



OPTIBAR SERIES Supplementary Instructions

3-A: P 2010, PM 3050, PC 5060, PM 5060
EHEDG: PM 3050, PC 5060, PM 5060

Installation and Cleaning Instructions



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1.1 Function

This manual contains the most important information for the hygienic use of OPTIBAR pressure transmitters. In addition to the general requirements, the conditions of use according to "Latest Version of the 3-A Sanitary Standard for Sensors and Sensor Fittings and Connections, Number 74 and Number 63" and "Latest Version of the EHEDG Guideline 37" are also explained in detail.

1.2 Scope

The manual applies to OPTIBAR P 2010, OPTIBAR PM 3050, OPTIBAR PC 5060 and OPTIBAR PM 5060 pressure transmitters with hygienic process connections and gaskets. Connections and gaskets can be found in the respective chapter of the manufacturer's declaration.

2.1 3-A Standards - Meaning and implementation

Meaning of 3-A

The 3-A Sanitary Standards Incorporation publishes hygiene standards which contain guidelines for materials, design and manufacturing methods. The organisation verifies compliance to the hygienic design. Compliance is inspected by an independent third body, the CCE (Certified Conformance Evaluator). Once compliance has been verified, the 3-A SSI (Sanitary Standards Incorporation) issues a symbol licence for the 3-A logo.

Use of devices in accordance with 3-A

The use of devices and components that bear the 3-A logo is evidence that the design has been inspected. The certificate always applies to a combination of a sensor and process connection. Both components in this combination must conform to 3-A standards. It looks like this:



Use in accordance with 3-A entails enhanced or special requirements compared to standard applications. This applies in particular to:

- Housing design (e.g. easy to clean)
- Process connection design (e.g. visibility of potential leaks)
- Gaskets (e.g. FDA or 3-A compliance, stability)
- Installation position on the tank (e.g. self-draining)
- Cleaning, maintenance (intervals, methods)

2.2 EHEDG- Meaning and implementation

Meaning of EHEDG

The aim of EHEDG is to contribute to hygienic construction and design in all areas of food production and thus to ensure the safe production of food. EHEDG supports European legislation and its requirements for hygienic handling, processing and packaging of food products using hygienic machinery and in a hygienic environment (EC Directive 2006/42/EC for machinery, EN 1672-2 and EN ISO 14159 for hygiene requirements).

Use of devices in accordance with EHEDG

The pressure transmitter OPTIBAR PM 3050, OPTIBAR PC 5060 and OPTIBAR PM 5060 are certified EHEDG devices. The use of devices and components that bear the EHEDG logo is evidence that the design has been inspected. The certificate always applies to a combination of a sensor and process connection. Both components in this combination must conform to EHEDG standards. It looks like this:



Use in accordance with EHEDG entails enhanced or special requirements compared to standard applications. This applies in particular to:

- Housing design (e.g. easy to clean)
- Structure of the process connection (e.g. welded socket maximum as long as the pipe is wide)
- Only seals, which are listed on EHEDG Position Paper
- Installation position on the tank (e.g. self-draining)
- Cleaning, maintenance (intervals, methods)

3.1 General

The following contains special information for the different device types.



INFORMATION!

The user is responsible for:

- *using a suitable sealing material*
- *defining adequate service intervals*
- *using an elastomer sealing material according to 3A standard 18-03 or FDA 21 CFR 177.2600 as well as suitability regarding the product and pressure*

3.2 OPTIBAR P 2010

All designs with 3-A process connections and FDA-compliant fill fluids possible.

3.3 OPTIBAR PC 5060 and OPTIBAR PM 5060

Housing

When using in accordance with 3-A standards, an electro-polished stainless steel housing, protection category IP 69K/NEMA, is preferred. This housing features a shorter transition to the process connection to make it easier to clean, for example. This housing version is suitable for measuring points with enhanced hygienic requirements and applications requiring daily wet cleaning. The definition of zone classification according to EHEDG serves as a guide. If "3-A certification" is selected in the configurator, the housing is labelled with a "3-A" logo. The single chamber housing versions made of plastic, aluminium and cast stainless steel can be used in applications with low hygienic requirements in which, for example, external dry cleaning is sufficient.

Process connection

When using in accordance with 3-A standards, use only the process connections listed in the "Manufacturer's Declaration" section. They meet the hygienic requirements outlined in 3-A standards no. 63 and 74 including the requirement for self-drainage in the event of a leak in the device seal.

Weld in connection

When using in accordance with 3-A standards and the EHEDG guidelines, use only the weld in connections listed in the "Manufacturer's Declaration" section.

Gaskets

When using in accordance with 3-A standards, only the following gaskets are to be configured for the sensor:

Gasket	Material	Cord size	Manufacturer
Front measuring cell gasket	EPDM (E70Q)	1.78 mm	PPE
	FKM (V70SW)	1.78 mm	
	FFKM (Perlast G75S)	1.78 mm	
O-ring gasket (only with hygienic connection with union nut)	EPDM (E70Q)	5 mm	
	FKM (V70SW)	5 mm	
	FFKM (Perlast G75S)	5 mm	

When using in accordance with EHEDG guidelines, only gaskets that are listed on the EHEDG paper position shall be used.

4.1 General installation instructions

- The gasket used must be compliant with hygienic applications. Only those gaskets and materials indicated in section 3.1 and the "Manufacturer's Declaration" section may be used for the gasket.
- Make sure that the O-ring fits properly in the intended groove in the fitting.
- Surfaces, including welding connections in contact with the process, must have a surface roughness $\leq 0.8 \mu\text{m}$.
- Weld in connections must be welded flush to the inside of the tank.

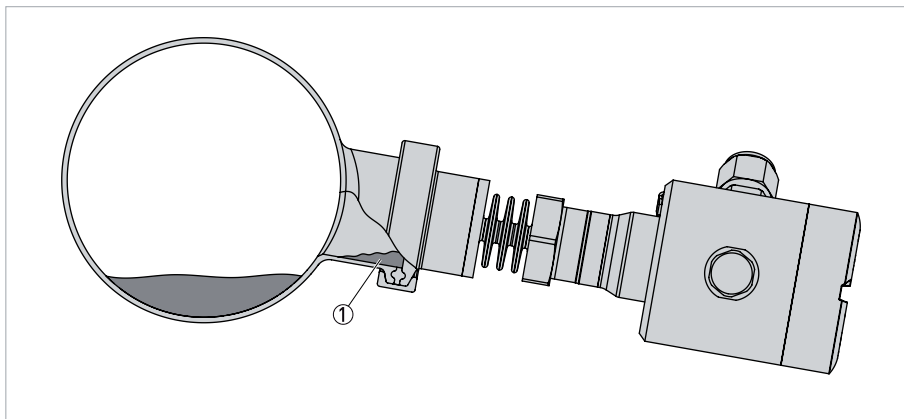


Figure 4-1: Incorrect mounting position as sectional drawing in the process (accumulation on the process connection)

① Accumulation of process medium to be avoided

Observe the following for a measuring point in accordance with 3-A standards:

- All components of the measuring point must be 3-A.
- The device has to be installed in the way that drainability (E1.8.1) and demands acc. to (L1.1) are met.

Observe the following for a measuring point in accordance with EHEDG:

- Due to the use of EHEDG-certified devices only gaskets that are listed on the EHEDG paper position shall be used.
- The device must be installed in such a way that it can be drained (EHEDG 8, 6.4). For this purpose, an angle of inclination of 3° must be observed during installation.
- According to EHEDG, welding sockets are limited in depth to the dimension of the diameter and shall not exceed this value.
- The device shall be installed in such a way that the drainability is fulfilled as shown in Figure 4-1.
- When using welding sockets in tank systems, the cleaning fitting shall be adjusted so that the fittings can be optimally cleaned.

4.2 OPTIBAR PC 5060 and OPTIBAR PM 5060

Special notes for the OPTIBAR PC 5060

- The mounting position must enable self-drainage for the sensor and a hole for leak detection.
- After mounting, the hole for leak detection in the process connection must be visible and be facing down.
- For the hygienic connection with compression nut, the hole for leak detection in the process connection must align with the one in the weld in connection.

The following figure illustrates the recommended mounting position:

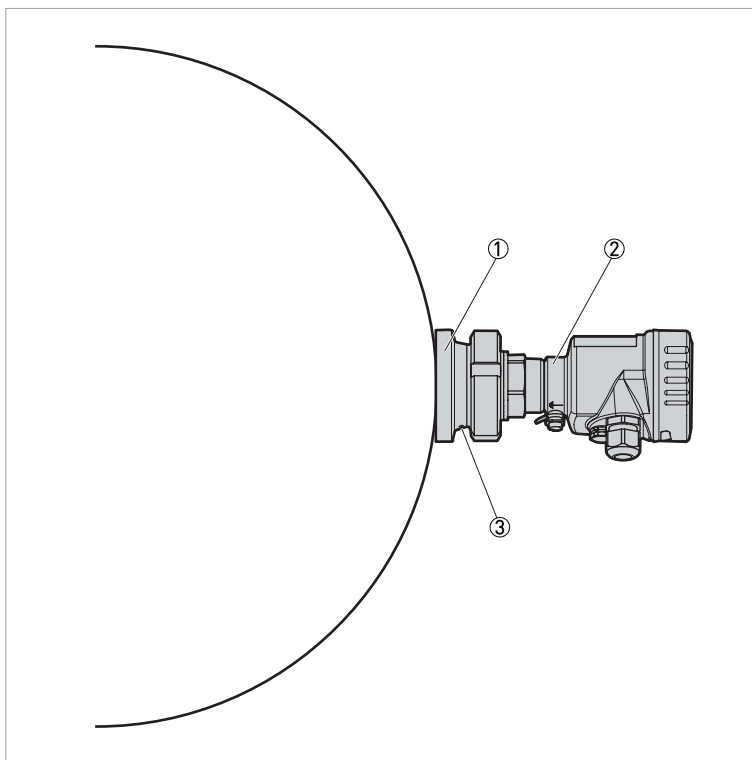


Figure 4-2: Recommended mounting position - 3 o'clock

- ① Weld in connection
- ② pressure transmitter
- ③ Hole for leak detection

If a different mounting position is chosen, the user must implement the appropriate measures to enable the sensor to self-drain.

Hygienic connection with compression nut

When assembling the hygienic connection with compression nut, the user must ensure that the hole for leak detection in the process connection aligns with the hole in the weld in connection. Refer to the illustration that follows:

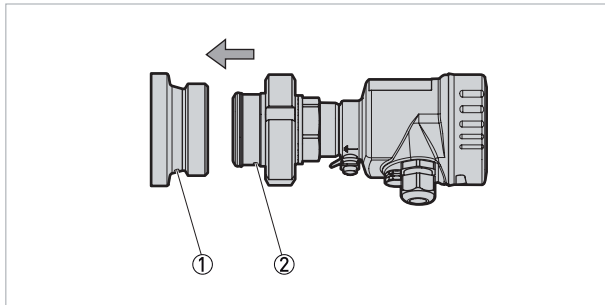


Figure 4-3: Mounting pressure transmitters in weld in connection

- ① Hole for leak detection on the weld in connection
- ② Hole for leak detection on the sensor process connection

Housing

For hygienic reasons, the following single chamber housings can only be installed laterally.

- Single chamber housing, aluminium
- Stainless steel single chamber housing, precision casting
- Plastic, single chamber housing

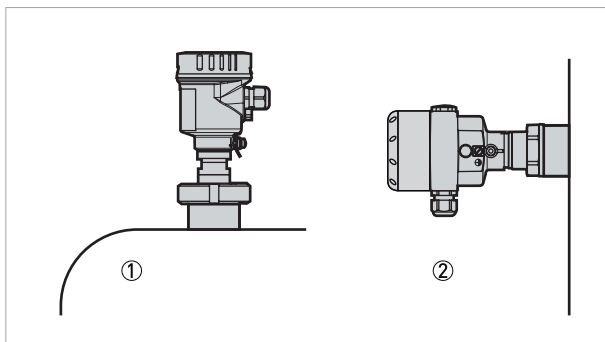


Figure 4-4: Housing

- ① Vertical mounting only with stainless steel housing, electro-polished
- ② Lateral mounting also possible with other single chamber housings (e.g. aluminium single chamber housing)

When mounting the sensor vertically, use the electro-polished stainless steel housing.

5.1 Cleaning and maintenance

Cleaning

The sensor should be kept clean in accordance with validated, state-of-the-art cleaning processes. Check that it has been successfully cleaned by removing the sensor. It is the user's responsibility to check the resistance of the gasket material and sensor as related to the product and the cleaning process. Use the resistance lists and the technical data for each sensor as a basis.

The devices are suited for CIP and SIP procedures.

Preventive maintenance for OPTIBAR PC 5060

As per 3-A standard No. 74, it is the responsibility of the user to ensure the hygienically sound condition of the sensor throughout the duration of its use. This includes the selection of a gasket material in accordance with 3-A standards. Leaks in a gasket pose a hygienic risk. To avoid this, gaskets should be replaced on a regular basis and the sensor should be checked for damage. This is especially true for the front measuring cell gasket. The following figure illustrates the position and removal of this gasket.

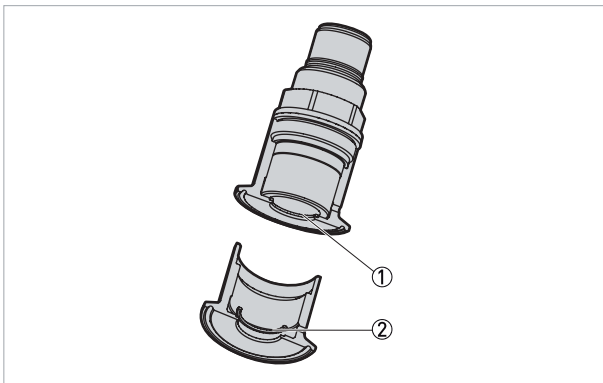


Figure 5-1: Measuring cell seal

- ① Position of the measuring cell seal
- ② Removal of the measuring cell seal

When replacing the seal, carefully clean the accessible surface. The user aligns the intervals according to the process conditions and the gasket materials.

6.1 3-A

6.1.1 OPTIBAR P 2010

We hereby declare that the devices and process connection combinations in the following versions of the OPTIBAR correspond to the requirements of 3-A standard 74.

Designation	Connection	Temperature / Sealing materials
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Clamp

VGK24**AT*****M**	Clamp 3/4"; DIN 32676; 316L; 3-A	-40...+125°C / without
VGK24**BT*****M**	Clamp DN25 (1"); DIN 32676 / ISO2852; 316L; 3-A	-40...+125°C / without
VGK24**CT*****M**	Clamp DN38 (1 1/2"); DIN 32676 / ISO2852; 316L; 3-A	-40...+125°C / without
VGK24**DT*****M**	Clamp DN51 (2"); DIN 32676 / ISO2852; 316L; 3-A	-40...+125°C / without

Varivent

VGK24**VT*****M**	Varivent® N, DN40 - 162 PN25, 316L; 3-A	-40...+125°C / without
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6.1.2 OPTIBAR PM 3050

We hereby declare that the devices and process connection combinations in the following versions of the OPTIBAR correspond to the requirements of 3-A standard 74.

Designation	Connection	Temperature / Sealing materials
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Varivent

VGKB4**FRFE*****M*	Varivent N50-40 PN25 / 316L	High-temperature -40...+150°C / without
VGKB4**FSFE*****M*	Varivent F25 PN25 / 316L	High-temperature -40...+150°C / without

Clamp

VGKB4**AVFE*****M*	Clamp 1" PN10 DIN32676, ISO2852; 316L	High-temperature -40...+150°C / without
VGKB4**ATFE*****M*	Clamp 1 1/2" PN10 DIN32676, ISO2852; 316L	High-temperature -40...+150°C / without
VGKB4**ARFE*****M*	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852; 316L	High-temperature -40...+150°C / without

DIN 11864-1

VGKB4**V1FE*****M*	Female union DN25 as per DIN, Form A, DIN11864-1; 316L	High-temperature -40...+150°C / without
VGKB4**E2FE*****M*	Female union DN40 as per DIN, Form A, DIN11864-1; 316L	High-temperature -40...+150°C / without
VGKB4**E3FE*****M*	Female union DN50 as per DIN, Form A, DIN11864-1; 316L	High-temperature -40...+150°C / without

DIN 11864-2

VGKB4**ADFE*****M*	Female union DN40 as per ISO, Form A, DIN11864-2; 316L	High-temperature -40...+150°C / without
VGKB4**ACFE*****M*	Female union DN50 as per ISO, Form A, DIN11864-2; 316L	High-temperature -40...+150°C / without

DIN 11864-3

VGKB4**TWFE*****M*	Collar spigot DN40 as per DIN, Form A, DIN11864-3; 316L	High-temperature -40...+150°C / without
VGKB4**T1FE*****M*	Collar spigot DN50 as per DIN, Form A, DIN11864-3; 316L	High-temperature -40...+150°C / without

6.1.3 OPTIBAR PM 5060

We hereby declare that the devices and process connection combinations in the following versions of the OPTIBAR correspond to the requirements of 3-A standard 74.

Designation	Connection	Temperature / Sealing materials
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Hygienic connection with compression nut

VGK64**3D*F***X*****0*0M0	Hygienic connection F40 PN25; with compression nut / 316L; 3-A	Extended temperature -12...+150°C / without
VGK64**3D*H***X*****0*0M0	Hygienic connection F40 PN25; with compression nut / 316L; 3-A	High-temperature -12...+180°C / without
VGK64**3D*T***X*****0*0M0	Hygienic connection F40 PN25; with compression nut / 316L; 3-A	High-temperature with shield -12...+200°C / without

Varivent

VGK64**3E*F***X*****0*0M0	Varivent N50-40 PN25 / 316L; 3-A	Extended temperature -12...+150°C / without
VGK64**3E*H***X*****0*0M0	Varivent N50-40 PN25 / 316L; 3-A	High-temperature -12...+180°C / without
VGK64**3E*T***X*****0*0M0	Varivent N50-40 PN25 / 316L; 3-A	High-temperature with shield -12...+200°C / without
VGK64**3F*F***X*****0*0M0	Varivent F25 PN25 / 316L; 3-A	Extended temperature -12...+150°C / without
VGK64**3F*H***X*****0*0M0	Varivent F25 PN25 / 316L; 3-A	High-temperature -12...+180°C / without
VGK64**3F*T***X*****0*0M0	Varivent F25 PN25 / 316L; 3-A	High-temperature with shield -12...+200°C / without

Clamp

VGK64**3A*F***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L; 3-A	Extended temperature -12...+150°C / without
VGK64**3A*H***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature -12...+180°C / without
VGK64**3A*T***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature with shield -12...+200°C / without
VGK64**3B*F***X*****0*0M0	Clamp 2½" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L; 3-A	Extended temperature -12...+150°C / without
VGK64**3B*H***X*****0*0M0	Clamp 2½" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature -12...+180°C / without
VGK64**3B*T***X*****0*0M0	Clamp 2½" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature with shield -12...+200°C / without
VGK64**3C*F***X*****0*0M0	Clamp 3" PN10 (ø91,0mm) DIN32676, ISO2852 / 316L; 3-A	Extended temperature -12...+150°C / without
VGK64**3C*H***X*****0*0M0	Clamp 3" PN10 (ø91,0mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature -12...+180°C / without
VGK64**3C*T***X*****0*0M0	Clamp 3" PN10 (ø91,0mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature with shield -12...+200°C / without
VGK64**3K*F***X*****0*0M0	Clamp DN80 PN10 (ø106mm) DIN32676, ISO2852 / 316L; 3-A	Extended temperature -12...+150°C / without
VGK64**3K*H***X*****0*0M0	Clamp DN80 PN10 (ø106mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature -12...+180°C / without
VGK64**3K*T***X*****0*0M0	Clamp DN80 PN10 (ø106mm) DIN32676, ISO2852 / 316L; 3-A	High-temperature with shield -12...+200°C / without

DIN 11864-1

VGK64**3G*F***X*****0*0M0	Female union DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm; 3-A	Extended temperature -12...+150°C / without
VGK64**3G*H***X*****0*0M0	Female union DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm; 3-A	High-temperature -12...+180°C / without
VGK64**3G*T***X*****0*0M0	Female union DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm; 3-A	High-temperature with shield -12...+200°C / without
VGK64**3H*F***X*****0*0M0	Female union DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A	Extended temperature -12...+150°C / without
VGK64**3H*H***X*****0*0M0	Female union DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A	High-temperature -12...+180°C / without
VGK64**3H*T***X*****0*0M0	Female union DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A	High-temperature with shield -12...+200°C / without

DIN 11864-2

VGK64**3R*F***X*****0*0M0	Flange connection DN48.3 as per ISO, Form A, DIN11864-2; for pipes 48.3x2 / 316/316L Ra<0.8µm; 3-A	Extended temperature -12...+150°C / without
VGK64**3R*H***X*****0*0M0	Flange connection DN48.3 as per ISO, Form A, DIN11864-2; for pipes 48.3x2 / 316/316L Ra<0.8µm; 3-A	High-temperature -12...+180°C / without
VGK64**3R*T***X*****0*0M0	Flange connection DN48.3 as per ISO, Form A, DIN11864-2; for pipes 48.3x2 / 316/316L Ra<0.8µm; 3-A	High-temperature with shield -12...+200°C / without
VGK64**3P*F***X*****0*0M0	Flange connection DN60.3 as per ISO, Form A, DIN11864-2; for pipes 60.3x2 / 316/316L Ra<0.8µm; 3-A	Extended temperature -12...+150°C / without
VGK64**3P*H***X*****0*0M0	Flange connection DN60.3 as per ISO, Form A, DIN11864-2; for pipes 60.3x2 / 316/316L Ra<0.8µm; 3-A	High-temperature -12...+180°C / without
VGK64**3P*T***X*****0*0M0	Flange connection DN60.3 as per ISO, Form A, DIN11864-2; for pipes 60.3x2 / 316/316L Ra<0.8µm; 3-A	High-temperature with shield -12...+200°C / without

DIN 11864-3

VGK64**3W*F***X*****0*0M0	Clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A	Extended temperature -12...+150°C / without
VGK64**3W*H***X*****0*0M0	Clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A	High-temperature -12...+180°C / without
VGK64**3W*T***X*****0*0M0	Clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A	High-temperature with shield -12...+200°C / without

6.1.4 OPTIBAR PC 5060

We hereby declare that the devices and process connection combinations in the following versions of the OPTIBAR correspond to the requirements of 3-A standard 74.

Designation	Connection	Sealing concept	Sealing materials / temperature
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Hygienic connection with compression nut

VGK54**3DDG***X*****0M0	Hygienic connection F40 PN25; with compression nut / 316L; 3-A	Dual	FFKM (Perlast G75S) / -15...+150°C
VGK54**3DDE***X*****0M0	Hygienic connection F40 PN25; with compression nut / 316L; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3DDP***X*****0M0	Hygienic connection F40 PN25; with compression nut / 316L; 3-A		FKM (V70SW) / -10...+150°C

Varivent

VGK54**3EDG***X*****0M0	Varivent N50-40 PN25 / 316L; 3-A	Dual	FFKM (Perlast G75S) / -15...+150°C
VGK54**3EDE***X*****0M0	Varivent N50-40 PN25 / 316L; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3EDP***X*****0M0	Varivent N50-40 PN25 / 316L; 3-A		FKM (V70SW) / -10...+150°C
VGK54**3FDG***X*****0M0	Varivent F25 PN25 / 316L; 3-A		FFKM (Perlast G75S) / -15...+150°C
VGK54**3FDE***X*****0M0	Varivent F25 PN25 / 316L; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3FDP***X*****0M0	Varivent F25 PN25 / 316L; 3-A		FKM (V70SW) / -10...+150°C

Clamp

VGK54**3ADG***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L; 3-A	Dual	FFKM (Perlast G75S) / -15...+150°C
VGK54**3ADE***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3ADP***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L; 3-A		FKM (V70SW) / -10...+150°C
VGK54**3BDG***X*****0M0	Clamp 2½" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L; 3-A		FFKM (Perlast G75S) / -15...+150°C
VGK54**3BDE***X*****0M0	Clamp 2½" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3BDP***X*****0M0	Clamp 2½" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L; 3-A		FKM (V70SW) / -10...+150°C
VGK54**3CDG***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L; 3-A		FFKM (Perlast G75S) / -15...+150°C
VGK54**3CDE***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3CDP***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L; 3-A		FKM (V70SW) / -10...+150°C

DIN 11864-1

VGK54**3GDG***X*****0M0	Female union DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm; 3-A	Dual	FFKM (Perlast G75S) / -15...+150°C
VGK54**3GDE***X*****0M0	Female union DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3GDP***X*****0M0	Female union DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm; 3-A		FKM (V70SW) / -10...+150°C
VGK54**3HDG***X*****0M0	Female union DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A		FFKM (Perlast G75S) / -15...+150°C
VGK54**3HDE***X*****0M0	Female union DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3HDP***X*****0M0	Female union DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm; 3-A		FKM (V70SW) / -10...+150°C

DIN 11864-2

VGK54**3MDG***X*****0M0	Flange connection DN40 as per DIN, Form A, DIN11864-2; for pipes 41x1.5 / 316/316L Ra <0.8µm; 3-A	Dual	FFKM (Perlast G75S) / -15...+150°C
VGK54**3MDE***X*****0M0	Flange connection DN40 as per DIN, Form A, DIN11864-2; for pipes 41x1.5 / 316/316L Ra <0.8µm; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3MDP***X*****0M0	Flange connection DN40 as per DIN, Form A, DIN11864-2; for pipes 41x1.5 / 316/316L Ra <0.8µm; 3-A		FKM (V70SW) / -10...+150°C
VGK54**3KDG***X*****0M0	Flange connection DN50 as per DIN, Form A, DIN11864-2; for pipes 53x1.5 / 316/316L Ra <0.8µm; 3-A		FFKM (Perlast G75S) / -15...+150°C
VGK54**3KDE***X*****0M0	Flange connection DN50 as per DIN, Form A, DIN11864-2; for pipes 53x1.5 / 316/316L Ra <0.8µm; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3KDP***X*****0M0	Flange connection DN50 as per DIN, Form A, DIN11864-2; for pipes 53x1.5 / 316/316L Ra <0.8µm; 3-A		FKM (V70SW) / -10...+150°C

Anderson 2" long fitting

VGK54**3NDG***X*****0M0	Anderson 2"; long fitting PN10; 316L; 3-A	Single	FFKM (Perlast G75S) / -15...+150°C
VGK54**3NDE***X*****0M0	Anderson 2"; long fitting PN10; 316L; 3-A		EPDM (E70Q) / -40...+150°C
VGK54**3NDP***X*****0M0	Anderson 2"; long fitting PN10; 316L; 3-A		FKM (V70SW) / -10...+150°C

6.2 EHEDG

6.2.1 OPTIBAR PM 3050

We hereby declare that the devices and process connection combinations in the following versions of the OPTIBAR correspond to the requirements of the EHEDG guidelines.

Designation	Connection	Temperature / Sealing materials
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Varivent

VGKB4**FSFE*****M*	Varivent F DN25-32; PN40; 316L; 3-A	High-temperature -40...+150°C / without
VGKB4**FRFE*****M*	Varivent N DN40-162; PN40; 316L; 3-A	High-temperature -40...+150°C / without

Clamp

VGKB4**AVFE*****M*	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L; 3-A	High-temperature -40...+150°C / without
VGKB4**ATFE*****M*	Clamp DN40 (1 1/2") PN16; DIN32676 / ISO2852; 316L; 3-A	High-temperature -40...+150°C / without
VGKB4**ARFE*****M*	Clamp DN50 (2") PN16; DIN32676 / ISO2852; 316L; 3-A	High-temperature -40...+150°C / without

DIN 11864-1

VGKB4**V1FE*****M*	Collar connection DIN11864-1 Form A; DN25 PN 40; 316L; 3-A	High-temperature -40...+150°C / without
VGKB4**E2FE*****M*	Collar connection DIN11864-1 Form A; DN40 PN 40; 316L; 3-A	High-temperature -40...+150°C / without
VGKB4**E3FE*****M*	Collar connection DIN11864-1 Form A; DN50 PN 40; 316L; 3-A	High-temperature -40...+150°C / without

DIN 11864-2

VGKB4**ACFE*****M*	Aseptic Flange DIN11864-2 Form A; DN40 PN25; 316L; 3-A	High-temperature -40...+150°C / without
VGKB4**ADFE*****M*	Aseptic Flange DIN11864-2 Form A; DN50 PN16; 316L; 3-A	High-temperature -40...+150°C / without

DIN 11864-3

VGKB4**TWFE*****M*	Clamp DN40; 11864-3 Form A; 316L; 3-A	High-temperature -40...+150°C / without
VGKB4**T1FE*****M*	Clamp DN50; 11864-3 Form A; 316L; 3-A	High-temperature -40...+150°C / without

DIN11851

VGKB4**E5FE*****M*	Compression fitting DIN11851; DN25 PN40; 316L	High-temperature -40...+150°C / without
VGKB4**NZFE*****M*	Compression fitting DIN11851; DN40 PN40; 316L	High-temperature -40...+150°C / without
VGKB4**NBFE*****M*	Compression fitting DIN11851; DN50 PN25; 316L	High-temperature -40...+150°C / without

6.2.2 OPTIBAR PM 5060

We hereby declare that the devices and process connection combinations in the following versions of the OPTIBAR correspond to the requirements of the EHEDG guidelines.

Designation	Connection	Temperature / Sealing materials
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Aseptic connection with compression nut

VGK64**ES*1***X*****0*0M0	Aseptic connection F40 PN25; with compression nut / 316L	Standard -20...+105°C / FKM (VP2/A)
VGK64**ES*3***X*****0*0M0	Aseptic connection F40 PN25; with compression nut / 316L	Standard -30...+105°C / EPDM (A+P 75,5/KW75F)
VGK64**ES*P***X*****0*0M0	Aseptic connection F40 PN25; with compression nut / 316L	Standard -15...+105°C / FFKM (Perlast G75S)
VGK64**ES*F***X*****0*0M0	Aseptic connection F40 PN25; with compression nut / 316L	Extended temperature -12...+150°C / without
VGK64**ES*H***X*****0*0M0	Aseptic connection F40 PN25; with compression nut / 316L	High-temperature with shield -12...+200°C / without

Varivent

VGK64**FR*S***X*****0*0M0	Varivent N50-40 PN25 / 316L	Standard -40...+105°C / without
VGK64**FR*E***X*****0*0M0	Varivent N50-40 PN25 / 316L	Extended temperature -40...+150°C / without
VGK64**FR*F***X*****0*0M0	Varivent N50-40 PN25 / 316L	Extended temperature -12...+150°C / without
VGK64**FR*H***X*****0*0M0	Varivent N50-40 PN25 / 316L	High-temperature -12...+180°C / without
VGK64**FR*T***X*****0*0M0	Varivent N50-40 PN25 / 316L	High-temperature with shield -12...+200°C / without
VGK64**FS*S***X*****0*0M0	Varivent F25 PN25 / 316L	Standard -40...+105°C / without
VGK64**FS*E***X*****0*0M0	Varivent F25 PN25 / 316L	Extended temperature -40...+150°C / without
VGK64**FS*F***X*****0*0M0	Varivent F25 PN25 / 316L	Extended temperature -12...+150°C / without
VGK64**FS*H***X*****0*0M0	Varivent F25 PN25 / 316L	High-temperature -12...+180°C / without
VGK64**FS*T***X*****0*0M0	Varivent F25 PN25 / 316L	High-temperature with shield -12...+200°C / without

Clamp

VGK64**AT*S***X*****0*0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L	Standard -40...+105°C / without
VGK64**AT*E***X*****0*0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L	Extended temperature -40...+150°C / without
VGK64**AR*S***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	Standard -40...+105°C / without
VGK64**AR*E***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	Extended temperature -40...+150°C / without
VGK64**AR*F***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	Extended temperature -12...+150°C / without
VGK64**AR*H***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	High-temperature -12...+180°C / without

Designation	Connection	Temperature / Sealing materials
VGK64**AR*T***X*****0*0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	High-temperature with shield -12...+200°C / without
VGK64**AW*F***X*****0*0M0	Clamp 2 1/2" PN10 (ø77,5mm) DIN32676, ISO2852 / 316L	Extended temperature -12...+150°C / without
VGK64**AW*H***X*****0*0M0	Clamp 2 1/2" PN10 (ø77,5mm) DIN32676, ISO2852 / 316L	High-temperature -12...+180°C / without
VGK64**AW*T***X*****0*0M0	Clamp 2 1/2" PN10 (ø77,5mm) DIN32676, ISO2852 / 316L	High-temperature with shield -12...+200°C / without
VGK64**AS*F***X*****0*0M0	Clamp 3" PN10 (ø91,0mm) DIN32676, ISO2852 / 316L	Extended temperature -12...+150°C / without
VGK64**AS*H***X*****0*0M0	Clamp 3" PN10 (ø91,0mm) DIN32676, ISO2852 / 316L	High-temperature -12...+180°C / without
VGK64**AS*T***X*****0*0M0	Clamp 3" PN10 (ø91,0mm) DIN32676, ISO2852 / 316L	High-temperature with shield -12...+200°C / without
VGK64**KY*F***X*****0*0M0	Clamp DN80 (106mm); DIN32676 / ISO2852; 316L	Extended temperature -12...+150°C / without
VGK64**KY*H***X*****0*0M0	Clamp DN80 (106mm); DIN32676 / ISO2852; 316L	High-temperature -12...+180°C / without
VGK64**KY*T***X*****0*0M0	Clamp DN80 (106mm); DIN32676 / ISO2852; 316L	High-temperature with shield -12...+200°C / without

DIN11851

VGK64**E5*S***X*****0*0M0	Collar connection DN25 PN40, DIN11851 / 316L	Standard -40...+105°C / without
VGK64**E5*E***X*****0*0M0	Collar connection DN25 PN40, DIN11851 / 316L	Extended temperature -40...+150°C / without
VGK64**EZ*S***X*****0*0M0	Collar connection DN40 PN40, DIN11851 / 316L	Standard -40...+105°C / without
VGK64**EZ*E***X*****0*0M0	Collar connection DN40 PN40, DIN11851 / 316L	Extended temperature -40...+150°C / without
VGK64**EZ*F***X*****0*0M0	Collar connection DN40 PN40, DIN11851 / 316L	Extended temperature -12...+150°C / without
VGK64**EZ*H***X*****0*0M0	Collar connection DN40 PN40, DIN11851 / 316L	High-temperature -12...+180°C / without
VGK64**NB*S***X*****0*0M0	Collar connection DN50 PN25, DIN11851 / 316L	Standard -40...+105°C / without
VGK64**NB*E***X*****0*0M0	Collar connection DN50 PN25, DIN11851 / 316L	Extended temperature -40...+150°C / without
VGK64**NB*F***X*****0*0M0	Collar connection DN50 PN25, DIN11851 / 316L	Extended temperature -12...+150°C / without
VGK64**NB*H***X*****0*0M0	Collar connection DN50 PN25, DIN11851 / 316L	High-temperature -12...+180°C / without

DIN 11864-1

VGK64**E2*F***X*****0*0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm	Extended temperature -12...+150°C / without
VGK64**E2*H***X*****0*0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm	High-temperature -12...+180°C / without
VGK64**E2*T***X*****0*0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm	High-temperature with shield -12...+200°C / without

Designation	Connection	Temperature / Sealing materials
VGK64**E3*S***X*****0*0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm	Standard -40...+105°C / without
VGK64**E3*E***X*****0*0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm	Extended temperature -40...+150°C / without
VGK64**E3*F***X*****0*0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm	Extended temperature -12...+150°C / without
VGK64**E3*H***X*****0*0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm	High-temperature -12...+180°C / without

DIN 11864-2

VGK64**K0*S***X*****0*0M0	Collar flange DIN11864-2 A as per ISO; DN48.3 PN16; 316L; (Ra<0,8µm)	Standard -40...+105°C / without
VGK64**K0*E***X*****0*0M0	Collar flange DIN11864-2 A as per ISO; DN48.3 PN16; 316L; (Ra<0,8µm)	Extended temperature -40...+150°C / without
VGK64**EK*S***X*****0*0M0	Collar flange DN60.3 as per ISO, Form A, DIN11864-2; for pipes 60,3x2 / 316/316L Ra<0,8µm	Standard -40...+105°C / without
VGK64**EK*E***X*****0*0M0	Collar flange DN60.3 as per ISO, Form A, DIN11864-2; for pipes 60.3x2 / 316/316L Ra<0.8µm	Extended temperature -40...+150°C / without

DIN 11864-3

VGK64**KW*S***X*****0*0M0	Collar clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm	Standard -40...+105°C / without
VGK64**KW*E***X*****0*0M0	Collar clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm	Extended temperature -40...+150°C / without
VGK64**KW*F***X*****0*0M0	Collar clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm	Extended temperature -12...+150°C / without
VGK64**KW*H***X*****0*0M0	Collar clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm	High-temperature -12...+180°C / without
VGK64**KW*T***X*****0*0M0	Collar clamp connection DN50 as per DIN, Form A, DIN11864-3; for pipes 53x1.5 / 316/316L Ra<0.8µm	High-temperature with shield -12...+200°C / without

6.2.3 OPTIBAR PC 5060

We hereby declare that the devices and process connection combinations in the following versions of the OPTIBAR correspond to the requirements of the EHEDG guidelines.

Designation	Connection	Sealing concept	Temperature / Sealing materials
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Clamp

VGK54**AVDA***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**AVDB***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L		FKM (VP2/A) / - 20...+150°C
VGK54**AVDD***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**AVDE***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**AVDF***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**AVDG***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**AVDQ***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L		EPDM (E70Q) / - 40...+150°C
VGK54**AVDP***X*****0M0	Clamp DN25 (1") PN16; DIN32676 / ISO2852; 316L		FKM (V70SW) / - 10...+150°C
VGK54**ATDA***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**ATDB***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**ATDD***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**ATDE***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**ATDF***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**ATDG***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**ATDQ***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**ATDP***X*****0M0	Clamp 1 1/2" PN16 (ø50,5mm) DIN32676, ISO2852 / 316L		FKM (V70SW) / - 10...+150°C

Designation	Connection	Sealing concept	Temperature / Sealing materials
VGK54**ARDA***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**ARDB***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**ARDD***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**ARDE***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**ARDF***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**ARDG***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**ARDQ***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**ARDP***X*****0M0	Clamp 2" PN16 (ø64mm) DIN32676, ISO2852 / 316L		FKM (V70SW) / - 10...+150°C
VGK54**AWDA***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**AWDB***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**AWDD***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**AWDE***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**AWDF***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**AWDG***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**AWDQ***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**AWDP***X*****0M0	Clamp 2 1/2" PN10 (ø77.5mm) DIN32676, ISO2852 / 316L		FKM (V70SW) / - 10...+150°C

Designation	Connection	Sealing concept	Temperature / Sealing materials
VGK54**ASDA***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**ASDB***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**ASDD***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**ASDE***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**ASDF***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**ASDG***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**ASDQ***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**ASDP***X*****0M0	Clamp 3" PN10 (ø91mm) DIN32676, ISO2852 / 316L		FKM (V70SW) / - 10...+150°C

DIN11851

VGK54**E5DA***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**E5DB***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**E5DD***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**E5DE***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**E5DF***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**E5DG***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**E5DQ***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**E5DP***X*****0M0	Collar connection DN25 PN40, DIN11851 / 316L		FKM (V70SW) / - 10...+150°C
VGK54**EZDA***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**EZDB***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**EZDD***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**EZDE***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**EZDF***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**EZDG***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**EZDQ***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**EZDP***X*****0M0	Collar connection DN40 PN40, DIN11851 / 316L		FKM (V70SW) / - 10...+150°C

Designation	Connection	Sealing concept	Temperature / Sealing materials
VGK54**NBDA***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**NBDB***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**NBDD***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**NBDE***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**NBDF***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**NB DG***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**NBDQ***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**NB DP***X*****0M0	Collar connection DN50 PN25, DIN11851 / 316L		FKM (V70SW) / - 10...+150°C

DIN11864-1

VGK54**E2DA***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**E2DB***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FKM (VP2/A) / - 20...+150°C
VGK54**E2DD***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**E2DE***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**E2DF***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / - 15...+130°C
VGK54**E2DG***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / - 15...+150°C
VGK54**E2DQ***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		EPDM (E70Q) / - 40...+150°C
VGK54**E2DP***X*****0M0	Collar connection DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FKM (V70SW) / - 10...+150°C

Designation	Connection	Sealing concept	Temperature / Sealing materials
VGK54**E3DA***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**E3DB***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FKM (VP2/A) / - 20...+150°C
VGK54**E3DD***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**E3DE***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**E3DF***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / - 15...+130°C
VGK54**E3DG***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / - 15...+150°C
VGK54**E3DQ***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		EPDM (E70Q) / - 40...+150°C
VGK54**E3DP***X*****0M0	Collar connection DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FKM (V70SW) / - 10...+150°C

DIN11864-2

VGK54**ADDA***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**ADDB***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FKM (VP2/A) / - 20...+150°C
VGK54**ADDD***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**ADDE***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**ADDF***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / - 15...+130°C
VGK54**ADDG***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / - 15...+150°C
VGK54**ADDQ***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		EPDM (E70Q) / - 40...+150°C
VGK54**ADDP***X*****0M0	Collar flange DN40 as per DIN, Form A, DIN11864-1; for pipes 41x1.5 / 316/316L Ra<0.8µm		FKM (V70SW) / - 10...+150°C

VGK54**ACDA***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm	Dual	FKM (VP2/A) / -20...+130°C
VGK54**ACDB***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FKM (VP2/A) / -20...+150°C
VGK54**ACDD***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / -40...+130°C
VGK54**ACDE***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		EPDM (A+P 70.10-02) / -40...+150°C
VGK54**ACDF***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / -15...+130°C
VGK54**ACDG***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FFKM (Perlast G75S) / -15...+150°C
VGK54**ACDQ***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		EPDM (E70Q) / -40...+150°C
VGK54**ACDP***X*****0M0	Collar flange DN50 as per DIN, Form A, DIN11864-1; for pipes 53x1.5 / 316/316L Ra<0.8µm		FKM (V70SW) / -10...+150°C

Aseptic connection

VGK54**ESDA***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L	Dual	FKM (VP2/A) / -20...+130°C
VGK54**ESDB***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L		FKM (VP2/A) / -20...+150°C
VGK54**ESDD***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L		EPDM (A+P 70.10-02) / -40...+130°C
VGK54**ESDE***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L		EPDM (A+P 70.10-02) / -40...+150°C
VGK54**ESDF***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L		FFKM (Perlast G75S) / -15...+130°C
VGK54**ESDG***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L		FFKM (Perlast G75S) / -15...+150°C
VGK54**ESDQ***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L		EPDM (E70Q) / -40...+150°C
VGK54**ESDP***X*****0M0	Aseptic connection F40 PN25; with compression nut / 316L		FKM (V70SW) / -10...+150°C

Neumo

VGK54**FHDA***X*****0M0	NEUMO BioControl D80 PN25 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**FHDB***X*****0M0	NEUMO BioControl D80 PN25 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**FHDD***X*****0M0	NEUMO BioControl D80 PN25 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**FHDE***X*****0M0	NEUMO BioControl D80 PN25 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**FHDF***X*****0M0	NEUMO BioControl D80 PN25 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**FHDG***X*****0M0	NEUMO BioControl D80 PN25 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**FHDQ***X*****0M0	NEUMO BioControl D80 PN25 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**FHDP***X*****0M0	NEUMO BioControl D80 PN25 / 316L		FKM (V70SW) / - 10...+150°C

DB40L, DB50L

VGK54**EVDB***X*****0M0	DB40L - DB50L; PN40; 316L	Dual	FKM (VP2/A) / - 20...+150°C
VGK54**EVDE***X*****0M0	DB40L - DB50L; PN40; 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**EVDG***X*****0M0	DB40L - DB50L; PN40; 316L		FFKM (Perlast G75S) / - 15...+150°C

Varivent

VGK54**FRDA***X*****0M0	Varivent N50-40 PN25 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**FRDB***X*****0M0	Varivent N50-40 PN25 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**FRDD***X*****0M0	Varivent N50-40 PN25 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**FRDE***X*****0M0	Varivent N50-40 PN25 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**FRDF***X*****0M0	Varivent N50-40 PN25 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**FRDG***X*****0M0	Varivent N50-40 PN25 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**FRDQ***X*****0M0	Varivent N50-40 PN25 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**FRDP***X*****0M0	Varivent N50-40 PN25 / 316L		FKM (V70SW) / - 10...+150°C

VGK54**FSDA***X*****0M0	Varivent F25 PN25 / 316L	Dual	FKM (VP2/A) / - 20...+130°C
VGK54**FSDB***X*****0M0	Varivent F25 PN25 / 316L		FKM (VP2/A) / - 20...+150°C
VGK54**FSDD***X*****0M0	Varivent F25 PN25 / 316L		EPDM (A+P 70.10-02) / - 40...+130°C
VGK54**FSDE***X*****0M0	Varivent F25 PN25 / 316L		EPDM (A+P 70.10-02) / - 40...+150°C
VGK54**FSDF***X*****0M0	Varivent F25 PN25 / 316L		FFKM (Perlast G75S) / - 15...+130°C
VGK54**FSDG***X*****0M0	Varivent F25 PN25 / 316L		FFKM (Perlast G75S) / - 15...+150°C
VGK54**FSDQ***X*****0M0	Varivent F25 PN25 / 316L		EPDM (E70Q) / - 40...+150°C
VGK54**FSDP***X*****0M0	Varivent F25 PN25 / 316L		FKM (V70SW) / - 10...+150°C









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