

# Instrumentation valves and mounting accessories





## **About us**

As a family-run business acting globally, with 10,200 highly qualified employees, the WIKA group of companies is a worldwide leader in pressure and temperature measurement. The company also sets the standard in the measurement of level, force and flow, and in calibration technology.

Founded in 1946, WIKA is today a strong and reliable partner for all the requirements of industrial measurement technology, thanks to a broad portfolio of high-precision instruments and comprehensive services.

With manufacturing locations around the globe, WIKA ensures flexibility and the highest delivery performance. Every year, over 50 million quality products, both standard and customerspecific solutions, are delivered in batches of 1 to over 10,000 units

With numerous wholly owned subsidiaries and partners, WIKA competently and reliably supports its customers worldwide. Our experienced engineers and sales experts are your competent and dependable contacts locally.

### **Contents**

Industries and applications			
Prevent fugitive emissions			
Combinations with measuring instruments via flange connections			
Combinations with measuring instruments via threaded connections			
The products in comparison		10	
Instrumentation valves		12	
Needle and multiport valve	Models IV10, IV11	12	
Block-and-bleed valve	Models IV20, IV21	12	
Valve manifold for differential pressure measuring instruments	Models IV30, IV31	13	
Valve manifold for differential pressure measuring instruments	Models IV50, IV51	13	
Ball valve, process and instrument version	Model BV	14	
Check valve	Model CV	14	
Monoflange, process and instrument version	Model IVM	15	
Monoblock with threaded connection	Models IBM2, IBM3	16	
Monoblock with flange connection	Models IBF1, IBF2, IBF3	16	
Special valves		17	
High-pressure needle valve	Model HPNV	17	
Monoblock for sampling and injection processes	Models IBS3, IBJ4	17	
Stopcock	Model 910.10	18	
Shut-off valve	Model 910.11	18	
Protective devices		19	
Snubber	Model 910.12	19	
Overpressure protectors, adjustable	Model 910.13	19	
Syphon	Model 910.15	19	
Mounting accessories		20	
Connection adapter	Model 910.14	20	
Instrument mounting bracket	Model 910.16	20	
Sealings	Model 910.17	20	
Special applications and approvals		21	
WIKA worldwide		24	

WIKA is a reliable supplier of valves and instrumentation with appropriate accessories.

Thanks to the ready-to-install instrument connections, the customer receives a complete, application-specific solution that is already tested and ready for use. This results in cost and time savings for our customers.

Our valves are available with certification for fugitive emissions, fire-safe designs and with tamper-proof, lockable handles, ensuring safety for the operator, the plant and the environment.

Thanks to our worldwide network, there is always a WIKA subsidiary near you to find the best solution for your application.

We are happy to support you in the selection of the correct components for your application. Alongside the extensive selection of instrumentation valves and accessories, WIKA also offers qualified assembly of different individual components into a complete measuring arrangement (instrument hook-up).

# Industries and applications

Our wide range of valves and instrument hook-ups are used for gaseous, liquid, aggressive, highly viscous or crystallising media, also in aggressive environments. They are suitable for demanding applications in diverse industries.

- First shut-off valve for pressure tap to local instrument installation
- Media distribution, drain or vent in pipelines
- Direct connection of pressure measuring instruments to pipelines or vessels
- Wellhead control panels (WHCPs) and hydraulic power units (HPUs)
- Injection systems

- Sampling systems for process analysis
- Actuator controls
- Hydraulic power packs
- Test benches and calibration equipment
- Level measuring instruments and level indicators
- Blasting/cutting with water and high-pressure cleaning

Oil & gas

Chemical & petrochemical industries

Food & pharmaceuticals

**Power generation** 

















Water and wastewater

Machine building and automation

**Power plants** 

**Shipbuilding** 

## **Prevent fugitive emissions**

Our needle valves can be supplied in accordance with EN-ISO 15848-1 and VDI 2440. The bonnets of these valves thus offer the following safety-relevant features: blow-out-proof valve spindle, non-rotating spindle tip with metal seat (low-wear operation), low torque for smooth and precise valve adjustment, even at high pressures.

The "fugitive emission" version also offers a special sealing packing made of RTFE, a reinforced PTFE. The corresponding valves are supplied with an orange ring on the bonnet and are thus clearly identifiable.

In addition to the needle valves, model BV ball valves as well as the IBM and IBF monoblocks are also approved by the ABS Group in accordance with the international EN-ISO 15848-1 standard for fugitive emissions.

Our valve manufacturing facility has also been equipped with a new state-of-the-art liquid and gas test bench, which enables us to perform a variety of tests from -196 ... + 350 °C [-320 ... +662 °F] in-house, such as:

- Type test and certificate for fugitive emissions
- Low-temperature test and certificate down to -196 °C
- High-temperature test up to 350 °C
- Tests and certificate for low emissions
- High-pressure gas test
- Validation of the design and test bench temperature/ pressure range



Safety for personnel



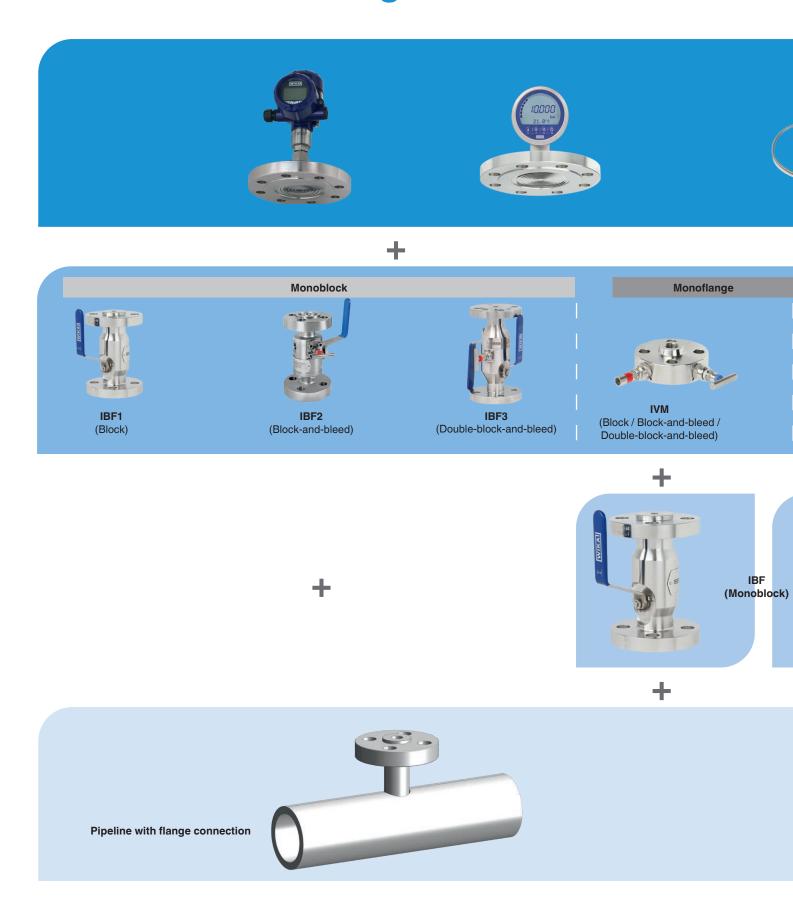
Safety for the environment



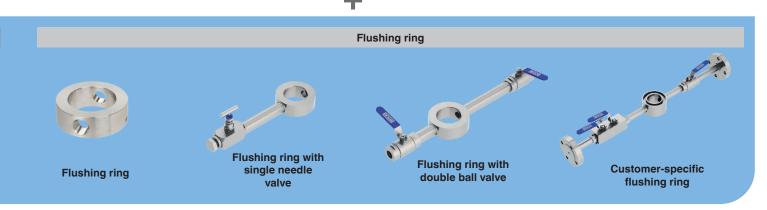
Safety for the instruments

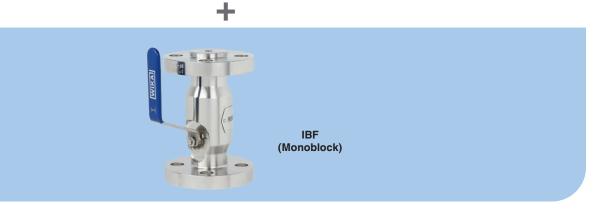


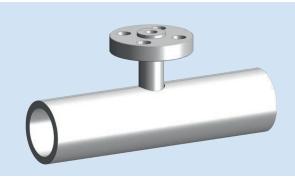
# **Combinations with measuring instruments via flange connections**





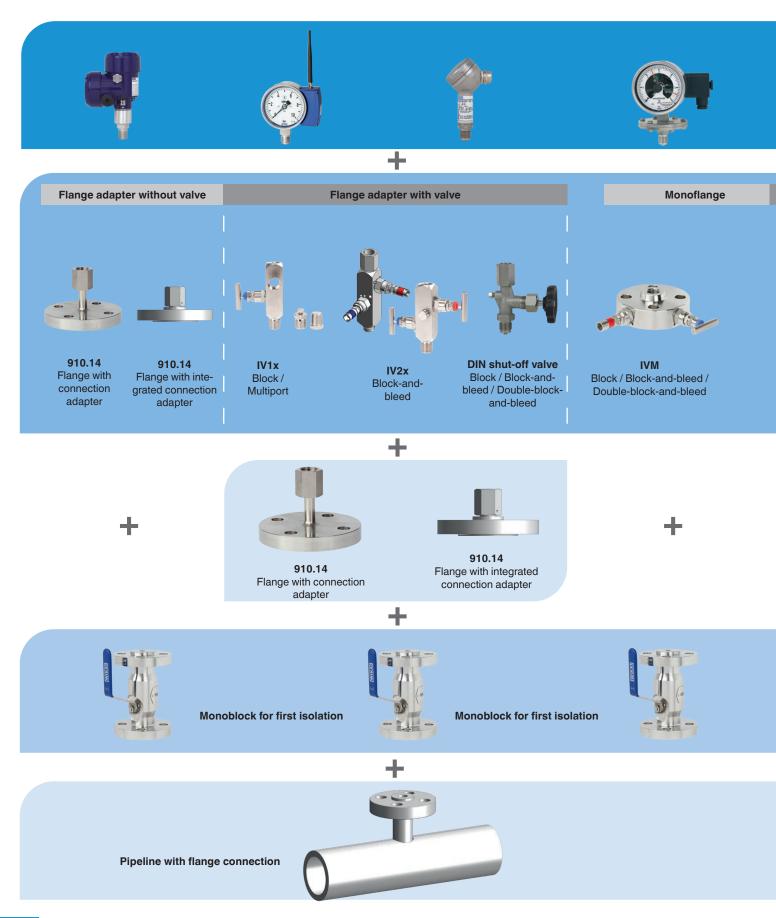


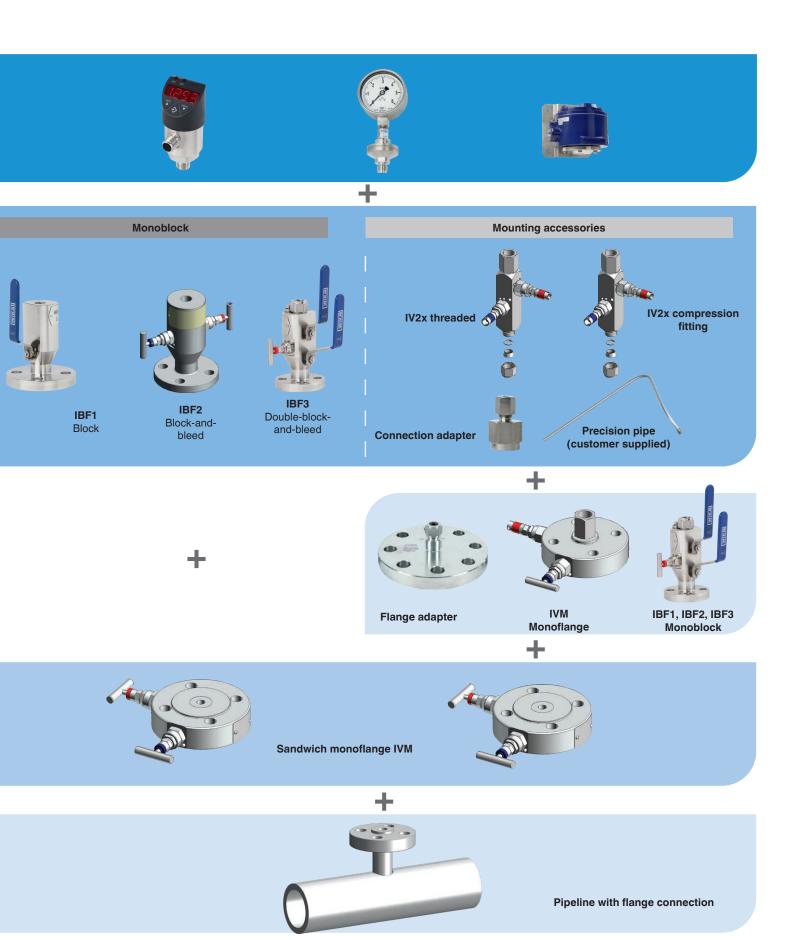




Pipeline with flange connection

# Combinations with measuring instruments via threaded connections





# The products in comparison

				WIKA Stephen S
	Needle valve, block- and-bleed valve	Valve manifold	Ball valve	Check valve
Model	IV1, IV2	IV3, IV5	BV	cv
Gas application	•	•	•	•
Application with liquids	<b>•</b>	•	•	•
Cryogenic version	•	•	•	•
Fire-safety tested	•	•	Process version: ISO 10497 3rd ed., API 607 7th ed.	•
Fugitive-emission tested	TA Luft, ISO 15848-1	TA Luft, ISO 15848-1	<b>•</b>	<b>•</b>
Reference standards	ASME B16.34, ASME B1.20.1, ASME B31.3, MSS SP-99	ASME B16.34, ASME B1.20.1, ASME B31.3, MSS SP-99	ASME B16.34, ASME B1.20.1, ASME B31.3, MSS SP-99, ASMEBPVC, ASMEB.31.1, ISO 17292, ASME B16.5	ASME B16.34, ASME B1.20.1, MSS SP-99
Assembly with measuring instrument (instrument hook-up)	•	•	•	•
Sealing packing and min. working temperature	PTFE, RTFE and graphite (min. temperature -55 °C)	PTFE, RTFE and graphite (min. temperature -55 °C)	PEEK, high-temperature thermoplastic (HTT) (min. temperature -55 °C)	NBR, FKM and PTFE (min. temperature -55 °C)
Data sheet	AC 09.22	AC 09.19	AC 09.28	AC 09.29
For details, see page	12	13	14	14

The information in the table above serves only as a reference and any application should be evaluated in accordance with the project specifications. WIKA can provide technical support in the evaluation of the best solution for your applications.

	li Econo)	TOTAL 1 TOTAL	
Monoflange, process and instrument version	Monoblock with flange connection	Monoblock with threaded connection	Monoblock for sampling and injection processes
IVM	IBF	IBM	IBS, IBJ
•	•	•	<b>*</b>
•	•	•	<b>*</b>
•	•	<b>*</b>	•
Bonnet: ISO 10497:2010, API 6FA:2018, API 607:2016	ISO 10497 and API 607	ISO 10497 and API 607	ISO 10497 and API 607
TA Luft, ISO 15848-1	•	•	<b>*</b>
ASME B16.34, ASME B1.20.1, ASME B31.3, MSS SP-99, ASME B.31.1, ISO 17292, ASME B16.5	EEMUA 182, ASME B16.34, ASME B1.20.1, ASME B31.3, MSS SP-99, ASME BPVC, ASME B.31.1, ISO 17292, ASME B16.5	EEMUA 182, ASME B16.34, ASME B1.20.1, ASME B31.3, MSS SP-99, ASME BPVC, ASME B.31.1, ISO 17292, ASME B16.5	EEMUA 182, ASME B16.34, ASME B1.20.1, ASME B31.3, MSS SP-99, ASME BPVC, ASME B.31.1, ISO 17292, ASME B16.5
•	•	•	<b>*</b>
PTFE, RTFE and graphite (min. temperature -55 °C)	PEEK, PTFE, RTFE and graphite (min. temperature -55 °C), high-temperature thermoplastic (HTT)	PEEK, PTFE and graphite (min. temperature -55 °C), high-temperature thermoplastic (HTT)	PEEK, PTFE, RTFE and graphite (min. temperature -55 °C), high-temperature thermoplastic (HTT)
AC 09.17	AC 09.25	AC 09.24	AC 09.26
15	16	16	17

Legend:

possible

◆ not possible



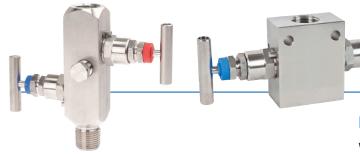
# Needle and multiport valve Models IV10, IV11



#### **Description**

Needle valves and multiport valves separate the process from measuring instruments such as pressure gauges, switches or transmitters. By closing this valve the instrument can be safely dismounted for services like recalibration or replacement. With the vent connection option, the instrument can be vented to the atmosphere by means of the needle valve.

Already in the standard version, the multiport valve is equipped with two additional connections. These can be used either as vent connections or for the connection of additional instruments.



#### Block-and-bleed valve Models IV20, IV21

#### **Description**

With 2-valve manifolds, the block-and-bleed version is standard. The shut-off valve separates the process from measuring instruments such as pressure gauges, switches or transmitters. By closing this valve the instrument can be safely dismounted for services like recalibration or replacement. The vent valve allows the safe venting of the instrument, prior to the dismounting or for zero point check.







#### Valve manifold for differential pressure measuring instruments, 3-valve manifold Models IV30, IV31

#### **Description**

The 3-valve manifold consists of two shut-off valves and one pressure compensating valve. The shut-off valves separate the process from the differential pressure measuring instrument. The pressure compensating valve enables the compensation between  $\oplus$  side and  $\ominus$  side to avoid one-sided overload during commissioning and operation.





Valve manifold for differential pressure measuring instruments, 5-valve manifold Models IV50, IV51

#### **Description**

Compared to the 3-valve manifold, the 5-valve manifold is equipped with two additional vent valves. One vent valve per pressure side allows operators the targeted venting of one or both pressure sides of the measuring arrangement.

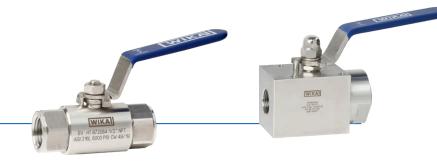


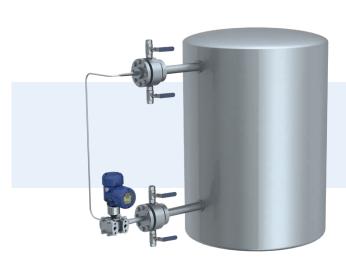


#### Ball valve, process and instrument version Model BV

#### **Description**

The simple and robust design, with a safety factor of 4:1, enables model BV ball valves a wide spectrum of use. This ranges from the simple distribution of compressed air through to demanding applications in the oil and gas industry. The process version of the ball valve has been designed to meet the requirements of the process industry, in particular for natural gas and aggressive media applications.



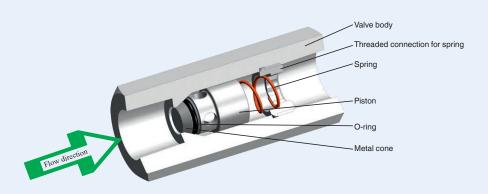




# Check valve Model CV

#### **Description**

The sealing element (piston) has a double sealing system from an elastic O-ring and a metal cone. With any back pressure, the soft O-ring and then the sealing face of the metal cone prevent the reverse flow of the medium. This principle of double sealing ensures reliable leak tightness.

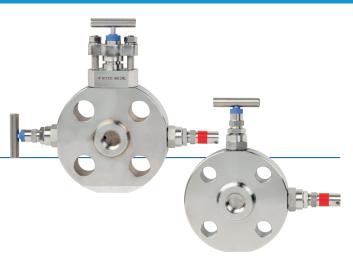


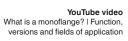
# Monoflange, process and instrument version Model IVM

#### **Description**

Due to its one-piece design, the model IVM monoflange can withstand high overpressures.

It ensures a robust and compact mounting of the measuring instrument directly to the process flange. The use of metal and graphite seals allows working at high temperatures.







#### Different combinations for monoflanges in process and instrument version









Special connections (IEC 61518 and union nut)













# Monoblock with threaded connection Models IBM2, IBM3

# E WIKAL

#### **Description**

The monoblock has been designed specifically to fit into the small space of control panel and valve battery installations. With its very compact dimensions, the monoblock can be used in a wide range of applications providing high overpressure safety within a large spectrum of temperature ranges. The modular monoblock design allows using an arrangement of ball valves and/or needle valves in the same valve body.







#### Monoblock with flange connection Models IBF1, IBF2, IBF3

#### **Description**

The monoblock has been designed to meet the requirements of the process industry, especially for natural gas and aggressive media applications. The compact design integrates one or two shut-off valves to separate the process from the instrument side and a vent valve.





# High-pressure needle valve Model HPNV

#### **Description**

The model HPNV high-pressure needle valves have been developed for high-pressure applications of 15,000 ... 60,000 psi (1,034 ... 4,136 bar). The valve is particularly suitable for control panels, where the space is restricted, or for test benches.



The non-rotating valve spindle prevents seizing and scoring, even if the valve is rarely opened or only partially closed.

With the blow-out proof design of the valve, working safety is ensured, especially in applications with high pressure loading and frequent pressure cycles.



# Monoblock for sampling and injection processes Models IBS3, IBJ4

#### **Description**

The monoblock with probe for sampling and injection processes has been designed to meet the requirements of the process industry. It is especially well suited to applications in natural gas and aggressive media. The compact design integrates two shut-off valves to separate the process from the instrument side.

#### Model IBS3, for sampling processes



#### Model IBJ4, for injection processes



#### Stopcock Model 910.10

#### Specifications per data sheet:

AC 09.01

#### Design:

- DIN 16261: PN 16 cocks with female/female and female/ male connection for pressure gauges
- DIN 16262: PN 6 and PN 16 cocks with adjusting nut and male connection for pressure gauges
- DIN 16263: PN 16 cocks with adjusting nut and male connection and test connection for pressure gauges

#### Max. medium temperature:

+50 °C

#### Nominal pressure:

To 25 bar



# 2 BART A.11

#### Shut-off valve Model 910.11

#### Specifications per data sheet:

AC 09.02

#### Design:

- DIN 16270: With vent screw
- DIN 16271: With test connection M20 x 1.5 and vent screw
- DIN 16272: With separate isolating test connection M20 x 1.5

#### Form A

LH-RH adjusting nut - male

#### Form B

Nipple and union nut - male, with shaft for instrument mounting bracket

#### Max. medium temperature:

- Brass: PN 250 (G ¼ thread: PN 125)
- Steel / Stainless steel: PN 400





# Snubbers, adjustable Model 910.12

# Operating principle to the pressure measuring instrument Adjustment screw from the measuring location

#### Specifications per data sheet:

AC 09.03

#### Design:

Brass, steel and stainless steel 316Ti / 1.4571

#### Max. medium temperature:

+120 °C

Snubbers are used to reduce the effects of pressure surges on the measuring instrument.

# Overpressure protector, adjustable Model 910.13

#### Specifications per data sheet:

AC 09.04

#### Design:

Valve body from brass or stainless steel 316Ti / 1.4571

#### Setting ranges:

0.4 ... 2.5 bar / 2 ... 6 bar / 5 ... 25 bar / 20 ... 60 bar / 50 ... 250 bar / 240 ... 400 bar

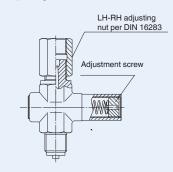
#### Max. temperature:

+130 °C

Through a helical spring, the outlet position is maintained until the pressure acting on the piston overcomes the back pressure of the spring, thus closing the valve. Once the pressure drops, the valve opens again and the piston returns to its resting position.











#### Specifications per data sheet:

AC 09.06

#### Design:

DIN 16282 / Industrial standard designs

#### Form:

U-form / trumpet form / compact syphon

#### Max. operating pressure and temperature:

- 104 bar / 400 °C
- 120 bar / 300 °C
- 160 bar / 120 °C
- 420 bar / 100 °C (compact syphon)

# **Connection adapter Model 910.14**

#### Specifications per data sheet:

AC 09.05

#### Design:

- Female male
- Female female
- Male male
- Self-sealing connecting nipple
- LH-RH adjusting nut DIN 16283
- Union nut and nipple DIN 16284
- Compression fitting with ferrule





# Instrument mounting bracket Model 910.16

#### Specifications per data sheet:

AC 09.07

#### Design:

- Instrument mounting bracket for connection via adapter:
   Bracket per DIN 16281 form H for wall mounting and form A for wall, pipe and support mounting
- Bracket for pipe mounting
- Adapter
- Instrument mounting bracket for connection without adapter: Bracket for wall mounting or pipe mounting

#### Sealings Model 910.17

#### Specifications per data sheet:

AC 09.08

#### Design:

- WIKA sealing
- Flat gasket
- Edge sealing ring



# **Special applications**





#### **Mounting arrangements**

WIKA is happy to support you in the selection of the correct components for your application. Alongside the extensive selection of instrumentation valves and accessories, WIKA also offers qualified assembly of different individual components into a complete measuring arrangement ("instrument hookup").

In addition to the valves and protective devices described here, combination with diaphragm seal systems is also possible.



#### Flushing ring

Flushing rings enable cleaning and maintenance of the measuring location without time-consuming dismounting of the measuring system. Cleaning is carried out via the bore of the flushing ring. For a problem-free supply of the respective cleaning medium, a needle valve or a ball valve, for example, can be mounted to the flushing ring. Due to their high-quality workmanship, WIKA needle valves enable precise control of the media flow, even at high pressures.

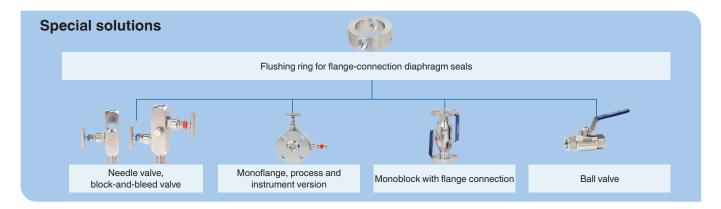
WIKA ball valves can be used, in particular, with viscous cleaning liquids.

The function of the flushing ring, in conjunction with an upstream shut-off valve, also enables simple on-site calibration of the measuring location. The process can also be vented or drained via the bore and valve. With the aid of the flushing ring, users can also take samples of the process medium.

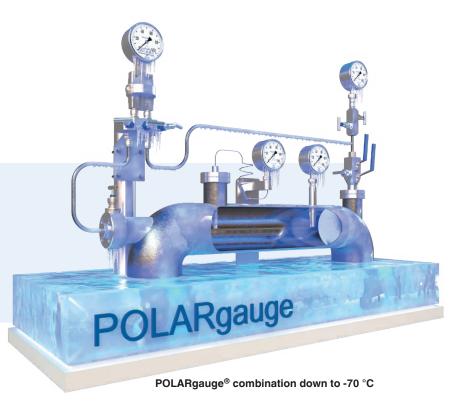
#### **Advantages**

- Easy cleaning and maintenance
- On-site calibration
- Venting of the process
- Sampling

Model 910.27 flushing rings, with appropriate connections and materials, can be adapted to almost any application. There are versions with a bore on one or both sides, which are suitable for a wide range of cleaning applications. Installation is simple and leak-free.



#### For use at low temperatures



The POLARgauge® and POLARvalve series have been designed specifically for measurement at extremely low ambient temperatures down to -70 °C. The instruments are mainly used in crude oil and natural gas processing. For this product family, a special low-temperature silicone oil has been specified. Even at -70 °C, this oil remains in a state that enables correct measurement and measured value display.



Option: Cryogenic needle valve bonnet down to -196 °C

#### Other versions of needle and ball valves



# **Certificates and approvals**

Given the increasing demands in terms of quality and product safety of industrial products, certified measuring instruments for pressure contribute considerably to the safety of the production processes. Therefore we offer a wide range of approvals and certificates.

#### **Tests**

- PMI test
- Roughness measurement
- Coating thickness measurement
- Dye penetrant test
- Surface roughness
- Leak test
- Pressure test

#### **Approvals**

- Pressure equipment directive
- EHEDG
- 3-A
- FDA
- NACE
- BAM
- EAC
- GOST
- ATEX

#### Certificates

- Ingress protection
- Material proof
- RoHS
- Oil- and grease-free
- Accuracies of the span
- Switching accuracy
- Indication accuracy



# WIKA worldwide

#### Europe

Austria WIKA Messgerätevertrieb Ursula Wiegand GmbH & Co. KG Tel. +43 1 8691631 info@wika.at / www.wika.at

Benelux WIKA Benelux Tel. +31 475 535500 info@wika.nl / www.wika.nl

Bulgaria WIKA Bulgaria EOOD Tel. +359 2 82138-10 info@wika.bg / www.wika.bg

Croatia WIKA Croatia d.o.o. Tel. +385 1 6531-034 info@wika.hr / www.wika.hr

Denmark WIKA Danmark A/S Tel. +45 4581 9600

Finland WIKA Finland Oy Tel. +358 9 682492-0 info@wika.fi / www.wika.fi

France WIKA Instruments s.a.r.l. Tel. +33 1 787049-46 info@wika.fr / www.wika.fr

Germany WIKA Alexander Wiegand SE & Co. KG Tel. +49 9372 132-0 info@wika.de / www.wika.de

Italy
WIKA Italia S.r.I. & C. S.a.s.
Tel. +39 02 93861-1
info@wika.it / www.wika.it

**Poland** WIKA Polska spółka z ogranizoną odpowiedzialnością sp. k Tel. +48 54 230110-0 info@wikapolska.pl www.wikapolska.pl

Romania WIKA Instruments Romania S.R.L. Tel. +40 21 4048327 info@wika.ro / www.wika.ro

Russia AO "WIKA MERA" Tel. +7 495-648018-0 info@wika.ru / www.wika.ru

Serbia WIKA Merna Tehnika d.o.o. Tel. +381 11 2763722 info@wika.rs / www.wika.rs

Instrumentos WIKA S.A.U. Tel. +34 933 9386-30 info@wika.es / www.wika.es

Switzerland WIKA Schweiz AG Tel. +41 41 91972-72 info@wika.ch / www.wika.ch

WIKA Instruments
Endüstriyel Ölçüm Cihazları Tic. Ltd. Şti.
Tel. +90 216 41590-66
info@wika.com.tr www.wika.com.tr

Ukraine TOV WIKA Prylad Tel. +38 044 496 83 80 info@wika.ua / www.wika.ua

#### United Kingdom

WIKA Instruments Ltd
Tel. +44 1737 644-008
info@wika.co.uk / www.wika.co.uk

#### North America

WIKA Instruments Ltd. Tel. +1 780 4637035 info@wika.ca / www.wik

WIKA Instrument, LP Tel. +1 770 5138200 info@wika.com / www.wika.us

#### Gayesco-WIKA USA, LP Tel. +1 713 4750022 info@wikahouston.com

Mensor Corporation Tel. +1 512 3964200

#### Latin America

Argentina WIKA Argentina S.A. Tel. +54 11 5442 0000 ventas@wika.com.ar www.wika.com.ar

Brazil
WIKA do Brasil Ind. e Com. Ltda.
Tel. +55 15 3459-9700
vendas@wika.com.br
www.wika.com.br

WIKA Chile S.p.A. Tel. +56 9 4279 0308 info@wika.cl / www.wika.cl

Colombia Instrumentos WIKA Colombia S.A.S. Tel. +57 601 7021347 info@wika.co / www.wika.co

Instrumentos WIKA Mexico S.A. de C.V. Tel. +52 55 50205300 ventas@wika.com / www.wika.mx

#### Asia

WIKA Instrumentation Suzhou Co., Ltd. Tel. +86 512 6878 8000 info@wika.cn / www.wika.com.cn

WIKA Instruments India Pvt. Ltd. Tel. +1800-123-101010 info@wika.co.in / www.wika.co.in

Japan WIKA Japan K. K. Tel. +81 3 5439-6673 info@wika.co.jp / www.wika.co.jp

WIKA Korea Ltd. Tel. +82 2 869-0505 info@wika.co.kr / www.wika.co.kr

Malaysia
WiKA Instrumentation (M) Sdn. Bhd.
Tel. +60 3 5590 6666 info@wika.my / www.wika.my

Philippines WIKA Instruments Philippines Inc. Tel. +63 2 234-1270 info@wika.ph / www.wika.ph

Singapore WIKA Instrumentation Pte. Ltd. Tel. +65 6844 5506 info@wika.sg/www.wika.sg

WIKA Instrumentation Taiwan Ltd. Tel. +886 3 420 6052 info@wika.tw / www.wika.tw

WIKA Instrumentation Corporation (Thailand) Co., Ltd.
Tel. +66 2 326 6876

WIKA Instrumentation FE LLC Tel. +998 71 205 84 30 info@wika.uz / www.wika.uz

#### Africa/Middle East

Botswana WIKA Instruments Botswana (Pty.) Ltd. Tel. +267 3110013 info@wika.co.bw / wika.co.bw

Egypt WIKA Near East Ltd. Tel. +20 2 240 13130 info@wika.com.eg/www.wika.com.eg

Namibia WIKA Instruments Namibia Pty Ltd. Tel. +26 4 61238811 info@wika.com.na/www.wika.com.na

Nigeria WIKA WEST AFRICA LIMITED Tel. +234 17130019 info@wika.com.ng / www.wika.ng

Saudi Arabia WIKA Saudi Arabia Llc Tel. +966 53 555 0874 info@wika.sa/www.wika.sa

South Africa WIKA Instruments Pty. Ltd. Tel. +27 11 62100-00

#### **United Arab Emirates**

#### Australia

Australia WIKA Australia Pty. Ltd. Tel. +61 2 88455222 sales@wika.com.au / www.wika.com.au

New Zealand WIKA Instruments Limited Tel. +64 9 8479020

WIKA Alexander Wiegand SE & Co. KG

Alexander-Wiegand-Straße 30 | 63911 Klingenberg | Germany Tel. +49 9372 132-0 | info@wika.de | www.wika.de

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You can find further information here!

