

# Electrical Feedthroughs

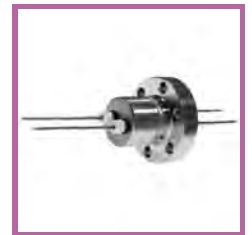
Multipin Feedthroughs  
with Plug Connectors



Coaxial Feedthroughs



Power and High Voltage  
Feedthroughs



Thermocouple Feedthroughs



Isolators



Accessories



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## Introduction

### Standard electrical feedthroughs

Electrical feedthroughs are components used to enable the transfer of electrical power into or out of a hermetic chamber. Electrical feedthroughs consist of metal/insulator-joints whereas the insulator – mostly ceramic or glass – provides the electrical insulation between the electrical conductor and the chamber. In addition to providing hermeticity in high and ultra-high vacuum environments electrical feedthroughs often have to resist high or cryogenic temperatures, high pressure or aggressive chemicals.

We offer standard, modified “close-to-standard” and custom electrical feedthroughs for a wide range of applications. We gladly help you to choose a suitable feedthrough for your specific requirements. Please contact us for support.

### Important technical information

The following technical notes should be considered when selecting the suitable feedthrough:

The so-called Paschen's Law describes the breakdown voltage between two electrodes depending on the surrounding gas pressure. Knowing the operating pressure, this effect has to be considered when choosing a feedthrough to avoid short circuits and damages. The figure schematically shows the curve of the breakdown voltage depending on the surrounding pressure.

All voltage ratings in this catalog refer to a vacuum level of 1E-4 mbar or below at the vacuum side of the electrical feedthroughs.

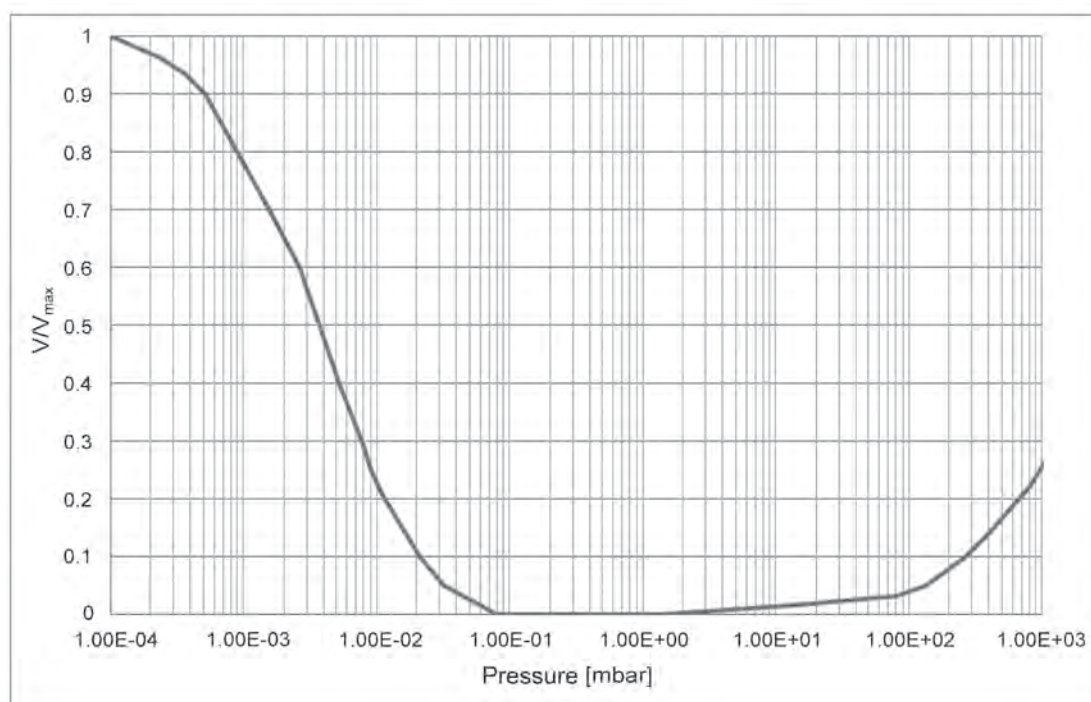


Figure 1: Schematic chart of the breakdown voltage of an electrical feedthrough versus vacuum pressure level. The voltage axis is normalized to the breakdown voltage at  $p = 1E-04$  mbar.

The current ratings in this catalog refer to the recommended maximum current load per individual contact.

All electrical feedthroughs are 100 % leak tested and visually inspected during several quality control steps. The standard Helium leak rate specification is  $<1E-09$  mbar l/s. We also specify leak rates of  $<1E-10$  mbar l/s including a leak test protocol upon request.

Because of significantly differing coefficients of thermal expansion of the involved materials the temperature gradient during any heating or cooling procedure of electrical feedthroughs should not exceed 25 °C per minute.

The insulation resistance of ceramic materials decreases with increasing temperature. The maximum temperature ratings in this catalog refer to bakeout processes only. The insulation resistance at this temperature may be not sufficient for some applications.

Feedthroughs and associated plugs are offered separately, if not explicitly declared.

## Close-to-standard and Custom Products

VACOM offers “close-to-standard” electrical feedthroughs meaning modifications of standard products listed in this catalog. For example, shortened or elongated conductors, alternative flange or conductor materials, larger flanges with a higher number of the same standard feedthrough would fall into this category.

Additionally, VACOM manufactures custom flanges with any combination of electrical feedthroughs (or other components) according customers' wishes as well as fully custom electrical feedthrough solutions for special requirements.

Please contact us, we gladly advise you.



## Introduction

### Multipin Feedthroughs with Plug Connection

Multipin feedthroughs with plug connection contain at least two electrical contacts and unexceptionally accept a plug connector on the air side. Some types are designed to accept a plug connector on the vacuum side as well. This electrical feedthrough category is ideal for space-saving transmission of several signals for power supply, measurement and control into a vacuum system.

This section includes a wide range of multipin feedthroughs with the common Push-Pull type connection ("Compact Power Feedthroughs"), the well-known and very popular D-shaped Sub-D feedthroughs, the similar but even more compact and weight-saving Micro-D feedthroughs, a variety of circular multipin feedthroughs with connection for MIL-DTL-26482 or MIL-DTL-5015 plugs, multipin feedthroughs for high voltage. In addition, USB 2.0 series A feedthroughs are offered in two different designs. Not listed but also available are Sub-D variants like "Double-/High-Density Sub-D" (MIL-DTL-24308/II series) or "Power Sub-D" (MIL-DTL-24308 with size 8 contacts also known as 3W3, 5W5 and 8W8).

### Compact Power Feedthroughs with Push-Pull connection

Compact power feedthroughs are available with 4 to 19 contacts with different shell and contact sizes. They are mainly characterized by small installation dimensions, full UHV compatibility and intermatability with Push-Pull plugs on both sides. Non-magnetic versions are available as well upon request. Additionally, for rough and medium vacuum applications, or cases in which weld installation is not an option, baseplate versions with O-ring sealing and solder cup contacts at the vacuum side are offered.

### Sub-D Feedthroughs

Sub-D feedthroughs are very common as they provide a large number of contacts (9, 15, 25, 37, 50) in a confined space. The contacts are arranged according to MIL-DTL-24308 (arrangement 1). Air side plugs and vacuum side UHV compatible accessories are available.

### Micro-D Feedthroughs

Micro-D feedthroughs are similar to Sub-D feedthroughs, but even more compact and weight-saving. The contacts are arranged according to MIL-DTL-83513. The number of contacts varies between 9 and 100. Air side plugs and vacuum side UHV compatible accessories are available.

### Circular Multipin Feedthroughs

This subsection includes a wide range of feedthroughs with threaded or bayonet-type connection on the air side. Some versions can be used with a vacuum side plug as well. In addition, we offer versions for high voltage up to 12 kV DC or for high currents up to 46 A per contact.

### USB Feedthroughs (USB 2.0 series A)

USB 2.0 series A feedthroughs are offered in two versions - USB male/male and USB female/female. A vacuum compatible USB cable assembly is available for the USB female/female version.



## Compact Power Feedthroughs

### For Push-Pull Connector

#### Technical data

##### Material

■ Housing	stainless steel 304
■ Conductor material	Kovar® (gold plated)
■ Insulation	alumina ceramic

##### Temperature range

■ Without flange	-200 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-200 °C to 350 °C

##### Current load per pin when all pins are used

■ VB-1B-05	max. 7.5 A
■ VB-1B-10	max. 2.75 A

#### Accessories

##### Air side plug

■ Housing	brass (nickel-plated)
■ Conductor material	brass alloy
■ Insulation	PEEK
■ Temperature range	-40 °C ... 80 °C short-term 120 °C
■ Strain-relieved	yes

##### Vacuum side plug

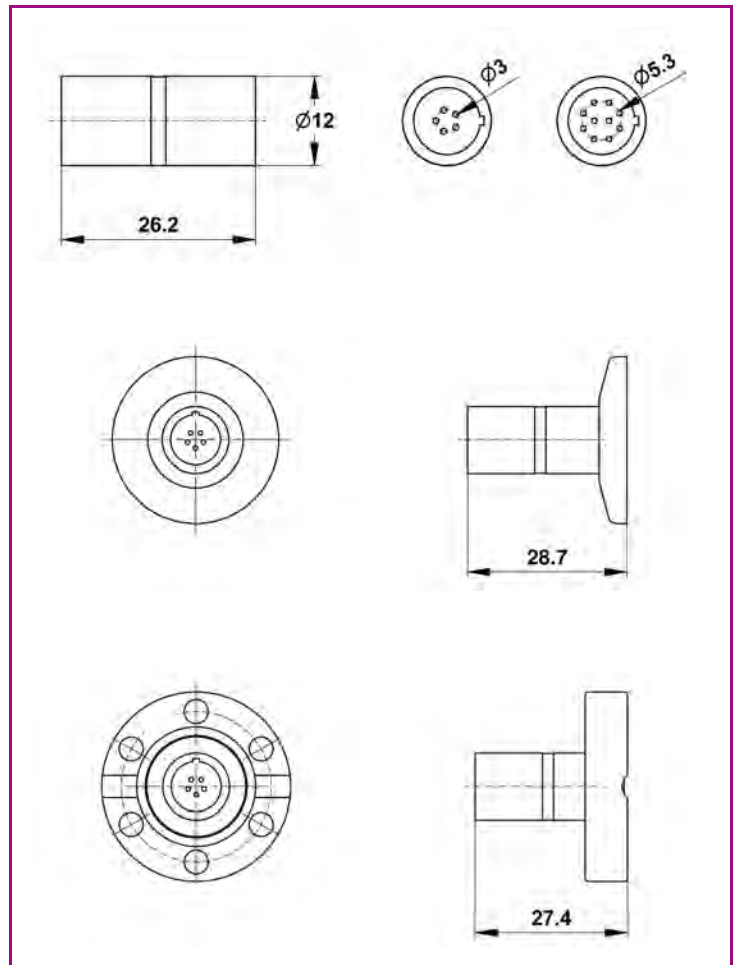
■ Housing	stainless steel
■ Conductor material	beryllium-copper (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 150 °C
■ Strain-relieved	yes

##### Contact insert, with solder cups

■ Conductor material	brass alloy
■ Insulation	PEEK
■ Temperature range	-40 °C to 120 °C
■ Strain-relieved	no

##### Contact insert, with crimp contacts

■ Conductor material	beryllium-copper
■ Insulation	PEEK
■ Temperature range	-50 °C to 150 °C
■ Strain-relieved	no



# Multipin Feedthroughs with Plug Connectors

## Compact Power Feedthroughs

### For Push-Pull Connector

#### Without flange



Order code	Number of pins	Voltage [V DC]	Current [A]
VB-1B-05	5	1000	10
VB-1B-10	10	700	5

#### On KF flange



Order code	Flange	Number of pins	Voltage [V DC]
KF16-VB-1B-05	DN16KF	5	1000
KF16-VB-1B-10	DN16KF	10	700
KF25-VB-1B-05	DN25KF	5	1000
KF25-VB-1B-10	DN25KF	10	700
KF40-VB-1B-05	DN40KF	5	1000
KF40-VB-1B-10	DN40KF	10	700

#### On CF flange



Order code	Flange	Number of pins	Voltage [V DC]
CF16-VB-1B-05	DN16CF	5	1000
CF16-VB-1B-10	DN16CF	10	700
CF40-VB-1B-05	DN40CF	5	1000
CF40-VB-1B-10	DN40CF	10	700

#### Air side Push-Pull connector



Order code	Number of pins
PLUG-MINI-1B-05-A	5
PLUG-MINI-1B-10-A	10

#### Vacuum side Push-Pull connector



Order code	Number of pins
PLUG-MINI-1B-05-V	5
PLUG-MINI-1B-10-V	10

#### Contact inserts



Order code	Number of pins	Contact type	Accessories for
PLUG-MINI-1B-05-P-C	5	crimp contacts	PLUG-MINI-1B-05-A / -V
PLUG-MINI-1B-10-P-C	10	crimp contacts	PLUG-MINI-1B-10-A / -V
PLUG-MINI-1B-05-P-L	5	solder cups	PLUG-MINI-1B-05-A / -V
PLUG-MINI-1B-10-P-L	10	solder cups	PLUG-MINI-1B-10-A / -V

- Contact inserts can be used as vacuum side plugs!



## Compact Power Feedthroughs

### For Push-Pull Connector

#### Technical data

##### Material

■ Housing	stainless steel 304
■ Conductor material	Kovar® (gold plated)
■ Insulation	alumina ceramic

##### Temperature range

■ Without flange	-200 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-200 °C to 350 °C

##### Electrical characteristics

■ Current	7 A
■ Voltage	see table

#### Accessories

##### Air side plug

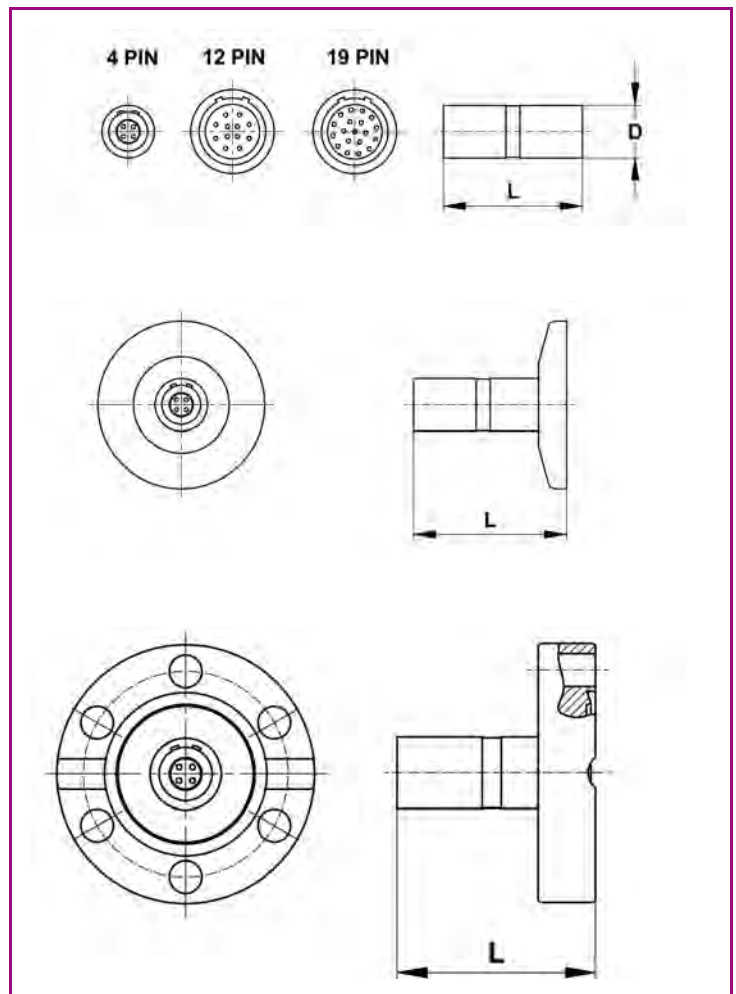
■ Housing	brass (nickel-plated)
■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C
■ Strain-relieved	yes

##### Contact insert, with solder cups

■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C
■ Strain-relieved	no

##### Contact insert, with crimp contacts

■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C
■ Strain-relieved	no





# Multipin Feedthroughs with Plug Connectors

## Compact Power Feedthroughs

For Push-Pull Connector

Without flange



Order code	Number of pins	Voltage [V DC]	L	D
VB-2B-04	4	500	25.0	9.4
VB-2B-12	12	1000	31.0	15.0
VB-2B-19	19	500	31.0	15.0

On KF flange



Order code	Flange	Number of pins	Voltage [V DC]	L
KF16-VB-2B-04	DN16KF	4	500	27.5
KF16-VB-2B-12	DN16KF	12	1000	33.5
KF16-VB-2B-19	DN16KF	19	500	33.5

On CF flange



Order code	Flange	Number of pins	Voltage [V DC]	L
CF16-VB-2B-04	DN16CF	4	500	26.2
CF16-VB-2B-12	DN16CF	12	1000	32.2
CF16-VB-2B-19	DN16CF	19	500	32.2

Air side Push-Pull connector



Order code	Number of pins
PLUG-MINI-2B-04-A	4
PLUG-MINI-2B-12-A	12

Contact inserts



Order code	Number of pins	Contact type
PLUG-MINI-2B-04-P-C	4	crimp contacts
PLUG-MINI-2B-12-P-C	12	crimp contacts
PLUG-MINI-2B-04-P-L	4	solder cups
PLUG-MINI-2B-12-P-L	12	solder cups

- Contact inserts can be used as vacuum side plugs!

## Compact Power Feedthroughs

### For Push-Pull Connector

#### Technical data

##### Material

■ Housing	stainless steel 304
■ Conductor material	Kovar® (gold plated)
■ Insulation	alumina ceramic

##### Temperature range

■ Without flange	-200 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-200 °C to 350 °C

##### Electrical characteristics

■ Current	see table
■ Voltage	see table

#### Accessories

##### Air side plug

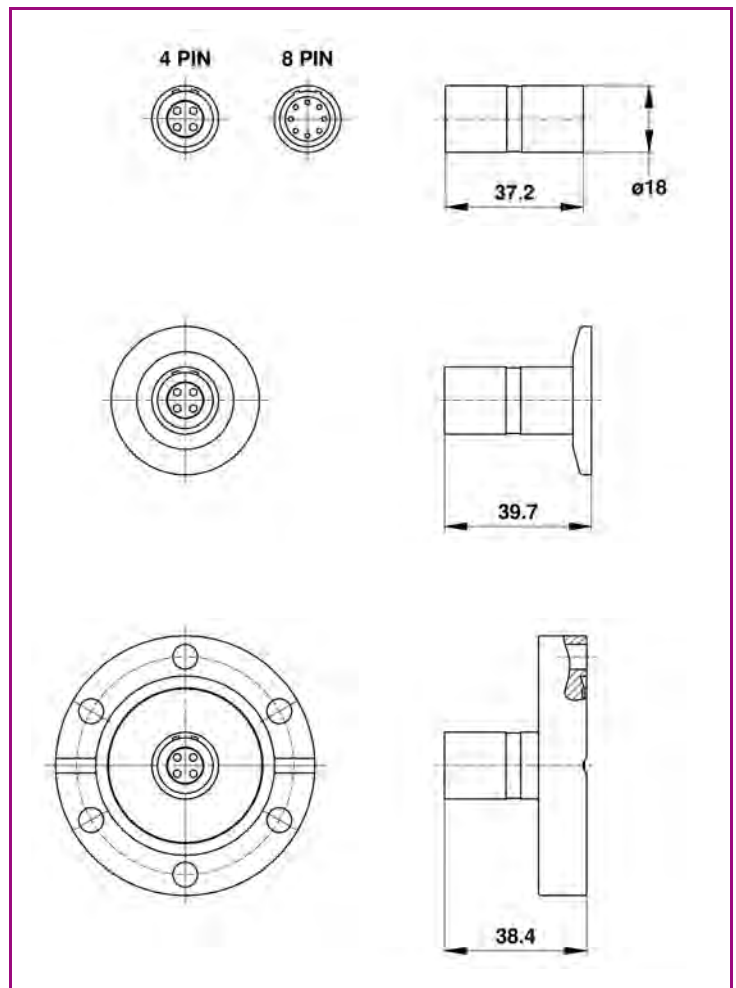
■ Housing	brass (nickel-plated)
■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C
■ Strain-relieved	yes

##### Contact insert, with solder cups

■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C
■ Strain-relieved	no

##### Contact insert, with crimp contacts

■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C
■ Strain-relieved	no



# Multipin Feedthroughs with Plug Connectors

## Compact Power Feedthroughs

### For Push-Pull Connector

#### Without flange



Order code	Number of pins	Current [A]	Voltage [V DC]
VB-3B-04	4	19	1000
VB-3B-08	8	13	500

#### On KF flange



Order code	Flange	Number of pins	Current [A]	Voltage [V DC]
KF25-VB-3B-04	DN25KF	4	19	1000
KF25-VB-3B-08	DN25KF	8	13	500
KF40-VB-3B-04	DN40KF	4	19	1000
KF40-VB-3B-08	DN40KF	8	13	500

#### On CF flange



Order code	Flange	Number of pins	Current [A]	Voltage [V DC]
CF40-VB-3B-04	DN40CF	4	19	1000
CF40-VB-3B-08	DN40CF	8	13	500

#### Air side Push-Pull connector



Order code	Number of pins
PLUG-MINI-3B-04-A	4
PLUG-MINI-3B-08-A	8

#### Contact inserts



Order code	Number of pins	Contact type
PLUG-MINI-3B-04-P-C	4	crimp contacts
PLUG-MINI-3B-08-P-C	8	crimp contacts
PLUG-MINI-3B-04-P-L	4	solder cups
PLUG-MINI-3B-08-P-L	8	solder cups

- Contact inserts can be used as vacuum side plugs!

# Multipin Feedthroughs with Plug Connectors

## Compact Power Feedthroughs

For baseplate installation with FKM O-ring sealing

### Technical data

- Leakage rate < 1.0E-9 mbar l/s
- Assembly bore hole Ø 14.1 mm

### Material

- Housing copper alloy (matt chrome plated)
- Conductor material copper alloy (gold plated)
- Insulation epoxy resin

### Temperature range

- -10 °C to 80 °C

### Current load per pin when all pins are used

- VBBP-1B-05 max. 7.5 A
- VBBP-1B-10 max. 2.75 A

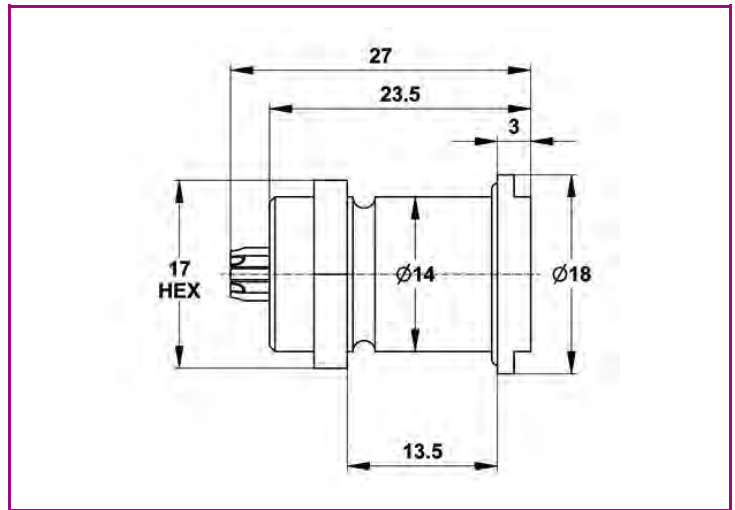
### Cross section of solder cups

- With 5 pins 0.38 mm<sup>2</sup>
- With 10 pins 0.08 mm<sup>2</sup>

### Accessories

#### Air side plug

- Housing brass (nickel-plated)
- Conductor material brass alloy
- Insulation PEEK
- Temperature range -40 °C ... 80 °C  
short-term 120 °C
- Strain-relieved yes



# Multipin Feedthroughs with Plug Connectors

## Compact Power Feedthroughs

For baseplate installation with FKM O-ring sealing

### Without flange



Order code	Number of pins	Current [A]	Voltage [V DC]
VBBP-1B-05	5	10	1000
VBBP-1B-10	10	5	700

### On KF flange



Order code	Flange	Number of pins	Voltage [V DC]
KF25-VBBP-1B-05	DN25KF	5	1000
KF25-VBBP-1B-10	DN25KF	10	700
KF40-VBBP-1B-05	DN40KF	5	1000
KF40-VBBP-1B-10	DN40KF	10	700

### Air side Push-Pull connector



Order code	Number of pins
PLUG-MINI-1B-05-A	5
PLUG-MINI-1B-10-A	10

# Multipin Feedthroughs with Plug Connectors

## Sub-D Feedthroughs MIL-DTL-24308

Voltage: 500 V DC, 9-50 pins

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel (gold plated)
■ Insulation	glass-ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	5 A
■ Voltage	500 V DC

#### Accessories

##### Air side plug

■ Conductor material	copper alloy (gold plated)
■ Insulation	reinforced plastics
■ Temperature range	-55 °C to 105 °C
■ Current	5 A

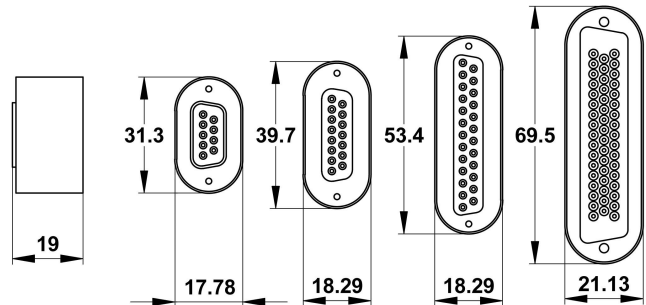
##### Vacuum side plug

■ Conductor material	copper alloy (gold plated)
■ Insulation	PEEK/PPS
■ Temperature range	-200 °C to 200 °C
■ Current	5 A

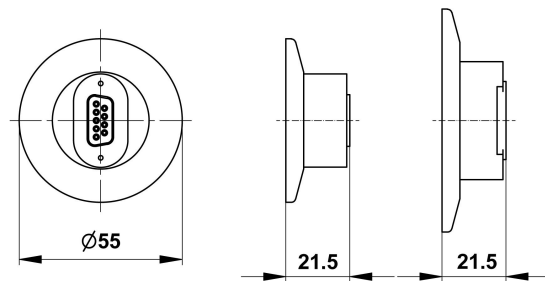
##### Crimp contact

■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	15 A
■ Packing unit	5 pieces

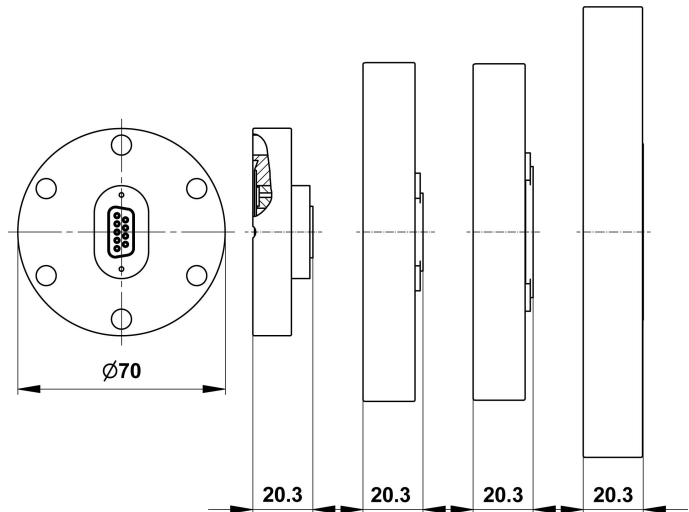
#### without flange



#### on KF flange



#### on CF flange



### Crimp contacts

Order code	Description
EK-SUBD-F-AWG22	crimp contact, socket
EK-SUBD-M-CLG10	crimp contact, pin

# Multipin Feedthroughs with Plug Connectors

## Sub-D Feedthroughs MIL-DTL-24308

Voltage: 500 V DC, 9 - 50 pins

### Without flange



Order code	Number of pins
W-SUBD-9-DE-CE-SSG	9
W-SUBD-15-DE-CE-SSG	15
W-SUBD-25-DE-CE-SSG	25
W-SUBD-37-DE-CE-SSG	37
W-SUBD-50-DE-CE-SSG	50

### On KF flange



Order code	Flange	Number of pins
KF40-SUBD-9-DE-CE-SSG	DN40KF	9
KF50-SUBD-15-DE-CE-SSG	DN50KF	15

### On CF flange



Order code	Flange	Number of pins
CF40-SUBD-9-DE-CE-SSG	DN40CF	9
CF63-SUBD-15-DE-CE-SSG	DN63CF	15
CF63-SUBD-25-DE-CE-SSG	DN63CF	25
CF63-SUBD-37-DE-CE-SSG	DN63CF	37
CF63-SUBD-50-DE-CE-SSG	DN63CF	50
CF100-SUBD-50-DE-CE-SSG	DN100CF	50

### Air side plug



Order code	Number of pins
PLUG-SUBD-9	9
PLUG-SUBD-15	15
PLUG-SUBD-25	25
PLUG-SUBD-37	37
PLUG-SUBD-50	50

### Vacuum side plug



Order code		Number of pins
Female Plug	Male Plug	
PLUG-SUBD-9-P-CL	PLUG-SUBD-9-P-CLM	9
PLUG-SUBD-15-P-CL	PLUG-SUBD-15-P-CLM	15
PLUG-SUBD-25-P-CL	PLUG-SUBD-25-P-CLM	25
PLUG-SUBD-37-P-CL	PLUG-SUBD-37-P-CLM	37
PLUG-SUBD-50-P-CL	PLUG-SUBD-50-P-CLM	50

- Ceramic plugs are also available



# Multipin Feedthroughs with Plug Connectors

## Micro-D Feedthroughs MIL-DTL-83513

Voltage: 300 V DC, 9 - 51 pins

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	beryllium-copper (gold plated)
■ Insulation	glass-ceramic

#### Temperature range

■ Without flange	-200 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-200 °C to 450 °C

#### Electrical characteristics

■ Current	3 A
■ Voltage	300 V DC

#### Accessories

##### Air side plug

■ Conductor material	copper alloy (gold plated)
■ Insulation	reinforced plastics
■ Current	3 A
■ Temperature range	-55 °C to 125 °C

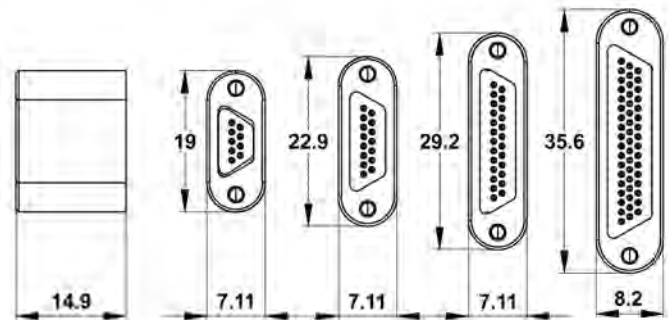
##### Vacuum side plug

■ Conductor material	beryllium-copper (gold plated)
■ Insulation	PEEK
■ Current	3 A
■ Temperature range	-200 °C to 200 °C

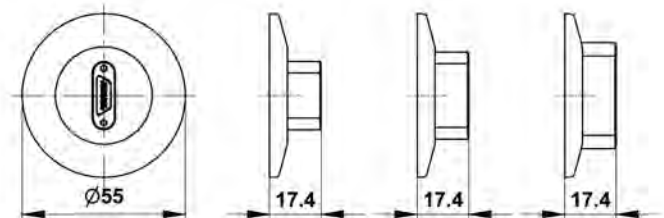
##### Crimp contact

■ Conductor diameter	0.51 mm
■ Conductor material	beryllium-copper (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	3 A
■ Packing unit	25 pieces

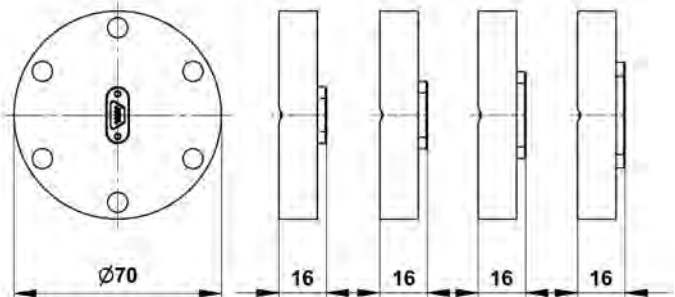
#### without flange



#### on KF flange



#### on CF flange



# Multipin Feedthroughs with Plug Connectors

## Micro-D Feedthroughs MIL-DTL-83513

Voltage: 300 V DC, 9 - 51 pins

### Without flange



Order code	Number of pins
W-MDTL8-9-FM-CE-CBG	9
W-MDTL8-15-FM-CE-CBG	15
W-MDTL8-25-FM-CE-CBG	25
W-MDTL8-51-FM-CE-CBG	51

- 23 / 31 / 37 / 100 pin version available on request

### On KF flange



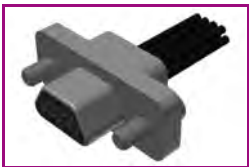
Order code	Flange	Number of pins
KF25-MDTL8-9-FM-CE-CBG	DN25KF	9
KF40-MDTL8-15-FM-CE-CBG	DN40KF	15
KF40-MDTL8-25-FM-CE-CBG	DN40KF	25
KF40-MDTL8-51-FM-CE-CBG	DN40KF	51

### On CF flange



Order code	Flange	Number of pins
CF40-MDTL8-9-FM-CE-CBG	DN40CF	9
CF40-MDTL8-15-FM-CE-CBG	DN40CF	15
CF40-MDTL8-25-FM-CE-CBG	DN40CF	25
CF40-MDTL8-51-FM-CE-CBG	DN40CF	51

### Air side plug



Order code	Number of pins
PLUG-MDTL-9-A	9
PLUG-MDTL-15-A	15
PLUG-MDTL-25-A	25
PLUG-MDTL-51-A	51

### Vacuum side plug



Order code	Number of pins
PLUG-MDTL-9-P	9
PLUG-MDTL-15-P	15
PLUG-MDTL-25-P	25
PLUG-MDTL-51-P	51

- Also available pre-assembled with Kapton wire

### Crimp contacts

Order code	Description
EK-MDTL-CB051	crimp contact

# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-5015, Single Ended

Voltage: 700 V DC, 4 - 35 pins, for air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	Alumel®
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	7 A
■ Voltage	700 V DC

#### Accessories

#### Air side plug, high temperature proof

■ Conductor material	Alumel®
■ Insulation	Alumina ceramic
■ Current	10 A
■ Temperature range	-200 °C to 350 °C

#### Air side plug

■ Conductor material	copper alloy
■ Insulation	diallyl phthalate
■ Current	13 A
■ Temperature range	-55 °C to 125 °C

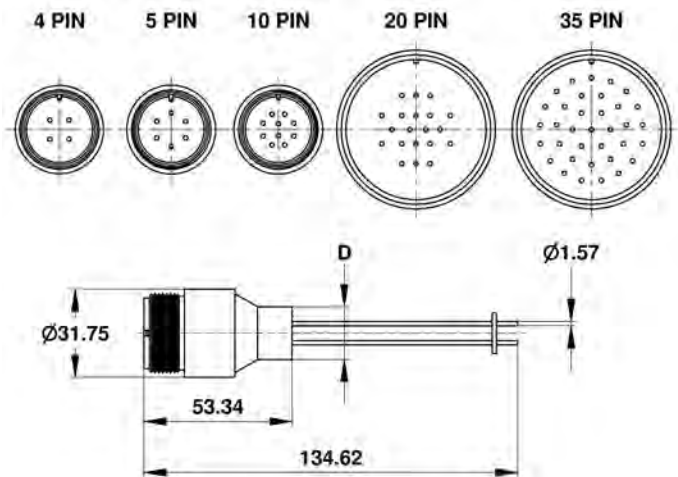
#### Crimp contact

■ Conductor diameter	1.6 mm
■ Packing unit	10 pieces

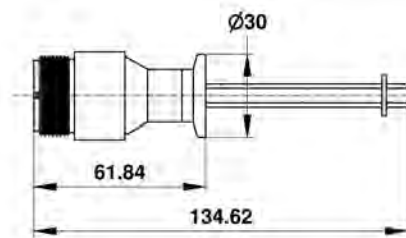
#### Barrel type contact

■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

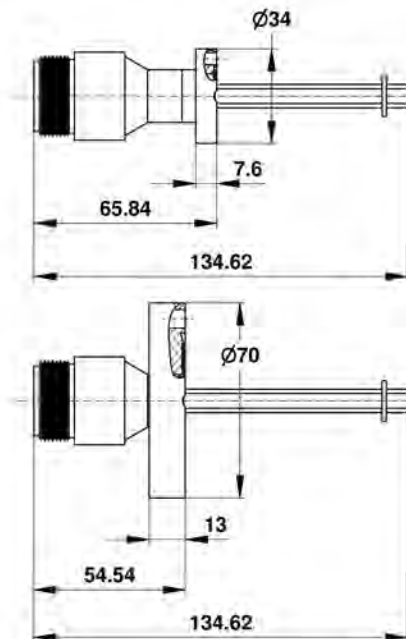
#### without flange



#### on KF flange



#### on CF flange



# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-5015, Single Ended

Voltage: 700 V DC, 4-35 pins, for air side plug

### Without flange



Order code	Number of pins	D
W-MPC5-4-SE-CE-AM	4	18.97
W-MPC5-6-SE-CE-AM	6	18.97
W-MPC5-10-SE-CE-AM	10	18.97
W-MPC5-20-SE-CE-AM	20	38.1
W-MPC5-35-SE-CE-AM	35	38.1

### On KF flange



Order code	Flange	Number of pins
KF16-MPC5-4-SE-CE-AM	DN16KF	4
KF16-MPC5-6-SE-CE-AM	DN16KF	6
KF16-MPC5-10-SE-CE-AM	DN16KF	10
KF40-MPC5-20-SE-CE-AM	DN40KF	20
KF40-MPC5-35-SE-CE-AM	DN40KF	35

### On CF flange



Order code	Flange	Number of pins
CF16-MPC5-4-SE-CE-AM	DN16CF	4
CF16-MPC5-6-SE-CE-AM	DN16CF	6
CF16-MPC5-10-SE-CE-AM	DN16CF	10
CF40-MPC5-20-SE-CE-AM	DN40CF	20
CF40-MPC5-35-SE-CE-AM	DN40CF	35

### Air side plug



Order code		Number of pins
Alumina ceramic	Diallyl phthalate	
PLUG-MPC5-4-CE-AM	PLUG-MPC5-4-DI-CUL	4
PLUG-MPC5-6-CE-AM	PLUG-MPC5-6-DI-CUL	6
PLUG-MPC5-10-CE-AM	PLUG-MPC5-10-DI-CUL	10
PLUG-MPC5-20-CE-AM	PLUG-MPC5-20-DI-CUL	20
PLUG-MPC5-35-CE-AM	PLUG-MPC5-35-DI-CUL	35

### Crimp contacts

Order code	Conductor material	Temperature range [°C]	Current [A]
EK-C-CB16	beryllium-copper	-269 to 200	20
EK-C-NIL16	nickel alloy	-269 to 400	10

### Barrel type contacts

Order code	Description
EK-LK-CB16	barrel type contact

# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-5015, Single Ended

Voltage: 700 V DC, 2 - 4 pins, for air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	700 V DC

#### Accessories

#### Air side plug

■ Conductor material	copper alloy
■ Insulation	diallyl phthalate
■ Current	23 A
■ Temperature range	-55 °C to 125 °C

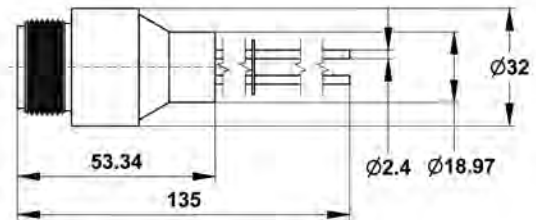
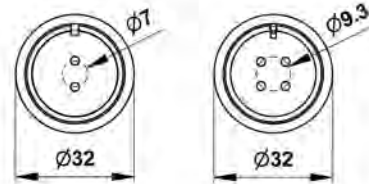
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-269 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

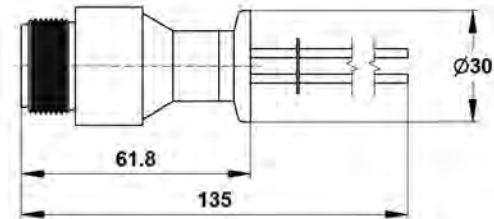
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

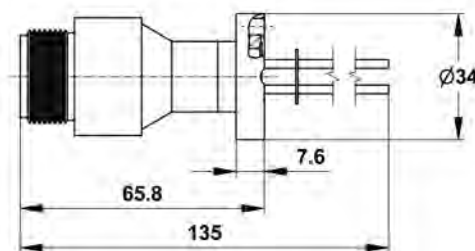
#### without flange



#### on KF flange



#### on CF flange



# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-5015, Single Ended

Voltage: 700 V DC, 2 - 4 pins, for air side plug

### Without flange



Order code	Number of pins	Conductor material	Current [A]
W-MPC5C-2-SE-CE-NI	2	nickel	16
W-MPC5C-2-SE-CE-MO	2	molybdenum	23
W-MPC5C-4-SE-CE-NI	4	nickel	16
W-MPC5C-4-SE-CE-MO	4	molybdenum	23

### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF16-MPC5C-2-SE-CE-NI	DN16KF	2	nickel	16
KF16-MPC5C-2-SE-CE-MO	DN16KF	2	molybdenum	23
KF16-MPC5C-4-SE-CE-NI	DN16KF	4	nickel	16
KF16-MPC5C-4-SE-CE-MO	DN16KF	4	molybdenum	23

### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF16-MPC5C-2-SE-CE-NI	DN16CF	2	nickel	16
CF16-MPC5C-2-SE-CE-MO	DN16CF	2	molybdenum	23
CF16-MPC5C-4-SE-CE-NI	DN16CF	4	nickel	16
CF16-MPC5C-4-SE-CE-MO	DN16CF	4	molybdenum	23
CF40-MPC5C-2-SE-CE-NI	DN40CF	2	nickel	16
CF40-MPC5C-2-SE-CE-MO	DN40CF	2	molybdenum	23
CF40-MPC5C-4-SE-CE-NI	DN40CF	4	nickel	16
CF40-MPC5C-4-SE-CE-MO	DN40CF	4	molybdenum	23

### Air side plug



Order code	Number of pins
PLUG-MPC5C-2-DI-CUL	2
PLUG-MPC5C-4-DI-CUL	4

### Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

# Multipin Feedthroughs with Plug Connectors

## High Current Circular Connectors MIL-DTL-5015, Single Ended

Voltage: 700 V DC, 2 - 4 pins, for air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	700 V DC

#### Accessories

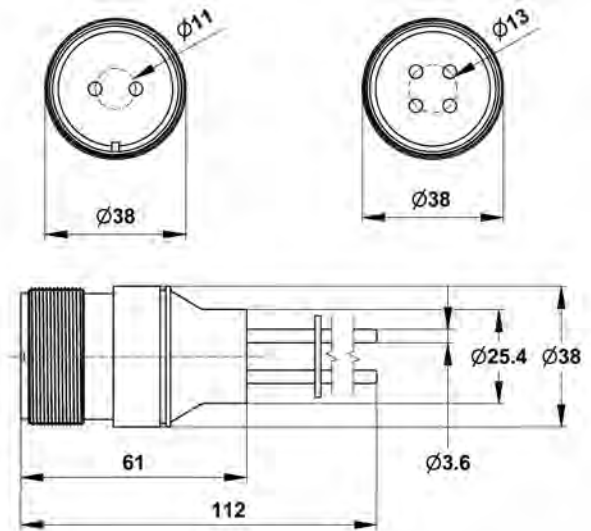
#### Air side plug

■ Conductor material	copper alloy
■ Insulation	diallyl phthalate
■ Current	46 A
■ Temperature range	-55 °C to 125 °C

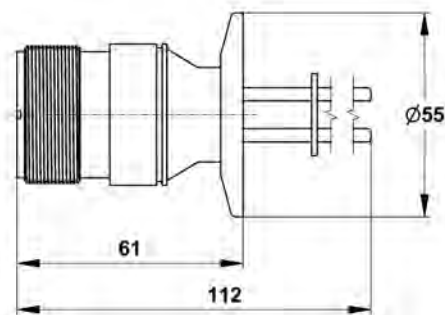
#### Barrel type contact

■ Conductor diameter	3.9 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	30 A
■ Packing unit	10 pieces

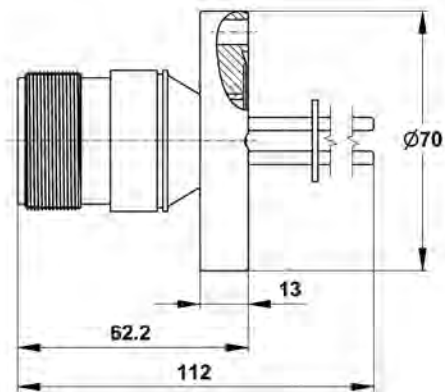
#### without flange



#### on KF flange



#### on CF flange





# Multipin Feedthroughs with Plug Connectors

## High Current Circular Connectors MIL-DTL-5015, Single Ended

Voltage: 700 V DC, 2 - 4 pins, for air side plug

### Without flange



Order code	Number of pins	Conductor material	Current [A]
W-MPC5HC-2-SE-CE-NI	2	nickel	25
W-MPC5HC-2-SE-CE-MO	2	molybdenum	46
W-MPC5HC-4-SE-CE-NI	4	nickel	25
W-MPC5HC-4-SE-CE-MO	4	molybdenum	46

### On KF flange



Order code	Number of pins	Conductor material	Current [A]
KF40-MPC5HC-2-SE-CE-NI	2	nickel	25
KF40-MPC5HC-2-SE-CE-MO	2	molybdenum	46
KF40-MPC5HC-4-SE-CE-NI	4	nickel	25
KF40-MPC5HC-4-SE-CE-MO	4	molybdenum	46

### On CF flange



Order code	Number of pins	Conductor material	Current [A]
CF40-MPC5HC-2-SE-CE-NI	2	nickel	25
CF40-MPC5HC-2-SE-CE-MO	2	molybdenum	46
CF40-MPC5HC-4-SE-CE-NI	4	nickel	25
CF40-MPC5HC-4-SE-CE-MO	4	molybdenum	46

### Air side plug



Order code	Number of pins
PLUG-MPC5HC-2-DI-CUL	2
PLUG-MPC5HC-4-DI-CUL	4

### Contacts

Order code	Description
EK-LK-CB39	barrel type contact

# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-26482

Voltage: 1000 V, 3 - 41 pins, for air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel (gold plated)
■ Insulation	glass-ceramics

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	1000 V DC

#### Accessories

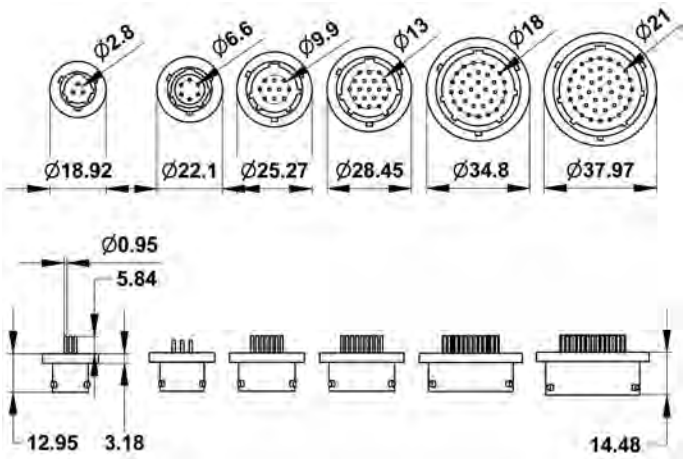
#### Air side plug

■ Conductor material	copper alloy (gold plated)
■ Current	see table
■ Temperature range	-55 °C to 200 °C

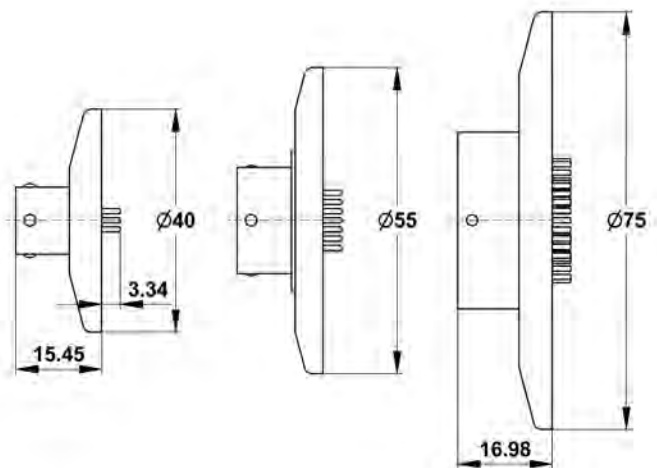
#### Crimp contact

■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	15 A
■ Packing unit	5 pieces

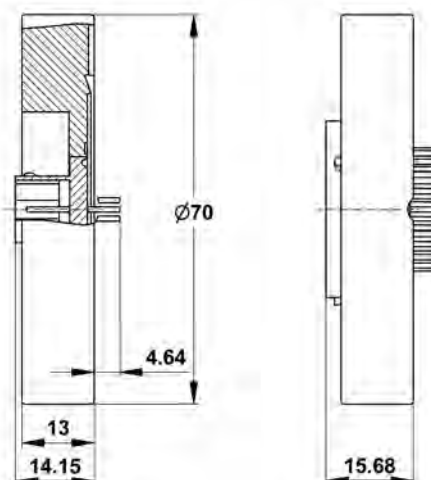
#### without flange



#### on KF flange



#### on CF flange



# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-26482

Voltage: 1000 V, 3 - 41 pins, for air side plug

### Without flange



Order code	Number of pins	Current [A]
W-MPC2-3-SE-CE-SSG	3	5
W-MPC2-6-SE-CE-SSG	6	5
W-MPC2-10-SE-CE-SSG	10	5
W-MPC2-19-SE-CE-SSG	19	3
W-MPC2-32-SE-CE-SSG	32	3
W-MPC2-41-SE-CE-SSG	41	3

### On KF flange



Order code	Flange	Number of pins	Current [A]
KF25-MPC2-3-SE-CE-SSG	DN25KF	3	5
KF40-MPC2-6-SE-CE-SSG	DN40KF	6	5
KF40-MPC2-10-SE-CE-SSG	DN40KF	10	5
KF40-MPC2-19-SE-CE-SSG	DN40KF	19	3
KF40-MPC2-32-SE-CE-SSG	DN40KF	32	3
KF50-MPC2-41-SE-CE-SSG	DN50KF	41	3

### On CF flange



Order code	Flange	Number of pins	Current [A]
CF40-MPC2-3-SE-CE-SSG	DN40CF	3	5
CF40-MPC2-6-SE-CE-SSG	DN40CF	6	5
CF40-MPC2-10-SE-CE-SSG	DN40CF	10	5
CF40-MPC2-19-SE-CE-SSG	DN40CF	19	3
CF40-MPC2-32-SE-CE-SSG	DN40CF	32	3
CF40-MPC2-41-SE-CE-SSG	DN40CF	41	3

### Air side plug



Order code		Number of pins	Current [A]
Crimp contacts	Solder cups		
PLUG-MPC2-3-SI-CLG	PLUG-MPC2-3-DI-CLG	3	5
PLUG-MPC2-6-SI-CLG	PLUG-MPC2-6-DI-CLG	6	5
PLUG-MPC2-10-SI-CLG	PLUG-MPC2-10-DI-CLG	10	5
PLUG-MPC2-19-SI-CLG	PLUG-MPC2-19-DI-CLG	19	3
PLUG-MPC2-32-SI-CLG	PLUG-MPC2-32-DI-CLG	32	3
PLUG-MPC2-41-SI-CLG	PLUG-MPC2-41-DI-CLG	41	3

### Crimp contacts

Order code	Description
EK-C-CLG10	crimp contact

# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-26482

Voltage: 1000 V, 3 - 41 pins, for air side plug, vacuum side solder cups

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel (gold plated)
■ Insulation	glass-ceramics

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	1000 V DC

#### Accessories

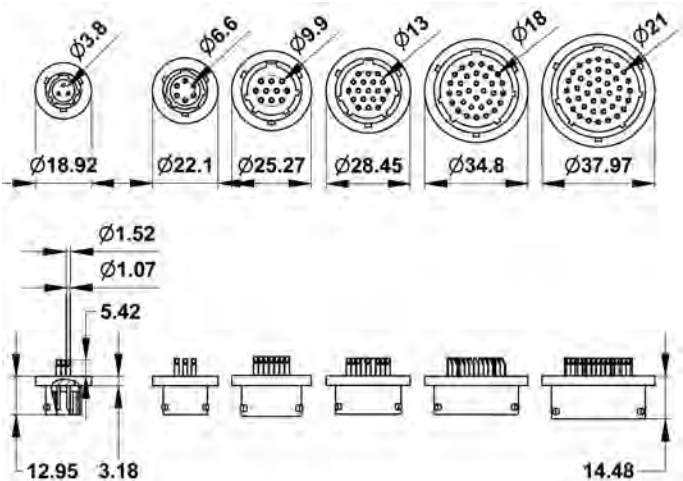
#### Air side plug

■ Conductor material	copper alloy (gold plated)
■ Current	see table
■ Temperature range	-55 °C to 200 °C

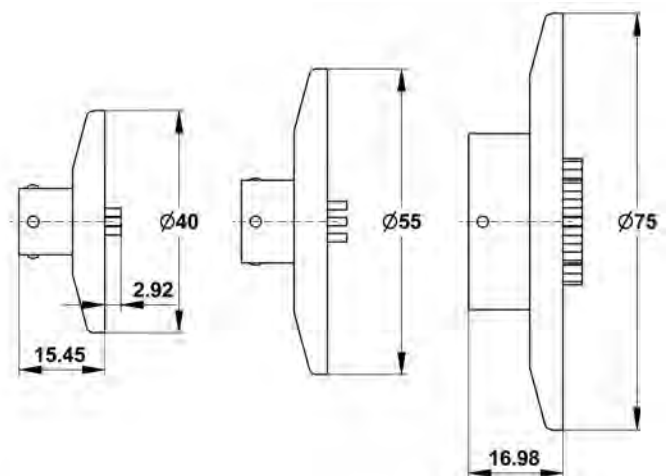
#### Crimp contact

■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	15 A
■ Packing unit	5 pieces

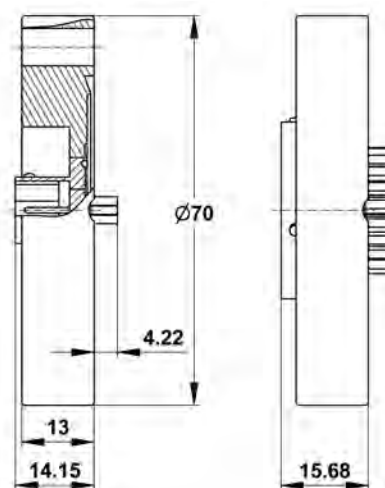
#### without flange



#### on KF flange



#### on CF flange



# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-26482

Voltage: 1000 V, 3 - 41 pins, for air side plug, vacuum side solder cups

### Without flange



Order code	Number of pins	Current [A]
W-MPC2-3-SES-CE-SSG	3	5
W-MPC2-6-SES-CE-SSG	6	5
W-MPC2-10-SES-CE-SSG	10	5
W-MPC2-19-SES-CE-SSG	19	3
W-MPC2-32-SES-CE-SSG	32	3
W-MPC2-41-SES-CE-SSG	41	3

### On KF flange



Order code	Flange	Number of pins	Current [A]
KF25-MPC2-3-SES-CE-SSG	DN25KF	3	5
KF40-MPC2-6-SES-CE-SSG	DN40KF	6	5
KF40-MPC2-10-SES-CE-SSG	DN40KF	10	5
KF40-MPC2-19-SES-CE-SSG	DN40KF	19	3
KF40-MPC2-32-SES-CE-SSG	DN40KF	32	3
KF50-MPC2-41-SES-CE-SSG	DN50KF	41	3

### On CF flange



Order code	Flange	Number of pins	Current [A]
CF40-MPC2-3-SES-CE-SSG	DN40CF	3	5
CF40-MPC2-6-SES-CE-SSG	DN40CF	6	5
CF40-MPC2-10-SES-CE-SSG	DN40CF	10	5
CF40-MPC2-19-SES-CE-SSG	DN40CF	19	3
CF40-MPC2-32-SES-CE-SSG	DN40CF	32	3
CF40-MPC2-41-SES-CE-SSG	DN40CF	41	3

### Air side plug



Order code		Number of pins	Current [A]
Crimp contacts	Solder cups		
PLUG-MPC2-3-SI-CLG	PLUG-MPC2-3-DI-CLG	3	5
PLUG-MPC2-6-SI-CLG	PLUG-MPC2-6-DI-CLG	6	5
PLUG-MPC2-10-SI-CLG	PLUG-MPC2-10-DI-CLG	10	5
PLUG-MPC2-19-SI-CLG	PLUG-MPC2-19-DI-CLG	19	3
PLUG-MPC2-32-SI-CLG	PLUG-MPC2-32-DI-CLG	32	3
PLUG-MPC2-41-SI-CLG	PLUG-MPC2-41-DI-CLG	41	3

# Multipin Feedthroughs with Plug Connectors

## Circular Connectors MIL-DTL-26482

Voltage: 1000 V, 3 - 41 pins, for plugs on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel (gold plated)
■ Insulation	glass-ceramics

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	1000 V DC

#### Accessories

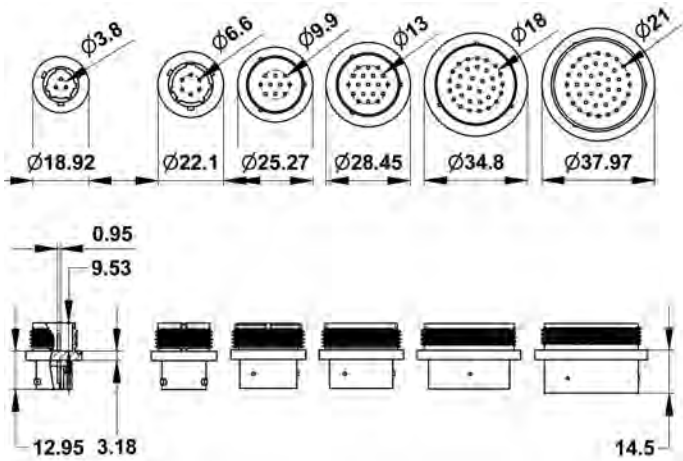
##### Air side plug

■ Conductor material	copper alloy (gold plated)
■ Current	see table
■ Temperature range	-55 °C to 200 °C

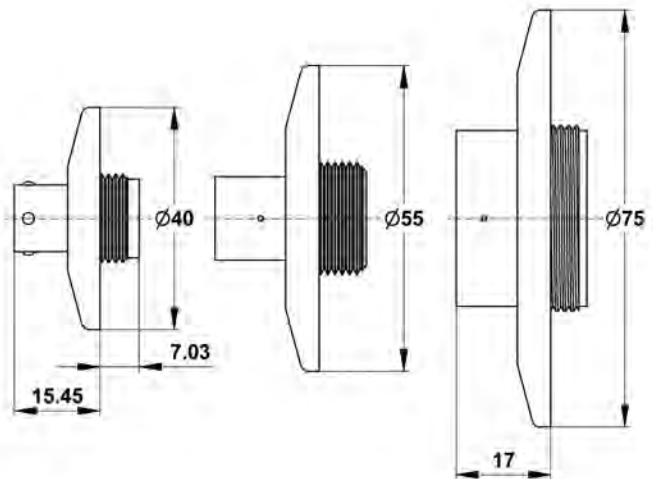
##### Vacuum side plug

■ Conductor material	copper alloy (gold plated)
■ Insulation	PEEK
■ Current	see table
■ Temperature range	-269 °C to 200 °C

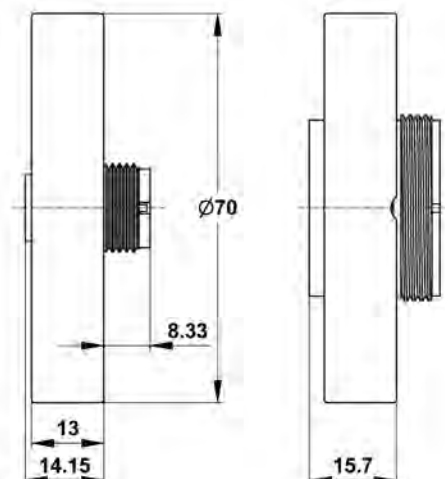
#### without flange



#### on KF flange



#### on CF flange



## Multipin Feedthroughs with Plug Connectors

### Circular Connectors MIL-DTL-26482

Voltage: 1000 V, 3 - 41 pins, for plugs on both sides

#### Without flange



Order code	Number of pins	Current [A]
W-MPC2-3-DE-CE-SSG	3	5
W-MPC2-6-DE-CE-SSG	6	5
W-MPC2-10-DE-CE-SSG	10	5
W-MPC2-19-DE-CE-SSG	19	3
W-MPC2-32-DE-CE-SSG	32	3
W-MPC2-41-DE-CE-SSG	41	3

#### On KF flange



Order code	Flange	Number of pins	Current [A]
KF25-MPC2-3-DE-CE-SSG	DN25KF	3	5
KF40-MPC2-6-DE-CE-SSG	DN40KF	6	5
KF40-MPC2-10-DE-CE-SSG	DN40KF	10	5
KF40-MPC2-19-DE-CE-SSG	DN40KF	19	3
KF40-MPC2-32-DE-CE-SSG	DN40KF	32	3
KF50-MPC2-41-DE-CE-SSG	DN50KF	41	3

#### On CF flange



Order code	Flange	Number of pins	Current [A]
CF40-MPC2-3-DE-CE-SSG	DN40CF	3	5
CF40-MPC2-6-DE-CE-SSG	DN40CF	6	5
CF40-MPC2-10-DE-CE-SSG	DN40CF	10	5
CF40-MPC2-19-DE-CE-SSG	DN40CF	19	3
CF40-MPC2-32-DE-CE-SSG	DN40CF	32	3
CF40-MPC2-41-DE-CE-SSG	DN40CF	41	3

Air side plug see page 4-25, 4-28

#### Vacuum side plug



Order code	Number of pins	Current [A]
PLUG-MPC2-3-P-CLG	3	5
PLUG-MPC2-6-P-CLG	6	5
PLUG-MPC2-10-P-CLG	10	5
PLUG-MPC2-19-P-CLG	19	3
PLUG-MPC2-32-P-CLG	32	3
PLUG-MPC2-41-P-CLG	41	3



# Multipin Feedthroughs with Plug Connectors

## High Voltage Circular Connectors

Voltage: 12 kV DC, 2 - 7 pins, for air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	molybdenum
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	13 A
■ Voltage	12 kV DC

#### Accessories

#### Air side plug

■ Conductor material	copper alloy (gold plated)
■ Insulation	Silicone rubber
■ Temperature range	-15 °C to 85 °C
■ Current	13 A

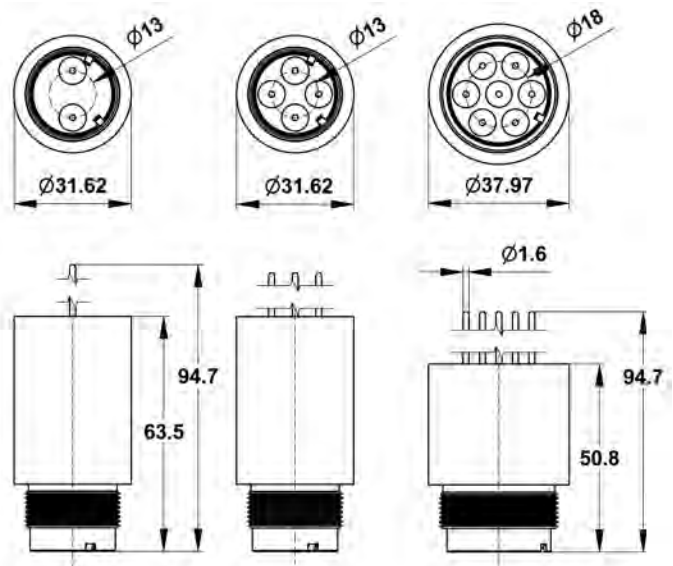
#### Crimp contact

■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

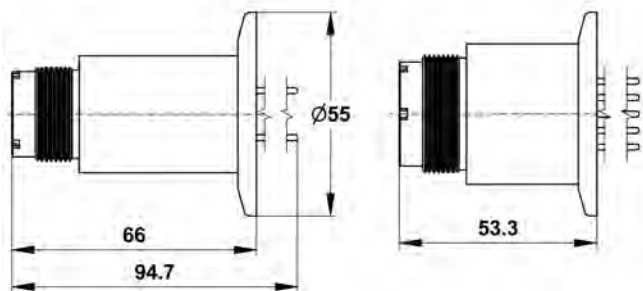
#### Barrel type contact

■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

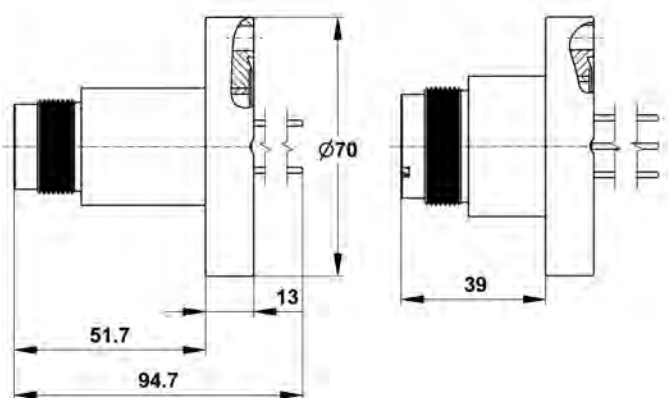
#### without flange



#### on KF flange



#### on CF flange



# Multipin Feedthroughs with Plug Connectors

## High Voltage Circular Connectors

Voltage: 12 kV DC, 2 - 7 pins, for air side plug

### Without flange



Order code	Number of pins
W-MPCHV12-2-SE-CE-MO	2
W-MPCHV12-4-SE-CE-MO	4
W-MPCHV12-7-SE-CE-MO	7

### On KF flange



Order code	Flange	Number of pins
KF40-MPCHV12-2-SE-CE-MO	DN40KF	2
KF40-MPCHV12-4-SE-CE-MO	DN40KF	4
KF40-MPCHV12-7-SE-CE-MO	DN40KF	7

### On CF flange



Order code	Flange	Number of pins
CF40-MPCHV12-2-SE-CE-MO	DN40CF	2
CF40-MPCHV12-4-SE-CE-MO	DN40CF	4
CF40-MPCHV12-7-SE-CE-MO	DN40CF	7

### Air side plug



Order code	Number of pins
PLUG-MPCHV12-2-SI-CUL	2
PLUG-MPCHV12-4-SI-CUL	4
PLUG-MPCHV12-7-SI-CUL	7

### Contacts

Order code	Description
EK-C-CB16	crimp contact
EK-LK-CB16	barrel type contact

## USB Feedthroughs

### USB 2.0 series A

#### Technical data

##### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	glass-ceramics

##### Temperature range

■ Without flange	-269 °C to 200 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 200 °C

##### Electrical characteristics

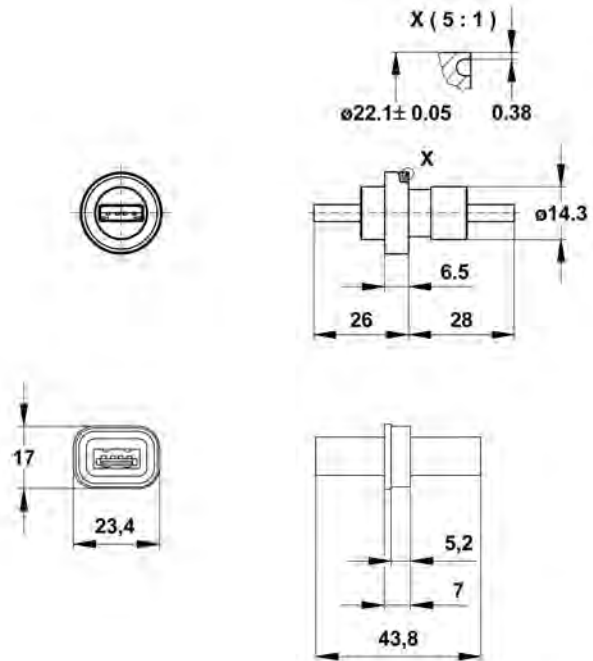
■ Current	1 A
■ Voltage	30 V rms

##### Accessories

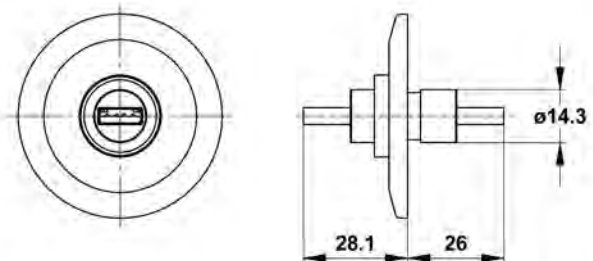
##### Vacuum side cable assembly

■ Conductor material	copper alloy (gold plated)
■ Insulation	PEEK
■ Cable insulation	Kapton
■ Temperature range	-200 °C to 200 °C

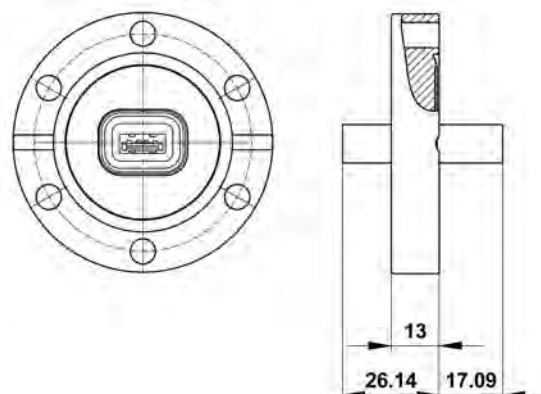
#### without flange



#### on KF flange



#### on CF flange



## Multipin Feedthroughs with Plug Connectors

### USB Feedthroughs

#### USB 2.0 series A

##### Without flange



Order code	Conductor material	Connector Configuration
W-USB-DE-CE-SS	stainless steel	male/male
W-USB-DE-FF-CE-SS	beryllium copper	female/female

##### On KF flange



Order code	Flange	Conductor material	Connector Configuration
KF25-USB-DE-CE-SS	DN25KF	stainless steel	male/male
KF40-USB-DE-CE-SS	DN40KF	stainless steel	male/male
KF40-USB-DE-FF-CE-SS	DN40KF	beryllium-copper	female/female

##### On CF flange



Order code	Flange	Conductor material	Connector Configuration
CF16-USB-DE-CE-SS	DN16CF	stainless steel	male/male
CF40-USB-DE-CE-SS	DN40CF	stainless steel	male/male
CF40-USB-DE-FF-CE-SS	DN40CF	beryllium-copper	female/female

##### Vacuum side cable assembly

Order code	Description
PLUG-USB-M-P-ASSY	vacuum compatible USB cable assembly

## Introduction

### Coaxial Feedthroughs

Coaxial feedthroughs consist of two concentric conductor paths which are electrically insulated from each other by a dielectric in between. The inner conductor serves as the current carrying contact and is surrounded by a tubular outside conductor, which is mostly at ground potential ("grounded"). The outer conductor ("shield") shields the inner conductor from external electromagnetic interfering influences.

We offer product variations with non-grounded shield ("floating shield") and matched impedance for 50 Ohm standard for several coaxial feedthroughs. Coaxial feedthroughs can be used universally and are particularly applied for transmitting high frequency AC-signals.

VACOM offers industry-standard coaxial feedthroughs including subminiature- (SMA), miniature- (BNC, MHV, SHV) and medium-sized (N, HN) types. They cover a voltage range from 500 V DC up to 20 kV DC. Double ended versions and vacuum compatible plug connectors are available for most types. Versions for baseplate installation or variants with mixed connections like e. g. BNC/SMA, Type N/SMA or BNC/Microdot are available on request. In addition, we offer a Triaxial Feedthrough for the challenging transmission of very sensitive signals or extremely low currents.

#### SMA

SMA offers a threaded interface in a subminiature size. 50 Ohm matched impedance designs are standard and ideally suited for high frequency signal transmission above 10 GHz. A special SMA feedthrough for frequencies up to 40 GHz is available on request.

#### Type N

Type N feedthroughs are the most frequently used medium-sized connectors for voltages up to 1.5 kV DC. The threaded coupling ensures low noise and increased resistance to shock and vibration. Matched impedance designs for 50 Ohm standard are suitable for high frequency signal transmission up to 6 GHz.

#### Type HN

Type HN feedthroughs are similar to Type N feedthroughs, but have been designed for higher voltage (up to 7 kV DC). These designs with 50 Ohm matched impedance are suited for high frequency signal transmission or fast rise time pulses for data transmission.

#### BNC

BNC feedthroughs are the most popular miniature connectors and can transmit voltages up to 500 V DC. BNC feedthroughs are equipped with a quick connect/disconnect bayonet coupling. Matched impedance designs for 50 Ohm standard for the transmission of high frequency signals up to 4 GHz are also available.

#### MHV (Miniature High Voltage)

MHV feedthroughs, sometimes referred to as "high voltage BNC feedthroughs", are designed for high voltage applications of BNC feedthroughs between 500 V DC and 5 kV DC. Visually, this feedthrough type is hardly distinguishable from BNC feedthroughs.

#### SHV (Safe High Voltage)

SHV feedthroughs look similar to BNC- and MHV feedthroughs due to their bayonet coupling. However, SHV feedthroughs use a pin-shaped inner contact, which is recessed to avoid shock hazard when disengaged. SHV feedthroughs are offered in three basic types for DC voltages up to 5 kV, 10 kV and 20 kV.



# Coaxial Feedthroughs

## SMA Feedthrough, Grounded Shield, 50 Ohm

Micro SMA feedthrough, for standard SMA plug on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	Kovar® (gold plated)
■ Insulation	Alumina ceramic

#### Temperature range

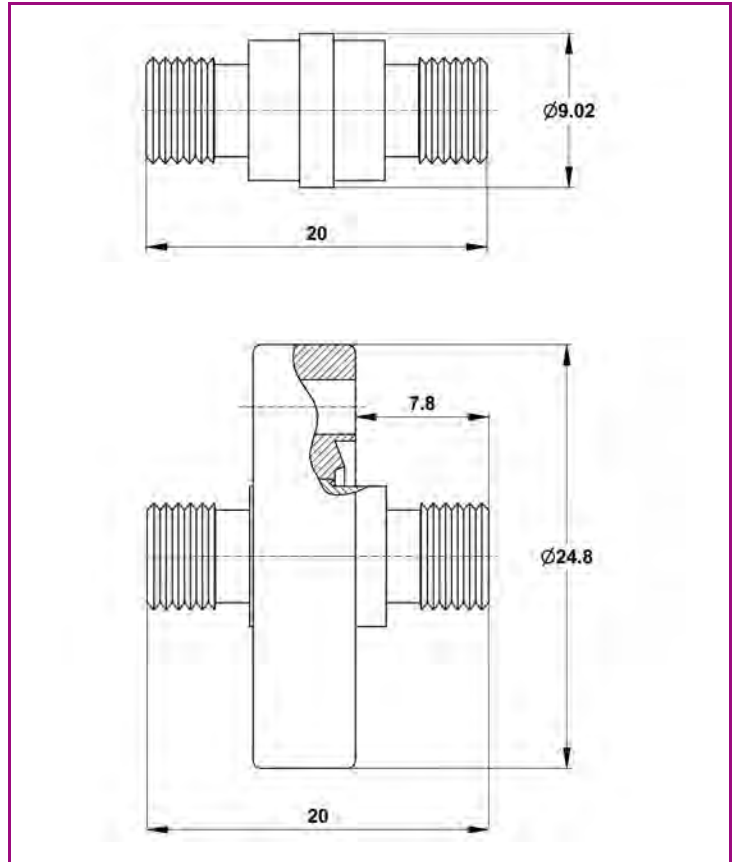
-200 °C to 350 °C

#### Electrical characteristics

■ Current	10 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

#### Vacuum and air side plug

■ Temperature range	-55 °C to 165 °C
■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm



4

### Without flange



#### Order code

**VB-SMA2**

- A single ended version is available on request
- A non-magnetic version is available on request

### On CF flange



#### Order code

**CF10-VB-SMA2**

**KF16-VB-SMA2**

**CF16-VB-SMA2**

#### Flange

DN10CF

DN16KF

DN16CF

### Accessories



#### Order code

**PLUG-SMA50-A**

**PLUG-SMA50-V**

#### Description

air side plug

vacuum side plug

# Coaxial Feedthroughs

## SMA Feedthrough, Grounded Shield, 50 Ohm

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	glass-ceramic

#### Temperature range

■ Without flange	-269 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 350 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	500 V DC
■ Impedance	50 Ohm

#### Accessories

#### Air side plug

■ Temperature range	-55 °C to 165 °C
■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

#### Crimp contact

■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	15 A
■ Packing unit	5 pieces

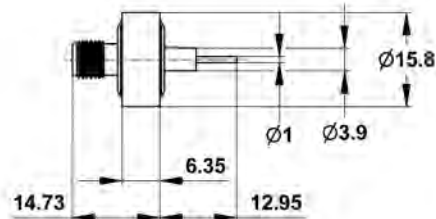
#### Set screw type contact

■ Conductor diameter	1.0 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

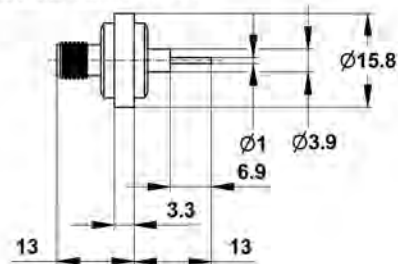
#### Barrel type contact

■ Conductor diameter	1.0 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

#### without flange

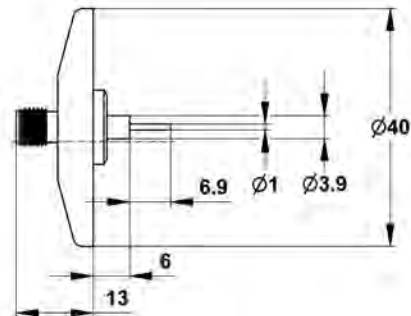


W-SMA50-GS-SE-CE-SS

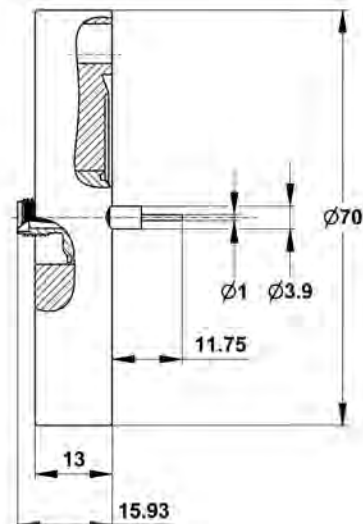


W-SMA50-GS-SE-CE-INC

#### on KF flange



#### on CF flange



## Coaxial Feedthroughs

### SMA Feedthrough, Grounded Shield, 50 Ohm

For air side plug

Without flange



Order code	Conductor material	Current [A]
W-SMA50-GS-SE-CE-SS	stainless steel	0.8
W-SMA50-GS-SE-CE-INC	Inconel®	1.0

On KF flange



Order code	Flange	Conductor material	Current [A]
KF25-SMA50-GS-SE-CE-SS	DN25KF	stainless steel	0.8
KF25-SMA50-GS-SE-CE-INC	DN25KF	Inconel®	1.0
KF40-SMA50-GS-SE-CE-SS	DN40KF	stainless steel	0.8
KF40-SMA50-GS-SE-CE-INC	DN40KF	Inconel®	1.0

On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-SMA50-GS-SE-CE-SS	DN16CF	stainless steel	0.8
CF16-SMA50-GS-SE-CE-INC	DN16CF	Inconel®	1.0
CF40-SMA50-GS-SE-CE-SS	DN40CF	stainless steel	0.8
CF40-SMA50-GS-SE-CE-INC	DN40CF	Inconel®	1.0

Air side plug



Order code
PLUG-SMA50-A

Contacts

Order code	Description
EK-C-CLG10	crimp contact
EK-S-CB10	set screw type contact
EK-LK-CB10	barrel type contact



# Coaxial Feedthroughs

## SMA Feedthrough, Grounded Shield, 50 Ohm

For plugs on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	glass-ceramic

#### Temperature range

■ Without flange	-269 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 350 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	500 V DC
■ Impedance	50 Ohm

#### Accessories

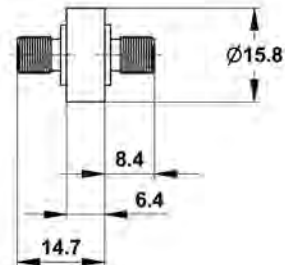
#### Air side plug

■ Temperature range	-55 °C to 165 °C
■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

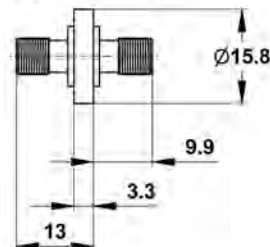
#### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

#### without flange

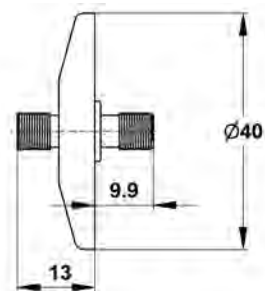


W-SMA50-GS-DE-CE-SS

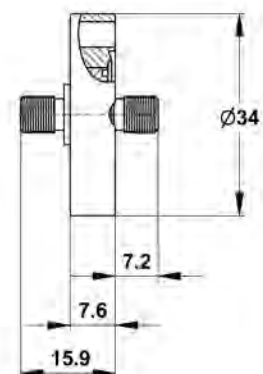


W-SMA50-GS-DE-CE-INC

#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## SMA Feedthrough, Grounded Shield, 50 Ohm

For plugs on both sides

### Without flange



Order code	Conductor material	Current [A]
W-SMA50-GS-DE-CE-SS	stainless steel	0.8
W-SMA50-GS-DE-CE-INC	Inconel®	1.0

### On KF flange



Order code	Flange	Conductor material	Current [A]
KF25-SMA50-GS-DE-CE-SS	DN25KF	stainless steel	0.8
KF25-SMA50-GS-DE-CE-INC	DN25KF	Inconel®	1.0
KF40-SMA50-GS-DE-CE-SS	DN40KF	stainless steel	0.8
KF40-SMA50-GS-DE-CE-INC	DN40KF	Inconel®	1.0

### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-SMA50-GS-DE-CE-SS	DN16CF	stainless steel	0.8
CF16-SMA50-GS-DE-CE-INC	DN16CF	Inconel®	1.0
CF40-SMA50-GS-DE-CE-SS	DN40CF	stainless steel	0.8
CF40-SMA50-GS-DE-CE-INC	DN40CF	Inconel®	1.0

### Plugs



Order code	Plug connection
PLUG-SMA50-A	air
PLUG-SMA50-V	vacuum

## SMA Feedthrough, Floating Shield, 50 Ohm

For air side plug or plugs on both sides

### Technical data

#### Material

■ Housing	Kovar
■ Conductor material	Inconel®
■ Insulation	glass- and alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 350 °C

#### Electrical characteristics

■ Current	1 A
■ Voltage pin/shield	500 V DC
■ Voltage shield/ground	2.5 kV DC
■ Impedance	50 Ohm

#### Accessories

##### Air side plug

■ Temperature range	-55 °C to 165 °C
■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

##### Vacuum side plug

■ Temperature range	-55 °C to 165 °C
■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

##### Crimp contact

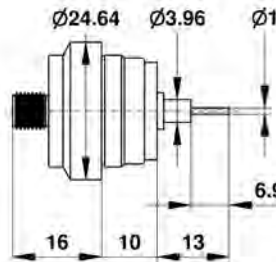
■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	15 A
■ Packing unit	5 pieces

##### Set screw type contact

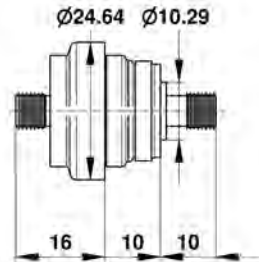
■ Conductor diameter	1.0 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

#### without flange

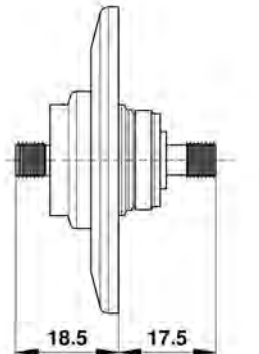
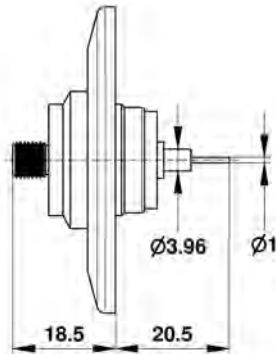
W-SMA50-FS-SE-CE-INC



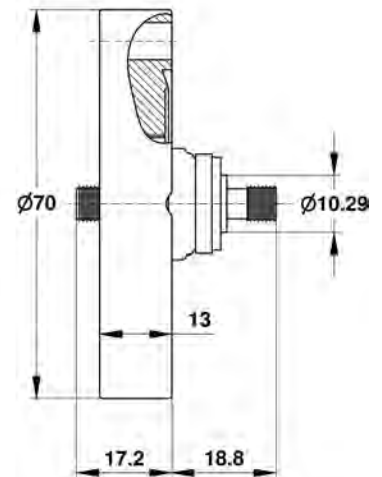
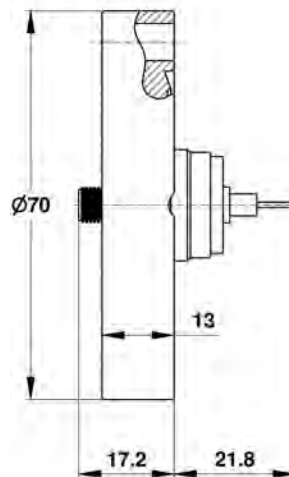
W-SMA50-FS-DE-CE-INC



#### on KF flange



#### on CF flange



## Coaxial Feedthroughs

### SMA Feedthrough, Floating Shield, 50 Ohm

For air side plug or plugs on both sides

#### Without flange



Order code	Plug connection
W-SMA50-FS-SE-CE-INC	air side
W-SMA50-FS-DE-CE-INC	air and vacuum side

#### On KF flange



Order code	Flange	Plug connection
KF40-SMA50-FS-SE-CE-INC	DN40KF	air side
KF40-SMA50-FS-DE-CE-INC	DN40KF	air and vacuum side

#### On CF flange



Order code	Flange	Plug connection
CF40-SMA50-FS-SE-CE-INC	DN40CF	air side
CF40-SMA50-FS-DE-CE-INC	DN40CF	air and vacuum side

#### Plugs



Order code	Plug connection
PLUG-SMA50-A	air
PLUG-SMA50-V	vacuum

#### Contacts

Order code	Description
EK-C-CLG10	crimp contact
EK-S-CB10	set screw type contact

## SMA Feedthrough, Grounded Shield or Floating Shield

For air side plug

### Technical data

#### Material

■ Housing	see table
■ Conductor material	stainless steel 304
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

■ Current	1.8 A
■ Voltage	500 V DC
■ Impedance	not matched

#### Accessories

#### Air side plug

■ Temperature range	-55 °C to 165 °C
■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-269 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

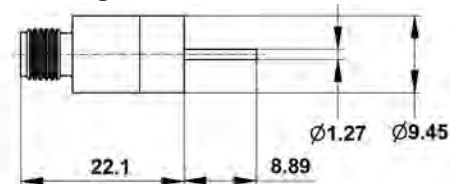
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

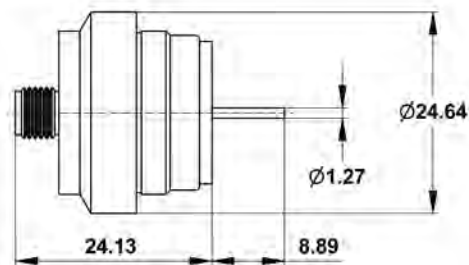
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

#### without flange

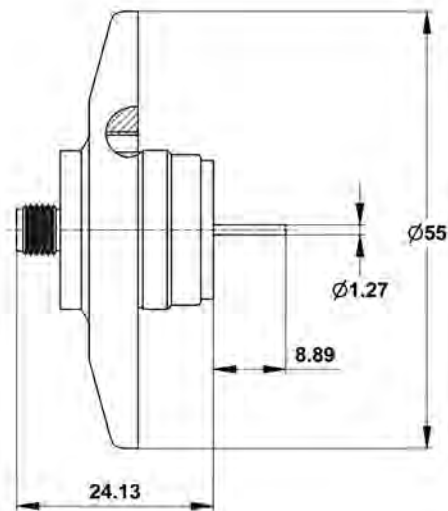


W-SMA-GS-SE-CE-SS

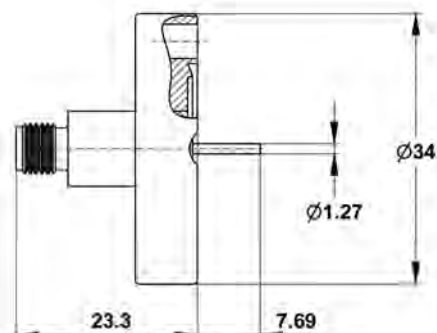


W-SMA-FS-SE-CE-SS

#### on KF flange



#### on CF flange



## Coaxial Feedthroughs

### SMA Feedthrough, Grounded Shield or Floating Shield

For air side plug

Without flange



Order code	Housing	Shield	Voltage shield/ground [kV]
W-SMA-GS-SE-CE-SS	SS 316L	grounded	-
W-SMA-FS-SE-CE-SS	Kovar	floating	max. 2.5

On KF flange



Order code	Flange	Shield	Voltage shield/ground [kV]
KF16-SMA-GS-SE-CE-SS	DN16KF	grounded	-
KF40-SMA-GS-SE-CE-SS	DN40KF	grounded	-
KF40-SMA-FS-SE-CE-SS	DN40KF	floating	max. 2.5

On CF flange



Order code	Flange	Shield	Voltage shield/ground [kV]
CF16-SMA-GS-SE-CE-SS	DN16CF	grounded	-
CF40-SMA-GS-SE-CE-SS	DN40CF	grounded	-
CF40-SMA-FS-SE-CE-SS	DN40CF	floating	max. 2.5

Air side plug



Order code
PLUG-SMA50-A

Contacts

Order code	Description
EK-C-CB13	crimp contact
EK-S-CB13	set screw type contact
EK-LK-CB13	barrel type contact

# Coaxial Feedthroughs

## Type N Feedthroughs, Grounded Shield, 50 Ohm

For air side plug

### Technical data

#### Material

■ Housing	Kovar and stainless steel 304
■ Conductor material	stainless steel
■ Insulation	glass-ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

#### Accessories

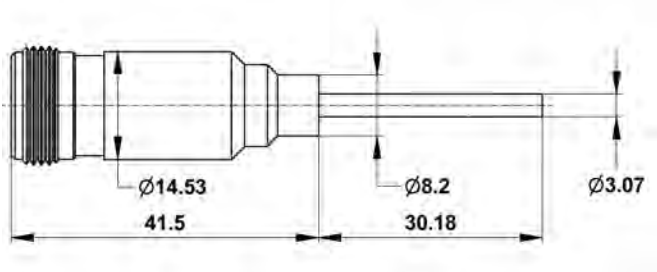
##### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

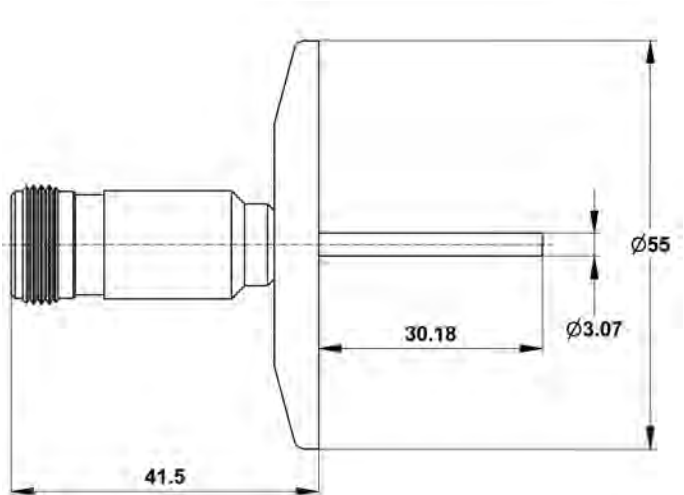
##### Barrel type contact

■ Conductor diameter	3.2 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

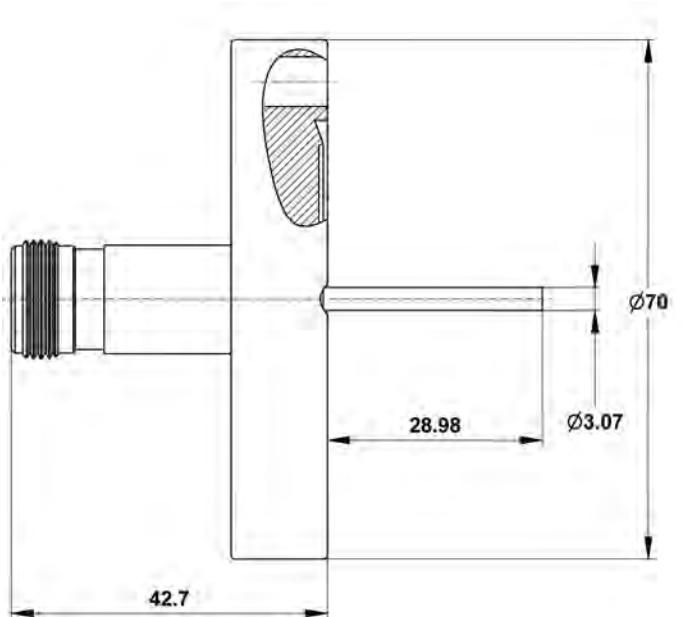
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## Type N Feedthroughs, Grounded Shield, 50 Ohm

For air side plug

Without flange



<b>Order code</b>
W-N50-GS-SE-CE-SS

On KF flange



<b>Order code</b>	<b>Flange</b>
KF40-N50-GS-SE-CE-SS	DN40KF
KF50-N50-GS-SE-CE-SS	DN50KF

On CF flange



<b>Order code</b>	<b>Flange</b>
CF16-N50-GS-SE-CE-SS	DN16CF
CF40-N50-GS-SE-CE-SS	DN40CF

Air side plug



<b>Order code</b>
PLUG-N50

Crimp contacts

<b>Order code</b>	<b>Description</b>
EK-LK-CB32	barrel type contact



# Coaxial Feedthroughs

## Type N Feedthroughs, Grounded Shield, 50 Ohm

For plugs on both sides

### Technical data

#### Material

■ Housing	Kovar and stainless steel 304
■ Conductor material	stainless steel
■ Insulation	glass-ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

#### Accessories

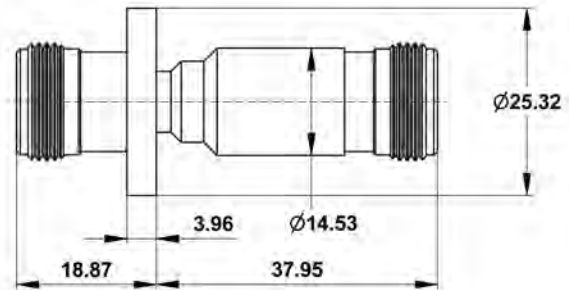
##### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

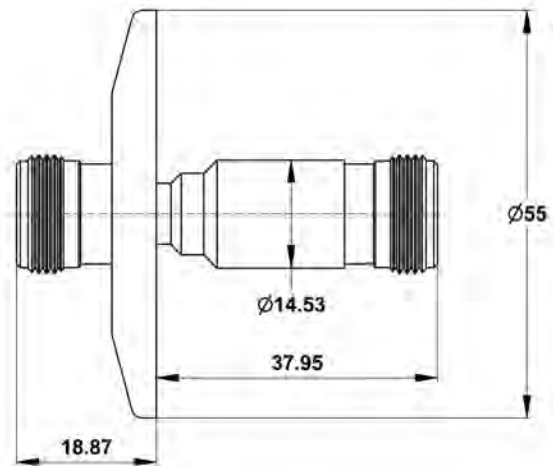
##### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

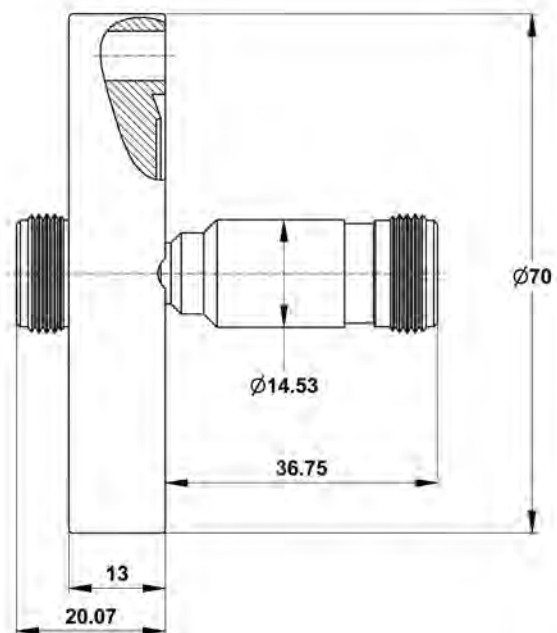
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## Type N Feedthroughs, Grounded Shield, 50 Ohm

For plugs on both sides

### Without flange



<b>Order code</b>
W-N50-GS-DE-CE-SS

### On KF flange



Order code	Flange
KF40-N50-GS-DE-CE-SS	DN40KF
KF50-N50-GS-DE-CE-SS	DN50KF

### On CF flange



Order code	Flange
CF40-N50-GS-DE-CE-SS	DN40CF

### Plugs



Order code	Description
PLUG-N50-A	air side plug
PLUG-N50-V	vacuum side plug

## Type N Feedthroughs, Grounded Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage	1.5 kV DC
■ Impedance	not matched

#### Accessories

#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

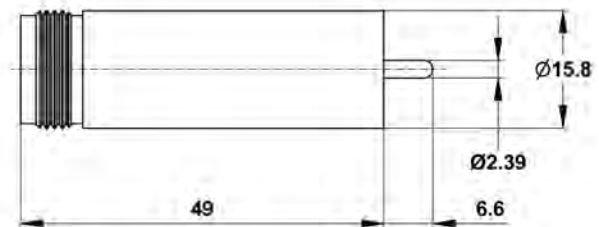
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

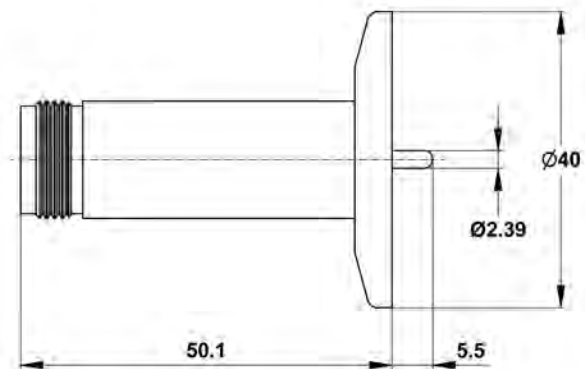
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

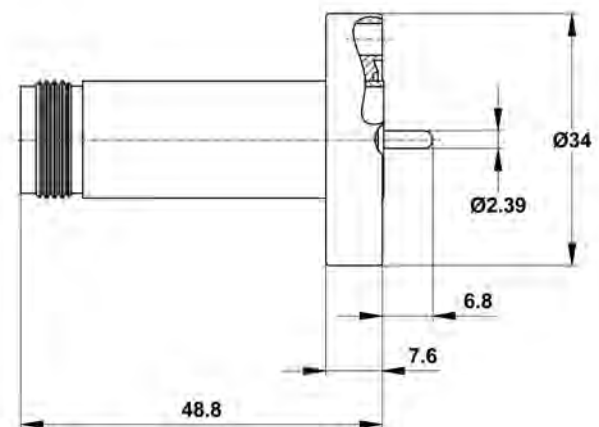
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## Type N Feedthroughs, Grounded Shield

For air side plug

Without flange



<b>Order code</b>
<b>W-N-GS-SE-CE-SS</b>

On KF flange



Order code	Flange
<b>KF25-N-GS-SE-CE-SS</b>	DN25KF
<b>KF40-N-GS-SE-CE-SS</b>	DN40KF
<b>KF50-N-GS-SE-CE-SS</b>	DN50KF

On CF flange



Order code	Flange
<b>CF16-N-GS-SE-CE-SS</b>	DN16CF
<b>CF40-N-GS-SE-CE-SS</b>	DN40CF

Air side plug



<b>Order code</b>
<b>PLUG-N50</b>

Contacts

Order code	Description
<b>EK-S-CB24</b>	set screw type contact
<b>EK-LK-CB24</b>	barrel type contact

# Coaxial Feedthroughs

## Type N Feedthroughs, Grounded Shield

For plugs on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage	1.5 kV DC
■ Impedance	not matched

#### Accessories

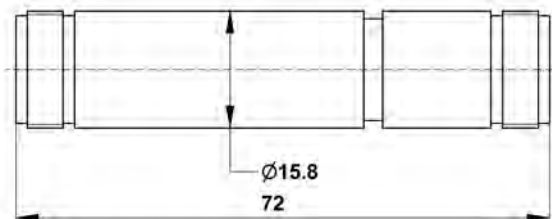
##### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

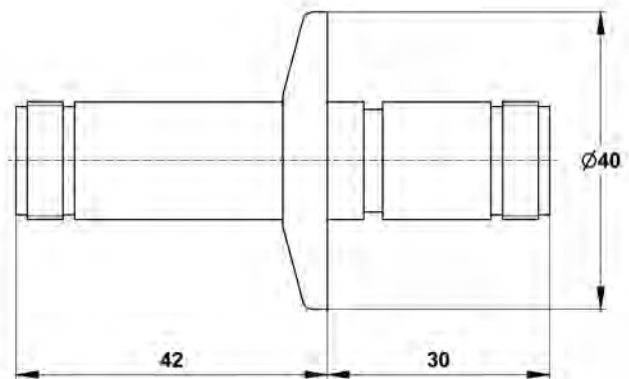
##### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	5 A
■ Voltage	1.5 kV DC
■ Impedance	50 Ohm

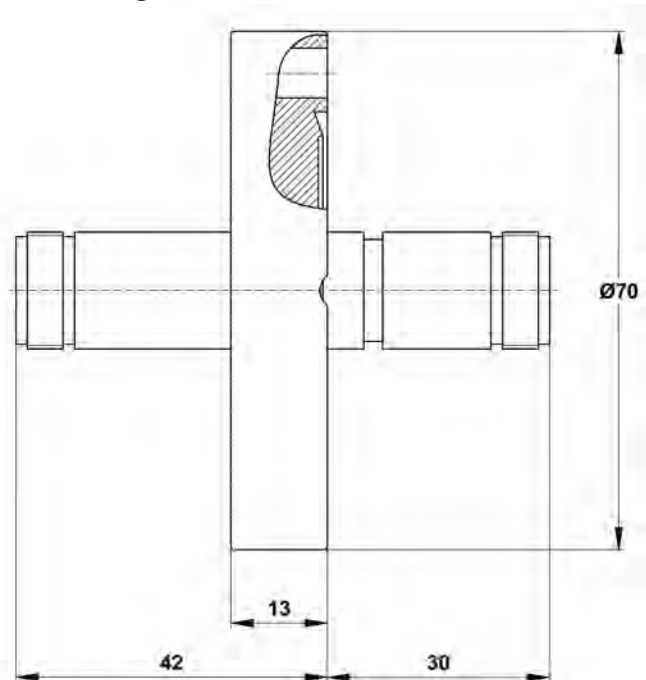
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## Type N Feedthroughs, Grounded Shield

For plugs on both sides

### Without flange



<b>Order code</b>
W-N-GS-DE-CE-SS

### On KF flange



Order code	Flange
KF25-N-GS-DE-CE-SS	DN25KF
KF40-N-GS-DE-CE-SS	DN40KF
KF50-N-GS-DE-CE-SS	DN50KF

### On CF flange



Order code	Flange
CF40-N-GS-DE-CE-SS	DN40CF

### Plugs



Order code	Description
PLUG-N50-A	air side plug
PLUG-N50-V	vacuum side plug

# Coaxial Feedthroughs

## Type HN Feedthroughs, Grounded Shield, 50 Ohm

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	nickel alloy
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	7 A
■ Voltage	7 kV DC
■ Impedance	50 Ohm

#### Accessories

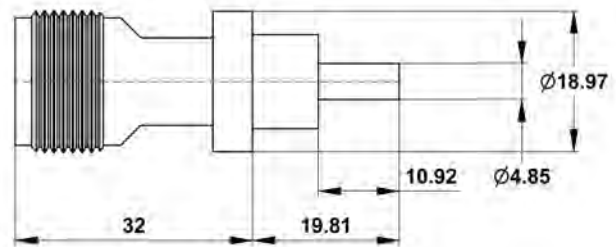
#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	7 A
■ Voltage	7 kV DC
■ Impedance	50 Ohm

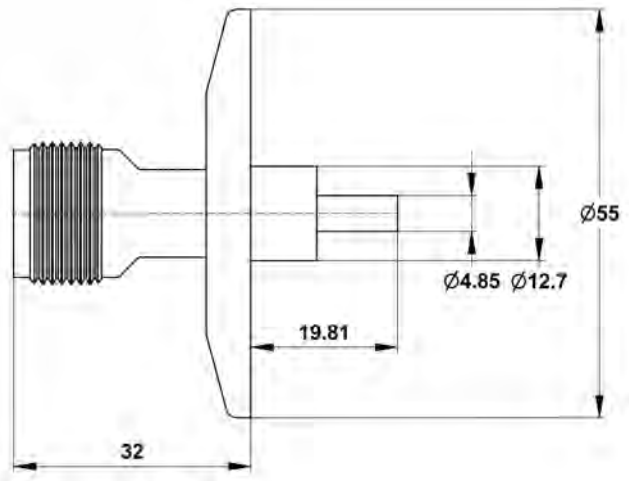
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

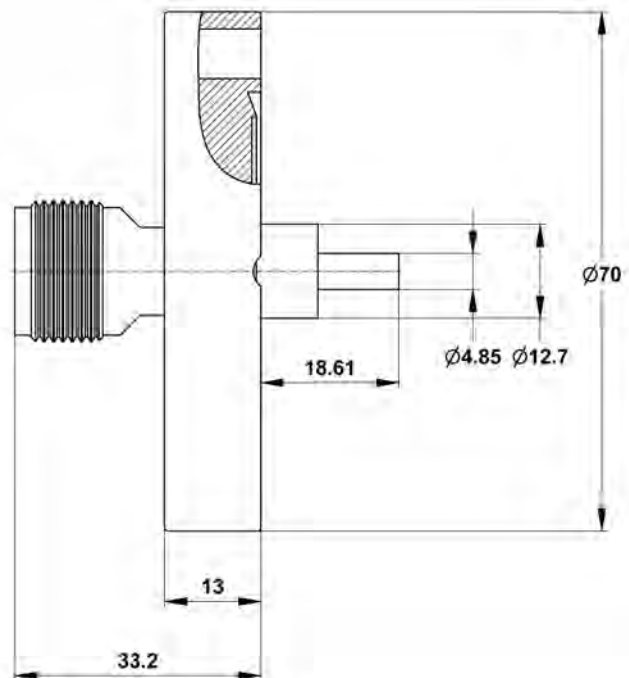
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## Type HN Feedthroughs, Grounded Shield, 50 Ohm

For air side plug

Without flange



<b>Order code</b>
<b>W-HN50-GS-SE-CE-NI</b>
<ul style="list-style-type: none"> <li>• Double-ended version available on request</li> </ul>

On KF flange



Order code	Flange
<b>KF40-HN50-GS-SE-CE-NI</b>	DN40KF
<b>KF50-HN50-GS-SE-CE-NI</b>	DN50KF

On CF flange



Order code	Flange
<b>CF40-HN50-GS-SE-CE-NI</b>	DN40CF

Air side plug



<b>Order code</b>
<b>PLUG-HN50</b>

Contacts

Order code	Description
<b>EK-LK-CB64</b>	barrel type contact



## BNC Feedthroughs, Grounded Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	not matched

#### Accessories

#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

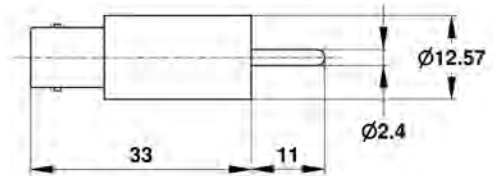
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

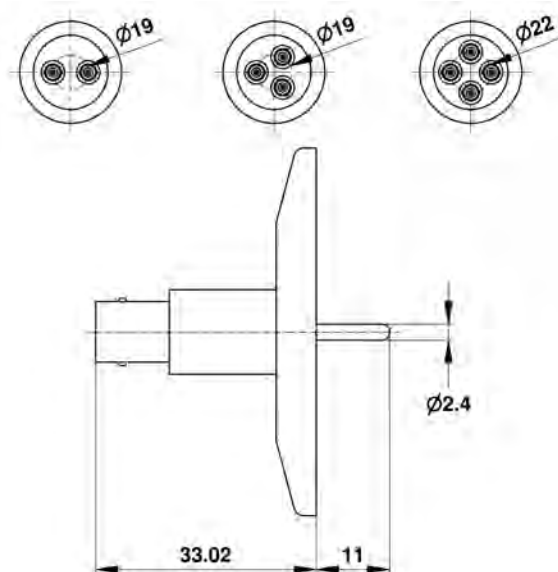
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

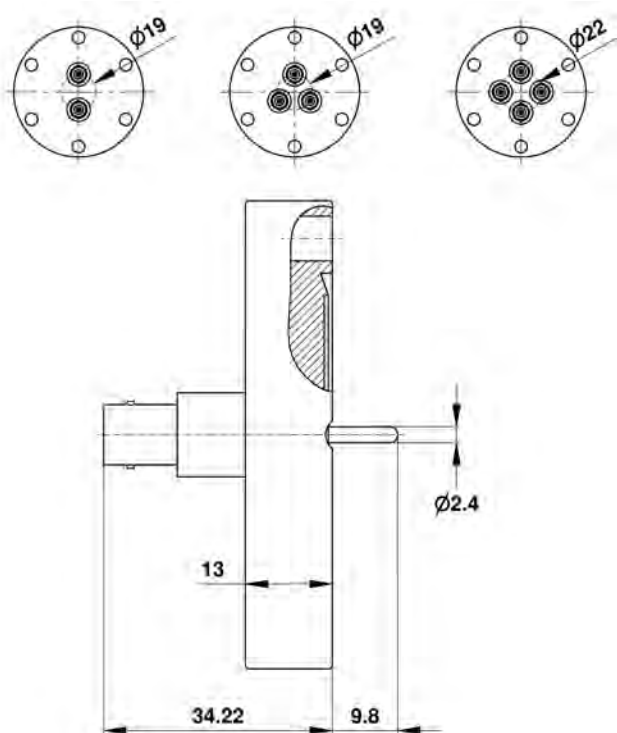
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## BNC Feedthroughs, Grounded Shield

For air side plug

Without flange



<b>Order code</b>
W-BNC-GS-SE-CE-SS

On KF flange



Order code	Flange	Number of feedthroughs
KF16-BNC-GS-SE-CE-SS	DN16KF	1
KF40-BNC-1-GS-SE-CE-SS	DN40KF	1
KF40-BNC-2-GS-SE-CE-SS	DN40KF	2
KF40-BNC-3-GS-SE-CE-SS	DN40KF	3
KF40-BNC-4-GS-SE-CE-SS	DN40KF	4

On CF flange



Order code	Flange	Number of feedthroughs
CF16-BNC-GS-SE-CE-SS	DN16CF	1
CF40-BNC-1-GS-SE-CE-SS	DN40CF	1
CF40-BNC-2-GS-SE-CE-SS	DN40CF	2
CF40-BNC-3-GS-SE-CE-SS	DN40CF	3
CF40-BNC-4-GS-SE-CE-SS	DN40CF	4

Air side plug



<b>Order code</b>
PLUG-BNC50-A

Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

# Coaxial Feedthroughs

## BNC Feedthroughs, Grounded Shield

For plugs on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	not matched

### Accessories

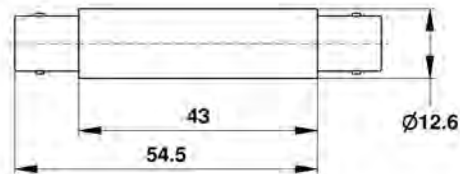
#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

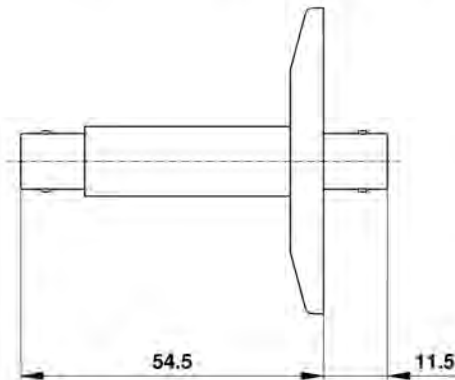
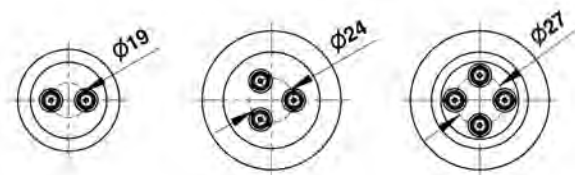
#### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

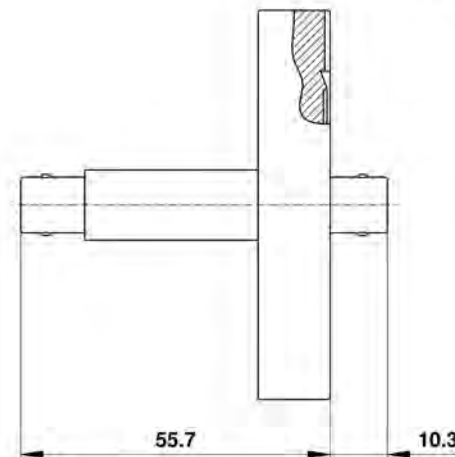
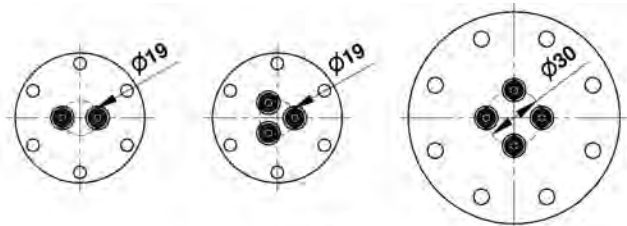
### without flange



### on KF flange



### on CF flange



# Coaxial Feedthroughs

## BNC Feedthroughs, Grounded Shield

For plugs on both sides

### Without flange



<b>Order code</b>
<b>W-BNC-GS-DE-CE-SS</b>

### On KF flange



Order code	Flange	Number of feedthroughs
<b>KF16-BNC-GS-DE-CE-SS</b>	DN16KF	1
<b>KF40-BNC-1-GS-DE-CE-SS</b>	DN40KF	1
<b>KF40-BNC-2-GS-DE-CE-SS</b>	DN40KF	2
<b>KF50-BNC-3-GS-DE-CE-SS</b>	DN50KF	3
<b>KF50-BNC-4-GS-DE-CE-SS</b>	DN50KF	4

### On CF flange



Order code	Flange	Number of feedthroughs
<b>CF16-BNC-GS-DE-CE-SS</b>	DN16CF	1
<b>CF40-BNC-1-GS-DE-CE-SS</b>	DN40CF	1
<b>CF40-BNC-2-GS-DE-CE-SS</b>	DN40CF	2
<b>CF40-BNC-3-GS-DE-CE-SS</b>	DN40CF	3
<b>CF63-BNC-4-GS-DE-CE-SS</b>	DN63CF	4

### Plugs



Order code	Description
<b>PLUG-BNC50-A</b>	air side plug
<b>PLUG-BNC50-V</b>	vacuum side plug

## BNC Feedthroughs, Floating Shield

For air side plug

### Technical data

#### Material

■ Housing	Kovar
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage pin/shield	500 V DC
■ Voltage shield/ground	2.5 kV DC
■ Impedance	not matched

#### Accessories

#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

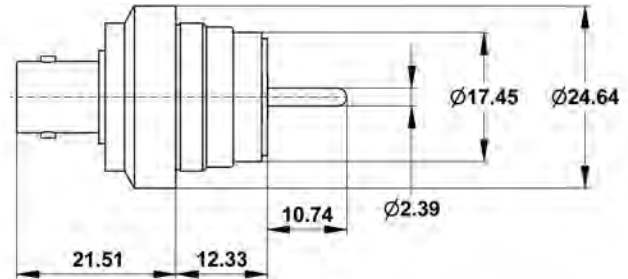
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

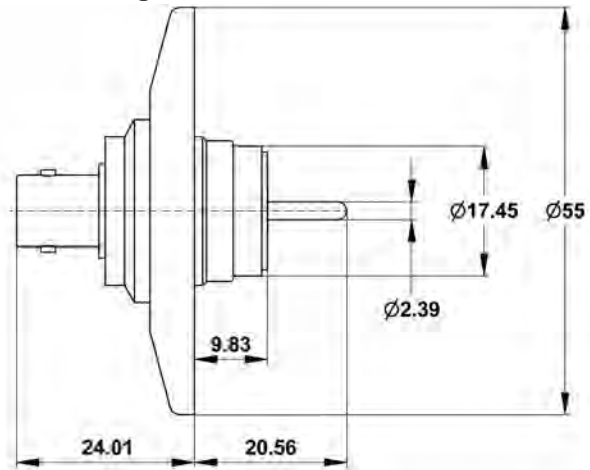
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

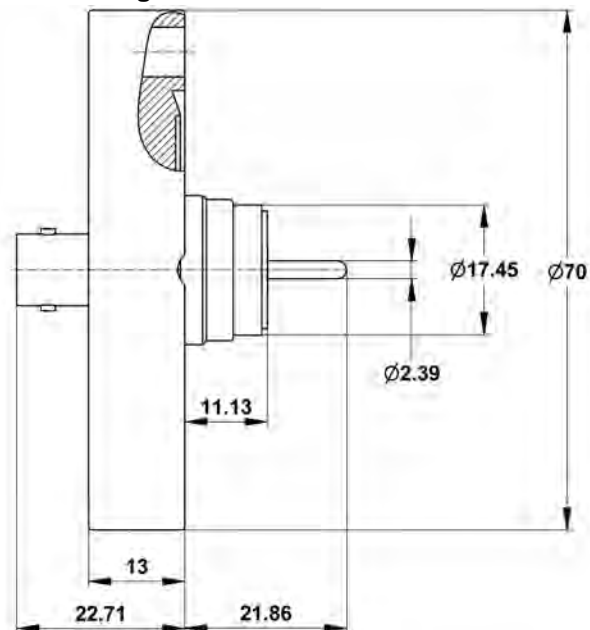
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## BNC Feedthroughs, Floating Shield

For air side plug

Without flange



Order code
<b>W-BNC-FS-SE-CE-SS</b>
<ul style="list-style-type: none"> <li>Version with smaller welding diameter and bigger total lengths on request</li> </ul>

On KF flange



Order code	Flange
<b>KF40-BNC-FS-SE-CE-SS</b>	DN40KF
<b>KF50-BNC-FS-SE-CE-SS</b>	DN50KF

On CF flange



Order code	Flange
<b>CF40-BNC-FS-SE-CE-SS</b>	DN40CF

Air side plug



Order code
<b>PLUG-BNC50-A</b>

Single contacts

Order code	Description
<b>EK-S-CB24</b>	set screw type contact
<b>EK-LK-CB24</b>	barrel type contact

# Coaxial Feedthroughs

## BNC Feedthroughs, Floating Shield

For plugs on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage pin/shield	500 V DC
■ Voltage shield/ground	2.5 kV DC
■ Impedance	not matched

#### Accessories

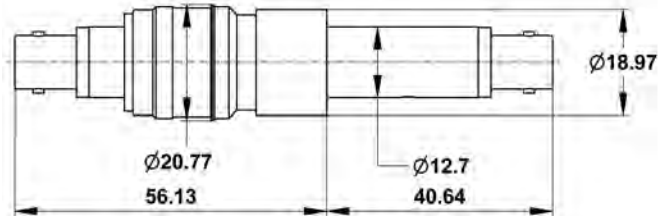
#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

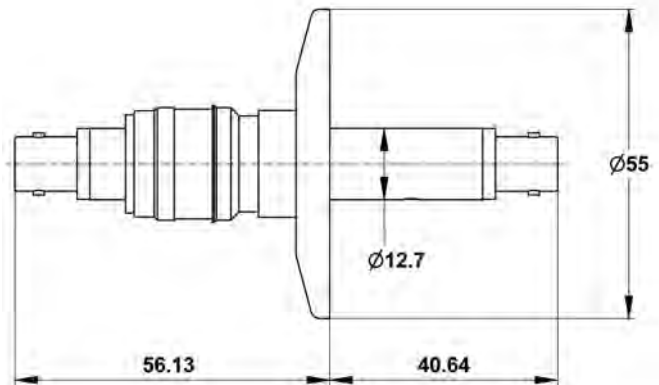
#### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

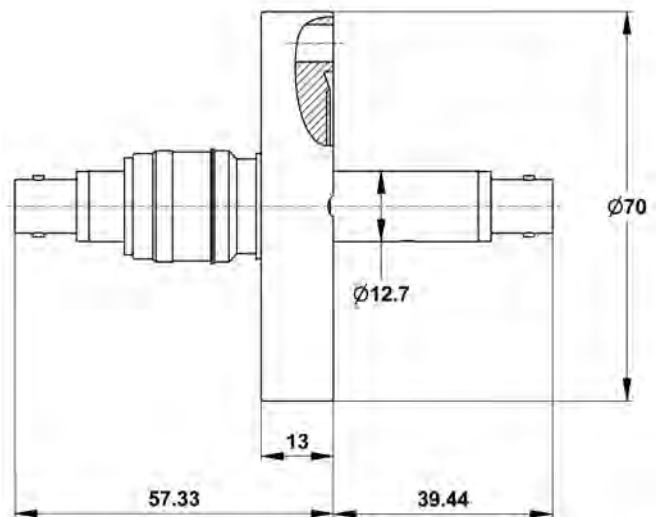
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## BNC Feedthroughs, Floating Shield

For plugs on both sides

Without flange



Order code
W-BNC-FS-DE-CE-SS

On KF flange



Order code	Flange
KF16-BNC-FS-DE-CE-SS	DN16KF
KF25-BNC-FS-DE-CE-SS	DN25KF
KF40-BNC-FS-DE-CE-SS	DN40KF

On CF flange



Order code	Flange
CF16-BNC-FS-DE-CE-SS	DN16CF
CF40-BNC-FS-DE-CE-SS	DN40CF

Plugs



Order code	Description
PLUG-BNC50-A	air side plug
PLUG-BNC50-V	vacuum side plug



# Coaxial Feedthroughs

## BNC Feedthroughs, 50 Ohm, Grounded Shield

For air side plug or plugs on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	glass-ceramic

#### Temperature range

■ Without flange	-269 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 350 °C

#### Electrical characteristics

■ Current	1 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

#### Accessories

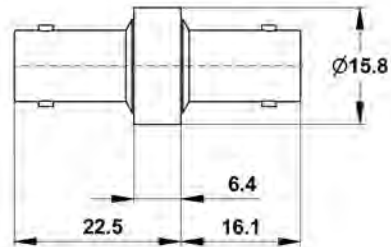
#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

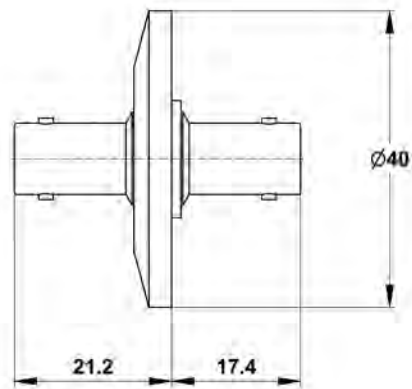
#### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	500 V DC
■ Impedance	50 Ohm

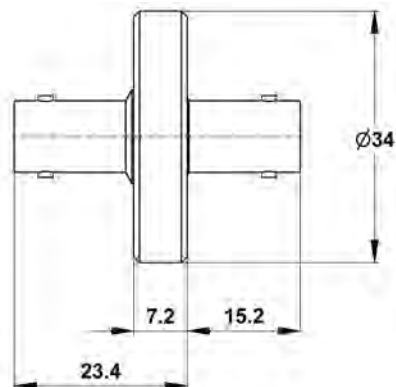
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## BNC Feedthroughs, 50 Ohm, Grounded Shield

For air side plug or plugs on both sides

### Without flange



Order code	Plug connection
<b>W-BNC50-GS-DE-CE-SS</b>	beidseitig

- Version with floating shield on request

### On KF flange



Order code	Flange	Plug connection
<b>KF25-BNC50-GS-SE-CE-INC</b>	DN25KF	air
<b>KF25-BNC50-GS-DE-CE-INC</b>	DN25KF	on both sides
<b>KF40-BNC50-GS-SE-CE-INC</b>	DN40KF	air
<b>KF40-BNC50-GS-DE-CE-INC</b>	DN40KF	on both sides

### On CF flange



Order code	Flange	Plug connection
<b>CF16-BNC50-GS-SE-CE-INC</b>	DN16CF	air
<b>CF16-BNC50-GS-DE-CE-INC</b>	DN16CF	on both sides
<b>CF40-BNC50-GS-SE-CE-INC</b>	DN40CF	air
<b>CF40-BNC50-GS-DE-CE-INC</b>	DN40CF	on both sides

### Plugs



Order code	Description
<b>PLUG-BNC50-A</b>	air side plug
<b>PLUG-BNC50-V</b>	vacuum side plug

## MHV Feedthroughs, Grounded Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage	5 kV DC

#### Accessories

#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	5 kV DC

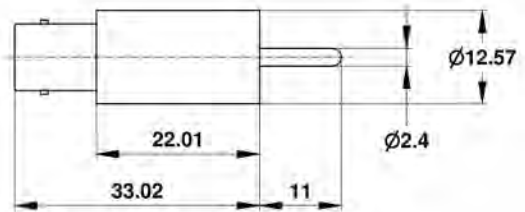
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

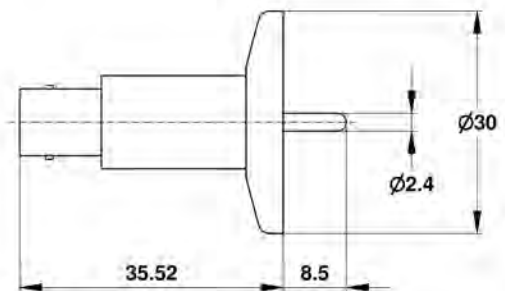
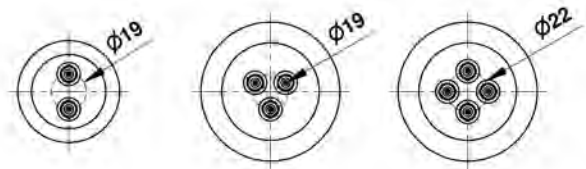
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

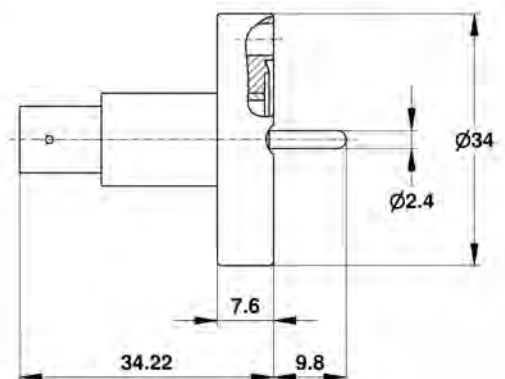
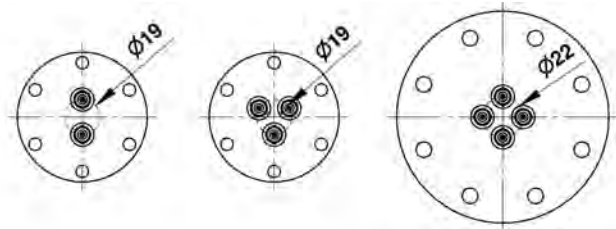
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## MHV Feedthroughs, Grounded Shield

For air side plug

Without flange



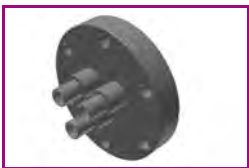
<b>Order code</b>
<b>W-MHV-GS-SE-CE-SS</b>

On KF flange



Order code	Flange	Number of feedthroughs
<b>KF16-MHV-GS-SE-CE-SS</b>	DN16KF	1
<b>KF40-MHV-1-GS-SE-CE-SS</b>	DN40KF	1
<b>KF40-MHV-2-GS-SE-CE-SS</b>	DN40KF	2
<b>KF40-MHV-3-GS-SE-CE-SS</b>	DN40KF	3
<b>KF40-MHV-4-GS-SE-CE-SS</b>	DN40KF	4

On CF flange



Order code	Flange	Number of feedthroughs
<b>CF16-MHV-GS-SE-CE-SS</b>	DN16CF	1
<b>CF40-MHV-1-GS-SE-CE-SS</b>	DN40CF	1
<b>CF40-MHV-2-GS-SE-CE-SS</b>	DN40CF	2
<b>CF40-MHV-3-GS-SE-CE-SS</b>	DN40CF	3
<b>CF40-MHV-4-GS-SE-CE-SS</b>	DN40CF	4

Air side plug



<b>Order code</b>
<b>PLUG-MHV-A</b>

Contacts

Order code	Description
<b>EK-S-CB24</b>	set screw type contact
<b>EK-LK-CB24</b>	barrel type contact

# Coaxial Feedthroughs

## MHV Feedthroughs, Grounded Shield

For plugs on both sides

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage	5 kV DC

#### Accessories

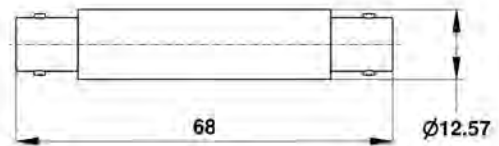
#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	5 kV DC

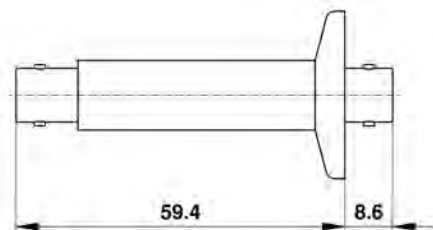
#### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	5 kV DC

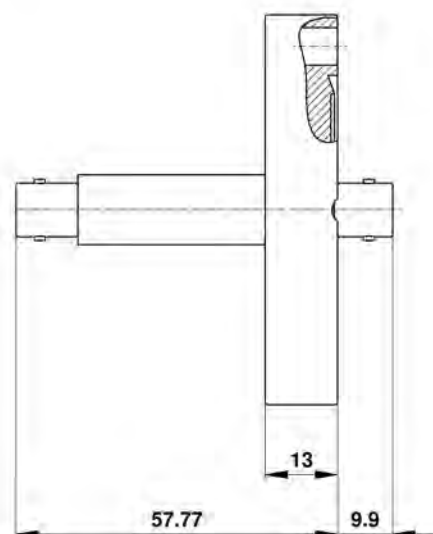
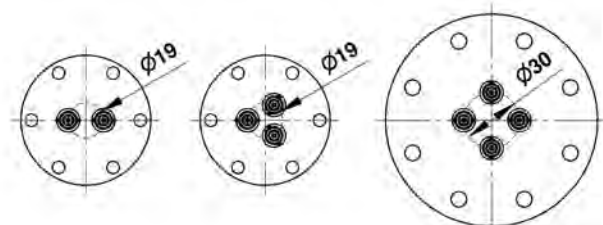
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## MHV Feedthroughs, Grounded Shield

For plugs on both sides

### Without flange



<b>Order code</b>
<b>W-MHV-GS-DE-CE-SS</b>

### On KF flange



Order code	Flange	Number of feedthroughs
<b>KF16-MHV-GS-DE-CE-SS</b>	DN16KF	1
<b>KF40-MHV-1-GS-DE-CE-SS</b>	DN40KF	1
<b>KF40-MHV-2-GS-DE-CE-SS</b>	DN40KF	2
<b>KF50-MHV-3-GS-DE-CE-SS</b>	DN50KF	3
<b>KF50-MHV-4-GS-DE-CE-SS</b>	DN50KF	4

### On CF flange



Order code	Flange	Number of feedthroughs
<b>CF16-MHV-GS-DE-CE-SS</b>	DN16CF	1
<b>CF40-MHV-1-GS-DE-CE-SS</b>	DN40CF	1
<b>CF40-MHV-2-GS-DE-CE-SS</b>	DN40CF	2
<b>CF40-MHV-3-GS-DE-CE-SS</b>	DN40CF	3
<b>CF63-MHV-4-GS-DE-CE-SS</b>	DN63CF	4

### Plugs



Order code	Description
<b>PLUG-MHV-A</b>	air side plug
<b>PLUG-MHV-V</b>	vacuum air plug

## MHV Feedthroughs, Floating Shield

For air side plug or plugs on both sides

### Technical data

#### Material

■ Housing	see table
■ Conductor material	stainless steel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

■ Current	3.6 A
■ Voltage pin/shield	5 kV DC
■ Voltage shield/ground	2.5 kV DC

#### Accessories

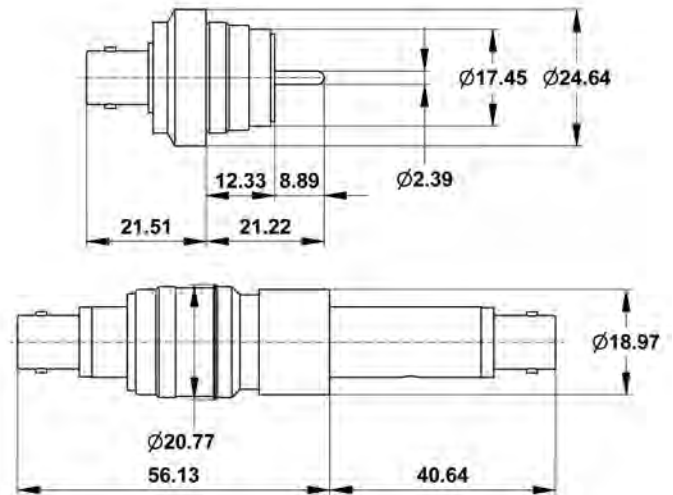
##### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	5 kV DC

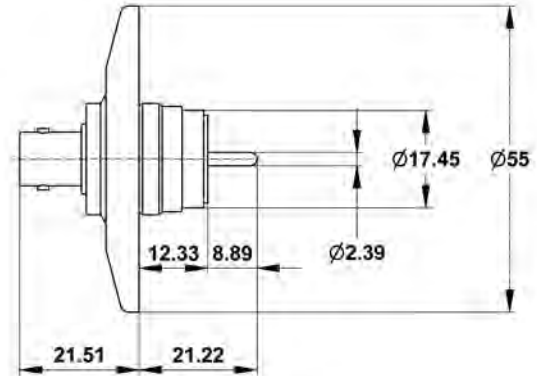
##### Vacuum side plug

■ Temperature range	-65 °C to 165 °C
■ Current	3.6 A
■ Voltage	5 kV DC

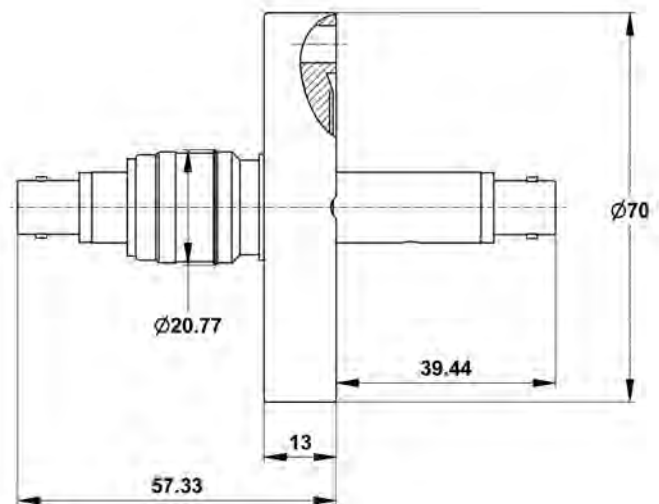
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## MHV Feedthroughs, Floating Shield

For air side plug or plugs on both sides

### Without flange



Order code	Housing	Plug connection
W-MHV-FS-SE-CE-SS	Kovar	air side
W-MHV-FS-DE-CE-SS	stainless steel 304	air and vacuum side

### On KF flange



Order code	Flange	Plug connection
KF16-MHV-FS-DE-CE-SS	DN16KF	air and vacuum side
KF25-MHV-FS-SE-CE-SS	DN25KF	air side
KF40-MHV-FS-SE-CE-SS	DN40KF	air side
KF40-MHV-FS-DE-CE-SS	DN40KF	air and vacuum side

### On CF flange



Order code	Flange	Plug connection
CF16-MHV-FS-DE-CE-SS	DN16CF	air and vacuum side
CF40-MHV-FS-SE-CE-SS	DN40CF	air side
CF40-MHV-FS-DE-CE-SS	DN40CF	air and vacuum side

### Plugs



Order code	Description
PLUG-MHV-A	air side plug
PLUG-MHV-V	vacuum side plug



## SHV 5 kV Feedthroughs, Grounded Shield, Short Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	nickel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	10 A
■ Voltage	5 kV DC

#### Accessories

#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	10 A
■ Voltage	5 kV DC

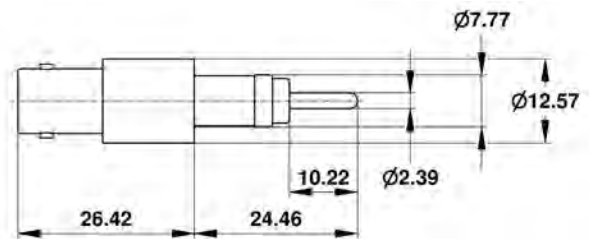
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

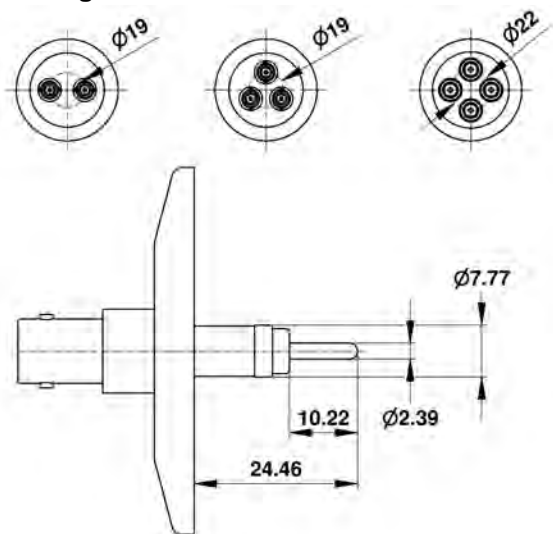
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

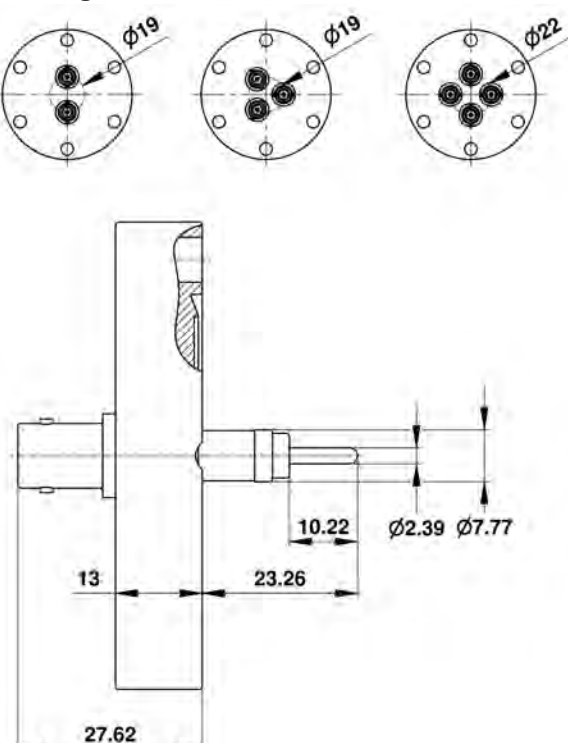
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## SHV 5 kV Feedthroughs, Grounded Shield, Short Shield

### For air side plug

#### Without flange



<b>Order code</b>
<b>W-SHV5-SH-SE-CE-NI</b>
<ul style="list-style-type: none"> <li>• Double-ended version on request</li> <li>• Floating shield version on request</li> </ul>

#### On KF flange



Order code	Flange	Number of feedthroughs
KF16-SHV5-SH-SE-CE-NI	DN16KF	1
KF40-SHV5-1-SH-SE-CE-NI	DN40KF	1
KF40-SHV5-2-SH-SE-CE-NI	DN40KF	2
KF40-SHV5-3-SH-SE-CE-NI	DN40KF	3
KF40-SHV5-4-SH-SE-CE-NI	DN40KF	4

#### On CF flange



Order code	Flange	Number of feedthroughs
CF16-SHV5-SH-SE-CE-NI	DN16CF	1
CF40-SHV5-1-SH-SE-CE-NI	DN40CF	1
CF40-SHV5-2-SH-SE-CE-NI	DN40CF	2
CF40-SHV5-3-SH-SE-CE-NI	DN40CF	3
CF40-SHV5-4-SH-SE-CE-NI	DN40CF	4

### Air side plug



<b>Order code</b>
<b>PLUG-SHV5</b>

### Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

## SHV 5 kV Feedthroughs, Grounded Shield, Long Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	nickel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	10 A
■ Voltage	5 kV DC

#### Accessories

#### Air side plug

■ Temperature range	-65 °C to 165 °C
■ Current	10 A
■ Voltage	5 kV DC

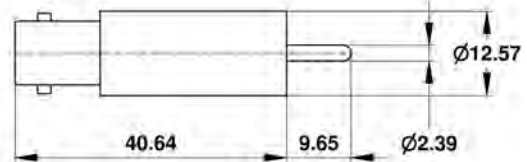
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

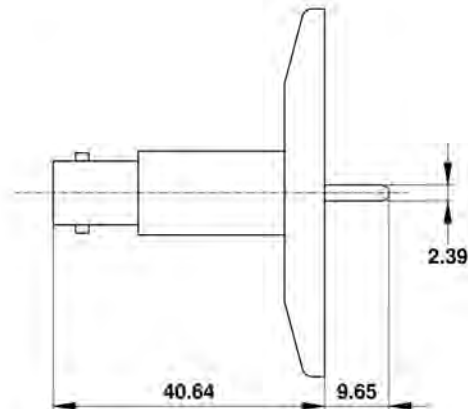
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

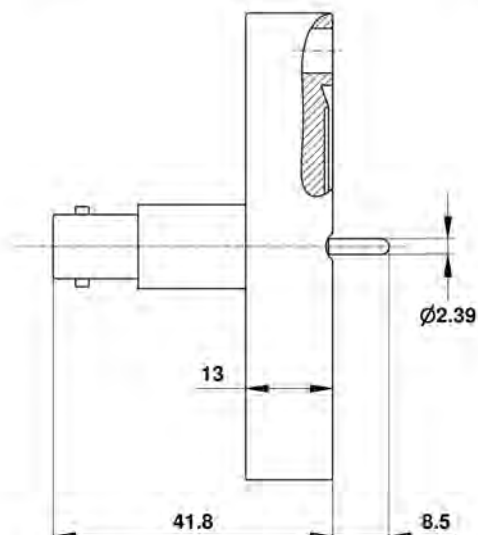
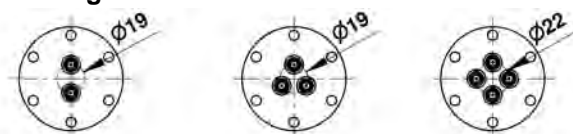
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## SHV 5 kV Feedthroughs, Grounded Shield, Long Shield

For air side plug

Without flange



<b>Order code</b>
<b>W-SHV5-LG-SE-CE-NI</b>
<ul style="list-style-type: none"> <li>• Double-ended version on request</li> <li>• Floating shield version on request</li> </ul>

On KF flange



Order code	Flange	Number of feedthroughs
KF16-SHV5-LG-SE-CE-NI	DN16KF	1
KF40-SHV5-1-LG-SE-CE-NI	DN40KF	1
KF40-SHV5-2-LG-SE-CE-NI	DN40KF	2
KF40-SHV5-3-LG-SE-CE-NI	DN40KF	3
KF40-SHV5-4-LG-SE-CE-NI	DN40KF	4

On CF flange



Order code	Flange	Number of feedthroughs
CF16-SHV5-LG-SE-CE-NI	DN16CF	1
CF40-SHV5-1-LG-SE-CE-NI	DN40CF	1
CF40-SHV5-2-LG-SE-CE-NI	DN40CF	2
CF40-SHV5-3-LG-SE-CE-NI	DN40CF	3
CF40-SHV5-4-LG-SE-CE-NI	DN40CF	4

Air side plug



<b>Order code</b>
<b>PLUG-SHV5</b>

Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

## SHV 10 kV Feedthroughs, Grounded Shield, Short Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	nickel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	8.2 A
■ Voltage	10 kV DC

#### Accessories

#### Air side plug

■ Temperature range	see table
■ Current	8.2 A
■ Voltage	10 kV DC

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-269 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

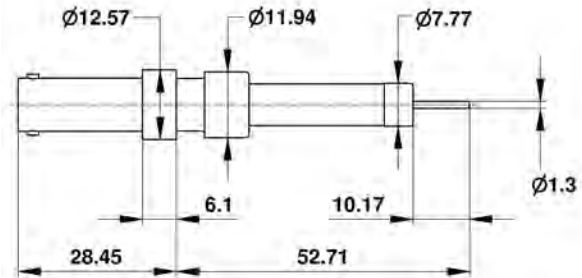
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

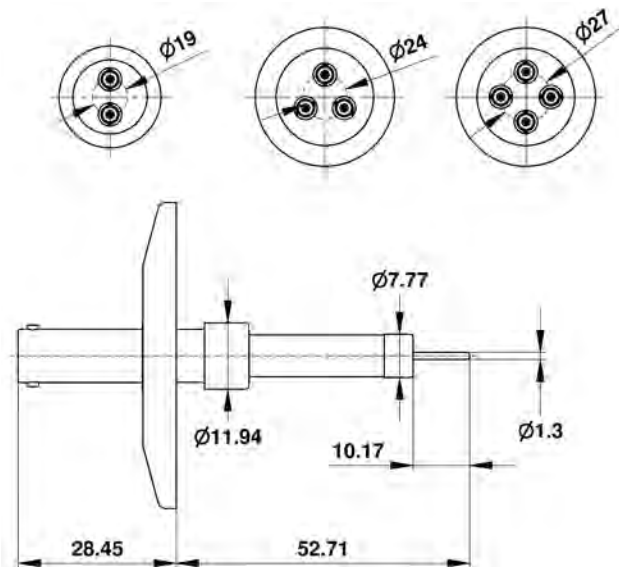
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

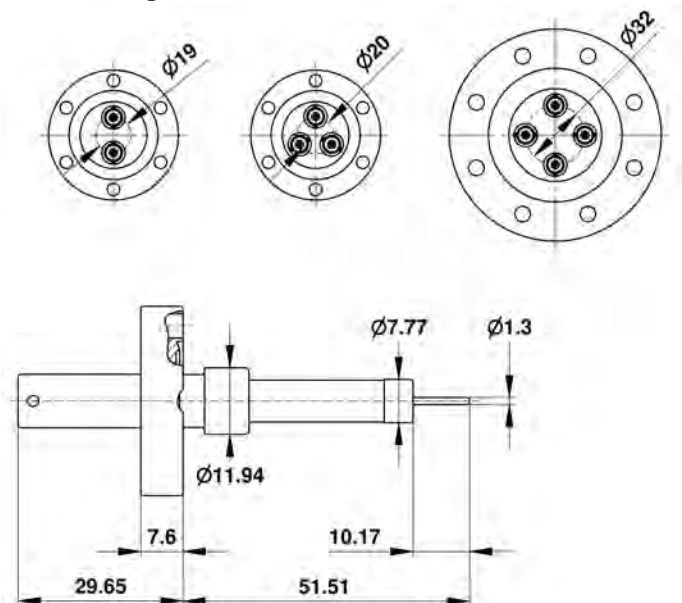
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## SHV 10 kV Feedthroughs, Grounded Shield, Short Shield

### For air side plug

#### Without flange



Order code
<b>W-SHV10-SH-SE-CE-NI</b>
<ul style="list-style-type: none"> <li>• Double-ended version available on request</li> </ul>

#### On KF flange



Order code	Flange	Number of feedthroughs
<b>KF16-SHV10-SH-SE-CE-NI</b>	DN16KF	1
<b>KF40-SHV10-1-SH-SE-CE-NI</b>	DN40KF	1
<b>KF40-SHV10-2-SH-SE-CE-NI</b>	DN40KF	2
<b>KF50-SHV10-3-SH-SE-CE-NI</b>	DN50KF	3
<b>KF50-SHV10-4-SH-SE-CE-NI</b>	DN50KF	4

#### On CF flange



Order code	Flange	Number of feedthroughs
<b>CF16-SHV10-SH-SE-CE-NI</b>	DN16CF	1
<b>CF40-SHV10-1-SH-SE-CE-NI</b>	DN40CF	1
<b>CF40-SHV10-2-SH-SE-CE-NI</b>	DN40CF	2
<b>CF40-SHV10-3-SH-SE-CE-NI</b>	DN40CF	3
<b>CF63-SHV10-4-SH-SE-CE-NI</b>	DN63CF	4

### Air side plug



Order code	Temperature range [°C]
<b>PLUG-SHV10</b>	-55 °C to 85 °C
<b>PLUG-SHV10-HT</b>	-65 °C to 165 °C

### Contacts

Order code	Description
<b>EK-C-CB13</b>	crimp contact
<b>EK-S-CB13</b>	set screw type contact
<b>EK-LK-CB13</b>	barrel type contact

## SHV 10 kV Feedthroughs, Grounded Shield, Long Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	nickel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	8.2 A
■ Voltage	10 kV DC

#### Accessories

#### Air side plug

■ Temperature range	see table
■ Current	10 A
■ Voltage	10 kV DC

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-269 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

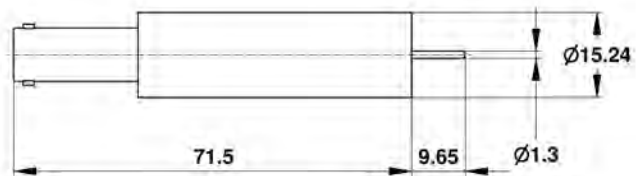
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

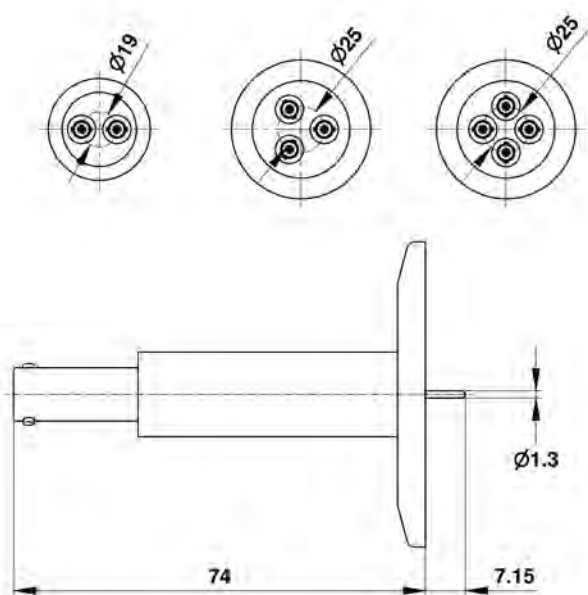
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

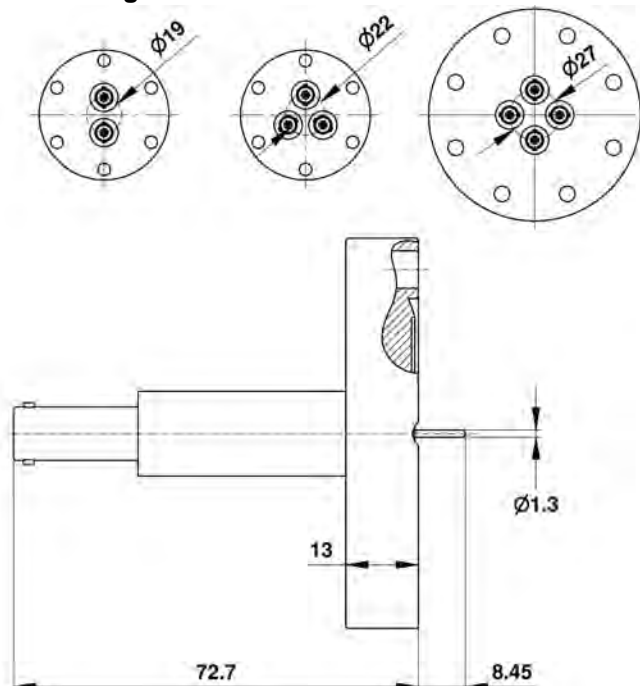
#### without flange



#### on KF flange



#### on CF flange



# Coaxial Feedthroughs

## SHV 10 kV Feedthroughs, Grounded Shield, Long Shield

### For air side plug

#### Without flange



Order code
<b>W-SHV10-LG-SE-CE-NI</b>
<ul style="list-style-type: none"> <li>• Double-ended version available on request</li> </ul>

#### On KF flange



Order code	Flange	Number of feedthroughs
<b>KF25-SHV10-LG-SE-CE-NI</b>	DN25KF	1
<b>KF40-SHV10-1-LG-SE-CE-NI</b>	DN40KF	1
<b>KF40-SHV10-2-LG-SE-CE-NI</b>	DN40KF	2
<b>KF50-SHV10-3-LG-SE-CE-NI</b>	DN50KF	3
<b>KF50-SHV10-4-LG-SE-CE-NI</b>	DN50KF	4

#### On CF flange



Order code	Flange	Number of feedthroughs
<b>CF16-SHV10-LG-SE-CE-NI</b>	DN16CF	1
<b>CF40-SHV10-1-LG-SE-CE-NI</b>	DN40CF	1
<b>CF40-SHV10-2-LG-SE-CE-NI</b>	DN40CF	2
<b>CF40-SHV10-3-LG-SE-CE-NI</b>	DN40CF	3
<b>CF63-SHV10-4-LG-SE-CE-NI</b>	DN63CF	4

### Air side plug



Order code	Temperature range [°C]
<b>PLUG-SHV10</b>	-55 °C to 165 °C
<b>PLUG-SHV10-HT</b>	-65 °C to 165 °C

### Contacts

Order code	Description
<b>EK-C-CB13</b>	crimp contact
<b>EK-S-CB13</b>	set screw type contact
<b>EK-LK-CB13</b>	barrel type contact



## SHV 20 kV Feedthroughs, Grounded Shield

For air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	nickel
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	16.5 A
■ Voltage	20 kV DC

#### Accessories

#### Air side plug

■ Temperature range	-55 °C to 85 °C
■ Current	20 A
■ Voltage	20 kV DC

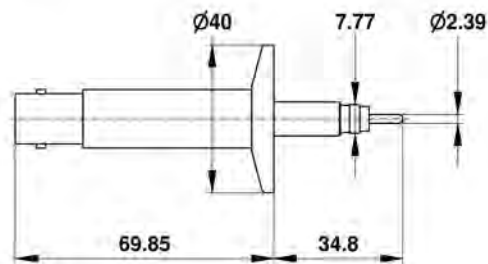
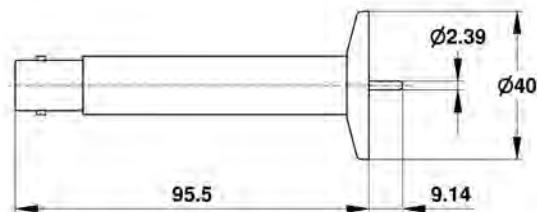
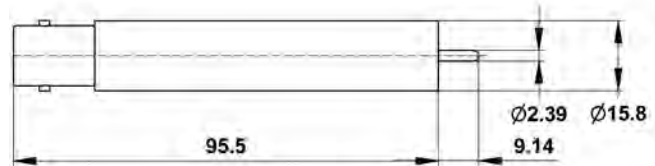
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

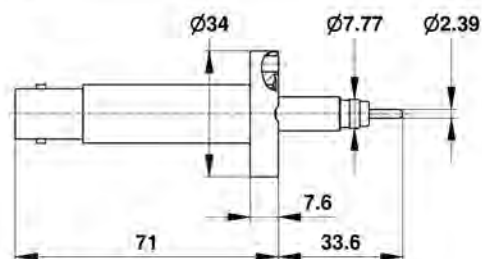
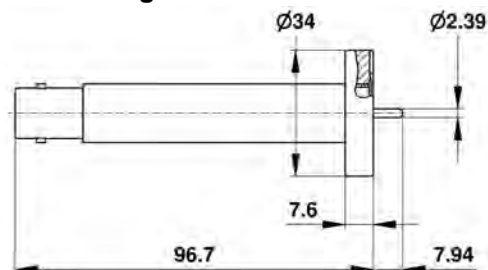
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

### without flange



### on CF flange



# Coaxial Feedthroughs

## SHV 20 kV Feedthroughs, Grounded Shield

For air side plug

Without flange



Order code	Shield
W-SHV20-SH-SE-CE-NI	short
W-SHV20-LG-SE-CE-NI	long

On KF flange



Order code	Flange	Shield
KF25-SHV20-SH-SE-CE-NI	DN25KF	short
KF25-SHV20-LG-SE-CE-NI	DN25KF	long
KF40-SHV20-SH-SE-CE-NI	DN40KF	short
KF40-SHV20-LG-SE-CE-NI	DN40KF	long

On CF flange



Order code	Flange	Shield
CF16-SHV20-SH-SE-CE-NI	DN16CF	short
CF16-SHV20-LG-SE-CE-NI	DN16CF	long
CF40-SHV20-SH-SE-CE-NI	DN40CF	short
CF40-SHV20-LG-SE-CE-NI	DN40CF	long

Air side plug



Order code
PLUG-SHV20

Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

## Introduction

### Power and High Voltage Feedthroughs

The Electrical Feedthroughs in this section enable the transfer of high voltage and/or high current into a hermetic chamber throughout a variety of especially industrial applications. Feedthrough designs vary considerably depending on their technical specifications and requirements. Many feedthrough types in this section allow the choice between different conductor materials. The air side ceramic surface is mostly finished with a high temperature glass coating in order to reduce its susceptibility to surface contamination and, subsequently, to increase the leakage current resistance.

The maximum voltage rating in this catalog is 100 kV DC, the maximum current is 800 A. On request, we also offer a 125 kV DC feedthrough and a liquid-cooled high power feedthrough capable of handling up to 1000 A. Liquid-cooled feedthroughs are typically used with electrically grounded, closed cooling systems and non-conductive coolants such as deionized water or ethylene glycol.



# Power and High Voltage Feedthroughs

## Voltage 500 V DC

Voltage: 500 V DC, 1 pin, conductor diameter: 1.1 mm

### Technical data

#### Material

■ Housing	Kovar®
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-80 °C to 450° C
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#### Electrical characteristics

■ Current	see table
■ Voltage	500 V DC

#### Accessories

#### Crimp contact

■ Conductor diameter	1.1 mm
■ Conductor material	stainless steel (gold plated)
■ Temperature range	-269 °C to 450 °C
■ Current	3 A
■ Packing unit	5 pieces

#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

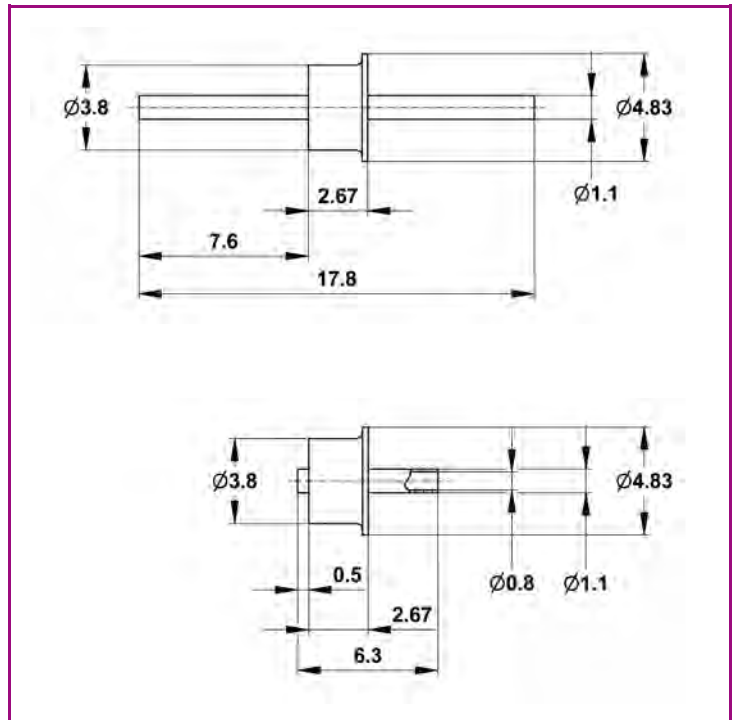
#### Without flange



Order code	Conductor material	Current [A]
W-V500-NC-CE-KOVT11	Kovar® tube	-
W-V500-NC-CE-MO11N	molybdenum	11.5

#### Accessories

Order code	Description
EK-LK-CB13	barrel type contact
EK-C-CLG11	crimp contact



## Voltage 1 - 2 kV DC

Voltage: 1 kV DC, 3 - 41 pins, conductor diameter: 1.0 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel (nickel-plated)
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	1 kV DC

### Accessories

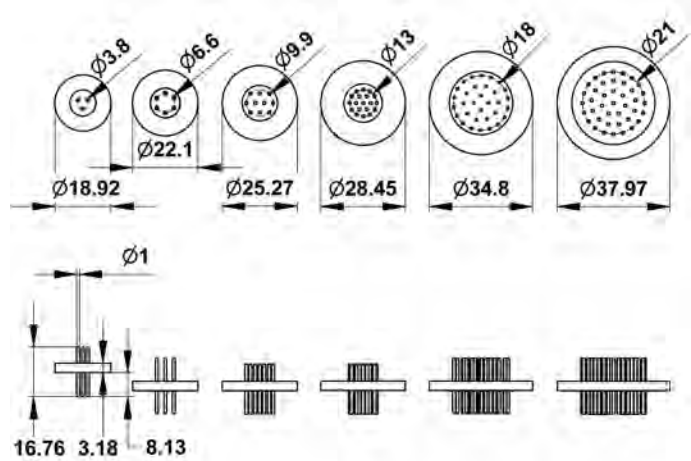
#### Contacts for multipin feedthroughs

■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Current	3 A
■ Temperature range	-200 °C to 125 °C
■ Packing unit	20 pieces

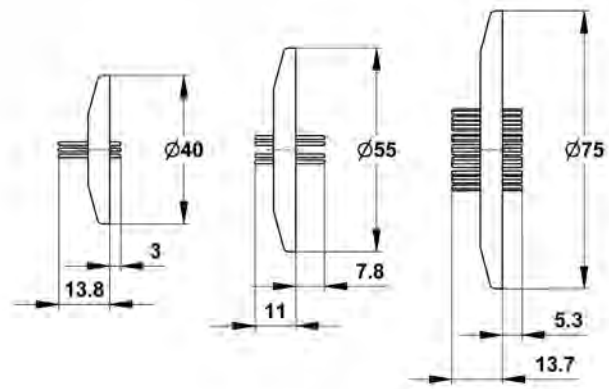
#### Crimp contact

■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	15 A
■ Packing unit	5 pieces

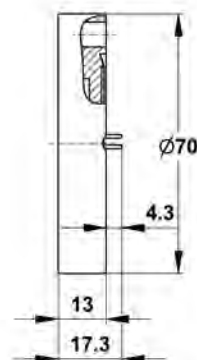
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 1 - 2 kV DC

Voltage: 1 kV DC, 3 - 41 pins, conductor diameter: 1.0 mm

#### Without flange



Order code	Number of pins	Current [A]
W-MP-3-NC-CE-SSN	3	5
W-MP-6-NC-CE-SSN	6	5
W-MP-10-NC-CE-SSN	10	5
W-MP-19-NC-CE-SSN	19	3
W-MP-32-NC-CE-SSN	32	3
W-MP-41-NC-CE-SSN	41	3

#### On KF flange



Order code	Flange	Number of pins	Current [A]
KF25-MP-3-NC-CE-SSN	DN25KF	3	5
KF40-MP-6-NC-CE-SSN	DN40KF	6	5
KF40-MP-10-NC-CE-SSN	DN40KF	10	5
KF40-MP-19-NC-CE-SSN	DN40KF	19	3
KF40-MP-32-NC-CE-SSN	DN40KF	32	3
KF50-MP-41-NC-CE-SSN	DN50KF	41	3

#### On CF flange



Order code	Flange	Number of pins	Current [A]
CF40-MP-3-NC-CE-SSN	DN40CF	3	5
CF40-MP-6-NC-CE-SSN	DN40CF	6	5
CF40-MP-10-NC-CE-SSN	DN40CF	10	5
CF40-MP-19-NC-CE-SSN	DN40CF	19	3
CF40-MP-32-NC-CE-SSN	DN40CF	32	3
CF40-MP-41-NC-CE-SSN	DN40CF	41	3

#### Accessories

Order code	Description
CC10F	contact for multipin feedthroughs
EK-C-CLG10	crimp contact

## Voltage 1 - 2 kV DC

Voltage: 1 kV DC, 1 pin, conductor diameter: 0.81 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

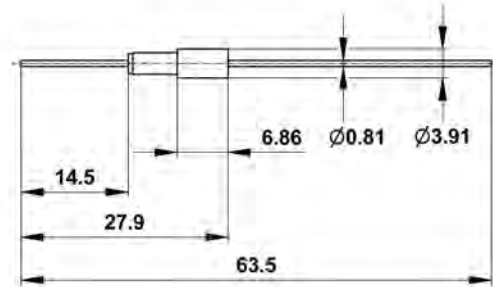
■ Current	see table
■ Voltage	1 kV DC

#### Accessories

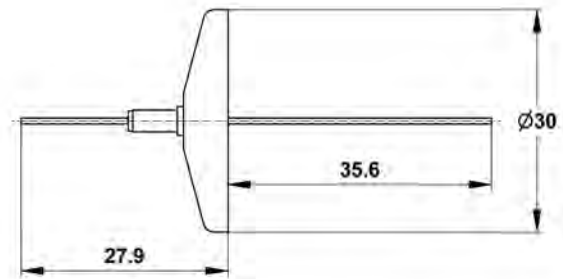
#### Crimp contact

■ Conductor diameter	0.81 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	16 A
■ Packing unit	10 pieces

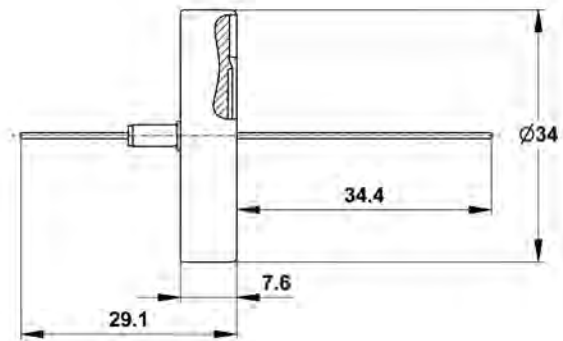
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 1 - 2 kV DC

Voltage: 1 kV DC, 1 pin, conductor diameter: 0.81 mm

#### Without flange



Order code	Conductor material	Current [A]
W-HV1-1-CE-SS081	stainless steel 304	1.1
W-HV1-1-CE-NI081	nickel	5
W-HV1-1-CE-MO081	molybdenum	8.5
W-HV1-1-CE-CU081	copper	16

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV1-1-CE-SS081	DN16KF	stainless steel 304	1.1
KF16-HV1-1-CE-NI081	DN16KF	nickel	5
KF16-HV1-1-CE-MO081	DN16KF	molybdenum	8.5
KF16-HV1-1-CE-CU081	DN16KF	copper	16

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV1-1-CE-SS081	DN16CF	stainless steel 304	1.1
CF16-HV1-1-CE-NI081	DN16CF	nickel	5
CF16-HV1-1-CE-MO081	DN16CF	molybdenum	8.5
CF16-HV1-1-CE-CU081	DN16CF	copper	16

#### Accessories

Order code	Description
EK-C-CB081	crimp contact



# Power and High Voltage Feedthroughs

## Voltage 1 - 2 kV DC

Voltage: 1.5 kV DC, 8 pins, conductor diameter: 0.81 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

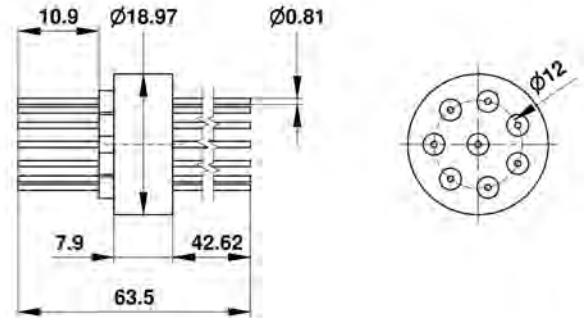
■ Current	see table
■ Voltage	1.5 kV DC

#### Accessories

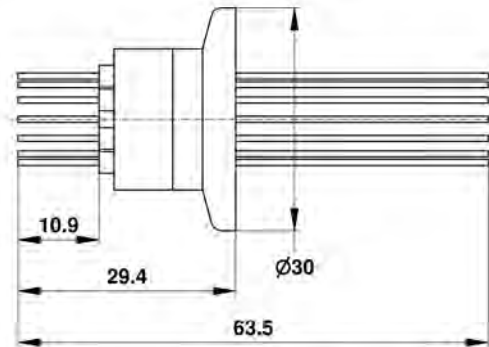
#### Crimp contact

■ Conductor diameter	0.81 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	16 A
■ Packing unit	10 pieces

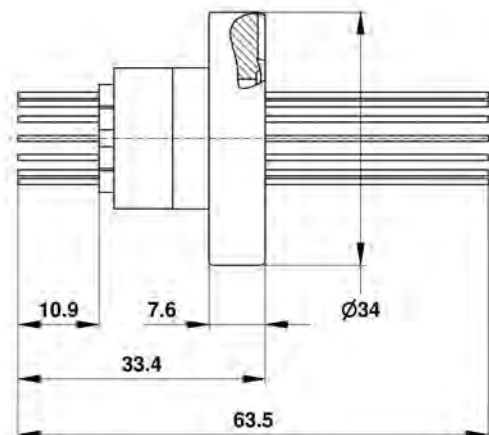
#### without flange



#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## Voltage 1 - 2 kV DC

Voltage: 1.5 kV DC, 8 pins, conductor diameter: 0.81 mm

### Without flange



Order code	Conductor material	Current [A]
W-HV1-8-CE-SS081	stainless steel 304	1.1
W-HV1-8-CE-NI081	nickel	5
W-HV1-8-CE-MO081	molybdenum	8.5
W-HV1-8-CE-CU081	copper	16

### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV1-8-CE-SS081	DN16KF	stainless steel 304	1.1
KF16-HV1-8-CE-NI081	DN16KF	nickel	5
KF16-HV1-8-CE-MO081	DN16KF	molybdenum	8.5
KF16-HV1-8-CE-CU081	DN16KF	copper	16

### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV1-8-CE-SS081	DN16CF	stainless steel 304	1.1
CF16-HV1-8-CE-NI081	DN16CF	nickel	5
CF16-HV1-8-CE-MO081	DN16CF	molybdenum	8.5
CF16-HV1-8-CE-CU081	DN16CF	copper	16

### Accessories

Order code	Description
EK-C-CB081	crimp contact

# Power and High Voltage Feedthroughs

## Voltage 1 - 2 kV DC

Voltage: 2 kV DC, 2 pins, conductor diameter: 0.81 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

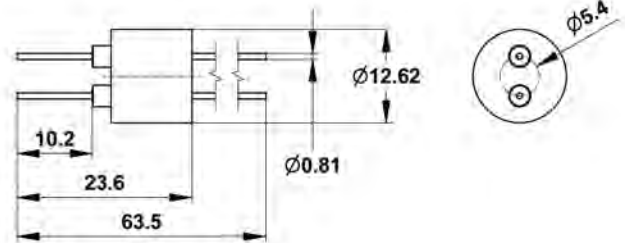
■ Current	see table
■ Voltage	2 kV DC

#### Accessories

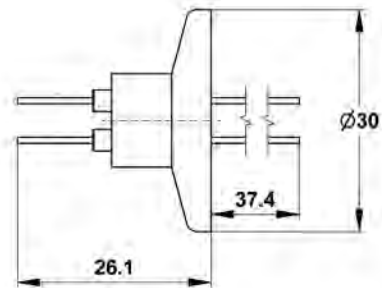
#### Crimp contact

■ Conductor diameter	0.81 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	16 A
■ Packing unit	10 pieces

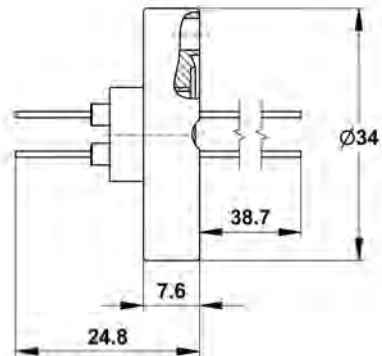
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 1 - 2 kV DC

Voltage: 2 kV DC, 2 pins, conductor diameter: 0.81 mm

#### Without flange



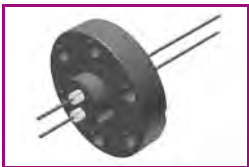
Order code	Conductor material	Current [A]
W-HV2-2-CE-SS081	stainless steel 304	1.1
W-HV2-2-CE-NI081	nickel	5
W-HV2-2-CE-MO081	molybdenum	8.5
W-HV2-2-CE-CU081	copper	16

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV2-2-CE-SS081	DN16KF	stainless steel 304	1.1
KF16-HV2-2-CE-NI081	DN16KF	nickel	5
KF16-HV2-2-CE-MO081	DN16KF	molybdenum	8.5
KF16-HV2-2-CE-CU081	DN16KF	copper	16

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV2-2-CE-SS081	DN16CF	stainless steel 304	1.1
CF16-HV2-2-CE-NI081	DN16CF	nickel	5
CF16-HV2-2-CE-MO081	DN16CF	molybdenum	8.5
CF16-HV2-2-CE-CU081	DN16CF	copper	16

#### Accessories

Order code	Description
EK-C-CB081	crimp contact

# Power and High Voltage Feedthroughs

## Voltage 1 - 2 kV DC

Voltage: 2 kV DC, 4 pins, conductor diameter: 0.81 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

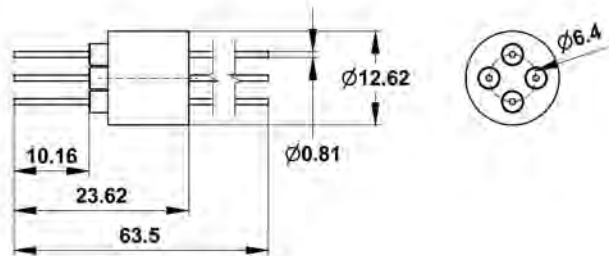
■ Current	see table
■ Voltage	2 kV DC

#### Accessories

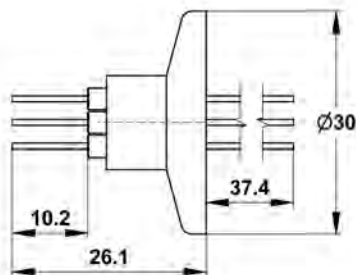
#### Crimp contact

■ Conductor diameter	0.81 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	16 A
■ Packing unit	10 pieces

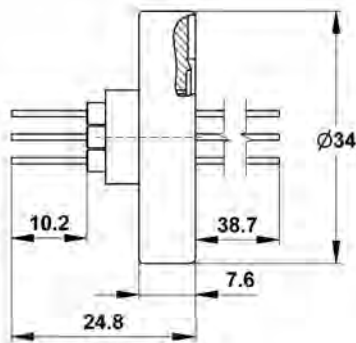
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 1 - 2 kV DC

Voltage: 2 kV DC, 4 pins, conductor diameter: 0.81 mm

#### Without flange



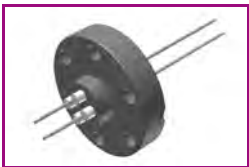
Order code	Conductor material	Current [A]
W-HV2-4-CE-SS081	stainless steel 304	1.1
W-HV2-4-CE-NI081	nickel	5
W-HV2-4-CE-MO081	molybdenum	8.5
W-HV2-4-CE-CU081	copper	16

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV2-4-CE-SS081	DN16KF	stainless steel 304	1.1
KF16-HV2-4-CE-NI081	DN16KF	nickel	5
KF16-HV2-4-CE-MO081	DN16KF	molybdenum	8.5
KF16-HV2-4-CE-CU081	DN16KF	copper	16

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV2-4-CE-SS081	DN16CF	stainless steel 304	1.1
CF16-HV2-4-CE-NI081	DN16CF	nickel	5
CF16-HV2-4-CE-MO081	DN16CF	molybdenum	8.5
CF16-HV2-4-CE-CU081	DN16CF	copper	16

#### Accessories

Order code	Description
EK-C-CB081	crimp contact

## Voltage 1 - 2 kV DC

Voltage: 2 kV DC, 1 pin, conductor diameter: 1.3 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	2 kV DC

#### Accessories

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

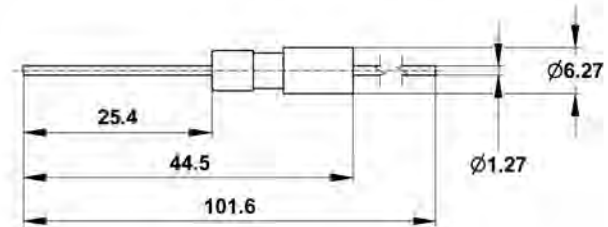
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

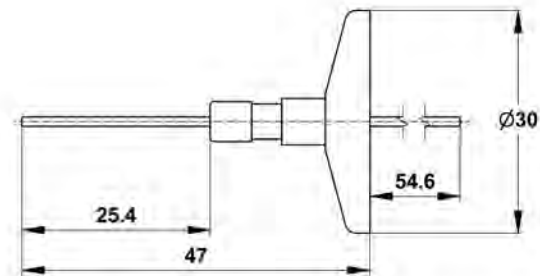
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

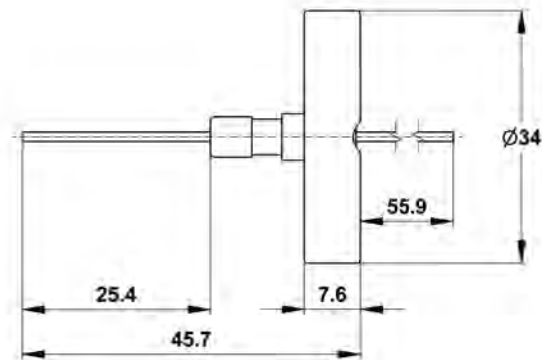
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 1 - 2 kV DC

Voltage: 2 kV DC, 1 pin, conductor diameter: 1.3 mm

#### Without flange



Order code	Conductor material	Current [A]
W-HV2-CE-SS13	stainless steel 304	1.8
W-HV2-CE-NI13	nickel	8.2
W-HV2-CE-MO13	molybdenum	13.5
W-HV2-CE-CU13	copper	27

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV2-CE-SS13	DN16KF	stainless steel 304	1.8
KF16-HV2-CE-NI13	DN16KF	nickel	8.2
KF16-HV2-CE-MO13	DN16KF	molybdenum	13.5
KF16-HV2-CE-CU13	DN16KF	copper	27

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV2-CE-SS13	DN16CF	stainless steel 304	1.8
CF16-HV2-CE-NI13	DN16CF	nickel	8.2
CF16-HV2-CE-MO13	DN16CF	molybdenum	13.5
CF16-HV2-CE-CU13	DN16CF	copper	27

#### Accessories

Order code	Description
EK-C-CB13	crimp contact
EK-S-CB13	set screw type contact
EK-LK-CB13	barrel type contact



## Voltage 3 kV DC

Voltage: 3 kV DC, 2 pins, conductor diameter: 1.3 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	3 kV DC

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

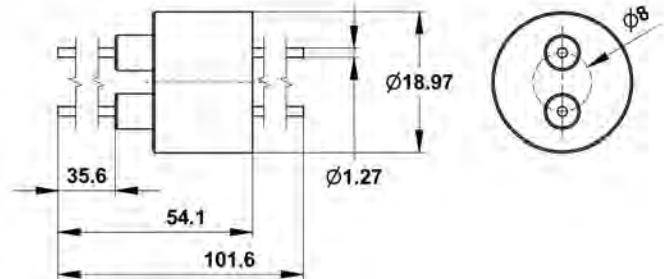
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

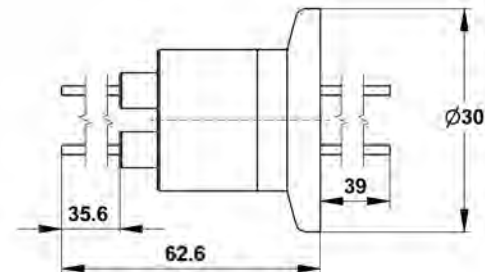
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

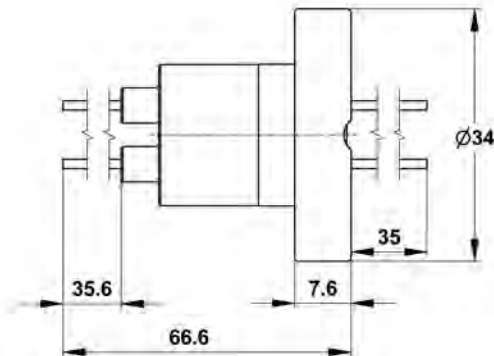
#### without flange



#### on KF flange



#### on CF flange

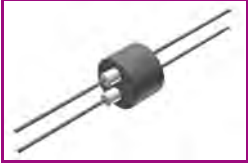


## Power and High Voltage Feedthroughs

### Voltage 3 kV DC

Voltage: 3 kV DC, 2 pins, conductor diameter: 1.3 mm

#### Without flange



Order code	Conductor material	Current [A]
W-HV3-2-CE-SS13	stainless steel 304	1.8
W-HV3-2-CE-NI13	nickel	8.2
W-HV3-2-CE-MO13	molybdenum	13.5
W-HV3-2-CE-CU13	copper	27

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV3-2-CE-SS13	DN16KF	stainless steel 304	1.8
KF16-HV3-2-CE-NI13	DN16KF	nickel	8.2
KF16-HV3-2-CE-MO13	DN16KF	molybdenum	13.5
KF16-HV3-2-CE-CU13	DN16KF	copper	27

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV3-2-CE-SS13	DN16CF	stainless steel 304	1.8
CF16-HV3-2-CE-NI13	DN16CF	nickel	8.2
CF16-HV3-2-CE-MO13	DN16CF	molybdenum	13.5
CF16-HV3-2-CE-CU13	DN16CF	copper	27

#### Accessories

Order code	Description
EK-C-CB13	crimp contact
EK-S-CB13	set screw type contact
EK-LK-CB13	barrel type contact

# Power and High Voltage Feedthroughs

## Voltage 3 kV DC

Voltage: 3 kV DC, 4 pins, conductor diameter: 1.3 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	3 kV DC

#### Accessories

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

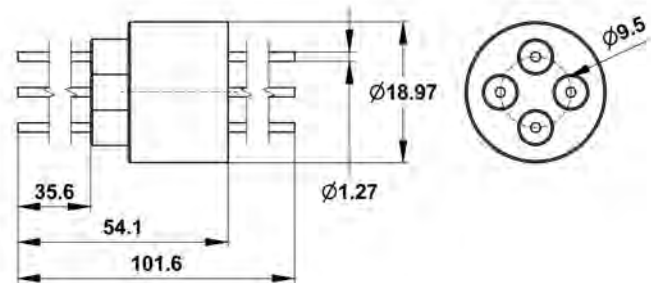
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

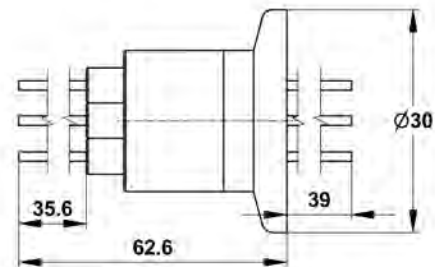
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

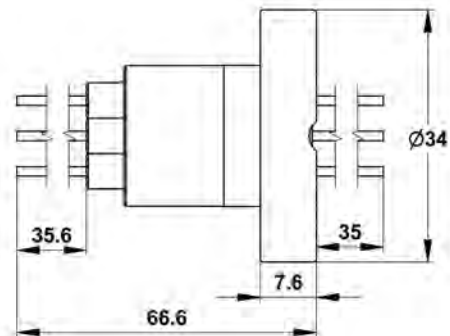
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 3 kV DC

Voltage: 3 kV DC, 4 pins, conductor diameter: 1.3 mm

#### Without flange



Order code	Conductor material	Current [A]
W-HV3-4-CE-SS13	stainless steel 304	1.8
W-HV3-4-CE-NI13	nickel	8.2
W-HV3-4-CE-MO13	molybdenum	13.5
W-HV3-4-CE-CU13	copper	27

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV3-4-CE-SS13	DN16KF	stainless steel 304	1.8
KF16-HV3-4-CE-NI13	DN16KF	nickel	8.2
KF16-HV3-4-CE-MO13	DN16KF	molybdenum	13.5
KF16-HV3-4-CE-CU13	DN16KF	copper	27

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV3-4-CE-SS13	DN16CF	stainless steel 304	1.8
CF16-HV3-4-CE-NI13	DN16CF	nickel	8.2
CF16-HV3-4-CE-MO13	DN16CF	molybdenum	13.5
CF16-HV3-4-CE-CU13	DN16CF	copper	27

#### Accessories

Order code	Description
EK-C-CB13	crimp contact
EK-S-CB13	set screw type contact
EK-LK-CB13	barrel type contact

## Voltage 2 - 6 kV DC

Voltage: 5 kV DC, 1 pin, conductor diameter: 1.3 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	5 kV DC

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

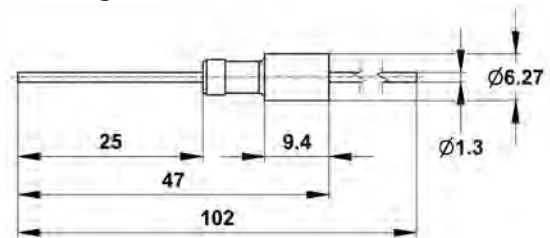
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

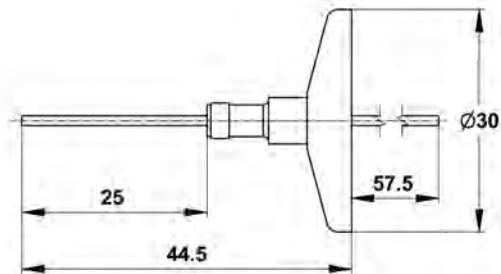
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

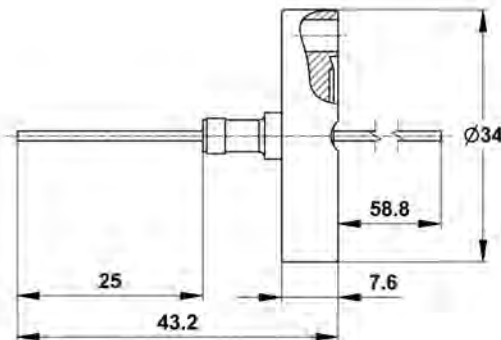
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 2 - 6 kV DC

Voltage: 5 kV DC, 1 pin, conductor diameter: 1.3 mm

#### Without flange



Order code	Conductor material	Current [A]
W-HV5-CE-SS13	stainless steel 304	1.8
W-HV5-CE-NI13	nickel	8.2
W-HV5-CE-MO13	molybdenum	13.5
W-HV5-CE-CU13	copper	27

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV5-CE-SS13	DN16KF	stainless steel 304	1.8
KF16-HV5-CE-NI13	DN16KF	nickel	8.2
KF16-HV5-CE-MO13	DN16KF	molybdenum	13.5
KF16-HV5-CE-CU13	DN16KF	copper	27

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV5-CE-SS13	DN16CF	stainless steel 304	1.8
CF16-HV5-CE-NI13	DN16CF	nickel	8.2
CF16-HV5-CE-MO13	DN16CF	molybdenum	13.5
CF16-HV5-CE-CU13	DN16CF	copper	27

#### Accessories

Order code	Description
EK-C-CB13	crimp contact
EK-S-CB13	set screw type contact
EK-LK-CB13	barrel type contact

## Voltage 2 - 6 kV DC

Voltage: 2 - 5 kV DC, 4 - 10 pins, conductor diameter: 1.6 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	Alumel®
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	7 A
■ Voltage	see table

#### Accessories

#### Crimp contact

■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

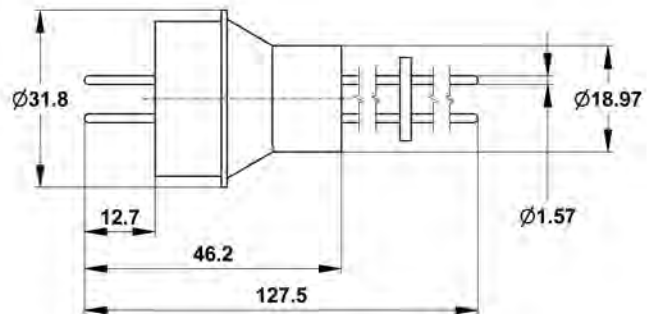
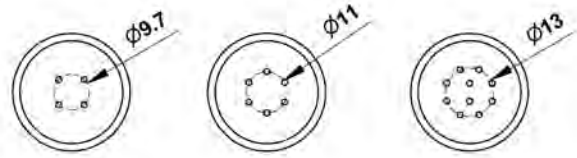
#### Set screw type contact

■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

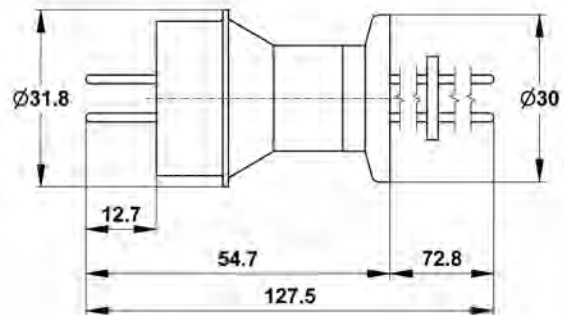
#### Barrel type contact

■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

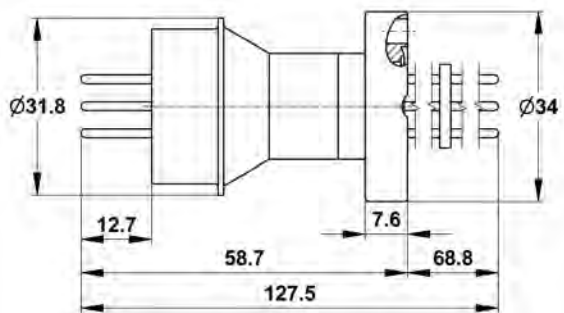
#### without flange



#### on KF flange



#### on CF flange

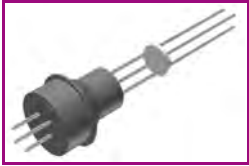


## Power and High Voltage Feedthroughs

### Voltage 2 - 6 kV DC

Voltage: 2 - 5 kV DC, 4 - 10 pins, conductor diameter: 1.6 mm

#### Without flange



Order code	Number of pins	Voltage [kV DC]
W-HV5-4-CE-AM16	4	5
W-HV5-6-CE-AM16	6	5
W-HV2-10-CE-AM16	10	2

#### On KF flange



Order code	Number of pins	Flange	Voltage [kV DC]
KF16-HV5-4-CE-AM16	4	DN16KF	5
KF16-HV5-6-CE-AM16	6	DN16KF	5
KF16-HV2-10-CE-AM16	10	DN16KF	2

#### On CF flange



Order code	Number of pins	Flange	Voltage [kV DC]
CF16-HV5-4-CE-AM16	4	DN16CF	5
CF16-HV5-6-CE-AM16	6	DN16CF	5
CF16-HV2-10-CE-AM16	10	DN16CF	2
CF40-HV5-4-CE-AM16	4	DN40CF	5
CF40-HV5-6-CE-AM16	6	DN40CF	5
CF40-HV2-10-CE-AM16	10	DN40CF	2

#### Accessories

Order code	Description
EK-C-CB16	crimp contact
EK-S-CB16	set screw type contact
EK-LK-CB16	barrel type contact



# Power and High Voltage Feedthroughs

## Voltage 2 - 6 kV DC

Voltage: 6 kV DC, 2 pins, conductor diameter: 1.3 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	6 kV DC

#### Accessories

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

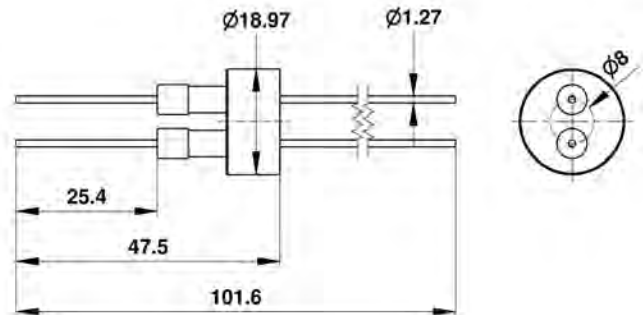
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

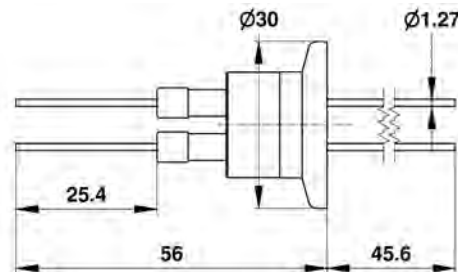
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

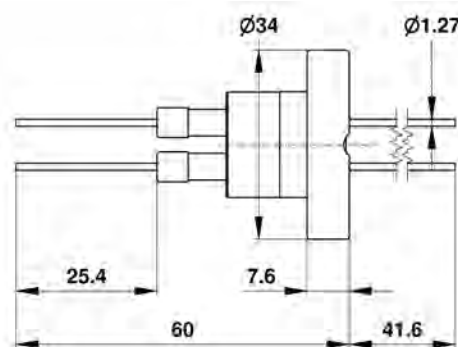
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 2 - 6 kV DC

Voltage: 6 kV DC, 2 pins, conductor diameter: 1.3 mm

#### Without flange



Order code	Conductor material	Current [A]
W-HV6-2-CE-SS13	stainless steel 304	1.8
W-HV6-2-CE-NI13	nickel	8.2
W-HV6-2-CE-MO13	molybdenum	13.5
W-HV6-2-CE-CU13	copper	27

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV6-2-CE-SS13	DN16KF	stainless steel 304	1.8
KF16-HV6-2-CE-NI13	DN16KF	nickel	8.2
KF16-HV6-2-CE-MO13	DN16KF	molybdenum	13.5
KF16-HV6-2-CE-CU13	DN16KF	copper	27

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV6-2-CE-SS13	DN16CF	stainless steel 304	1.8
CF16-HV6-2-CE-NI13	DN16CF	nickel	8.2
CF16-HV6-2-CE-MO13	DN16CF	molybdenum	13.5
CF16-HV6-2-CE-CU13	DN16CF	copper	27

#### Accessories

Order code	Description
EK-C-CB13	crimp contact
EK-S-CB13	set screw type contact
EK-LK-CB13	barrel type contact

## Voltage 2 - 6 kV DC

Voltage: 6 kV DC, 4 pins, conductor diameter: 1.3 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	6 kV DC

#### Accessories

#### Crimp contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

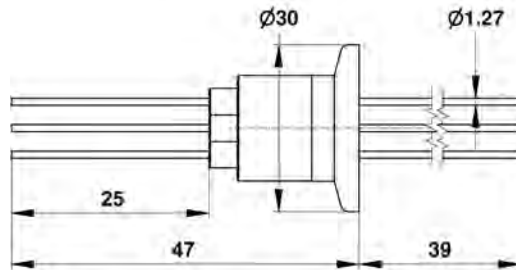
#### Set screw type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

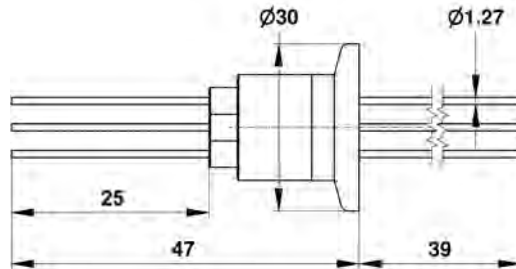
#### Barrel type contact

■ Conductor diameter	1.3 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

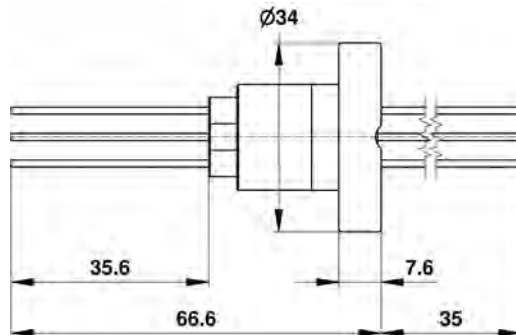
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 2 - 6 kV DC

Voltage: 6 kV DC, 4 pins, conductor diameter: 1.3 mm

#### Without flange



Order code	Conductor material	Current [A]
W-HV6-4-CE-SS13	stainless steel 304	1.8
W-HV6-4-CE-NI13	nickel	8.2
W-HV6-4-CE-MO13	molybdenum	13.5
W-HV6-4-CE-CU13	copper	27

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HV6-4-CE-SS13	DN16KF	stainless steel 304	1.8
KF16-HV6-4-CE-NI13	DN16KF	nickel	8.2
KF16-HV6-4-CE-MO13	DN16KF	molybdenum	13.5
KF16-HV6-4-CE-CU13	DN16KF	copper	27

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HV6-4-CE-SS13	DN16CF	stainless steel 304	1.8
CF16-HV6-4-CE-NI13	DN16CF	nickel	8.2
CF16-HV6-4-CE-MO13	DN16CF	molybdenum	13.5
CF16-HV6-4-CE-CU13	DN16CF	copper	27

#### Accessories

Order code	Description
EK-C-CB13	crimp contact
EK-S-CB13	set screw type contact
EK-LK-CB13	barrel type contact

## Voltage 10 kV / 15 kV DC

### Micro HV / Mini HV feedthroughs

#### Technical data

##### Material

■ Housing	stainless steel 304
■ Conductor material	molybdenum (gold plated)
■ Insulation	alumina ceramic

##### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

##### Electrical characteristics

■ Current	see table
■ Voltage	see table

#### Accessories

##### Micro HV plug

■ Temperature range	-55 °C to 125 °C
■ Current	3 A
■ Length	approx. 2.5 m

##### Mini HV plug

■ Temperature range	-55 °C to 125 °C
■ Current	7.5 A
■ Length	approx. 2.5 m

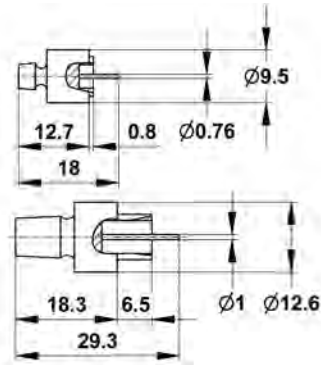
##### Crimp contact

■ Conductor diameter	0.81 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	16 A
■ Packing unit	10 pieces

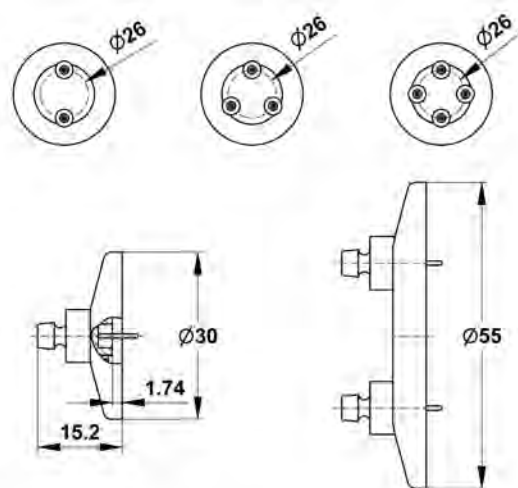
##### Crimp contact

■ Conductor diameter	1.0 mm
■ Conductor material	copper alloy (gold plated)
■ Temperature range	-200 °C to 200 °C
■ Current	15 A
■ Packing unit	5 pieces

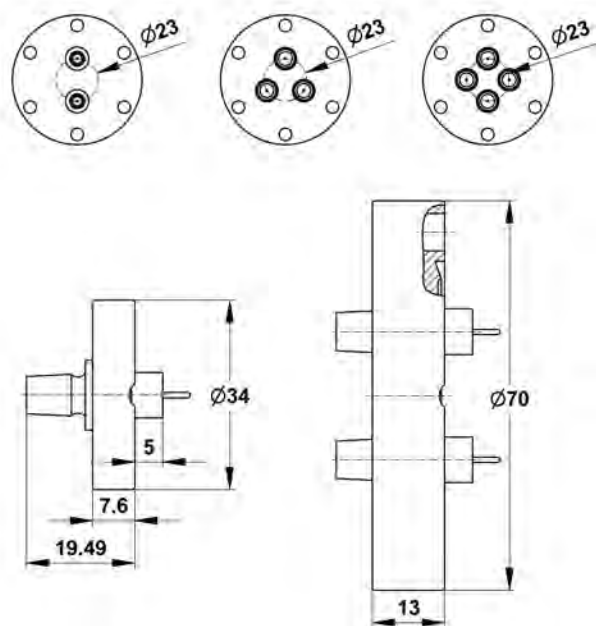
#### without flange



#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## Voltage 10 kV / 15 kV DC

### Micro HV / Mini HV feedthroughs

#### Without flange



Order code	Current [A]	Voltage [kV DC]
W-HV10S-CE-MOP07	3	10
W-HV15S-CE-MOP1	7.5	15

#### On KF flange



Order code	Flange	Number of feedthroughs	Current [A]	Voltage [kV DC]
KF16-HV10S-1-CE-MOP07	DN16KF	1	3	10
KF40-HV10S-2-CE-MOP07	DN40KF	2	3	10
KF40-HV10S-3-CE-MOP07	DN40KF	3	3	10
KF40-HV10S-4-CE-MOP07	DN40KF	4	3	10
KF16-HV15S-1-CE-MOP1	DN16KF	1	7.5	15
KF40-HV15S-2-CE-MOP1	DN40KF	2	7.5	15
KF40-HV15S-3-CE-MOP1	DN40KF	3	7.5	15
KF40-HV15S-4-CE-MOP1	DN40KF	4	7.5	15

#### On CF flange



Order code	Flange	Number of feedthroughs	Current [A]	Voltage [kV DC]
CF16-HV10S-1-CE-MOP07	DN16CF	1	3	10
CF40-HV10S-2-CE-MOP07	DN40CF	2	3	10
CF40-HV10S-3-CE-MOP07	DN40CF	3	3	10
CF40-HV10S-4-CE-MOP07	DN40CF	4	3	10
CF16-HV15S-1-CE-MOP1	DN16CF	1	7.5	15
CF40-HV15S-2-CE-MOP1	DN40CF	2	7.5	15
CF40-HV15S-3-CE-MOP1	DN40CF	3	7.5	15
CF40-HV15S-4-CE-MOP1	DN40CF	4	7.5	15

\*) Voltage ratings are only valid when used with high voltage plugs (see below!).

#### High voltage plugs



Order code	Description
PLUG-HV10S-MOP07	Micro HV plug
PLUG-HV15S-MOP1	Mini HV plug

#### Crimp contacts

Order code	Description
EK-C-CB081	crimp contact
EK-C-CLG10	crimp contact

## Voltage 10 kV DC

1 - 2 pins, conductor diameter: 2.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	10 kV DC *

#### Accessories

#### High voltage plugs

■ Temperature range	-55 °C to 125 °C
■ Current	see table
■ Length	approx. 2.5 m

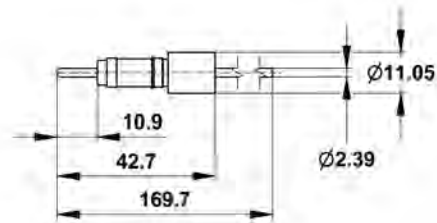
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

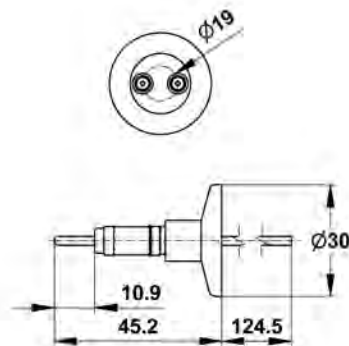
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

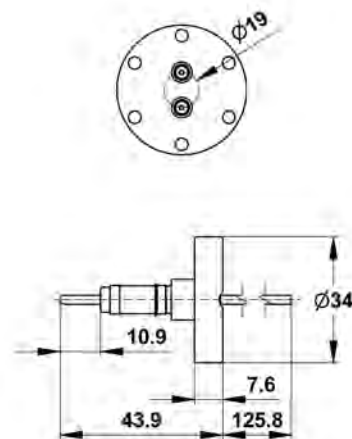
#### without flange



#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. voltage without plug is 5 kV DC.

# Power and High Voltage Feedthroughs

## Voltage 10 kV DC

1 - 2 pins, conductor diameter: 2.4 mm

### Without flange



Order code	Conductor material	Current [A]
W-HV10S-CE-SS24	stainless steel 304	3.6
W-HV10S-CE-NI24	nickel	16.5
W-HV10S-CE-MO24	molybdenum	28
W-HV10S-CE-CU24	copper	55

### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF16-HV10S-1-CE-SS24	DN16KF	1	stainless steel 304	3.6
KF16-HV10S-1-CE-NI24	DN16KF	1	nickel	16.5
KF16-HV10S-1-CE-MO24	DN16KF	1	molybdenum	28
KF16-HV10S-1-CE-CU24	DN16KF	1	copper	55
KF40-HV10S-2-CE-SS24	DN40KF	2	stainless steel 304	3.6
KF40-HV10S-2-CE-NI24	DN40KF	2	nickel	16.5
KF40-HV10S-2-CE-MO24	DN40KF	2	molybdenum	28
KF40-HV10S-2-CE-CU24	DN40KF	2	copper	55

### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF16-HV10S-1-CE-SS24	DN16CF	1	stainless steel 304	3.6
CF16-HV10S-1-CE-NI24	DN16CF	1	nickel	16.5
CF16-HV10S-1-CE-MO24	DN16CF	1	molybdenum	28
CF16-HV10S-1-CE-CU24	DN16CF	1	copper	55
CF40-HV10S-2-CE-SS24	DN40CF	2	stainless steel 304	3.6
CF40-HV10S-2-CE-NI24	DN40CF	2	nickel	16.5
CF40-HV10S-2-CE-MO24	DN40CF	2	molybdenum	28
CF40-HV10S-2-CE-CU24	DN40CF	2	copper	55

### High voltage plugs



Order code	Description	Max. Current [A]
PLUG-HV10-24	high voltage plug	30
PLUG-HV10S-24	high voltage plug	55

### Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact



## Voltage 10 kV DC

3 - 4 pins, conductor diameter: 2.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	10 kV DC *

#### Accessories

#### High voltage plug

■ Temperature range	-55 °C to 125 °C
■ Current	see table
■ Length	approx. 2.5 m

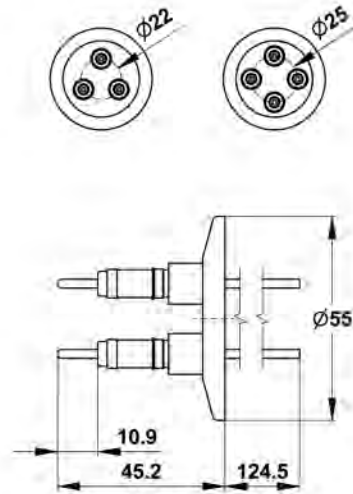
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

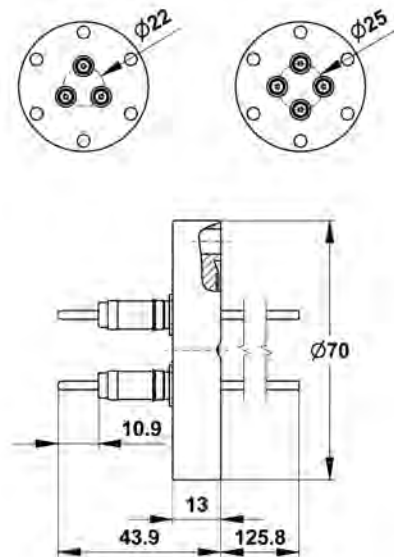
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 5 kV DC.

## Power and High Voltage Feedthroughs

### Voltage 10 kV DC

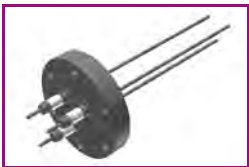
3 - 4 pins, conductor diameter: 2.4 mm

#### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF40-HV10S-3-CE-SS24	DN40KF	3	stainless steel 304	3.6
KF40-HV10S-3-CE-NI24	DN40KF	3	nickel	16.5
KF40-HV10S-3-CE-MO24	DN40KF	3	molybdenum	28
KF40-HV10S-3-CE-CU24	DN40KF	3	copper	55
KF40-HV10S-4-CE-SS24	DN40KF	4	stainless steel 304	3.6
KF40-HV10S-4-CE-NI24	DN40KF	4	nickel	16.5
KF40-HV10S-4-CE-MO24	DN40KF	4	molybdenum	28
KF40-HV10S-4-CE-CU24	DN40KF	4	copper	55

#### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF40-HV10S-3-CE-SS24	DN40CF	3	stainless steel 304	3.6
CF40-HV10S-3-CE-NI24	DN40CF	3	nickel	16.5
CF40-HV10S-3-CE-MO24	DN40CF	3	molybdenum	28
CF40-HV10S-3-CE-CU24	DN40CF	3	copper	55
CF40-HV10S-4-CE-SS24	DN40CF	4	stainless steel 304	3.6
CF40-HV10S-4-CE-NI24	DN40CF	4	nickel	16.5
CF40-HV10S-4-CE-MO24	DN40CF	4	molybdenum	28
CF40-HV10S-4-CE-CU24	DN40CF	4	copper	55

#### High voltage plugs



Order code	Description	Max. Current [A]
PLUG-HV10-24	high voltage plug	30
PLUG-HV10S-24	high voltage plug	55

#### Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

## Voltage 10 kV DC

1 - 2 pins, conductor diameter: 3.9 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	10 kV DC *

#### Accessories

#### High voltage plug

■ Temperature range	-55 °C to 125 °C
■ Current	75 A
■ Length	approx. 2.5 m

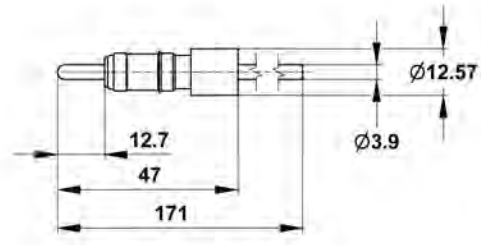
#### Barrel type contact

■ Conductor diameter	3.9 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	30 A
■ Packing unit	10 pieces

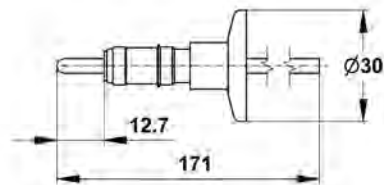
#### High current clamp

■ Conductor diameter	3.9 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	100 A

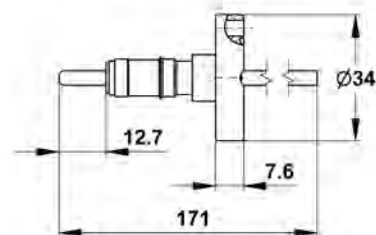
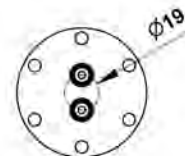
#### without flange



#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 5 kV DC.

# Power and High Voltage Feedthroughs

## Voltage 10 kV DC

1 - 2 pins, conductor diameter: 3.9 mm

### Without flange



Order code	Conductor material	Current [A]
W-HV10S-CE-SS39	stainless steel 304	6.5
W-HV10S-CE-NI39	nickel	30
W-HV10S-CE-MO39	molybdenum	50
W-HV10S-CE-CU39	copper	100

### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF16-HV10S-1-CE-SS39	DN16KF	1	stainless steel 304	6.5
KF16-HV10S-1-CE-NI39	DN16KF	1	nickel	30
KF16-HV10S-1-CE-MO39	DN16KF	1	molybdenum	50
KF16-HV10S-1-CE-CU39	DN16KF	1	copper	100
KF40-HV10S-2-CE-SS39	DN40KF	2	stainless steel 304	6,5
KF40-HV10S-2-CE-NI39	DN40KF	2	nickel	30
KF40-HV10S-2-CE-MO39	DN40KF	2	molybdenum	50
KF40-HV10S-2-CE-CU39	DN40KF	2	copper	100

### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF16-HV10S-1-CE-SS39	DN16CF	1	stainless steel 304	6.5
CF16-HV10S-1-CE-NI39	DN16CF	1	nickel	30
CF16-HV10S-1-CE-MO39	DN16CF	1	molybdenum	50
CF16-HV10S-1-CE-CU39	DN16CF	1	copper	100
CF40-HV10S-2-CE-SS39	DN40CF	2	stainless steel 304	6.5
CF40-HV10S-2-CE-NI39	DN40CF	2	nickel	30
CF40-HV10S-2-CE-MO39	DN40CF	2	molybdenum	50
CF40-HV10S-2-CE-CU39	DN40CF	2	copper	100

### High voltage plug



Order code	Description
PLUG-HV10S-39	high voltage plug

### Contacts

Order code	Description
EK-LK-CB39	barrel type contact
EK-HC-CU39	high current clamp

## Voltage 10 kV DC

3 - 4 pins, conductor diameter: 3.9 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	10 kV DC *

#### Accessories

#### High voltage plug

■ Temperature range	-55 °C to 125 °C
■ Current	75 A
■ Length	approx. 2.5 m

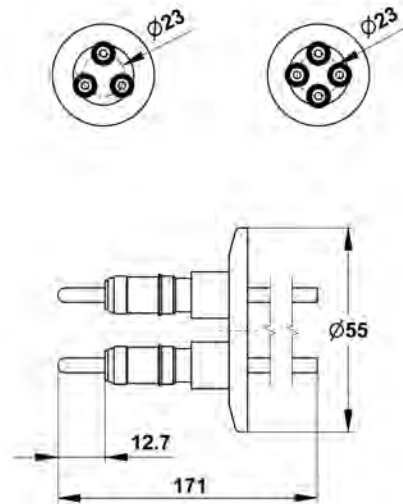
#### Barrel type contact

■ Conductor diameter	3.9 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	30 A
■ Packing unit	10 pieces

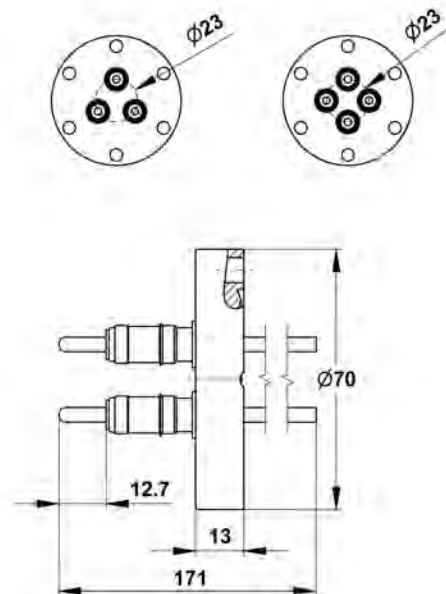
#### High current clamp

■ Conductor diameter	3.9 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	100 A

#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 5 kV DC.

## Power and High Voltage Feedthroughs

### Voltage 10 kV DC

3 - 4 pins, conductor diameter: 3.9 mm

#### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF40-HV10S-3-CE-SS39	DN40KF	3	stainless steel 304	6.5
KF40-HV10S-3-CE-NI39	DN40KF	3	nickel	30
KF40-HV10S-3-CE-MO39	DN40KF	3	molybdenum	50
KF40-HV10S-3-CE-CU39	DN40KF	3	copper	100
KF40-HV10S-4-CE-SS39	DN40KF	4	stainless steel 304	6.5
KF40-HV10S-4-CE-NI39	DN40KF	4	nickel	30
KF40-HV10S-4-CE-MO39	DN40KF	4	molybdenum	50
KF40-HV10S-4-CE-CU39	DN40KF	4	copper	100

#### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF40-HV10S-3-CE-SS39	DN40CF	3	stainless steel 304	6.5
CF40-HV10S-3-CE-NI39	DN40CF	3	nickel	30
CF40-HV10S-3-CE-MO39	DN40CF	3	molybdenum	50
CF40-HV10S-3-CE-CU39	DN40CF	3	copper	100
CF40-HV10S-4-CE-SS39	DN40CF	4	stainless steel 304	6.5
CF40-HV10S-4-CE-NI39	DN40CF	4	nickel	30
CF40-HV10S-4-CE-MO39	DN40CF	4	molybdenum	50
CF40-HV10S-4-CE-CU39	DN40CF	4	copper	100

#### High voltage plug



Order code	Description
PLUG-HV10S-39	high voltage plug

#### Contacts

Order code	Description
EK-LK-CB39	barrel type contact
EK-HC-CU39	high current clamp

## Voltage 15 kV DC

1 - 2 pins, conductor diameter: 6.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	15 kV DC *

#### Accessories

#### High voltage plug

■ Temperature range	-55 °C to 125 °C
■ Current	100 A
■ Length	approx. 2.5 m

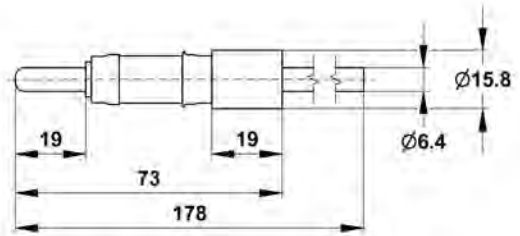
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

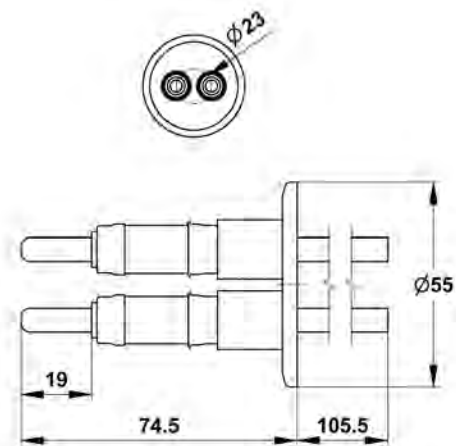
#### High current clamp

■ Conductor diameter	6.4 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	350 A

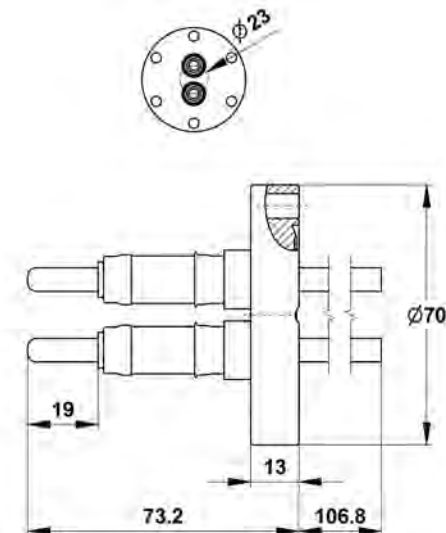
#### without flange



#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 12 kV DC.

# Power and High Voltage Feedthroughs

## Voltage 15 kV DC

1 - 2 pins, conductor diameter: 6.4 mm

### Without flange



Order code	Conductor material	Current [A]
W-HV15S-CE-NI64	nickel	56
W-HV15S-CE-CU64	copper	185

- Versions with stainless steel and molybdenum conductor available on request

### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF16-HV15S-1-CE-NI64	DN16KF	1	nickel	56
KF16-HV15S-1-CE-CU64	DN16KF	1	copper	185
KF40-HV15S-2-CE-NI64	DN40KF	2	nickel	56
KF40-HV15S-2-CE-CU64	DN40KF	2	copper	185

### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF16-HV15S-1-CE-NI64	DN16CF	1	nickel	56
CF16-HV15S-1-CE-CU64	DN16CF	1	copper	185
CF40-HV15S-2-CE-NI64	DN40CF	2	nickel	56
CF40-HV15S-2-CE-CU64	DN40CF	2	copper	185

### High voltage plug



Order code	Description
PLUG-HV25S-64	high voltage plug

### Contacts

Order code	Description
EK-LK-CB64	barrel type contact
EK-HC-CU64	high current clamp



## Voltage 15 kV DC

3 - 4 pins, conductor diameter: 6.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	15 kV DC *

#### Accessories

#### High voltage plug

■ Temperature range	-55 °C to 125 °C
■ Current	100 A
■ Length	approx. 2.5 m

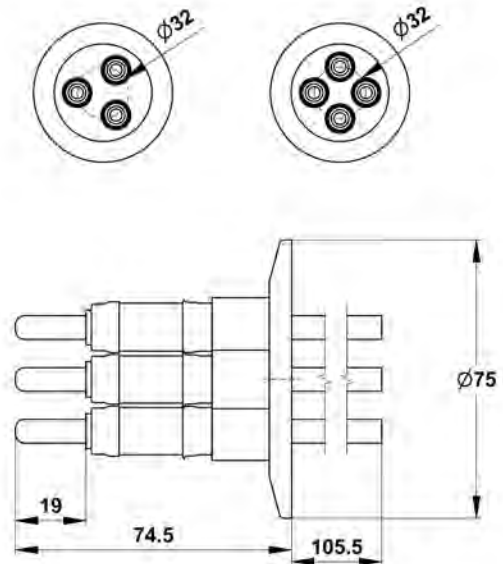
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

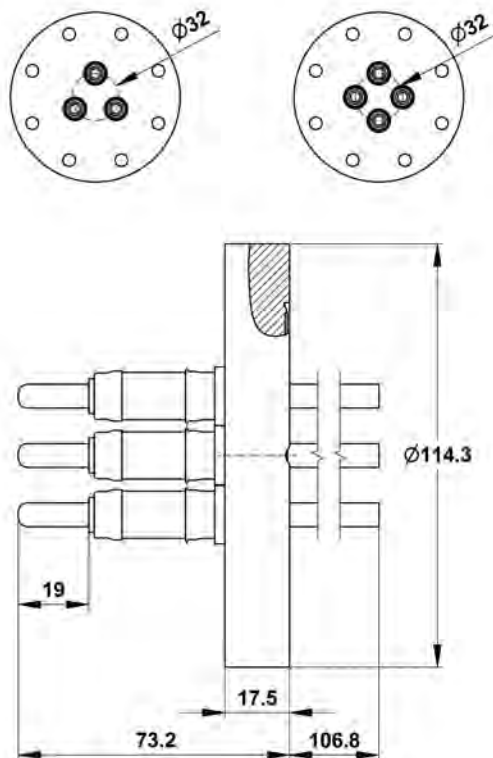
#### High current clamp

■ Conductor diameter	6.4 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	350 A

#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 12 kV DC.

## Power and High Voltage Feedthroughs

### Voltage 15 kV DC

3 - 4 pins, conductor diameter: 6.4 mm

#### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF50-HV15S-3-CE-NI64	DN50KF	3	nickel	56
KF50-HV15S-3-CE-CU64	DN50KF	3	copper	185
KF50-HV15S-4-CE-NI64	DN50KF	4	nickel	56
KF50-HV15S-4-CE-CU64	DN50KF	4	copper	185

#### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF63-HV15S-3-CE-NI64	DN63CF	3	nickel	56
CF63-HV15S-3-CE-CU64	DN63CF	3	copper	185
CF63-HV15S-4-CE-NI64	DN63CF	4	nickel	56
CF63-HV15S-4-CE-CU64	DN63CF	4	copper	185

#### High voltage plug



Order code	Description
PLUG-HV25S-64	high voltage plug

#### Contacts

Order code	Description
EK-LK-CB64	barrel type contact
EK-HC-CU64	high current clamp

## Voltage 20 kV DC

1 - 2 pins, conductor diameter: 2.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	20 kV DC *

#### Accessories

#### High voltage plugs

■ Temperature range	-55 °C to 125 °C
■ Current	see table
■ Length	approx. 2.5 m

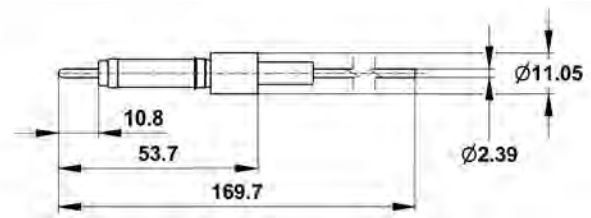
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

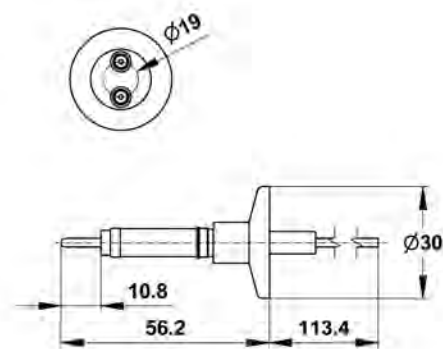
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

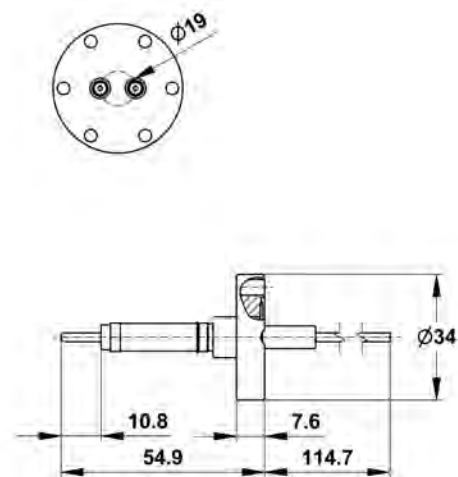
#### without flange



#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 14 kV DC.

# Power and High Voltage Feedthroughs

## Voltage 20 kV DC

1 - 2 pins, conductor diameter: 2.4 mm

### Without flange



Order code	Conductor material	Current [A]
W-HV20S-CE-SS24	stainless steel 304	3.6
W-HV20S-CE-NI24	nickel	16.5
W-HV20S-CE-MO24	molybdenum	28
W-HV20S-CE-CU24	copper	55

### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF16-HV20S-1-CE-SS24	DN16KF	1	stainless steel 304	3.6
KF16-HV20S-1-CE-NI24	DN16KF	1	nickel	16.5
KF16-HV20S-1-CE-MO24	DN16KF	1	molybdenum	28
KF16-HV20S-1-CE-CU24	DN16KF	1	copper	55
KF40-HV20S-2-CE-SS24	DN40KF	2	stainless steel 304	3.6
KF40-HV20S-2-CE-NI24	DN40KF	2	nickel	16.5
KF40-HV20S-2-CE-MO24	DN40KF	2	molybdenum	28
KF40-HV20S-2-CE-CU24	DN40KF	2	copper	55

### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF16-HV20S-1-CE-SS24	DN16CF	1	stainless steel 304	3.6
CF16-HV20S-1-CE-NI24	DN16CF	1	nickel	16.5
CF16-HV20S-1-CE-MO24	DN16CF	1	molybdenum	28
CF16-HV20S-1-CE-CU24	DN16CF	1	copper	55
CF40-HV20S-2-CE-SS24	DN40CF	2	stainless steel 304	3.6
CF40-HV20S-2-CE-NI24	DN40CF	2	nickel	16.5
CF40-HV20S-2-CE-MO24	DN40CF	2	molybdenum	28
CF40-HV20S-2-CE-CU24	DN40CF	2	copper	55

### High voltage plugs



Order code	Description	Max. Current [A]
PLUG-HV20-24	high voltage plug	30
PLUG-HV20S-24	high voltage plug	55

### Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

## Voltage 20 kV DC

3 - 4 pins, conductor diameter: 2.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	20 kV DC *

#### Accessories

#### High voltage plugs

■ Temperature range	-55 °C to 125 °C
■ Current	see table
■ Length	approx. 2.5 m

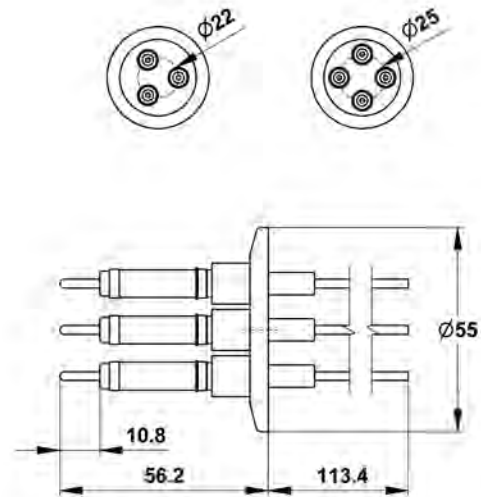
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

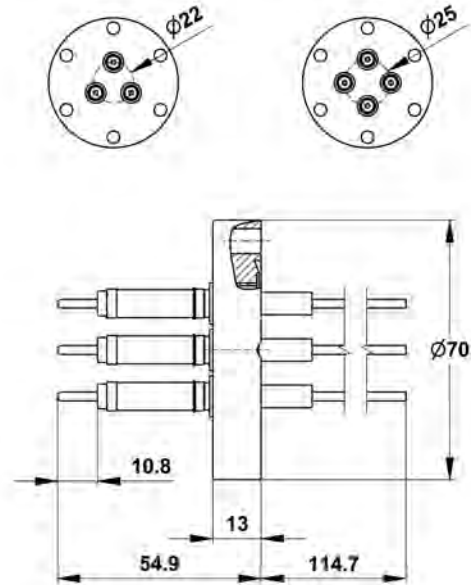
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 14 kV DC.

# Power and High Voltage Feedthroughs

## Voltage 20 kV DC

3 - 4 pins, conductor diameter: 2.4 mm

On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF40-HV20S-3-CE-SS24	DN40KF	3	stainless steel 304	3.6
KF40-HV20S-3-CE-NI24	DN40KF	3	nickel	16.5
KF40-HV20S-3-CE-MO24	DN40KF	3	molybdenum	28
KF40-HV20S-3-CE-CU24	DN40KF	3	copper	55
KF40-HV20S-4-CE-SS24	DN40KF	4	stainless steel 304	3.6
KF40-HV20S-4-CE-NI24	DN40KF	4	nickel	16.5
KF40-HV20S-4-CE-MO24	DN40KF	4	molybdenum	28
KF40-HV20S-4-CE-CU24	DN40KF	4	copper	55

On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF40-HV20S-3-CE-SS24	DN40CF	3	stainless steel 304	3.6
CF40-HV20S-3-CE-NI24	DN40CF	3	nickel	16.5
CF40-HV20S-3-CE-MO24	DN40CF	3	molybdenum	28
CF40-HV20S-3-CE-CU24	DN40CF	3	copper	55
CF40-HV20S-4-CE-SS24	DN40CF	4	stainless steel 304	3.6
CF40-HV20S-4-CE-NI24	DN40CF	4	nickel	16.5
CF40-HV20S-4-CE-MO24	DN40CF	4	molybdenum	28
CF40-HV20S-4-CE-CU24	DN40CF	4	copper	55

High voltage plugs



Order code	Description	Max. Current [A]
PLUG-HV20-24	high voltage plug	30
PLUG-HV20S-24	high voltage plug	55

Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

## Voltage 25 kV DC

1 - 2 pins, conductor diameter: 6.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	25 kV DC *

#### Accessories

#### High voltage plug

■ Temperature range	-55 °C to 125 °C
■ Current	100 A
■ Length	approx. 2.5 m

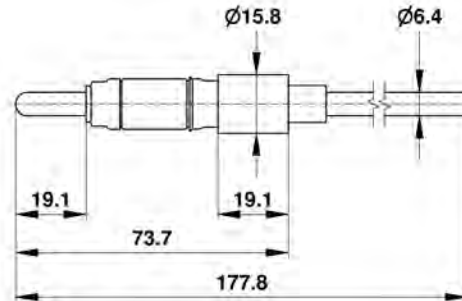
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

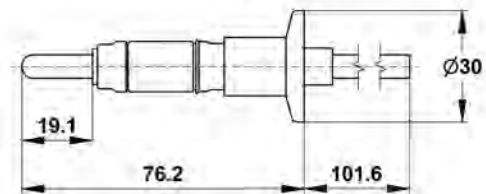
#### High current clamp

■ Conductor diameter	6.4 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	350 A

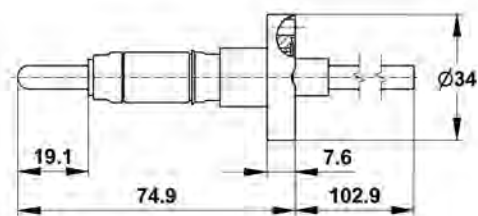
#### without flange



#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 12 kV DC.

# Power and High Voltage Feedthroughs

## Voltage 25 kV DC

1 - 2 pins, conductor diameter: 6.4 mm

### Without flange



Order code	Conductor material	Current [A]
W-HV25S-CE-NI64	nickel	56
W-HV25S-CE-CU64	copper	185

- Versions with stainless steel and molybdenum conductor available on request

### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF16-HV25S-1-CE-NI64	DN16KF	1	nickel	56
KF16-HV25S-1-CE-CU64	DN16KF	1	copper	185
KF40-HV25S-2-CE-NI64	DN40KF	2	nickel	56
KF40-HV25S-2-CE-CU64	DN40KF	2	copper	185

### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF16-HV25S-1-CE-NI64	DN16CF	1	nickel	56
CF16-HV25S-1-CE-CU64	DN16CF	1	copper	185
CF40-HV25S-1-CE-NI64	DN40CF	1	nickel	56
CF40-HV25S-1-CE-CU64	DN40CF	1	copper	185
CF40-HV25S-2-CE-NI64	DN40CF	2	nickel	56
CF40-HV25S-2-CE-CU64	DN40CF	2	copper	185

### High voltage plug



Order code	Description
PLUG-HV25S-64	high voltage plug

### Single clamps

Order code	Description
EK-LK-CB64	barrel type contact
EK-HC-CU64	high power clamp



## Voltage 25 kV DC

3 - 4 pins, conductor diameter: 6.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	25 kV DC *

#### Accessories

#### High voltage plug

■ Temperature range	-55 °C to 125 °C
■ Current	100 A
■ Length	approx. 2.5 m

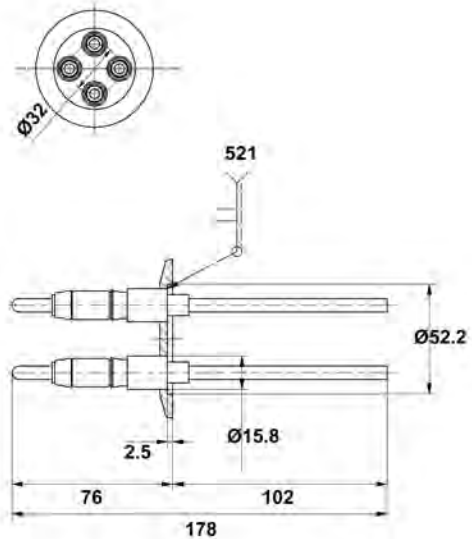
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

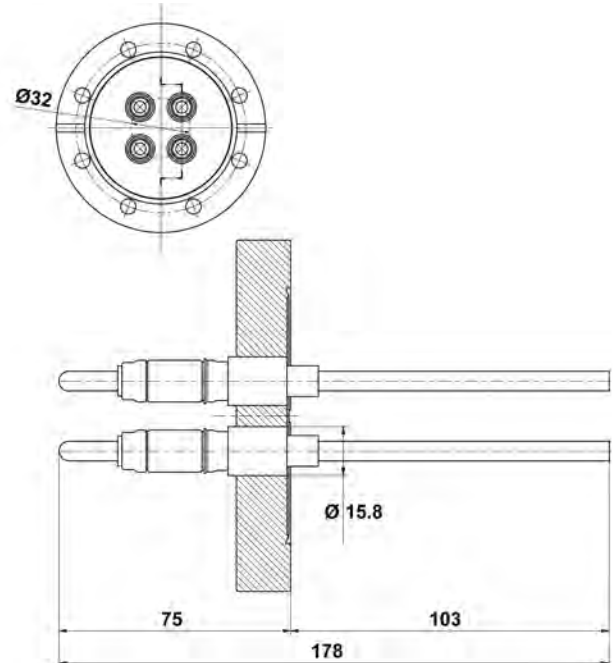
#### High current clamp

■ Conductor diameter	6.4 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	350 A

#### on KF flange



#### on CF flange



\*) Voltage ratings are only valid when used with high voltage plug. Max. voltage without plug is 12 kV DC.

## Power and High Voltage Feedthroughs

### Voltage 25 kV DC

3 - 4 pins, conductor diameter: 6.4 mm

#### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF50-HV25S-3-CE-NI64	DN50KF	3	nickel	56
KF50-HV25S-3-CE-CU64	DN50KF	3	copper	185
KF50-HV25S-4-CE-NI64	DN50KF	4	nickel	56
KF50-HV25S-4-CE-CU64	DN50KF	4	copper	185

#### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF63-HV25S-3-CE-NI64	DN63CF	3	nickel	56
CF63-HV25S-3-CE-CU64	DN63CF	3	copper	185
CF63-HV25S-4-CE-NI64	DN63CF	4	nickel	56
CF63-HV25S-4-CE-CU64	DN63CF	4	copper	185

#### High voltage plug



Order code	Description
PLUG-HV25S-64	high voltage plug

#### Contacts

Order code	Description
EK-LK-CB64	barrel type contact
EK-HC-CU64	high current clamp

## Voltage 30 kV DC

Conductor diameter: 2.4 mm, air side pin threaded

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	30 kV DC

#### Accessories

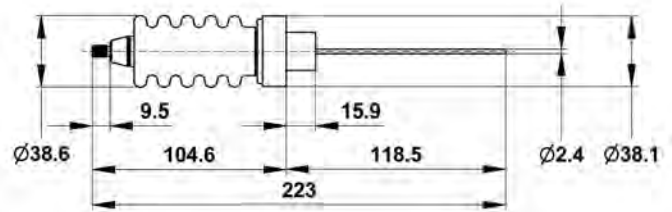
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

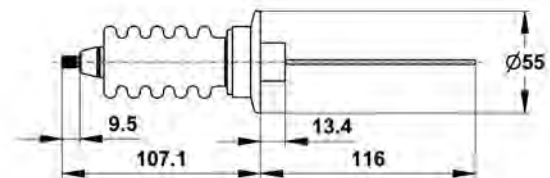
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	25 A
■ Packing unit	10 pieces

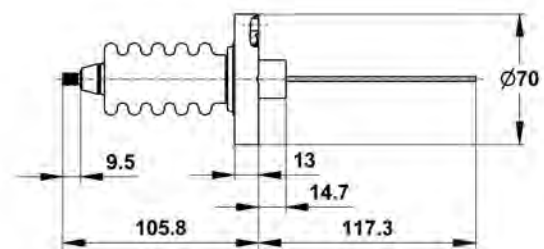
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 30 kV DC

Conductor diameter: 2.4 mm, air side pin threaded

#### Without flange



Order code	Conductor material	Thread	Current [A]
W-HV30R-CE-SS24	stainless steel 304	¼ - 28	3.6
W-HV30R-CE-NI24	nickel	¼ - 28	16.5
W-HV30R-CE-CU24	copper	¼ - 28	55

#### On KF flange



Order code	Flange	Conductor material	Current [A]
KF40-HV30R-1-CE-SS24	DN40KF	stainless steel 304	3.6
KF40-HV30R-1-CE-NI24	DN40KF	nickel	16.5
KF40-HV30R-1-CE-CU24	DN40KF	copper	55

#### On CF flange



Order code	Flange	Conductor material	Current [A]
CF40-HV30R-1-CE-SS24	DN40CF	stainless steel 304	3.6
CF40-HV30R-1-CE-NI24	DN40CF	nickel	16.5
CF40-HV30R-1-CE-CU24	DN40CF	copper	55

#### Accessories

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

## Voltage 40 - 50 kV DC

Conductor diameter: 1.6 mm, for air side plug

### Technical data

#### Material

■ Housing	Kovar®
■ Conductor material	stainless steel (nickel-plated)
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-80 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-80 °C to 450 °C

#### Electrical characteristics

■ Current	10 A
■ Voltage	see table *

#### Accessories

#### High voltage plugs

■ Temperature range	-55 °C to 125 °C
■ Current	10 A
■ Length	approx. 2.5 m

#### Crimp contact

■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	20 A
■ Packing unit	10 pieces

#### Set screw type contact

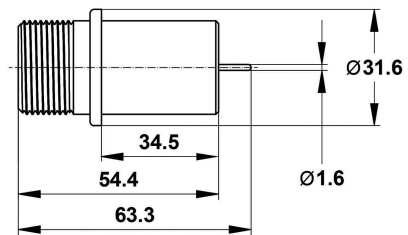
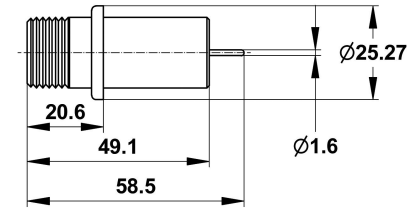
■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

#### Barrel type contact

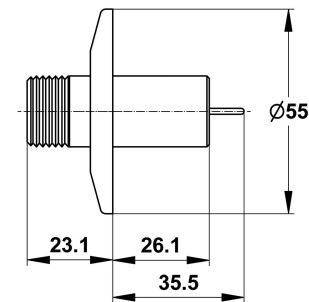
■ Conductor diameter	1.6 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

\*) Voltage ratings are only valid when used with high voltage plug.

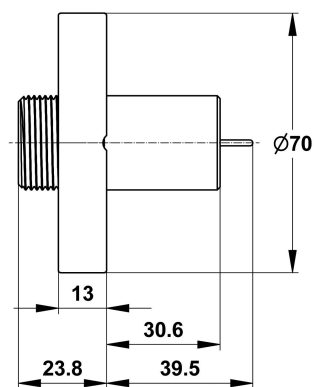
#### without flange



#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## Voltage 40 - 50 kV DC

Conductor diameter: 1.6 mm, for air side plug

### Without flange



Order code	Voltage [kV DC]
W-HV40S-CE-CRS16	40
W-HV50S-CE-CRS16	50

### On KF flange



Order code	Flange	Voltage [kV DC]
KF40-HV40S-CE-CRS16	DN40KF	40
KF40-HV50S-CE-CRS16	DN50KF	50

- Voltage ratings are only valid when used with high voltage plugs (see below!).

### On CF flange



Order code	Flange	Voltage [kV DC]
CF40-HV40S-CE-CRS16	DN40CF	40
CF40-HV50S-CE-CRS16	DN40CF	50

- Voltage ratings are only valid when used with high voltage plugs (see below!).

### High voltage plugs



Order code	Voltage [kV DC]
PLUG-HV40S-16	40
PLUG-HV50S-16	50

### Contacts

Order code	Description
EK-C-CB16	crimp contact
EK-S-CB16	set screw type contact
EK-LK-CB16	barrel type contact

## Voltage 70 - 100 kV DC

Conductor diameter: 4.0 mm, air side pin threaded

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	stainless steel 304
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

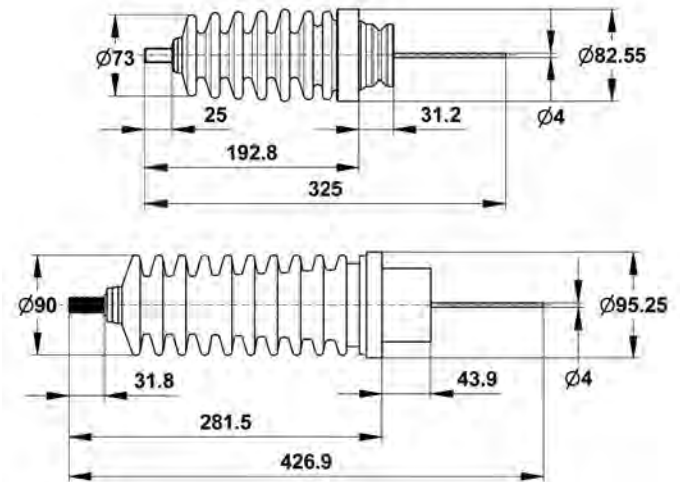
■ Current	6.5 A
■ Voltage	see table

#### Accessories

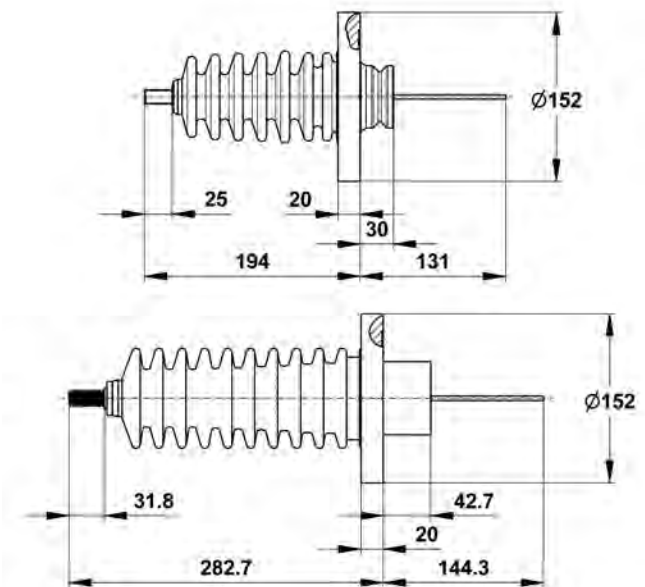
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

#### without flange



#### on CF flange



## Power and High Voltage Feedthroughs

### Voltage 70 - 100 kV DC

Conductor diameter: 4.0 mm, air side pin threaded

#### Without flange



Order code	Voltage [kV DC]	Thread
W-HV70R-CE-SS40	70	½ - 13
W-HV100R-CE-SS40	100	½ - 13

- Other designs and voltages on request

#### On CF flange



Order code	Flange	Voltage [kV DC]	Thread
CF100-HV70R-1-CE-SS40	DN100CF	70	½ - 13
CF100-HV100R-1-CE-SS40	DN100CF	100	½ - 13

#### Accessories

Order code	Description
EK-LK-CB64	barrel type contact



## High Power Feedthroughs

Current up to 185 A, 1 pin, conductor diameter: 6.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	8 kV DC

### Accessories

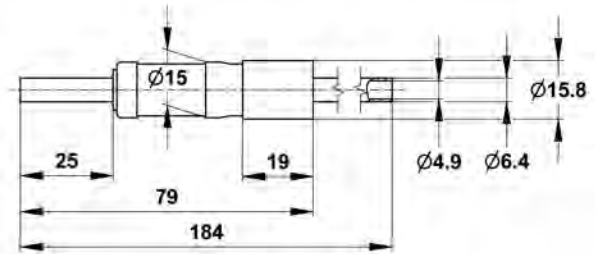
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

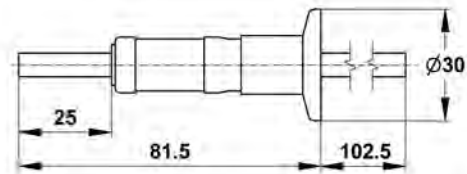
#### High current clamp

■ Conductor diameter	6.4 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	350 A

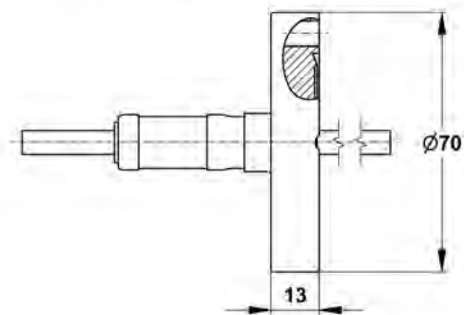
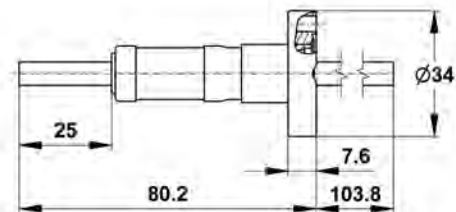
#### without flange



#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## High Power Feedthroughs

Current up to 185 A, 1 pin, conductor diameter: 6.4 mm

### Without flange



Order code	Conductor material	Current [A]	Wall thickness
W-HC8-CE-SST64	stainless steel 304 tube	-	0.89
W-HC8-CE-CUT64	copper tube	-	0.81
W-HC8-CE-SS64	stainless steel 304	12	-
W-HC8-CE-CU64	copper	185	-

### On KF flange



Order code	Flange	Conductor material	Current [A]
KF16-HC8-1-CE-SST64	DN16KF	stainless steel 304 tube	-
KF16-HC8-1-CE-CUT64	DN16KF	copper tube	-
KF16-HC8-1-CE-SS64	DN16KF	stainless steel 304	12
KF16-HC8-1-CE-CU64	DN16KF	copper	185

### On CF flange



Order code	Flange	Conductor material	Current [A]
CF16-HC8-1-CE-SST64	DN16CF	stainless steel 304 tube	-
CF16-HC8-1-CE-CUT64	DN16CF	copper tube	-
CF16-HC8-1-CE-SS64	DN16CF	stainless steel 304	12
CF16-HC8-1-CE-CU64	DN16CF	copper	185
CF40-HC8-1-CE-SST64	DN40CF	stainless steel 304 tube	-
CF40-HC8-1-CE-CUT64	DN40CF	copper tube	-
CF40-HC8-1-CE-SS64	DN40CF	stainless steel 304	12
CF40-HC8-1-CE-CU64	DN40CF	copper	185

### Accessories

Order code	Description
EK-LK-CB64	barrel type contact
EK-HC-CU64	high current clamp

## High Power Feedthroughs

Current up to 185 A, 2 - 4 pins, conductor diameter: 6.4 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	see table
■ Voltage	8 kV DC

#### Wall thickness

■ Stainless steel 304 tube	0.89 mm
■ Copper tube	0.81 mm

### Accessories

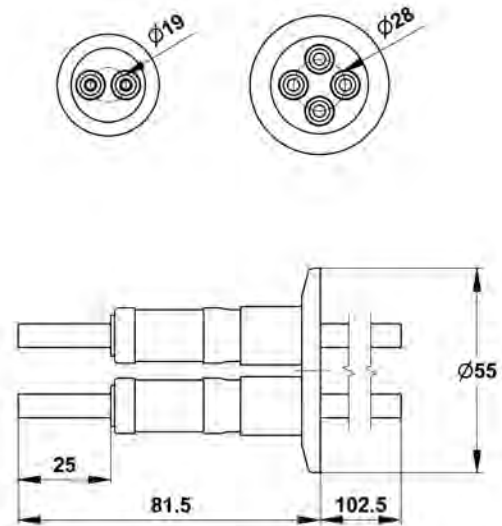
#### Barrel type contact

■ Conductor diameter	6.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	35 A
■ Packing unit	10 pieces

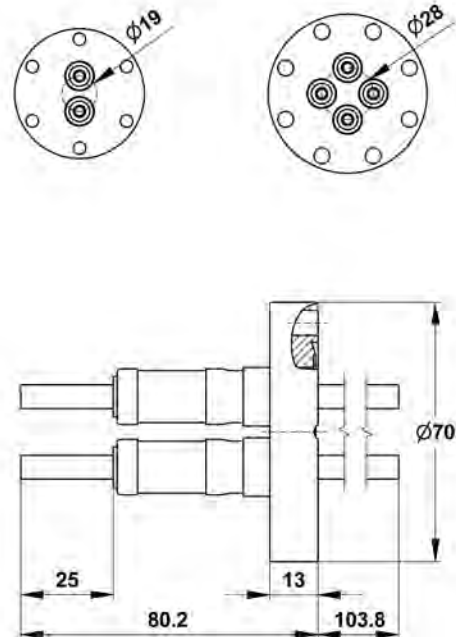
#### High current clamp

■ Conductor diameter	6.4 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	350 A

#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## High Power Feedthroughs

Current up to 185 A, 2 - 4 pins, conductor diameter: 6.4 mm

On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF40-HC8-2-CE-SST64	DN40KF	2	stainless steel 304 tube	-
KF40-HC8-2-CE-CUT64	DN40KF	2	copper tube	-
KF40-HC8-2-CE-SS64	DN40KF	2	stainless steel 304	12
KF40-HC8-2-CE-CU64	DN40KF	2	copper	185
KF50-HC8-4-CE-SST64	DN50KF	4	stainless steel 304 tube	-
KF50-HC8-4-CE-CUT64	DN50KF	4	copper tube	-
KF50-HC8-4-CE-SS64	DN50KF	4	stainless steel 304	12
KF50-HC8-4-CE-CU64	DN50KF	4	copper	185

On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF40-HC8-2-CE-SST64	DN40CF	2	stainless steel 304 tube	-
CF40-HC8-2-CE-CUT64	DN40CF	2	copper tube	-
CF40-HC8-2-CE-SS64	DN40CF	2	stainless steel 304	12
CF40-HC8-2-CE-CU64	DN40CF	2	copper	185
CF40-HC8-4-CE-SST64	DN40CF	4	stainless steel 304 tube	-
CF40-HC8-4-CE-CUT64	DN40CF	4	copper tube	-
CF40-HC8-4-CE-SS64	DN40CF	4	stainless steel 304	12
CF40-HC8-4-CE-CU64	DN40CF	4	copper	185

Accessories

Order code	Description
EK-LK-CB64	barrel type contact
EK-HC-CU64	high current clamp

## High Power Feedthroughs

Current up to 330 A, 1 - 2 pins, conductor diameter: 9.5 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

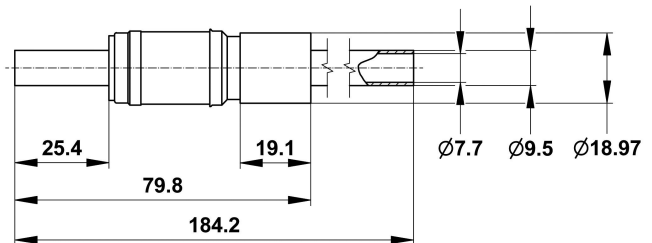
■ Current	see table
■ Voltage	8 kV DC

#### Accessories

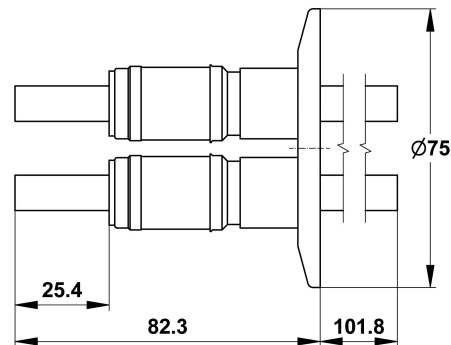
#### High current clamp

■ Conductor diameter	9.5 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	400 A

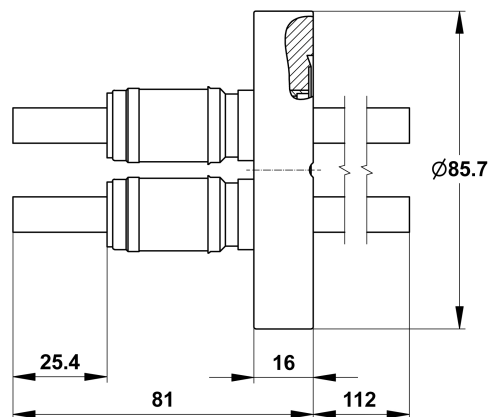
#### without flange



#### on KF flange



#### on CF flange



## Power and High Voltage Feedthroughs

### High Power Feedthroughs

Current up to 330 A, 1 - 2 pins, conductor diameter: 9.5 mm

#### Without flange



Order code	Conductor material	Current [A]	Wall thickness
W-HC8-CE-SST95	stainless steel 304 tube	-	0.89
W-HC8-CE-CUT95	copper tube	-	0.81
W-HC8-CE-SS95	stainless steel 304	21	
W-HC8-CE-CU95	copper	330	

#### On KF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
KF16-HC8-1-CE-SST95	DN16KF	1	stainless steel 304 tube	-
KF16-HC8-1-CE-CUT95	DN16KF	1	copper tube	-
KF16-HC8-1-CE-SS95	DN16KF	1	stainless steel 304	21
KF16-HC8-1-CE-CU95	DN16KF	1	copper	330
KF50-HC8-2-CE-SST95	DN50KF	2	stainless steel 304 tube	-
KF50-HC8-2-CE-CUT95	DN50KF	2	copper tube	-
KF50-HC8-2-CE-SS95	DN50KF	2	stainless steel 304	21
KF50-HC8-2-CE-CU95	DN50KF	2	copper	330

#### On CF flange



Order code	Flange	Number of pins	Conductor material	Current [A]
CF16-HC8-1-CE-SST95	DN16CF	1	stainless steel 304 tube	-
CF16-HC8-1-CE-CUT95	DN16CF	1	copper tube	-
CF16-HC8-1-CE-SS95	DN16CF	1	stainless steel 304	21
CF16-HC8-1-CE-CU95	DN16CF	1	copper	330
CF40-HC8-2-CE-SST95	DN40CF	2	stainless steel 304 tube	-
CF40-HC8-2-CE-CUT95	DN40CF	2	copper tube	-
CF40-HC8-2-CE-SS95	DN40CF	2	stainless steel 304	21
CF40-HC8-2-CE-CU95	DN40CF	2	copper	330

#### Accessories

Order code	Description
EK-HC-CU95	High current clamps

## High Power Feedthroughs

Current up to 470 A, conductor diameter: 12.7 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

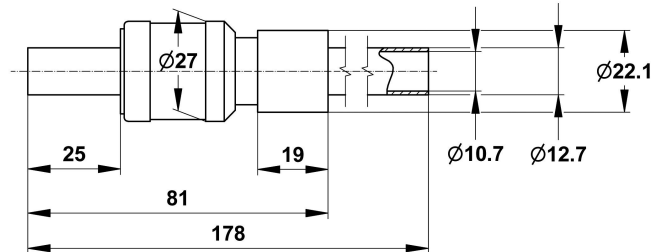
■ Current	see table
■ Voltage	8 kV DC

#### Accessories

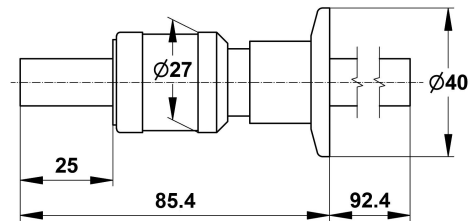
#### High current clamp

■ Conductor diameter	12.7 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	500 A

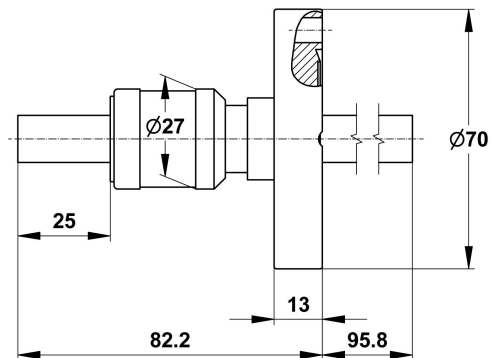
#### without flange



#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## High Power Feedthroughs

Current up to 470 A, conductor diameter: 12.7 mm

### Without flange



Order code	Conductor material	Current [A]	Wall thickness
W-HC8-CE-SST127	stainless steel 304 tube	-	0.89
W-HC8-CE-CUT127	copper tube	-	0.81
W-HC8-CE-SS127	stainless steel 304	30	-
W-HC8-CE-CU127	copper	470	-

### On KF flange



Order code	Flange	Conductor material	Current [A]
KF25-HC8-1-CE-SST127	DN25KF	stainless steel 304 tube	-
KF25-HC8-1-CE-CUT127	DN25KF	copper tube	-
KF25-HC8-1-CE-SS127	DN25KF	stainless steel 304	30
KF25-HC8-1-CE-CU127	DN25KF	copper	470
KF40-HC8-1-CE-SST127	DN40KF	stainless steel 304 tube	-
KF40-HC8-1-CE-CUT127	DN40KF	copper tube	-
KF40-HC8-1-CE-SS127	DN40KF	stainless steel 304	30
KF40-HC8-1-CE-CU127	DN40KF	copper	470

### On CF flange



Order code	Flange	Conductor material	Current [A]
CF40-HC8-1-CE-SST127	DN40CF	stainless steel 304 tube	-
CF40-HC8-1-CE-CUT127	DN40CF	copper tube	-
CF40-HC8-1-CE-SS127	DN40CF	stainless steel 304	30
CF40-HC8-1-CE-CU127	DN40CF	copper	470
CF63-HC8-1-CE-SST127	DN63CF	stainless steel 304 tube	-
CF63-HC8-1-CE-CUT127	DN63CF	copper tube	-
CF63-HC8-1-CE-SS127	DN63CF	stainless steel 304	30
CF63-HC8-1-CE-CU127	DN63CF	copper	470

### Accessories

Order code	Description
EK-HC-CU127	High current clamps



## High Power Feedthroughs

Current up to 800 A, conductor diameter: 19.0 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

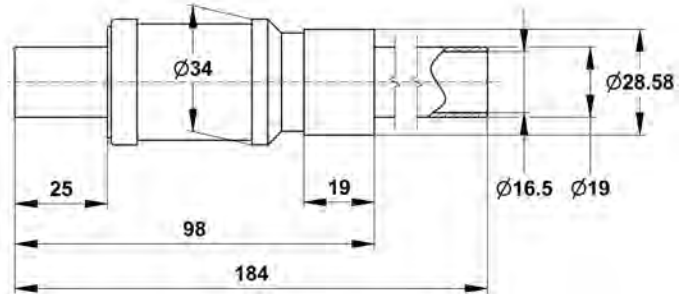
■ Current	see table
■ Voltage	8 kV DC

#### Accessories

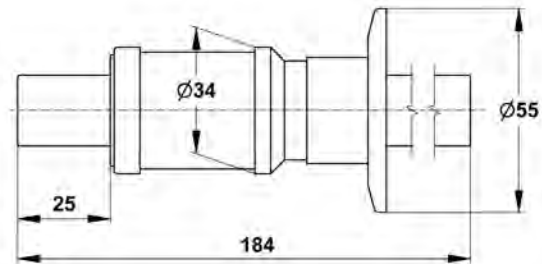
#### High current clamp

■ Conductor diameter	19.0 mm
■ Conductor material	copper
■ Temperature range	-269 °C to 400 °C
■ Current	1000 A

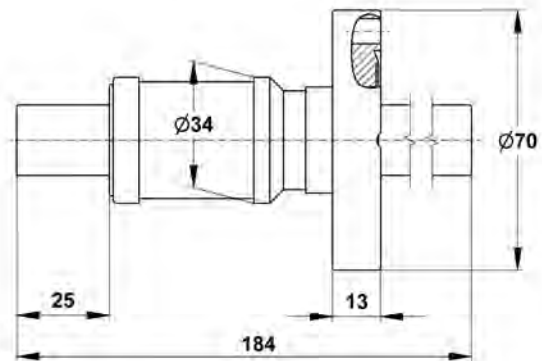
#### without flange



#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## High Power Feedthroughs

Current up to 800 A, conductor diameter: 19.0 mm

### Without flange



Order code	Conductor material	Current [A]	Wall thickness
W-HC8-CE-SST190	stainless steel 304 tube	-	1.65
W-HC8-CE-CUT190	copper tube	-	0.81
W-HC8-CE-SS190	stainless steel 304	52	-
W-HC8-CE-CU190	copper	800	-

### On KF flange



Order code	Flange	Conductor material	Current [A]
KF40-HC8-1-CE-SST190	DN40KF	stainless steel 304 tube	-
KF40-HC8-1-CE-CUT190	DN40KF	copper tube	-
KF40-HC8-1-CE-SS190	DN40KF	stainless steel 304	52
KF40-HC8-1-CE-CU190	DN40KF	copper	800

### On CF flange



Order code	Flange	Conductor material	Current [A]
CF40-HC8-1-CE-SST190	DN40CF	stainless steel 304 tube	-
CF40-HC8-1-CE-CUT190	DN40CF	copper tube	-
CF40-HC8-1-CE-SS190	DN40CF	stainless steel 304	52
CF40-HC8-1-CE-CU190	DN40CF	copper	800
CF63-HC8-1-CE-SST190	DN63CF	stainless steel 304 tube	-
CF63-HC8-1-CE-CUT190	DN63CF	copper tube	-
CF63-HC8-1-CE-SS190	DN63CF	stainless steel 304	52
CF63-HC8-1-CE-CU190	DN63CF	copper	800

### Accessories

Order code	Description
EK-HC-CU190	high current clamp

## RF Power Feedthroughs

Frequency: up to 13.560 MHz, Conductor diameter: 6.4 mm, Wall thickness: 0.8 mm

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	copper tube
■ Insulation	alumina ceramic

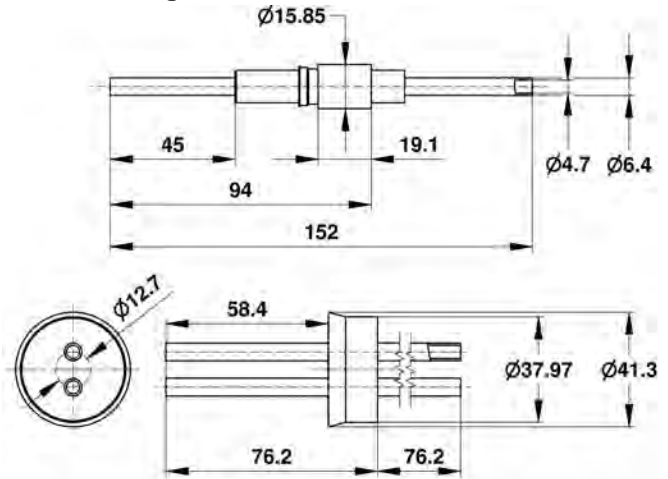
#### Temperature range

■ Without flange	-55 °C to 350 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-55 °C to 350 °C

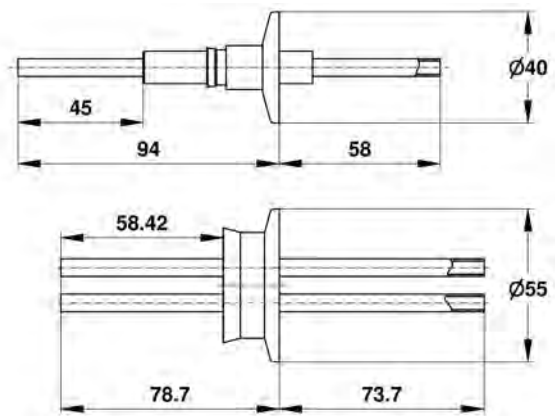
#### Electrical characteristics

■ Current	see table
■ Voltage	see table
■ Frequency	see table

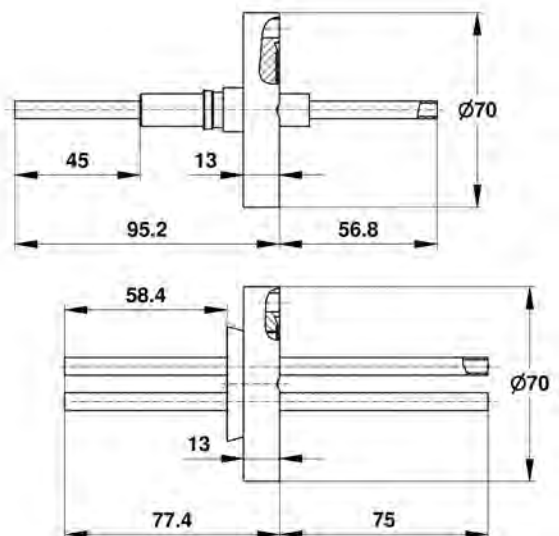
#### without flange



#### on KF flange



#### on CF flange



# Power and High Voltage Feedthroughs

## RF Power Feedthroughs

Frequency: up to 13.560 MHz, conductor diameter: 6.4 mm, wall thickness: 0.8 mm

### Without flange



Order code	Number of pins	Voltage [kV]	Frequency [kHz]	Current [A]
<b>W-HF-CE-CUT64</b>	1	14	100	300
-	1	14	300	250
-	1	14	450	200
-	1	14	13560	100
<b>W-HF8-CE-CUT64</b>	2	8	100	300
-	2	8	300	250
-	2	8	450	200
-	2	8	13560	100

### On KF flange



Order code	Flange	Number of pins	Voltage [kV]	Frequency [kHz]	Current [A]
<b>KF25-HF-CE-CUT64</b>	DN25KF	1	14	100	300
-	DN25KF	1	14	300	250
-	DN25KF	1	14	450	200
-	DN25KF	1	14	13560	100
<b>KF40-HF-CE-CUT64</b>	DN40KF	1	14	100	300
-	DN40KF	1	14	300	250
-	DN40KF	1	14	450	200
-	DN40KF	1	14	13560	100
<b>KF40-HF8-CE-CUT64</b>	DN40KF	2	8	100	300
-	DN40KF	2	8	300	250
-	DN40KF	2	8	450	200
-	DN40KF	2	8	13560	100

### On CF flange



Order code	Flange	Number of pins	Voltage [kV]	Frequency [kHz]	Current [A]
<b>CF40-HF-CE-CUT64</b>	DN40CF	1	14	100	300
-	DN40CF	1	14	300	250
-	DN40CF	1	14	450	200
-	DN40CF	1	14	13560	100
<b>CF40-HF8-CE-CUT64</b>	DN40CF	2	8	100	300
-	DN40CF	2	8	300	250
-	DN40CF	2	8	450	200
-	DN40CF	2	8	13560	100

## Introduction

### Thermocouple Feedthroughs

Thermocouple Feedthroughs are widely used for temperature measurements in vacuum systems. Temperature is not measured directly, but it can be derived from a thermoelectric voltage signal provided by a thermocouple, which acts as a sensor and provides a voltage typically in the order of millivolts. At the vacuum side of a Thermocouple Feedthrough a thermocouple needs to be connected. The feedthrough transmits this signal through the hermetic chamber wall, ideally without any distortion. At the air side a thermocouple extension or compensating cable has to be used to guide the signal to a measurement device.

Thermocouples are basically a combination of two wires made of different electrically conductive materials connected at one end. If this tip end is exposed to high or low temperature a thermoelectric voltage can be observed at the loose ends of the wires, which is specific for the material combination and the temperature difference between the loose and the connected ends. A high thermoelectric sensitivity (Volts per K), linearity and good corrosion resistance are decisive factors for the selection of the appropriate material combination for a certain application. Noble and base metals as well as metal alloys are combined in standard thermocouple types. Typical alloys are Alumel<sup>®</sup> (nickel, aluminium and manganese), Chromel<sup>®</sup> (nickel and chrome) and Constantan (copper and nickel). Typical commonly used thermocouple types are listed in the table below.

Ideally, Thermocouple Feedthroughs use the identical materials as the connected thermocouple to maintain the thermoelectric properties of the two conductive leads from the point of temperature measurement to the measurement device. However, for diverse reasons, some thermocouple feedthrough types are using compensating material ("compensating wire") instead of the actual thermocouple materials. Compensating materials are characterized by thermoelectric properties ideally adapted to the corresponding thermocouple materials. For these types, we explicitly indicate the use of compensating wire ("Uses compensating wire"). Furthermore, it should be noted, that the temperature at junctions between a compensating wire and a thermocouple must not exceed 250 °C ("Max. junction temperature 250 °C").

Thermocouple (ANSI code)		Polarity	Measurable temperature range [°C]
T	Copper	+	-200...350
	Constantan <sup>®</sup>	-	
K	Chromel <sup>®</sup>	+	-200...1250
	Alumel <sup>®</sup>	-	
R/S	Platinum 13/10 % Rhodium*	+	0...1450
	Platinum*	-	
J	Iron	+	0...750
	Constantan <sup>®</sup>	-	
E	Chromel <sup>®</sup>	+	-200...900
	Constantan <sup>®</sup>	-	
C**	Tungsten 5 % Rhenium*	+	0...2315
	Tungsten 26 % Rhenium*	-	

\*Uses compensating wire. Maximum junction temperature 250 °C.

\*\*no ANSI code



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs, Loop-type

Single contact, without flange

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■	-269 °C to 450 °C
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Figure 1

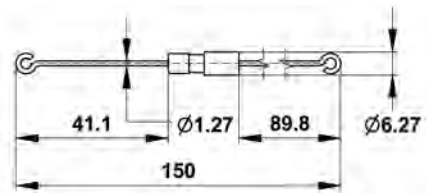
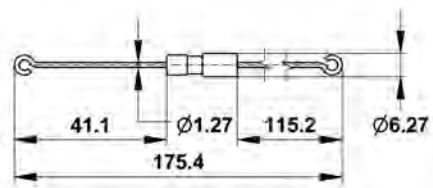


Figure 2



Single conductor, without flange



Order code	Conductor material	For thermocouple type	Figure
W-TSL-CE-CU	copper	T, R/S	1
W-TSL-CE-KO	Constantan®	T	2
W-TSL-CE-PR	platinum/rhodium*	R/S	2

\*) Uses compensating wire. Max. junction temperature 250°C.

# Thermocouple Feedthroughs

## Thermocouple Feedthroughs, Loop-type

### Single pair

#### Technical data

##### Material

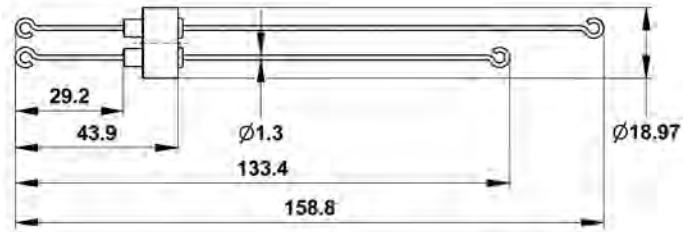
■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

##### Temperature range

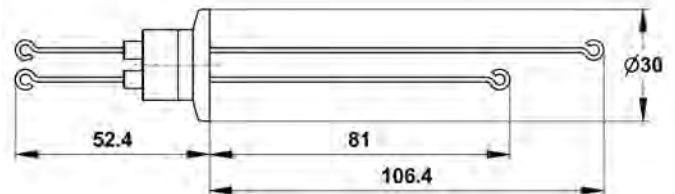
■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

4

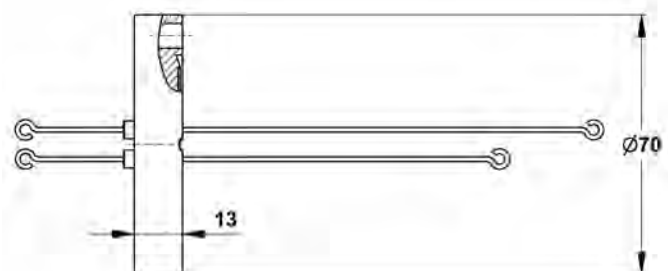
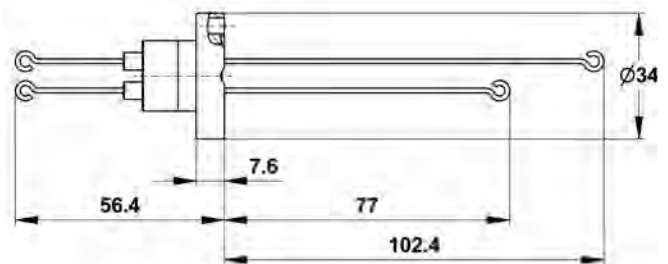
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs, Loop-type

### Single pair

#### Without flange



Order code	Conductor material	Thermocouple type
<b>W-TCL1-CE-T</b>	copper/Constantan®	T
<b>W-TCL1-CE-RS</b>	platinum/rhodium*	R/S

- \*) Uses compensating wire, max. junction temperature 250 °C.  
 • Type N is available on request

#### On KF flange



Order code	Flange	Conductor material	Thermocouple type
<b>KF16-TCL1-CE-T</b>	DN16KF	copper/Constantan®	T
<b>KF16-TCL1-CE-RS</b>	DN16KF	platinum/rhodium*	R/S
<b>KF40-TCL1-CE-T</b>	DN40KF	copper/Constantan®	T
<b>KF40-TCL1-CE-RS</b>	DN40KF	platinum/rhodium*	R/S

- \*) Uses compensating wire, max. junction temperature 250 °C.

#### On CF flange



Order code	Flange	Conductor material	Thermocouple type
<b>CF16-TCL1-CE-T</b>	DN16CF	copper/Constantan®	T
<b>CF16-TCL1-CE-RS</b>	DN16CF	platinum/rhodium*	R/S
<b>CF40-TCL1-CE-T</b>	DN40CF	copper/Constantan®	T
<b>CF40-TCL1-CE-RS</b>	DN40CF	platinum/rhodium*	R/S

- \*) Uses compensating wire, max. junction temperature 250 °C.



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs, Loop-type

Two pairs

### Technical data

#### Material

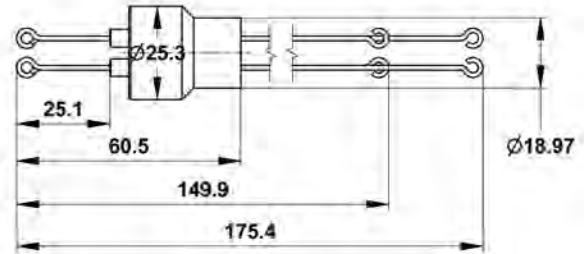
■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

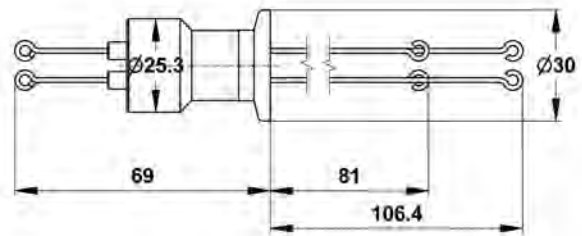
■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

4

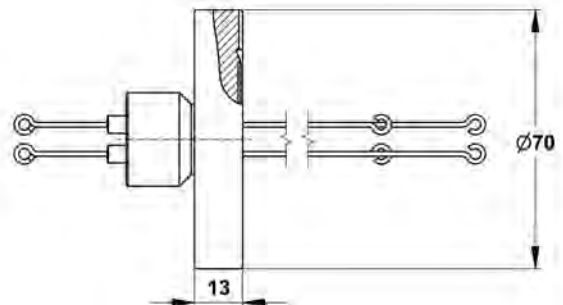
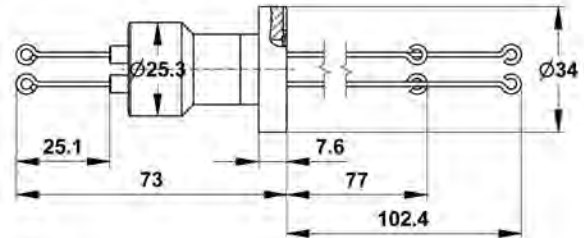
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs, Loop-type

### Two pairs

#### Without flange



Order code	Conductor material	Thermocouple type
<b>W-TCL2-CE-T</b>	copper/Constantan®	T
<b>W-TCL2-CE-RS</b>	platinum/rhodium*	R/S

- \*) Uses compensating wire, max. junction temperature 250 °C.  
 • Type N is available on request

#### On KF flange



Order code	Flange	Conductor material	Thermocouple type
<b>KF16-TCL2-CE-T</b>	DN16KF	copper/Constantan®	T
<b>KF16-TCL2-CE-RS</b>	DN16KF	platinum/rhodium*	R/S
<b>KF40-TCL2-CE-T</b>	DN40KF	copper/Constantan®	T
<b>KF40-TCL2-CE-RS</b>	DN40KF	platinum/rhodium*	R/S

- \*) Uses compensating wire, max. junction temperature 250 °C.

#### On CF flange



Order code	Flange	Conductor material	Thermocouple type
<b>CF16-TCL2-CE-T</b>	DN16CF	copper/Constantan®	T
<b>CF16-TCL2-CE-RS</b>	DN16CF	platinum/rhodium*	R/S
<b>CF40-TCL2-CE-T</b>	DN40CF	copper/Constantan®	T
<b>CF40-TCL2-CE-RS</b>	DN40CF	platinum/rhodium*	R/S

- \*) Uses compensating wire, max. junction temperature 250 °C.

## Thermocouple Feedthroughs

Single contact, without flange

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

■	-269 °C to 450 °C
---	-------------------

4

Figure 1

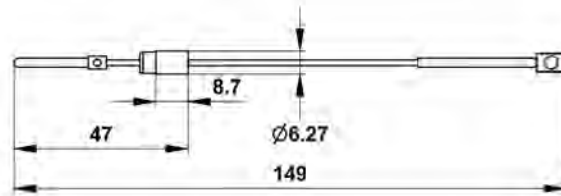


Figure 2

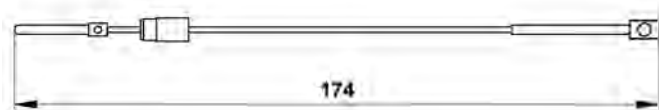


Figure 3

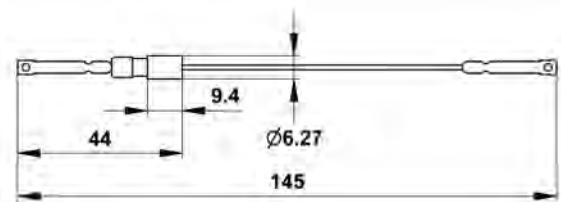
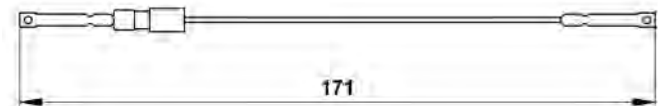


Figure 4



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Single contact, without flange

For air side plug, screw contact on vacuum side



Order code	Conductor material	For thermocouple type	Figure
W-TS-CE-CR	Chromel®	K	1
W-TS-CE-FE	iron	J	1
W-TS-CE-T5R	tungsten 5% rhenium*	C	1
W-TS-CE-AM	Alumel®	K	2
W-TS-CE-KO	Constantan®	J	2
W-TS-CE-T26R	tungsten 26% rhenium*	C	2

\*) Uses compensating wire, max. junction temperature 250 °C.

Screw contact on both sides



Order code	Conductor material	For thermocouple type	Figure
W-TS2L-CE-CR	Chromel®	K	3
W-TS2L-CE-FE	iron	J	3
W-TS2L-CE-T5R	tungsten 5% rhenium*	C	3
W-TS2L-CE-AM	Alumel®	K	4
W-TS2L-CE-KO	Constantan®	J	4
W-TS2L-CE-T26R	tungsten 26% rhenium*	C	4

\*) Uses compensating wire, max. junction temperature 250 °C.

# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Single pair, with air side plug, screw contact on vacuum side

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

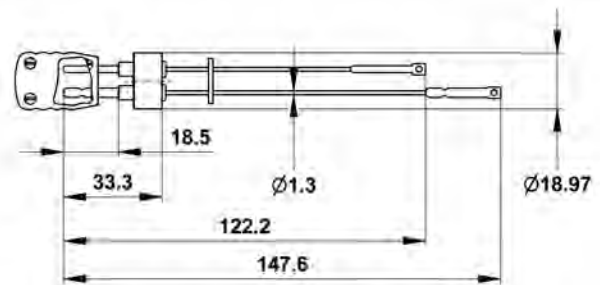
■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

### Accessories

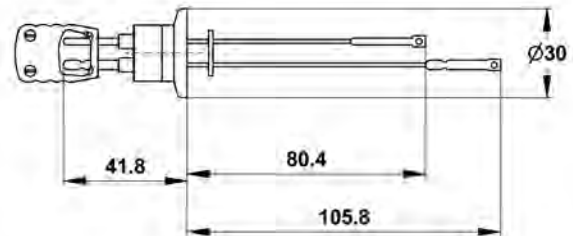
#### Air side plug

■ Temperature range	-29 °C to 218 °C
■ Material	glass filled nylon
■ Conductor material	see table
■ Color	see table

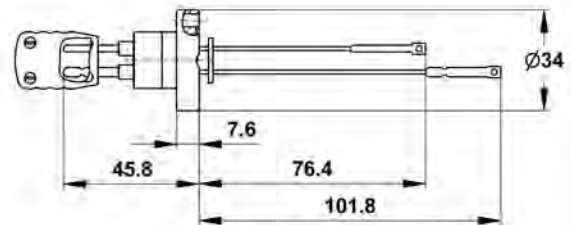
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Single pair, with air side plug, screw contact on vacuum side

### Without flange



Order code	Conductor material	Thermocouple type
W-TC1-CE-K	Chromel®/Alumel®	K
W-TC1-CE-C	tungsten/rhenium*	C
W-TC1-CE-J	iron/Constantan®	J
W-TC1-CE-E	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On KF flange



Order code	Flange	Conductor material	Thermocouple type
KF16-TC1-CE-K	DN16KF	Chromel®/Alumel®	K
KF16-TC1-CE-C	DN16KF	tungsten/rhenium*	C
KF16-TC1-CE-J	DN16KF	iron/Constantan®	J
KF16-TC1-CE-E	DN16KF	Chromel®/Constantan®	E
KF40-TC1-CE-K	DN40KF	Chromel®/Alumel®	K
KF40-TC1-CE-C	DN40KF	tungsten/rhenium*	C
KF40-TC1-CE-J	DN40KF	iron/Constantan®	J
KF40-TC1-CE-E	DN40KF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On CF flange



Order code	Flange	Conductor material	Thermocouple type
CF16-TC1-CE-K	DN16CF	Chromel®/Alumel®	K
CF16-TC1-CE-C	DN16CF	tungsten/rhenium*	C
CF16-TC1-CE-J	DN16CF	iron/Constantan®	J
CF16-TC1-CE-E	DN16CF	Chromel®/Constantan®	E
CF40-TC1-CE-K	DN40CF	Chromel®/Alumel®	K
CF40-TC1-CE-C	DN40CF	tungsten/rhenium*	C
CF40-TC1-CE-J	DN40CF	iron/Constantan®	J
CF40-TC1-CE-E	DN40CF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### Air side plug



Order code	Conductor material	Thermocouple type	Color
PLUG-TC-N-K	Chromel®/Alumel®	K	yellow
PLUG-TC-N-C	tungsten/rhenium*	C	red
PLUG-TC-N-J	iron/Constantan®	J	black
PLUG-TC-N-E	Chromel®/Constantan®	E	purple

• For type K and C high temperature plugs (-73 °C to 650 °C) are available!

# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Two pairs, with air side plug, screw contact on vacuum side

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

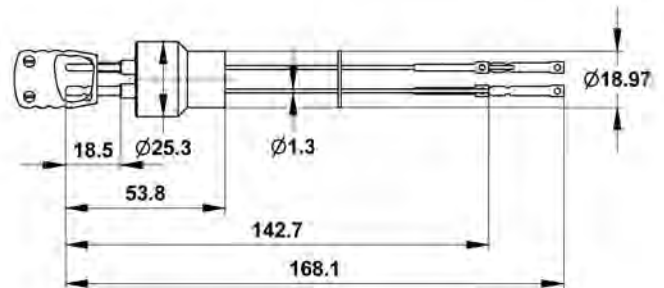
■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

### Accessories

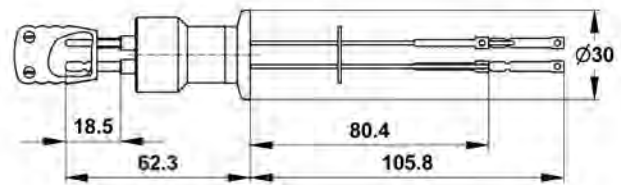
#### Air side plug

■ Temperature range	-29 °C to 218 °C
■ Material	glass filled nylon
■ Conductor material	see table
■ Color	see table

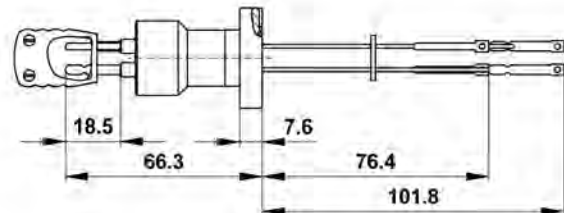
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Two pairs, with air side plug, screw contact on vacuum side

### Without flange



Order code	Conductor material	Thermocouple type
W-TC2-CE-K	Chromel®/Alumel®	K
W-TC2-CE-C	tungsten/rhenium*	C
W-TC2-CE-J	iron/Constantan®	J
W-TC2-CE-E	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On KF flange



Order code	Flange	Conductor material	Thermocouple type
KF16-TC2-CE-K	DN16KF	Chromel®/Alumel®	K
KF16-TC2-CE-C	DN16KF	tungsten/rhenium*	C
KF16-TC2-CE-J	DN16KF	iron/Constantan®	J
KF16-TC2-CE-E	DN16KF	Chromel®/Constantan®	E
KF40-TC2-CE-K	DN40KF	Chromel®/Alumel®	K
KF40-TC2-CE-C	DN40KF	tungsten/rhenium*	C
KF40-TC2-CE-J	DN40KF	iron/Constantan®	J
KF40-TC2-CE-E	DN40KF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On CF flange



Order code	Flange	Conductor material	Thermocouple type
CF16-TC2-CE-K	DN16CF	Chromel®/Alumel®	K
CF16-TC2-CE-C	DN16CF	tungsten/rhenium*	C
CF16-TC2-CE-J	DN16CF	iron/Constantan®	J
CF16-TC2-CE-E	DN16CF	Chromel®/Constantan®	E
CF40-TC2-CE-K	DN40CF	Chromel®/Alumel®	K
CF40-TC2-CE-C	DN40CF	tungsten/rhenium*	C
CF40-TC2-CE-J	DN40CF	iron/Constantan®	J
CF40-TC2-CE-E	DN40CF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### Air side plug



Order code	Conductor material	Thermocouple type	Color
PLUG-TC-N-K	Chromel®/Alumel®	K	yellow
PLUG-TC-N-C	tungsten/rhenium	C	red
PLUG-TC-N-J	iron/Constantan®	J	black
PLUG-TC-N-E	Chromel®/Constantan®	E	purple

• For type K and C high temperature plugs (-73 °C to 650 °C) are available!



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Three pairs, with air side plug, screw contact on vacuum side

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

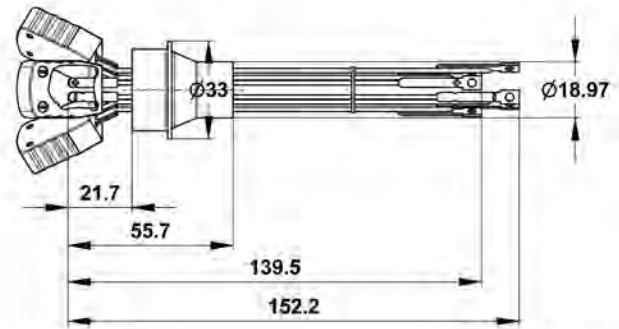
■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

### Accessories

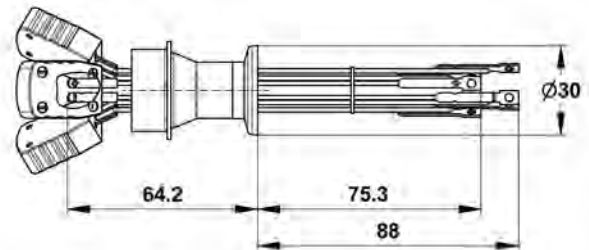
#### Air side plug

■ Temperature range	-29 °C to 218 °C
■ Material	glass filled nylon
■ Conductor material	see table
■ Color	see table

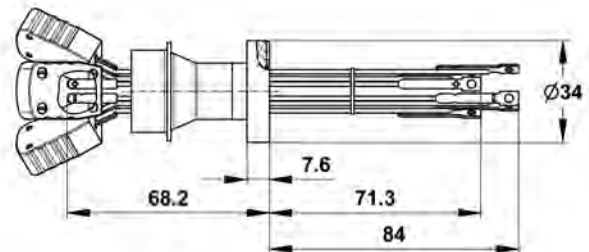
without flange



on KF flange



on CF flange



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Three pairs, with air side plug, screw contact on vacuum side

### Without flange



Order code	Conductor material	Thermocouple type
W-TC3-CE-K	Chromel®/Alumel®	K
W-TC3-CE-J	iron/Constantan®	J
W-TC3-CE-E	Chromel®/Constantan®	E

\* Type C is available on request

### On KF flange



Order code	Flange	Conductor material	Thermocouple type
KF16-TC3-CE-K	DN16KF	Chromel®/Alumel®	K
KF16-TC3-CE-J	DN16KF	iron/Constantan®	J
KF16-TC3-CE-E	DN16KF	Chromel®/Constantan®	E
KF40-TC3-CE-K	DN40KF	Chromel®/Alumel®	K
KF40-TC3-CE-J	DN40KF	iron/Constantan®	J
KF40-TC3-CE-E	DN40KF	Chromel®/Constantan®	E

### On CF flange



Order code	Flange	Conductor material	Thermocouple type
CF16-TC3-CE-K	DN16CF	Chromel®/Alumel®	K
CF16-TC3-CE-J	DN16CF	iron/Constantan®	J
CF16-TC3-CE-E	DN16CF	Chromel®/Constantan®	E
CF40-TC3-CE-K	DN40CF	Chromel®/Alumel®	K
CF40-TC3-CE-J	DN40CF	iron/Constantan®	J
CF40-TC3-CE-E	DN40CF	Chromel®/Constantan®	E

### Air side plug



Order code	Conductor material	Thermocouple type	Color
PLUG-TC-N-K	Chromel®/Alumel®	K	yellow
PLUG-TC-N-J	iron/Constantan®	J	black
PLUG-TC-N-E	Chromel®/Constantan®	E	purple

• For type K and C high temperature plugs (-73 °C to 650 °C) are available!

# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Five pair, with air side plug, screw contact on vacuum side

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	see table
■ Insulation	alumina ceramic

#### Temperature range

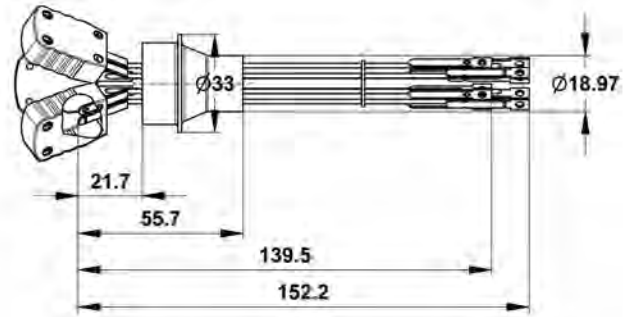
■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

### Accessories

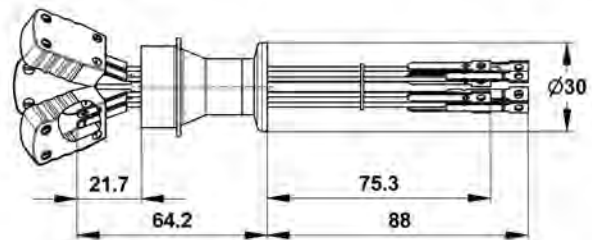
#### Air side plug

■ Temperature range	-29 °C to 218 °C
■ Material	glass filled nylon
■ Conductor material	see table
■ Color	see table

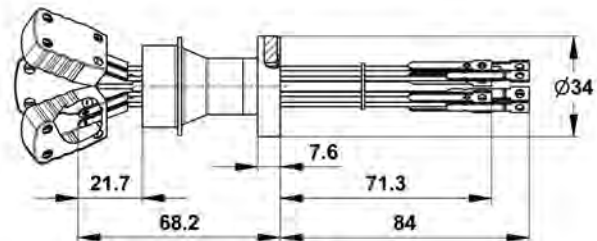
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs

Five pair, with air side plug, screw contact on vacuum side

### Without flange



Order code	Conductor material	Thermocouple type
W-TC5-CE-K	Chromel®/Alumel®	K
W-TC5-CE-J	iron/Constantan®	J
W-TC5-CE-E	Chromel®/Constantan®	E

- Type C is available on request

### On KF flange



Order code	Flange	Conductor material	Thermocouple type
KF16-TC5-CE-K	DN16KF	Chromel®/Alumel®	K
KF16-TC5-CE-J	DN16KF	iron/Constantan®	J
KF16-TC5-CE-E	DN16KF	Chromel®/Constantan®	E
KF40-TC5-CE-K	DN40KF	Chromel®/Alumel®	K
KF40-TC5-CE-J	DN40KF	iron/Constantan®	J
KF40-TC5-CE-E	DN40KF	Chromel®/Constantan®	E

### On CF flange



Order code	Flange	Conductor material	Thermocouple type
CF16-TC5-CE-K	DN16CF	Chromel®/Alumel®	K
CF16-TC5-CE-J	DN16CF	iron/Constantan®	J
CF16-TC5-CE-E	DN16CF	Chromel®/Constantan®	E
CF40-TC5-CE-K	DN40CF	Chromel®/Alumel®	K
CF40-TC5-CE-J	DN40CF	iron/Constantan®	J
CF40-TC5-CE-E	DN40CF	Chromel®/Constantan®	E

### Air side plug



Order code	Conductor material	Thermocouple type	Color
PLUG-TC-N-K	Chromel®/Alumel®	K	yellow
PLUG-TC-N-J	iron/Constantan®	J	black
PLUG-TC-N-E	Chromel®/Constantan®	E	purple

- For type K one high temperature plug (-73 °C bis 650 °C) is available.

# Thermocouple Feedthroughs

## Combination Power and Thermocouple Feedthroughs

One pair, with air side plug, screw contact on vacuum side

### Technical data

#### Material

■ Housing	stainless steel 304
■ Pin power	copper
■ Pin thermo	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	55 A
■ Voltage	5 kV DC

#### Accessories

#### Air side plug

■ Temperature range	-29 °C to 218 °C
■ Material	glass filled nylon
■ Conductor material	see table
■ Color	see table

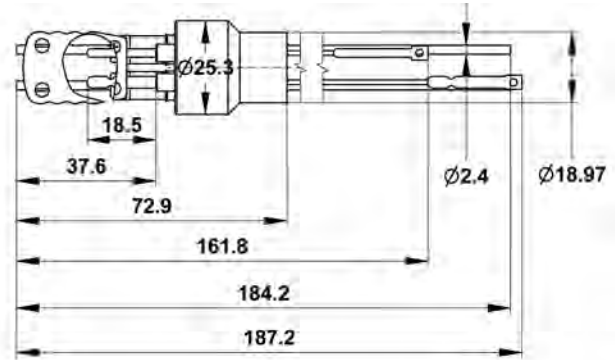
#### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

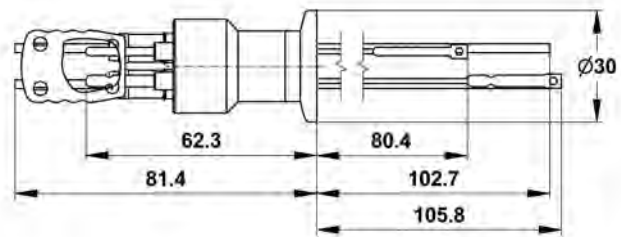
#### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

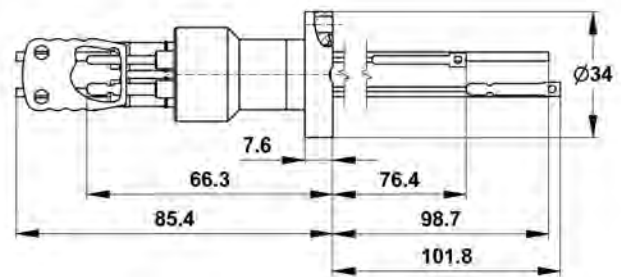
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Combination Power and Thermocouple Feedthroughs

One pair, with air side plug, screw contact on vacuum side

### Without flange



Order code	Conductor material	Thermocouple type
W-TC1HV5-CE-K-2CU24	Chromel®/Alumel®	K
W-TC1HV5-CE-C-2CU24	tungsten/rhenium*	C
W-TC1HV5-CE-J-2CU24	iron/Constantan®	J
W-TC1HV5-CE-E-2CU24	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On KF flange



Order code	Flange	Conductor material	Thermocouple type
KF16-TC1HV5-CE-K-2CU24	DN16KF	Chromel®/Alumel®	K
KF16-TC1HV5-CE-C-2CU24	DN16KF	tungsten/rhenium*	C
KF16-TC1HV5-CE-J-2CU24	DN16KF	iron/Constantan®	J
KF16-TC1HV5-CE-E-2CU24	DN16KF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On CF flange



Order code	Flange	Conductor material	Thermocouple type
CF16-TC1HV5-CE-K-2CU24	DN16CF	Chromel®/Alumel®	K
CF16-TC1HV5-CE-C-2CU24	DN16CF	tungsten/rhenium*	C
CF16-TC1HV5-CE-J-2CU24	DN16CF	iron/Constantan®	J
CF16-TC1HV5-CE-E-2CU24	DN16CF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### Air side plug



Order code	Conductor material	Thermocouple type	Color
PLUG-TC-N-K	Chromel®/Alumel®	K	yellow
PLUG-TC-N-C	tungsten/rhenium	C	red
PLUG-TC-N-J	iron/Constantan®	J	black
PLUG-TC-N-E	Chromel®/Constantan®	E	purple

• For type K and C high temperature plugs (-73 °C to 650 °C) are available!

### Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact

# Thermocouple Feedthroughs

## Combination Power and Thermocouple Feedthroughs

One pair, with air side plug, screw contact on vacuum side

### Technical data

#### Material

■ Housing	stainless steel 304
■ Pin power	nickel
■ Pin thermo	see table
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Electrical characteristics

■ Current	16.5 A
■ Voltage	5 kV DC

#### Accessories

##### Air side plug

■ Temperature range	-29 °C to 218 °C
■ Material	glass filled nylon
■ Conductor material	see table
■ Color	see table

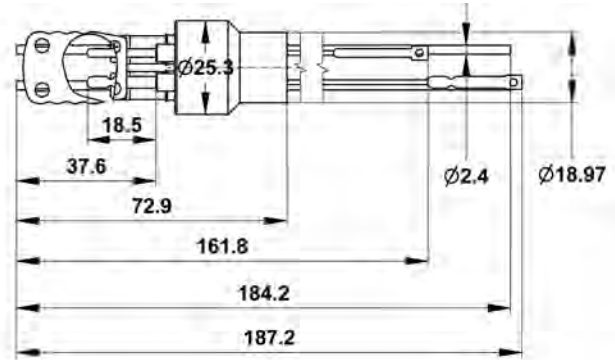
##### Set screw type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 200 °C
■ Current	25 A
■ Packing unit	10 pieces

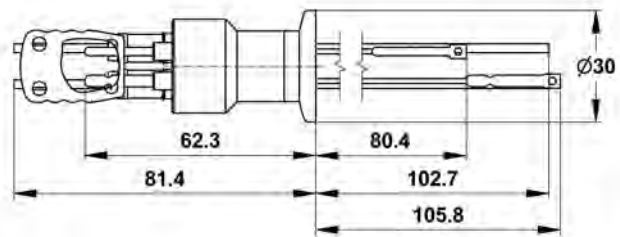
##### Barrel type contact

■ Conductor diameter	2.4 mm
■ Conductor material	beryllium-copper
■ Temperature range	-200 °C to 400 °C
■ Current	20 A
■ Packing unit	10 pieces

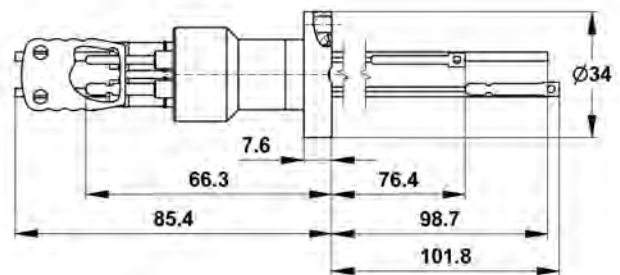
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Combination Power and Thermocouple Feedthroughs

One pair, with air side plug, screw contact on vacuum side

### Without flange



Order code	Conductor material	Thermocouple type
W-TC1HV5-CE-K-2NI24	Chromel®/Alumel®	K
W-TC1HV5-CE-C-2NI24	tungsten/rhenium*	C
W-TC1HV5-CE-J-2NI24	iron/Constantan®	J
W-TC1HV5-CE-E-2NI24	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On KF flange



Order code	Flange	Conductor material	Thermocouple type
KF16-TC1HV5-CE-K-2NI24	DN16KF	Chromel®/Alumel®	K
KF16-TC1HV5-CE-C-2NI24	DN16KF	tungsten/rhenium*	C
KF16-TC1HV5-CE-J-2NI24	DN16KF	iron/Constantan®	J
KF16-TC1HV5-CE-E-2NI24	DN16KF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### On CF flange



Order code	Flange	Conductor material	Thermocouple type
CF16-TC1HV5-CE-K-2NI24	DN16CF	Chromel®/Alumel®	K
CF16-TC1HV5-CE-C-2NI24	DN16CF	tungsten/rhenium*	C
CF16-TC1HV5-CE-J-2NI24	DN16CF	iron/Constantan®	J
CF16-TC1HV5-CE-E-2NI24	DN16CF	Chromel®/Constantan®	E

\*) Uses compensating wire, max. junction temperature 250 °C.

### Air side plug



Order code	Conductor material	Thermocouple type	Color
PLUG-TC-N-K	Chromel®/Alumel®	K	yellow
PLUG-TC-N-C	tungsten/rhenium	C	red
PLUG-TC-N-J	iron/Constantan®	J	black
PLUG-TC-N-E	Chromel®/Constantan®	E	purple

• For type K and C high temperature plugs (-73 °C to 650 °C) are available!

### Contacts

Order code	Description
EK-S-CB24	set screw type contact
EK-LK-CB24	barrel type contact



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs Type K with Plug MIL-DTL-5015

2 - 10 pairs, for air side plug

### Technical data

#### Material

■ Housing	stainless steel 304
■ Conductor material	Chromel®/Alumel®
■ Insulation	alumina ceramic

#### Temperature range

■ Without flange	-269 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-269 °C to 450 °C

#### Accessories

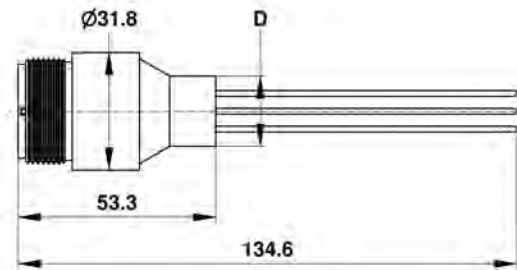
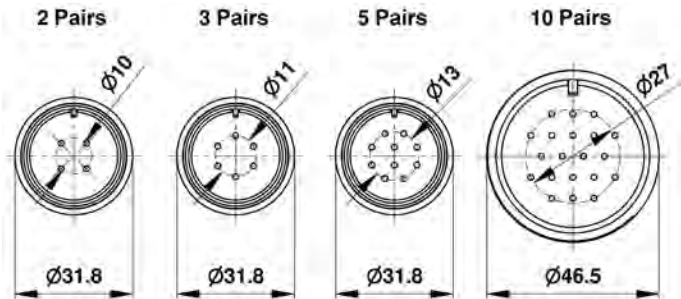
#### Air side plug

■ Conductor material	Chromel®/Alumel®
■ Insulation	diallyl phthalate
■ Temperature range	-55 °C to 125 °C
■ Thermocouple type	K

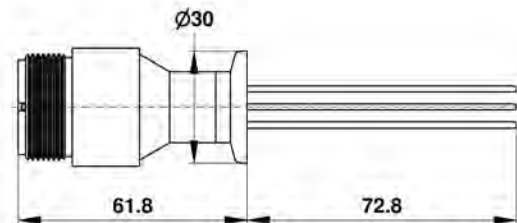
#### Crimp contact

■ Conductor diameter	1.6 mm
■ Conductor material	see table
■ Temperature range	-269 °C to 350 °C
■ Packing unit	5 pieces

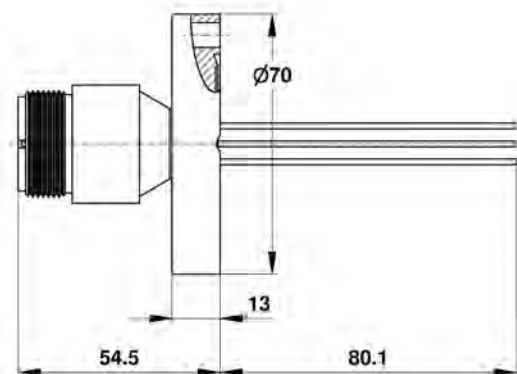
#### without flange



#### on KF flange



#### on CF flange



# Thermocouple Feedthroughs

## Thermocouple Feedthroughs Type K with Plug MIL-DTL-5015

2 - 10 pairs, for air side plug

### Without flange



Order code	Pairs	D
W-MPCTC5-2-SE-CE-K	2	18.97
W-MPCTC5-3-SE-CE-K	3	18.97
W-MPCTC5-5-SE-CE-K	5	18.97
W-MPCTC5-10-SE-CE-K	10	38.10

- Type J and E available on request
- Double-ended versions available on request

### On KF flange



Order code	Flange	Pairs
KF16-MPCTC5-2-SE-CE-K	DN16KF	2
KF16-MPCTC5-3-SE-CE-K	DN16KF	3
KF16-MPCTC5-5-SE-CE-K	DN16KF	5
KF40-MPCTC5-10-SE-CE-K	DN40KF	10

### On CF flange



Order code	Flange	Pairs
CF16-MPCTC5-2-SE-CE-K	DN16CF	2
CF16-MPCTC5-3-SE-CE-K	DN16CF	3
CF16-MPCTC5-5-SE-CE-K	DN16CF	5
CF40-MPCTC5-10-SE-CE-K	DN40CF	10

### Air side plug



Order code	Pairs
PLUG-MPCTC5-2-DI-K	2
PLUG-MPCTC5-3-DI-K	3
PLUG-MPCTC5-5-DI-K	5
PLUG-MPCTC5-10-DI-K	10

### Contacts

Order code	Description	Conductor material
EK-C-CR16	crimp contact	Chromel®
EK-C-AM16	crimp contact	Alumel®

## Introduction

### Insulators

Electrical isolators consist of an electrically insulating alumina ceramic tube with standard vacuum flanges on both ends. Between the alumina ceramic and the stainless steel flanges are metal sleeves brazed to the ceramic. Their function is to compensate the strongly different coefficients of thermal expansion of ceramic and stainless steel at high or low temperatures. The metal sleeves are mostly made of magnetic materials. If your application requires a non-magnetic isolator, we are pleased to support you.

Isolators provide an electrical break between an vacuum system and external ESD-sensitive components.

They can also be used as a conduit to introduce cryogenic fluids, gases or water into hermetically sealed systems.

4



# Isolators

## Vacuum

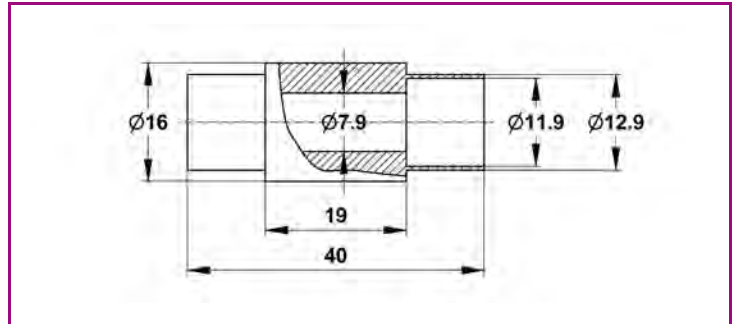
Voltage: 15 kV

### Technical data

■ Magnetic	yes
■ Inner diameter	7.9 mm
■ Tube O.D.	12.9 mm

### Material

■ Tube	Kovar®
■ Insulation	alumina ceramic



Voltage: 15 kV



Order code	Flange	Temperature range [°C]
W-ISO15M-CE-KOV129	-	-55 to 450
KF16-ISO15M-CE-KOV129	DN16KF	defined by gasket
CF16-ISO15M-CE-KOV129	DN16CF	-55 to 450

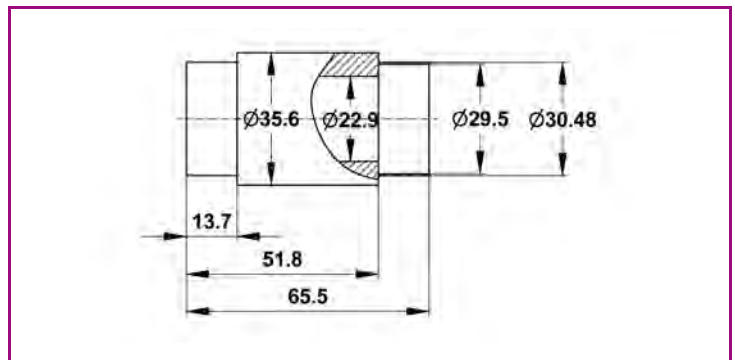
Voltage: 30 kV

### Technical data

■ Magnetic	yes
■ Inner diameter	23 mm
■ Tube O.D.	30.5 mm

### Material

■ Tube	Kovar®
■ Insulation	alumina ceramic



Voltage: 30 kV



Order code	Flange	Temperature range [°C]
W-ISO30M-CE-KOV305	-	-55 to 450
KF40-ISO30M-CE-KOV305	DN40KF	defined by gasket
CF40-ISO30M-CE-KOV305	DN40CF	-55 to 450

# Isolators

## Vacuum

Voltage: 6 - 35 kV

### Technical data

■ Magnetic	see table
■ Inner diameter	19 mm
■ Connection diameter	19 mm

### Material

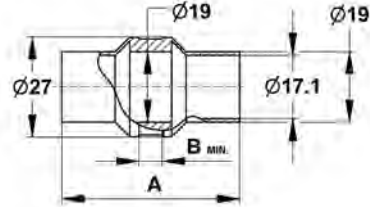
■ Tube stainless steel	Stainless steel 304
■ Insulation	alumina ceramic

### Temperature range

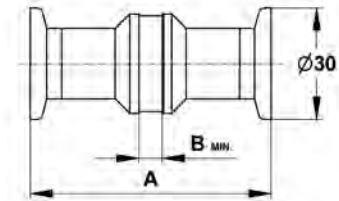
■ Without flange	-55 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-55 °C to 450 °C

4

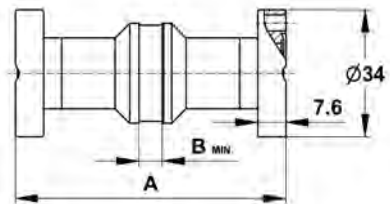
### without flange



### on KF flange



### on CF flange



# Isolators

## Vacuum

Voltage: 6 - 35 kV

Without flange



Order code	Magnetic	Voltage [kV]	A	B
W-ISO6M-CE-KOV190	yes	6	48	6.3
W-ISO20M-CE-KOV190	yes	20	67	25
W-ISO35M-CE-KOV190	yes	35	92	51
W-ISO6-CE-SS190	no	6	48	6.3
W-ISO20-CE-SS190	no	20	67	25
W-ISO35-CE-SS190	no	35	92	51

On KF flange



Order code	Flange	Magnetic	Voltage [kV]	A	B
KF16-ISO6M-CE-KOV190	DN16KF	yes	6	73	6.3
KF16-ISO20M-CE-KOV190	DN16KF	yes	20	92	25
KF16-ISO35M-CE-KOV190	DN16KF	yes	35	118	51
KF16-ISO6-CE-SS190	DN16KF	no	6	73	6.3
KF16-ISO20-CE-SS190	DN16KF	no	20	92	25
KF16-ISO35-CE-SS190	DN16KF	no	35	118	51

On CF flange



Order code	Flange	Magnetic	Voltage [kV]	A	B
CF16-ISO6M-CE-KOV190	DN16CF	yes	6	73	6.3
CF16-ISO20M-CE-KOV190	DN16CF	yes	20	92	25
CF16-ISO35M-CE-KOV190	DN16CF	yes	35	118	51
CF16-ISO6-CE-SS190	DN16CF	no	6	73	6.3
CF16-ISO20-CE-SS190	DN16CF	no	20	92	25
CF16-ISO35-CE-SS190	DN16CF	no	35	118	51

# Isolators

## Vacuum

Voltage: 5 - 65 kV

### Technical data

■ Magnetic	see table
■ Inner diameter	32 mm
■ Connection diameter	31.8 mm

### Material

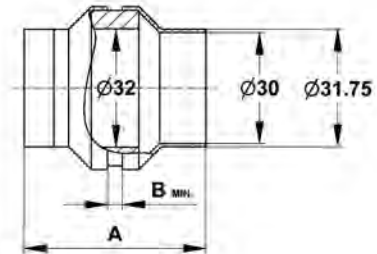
■ Tube	Stainless steel 304
■ Insulation	alumina ceramic

### Temperature range

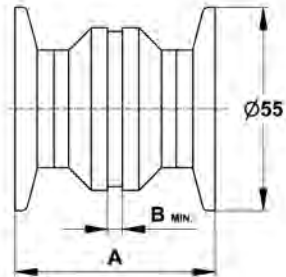
■ Without flange	-55 °C to 450 °C
■ On KF flange	limited by O-ring type
■ On CF flange	-55 °C to 450 °C

4

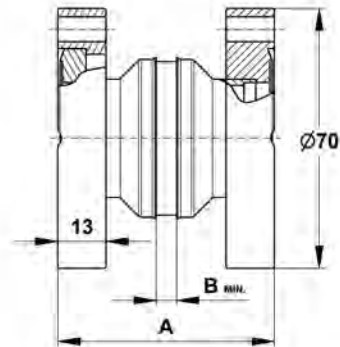
### without flange



### on KF flange



### on CF flange



# Isolators

## Vacuum

Voltage: 5 - 65 kV

### Without flange



Order code	Magnetic	Voltage [kV]	A	B
W-ISO5M-CE-KOV318	yes	5	49	4.0
W-ISO35M-CE-KOV318	yes	35	96	50
W-ISO65M-CE-KOV318	yes	65	144	99
W-ISO5-CE-SS318	no	5	49	4.0
W-ISO35-CE-SS318	no	35	96	50
W-ISO65-CE-SS318	no	65	144	99

### On KF flange



Order code	Flange	Magnetic	Voltage [kV]	A	B
KF40-ISO5M-CE-KOV318	DN40KF	yes	5	54	4.0
KF40-ISO35M-CE-KOV318	DN40KF	yes	35	101	50
KF40-ISO65M-CE-KOV318	DN40KF	yes	65	149	99
KF40-ISO5-CE-SS318	DN40KF	no	5	54	4.0
KF40-ISO35-CE-SS318	DN40KF	no	35	101	50
KF40-ISO65-CE-SS318	DN40KF	no	65	149	99

### On CF flange



Order code	Flange	Magnetic	Voltage [kV]	A	B
CF40-ISO5M-CE-KOV318	DN40CF	yes	5	59	4.0
CF40-ISO35M-CE-KOV318	DN40CF	yes	35	107	50
CF40-ISO65M-CE-KOV318	DN40CF	yes	65	155	99
CF40-ISO5-CE-SS318	DN40CF	no	5	59	4.0
CF40-ISO35-CE-SS318	DN40CF	no	35	107	50
CF40-ISO65-CE-SS318	DN40CF	no	65	155	99



# Isolators

## Vacuum

Voltage: 40 - 60 kV

### Technical data

■ Magnetic yes

### Material

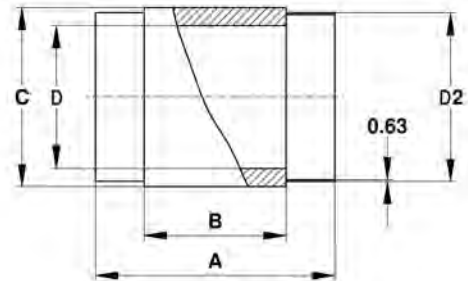
■ Tube Kovar®  
 ■ Insulation alumina ceramic

### Temperature range

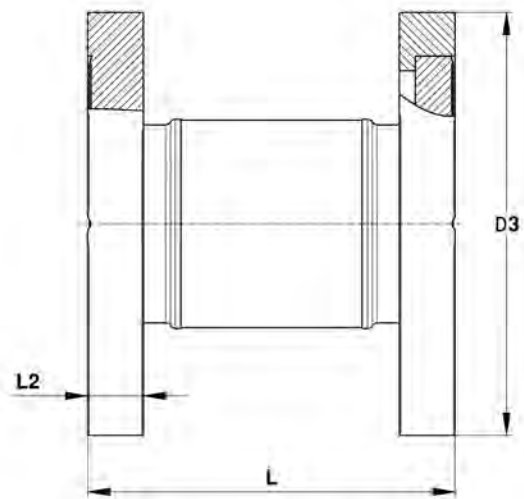
■ -55 °C to 450 °C

4

without flange



on KF flange



Without flange



Order code	Voltage [kV]	A	B	C	D	D2
W-ISO40M-CE-KOV603	40	86	51	64	51	60.3
W-ISO60M-CE-KOV711	60	111	76	76	64	71.1

On CF flange



Order code	Flange	Voltage [kV]	D3	L	L2
CF63-ISO40M-CE-KOV603	DN63CF	40	114	105	17
CF100-ISO60M-CE-KOV711	DN100CF	60	152	132	20

# Isolators

## Vacuum

Voltage: 20 - 60 kV

### Technical data

■ Magnetic yes

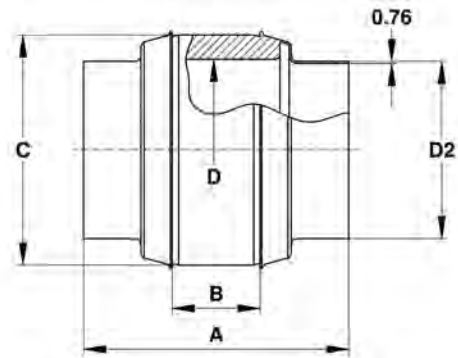
### Material

■ Tube nickel alloy  
 ■ Insulation alumina ceramic

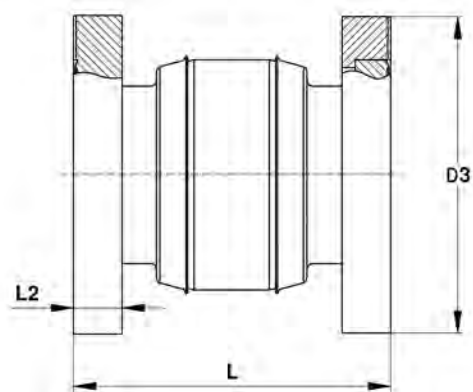
### Temperature range

■ -269 °C to 450 °C

without flange



on KF flange



Without flange



Order code	Voltage [kV]	A	B	C	D	D2
W-ISO20M-CE-NIFE635	20	95	25	85	64	63.5
W-ISO60M-CE-NIFE635	60	165	95	85	64	63.5
W-ISO20M-CE-NIFE1016	20	95	25	123	102	101.6
W-ISO60M-CE-NIFE1016	60	165	95	123	102	101.6

On CF flange



Order code	Flange	Voltage [kV]	D3	L	L2
CF63-ISO20M-CE-NIFE635	DN63CF	20	114	114	17
CF63-ISO60M-CE-NIFE635	DN63CF	60	114	184	17
CF100-ISO20M-CE-NIFE1016	DN100CF	20	152	117	20
CF100-ISO60M-CE-NIFE1016	DN100CF	60	152	187	20

# Isolators

## Vacuum

Voltage: 30 - 75 kV

### Technical data

■ Magnetic yes

### Material

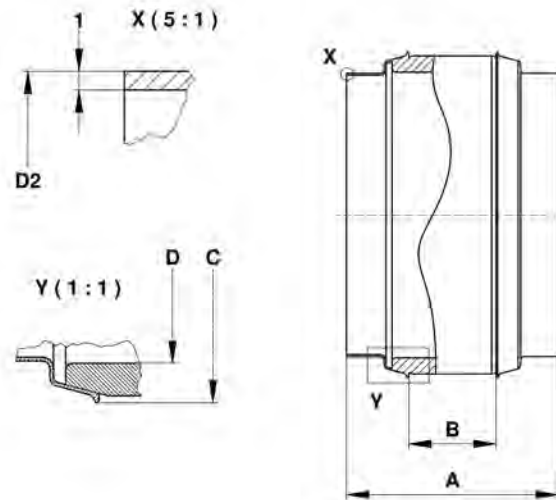
■ Tube nickel alloy  
■ Insulation alumina ceramic

### Temperature range

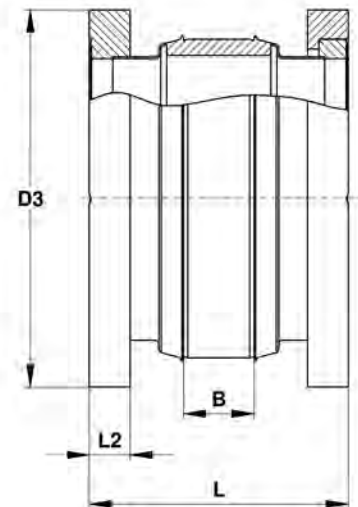
■ -269 °C to 450 °C

4

### without flange



### on CF flange



# Isolators

## Vacuum

Voltage: 30 - 75 kV

Without flange



Order code	Voltage [kV]	A	B	C	D	D2
W-ISO30M-CE-NIFE1527	30	114	38	175	152	152.7
W-ISO55M-CE-NIFE1527	55	152	76	175	152	152.7
W-ISO75M-CE-NIFE1527	75	191	114	175	152	152.7
W-ISO30M-CE-NIFE2035	30	121	38	232	203	203.5
W-ISO55M-CE-NIFE2035	55	159	76	232	203	203.5
W-ISO75M-CE-NIFE2035	75	197	114	232	203	203.5

On CF flange



Order code	Flange	Voltage [kV]	D3	L	L2
CF160-ISO30M-CE-NIFE1527	DN160CF	30	202	140	24
CF160-ISO55M-CE-NIFE1527	DN160CF	55	202	178	24
CF160-ISO75M-CE-NIFE1527	DN160CF	75	202	216	24
CF200-ISO30M-CE-NIFE2035	DN200CF	30	253	146	25
CF200-ISO55M-CE-NIFE2035	DN200CF	55	253	184	25
CF200-ISO75M-CE-NIFE2035	DN200CF	75	253	222	25

## Cryogenic

Voltage: 6 kV

### Technical data

■ Magnetic yes

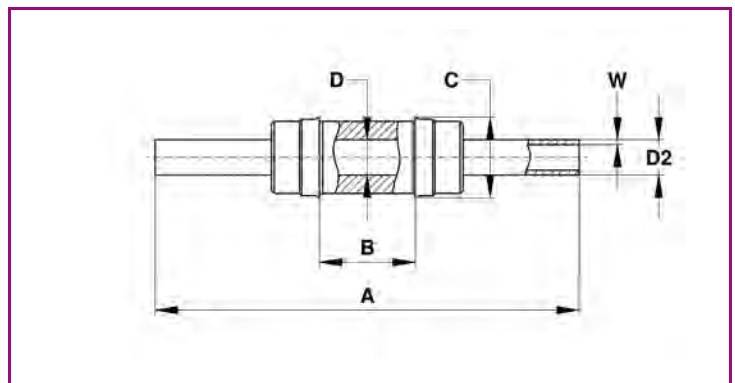
### Material

■ Tube stainless steel 304

■ Insulation alumina ceramic

### Temperature range

■ -269 °C to 450 °C



Voltage: 6 kV



Order code	Voltage [kV]	A	B	C	D	D2
W-KR6-SST32	6	43	5	7.3	2.7	3.2
W-KR13-SST64	13	78	13	15	6.4	6.4
W-KR13-SST96	13	76	13	16	10	9.6

## Introduction

### Accessories

This section offers a broad spectrum of air side and vacuum side accessories needed to integrate and connect Electrical Feedthroughs. Accessories include plug connectors for air and vacuum side, vacuum compatible clamps, single crimp contacts (packed as set), vacuum compatible bare and insulated wires, stainless steel braided hoses, ceramic beads and ceramic spacers. Further accessories, such as suitable crimping tools are not listed but available on request.

Vacuum side plug connectors are mostly made of PEEK (Polyetheretherketone). PEEK is a semicrystalline thermoplastic polymer with excellent mechanical and chemical resistance properties, that are retained to high temperatures of 260 °C. It shows low outgassing and superior radiation resistance. PEEK plug connectors can be used in high and ultra-high vacuum environments (an appropriate bakeout is recommended for UHV applications). Sub-D type plug connectors are alternatively available as a ceramic version for UHV to XHV vacuum regimes or high temperature applications. Metal clamps, push-on contacts or crimp contacts are the most commonly used connector types for feedthroughs without plug connection. Vacuum compatible wires and cables are offered as bare metal wires and with Polyimide- ("Kapton"), PEEK- or PTFE- ("Teflon") insulation. Not all available types are listed in this catalog. We gladly support you with the best product choice.

Please note: Feedthroughs and related plug connectors are always offered separately from each other, if not explicitly stated otherwise. Plug connectors are always delivered including contacts, if not explicitly stated otherwise.

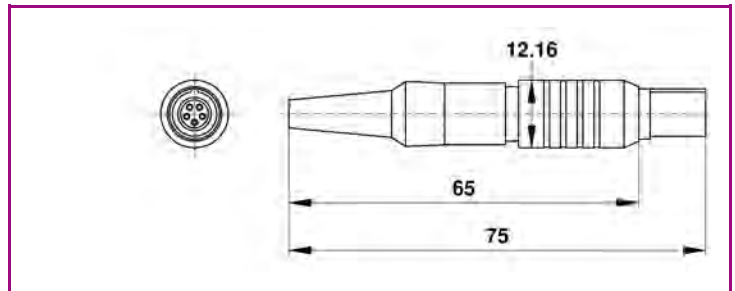


## For Compact Power Feedthroughs

### Air side Push-Pull connector

#### Technical data

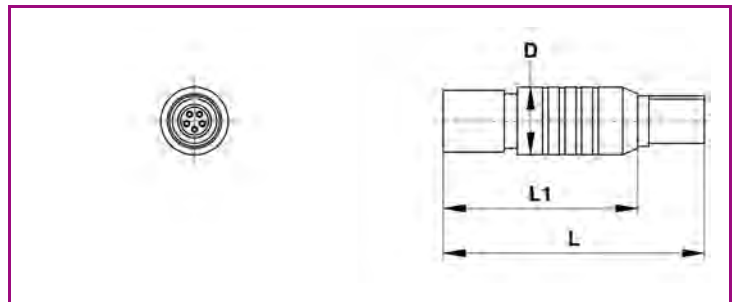
■ Housing material	brass (nickel plated)
■ Conductor material	brass alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-40 °C ... 80 °C short-term 120 °C
■ Strain-relieved	yes



### Air side Push-Pull connector

#### Technical data

■ Housing material	brass (nickel plated)
■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C
■ Strain-relieved	yes



### Air side Push-Pull connector



Order code	Number of pins
PLUG-MINI-1B-05-A	5
PLUG-MINI-1B-10-A	10

### Air side Push-Pull connector



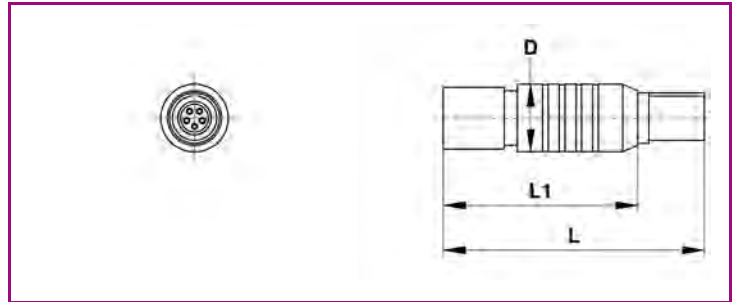
Order code	Number of pins	L	L1	D
PLUG-MINI-2B-04-A	4	37	27	9
PLUG-MINI-2B-12-A	12	50	39	14.5
PLUG-MINI-2B-19-A	19	50	39	14.5
PLUG-MINI-3B-04-A	4	59	44	17.5
PLUG-MINI-3B-08-A	8	59	44	17.5

## For Compact Power Feedthroughs

### Vacuum side Push-Pull connector

#### Technical data

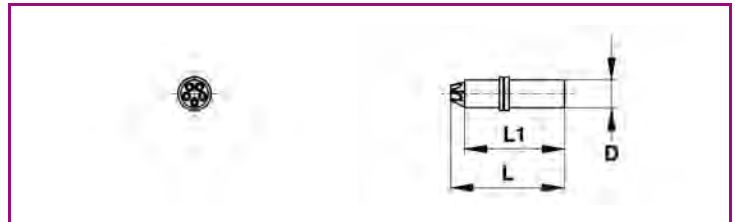
■ Housing material	stainless steel
■ Conductor material	beryllium-copper (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 150 °C
■ Strain-relieved	yes



### Contact inserts, with solder cups

#### Technical data

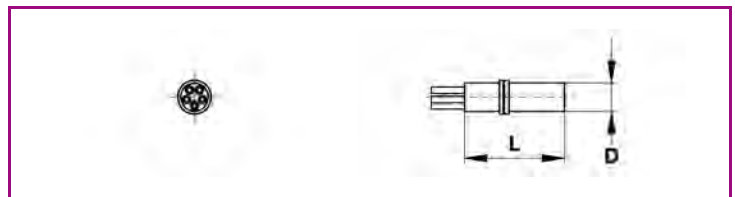
■ Conductor material	brass alloy
■ Insulation	PEEK
■ Temperature range	-40 °C to 120 °C



### Contact insert, with crimp contacts

#### Technical data

■ Conductor material	beryllium-copper (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 150 °C



### Contact inserts, with solder cups

#### Technical data

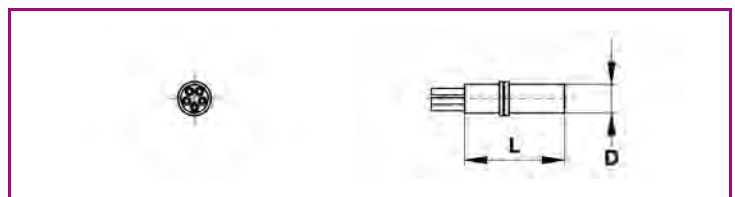
■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C



### Contact inserts, with crimp contacts

#### Technical data

■ Conductor material	bronze alloy (gold plated)
■ Insulation	PEEK
■ Temperature range	-50 °C to 200 °C



## For Compact Power Feedthroughs

### Vacuum side Push-Pull connector



Order code	Number of pins	L	L1	D
PLUG-MINI-1B-05-V	5	45	35	12
PLUG-MINI-1B-10-V	10	45	35	12

### Contact inserts, with solder cups



Order code	Number of pins	L	L1	D
PLUG-MINI-1B-05-P-L	5	21.5	19	6
PLUG-MINI-1B-10-P-L	10	21.5	19	6

- Contact inserts can be used as vacuum side plugs!

### Contact insert, with crimp contacts



Order code	Number of pins	L	D
PLUG-MINI-1B-05-P-C	5	19	6
PLUG-MINI-1B-10-P-C	10	19	6

- Contact inserts can be used as vacuum side plugs!

### Contact inserts, with solder cups



Order code	Number of pins	L	L1	D
PLUG-MINI-2B-04-P-L	4	19	17	4.5
PLUG-MINI-2B-12-P-L	12	25	21	9
PLUG-MINI-2B-19-P-L	19	25	21	9
PLUG-MINI-3B-04-P-L	4	28	24.5	11
PLUG-MINI-3B-08-P-L	8	28	24.5	11

- Contact inserts can be used as vacuum side plugs!

### Contact inserts, with crimp contacts



Order code	Number of pins	L	D
PLUG-MINI-2B-04-P-C	4	17	4.5
PLUG-MINI-2B-12-P-C	12	21	9
PLUG-MINI-3B-04-P-C	4	24.5	11
PLUG-MINI-3B-08-P-C	8	24.5	11

- Contact inserts can be used as vacuum side plugs!

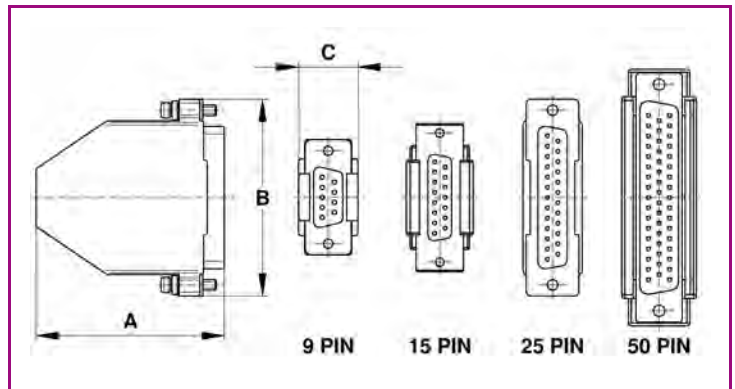


## For Multipin Feedthroughs with Plug Connection

### SUB-D plug MIL-DTL-24308, air side

#### Technical data

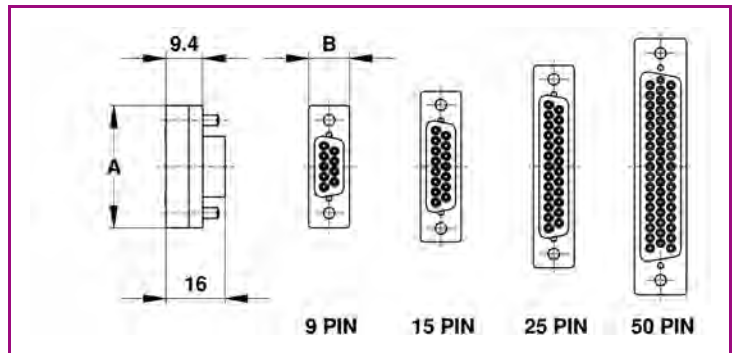
■ Conductor material	copper alloy (gold plated)
■ Insulation	reinforced plastics
■ Current	5 A
■ Temperature range	-55 °C to 105 °C



### SUB-D plug MIL-DTL-24308, vacuum side

#### Technical data

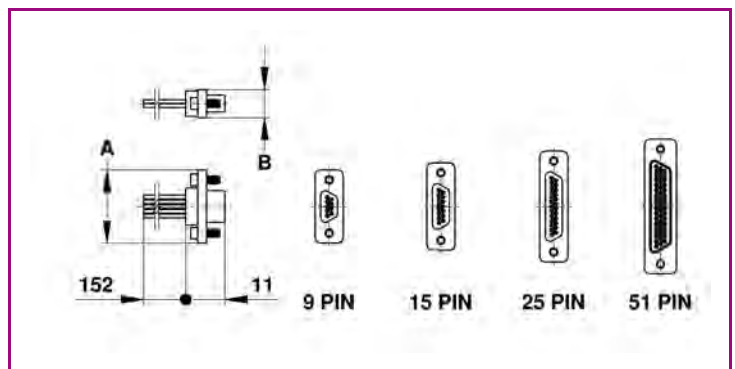
■ Conductor material	copper alloy (gold plated)
■ Insulation	PEEK
■ Current	5 A
■ Temperature range	-200 °C to 200 °C



### Micro-D plug MIL-DTL-83513, air side, male

#### Technical data

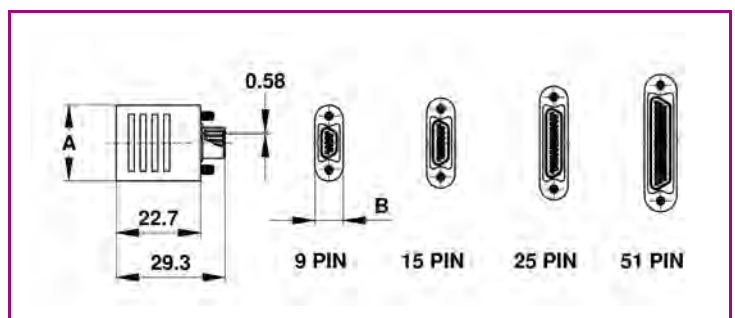
■ Conductor material	copper alloy (gold plated)
■ Insulation	reinforced plastics
■ Current	2 A
■ Temperature range	-55 °C to 125 °C



### Micro-D plug, vacuum side, female

#### Technical data

■ Conductor material	beryllium-copper (gold plated)
■ Insulation	PEEK
■ Current per pin	3 A
■ Temperature range	-200 °C to 200 °C



## For Multipin Feedthroughs with Plug Connection

### SUB-D plug MIL-DTL-24308, air side



Order code	Number of pins	A	B	C
PLUG-SUBD-9	9	43	31	15
PLUG-SUBD-15	15	41	41	15
PLUG-SUBD-25	25	48	56	15
PLUG-SUBD-37	37	53	69	15
PLUG-SUBD-50	50	51	66	18

### SUB-D plug MIL-DTL-24308, vacuum side



Order code		Number of pins	A	B
female	male			
PLUG-SUBD-9-P-CL	PLUG-SUBD-9-P-CLM	9	33	11
PLUG-SUBD-15-P-CL	PLUG-SUBD-15P-CLM	15	40	11
PLUG-SUBD-25-P-CL	PLUG-SUBD-25-P-CLM	25	55	11
PLUG-SUBD-37-P-CL	PLUG-SUBD-37-P-CLM	37	71	11
PLUG-SUBD-50-P-CL	PLUG-SUBD-50-P-CLM	50	69	14

- Ceramic plugs are also available

### Micro-D plug MIL-DTL-83513, air side, male



Order code	Number of pins	A	B
PLUG-MDTL-9-A	9	20	8
PLUG-MDTL-15-A	15	23	8
PLUG-MDTL-25-A	25	30	8
PLUG-MDTL-51-A	51	36	9

### Micro-D plug, vacuum side, female



Order code	Number of pins	A	B
PLUG-MDTL-9-P	9	20	10
PLUG-MDTL-15-P	15	24	10
PLUG-MDTL-25-P	25	30	10
PLUG-MDTL-51-P	51	36	10

- Also available pre-assembled with Kapton wire

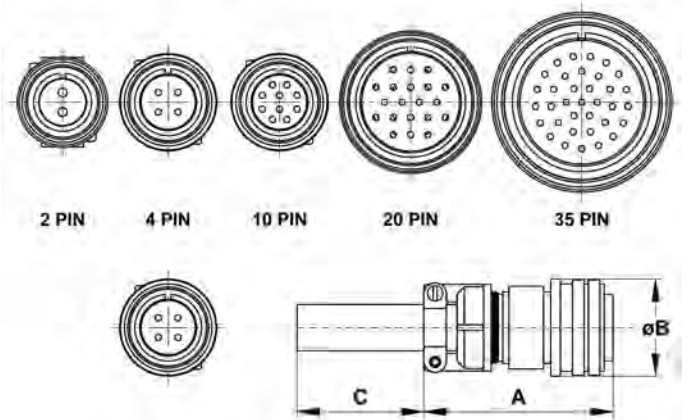
## For Multipin Feedthroughs with Plug Connection

### Plug MIL-DTL-5015, air side, high temperature resistant, 4 - 35 pins

#### Technical data

■ Conductor material	Alumel®
■ Insulation	ceramic
■ Current	10 A
■ Temperature range	-200 °C to 350 °C

Figure 1

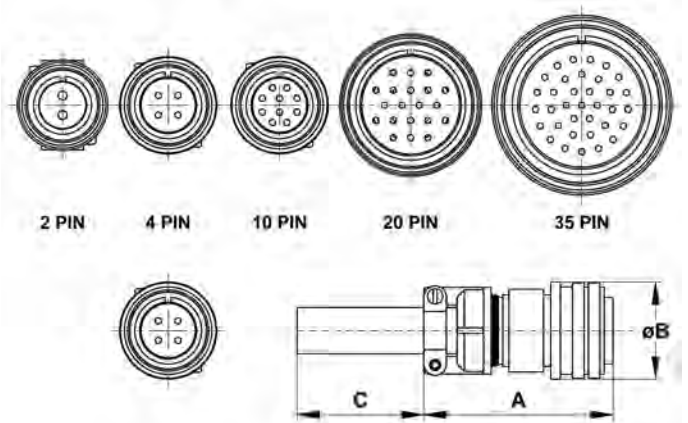


### Plug MIL-DTL-5015, air side, 4 - 35 pins

#### Technical data

■ Conductor material	copper alloy
■ Insulation	diallyl phthalate
■ Current	13 A
■ Temperature range	-55 °C to 125 °C

Figure 1



### Plug MIL-DTL-5015, air side, 2 - 4 pins

#### Technical data

■ Conductor material	copper alloy
■ Insulation	diallyl phthalate
■ Current	see tables
■ Temperature range	-55 °C to 125 °C

Figure 2



## For Multipin Feedthroughs with Plug Connection

Plug MIL-DTL-5015, air side, high temperature resistant, 4 - 35 pins



Order code	Number of pins	A	B	C	Figure
PLUG-MPC5-4-CE-AM	4	76	33	0	1
PLUG-MPC5-6-CE-AM	6	76	33	0	1
PLUG-MPC5-10-CE-AM	10	76	33	0	1
PLUG-MPC5-20-CE-AM	20	76	48	0	1
PLUG-MPC5-35-CE-AM	35	76	61	0	1

Plug MIL-DTL-5015, air side, 4 - 35 pins



Order code	Number of pins	A	B	C	Figure
PLUG-MPC5-4-DI-CUL	4	65	36	44	1
PLUG-MPC5-6-DI-CUL	6	65	36	44	1
PLUG-MPC5-10-DI-CUL	10	65	36	44	1
PLUG-MPC5-20-DI-CUL	20	74	49	36	1
PLUG-MPC5-35-DI-CUL	35	77	62	30	1

Plug MIL-DTL-5015, air side, 2 - 4 pins



Order code	Number of pins	Current [A]	A	B	Figure
PLUG-MPC5C-2-DI-CUL	2	23	63	32	2
PLUG-MPC5C-4-DI-CUL	4	23	63	36	2

Plug MIL-DTL-5015, air side, 2 - 4 pins, High Power



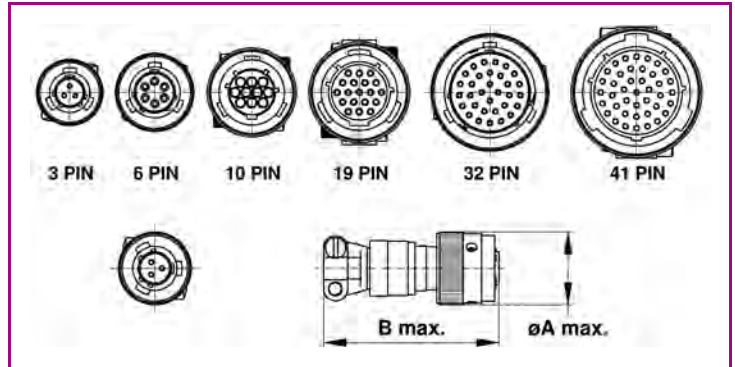
Order code	Number of pins	Current [A]	A	B	Figure
PLUG-MPC5HC-2-DI-CUL	2	46	65	40	2
PLUG-MPC5HC-4-DI-CUL	4	46	65	40	2

## For Multipin Feedthroughs with Plug Connection

### Plug MIL-DTL-26482, air side, 3 - 41 pins

#### Technical data

■ Conductor material	copper alloy (gold plated)
■ Insulation	silicone rubber or diallyl phthalate
■ Current	see table
■ Temperature range	-55 °C to 200 °C

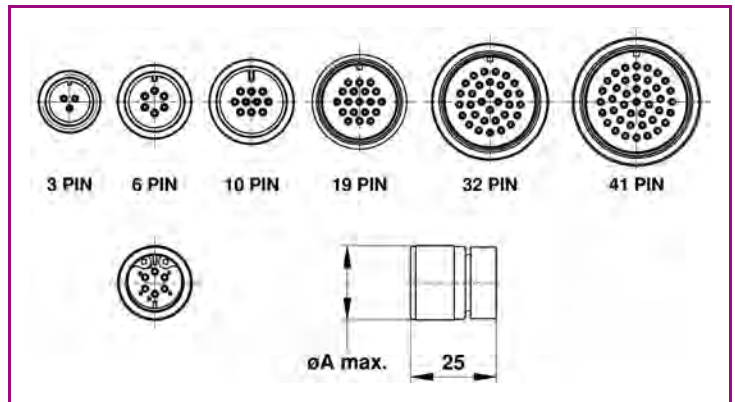


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### Plug MIL-DTL-26482, vacuum side, 3 - 41 pins

#### Technical data

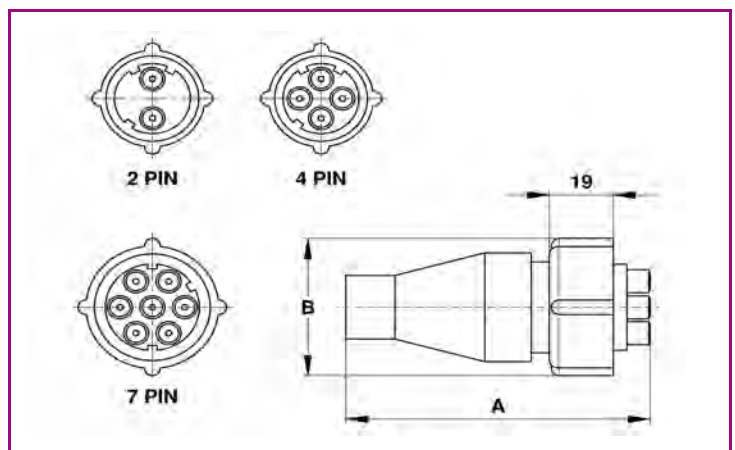
■ Conductor material	copper alloy (gold plated)
■ Insulation	PEEK
■ Current	see table
■ Temperature range	-269 °C to 200 °C



### Plug for high voltage feedthroughs, air side

#### Technical data

■ Conductor material	copper alloy (gold plated)
■ Insulation	reinforced polyester and silicone rubber
■ Current	13 A
■ Temperature range	-15 °C to 85 °C



### USB 2.0 cable assembly, vacuum side

#### Technical data

■ Conductor material	copper alloy (gold plated)
■ Insulation	PEEK, Kapton
■ Temperature range	-200 °C to 200 °C



## For Multipin Feedthroughs with Plug Connection

Plug MIL-DTL-26482, air side, 3 - 41 pins



Order code		Number of pins	Current [A]	A	B
Crimp contacts	Solder cups				
PLUG-MPC2-3-SI-CLG	PLUG-MPC2-3-DI-CLG	3	5	20	48
PLUG-MPC2-6-SI-CLG	PLUG-MPC2-6-DI-CLG	6	5	25	48
PLUG-MPC2-10-SI-CLG	PLUG-MPC2-10-DI-CLG	10	5	25	48
PLUG-MPC2-19-SI-CLG	PLUG-MPC2-19-DI-CLG	19	3	31	48
PLUG-MPC2-32-SI-CLG	PLUG-MPC2-32-DI-CLG	32	3	36	53
PLUG-MPC2-41-SI-CLG	PLUG-MPC2-41-DI-CLG	41	3	38	58

4

Plug MIL-DTL-26482, vacuum side, 3 - 41 pins



Order code	Number of pins	Current [A]	A
PLUG-MPC2-3-P-CLG	3	5	20
PLUG-MPC2-6-P-CLG	6	5	22
PLUG-MPC2-10-P-CLG	10	5	25
PLUG-MPC2-19-P-CLG	19	3	28
PLUG-MPC2-32-P-CLG	32	3	34
PLUG-MPC2-41-P-CLG	41	3	37

Plug for high voltage feedthroughs, air side



Order code	Number of pins	A	B
PLUG-MPCHV12-2-SI-CUL	2	41	33
PLUG-MPCHV12-4-SI-CUL	4	41	33
PLUG-MPCHV12-7-SI-CUL	7	84	36

USB 2.0 cable assembly, vacuum side



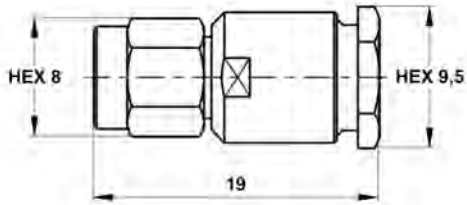
Order code
PLUG-USB-M-P-ASSY

## For Coaxial Feedthroughs

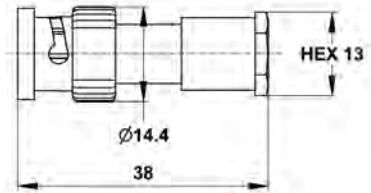
### Plugs for coaxial feedthroughs

4

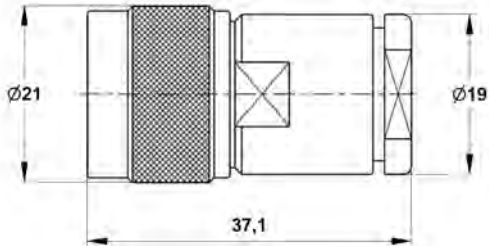
**PLUG-SMA50-A**



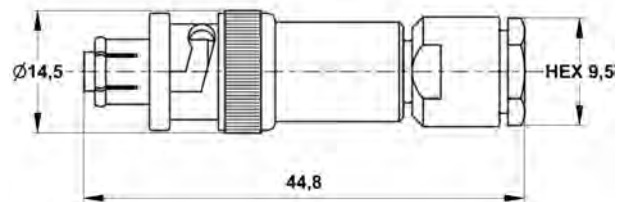
**PLUG-MHV50-A**



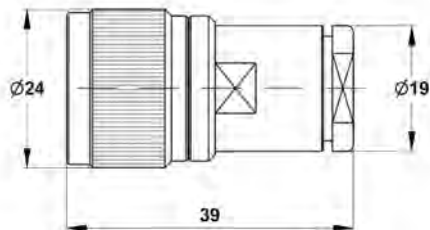
**PLUG-N50-A**



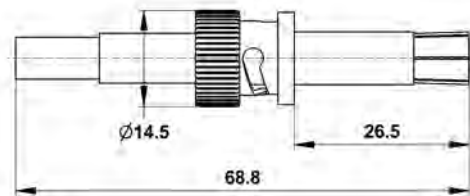
**PLUG-SHV5**



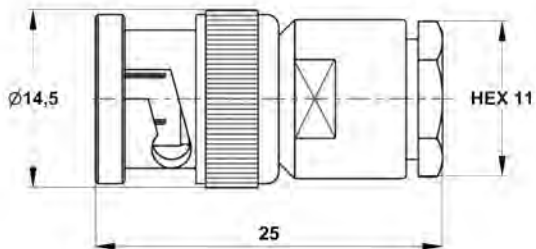
**PLUG-HN50**



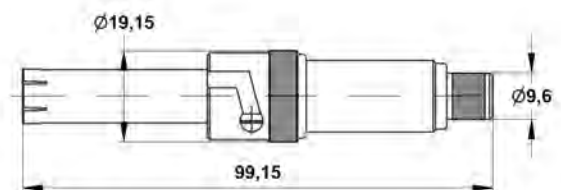
**PLUG-SHV10**



**PLUG-BNC50-A**



**PLUG-SHV20**





## For Coaxial Feedthroughs

### Technical data

Order code	Application side	Temperature range [°C]	Impedance 50 Ohm
PLUG-SMA50-A	atm.	-55 to 165	yes
PLUG-SMA50-V	vac.	-55 to 165	yes
PLUG-N50-A	atm.	-65 to 165	yes
PLUG-N50-V	vac.	-65 to 165	yes
PLUG-HN50	atm.	-55 to 165	yes
PLUG-BNC50-A	atm.	-65 to 165	yes
PLUG-BNC50-V	vac.	-65 to 165	yes
PLUG-MHV-A	atm.	-65 to 165	no
PLUG-MHV-V	vac.	-65 to 165	no
PLUG-SHV5	atm.	-65 to 165	no
PLUG-SHV10	atm.	-55 bis 85	no
PLUG-SHV10-HT	atm.	-65 bis 165	no
PLUG-SHV20	atm.	-20 bis 125	no

Order code	Voltage [kV DC]	Suitable Cable	Termination (Contact/Shield)
PLUG-SMA50-A	0,5	RG58, RG142, RG400	Solder/Clamp
PLUG-SMA50-V	0,5	RG316	Solder/Clamp
PLUG-N50-A	1,5	RG8, RG213	Solder/Clamp
PLUG-N50-V	1,5	LL335	Solder/Clamp
PLUG-HN50	7	RG8, RG213	Solder/Clamp
PLUG-BNC50-A	0,5	RG58, RG142, RG400	Solder/Clamp
PLUG-BNC50-V	0,5	RG142, RG400	Solder/Clamp
PLUG-MHV-A	5	RG58, RG142, RG400	Solder/Clamp
PLUG-MHV-V	5	RG142, RG400	Solder/Clamp
PLUG-SHV5	5	RG58, RG142, RG400, RG223	Solder/Clamp
PLUG-SHV10	10	RG58	Solder/Clamp
PLUG-SHV10-HT	10	RG58	Solder/Crimp
PLUG-SHV20	20	RG213	Solder/Clamp

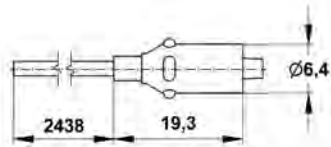


## For Power and Voltage Feedthroughs

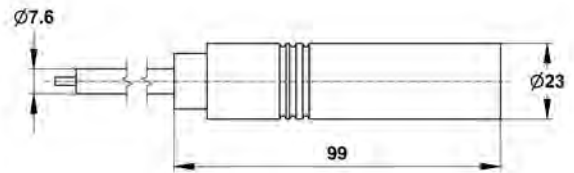
### High voltage cable assemblies

4

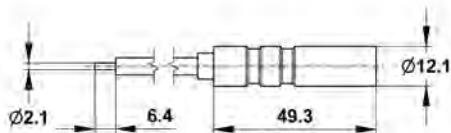
**PLUG-HV10S-MOP07**



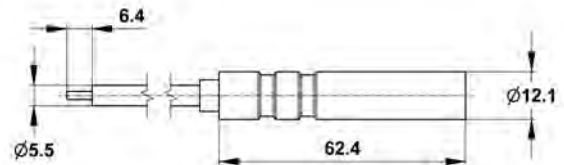
**PLUG-HV25S-64**



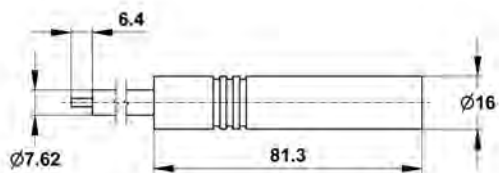
**PLUG-HV10S-24**



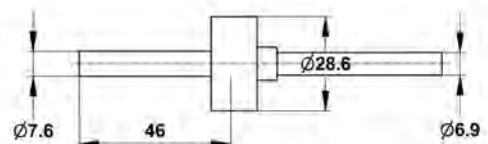
**PLUG-HV20S-24**



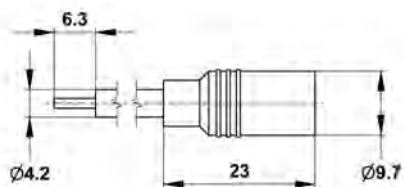
**PLUG-HV10S-39**



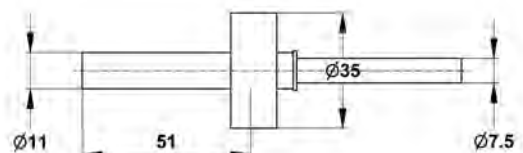
**PLUG-HV40S-16**



**PLUG-HV15S-MOP1**



**PLUG-HV50S-16**



## For Power and Voltage Feedthroughs

### High voltage cable assemblies

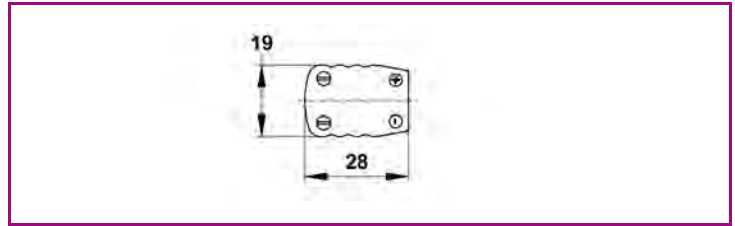
Order code	Temperature range [°C]	Current [A]	Voltage [kV DC]
PLUG-HV10S-MOP07	-55 to 125	3	10
PLUG-HV10-24	-55 to 125	30	10
PLUG-HV10S-24	-55 to 125	55	10
PLUG-HV10S-39	-55 to 125	75	10
PLUG-HV15S-MOP1	-55 to 125	7.5	15
PLUG-HV20-24	-55 to 125	30	20
PLUG-HV20S-24	-55 to 125	55	20
PLUG-HV25S-64	-55 to 125	100	25
PLUG-HV40S-16	-55 to 125	10	40
PLUG-HV50S-16	-55 to 125	10	50

## For Thermocouple Feedthroughs

### Plug for thermocouple feedthroughs

#### Technical data

■ Housing	glass filled nylon
■ Conductor material	see table
■ Temperature range	-29 °C to 218 °C
■ Color coding	see table

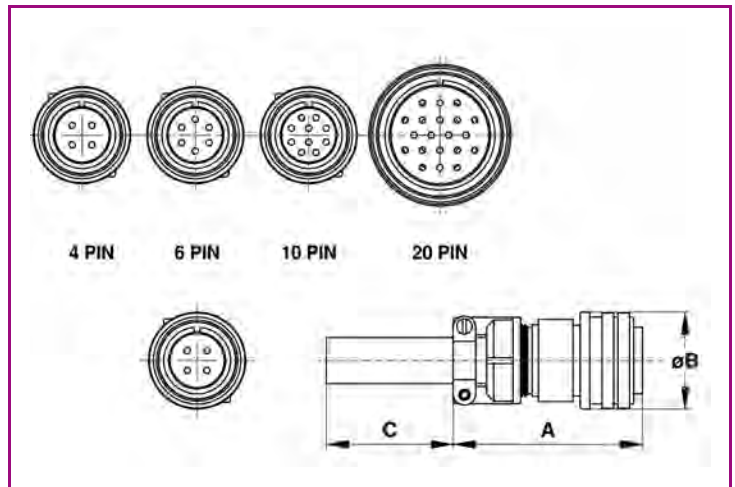


4

### Circular connector MIL-DTL-5015, air side, 2 - 10 pairs

#### Technical data

■ Conductor material	Chromel®/Alumel®
■ Insulation	diallyl phthalate
■ Temperature range	-55 °C to 125 °C
■ Thermocouple type	K



## For Thermocouple Feedthroughs

Plug for thermocouple feedthroughs



Order code	Thermocouple type	Conductor material	Color
PLUG-TC-N-K	K	Chromel®/Alumel®	yellow
PLUG-TC-N-C	C	tungsten/rhenium	red
PLUG-TC-N-J	J	iron/Constantan®	black
PLUG-TC-N-E	E	Chromel®/Constantan®	purple

Circular connector MIL-DTL-5015, air side, 2 - 10 pairs



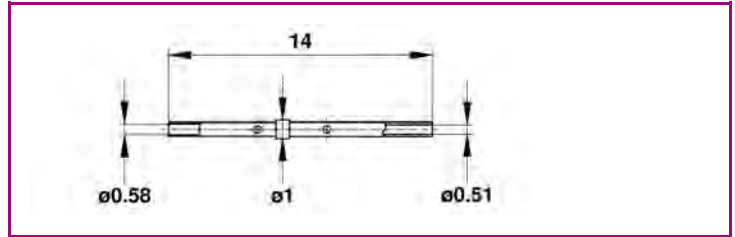
Order code	Pairs	A	B	C
PLUG-MPCTC5-2-DI-K	2	65	36	44
PLUG-MPCTC5-3-DI-K	3	65	36	44
PLUG-MPCTC5-5-DI-K	5	65	36	44
PLUG-MPCTC5-10-DI-K	10	74	49	36

## Contacts

### Crimp contacts, for conductor diameter: 0.51 mm

#### Technical data

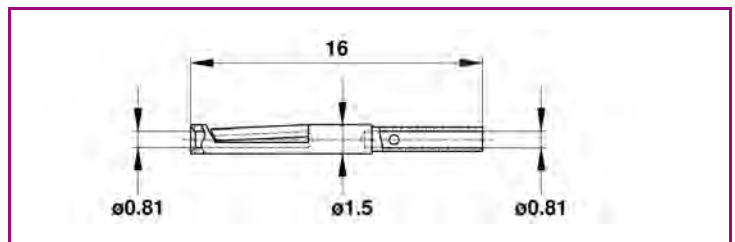
■ Conductor material	beryllium-copper
■ Current	3 A
■ Temperature range	-200 °C to 200 °C
■ Packing unit	25 pieces



### Crimp contacts, for conductor diameter: 0.81 mm

#### Technical data

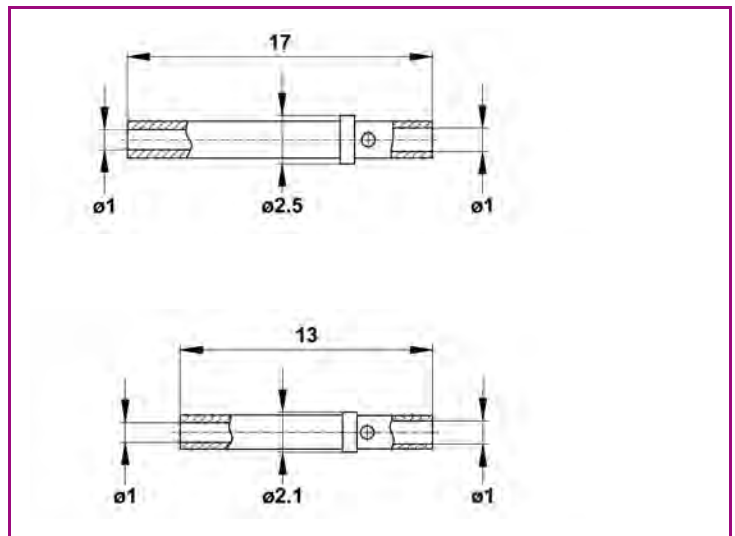
■ Conductor material	beryllium-copper
■ Current	16 A
■ Temperature range	-269 °C to 200 °C
■ Packing unit	10 pieces



### Crimp contacts, for conductor diameter: 1.0 mm

#### Technical data

■ Conductor material	copper alloy (gold plated)
■ Current	15 A
■ Temperature range	-200 °C to 200 °C
■ Packing unit	5 pieces



#### Technical data

■ Conductor material	copper alloy (gold plated)
■ Current	15 A
■ Temperature range	-200 °C to 200 °C
■ Packing unit	5 pieces

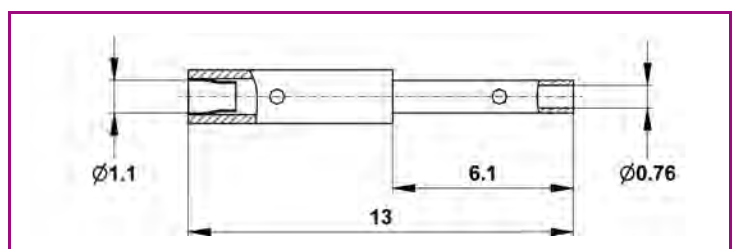
#### Technical data

■ Conductor material	copper alloy (gold plated)
■ Current	15 A
■ Temperature range	-200 °C to 200 °C
■ Packing unit	5 pieces

### Crimp contacts, for conductor diameter: 1.1 mm

#### Technical data

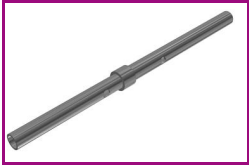
■ Conductor material	stainless steel
■ Current	3 A
■ Temperature range	-269 °C to 450 °C
■ Packing unit	5 pieces



## Accessories

### Contacts

Crimp contacts, for conductor diameter: 0.51 mm



Order code	Accessories for
EK-MDTL-CB051	PLUG-MDTL-x-P (x = number of contacts)

Crimp contacts, for conductor diameter: 0.81 mm



Order code	Accessories for
EK-C-CB081	

Crimp contacts, for conductor diameter: 1.0 mm



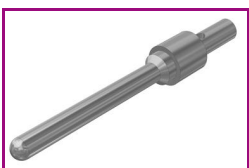
Order code	Accessories for
EK-C-CLG10	

Crimp contacts, for conductor diameter: 1.0 mm



Order code	Accessories for
EK-SUBD-F-AWG22	PLUG-SUBD-x-P-CL (x = number of contacts)

Crimp contacts, for conductor diameter: 1.0 mm



Order code	Accessories for
EK-SUBD-M-CLG10	PLUG-SUBD-x-P-CLM (x = number of contacts)

Crimp contacts, for conductor diameter: 1.1 mm



Order code	Accessories for
EK-C-CLG11	

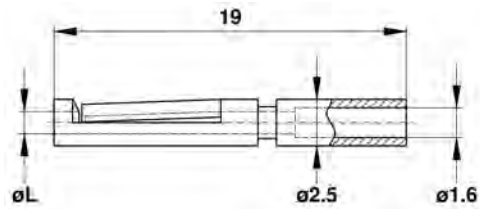
## Contacts

### Crimp contacts, for conductor diameter: 1.3 mm

#### Technical data

■ Conductor material	beryllium-copper
■ Current	20 A
■ Temperature range	-200 °C to 200 °C
■ Packing unit	10 pieces

Figure 1

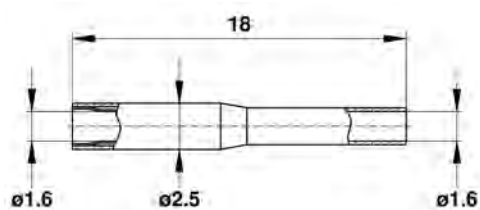


### Crimp contacts, for conductor diameter: 1.6 mm

#### Technical data

■ Conductor material	beryllium-copper
■ Current	20 A
■ Temperature range	-200 °C to 200 °C
■ Packing unit	10 pieces

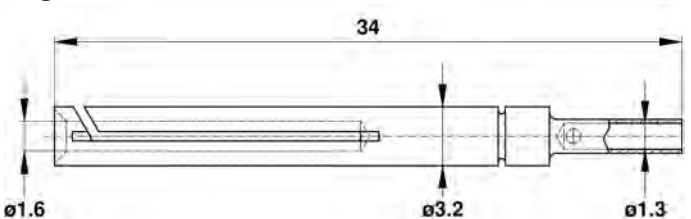
Figure 2



#### Technical data

■ Conductor material	nickel alloy
■ Current	4.8 A
■ Temperature range	-269 °C to 400 °C
■ Packing unit	10 pieces

Figure 3



#### Technical data

■ Conductor material	Alumel®
■ Temperature range	-269 °C to 350 °C
■ Packing unit	5 pieces

#### Technical data

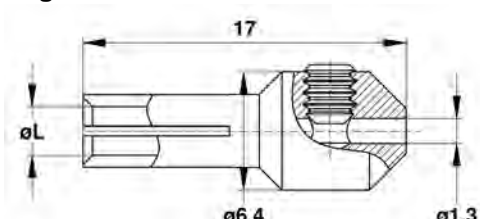
■ Conductor material	Chromel®
■ Temperature range	-269 °C to 350 °C
■ Packing unit	5 pieces

### Set screw type contacts

#### Technical data

■ Conductor material	beryllium-copper
■ Current	see table
■ Temperature range	-200 °C to 200 °C
■ Packing unit	10 pieces

Figure 4



## Accessories

### Contacts

Crimp contacts, for conductor diameter: 1.3 mm



Order code	L	Figure
EK-C-CB13	1.3	1

Crimp contacts, for conductor diameter: 1.6 mm



Order code	L	Figure
EK-C-CB16	1.6	1

Crimp contacts, for conductor diameter: 1.6 mm



Order code	Figure
EK-C-NIL16	2

Crimp contacts, for conductor diameter: 1.6 mm



Order code	Accessories for	Groove	Figure
EK-C-AM16	Thermocouple feedthroughs acc. to MIL-DTL-5015	no	3
EK-C-CR16	Thermocouple feedthroughs acc. to MIL-DTL-5015	yes	3

Set screw type contacts



Order code	Current [A]	L	Figure
EK-S-CB10	20	1.0	4
EK-S-CB13	25	1.3	4
EK-S-CB16	25	1.6	4
EK-S-CB24	25	2.4	4

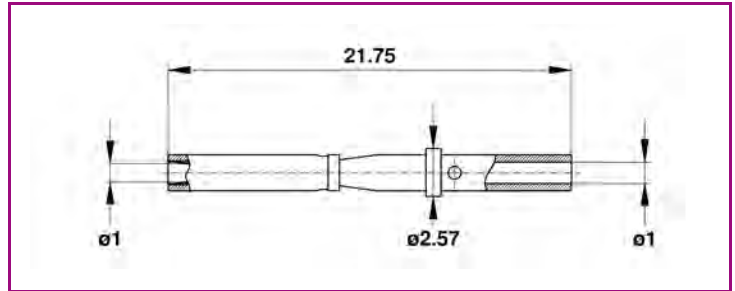


## Contacts

### Contacts for multipin feedthroughs

#### Technical data

■ Conductor material	copper alloy (gold plated)
■ Current	5 A
■ Cable termination	solder/crimp
■ Packing unit	20 pieces



4

### Contacts for multipin feedthroughs



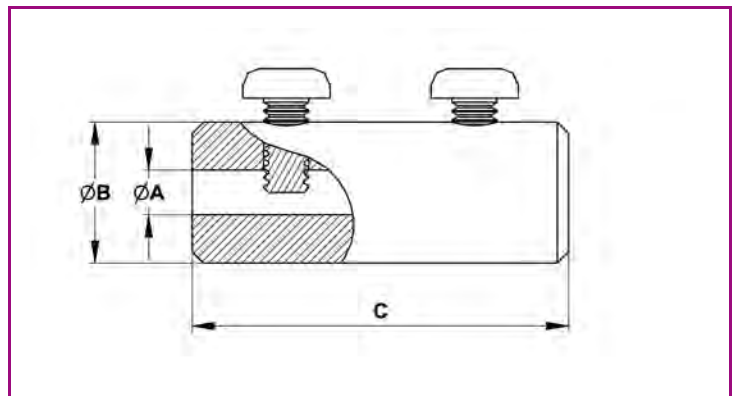
<b>Order code</b>
<b>CC10F</b>

## Clamps

### Barrel type contacts

#### Technical data

■ Conductor material	beryllium-copper
■ Current	see table
■ Temperature range	-200 °C to 400 °C
■ Packing unit	10 pieces



### Barrel type contacts



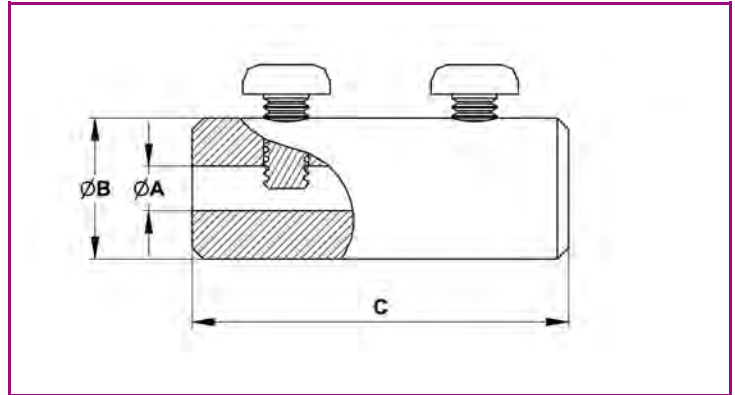
Order code	A	B	C	Current [A]
EK-LK-CB10	1.0	3.2	12.7	13
EK-LK-CB13	1.3	4.8	12.7	20
EK-LK-CB16	1.6	4.8	12.7	20
EK-LK-CB24	2.4	6.4	14.2	25
EK-LK-CB32	3.2	6.4	16.0	25
EK-LK-CB39	3.9	8.3	19.1	30
EK-LK-CB64	6.4	12.7	25.4	30

## Clamps

### Clamps

#### Technical data

■ Conductor material	stainless steel
■ Packing unit	10 pieces



4

### Clamps

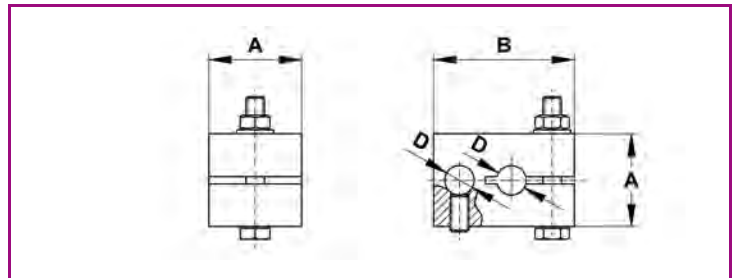


Order code	A	B	C	Screw (number x type)
BC10	1.1	4.7	10	2 x set screw type
BC23	2.4	4.7	10	2 x set screw type
BC15	1.5	4.7	13	2 x barrel type
BC18	1.8	4.7	13	2 x barrel type
BC30	3.0	6.4	14	2 x barrel type

### High current clamps

#### Technical data

■ Conductor material	copper
■ Current	see table
■ Temperature range	-269 °C to 400 °C



### High current clamps



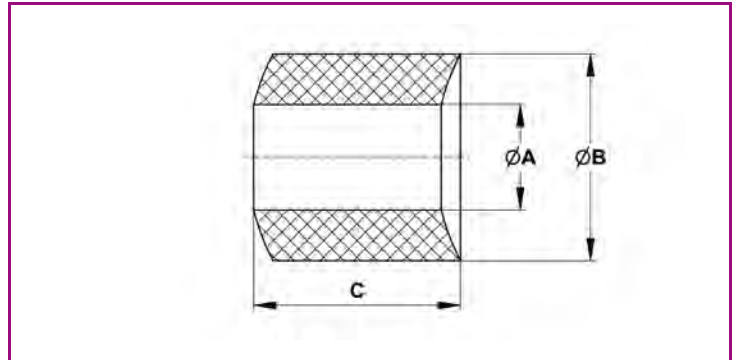
Order code	A	B	D	Current [A]
EK-HC-CU39	12.5	25	3.9	100
EK-HC-CU64	25	38	6.4	350
EK-HC-CU95	25	60	9.5	400
EK-HC-CU127	25	60	12.7	500
EK-HC-CU190	38	79	19.0	1000

## Vacuum Accessories

### Ceramic beads

#### Technical data

- Material steatite
- Temperature range -269 °C to 600 °C

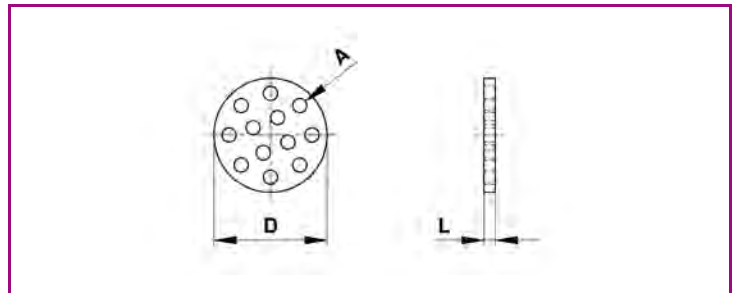


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### Ceramic spacers

#### Technical data

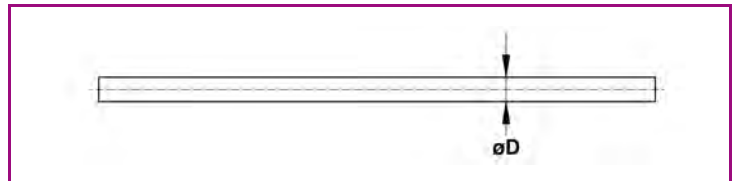
- Material 85 % alumina ceramic
- Temperature range -269 °C to 800 °C



### Bare Copper wire

#### Technical data

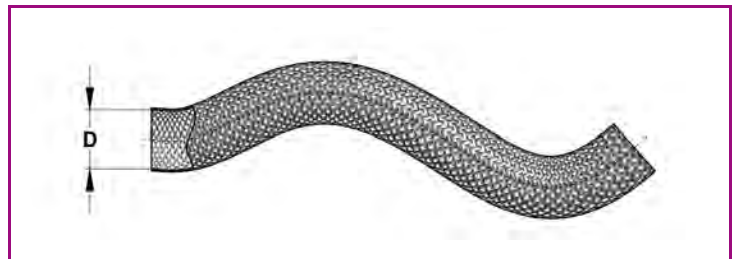
- Material OFHC copper



### Stainless steel braided hoses

#### Technical data

- Material stainless steel 304



## Vacuum Accessories

### Ceramic beads



Order code	Quantity per meter	A	B	C
ISO-ST-10	500	1.0	3.0	3.0
ISO-ST-15	330	1.5	4.0	4.0
ISO-ST-24	250	2.4	5.0	5.0
ISO-ST-30	200	3.0	6.1	6.0
ISO-ST-46	200	4.6	9.0	8.0
ISO-ST-65	170	6.5	10.5	9.0

### Ceramic spacers



Order code	D	L	Conductor holes	A
SP-CE-10	15	1.5	10	1.9
SP-CE-20	32	2.3	20	2.5

### Bare Copper wire



Order code	D
COND-CU08	0.8
COND-CU10	1.0
COND-CU13	1.3
COND-CU20	2.0

### Stainless steel braided hoses



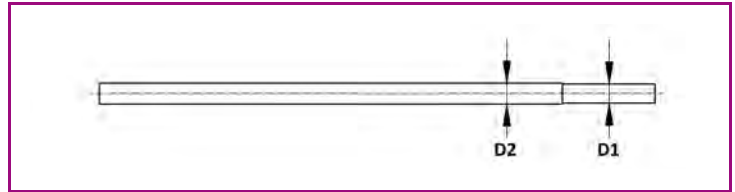
Order code	Nominal Ø	D
BRAID-SS-3-M	3,2	1.6 to 8.7
BRAID-SS-6-M	6,4	4.8 to 10.3

## Vacuum Accessories

### UHV compatible cable, Kapton®-insulated, solid wire

#### Technical data

■ Conductor material	copper
■ Cable type	solid wire
■ Insulation	Kapton®, enameled quality
■ Temperature range	-269°C to 260°C (short term 350°C)
■ Voltage	2 kV DC

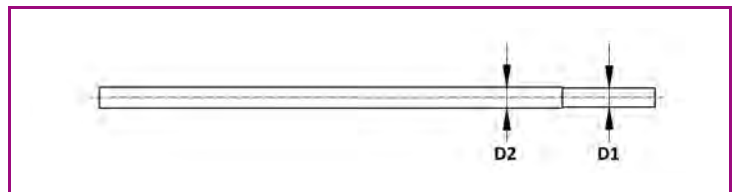


4

### UHV compatible cable, Kapton®-insulated, stranded & solid wire

#### Technical data

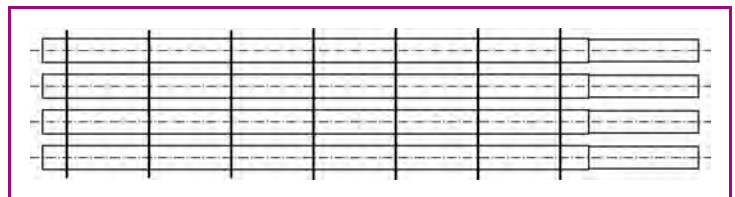
■ Conductor material	copper (silver plated)
■ Cable type	stranded (L) and solid (D) wire
■ Insulation	Kapton®, film-wrapped quality
■ Temperature range	-75°C to 200°C (short term 250°C)
■ Voltage	1 kV DC



### UHV compatible cable, Kapton®-insulated, Ribbon cable

#### Technical data

■ Conductor material	copper (silver plated)
■ Cable type	stranded wire, Ribbon cable
■ Insulation	Kapton®, film-wrapped quality
■ Temperature range	-75°C to 200°C (short term 250°C)
■ Voltage	1 kV DC



## Vacuum Accessories

### UHV compatible cable, Kapton®-insulated, solid wire



Order code	AWG	D1	D2	Current [A]
KAP-LACK-D-025	30	0.25	0.29	2
KAP-LACK-D-040	26	0.40	0.44	4
KAP-LACK-D-060	22	0.63	0.68	6
KAP-LACK-D-100	18	1.00	1.07	10
KAP-LACK-D-125	16	1.25	1.32	14

### UHV compatible cable, Kapton®-insulated, stranded & solid wire



Order code	AWG	D1	D2	Current [A]
KAP-BAND-D-025	30	0.25	0.62	1
KAP-BAND-D-040	26	0.40	0.76	3
KAP-BAND-D-060	22	0.64	0.98	5
KAP-BAND-D-100	18	1.02	1.36	9
KAP-BAND-L-AWG28	28	7 x 0.127	0.74	2
KAP-BAND-L-AWG22	22	19 x 0.16	1.11	5
KAP-BAND-L-AWG18	18	19 x 0.25	1.61	10
KAP-BAND-L-AWG16	16	19 x 0.28	2.25	13
KAP-BAND-L-AWG14	14	19 x 0.36	2.65	16
KAP-BAND-L-AWG12	12	19 x 0.45	2.70	23
KAP-BAND-L-AWG10	10	37 x 0.40	3.25	30

### UHV compatible cable, Kapton®-insulated, Ribbon cable



Order code	AWG	Current [A]
KAP-SUBD-9-AWG28	9 x 28	9x 2
KAP-SUBD-15-AWG28	15 x 28	15x 2
KAP-SUBD-25-AWG28	25 x 28	25x 2
KAP-SUBD-9-AWG22	9 x 22	9x 5
KAP-SUBD-15-AWG22	15 x 22	15x 5
KAP-SUBD-25-AWG22	25 x 22	25x 5

\*) More cables (coaxial, high voltage, twisted pair, etc.) available on request.