

# Valves and connections for SF<sub>6</sub>



**DILO.** Sustainably tight.



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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  $1 \times 10^{-8}$  mbar l/sec. is achieved corresponding to less than  $1 \text{ cm}^3$  in 30 years.

The DILO sealing principle prevents the loss of  $\text{SF}_6$  gas and moisture from penetrating the  $\text{SF}_6$  gas system. DILO couplings will eliminate the loss of  $\text{SF}_6$  gas by incorrect gas handling. Thanks to their reliability, quality and durability DILO couplings are the world's most widely used connecting system for  $\text{SF}_6$  switchgear.

## ■ General

- The DILO seal principle 05
- Explanation of DILO-pressure stages 06
- Surface treatment and cleaning 07
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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.

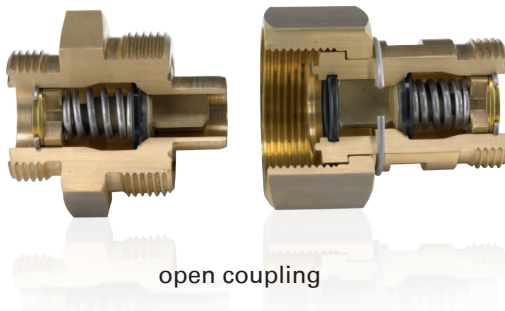
Sealing in accordance with the DILO principle is effected by direct contact of the sealing profiles of the groove and tongue parts. The different radii of curvature of groove and tongue are in a certain relation to each other.

Thus, two ring-shaped sealing areas are produced which create high stability.

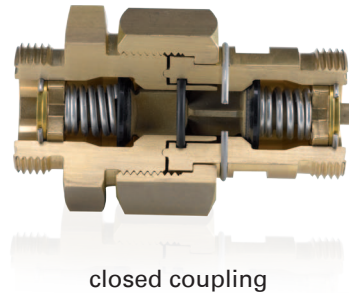
The additional braking surface prevents plastic deformations at the ring-shaped sealing areas.

DILO fittings are easy to assemble and require no maintenance. They can be loosened and re-connected 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 loosening the clamping nut.

### The DILO seal principle



open coupling



closed coupling

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

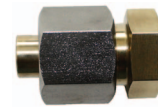
## DILO-Type explanation

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	C
CW614N	CuZn39Pb3	P
EN AW-6082	EN AW-ALSi1MgMn	T
1.4305	X10CrNiS189	E
CW713R	CuZn37Mn3Al2PbSi	H

## Surface treatment and cleaning

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

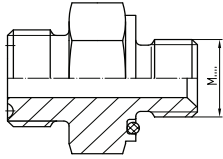
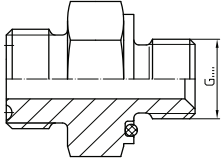
- austenitic material is cleaned
- brass material is cleaned
- aluminium material is anodised, the thread is lubricated with Molykote

### Version

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

Design of the screw-in holes for Whitworth-pipe threads as well as for the isometric thread according to DIN 3852.

### Technical data of threads

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

### Lötverfahren

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 are TÜV-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 with EC 97/23 regulations





# Symbols for valves and fittings

**Soldering stub soldering-union**



**Blanking disk**



**Screw-in stub-soldering union**



**Transition piece**



**Gauge connection union**



**Ball valve**



**Coupled coupling**



**Coupling halves**



**Hose**



# Mounting instructions

## General

- Specify the pipe lengths 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.

For mounting of the DILO screw-in unions we recommend the use of soft metal seals for sealing of the screw-in stub according to DIN 3852 form B , e.g. copper plates opposite the housing or the block.

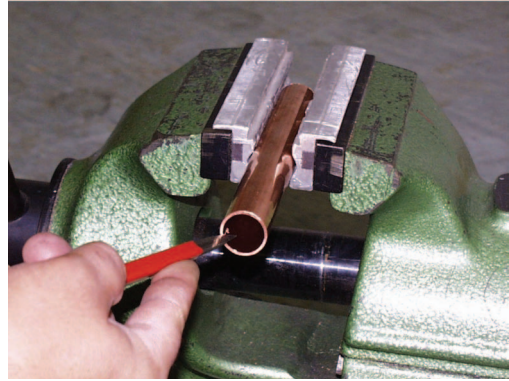
When all these instructions are observed the mounting will be simple and time-saving. Pipes which are too short or not precisely aligned will require extra work.

# Mounting instructions

## Mounting illustration:



1. Rectangularly saw off the pipes



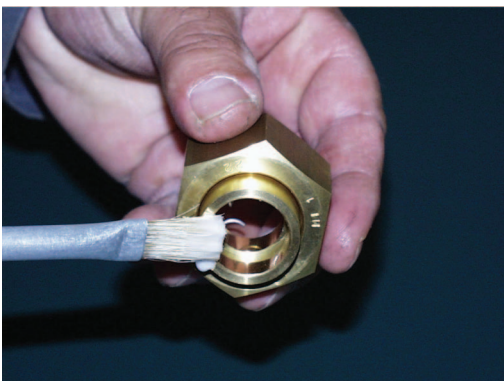
2. Deburring of the pipe extremities inside and outside



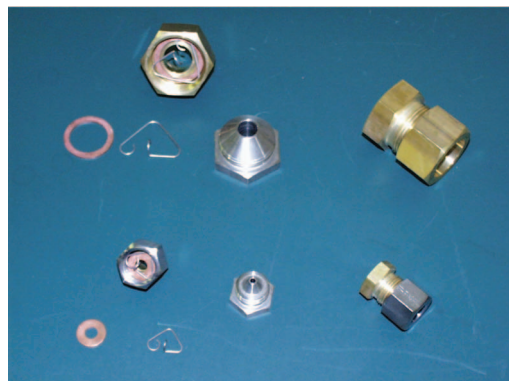
3. Clean to a bright metallic finish



4. Apply the soldering flux on the pipe

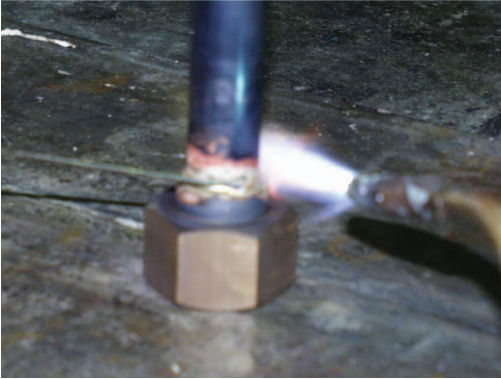


5. Apply the soldering flux at the part to be soldered

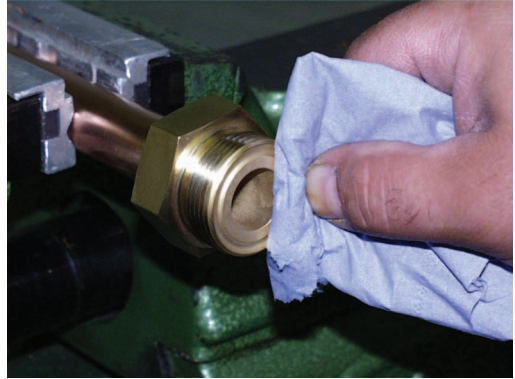


6. Use of auxiliary materials

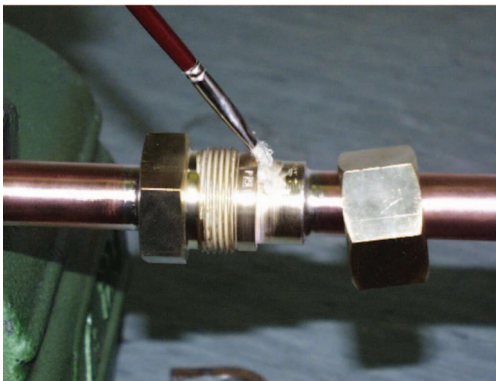
## Mounting instructions



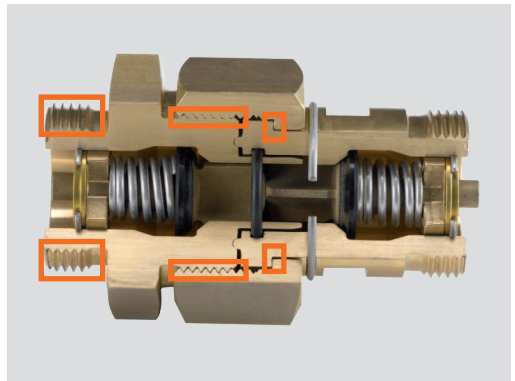
7. Observe the instructions of the soldering materials supplier



8. Before assembling clean the DILO tongue and groove part



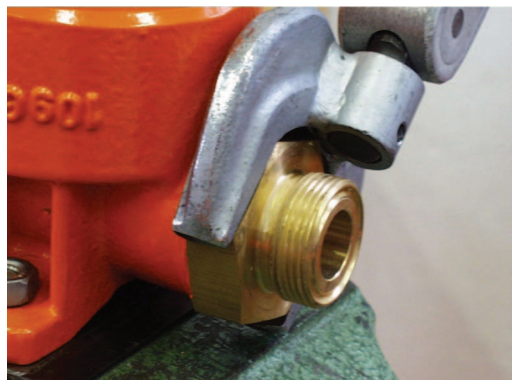
9. Lubricate with appropriate lubricants



10. Lubricating points at a DILO tube union



11. 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

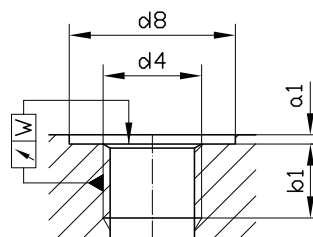
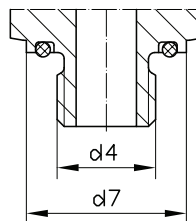
Torque see torque diagram

Screw-in thread

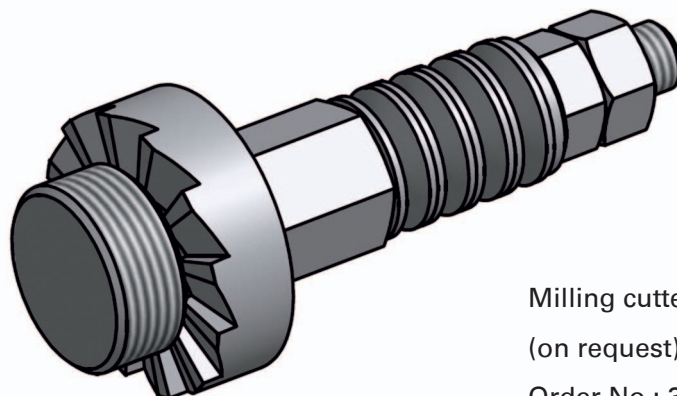
Screw-in hole see table

Make screw-in hole according to DIN 3852 form X

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



Milling cutter

(on request)

Order No.: 3-216-...

## 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

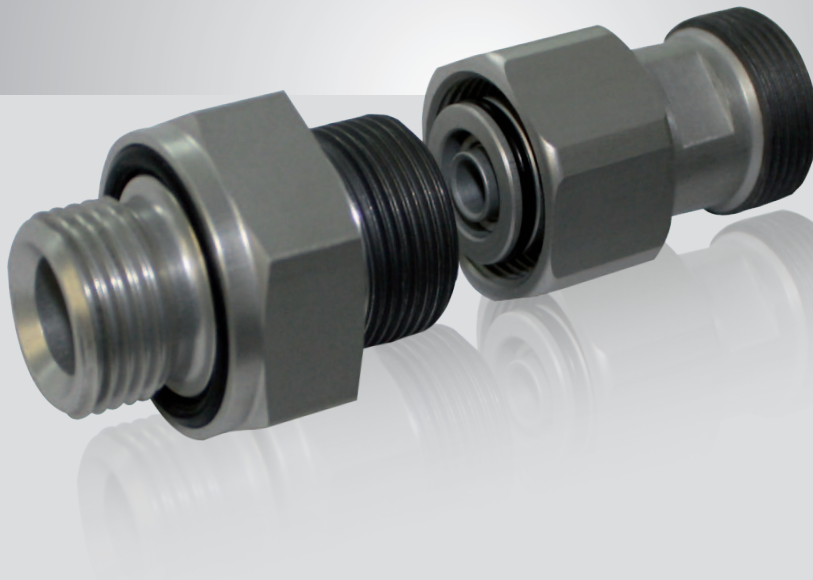
Screw-in thread		
Screw-in thread	Material	Torque Nm
G1/4	AL	15
G3/8	AL	40
G3/8	Stainless steel / Brass	40
G1/2	AL	68
G1A	AL	120
G1A	Stainless steel / Brass	130
G1½	AL	120
G1½	Brass	140
M16x1,5	AL / Stainless steel / Brass	40
M33x2	AL	120
M33x2	Stainless steel / Brass	130

<b>Coupling 3-408-R..</b>	Torque 15 Nm
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<b>Coupling 3-888-R..</b>	Torque 15 Nm
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<b>Coupling DN40</b>	Torque 80 Nm
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Covering caps	
Size of jaw	Torque Nm
24	20
32	40
50	40



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

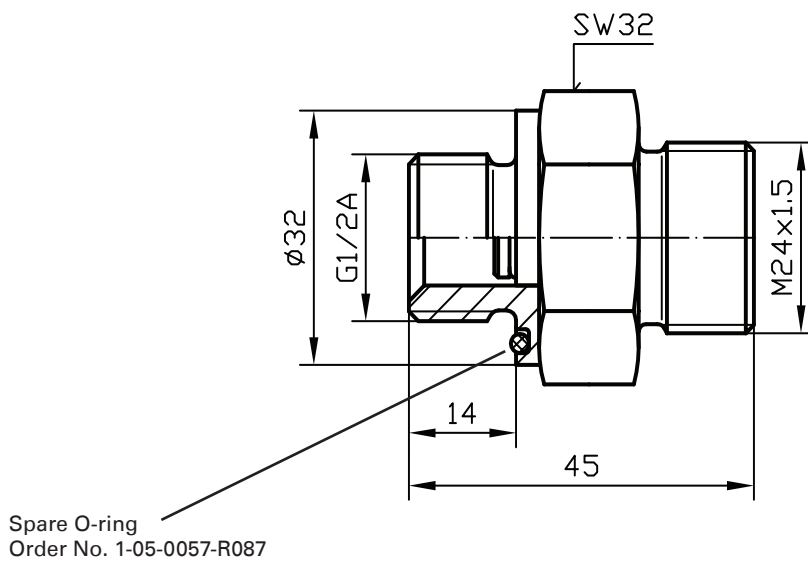
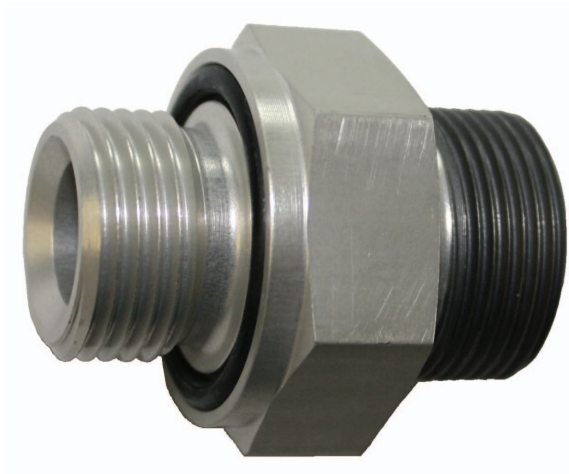
■ 3-408-R005	Coupling groove part / BG PN10 DN6	16
■ 3-408-R006	Flange coupling PN10 DN6	17
■ 3-408-R009	Gauge connecting piece DN6	18
■ 3-408-R007	Covering cap DN6	18
■ 3-408-R001	Coupling tongue part PN10 DN6	19
■ 6-1161-R013	Coupling tongue part PN10 DN6 with connecting coupling for measuring device	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

**BG PN10 DN6**

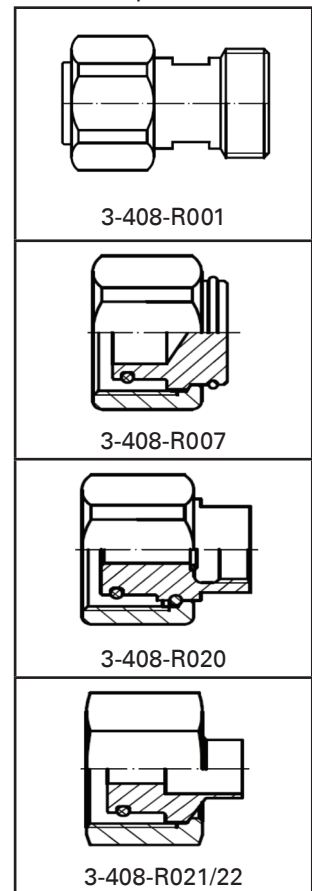
**Coupling groove part**

**Order No.:** 3-408-R005 T

**Material:** AL



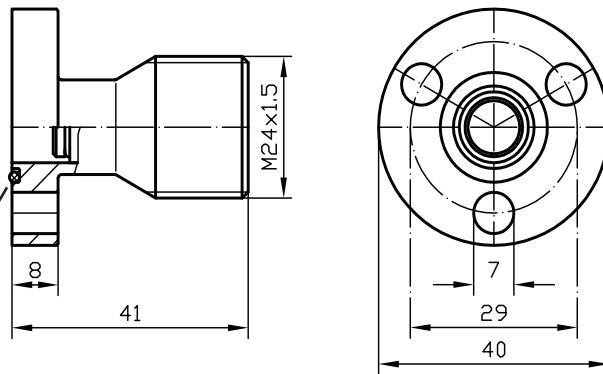
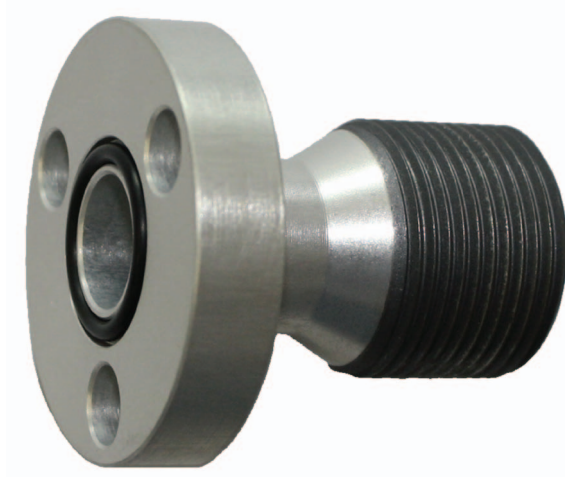
Suitable connecting parts





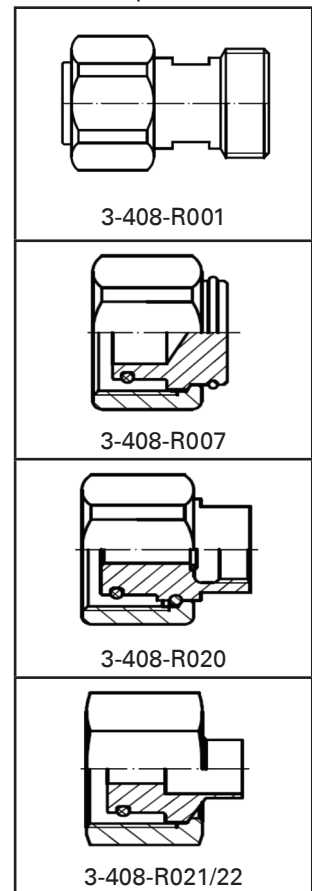
# PN10 DN6 Flange coupling

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



Spare O-ring  
Order No. 1-05-0057-R084

### Suitable connecting parts



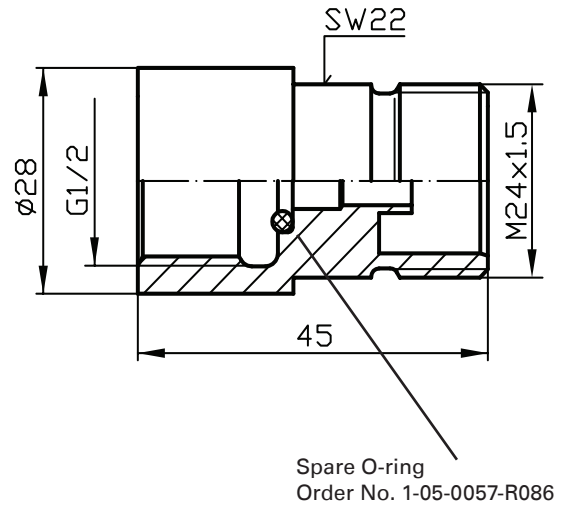
Other flanges are available on request.

**PN10 DN6**

# Gauge connecting piece

**Order No.:** 3-408-R009 T

**Material:** AL

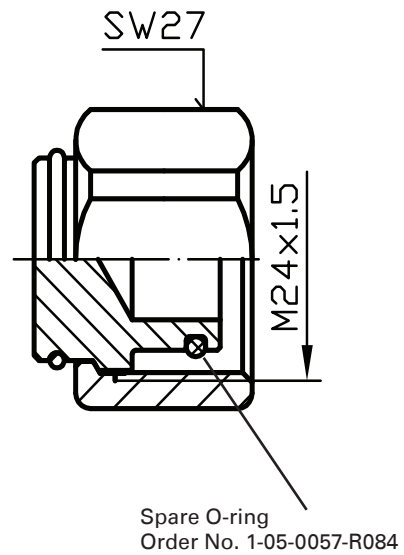


**PN10 DN6**

# Covering cap

**Order No.:** 3-408-R007 T

**Material:** AL



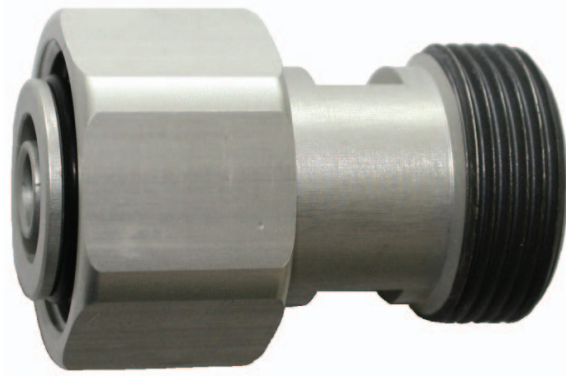


**PN10 DN6**

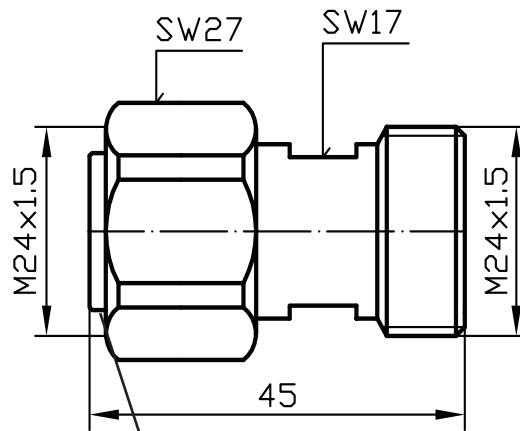
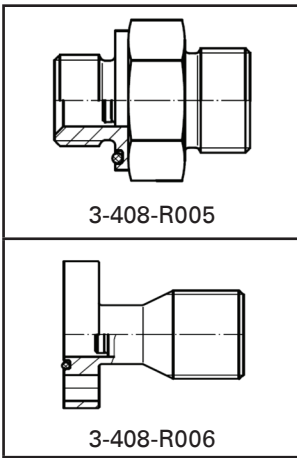
**Coupling tongue part**

**Order No.:** 3-408-R001 T

**Material:** AL

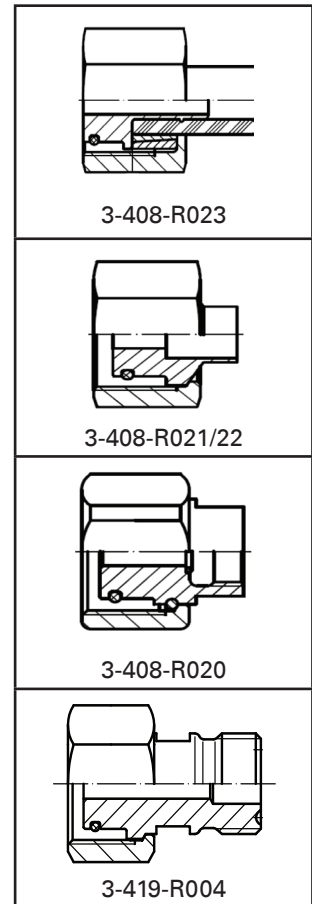


Suitable connecting parts



Spare O-ring  
Order No. 1-05-0057-R084

Suitable connecting parts

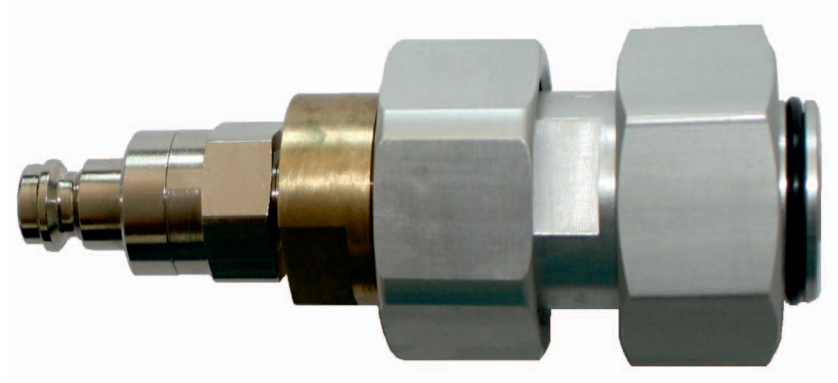


**PN10 DN6**

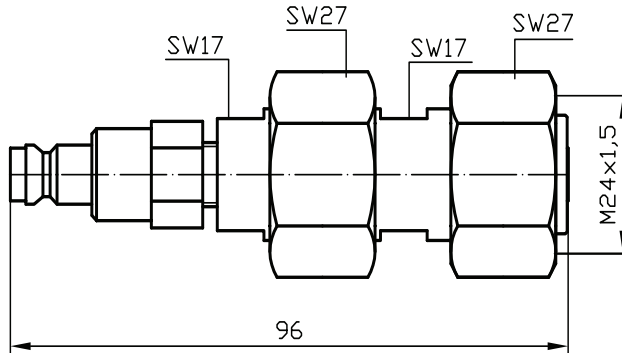
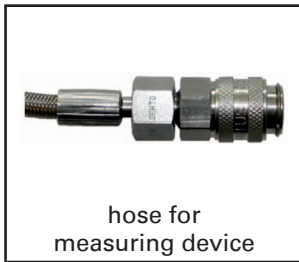
# Coupling tongue part with connecting coupling for measuring device

**Order No.:** 6-1161-R013

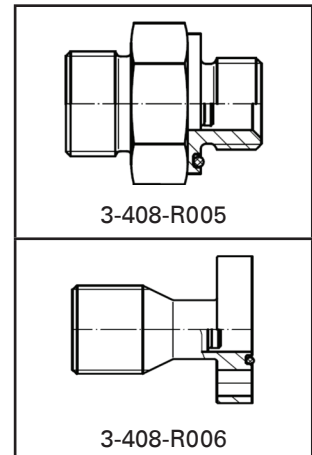
**Material:** AL / Brass



Suitable connecting parts



Suitable connecting parts



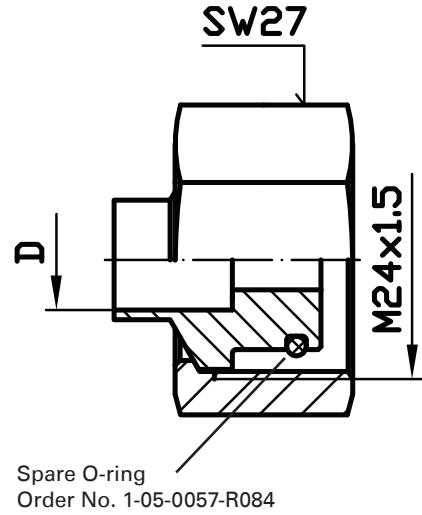
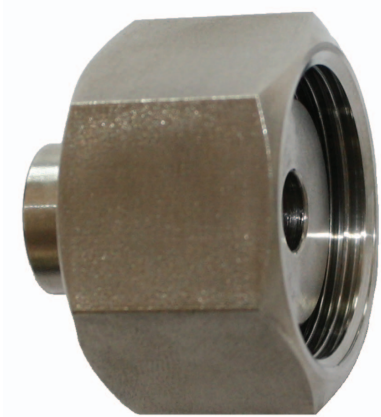


**PN10 DN6**

**Soldering stub connection**

**Order No.:** 3-408-R021 C    D = 10 mm  
                  3-408-R022 C    D = 6 mm

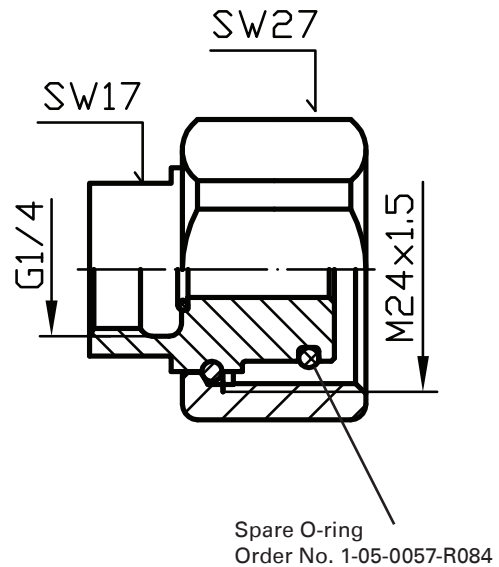
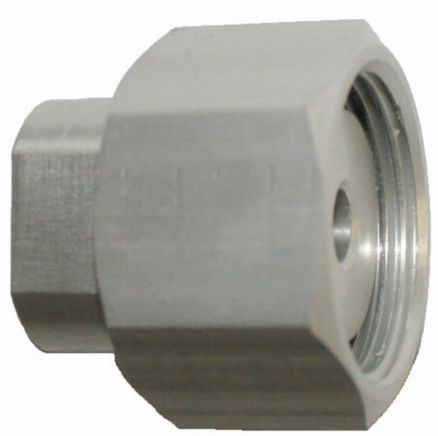
**Material:** Stainless steel



**PN10 DN6**

**Gauge connecting coupling**

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

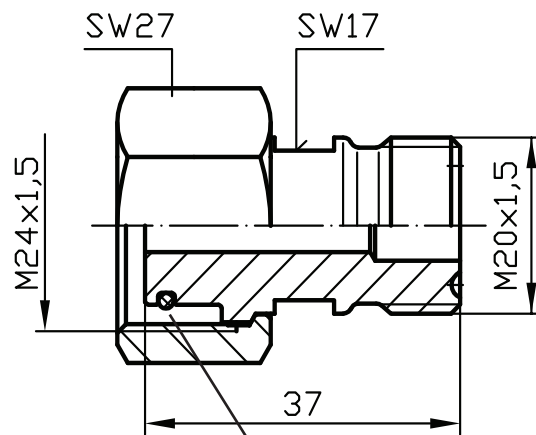
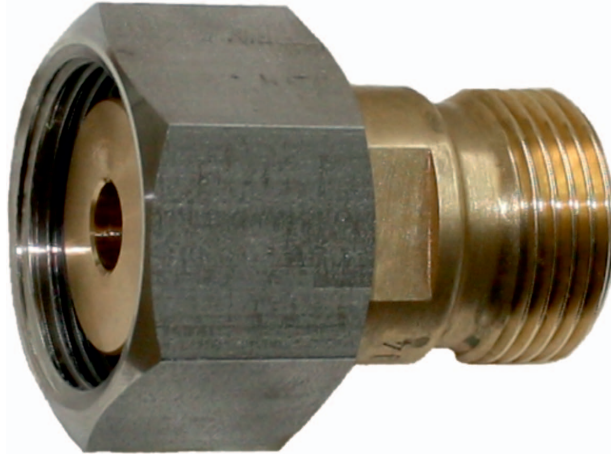


**PN10 DN6**

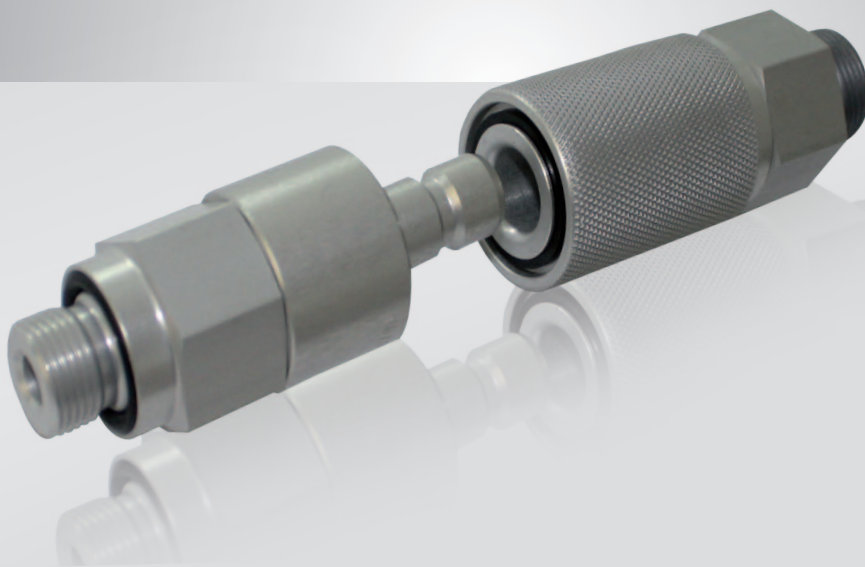
**Transition piece to DN8 connections**

**Order No.:** 3-419-R004

**Material:** Stainless steel / Brass



Spare O-ring  
Order No. 1-05-0057-R084



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 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 DN7

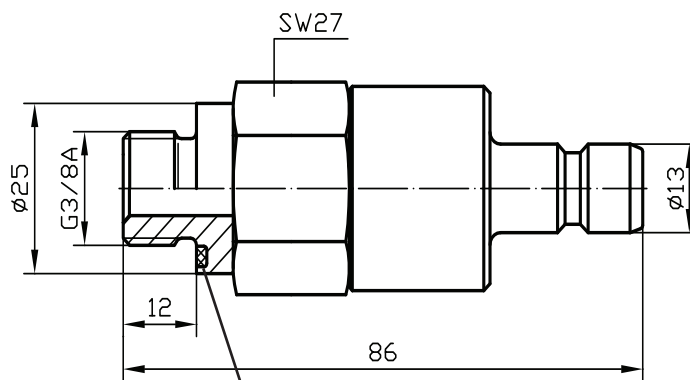
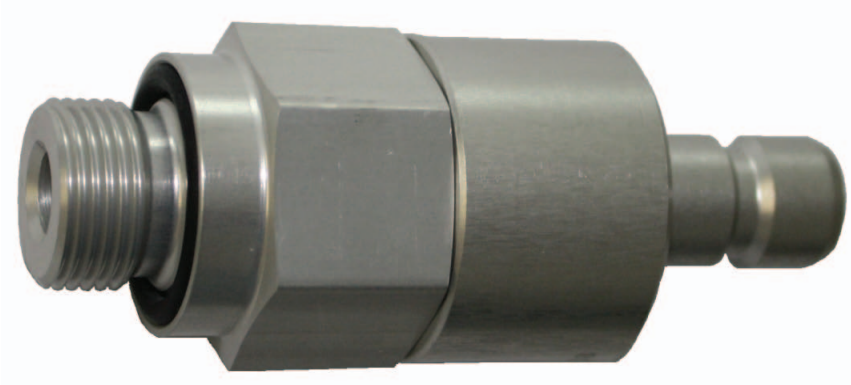
- |                |  |    |
|----------------|--|----|
| ■ 3-308-R003   | Plug connection groove part PN30 DN7   | 24 |
| ■ 3-308-R016   | Covering cap for plug connection groove part PN30 DN7                              | 25 |
| ■ 3-308-R002   | Plug connection tongue part PN30 DN7   | 26 |
| ■ 6-11161-R015 | Plug connection tongue part PN30 DN7 with connecting coupling for measuring device | 27 |
| ■ 3-308-R006   | Covering cap for plug connection tongue part PN30 DN7                              | 28 |

**PN30 DN7**

# Plug connection groove part

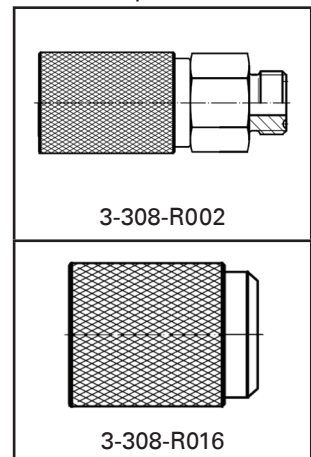
**Order No.:** 3-308-R003 T

**Material:** AL



Spare O-ring  
Order No. 1-05-0057-R016

Suitable connecting parts



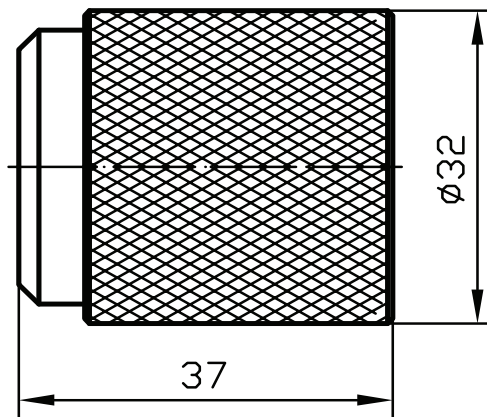


**PN30 DN6**

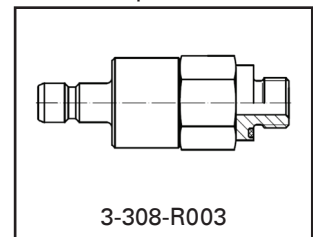
**Covering cap for plug connection groove part**

**Order No.:** 3-308-R016 T

**Material:** AL



Suitable connecting parts



**PN30 DN7**

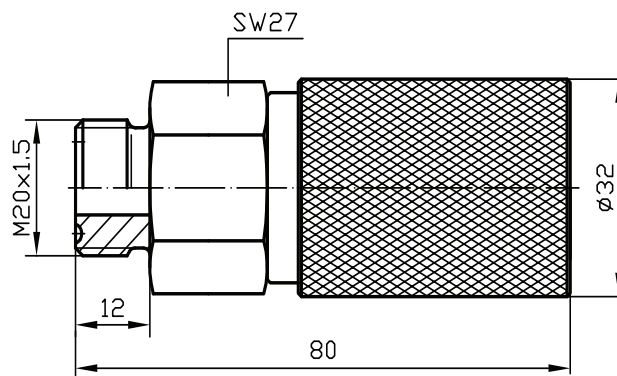
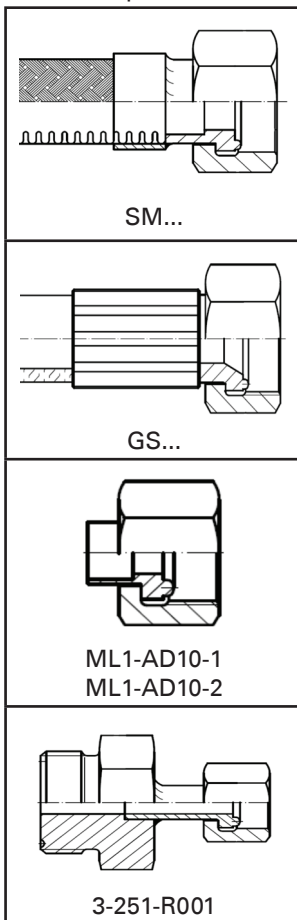
# Plug connection tongue part

**Order No.:** 3-308-R002 T

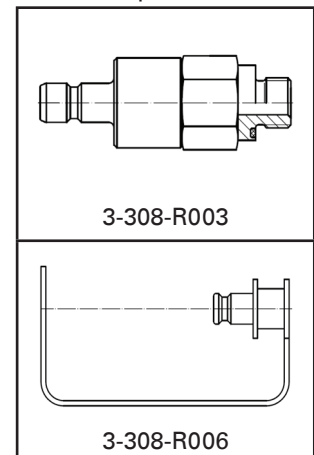
**Material:** AL



Suitable connecting parts



Suitable connecting parts

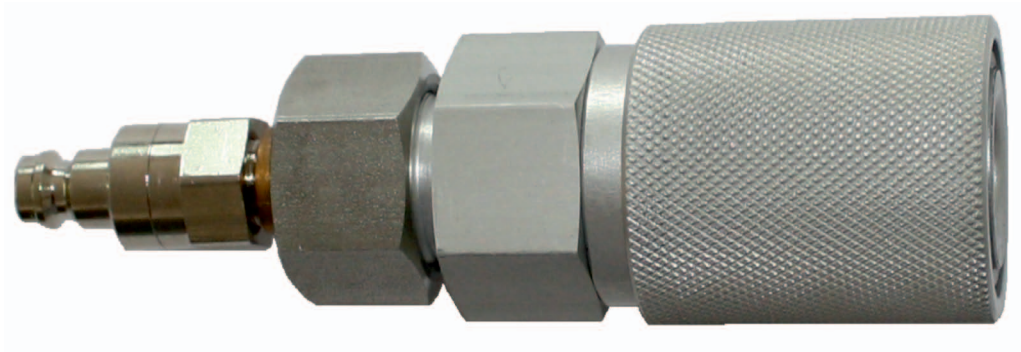


**PN30 DN7**

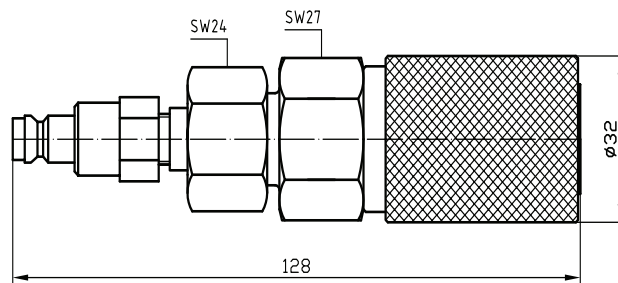
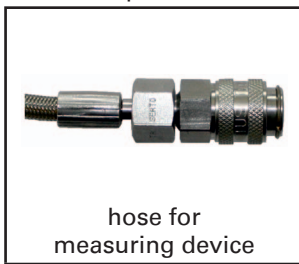
# Plug connection tongue part with connecting coupling for measuring device

**Order No.:** 6-1161-R015

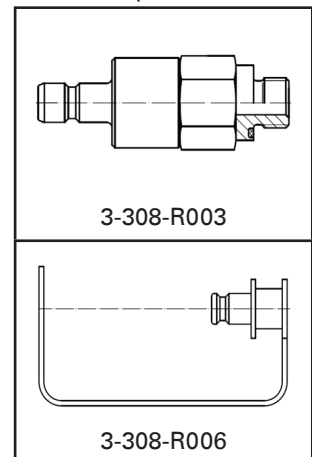
**Material:** AL



Suitable connecting parts



Suitable connecting parts

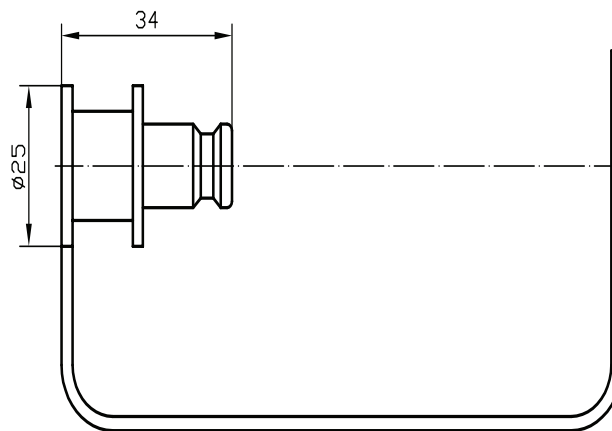
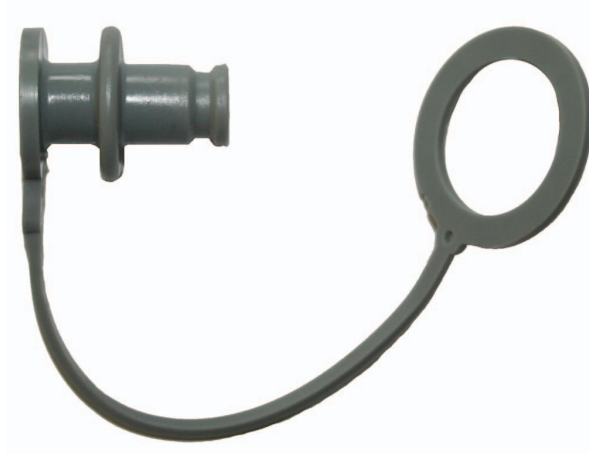


**PN30 DN7**

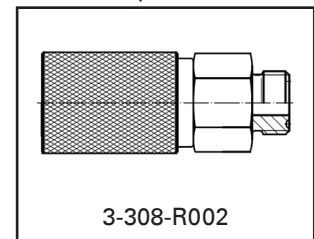
# Covering cap for plug connection tongue part

**Order No.:** 3-308-R006

**Material:** PVC



Suitable connecting parts



## 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  $-40\text{ °C}$  to  $+80\text{ °C}$ .

In special version these couplings are also available for a temperature range of  $-60\text{ °C}$  to  $+80\text{ °C}$ .

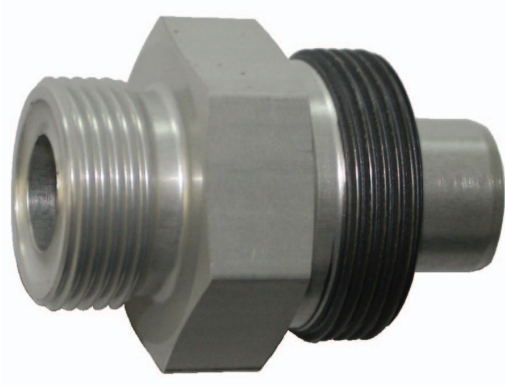
The suitable connecting parts for DILO couplings must be ordered separately.

### ■ DILO couplings DN8

■ VK/A-02/8	Coupling groove part / A PN64 DN8	30
■ VK/B(G)-03/8	Coupling groove part PN64 DN8 with O-ring	31
■ SK-272-R001	Flange coupling PN64 DN8	32
■ SK-272-R003	Flange coupling PN64 DN8	33
■ 3-778-R001	Flange coupling PN64 DN8 with 2-hole flange	34
■ VK/KN-04/8	Covering cap für coupling groove part PN64 DN8	35
■ VK/F-02/8	Coupling tongue part PN64 DN8	36
■ 6-1161-R011	Coupling tongue part PN64 DN8 with connecting coupling for measuring device	37
■ SK-372-R020/ R021	Gauge connecting coupling PN64 DN8	38

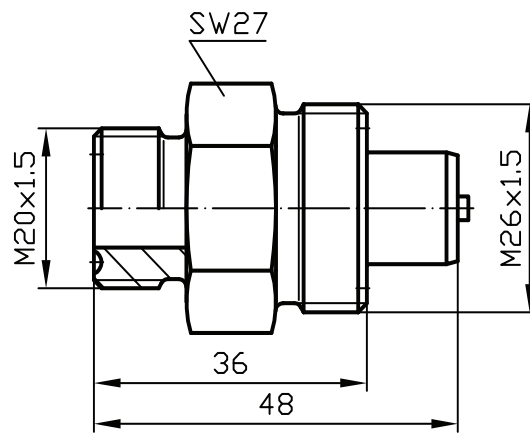
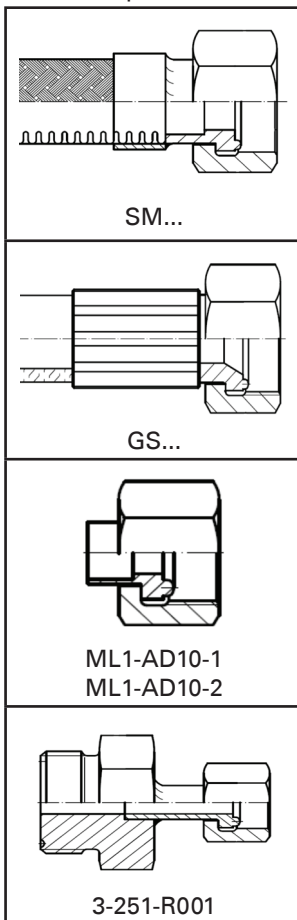
**A PN64 DN8**

**Coupling groove part**

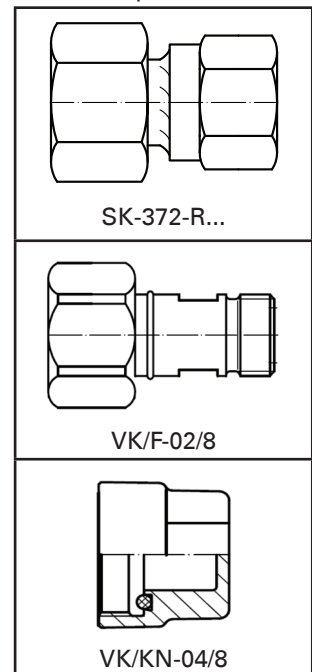


Order No.	Material
VK/A-02/8 T	AL
VK/A-02/8 E	Stainless steel
VK/A-02/8 P	Brass

Suitable connecting parts



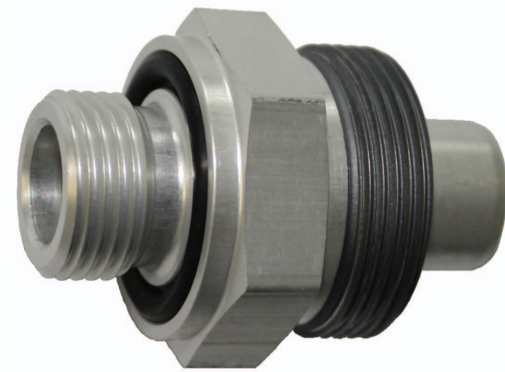
Suitable connecting parts



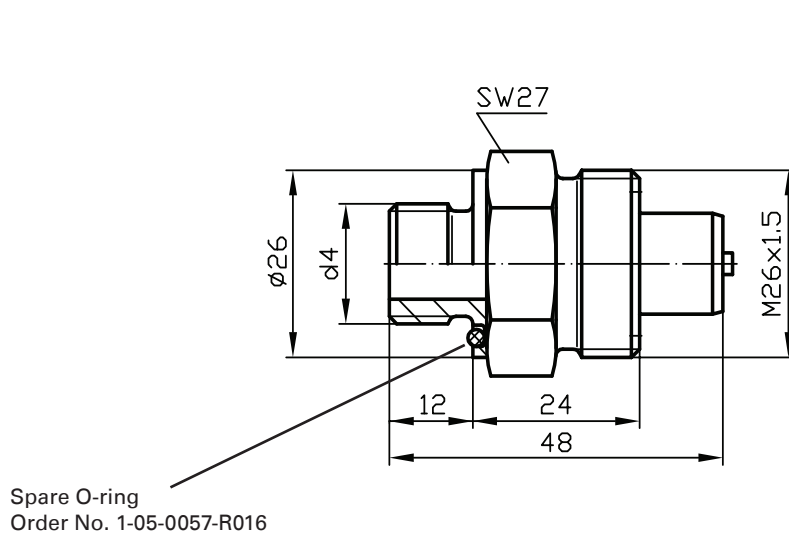


**PN64 DN8**

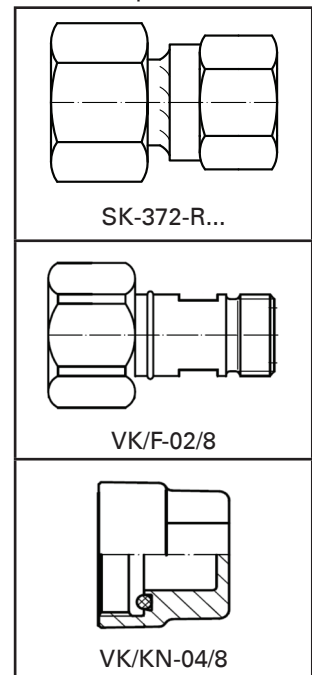
**Coupling groove part with O-ring**



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



Suitable connecting parts

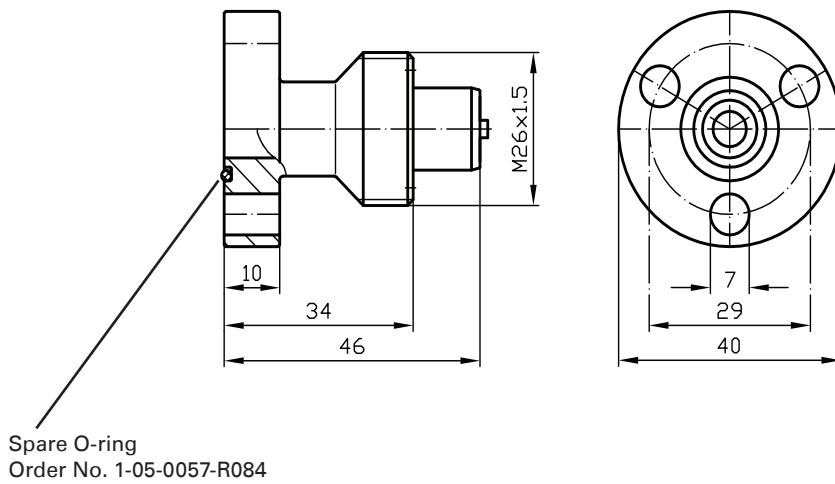
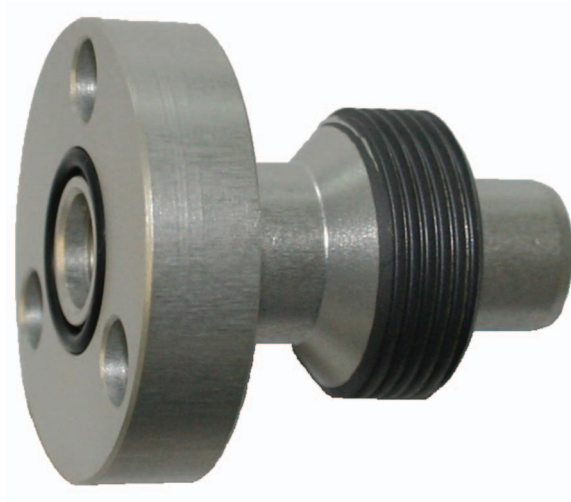


In special version the screw-in thread can also supplied with sealing edge acc. to DIN 3852 form B.

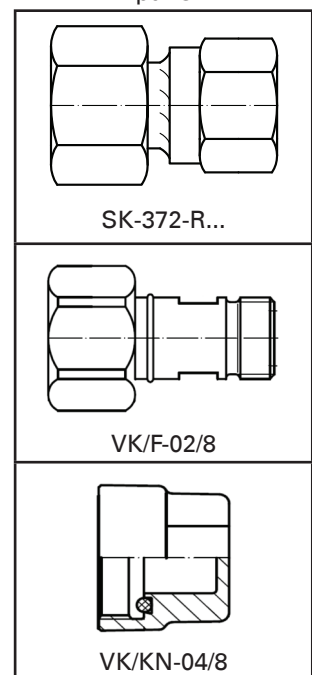
## PN64 DN8 Flange coupling

**Order No.:** SK-272-R001 T

**Material:** AL



Suitable connecting parts

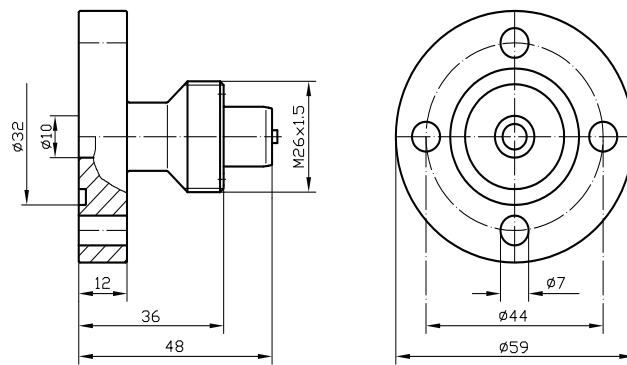
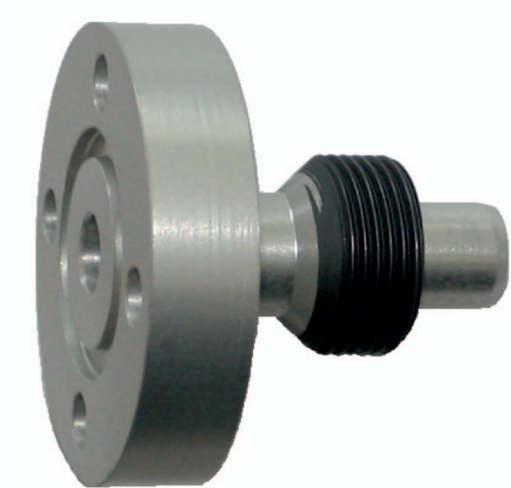


Other flanges are available on request.

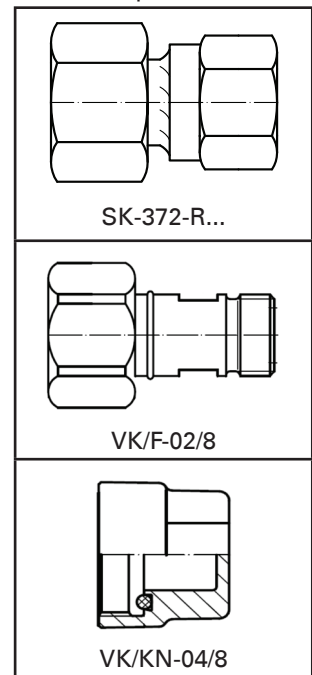


**PN64 DN8**  
**Flange coupling**

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



Suitable connecting parts



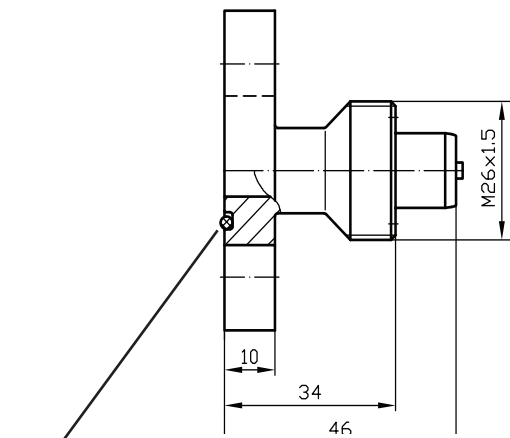
Other flanges are available on request.

**PN64 DN8**

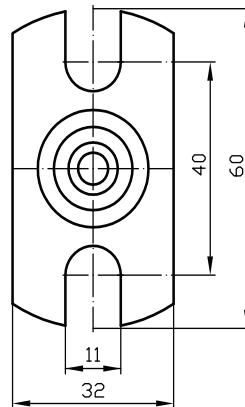
# Flange coupling with 2-hole flange

**Order No.:** 3-778-R001 T

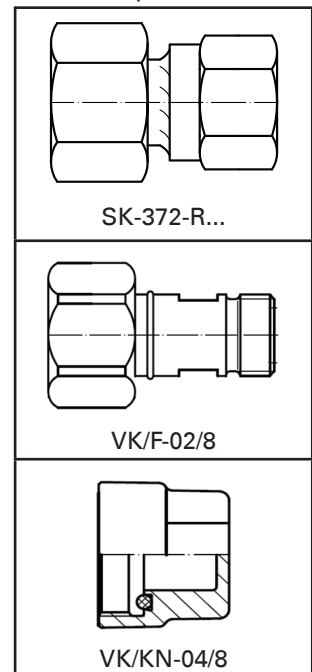
**Material:** AL



Spare O-ring  
Order No. 1-05-0057-R125



Suitable connecting parts



Other flanges are available on request.



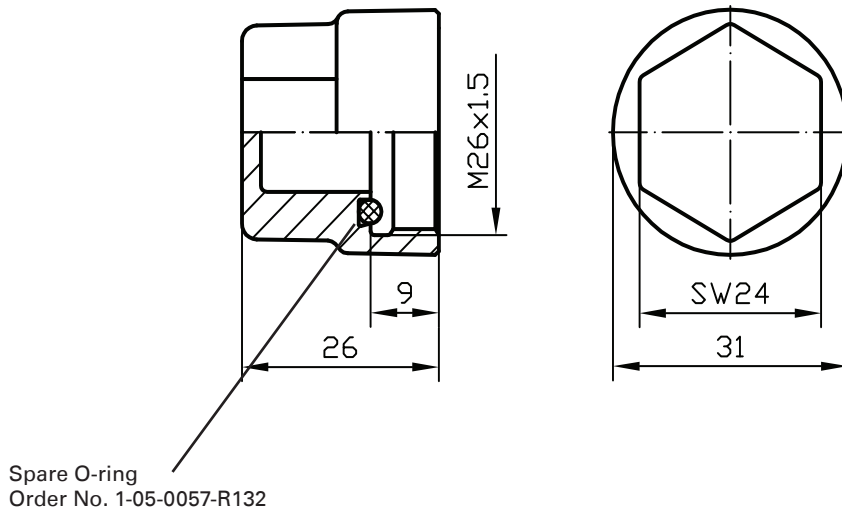
**PN64 DN8**

**Covering cap for coupling groove part**



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

Suitable connecting parts



3-778-R001
SK-272-R001 / R003
VK/A-02/8
VK/B-03/8 VK/BG-03/8

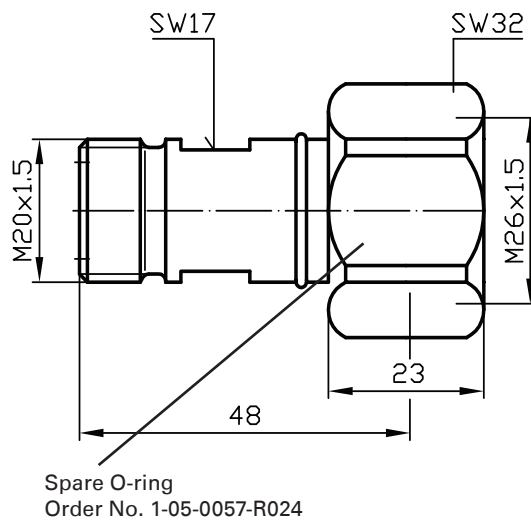
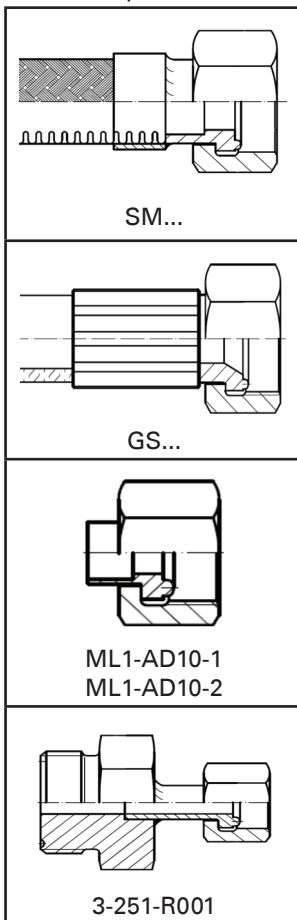
**PN64 DN8**

**Coupling tongue part**

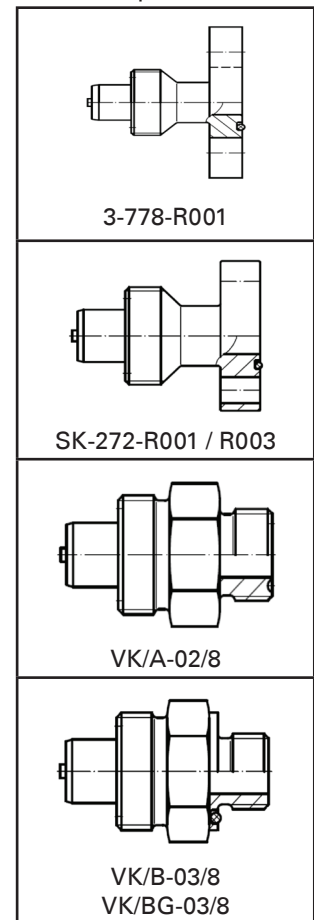


Order No.	Material
VK/F-02/8 T	AL
VK/F-02/8 E	Stainless steel
VK/F-02/8 P	Brass

Suitable connecting parts



Suitable connecting parts



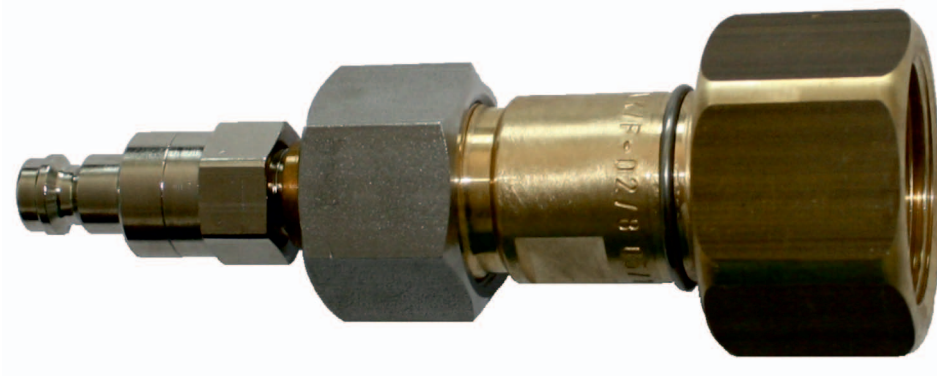


**PN64 DN8**

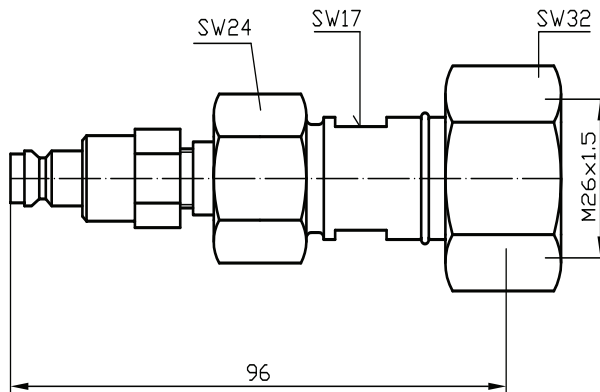
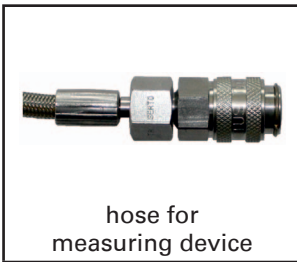
**Coupling tongue part  
with connecting coupling for measuring device**

**Order No.:** 6-1161-R011

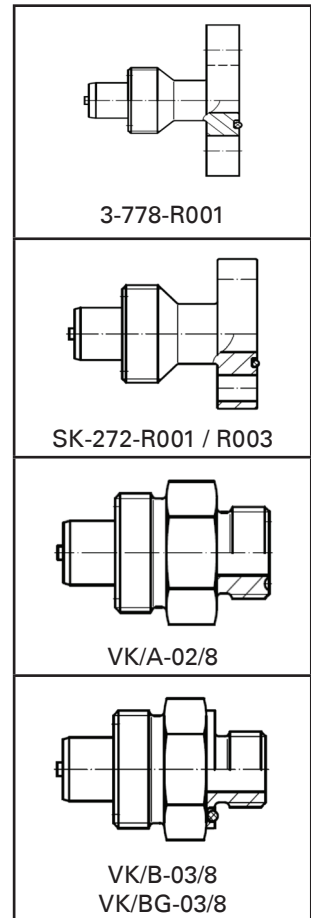
**Material:** Brass



Suitable connecting parts

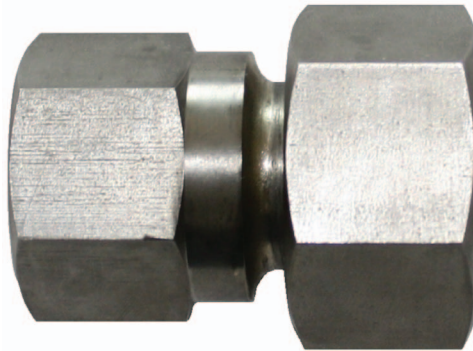


Suitable connecting parts



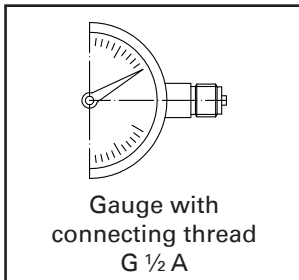
**PN64 DN8**

# Gauge connecting coupling

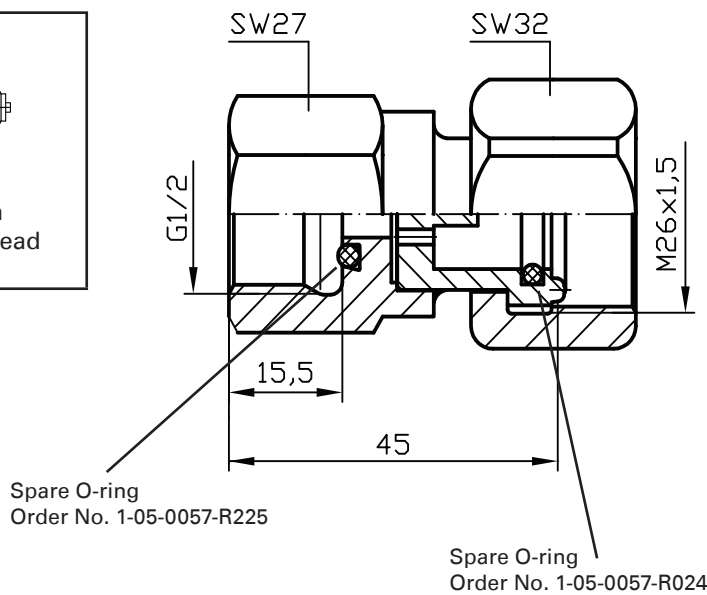
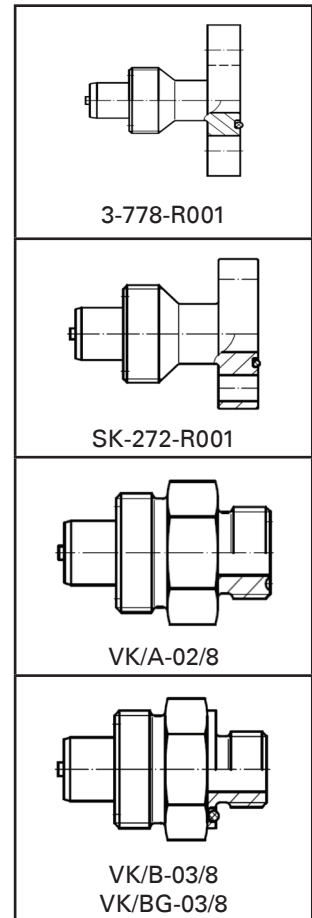


Order No.	Material
SK-372-R020 P	Brass
SK-372-R021 C	Stainless steel

Suitable connecting parts



Suitable connecting parts



**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 conical 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°).



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

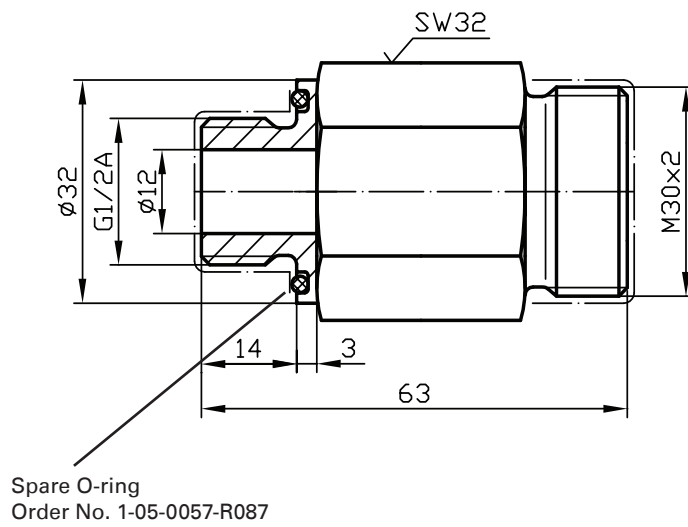
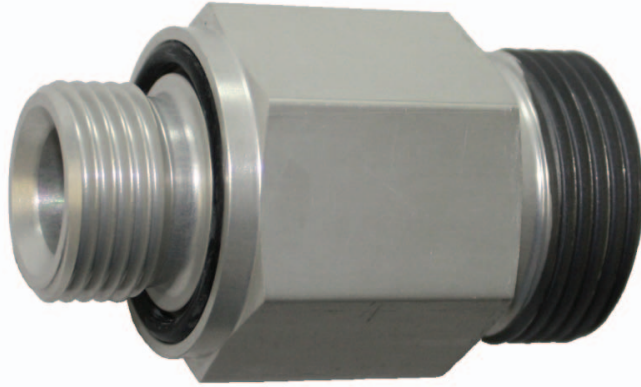
■ 3-888-R005	Coupling groove part / BG PN10 DN12	40
■ 3-888-R007	Covering cap	41
■ 3-888-R001	Coupling tongue part PN10 DN12	42
■ 6-1161-R014	Coupling tongue part PN10 DN12 with connecting coupling for measuring device	43
■ 3-888-R031	Gauge connecting coupling PN10 DN12	44
■ 3-888-R009	Gauge connecting coupling PN10 DN12	45

**BG PN10 DN12**

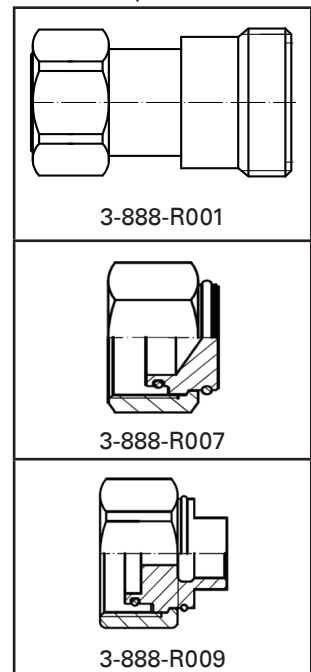
# Coupling groove part

**Order No.:** 3-888-R005 T

**Material:** AL



Suitable connecting parts

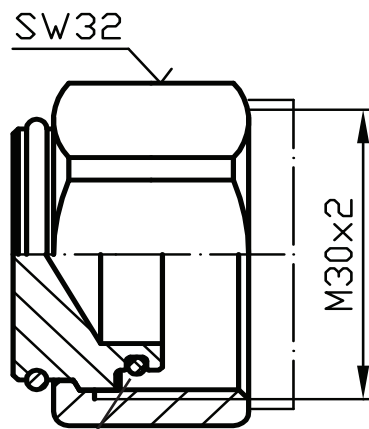






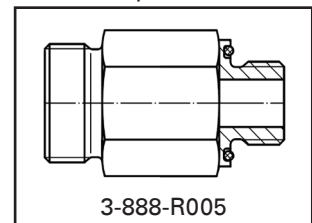
**PN10 DN12**  
**Covering cap**

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



Spare O-ring  
Order No. 1-05-0057-R096

Suitable connecting  
parts

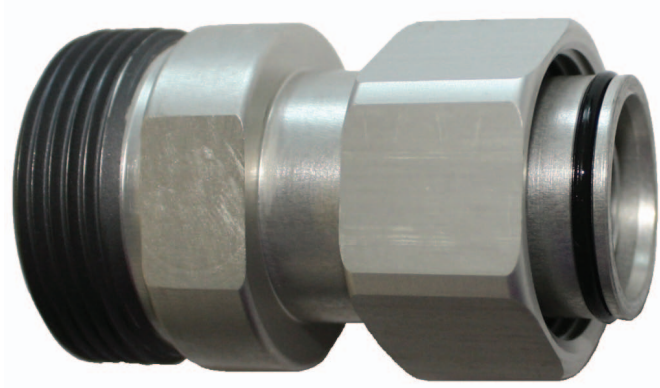


**PN10 DN12**

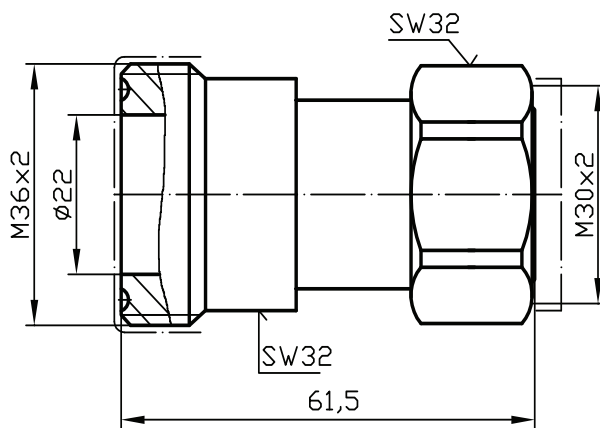
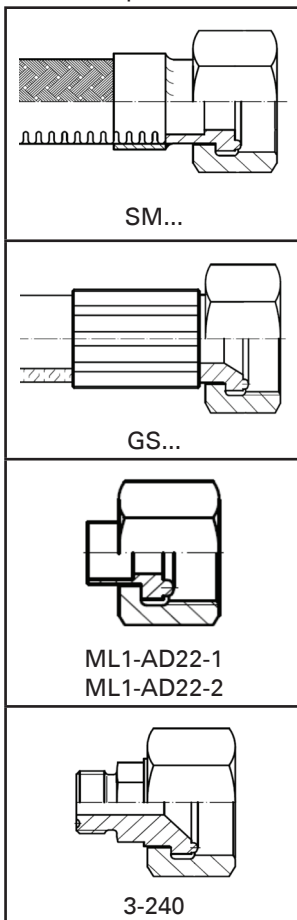
# Coupling tongue part

**Order No.:** 3-888-R001 T

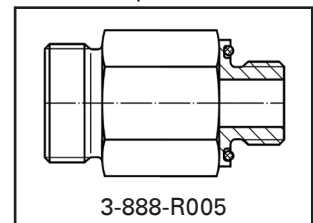
**Material:** AL



Suitable connecting parts



Suitable connecting parts

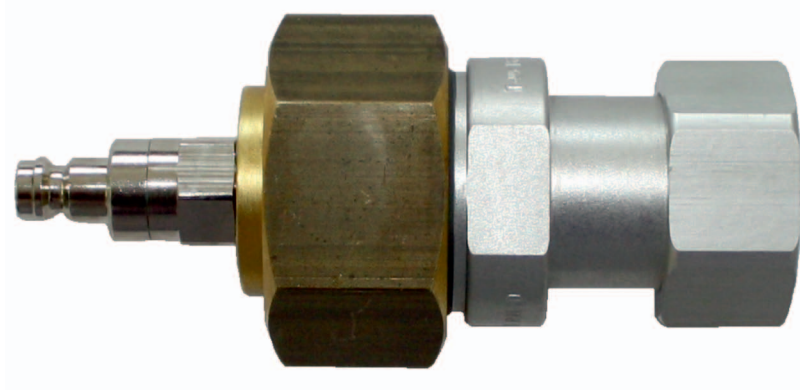


**PN10 DN12**

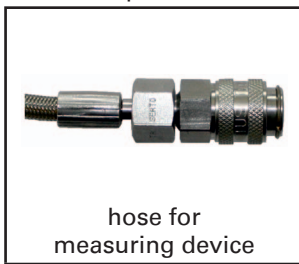
# Coupling tongue part with connecting coupling for measuring device

**Order No.:** 6-1161-R014

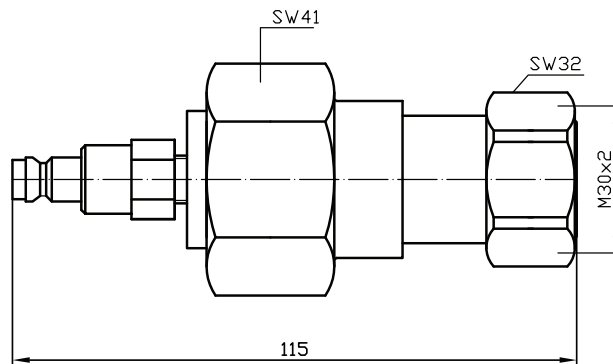
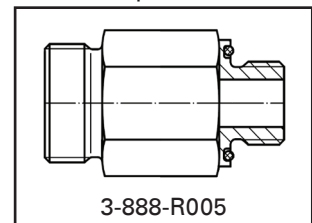
**Material:** AL



Suitable connecting parts



Suitable connecting parts

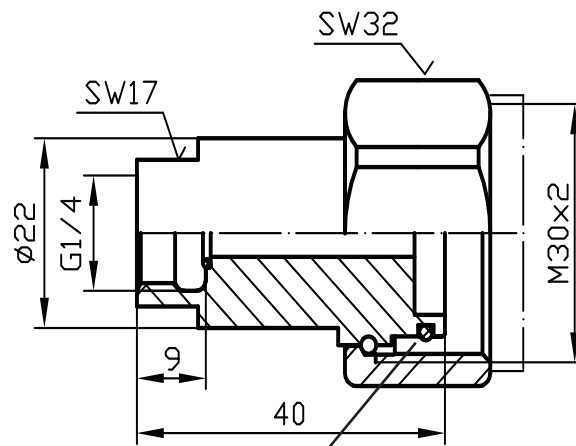
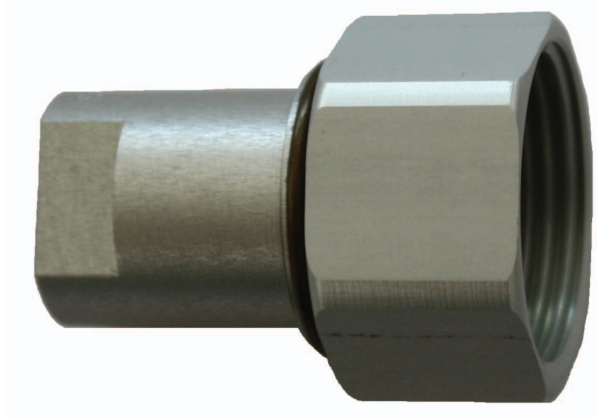


**PN10 DN12**

# Gauge connecting coupling

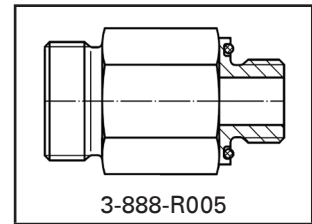
**Order No.:** 3-888-R031 T

**Material:** AL



Spare O-ring  
Order No. 1-05-0057-R096

Suitable connecting parts



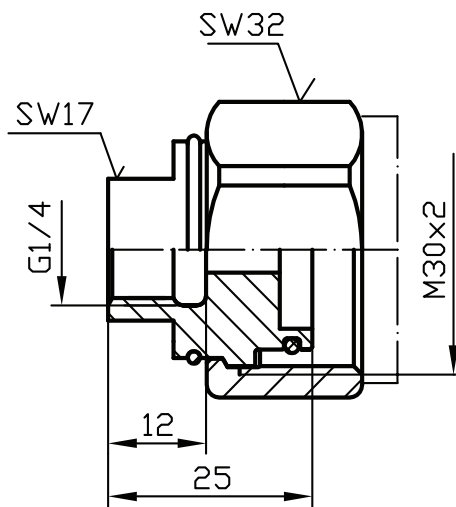
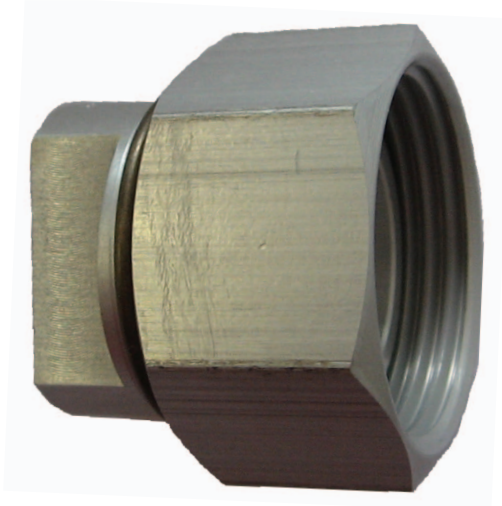
3-888-R005

**PN10 DN12**

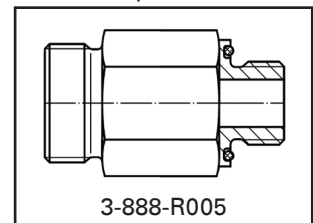
# Gauge connecting coupling

**Order No.:** 3-888-R009 T

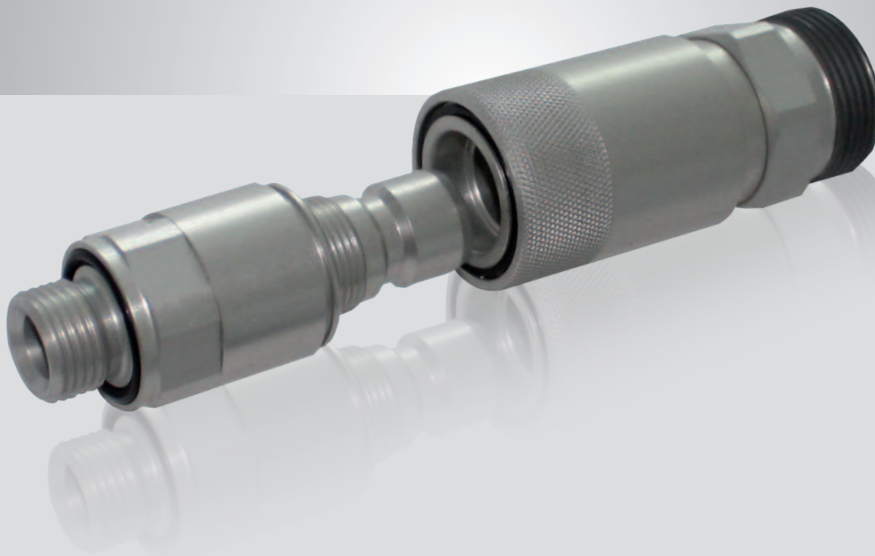
**Material:** AL



Suitable connecting parts







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 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  $-40\text{ °C}$  to  $+80\text{ °C}$ .

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

## ■ DILO couplings DN12

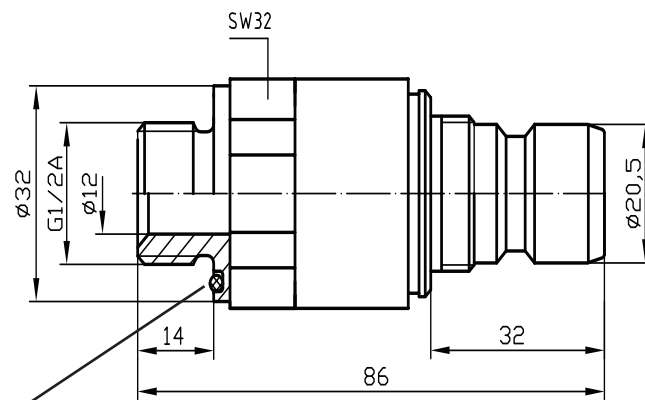
- 3-1095-R005 Plug connection groove part PN8 DN12 48
- 3-1095-R016 Covering cap für plug connection groove part PN8 DN12 49
- 3-1095-R001 Plug connection tongue part PN8 DN12 50
- 3-1095-R002 Plug connection tongue part PN8 DN12 51 with connecting coupling for measuring device
- 3-1095-R017 Density gauge connection PN8 DN12 52

**PN8 DN12**

# Plug connection groove part

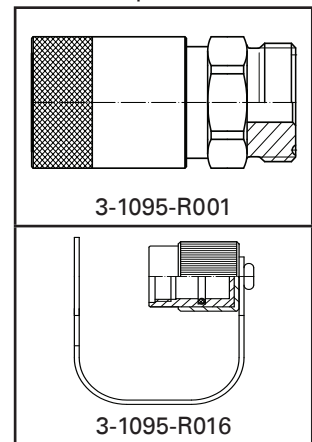
**Order No.:** 3-1095-R005 T

**Material:** AL



Spare O-ring  
Order No. 1-05-0057-R087

Suitable connecting parts



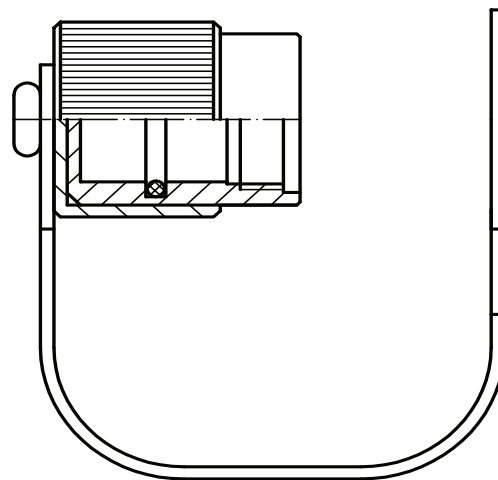


**PN8 DN12**

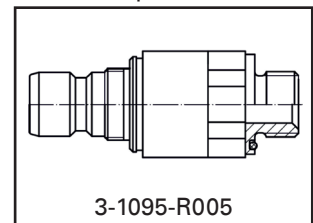
# Covering cap for plug connection groove part

**Order No.:** 3-1095-R016 T

**Material:** AL



Suitable connecting parts



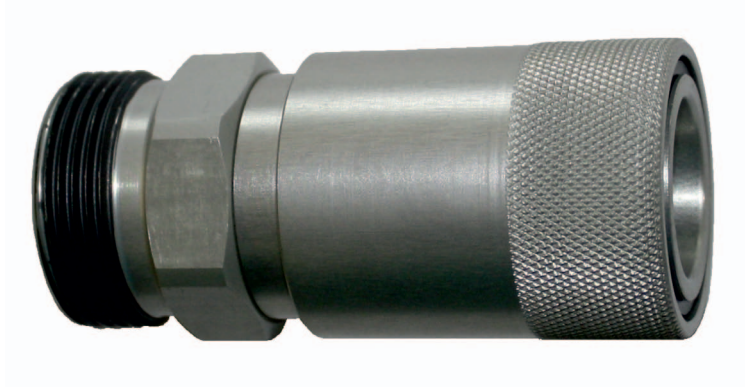
3-1095-R005

**PN8 DN12**

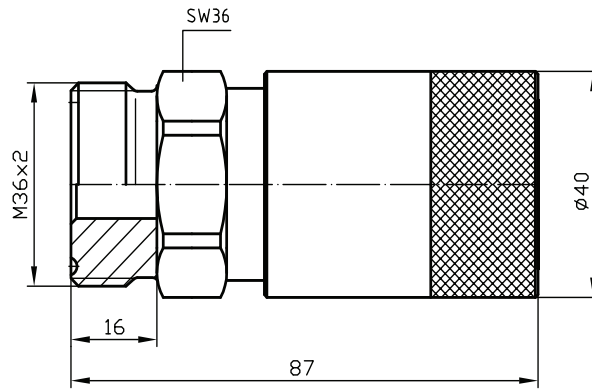
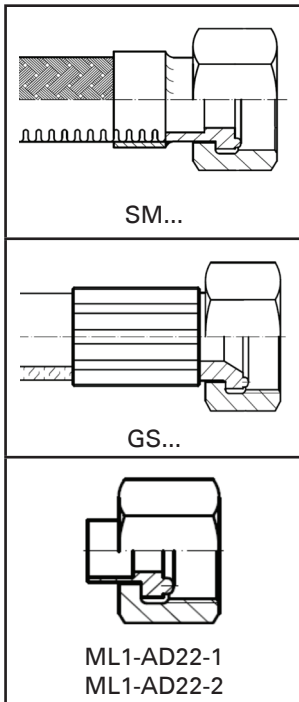
# Plug connection tongue part

**Order No.:** 3-1095-R001 T

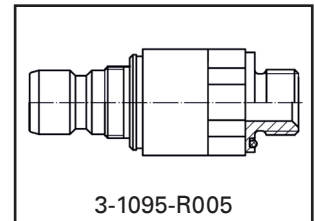
**Material:** AL



Suitable connecting parts



Suitable connecting parts

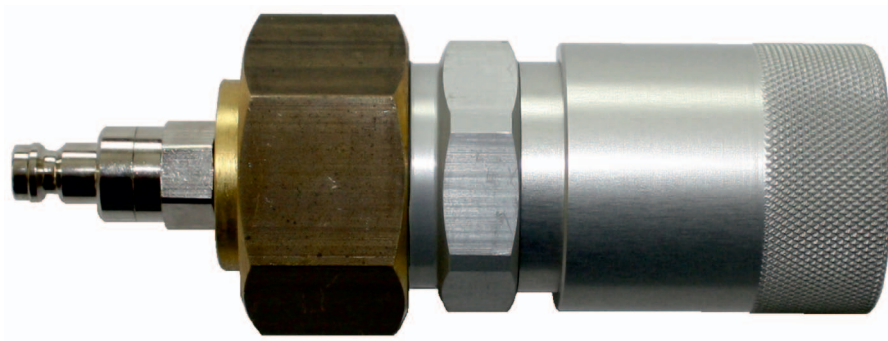


**PN8 DN12**

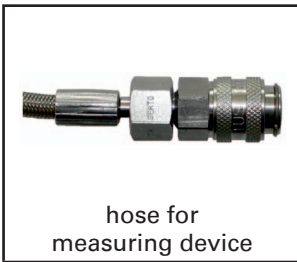
**Plug connection tongue part  
with connecting coupling for measuring device**

**Order No.:** 3-1095-R002 T

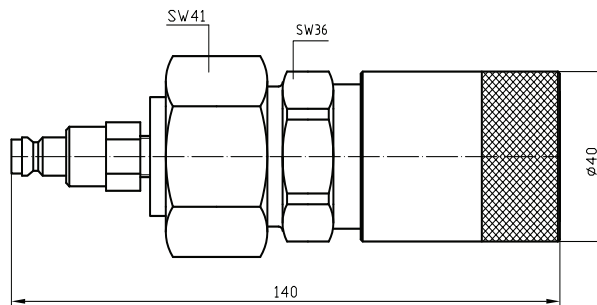
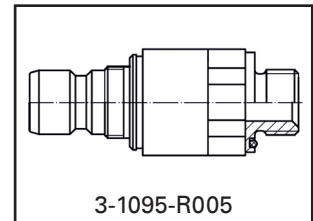
**Material:** AL



Suitable connecting parts



Suitable connecting parts

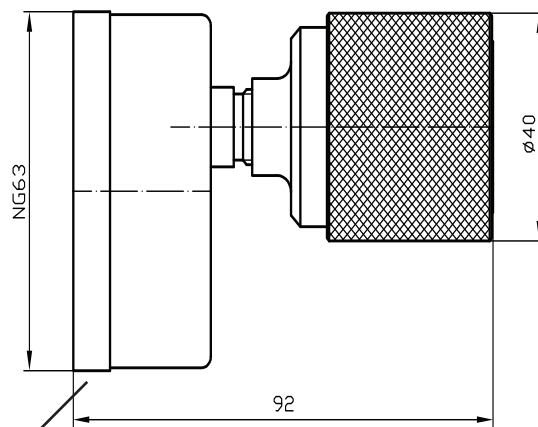
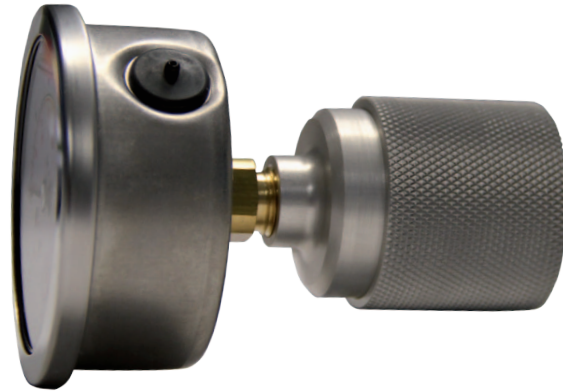


**PN8 DN12**

# Density gauge connection

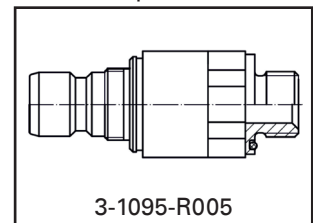
**Order No.:** 3-1095-R017 T

**Material:** AL

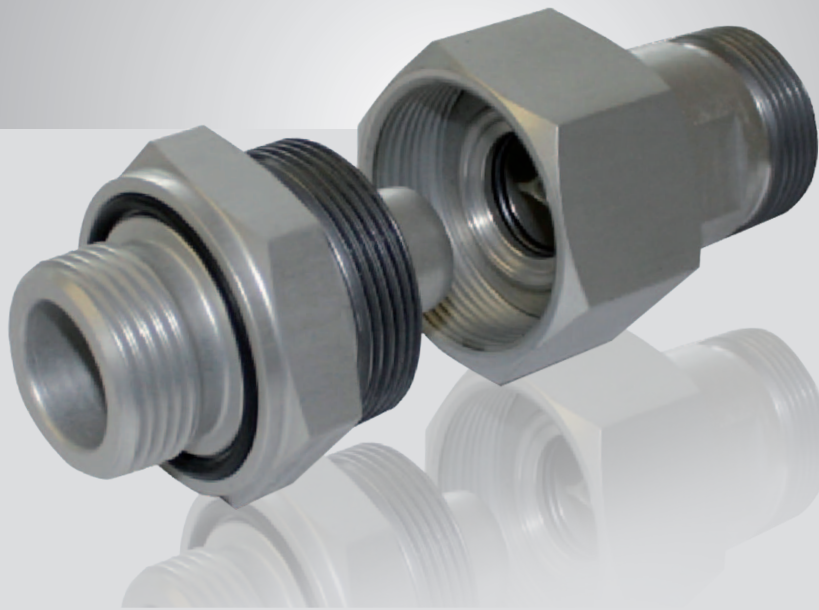


Indication range on customer request

Suitable connecting parts



## 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.

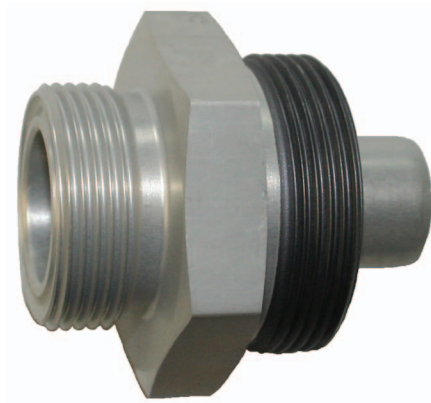
The suitable connecting parts for DILO couplings must be ordered separately.

### ■ DILO couplings DN20

■ VK/A-02/20	Coupling groove part / A PN64 DN20	54
■ VK/B(G)-03/20	Coupling groove part PN64 DN20 with O-ring	55
■ VK/FL-01/20	Flange coupling PN64 DN20	56
■ 3-777-R001	Flange coupling PN64 DN20 with 2-hole flange	57
■ 3-685-R001	Flange coupling PN64 DN20	58
■ VK/KN-04/20	Covering cap for coupling groove part PN64 DN20	59
■ VK/F-02/20	Kuppplungs-Federteil PN64 DN20	60
■ 6-1161-R012	Coupling tongue part PN64 DN20 with connecting coupling for measuring device	61
■ SK-282-R020	Gauge connecting coupling PN64 DN20	62

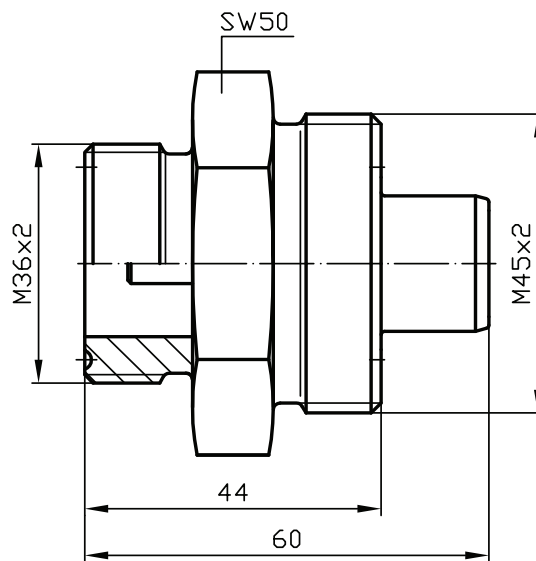
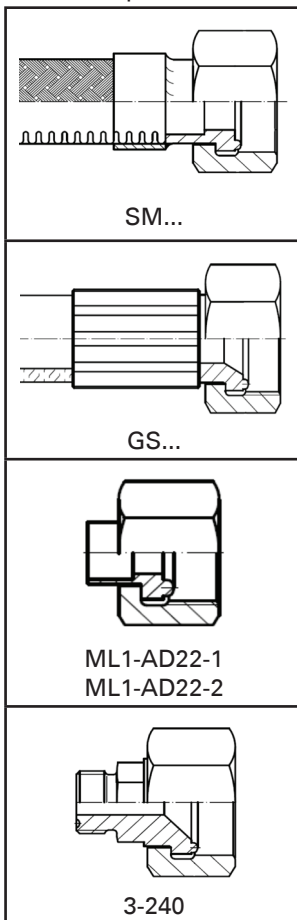
**A PN64 DN20**

**Coupling groove part**

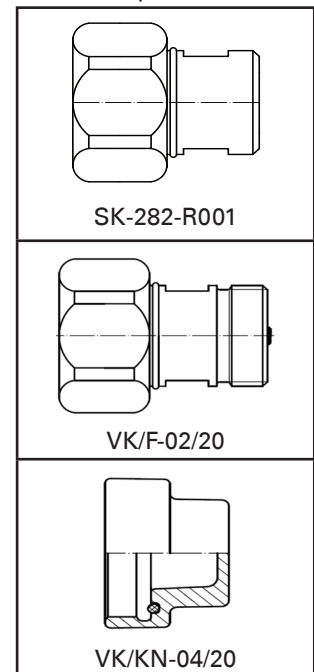


Order No.	Material
VK/A-02/20 T	AL
VK/A-02/20 P	Brass
VK/A-02/20 E	Stainless steel

Suitable connecting parts

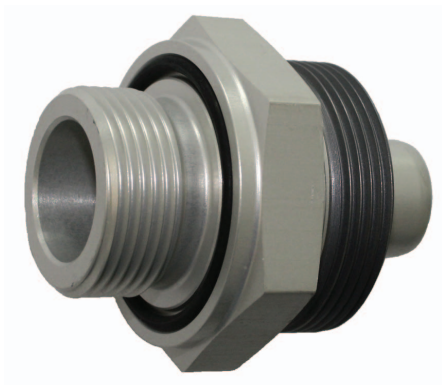


Suitable connecting parts

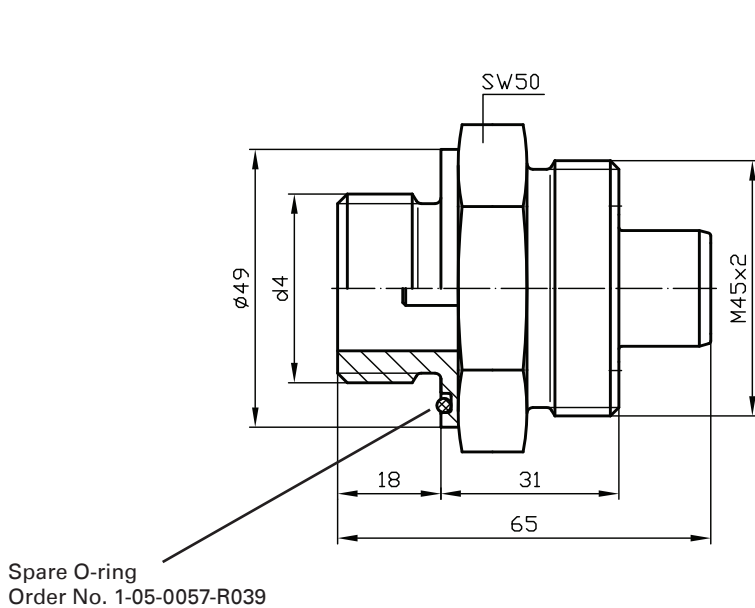


**PN64 DN20**

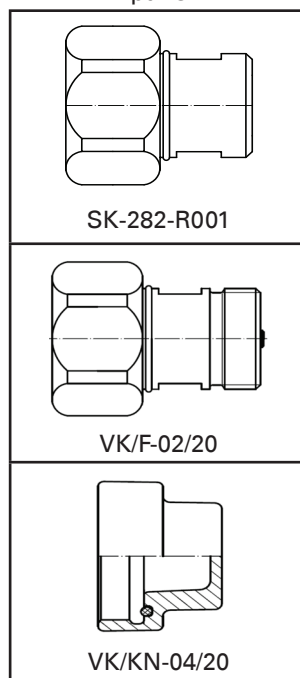
**Coupling groove part with O-ring**



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



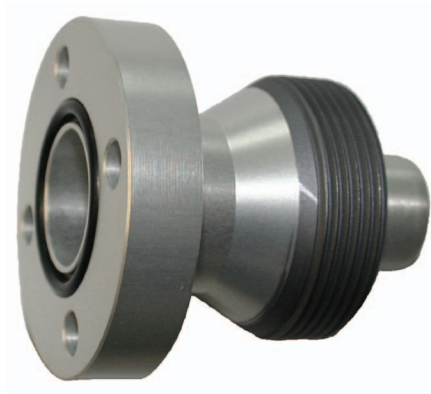
Suitable connecting parts



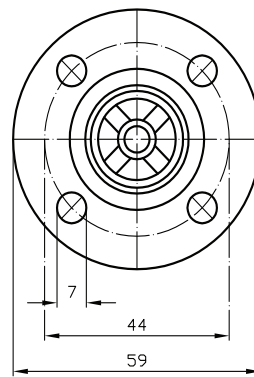
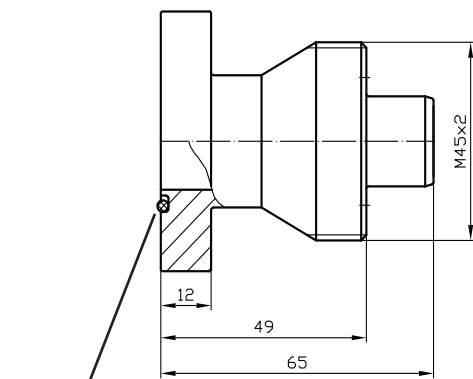
In special version the screw-in thread can also be supplied with sealing edge acc. to DIN 3852 form B.

**PN64 DN20**

**Flange coupling**

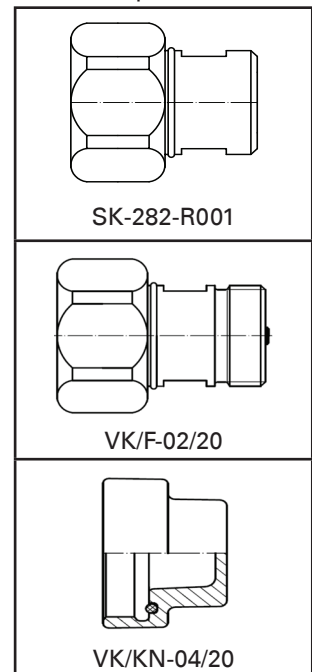


Order No.	Material
VK/FL-01/20 T	AL
VK/FL-01/20 E	Stainless steel



Spare O-ring  
Order No. 1-05-0057-R030

Suitable connecting parts



Other flanges are available on request.

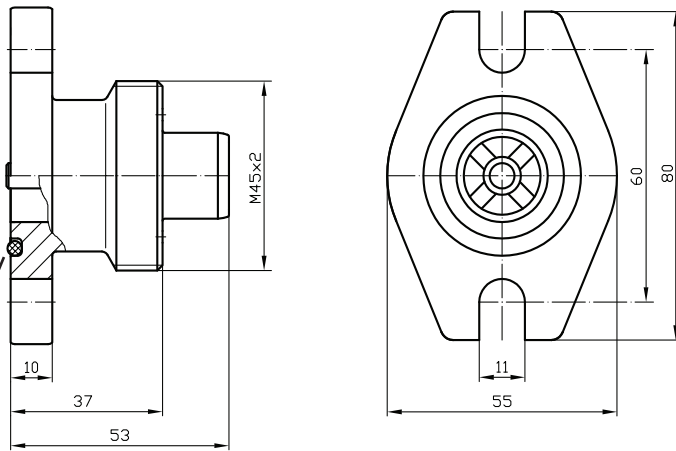


**PN64 DN20**

**Flange coupling with 2-hole flange**

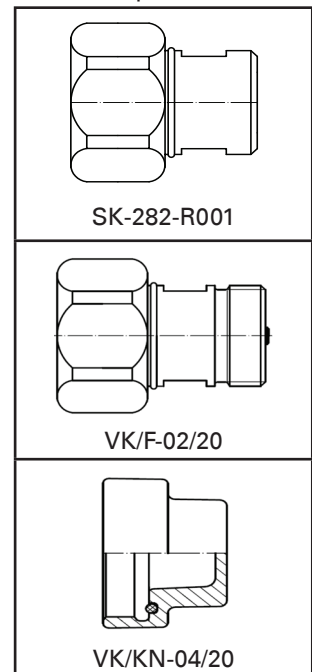
**Order No.:** 3-777-R001 T

**Material:** AL



Spare O-ring  
Order No. 1-05-0057-R098

Suitable connecting parts



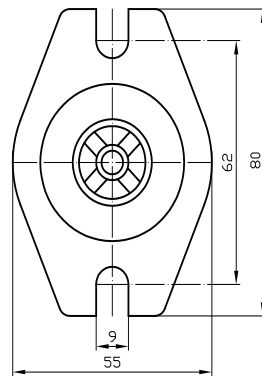
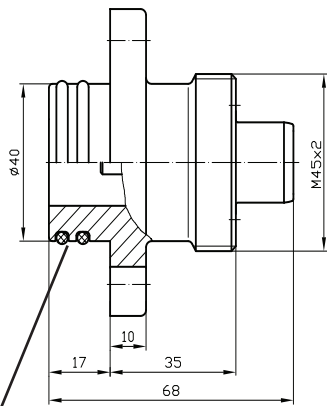
Other flanges are available on request.

**PN64 DN20**

# Flange coupling

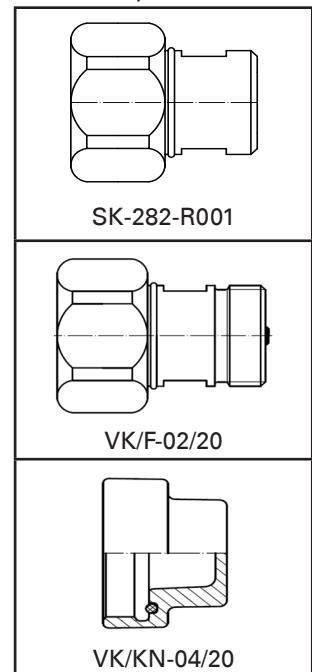
**Order No.:** 3-685-R001 T

**Material:** AL



Spare O-ring  
Order No. 1-05-0057-R116

Suitable connecting parts



Other flanges are available on request.



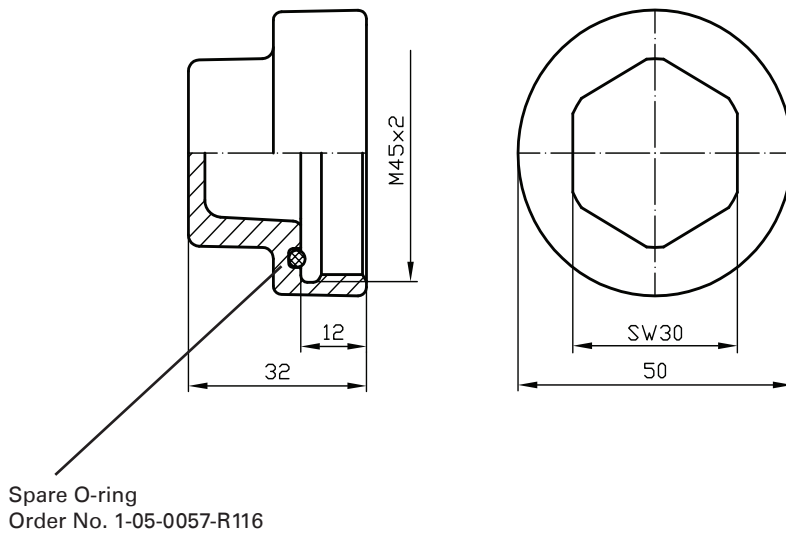
**PN64 DN20**

**Covering cap for coupling groove part**



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

Suitable connecting parts



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

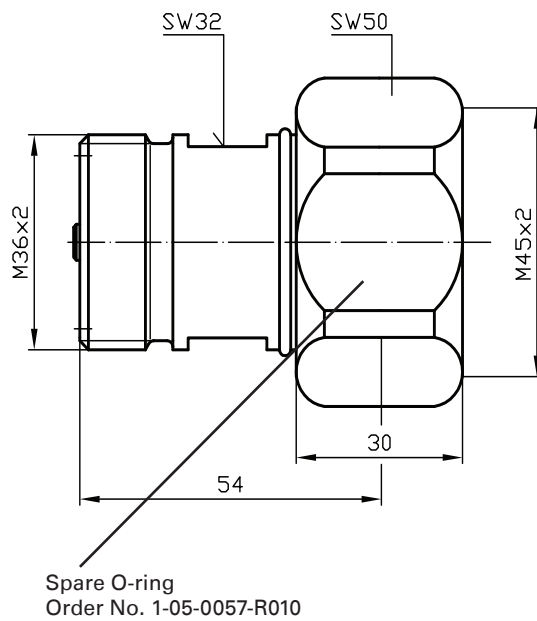
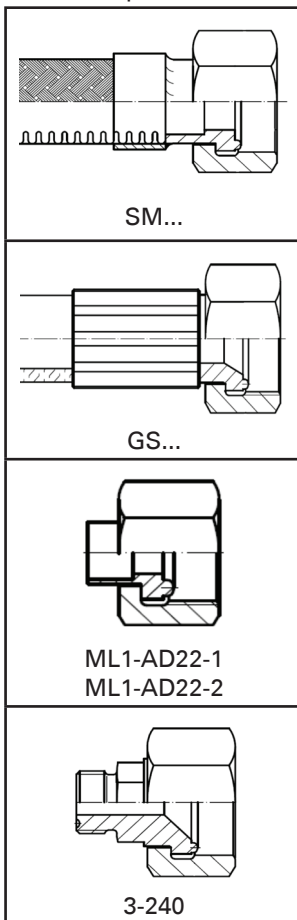
**PN64 DN20**

**Coupling tongue part**

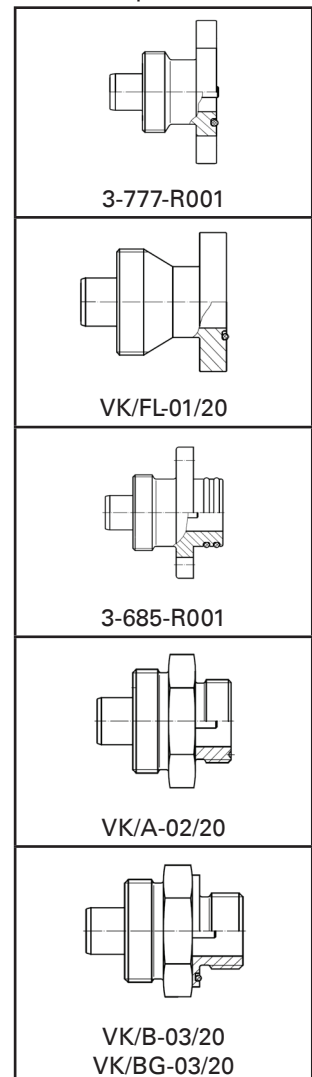


Order No.	Material
VK/F-02/20 T	AL
VK/F-02/20 E	Stainless steel
VK/F-02/20 P	Brass

Suitable connecting parts



Suitable connecting parts

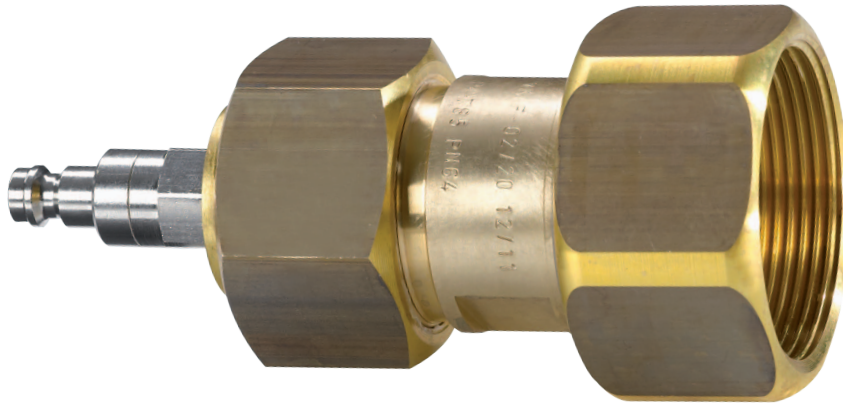


**PN64 DN20**

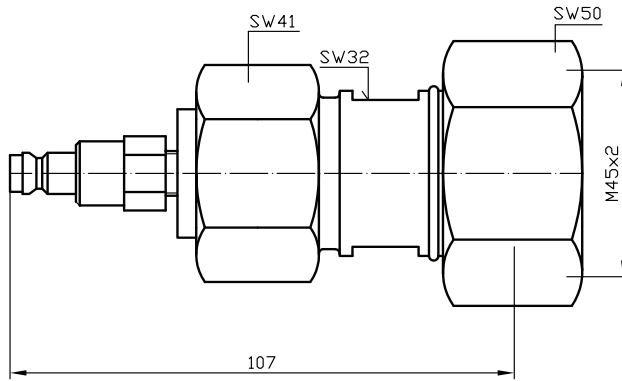
**Coupling tongue part  
with connecting coupling for measuring device**

**Order No.:** 6-1161-R012

**Material:** Brass



Suitable connecting parts



Suitable connecting parts

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

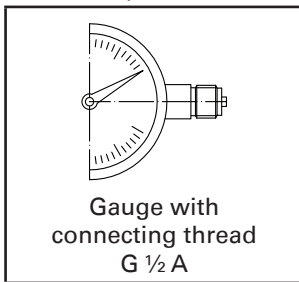
**PN64 DN20**

# Gauge connecting coupling

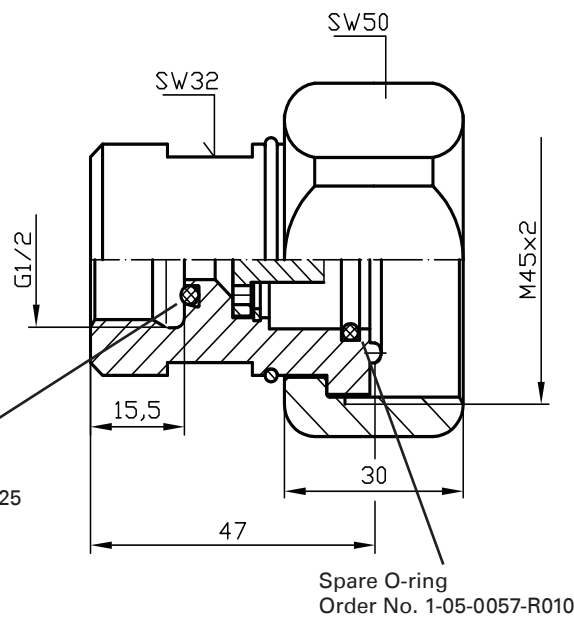


Order No.	Material
SK-282-R020 T	AL
SK-282-R020 P	Brass

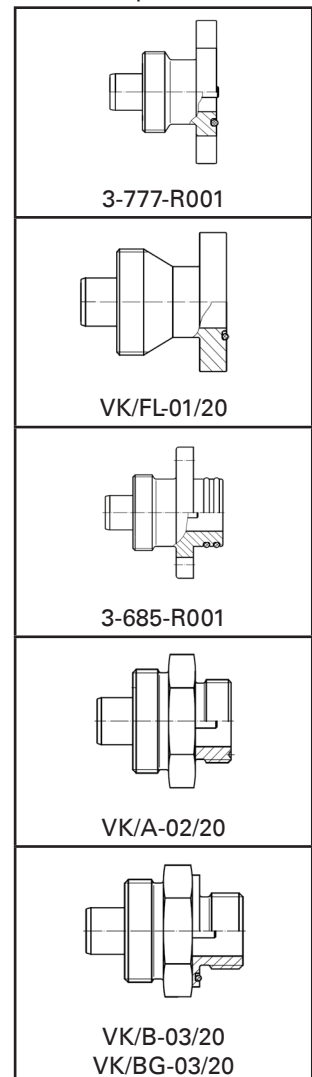
Suitable connecting parts



Spare O-ring  
Order No. 1-05-0057-R225

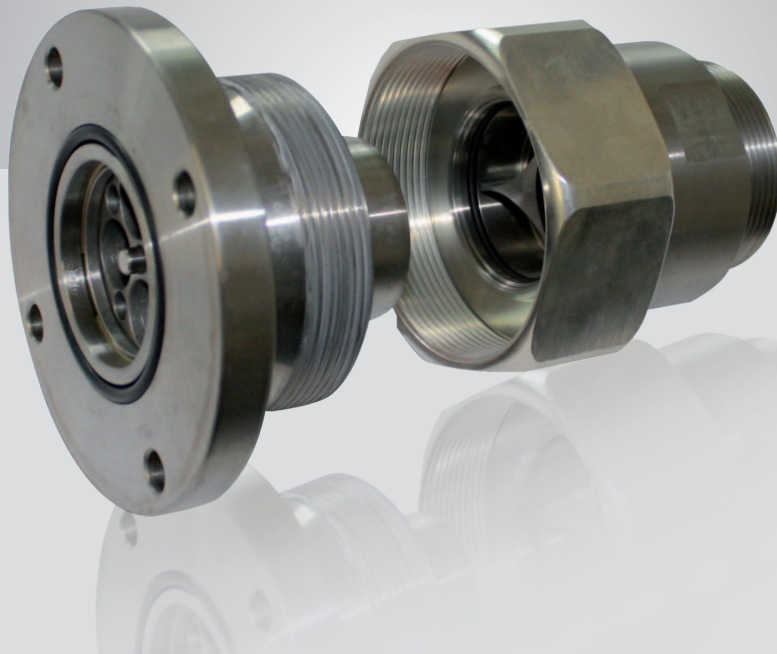


Suitable connecting parts



**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 conical 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°).



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  $-40\text{ °C}$  to  $+80\text{ °C}$ .

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

#### ■ DILO couplings DN40

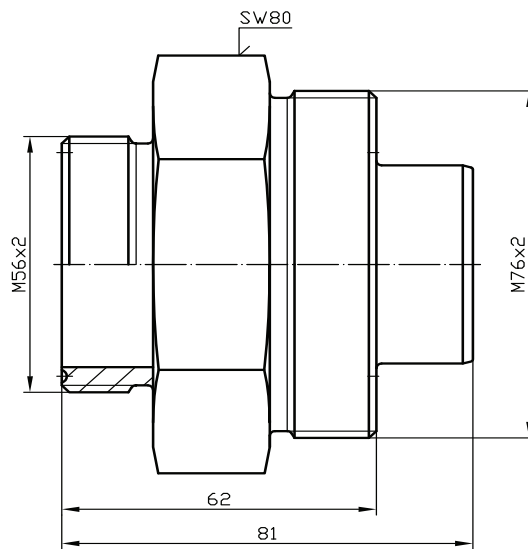
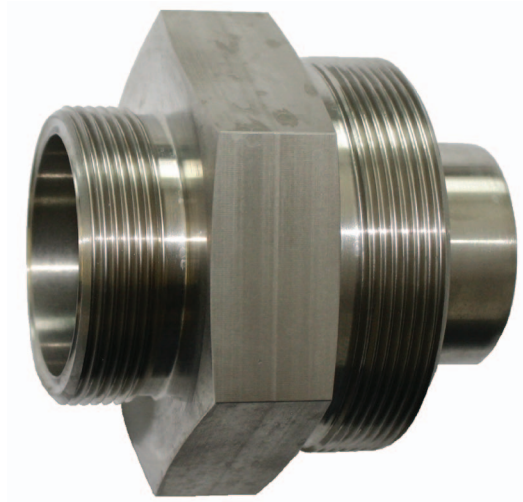
■ VK/A-02/40	Coupling groove part / A PN16 DN40	64
■ VK/FL-01/40	Flange coupling PN16 DN40	65
■ VK/KN-01/40	Covering cap PN16 DN40	66
■ VK/F-01/40	Coupling tongue part PN16 DN40	67

**A PN16 DN40**

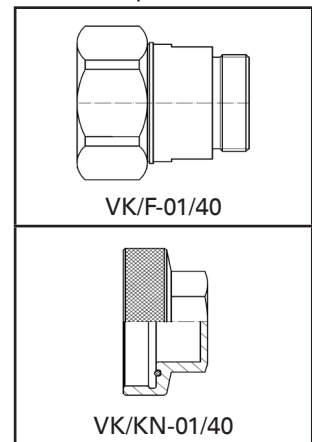
# Coupling groove part

**Order No.:** VK/A-02/40 E

**Material:** Stainless steel



Suitable connecting parts

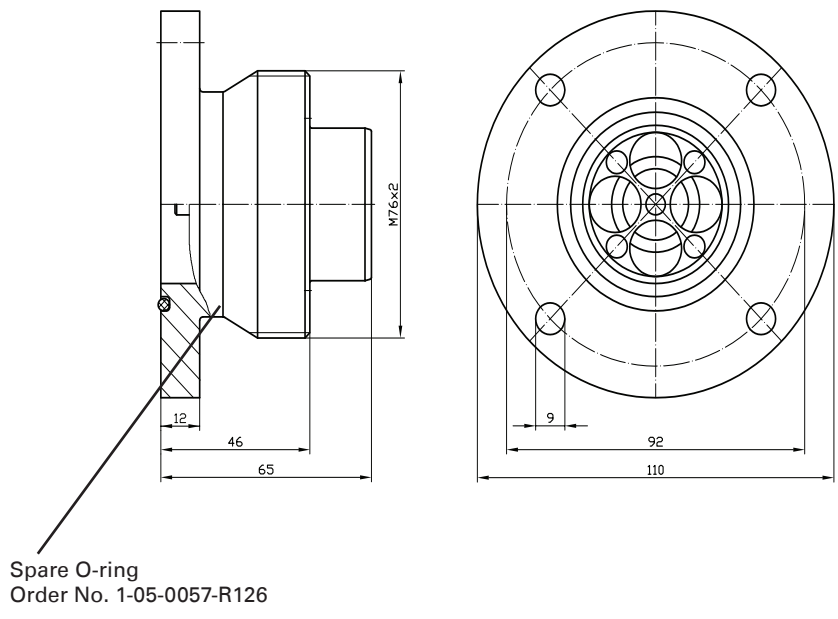
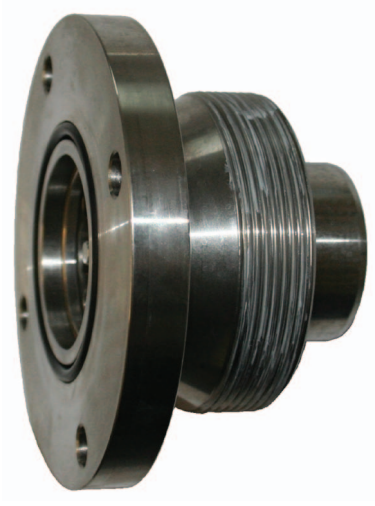




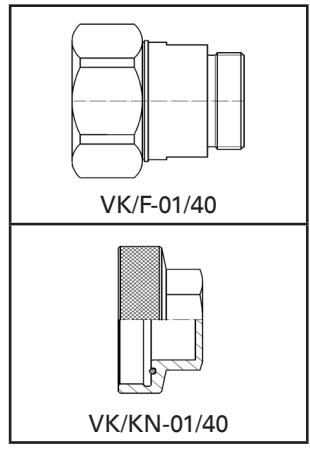


# PN16 DN40 Flange coupling

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



Suitable connecting parts

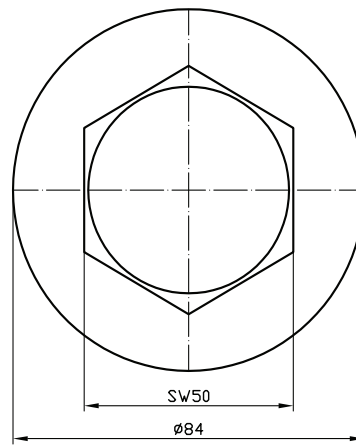
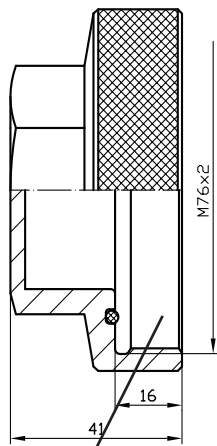
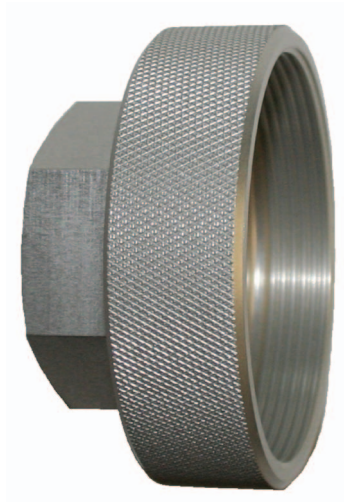


Other flanges are available on request.

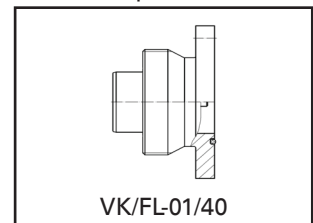
## PN16 DN40 Covering cap

**Order No.:** VK/KN-01/40 T

**Material:** AL



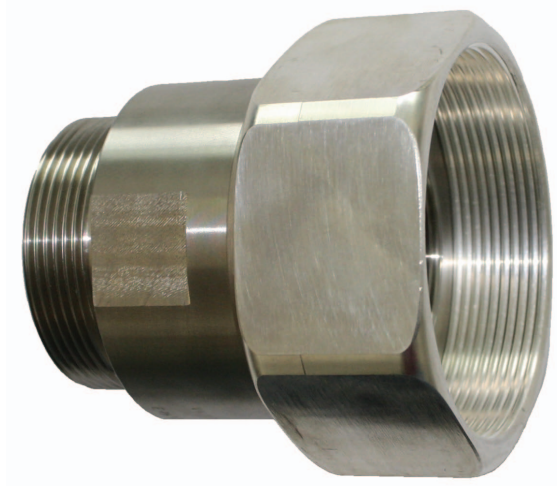
Suitable connecting  
parts



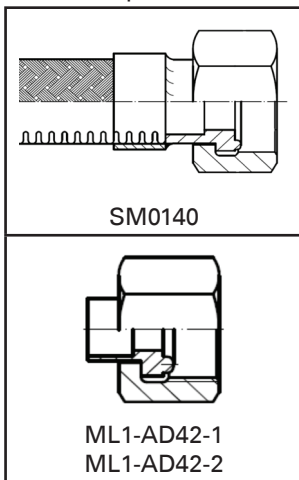
Spare O-ring  
Order No. 1-05-0057-R126

# PN16 DN40 Coupling tongue part

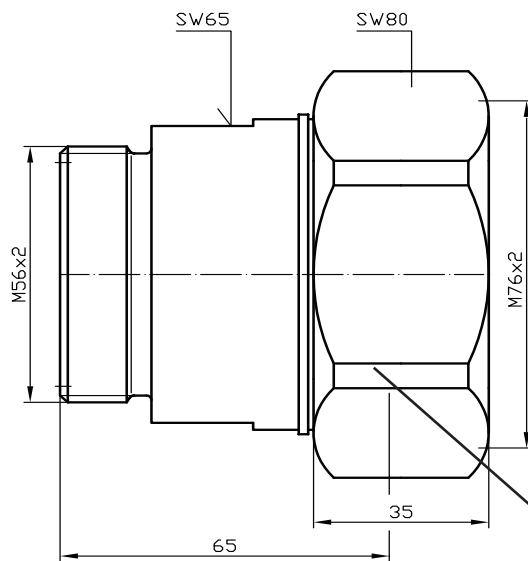
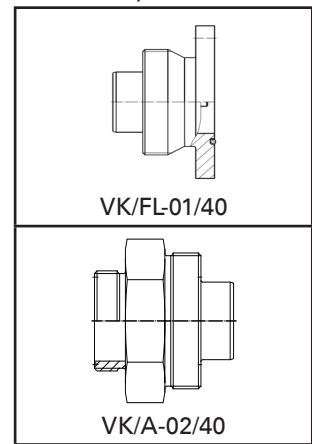
**Order No.:** VK/F-01/40 E  
**Material:** Stainless steel



Suitable connecting parts



Suitable connecting parts



Spare O-ring  
Order No. 1-05-0057-R141



## DILO soldering unions



**DILO soldering unions are particularly used in factory fabrication area piping. DILO offers a very wide variety of unions. Soldering unions are available either with soldering connections on both ends where the highest vibration resistance is required or with a soldering connection on one end and a screw in thread the other.**

DILO soldering unions withstand pressures up to 64 bar.

Different materials are available for all applications.

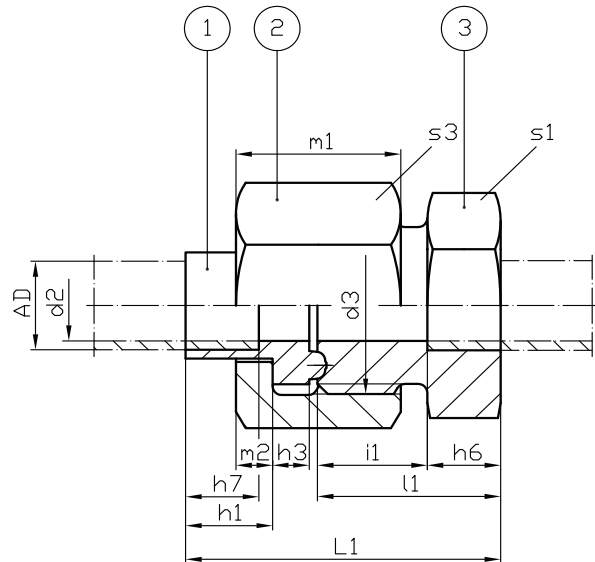
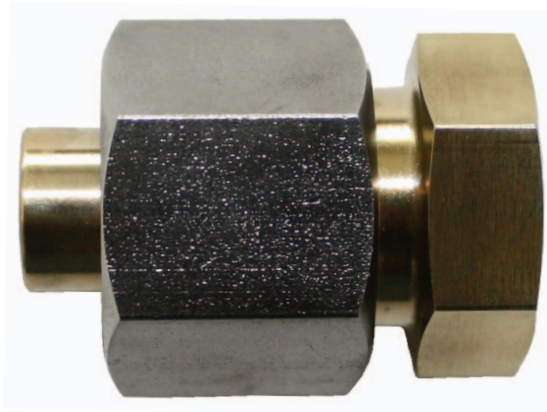
The suitable connecting parts for DILO couplings must be ordered separately.

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

■ ML1A-AD	Soldering stub-soldering union PN64	70
■ ML1BO-AD	Screw-in stub-soldering union PN64 with O-ring	71
■ ML1M-AD10	Gauge union PN64 DN8	72
■ 3-328-R020	Gauge union PN64 DN8	73
■ ML1-..8	Blanking disk PN64	74
■ VST03	Plug PN64	74

**PN64**

# Soldering stub-soldering union



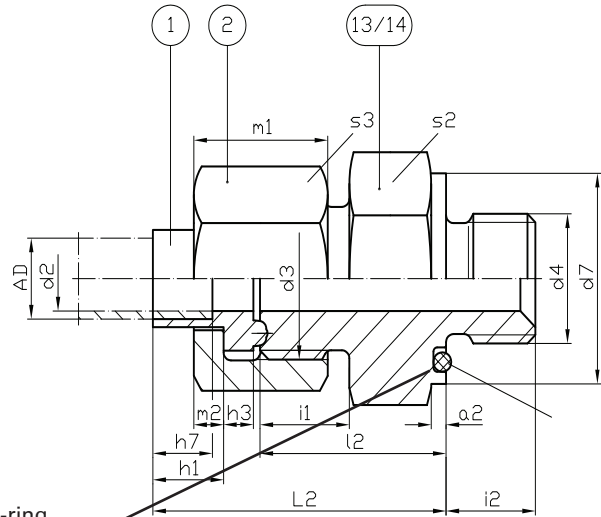
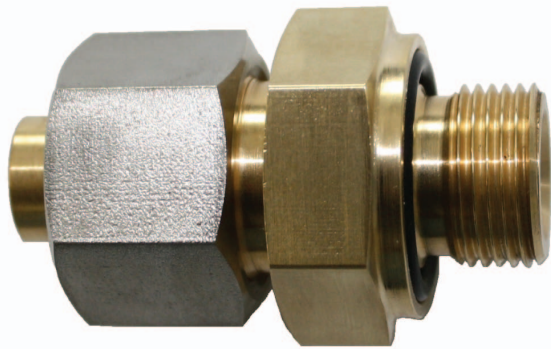
Tube outside diameter Ø AD	d2	d3	L1	l1	h1	h3	h6	h7	m1	m2	i1	s1	s3	Order No.
10	8	M20x1,5	35	20	9,5	4	8	8	18	4	12	22	24	ML1A-AD10 P
10	8	M20x1,5	35	20	9,5	4	8	8	18	4	12	22	24	ML1A-AD10 C
22	19	M36x2	54	31	15,5	6	12	12	26	7	16	41	41	ML1A-AD22 P
22	19	M36x2	54	31	15,5	6	12	12	26	7	16	41	41	ML1A-AD22 C
42	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-AD_____-1	P = Brass / C = Stainless steel
2	Clamping nut	ML1-AD_____-2	P = Brass / C = Stainless steel
3	Soldering stub-groove part	ML1-AD_____-3	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**



Spare O-ring  
 Order No. AD10: 1-05-0057-R016  
 AD22: 1-05-0057-R039  
 AD42: 1-05-0057-R126

Tube outside diameter Ø AD	d2	d3	d4	d7	L2	l2	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	ML1BO-AD10T
10	8	M20x1,5	G 3/8 A	26	40	25	9,5	4	8	18	4	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
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	G 1 A	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

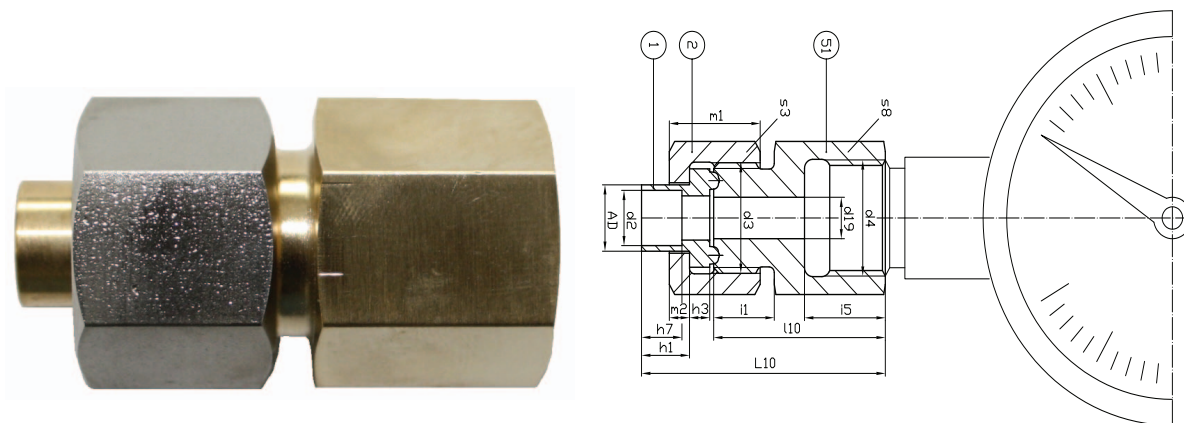
Piece	Designation	Order No.	Material
1	Soldering shoulder-tongue part	ML1-AD_____ -1	P = Brass / C = Stainless steel
2	Clamping nut	ML1-AD_____ -2	P = Brass / C = Stainless steel
13	Screw-in stub (M16x1,5 / M33x2)	ML1-AD_____ -13	P = Brass / T = AL
14	Screw-in stub (G 3/8 A / G 1 A / G 1½ A)	ML1-AD_____ -14	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 form B.

**PN64 DN8**

**Gauge union**



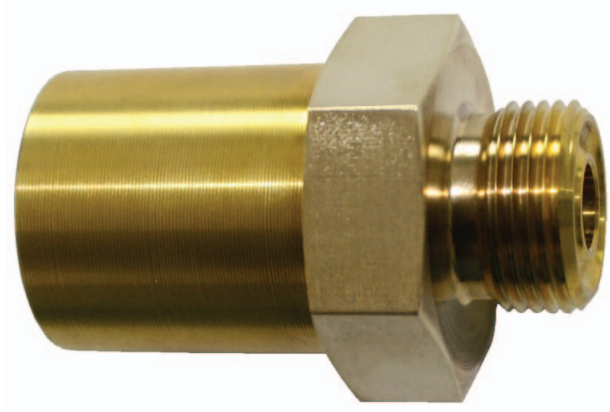
Tube outside diameter Ø AD	d2	d3	d4	d19	L10	l10	h1	h3	h7	m1	m2	i1	i5	s3	s8	Order No.
10	8	M20x1,5	G 1/2	7,5	49	34	9,5	4	8	18	4	12	16	24	24	ML1M-AD10/51
10	8	M20x1,5	G 1/4	5,5	44	29	9,5	4	8	18	4	12	13	24	22	ML1M-AD10/59

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

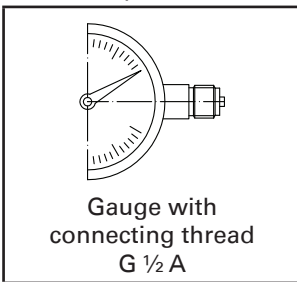


# PN64 DN8 Gauge union

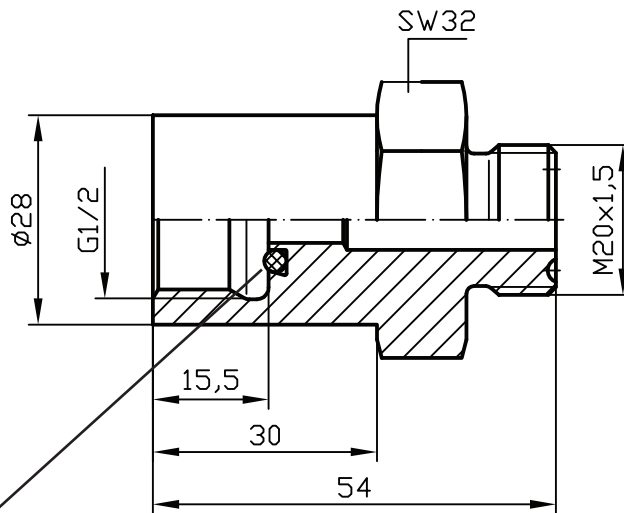
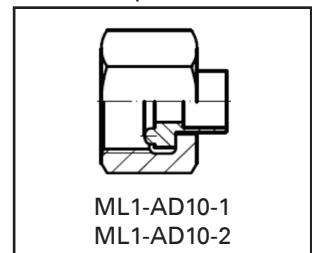
**Order No.:** 3-328-R020 P  
**Material:** Brass



Suitable connecting parts



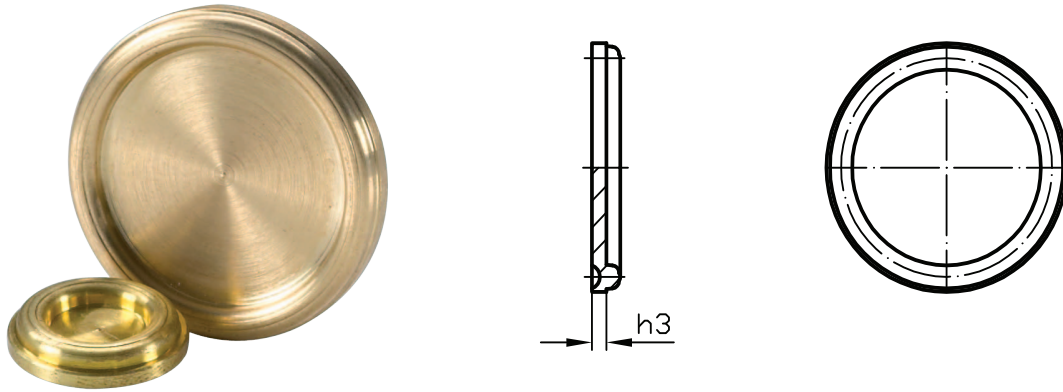
Suitable connecting parts



Spare O-ring  
Order No. 1-05-0057-R225

**PN64**

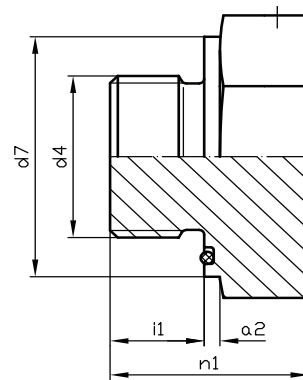
**Blanking disk**



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						Whitworth pipe thread			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	1-05-0057-R088
M16x1,5	26	24	12	2	27	VST03 / M16x1,5	AL	G 3/8 A	VST03 / G 3/8 AT	AL	1-05-0057-R016
	36	32	15	3	36			G 1/2 A	VST03 / G 1/2 AT	AL	1-05-0057-R033
M33x2	49	38	18	3	50	VST03 / M33x2T	AL	G 1 A	VST03 / G 1 AT	AL	1-05-0057-R039
	65	45	22	3	65			G 1½ A	VST03 / G 1½ AT	AL	1-05-0057-R126



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.

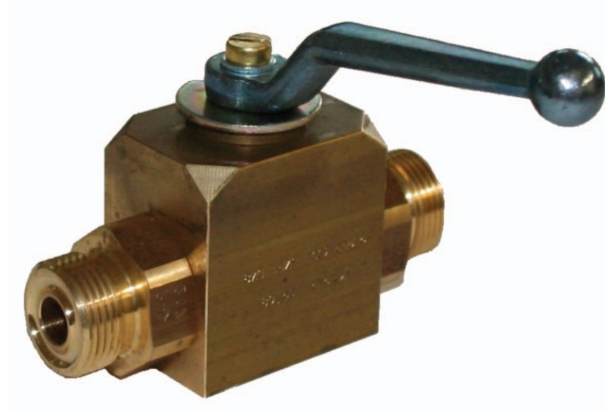
#### ■ DILO ball valves for pressures up to PN64

■ 3-365-R001	Ball valve PN64 DN8	76
■ 3-365-R008	Ball valve with handwheel PN64 DN8	77
■ 3-383-R001	Ball valve PN64 DN20	78
■ 3-679-R001	Ball valve PN30 DN40	79

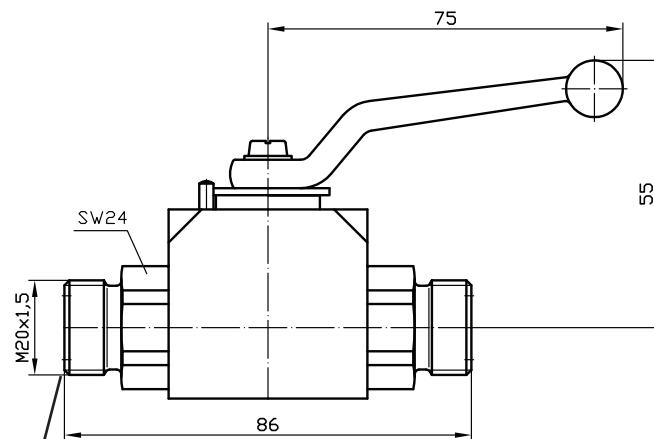
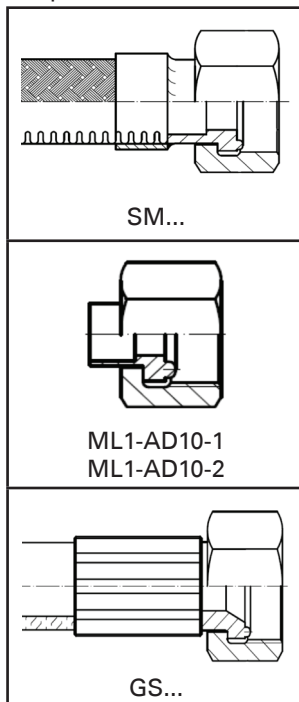
## PN64 DN8 Ball valve

**Order No.:** 3-365-R001 P

**Material:** Brass



Suitable connecting  
parts on both ends



other connections are available

**PN64 DN8**

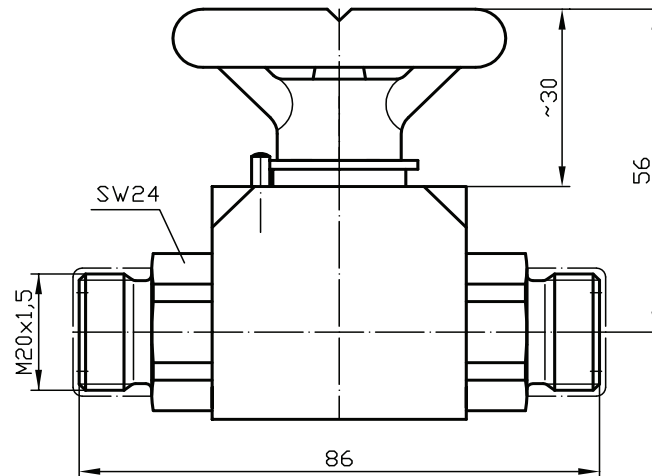
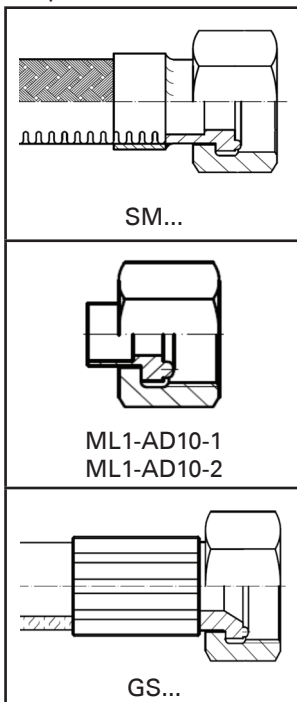
# Ball valve with handwheel

**Order No.:** 3-365-R008 P

**Material:** Brass

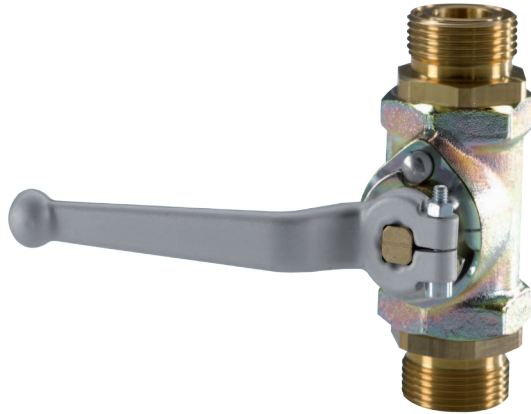


Suitable connecting parts on both ends

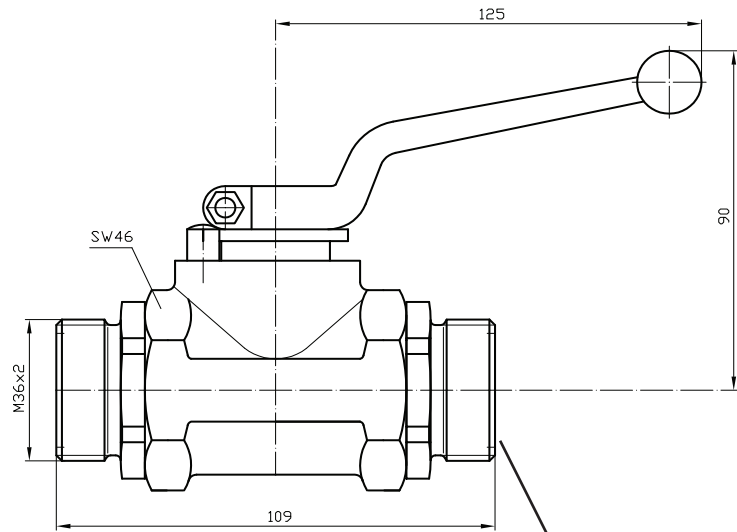
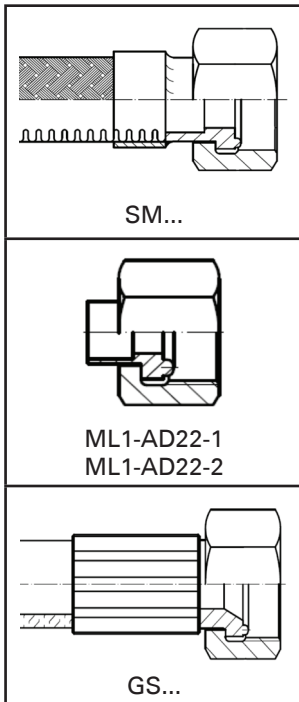


**PN64 DN20**  
**Ball valve**

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



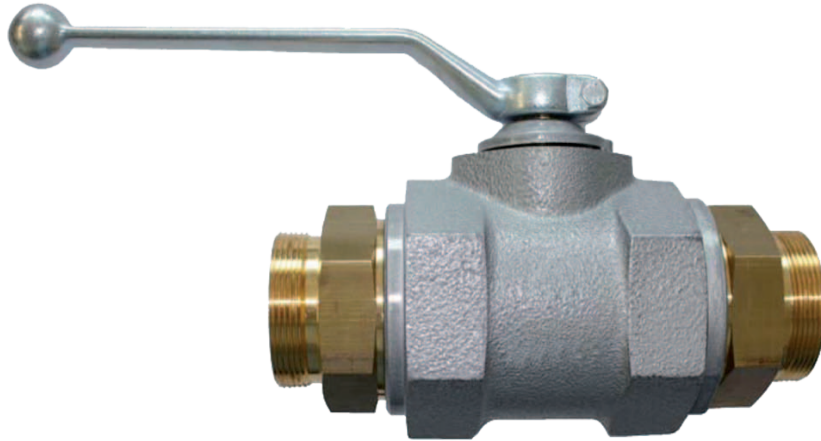
Suitable connecting  
parts on both ends



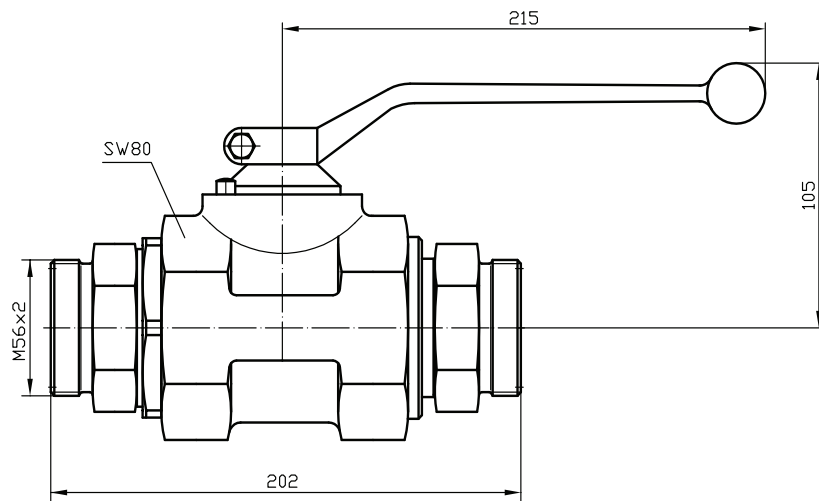
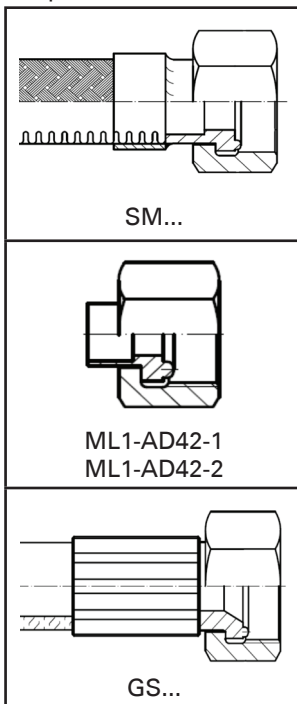
other connections are available

**PN64 DN40**  
**Ball valve**

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



Suitable connecting parts on both ends









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 SF6 maintenance devices, gas insulated fabrication plants or other devices, we can offer the appropriate hose connection.

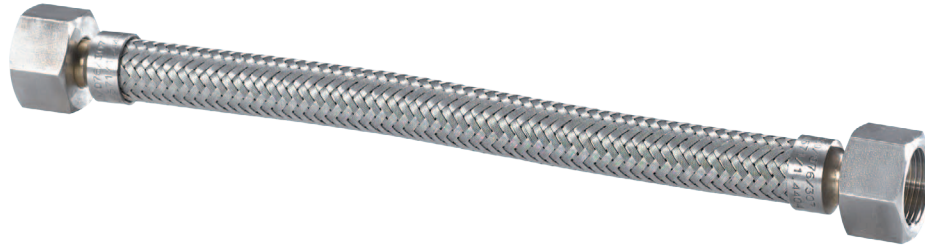
The suitable connecting parts must be ordered separately.

#### ■ DILO hoses for pressures up to PN64

■ SM-01-	Wire braided hose DN8 / DN20 / DN40	82
■ SM-03-	Wire braided hose with elbow connection DN8 / DN20 / DN40	83
■ SM-07-	Wire braided hose with elbow connections DN8 / DN20	84
■ SM-10-	Wire braided hose with protective hose DN8 / DN20 / DN40	85
■ GS01	Rubber hose DN8 / DN20 / DN40	86
■ GS03	Rubber hose with elbow connection DN8 / DN20	87

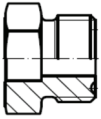
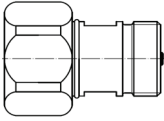
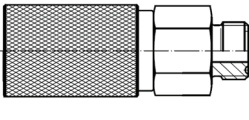
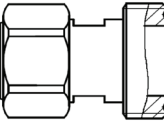
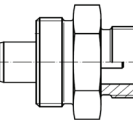
DN8 / DN20 / DN40

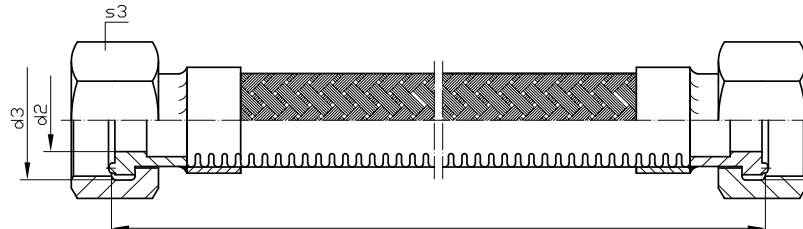
# Wire braided hose



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

 <p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
 <p>VK/F-02/8 VK/F-02/20 VK/F-01/40</p>
 <p>3-308-R002</p>
 <p>3-888-R001</p>
 <p>VK/A-02/20 VK/A-01/40</p>



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

Full metal wall made of 1.4404 with outside wire sheathing 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

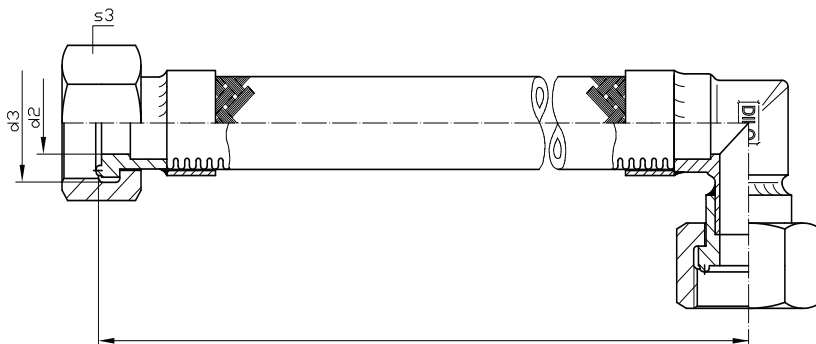
# Wire braided hose with elbow connection



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 parts

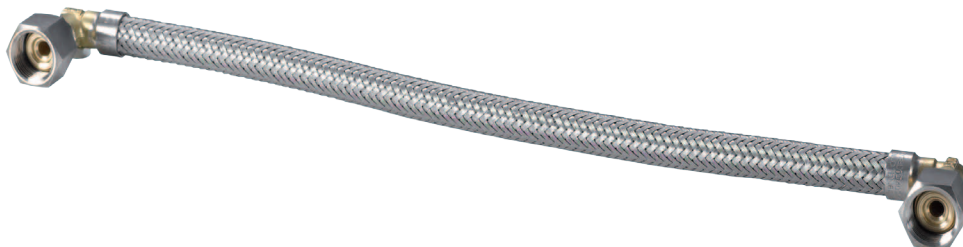
<p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
<p>VK/F-02/8 VK/F-02/20 VK/F-01/40</p>
<p>3-308-R002</p>
<p>3-888-R001</p>
<p>VK/A-02/20 VK/A-01/40</p>



**Structure of the rust- and acid resistant wire braided hose:**  
 Full metal wall made of 1.4404 with outside wire sheathing 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

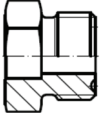
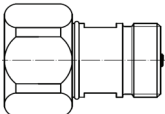
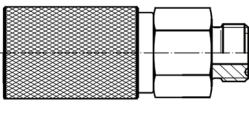
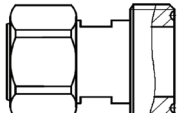
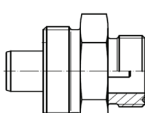
**DN8 / DN20**

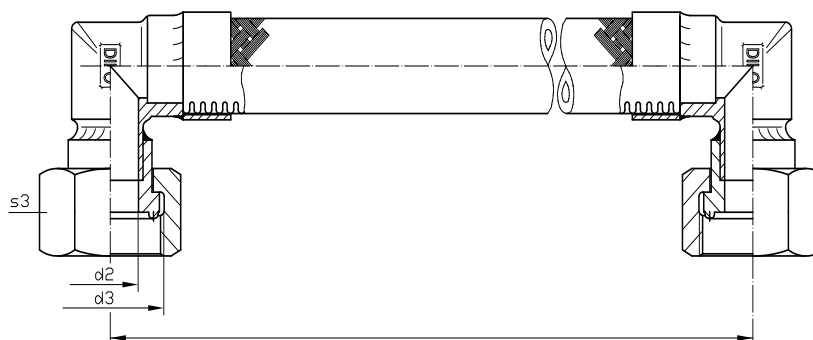
# Wire braided hose with elbow connections



zulässiger statischer Betriebsdruck bei 20°C SF 3	Nenndruckstufe DIN EN ISO 10380 SF 4	AD	DN	d2	d3	s3	Mindestbiegeradius einmalige Biegung	Nennbiegeradius häufige Bewegungen	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 _____

Suitable connecting parts

 <p>ML1-AD10-3 ML1-AD22-3</p>
 <p>VK/F-02/8 VK/F-02/20</p>
 <p>3-308-R002</p>
 <p>3-888-R001</p>
 <p>VK/A-02/20</p>



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

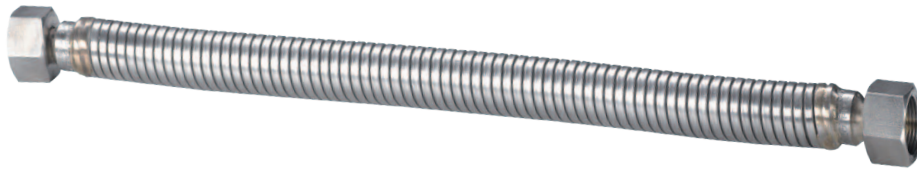
Full metal wall made of 1.4404 with outside wire sheathing made of stainless steel, both ends completely equipped with DILO-connections made of brass.

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

Supply length: max. 25 m

DN8 / DN20 / DN40

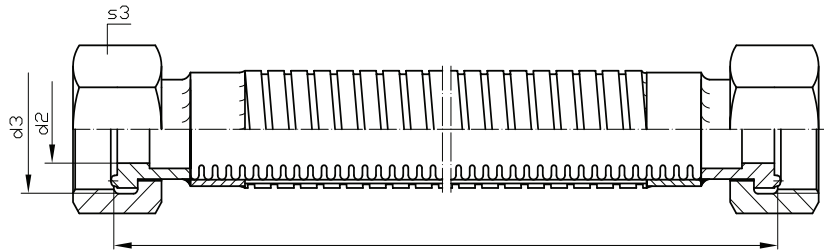
# Wire braided hose with protective hose



zulässiger statischer Betriebsdruck bei 20°C SF 3	Nenndruckstufe DIN EN ISO 10380 SF 4	AD	DN	d2	d3	s3	Mindestbiegeradius einmalige Biegung	Nennbiegeradius häufige Bewegungen	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 parts

<p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
<p>VK/F-02/8 VK/F-02/20 VK/F-01/40</p>
<p>3-308-R002</p>
<p>3-888-R001</p>
<p>VK/A-02/20 VK/A-01/40</p>



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

Full metal wall made of 1.4404 with outside wire sheathing 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

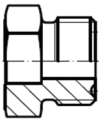
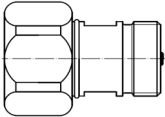
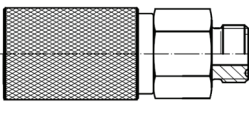
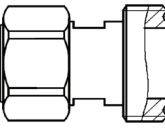
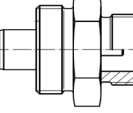
**DN8 / DN20 / DN40**

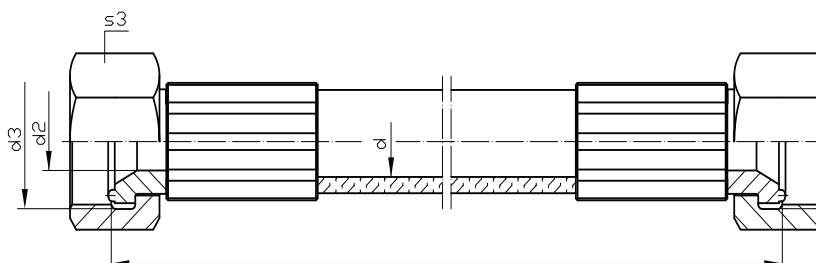
# Rubber hose



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 parts

 <p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
 <p>VK/F-02/8 VK/F-02/20 VK/F-01/40</p>
 <p>3-308-R002</p>
 <p>3-888-R001</p>
 <p>VK/A-02/20 VK/A-01/40</p>



**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 which 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.

**DN8 / DN20**

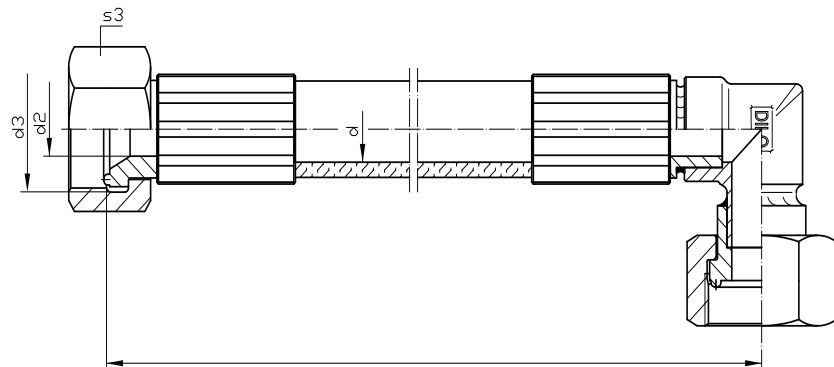
# Rubber hose with elbow connection



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 _____

Suitable connecting parts

<p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
<p>VK/F-02/8 VK/F-02/20</p>
<p>3-308-R002</p>
<p>3-888-R001</p>
<p>VK/A-02/20</p>



**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 which 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.





# DILO transition pieces and adapters



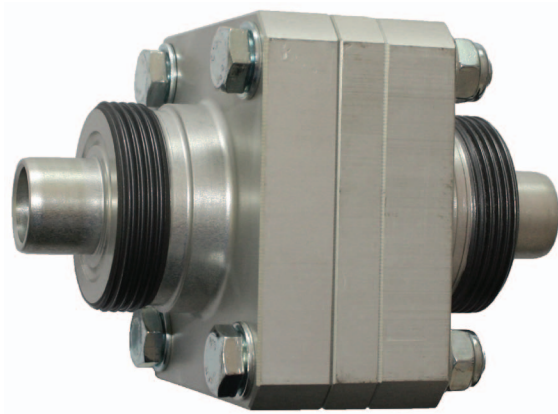
We supply transition pieces and adapters for emission-free connections between components with different nominal lengths e. g. as connection between hoses.

The suitable connecting parts must be ordered separately.

## ■ DILO transition pieces and adapters for pressures up to PN64

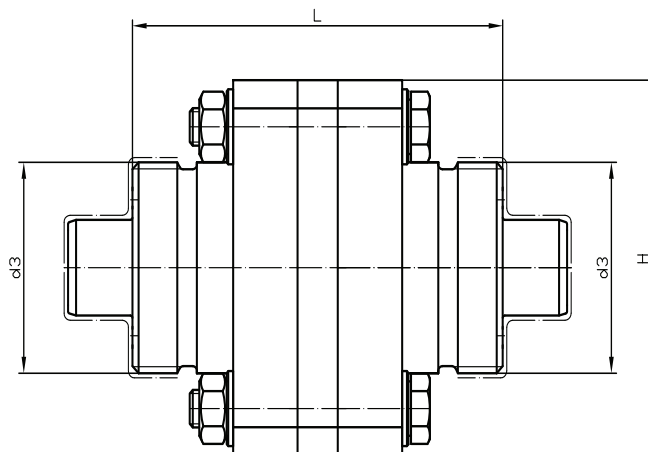
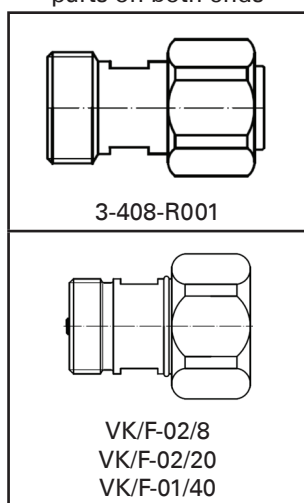
■ 6-1059-R014/R012/R011/ 6-1203-R001	Adapter with flange coupling on both ends	90
■ K022R02	Tee piece with DILO couplings	91
■ 3-240-R001/R002	Transition piece	92
■ 3-251-R001	Transition piece	93
■ 3-227-R001/3-311-R001/ 3-984-R001	Intermediate piece	94
■ 3-816-R001	Transition piece	95
■ 3-816-R005	Transition piece	96
■ K018R02/R06	Angle piece	97
■ 3-717-R001/R002 / K018R07	Angle piece	98
■ K018R10/R20/R32	Angle piece	99
■ K018R27/R31	Angle piece	100
■ K018R41/R40/R29	Angle piece	101
■ K020R66/R14	Tee piece	102
■ K020R26/R59	Tee piece	103
■ 3-716-R006	Distributor	104
■ 3-1026-R002	Tubings	105

## Adapter with flange coupling on both ends



DN	for coupling tongue part	d3	L	H	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

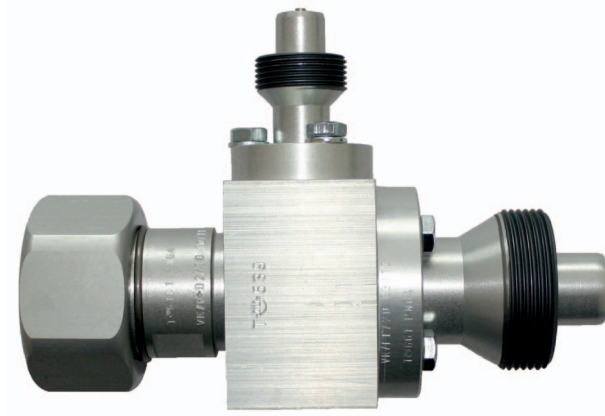


**PN64 DN8 / DN20**

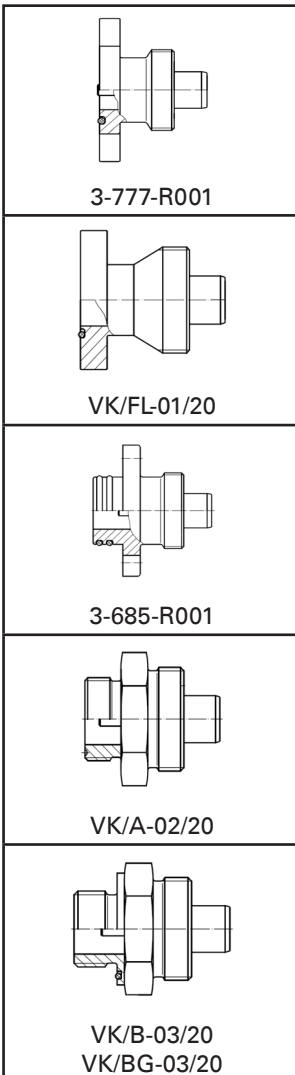
**Tee piece with DILO couplings**

**Order No.:** K022R02

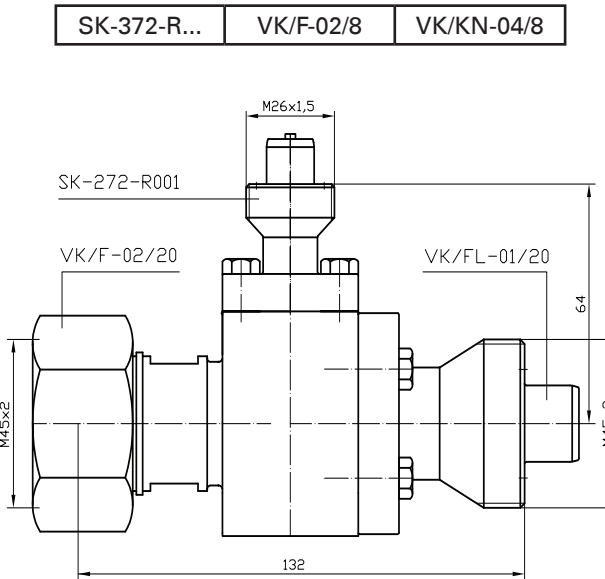
**Material:** AL



Suitable connecting parts

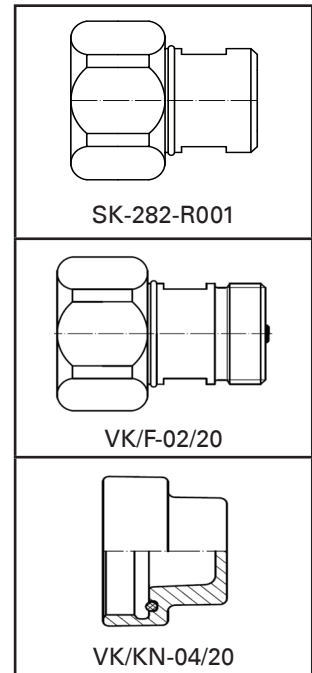


Suitable connecting parts



SK-372-R...	VK/F-02/8	VK/KN-04/8
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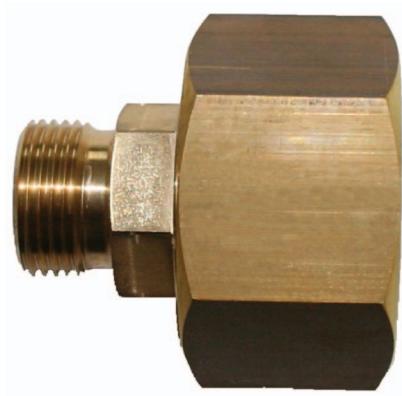
Suitable connecting parts



Other versions are available.

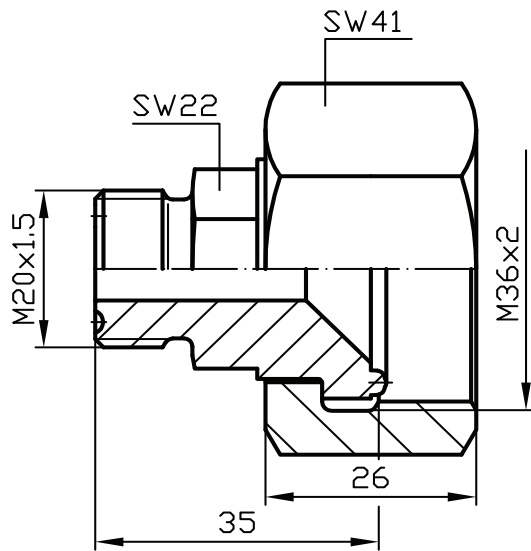
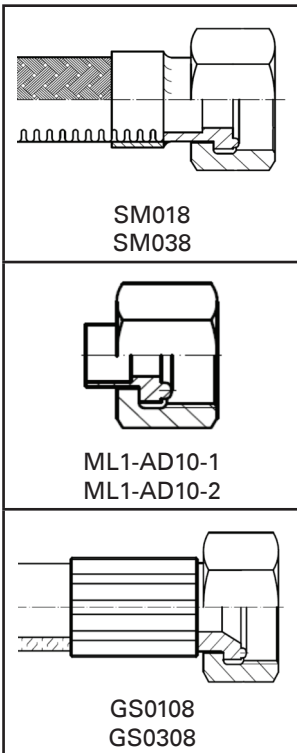
**PN64 DN8 / DN20**

**Transition piece**

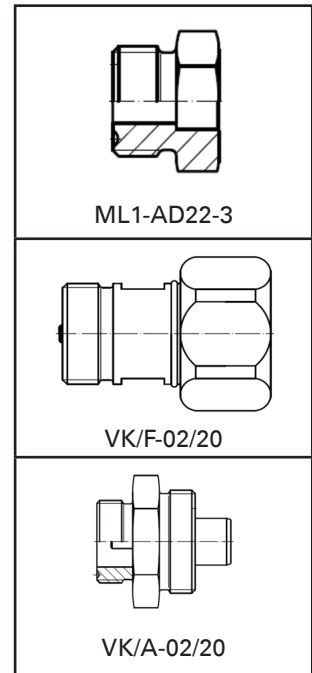


Order No.	Material
3-240-R001 P	Brass
3-240-R001 C	Stainless steel

Suitable connecting parts



Suitable connecting parts



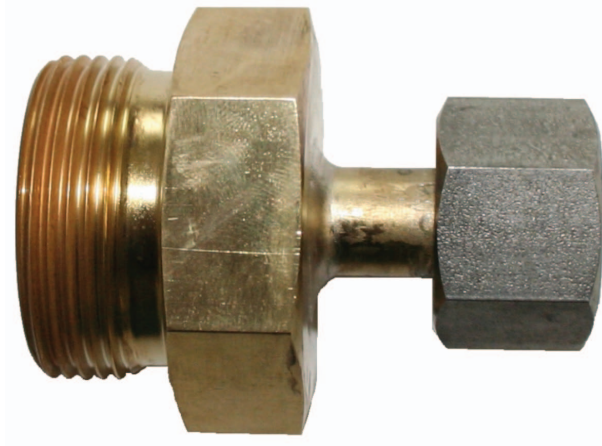


PN64 DN20 / DN8

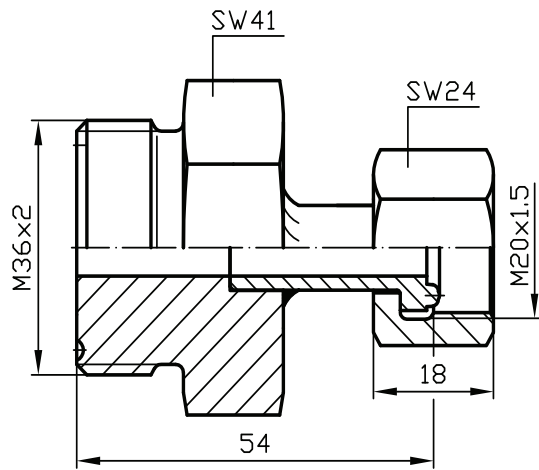
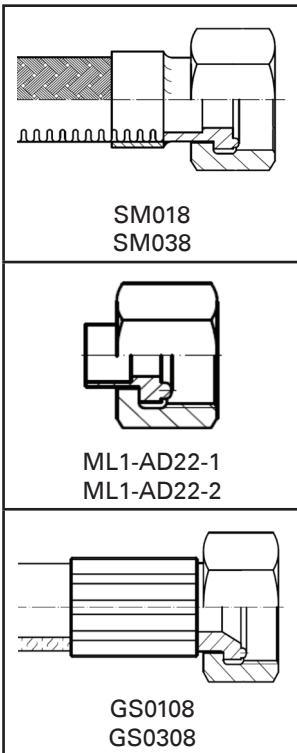
# Transition piece

Order No.: 3-251-R001 P

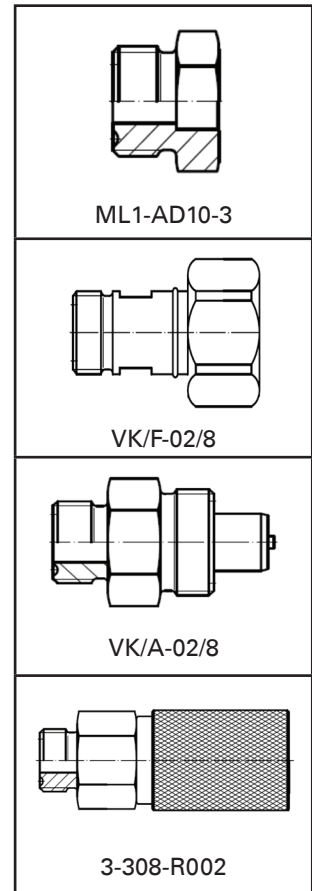
Material: Brass



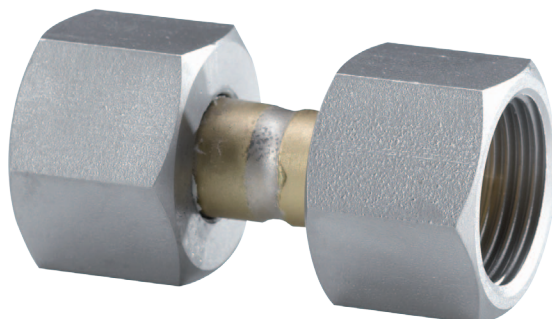
Suitable connecting parts



Suitable connecting parts


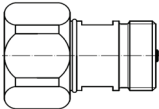
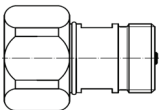
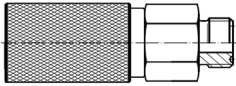
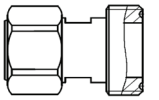


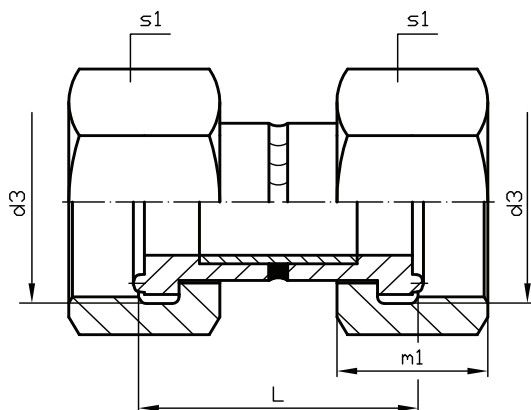
**PN64 DN8 / DN20 / DN40**  
**Intermediate piece**



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

Suitable connecting parts

 <p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
 <p>VK/F-02/8 VK/F-02/20 VK/F-01/40</p>
 <p>VK/A-02/8 VK/A-02/20 VK/A-01/40</p>
 <p>3-308-R002 (only for 3-227-R001 P)</p>
 <p>3-888-R001 (only for 3-311-R001 P)</p>

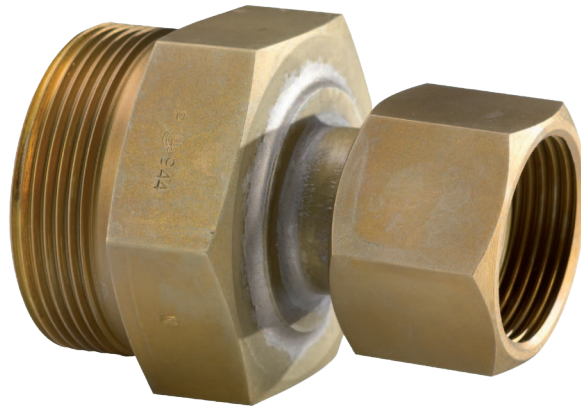


**PN64 DN40 / DN20**

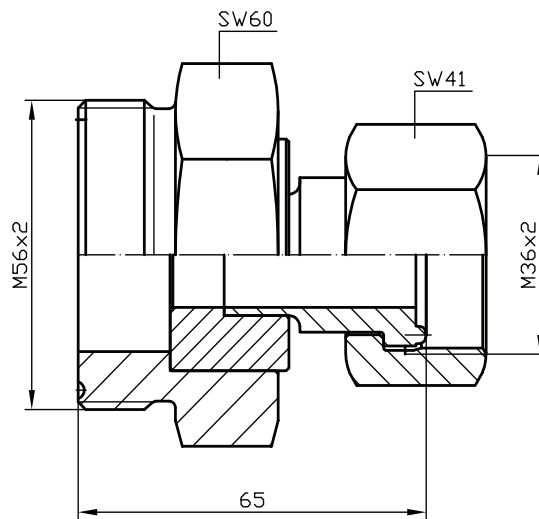
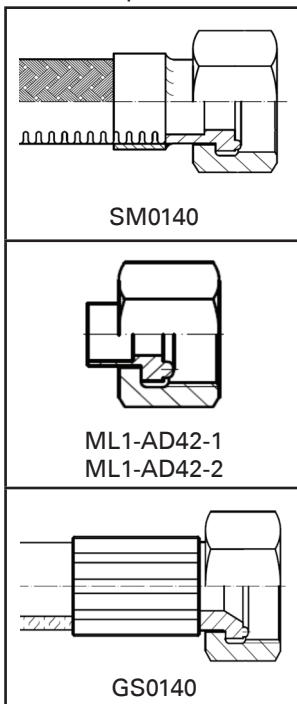
# Transition piece

**Order No.:** 3-816-R001 P

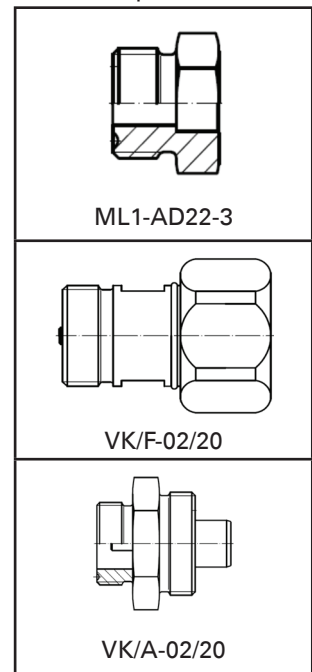
**Material:** Brass



Suitable connecting parts



Suitable connecting parts

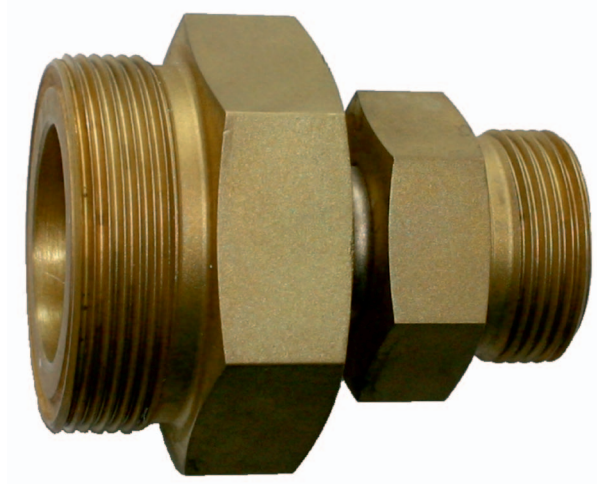


PN64 DN40 / DN20

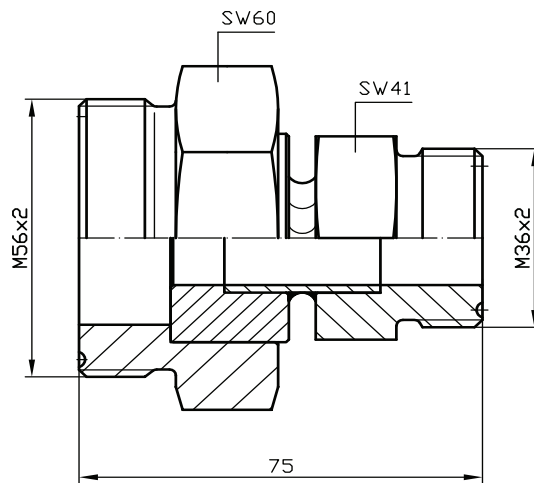
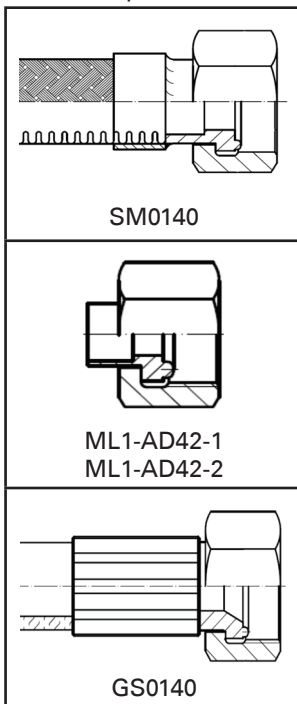
# Transition piece

**Order No.:** 3-816-R005 P

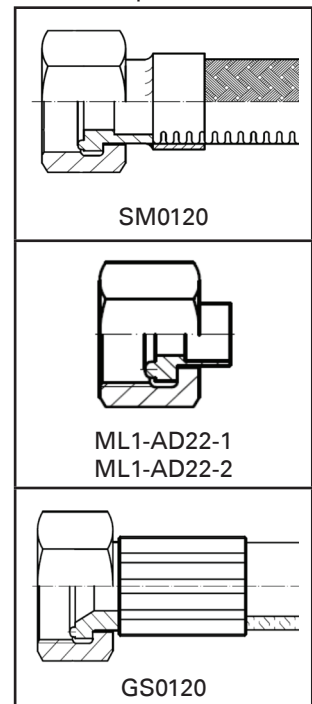
**Material:** Brass



Suitable connecting parts



Suitable connecting parts





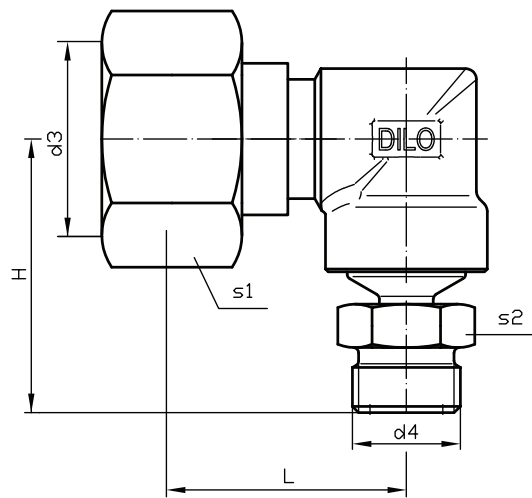
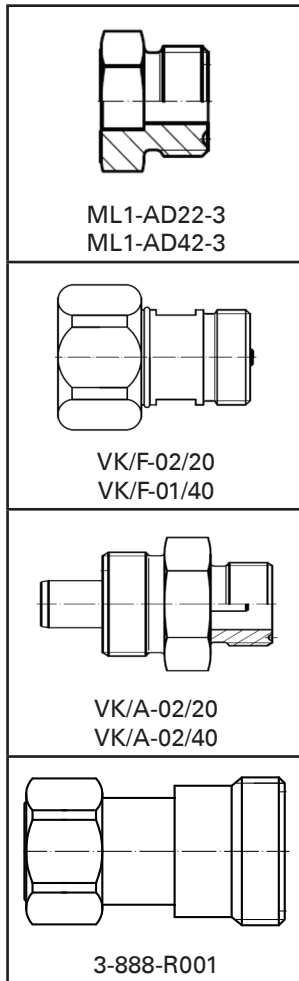
**PN64 DN8 / DN20 / DN40**

**Angle piece**

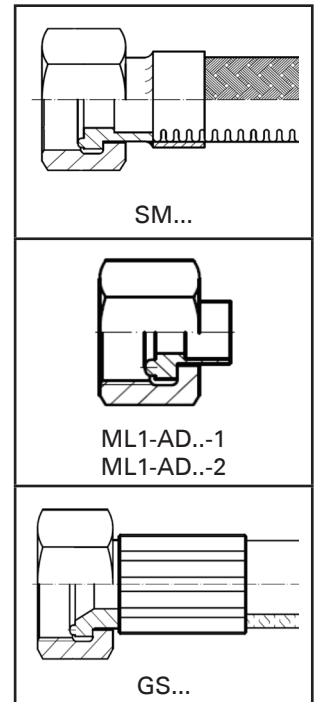


AD	d3	d4	L	H	s1	s2	Order No.	Material
10/22	M36x2	M20x1,5	45	51	41	22	K018R02	Brass
22/42	M56x2	M36x2	64	81	65	41	K018R06	Brass

Suitable connecting parts

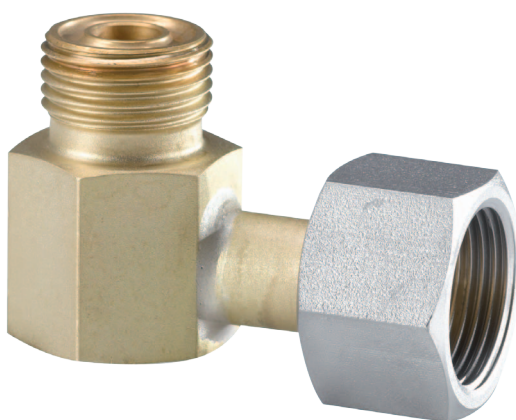


Suitable connecting parts



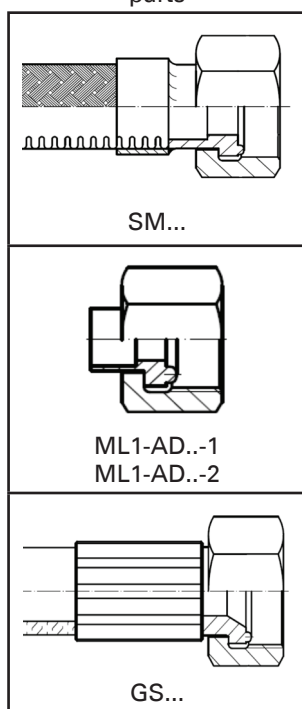
**PN64 DN8 / DN20 / DN40**

**Angle piece**

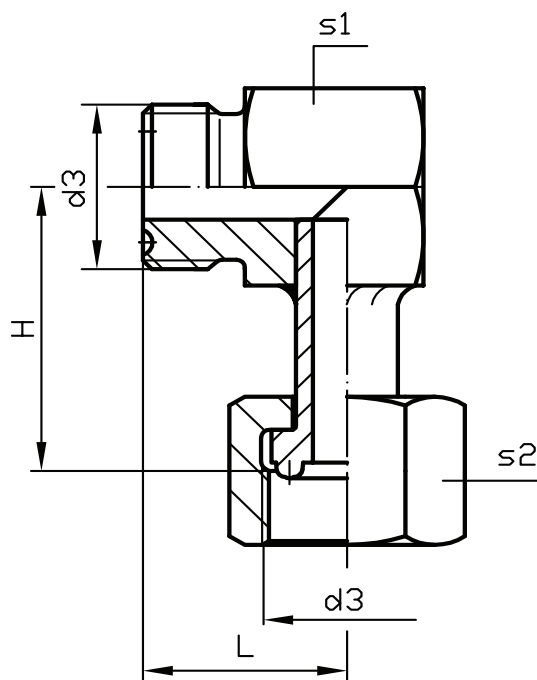
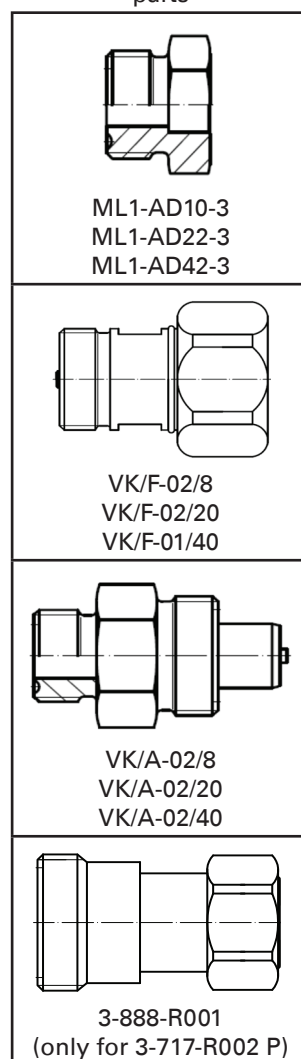


AD	d3	L	H	s1	s2	Order No.	Material
10	M20x1,5	32	31	22	24	3-717-R001 P	Brass
22	M36x2	48	46	36	41	3-717-R002 P	Brass
42	M56x2	58	65	60	65	K018R07	Brass

Suitable connecting parts



Suitable connecting parts



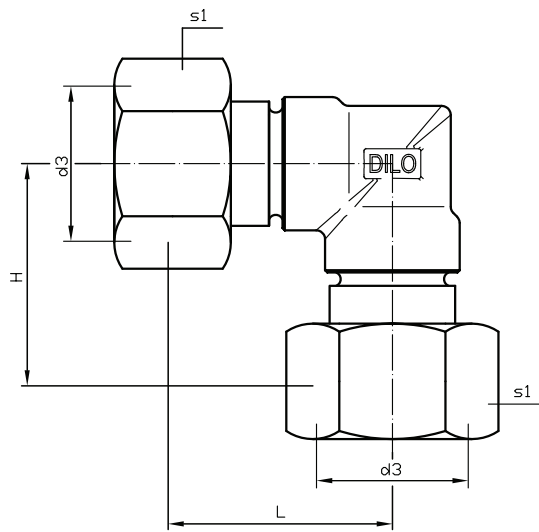


**PN64 DN8 / DN20 / DN40**

**Angle piece**



AD	d3	L	H	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

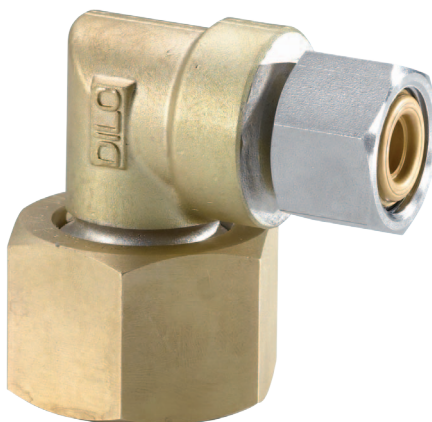


Suitable connecting parts

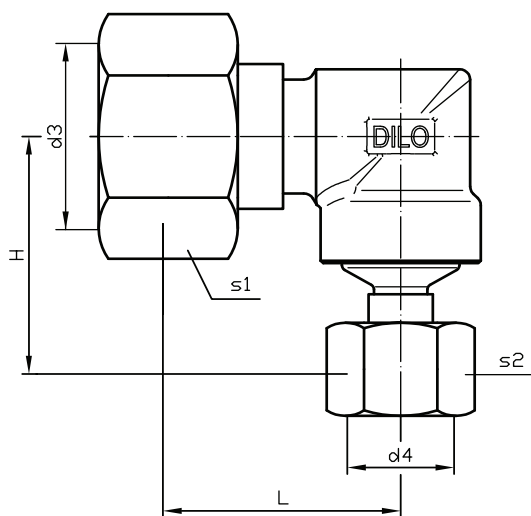
<p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
<p>VK/F-02/8 VK/F-02/20 VK/F-01/40</p>
<p>VK/A-02/8 VK/A-02/20 VK/A-02/40</p>
<p>3-888-R001 (only for K018R20)</p>

**PN64 DN8 / DN20 / DN40**

**Angle piece**



AD	d3	d4	L	H	s1	s2	Order No.	Material
10/22	M36x2	M20x1,5	45	46	41	24	K018R27	Brass
22/42	M56x2	M36x2	64	72	65	41	K018R31	Brass



Suitable connecting parts

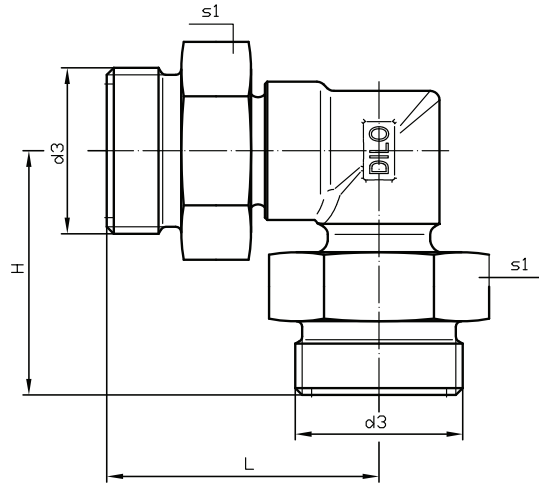
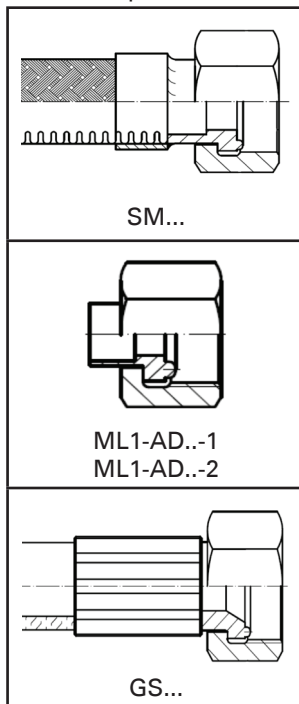
<p>ML1-AD10-3 ML1-AD22-3 ML1-AD42-3</p>
<p>VK/F-02/8 VK/F-02/20 VK/F-01/40</p>
<p>VK/A-02/8 VK/A-02/20 VK/A-02/40</p>
<p>3-888-R001</p>

**PN64 DN8 / DN20**  
**Angle piece**



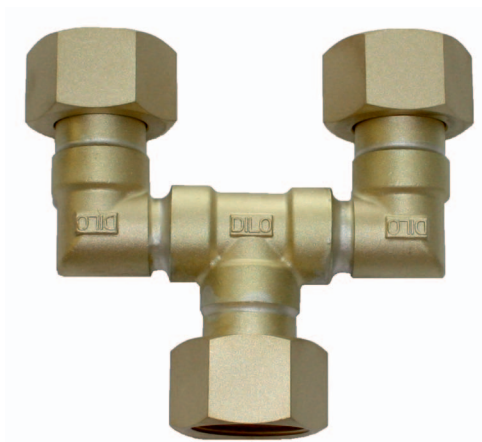
AD	d3	L	H	s1	Order No.	Material
10	M20x1,5	38	34	22	K018R41	Brass
22	M36x2	59	53	41	K018R40	Brass
42	M56x2	85	73	60	K018R29	Brass

Suitable connecting parts

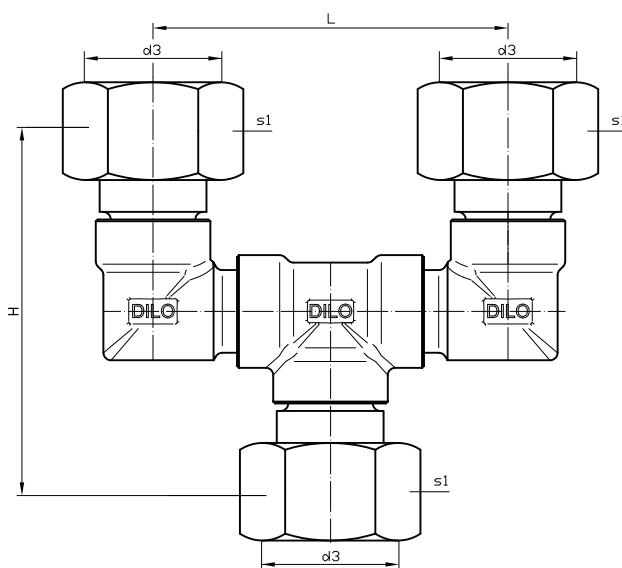


**PN64 DN8 / DN20**

**Tee piece**



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



Suitable connecting parts

<p>ML1-AD10-3 ML1-AD22-3</p>
<p>VK/F-02/8 VK/F-02/20</p>
<p>VK/A-02/8 VK/A-02/20</p>
<p>3-308-R002 (only for K020R66)</p>
<p>3-888-R001 (only for K020R14)</p>

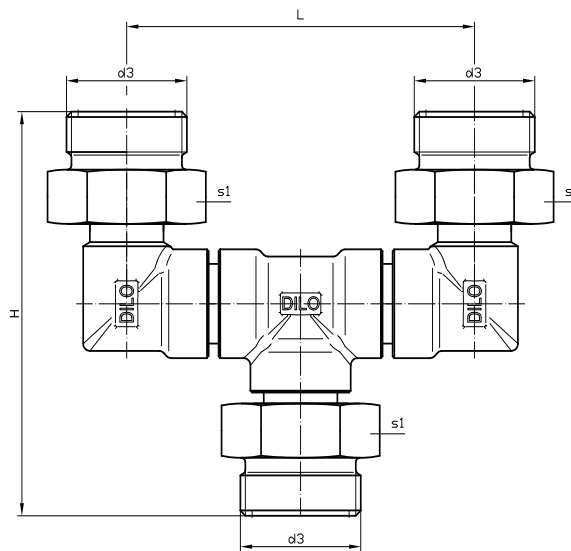
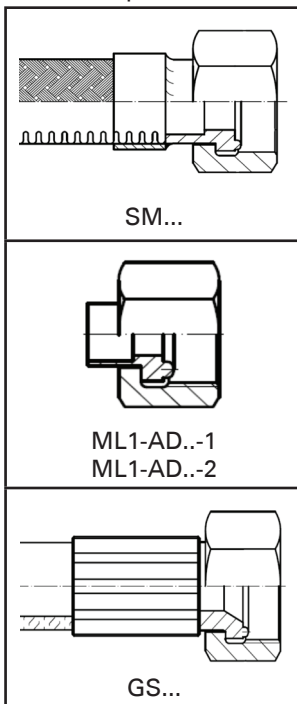
**PN64 DN8 / DN20**

**Tee piece**



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

Suitable connecting parts



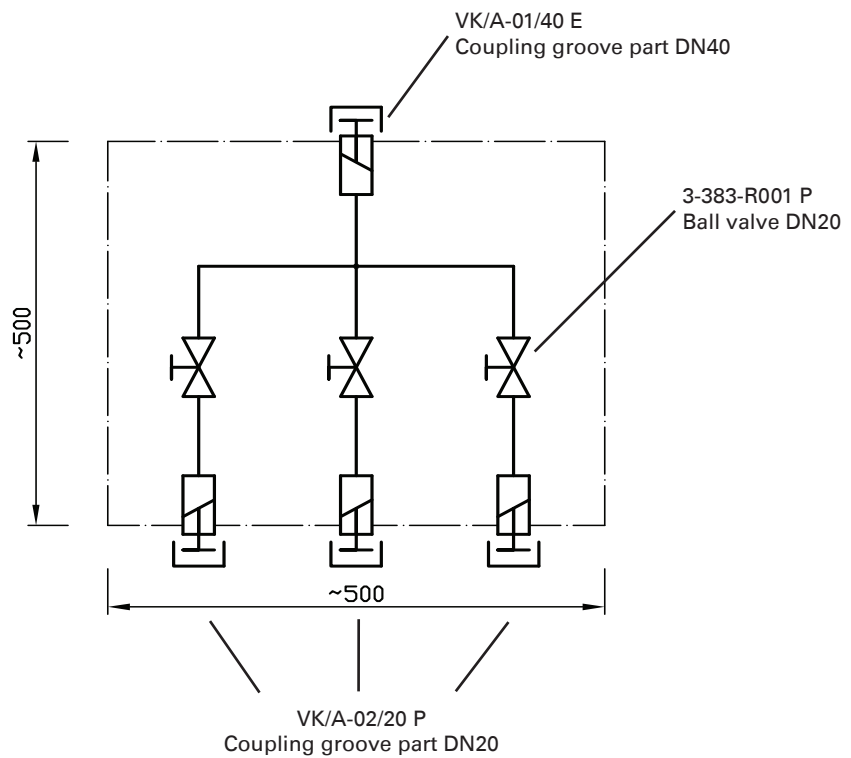
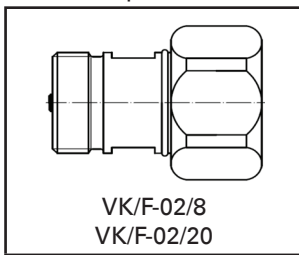
3 x DN20 / 1 x DN40

# Distributor

Order No.: 3-718-R006



Suitable connecting parts

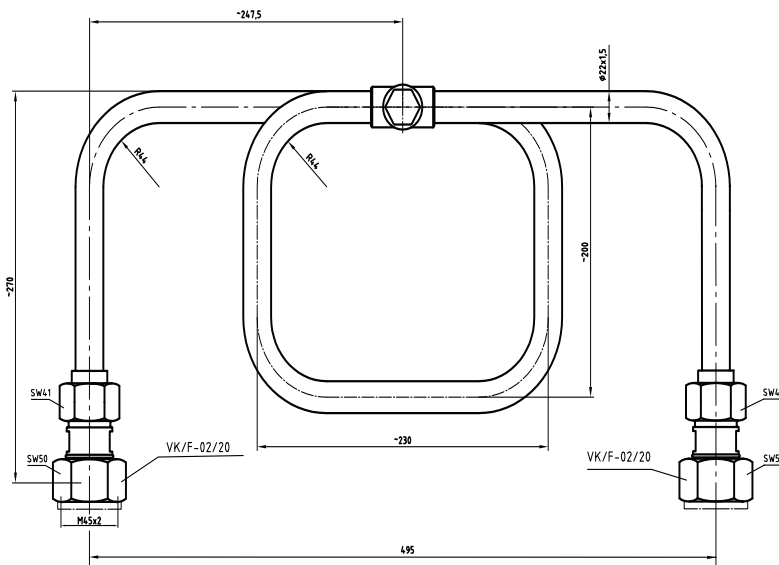
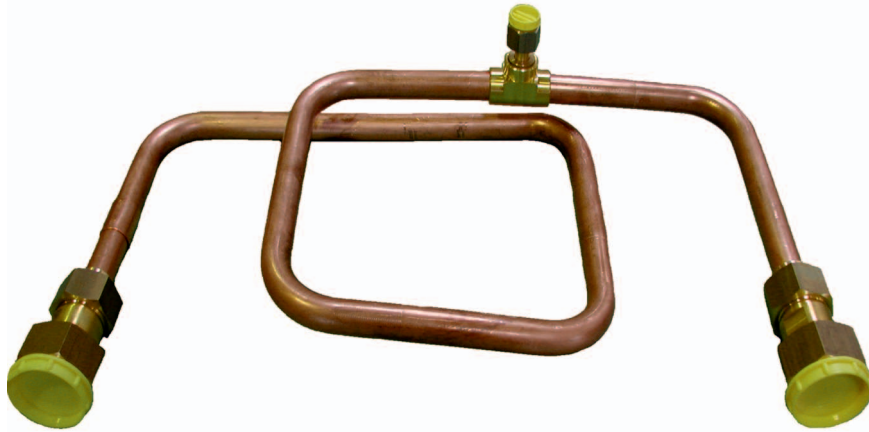


Other versions are available.

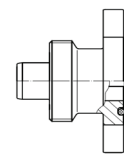


# Tubings

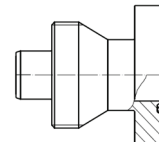
Order No.: 3-1026-R002



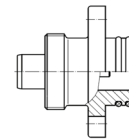
### Suitable connecting parts



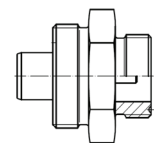
3-777-R001



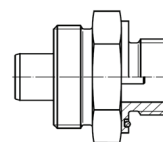
VK/FL-01/20



3-685-R001



VK/A-02/20



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

Other versions are available.



For your notes



## SF<sub>6</sub> gas handling

Besides SF<sub>6</sub> couplings and valves DILO supplies a wide range of devices for SF<sub>6</sub> 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.

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E-Mail: [info@dilo-gmbh.de](mailto:info@dilo-gmbh.de)