 DN8 / DN20 Angle piece



| AD | d3 | L | н | s1 | Order No. | Material |
|----|---------|----|----|----|-----------|----------|
| 10 | M20x1,5 | 38 | 34 | 22 | K018R41 | Brass |
| 22 | M36x2 | 59 | 53 | 41 | K018R40 | Brass |
| 42 | M56x2 | 85 | 73 | 60 | K018R29 | Brass |



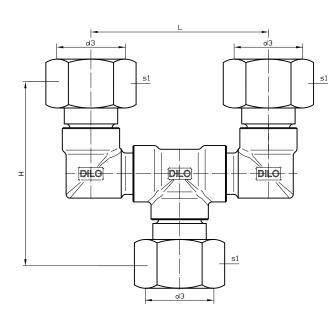


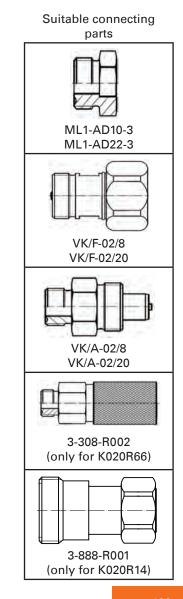


PN64 DN8 / DN20 Tee piece



| AD | d3 | L | н | s1 | Order No. | Material |
|----|---------|----|----|----|-----------|----------|
| 10 | M20x1,5 | 56 | 64 | 24 | K020R66 | Brass |
| 22 | M36x2 | 93 | 98 | 41 | K020R14 | Brass |

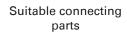


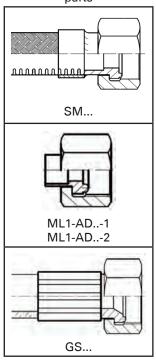


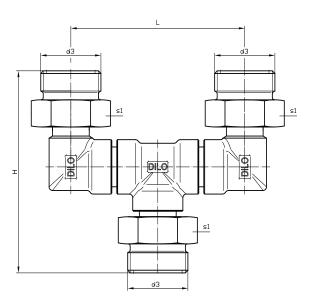
PN64 DN8 / DN20 Tee piece



| AD | d3 | L | Н | s1 | Order No. | Material |
|----|---------|-----|-----|----|-----------|----------|
| 10 | M20x1,5 | 56 | 75 | 22 | K020R26 | Brass |
| 22 | M36x2 | 104 | 112 | 41 | K020R59 | Brass |

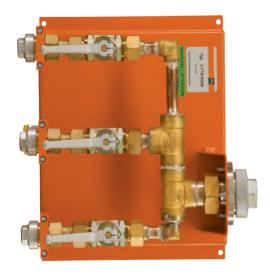


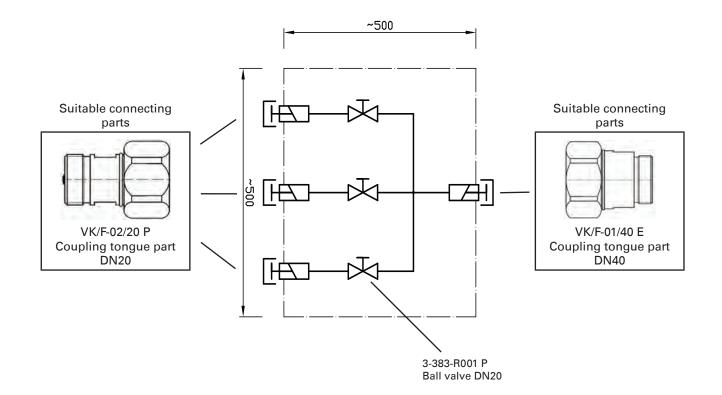




3 x DN20 / 1 x DN40 Distributor

Order No.: 3-718-R006





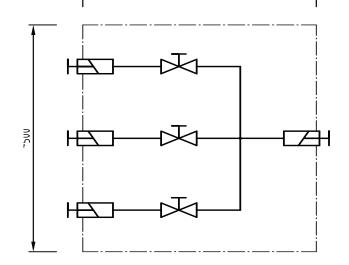
Other versions are available.

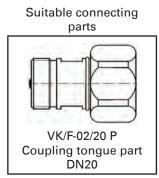
4 x DN20 Distributor

Order No.: 3-718-R036







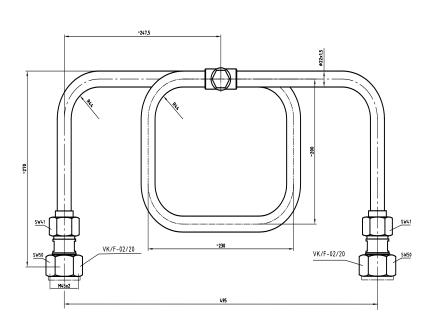




Tubings

Order No.: 3-1026-R002





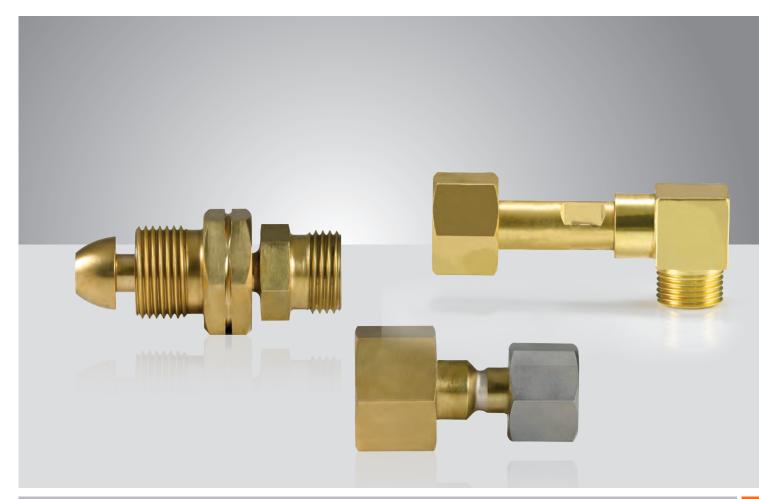
3-777-R001 3-777-R001 VK/FL-01/20 VK/FL-01/20 3-685-R001 0 VK/A-02/20 VK/A-02/20 VK/B-03/20 VK/B-03/20 VK/B-03/20

Suitable connecting parts

Other versions are available.

DILO SF₆ bottle connections





DILO offers a wide range of connections suitable for all commercial SF_6 bottles. Thus safe and quick connection of hoses of DILO service carts or SF_6 gas refilling devices to the SF_6 gas bottles is guaranteed. This refers to bottle connections for new gas as well as for reuse gas.

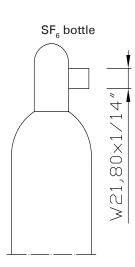
The suitable connecting parts must be ordered separately.

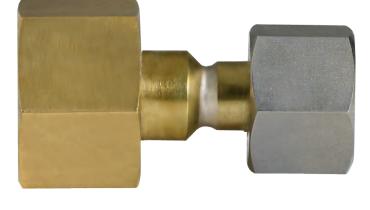
DILO SF₆ bottle connections

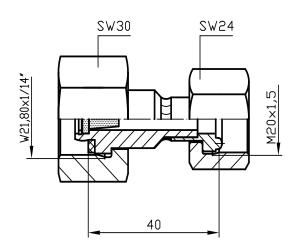
| 3-316-R001 | SF ₆ bottle connection | 130 |
|-------------------|---|-----|
| 3-858-R001 | Angle SF ₆ bottle connection | 131 |
| 3-643-R001 | Chinese SF ₆ bottle connection | 132 |
| 3-643-R002 | Chinese SF ₆ bottle connection | 133 |
| 3-245-R001 | American SF_6 bottle connection | 134 |
| 3-334-R002 | American SF_6 bottle connection | 135 |
| 3-245-R002 | English SF ₆ bottle connection | 136 |
| 3-245-R004 | English SF ₆ bottle connection | 137 |
| 3-851-R002 | Connection for reuse gas bottle | 138 |
| 3-851-R003 | Connection for reuse gas bottle | 139 |
| 3-858-R002 | Angle for connection of reuse gas bottle | 140 |
| 6-1037-R050 | Storage connecting hose DN20 | 141 |
| 6-1041-R050 | Storage connecting hose DN8 | 142 |

$\frac{\text{PN64 DN8}}{\text{SF}_6}$ bottle connection W21.80x1/14" - DIN 477 No. 6

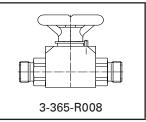
Order No.: 3-316-R001 P Material: Stainless steel / Brass







Suitable connecting parts



PN64 DN8 Angle SF₆ bottle connection W21.80x1/14" - DIN 477 No. 6



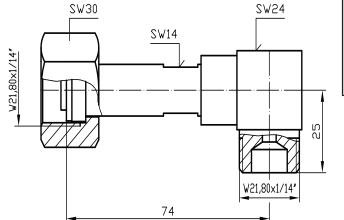
Order No.: 3-858-R001 P Material: Brass

600 I SF₆ container





Suitable connecting parts



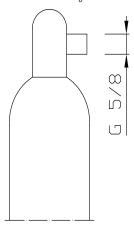


C 3834-00

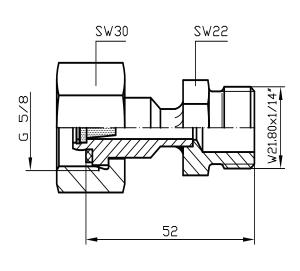
PN64 DN8 Chinese SF bottle connection G 5/8 - DIN 477 No. 7 6

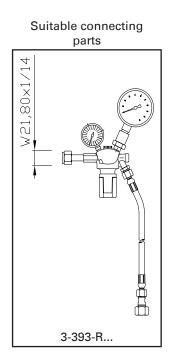
Order No.: 3-643-R001 P Material: Brass

Chinese SF₆ bottle







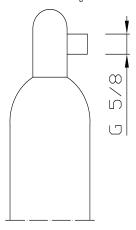


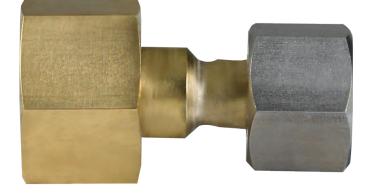
PN64 DN8 Chinese SF₆ bottle connection G 5/8 -DIN 477 No. 7⁶

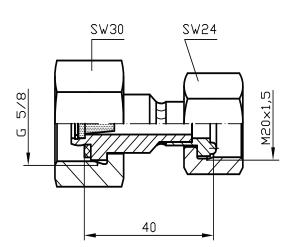


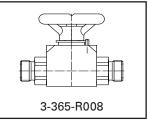
Order No.: 3-643-R002 P Material: Stainless steel / Brass

Chinese SF_6 bottle



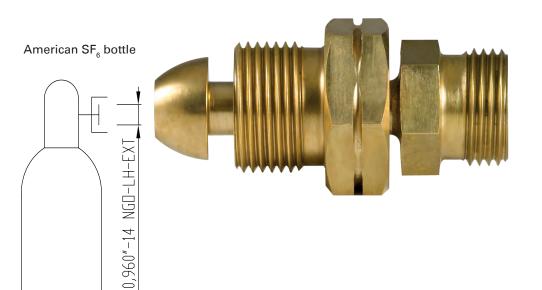


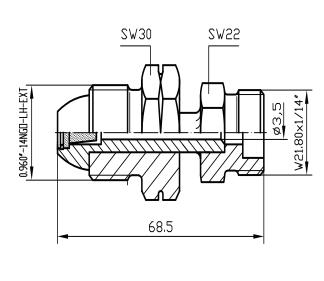


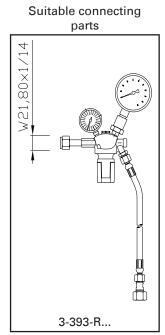


PN64 DN8 American SF₆ bottle connection 0.960"-14NGO-LH-EXT - CGA 590

Order No.: 3-245-R001 P Material: Brass





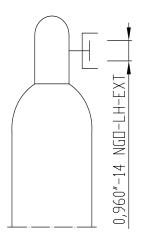


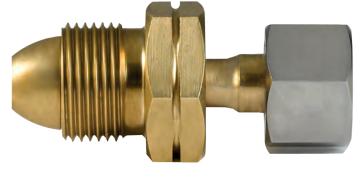


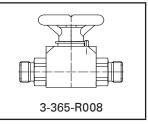
PN64 DN8 American SF₆ bottle connection 0.960"-14NGO-LH-EXT - CGA 590

Order No.: 3-334-R002 P Material: Stainless steel / Brass

American SF₆ bottle

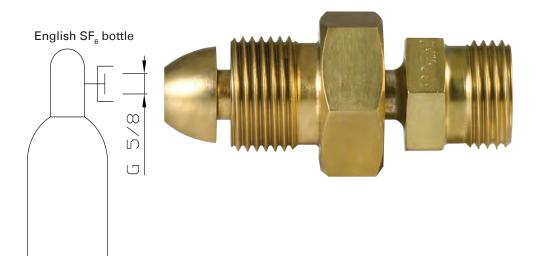


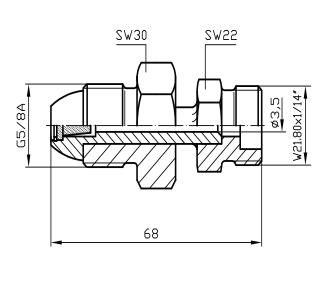


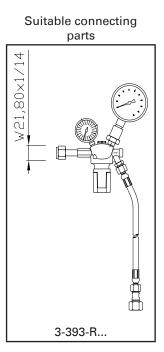


$\begin{array}{l} \mbox{PN64 DN8} \\ \mbox{English SF}_6 \mbox{ bottle connection G 5/8 -} \\ \mbox{BS No. 3} \end{array}$

Order No.: 3-245-R002 P Material: Brass







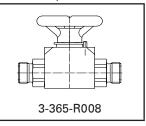
PN64 DN8 English SF_6 bottle connection G 5/8 - BS No. 3



Order No.: 3-245-R004 P Material: Stainless steel / Brass



SW30 SW24 SW30 SW24 SW20 SW

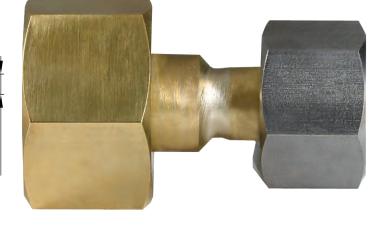


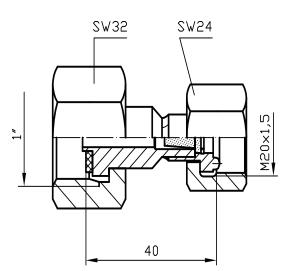
PN64 DN8 Connection for reuse gas bottle 1" -DIN 477 No. 8

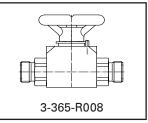
Order No.: 3-851-R002 P Material: Stainless steel / Brass

"

Reuse gas bottle





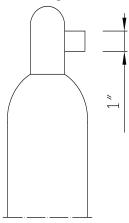




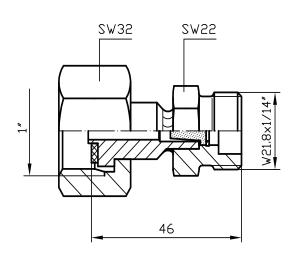
PN64 DN8 Connection for reuse gas bottle 1" -DIN 477 No. 8

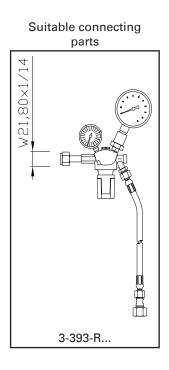
Order No.: 3-851-R003 P Material: Brass

Reuse gas bottle



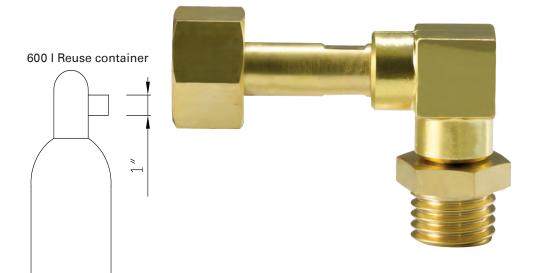


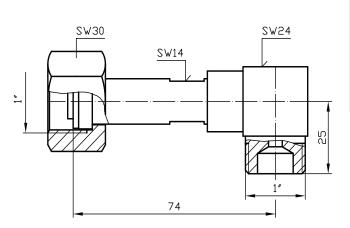


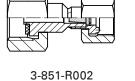


PN64 DN8 Angle for connection of reuse gas bottle 1" -DIN 477 No. 8

Order No.: 3-858-R002 P Material: Brass



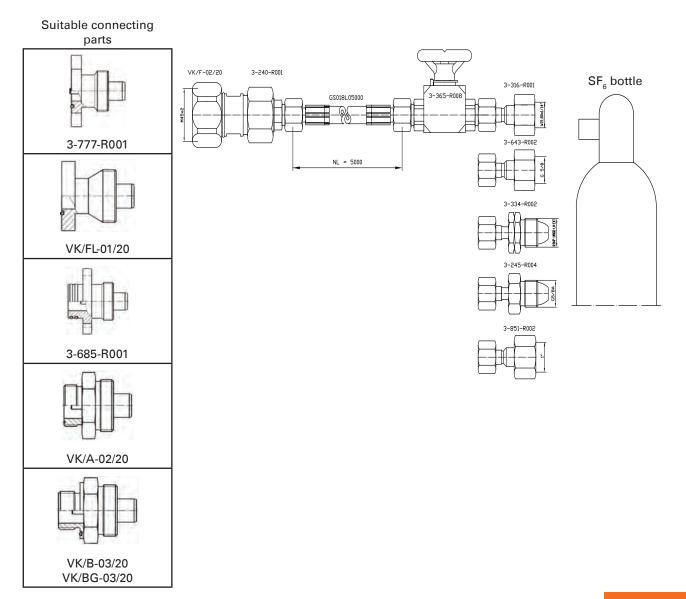




PN64 DN20 Storage connecting hose DN20

Order No.: 6-1037-R050

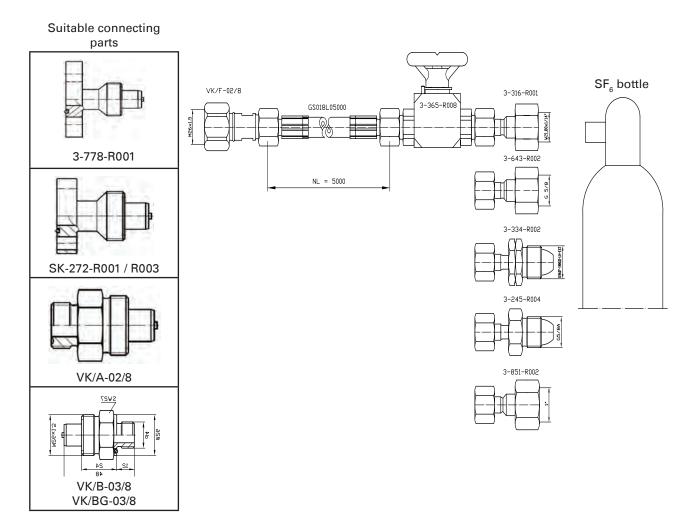




PN64 DN8 Storage connecting hose DN8

Order No.: 6-1041-R050





For your notes







SF_{6} gas handling

Besides ${\rm SF}_6$ couplings and valves DILO supplies a wide range of devices for ${\rm SF}_6$ gas handling.

For further information please ask for our special leaflet.



High pressure tube unions

High pressure tube unions are DILO's second core competence. For further information please ask for our special leaflet.

DILO Armaturen und Anlagen GmbH

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