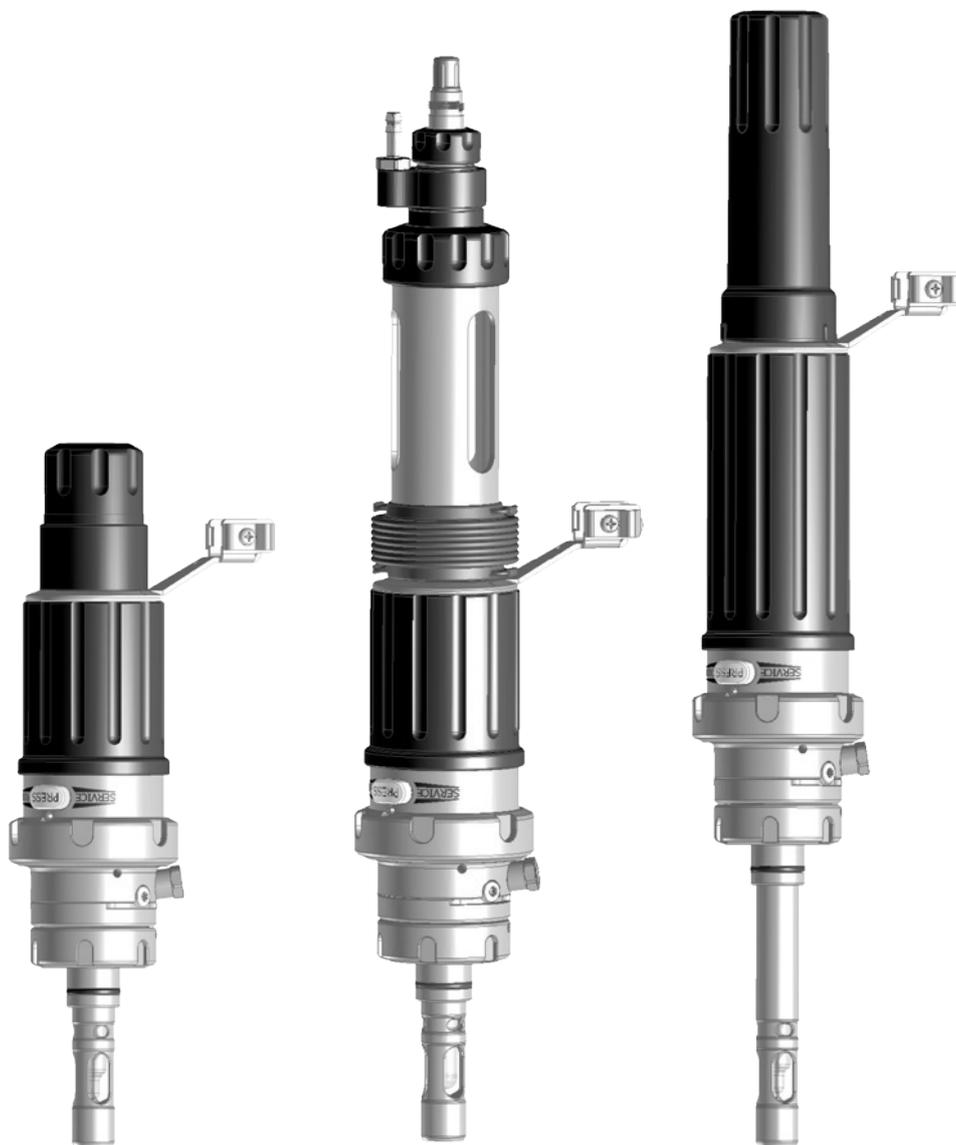


# SensoGate® WA131M

## Maintenance Instructions



**Maintenance / Spare Parts / Accessories**



084095

**Knick** 

**Return of products**

Please contact our Service Team before returning a defective device. Ship the cleaned device to the address you have been given. If the device has been in contact with process fluids, it must be decontaminated/disinfected before shipment. In that case, please attach a corresponding Declaration of Contamination (see page 33), for the health and safety of our service personnel.

# Safety Information

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SensoGate® WA 131M

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## **Process-related risks**

Knick Elektronische Messgeräte GmbH & Co. KG assumes no liability for damages caused by process-related risks known to the operator, which would in fact not permit the use of the WA 131M sensor lock-gate.

## **Be sure to observe:**

Work on the sensor lock-gate must only be performed by personnel authorized by the operating company and specially trained for handling and operating the sensor lock-gate.

---

## **Note:**

If you are not sure whether the sensor lock-gate can be safely used for your intended application, please contact the manufacturer.

To ensure safe use of the equipment, you must follow the instructions given in the user manual and observe the specified temperature and pressure ranges.

The SensoGate® WA 131M sensor lock-gate has been developed and manufactured in compliance with the applicable European guidelines and standards.

Compliance with the European Harmonized Standards for use in hazardous locations is confirmed by the EC-Type-Examination Certificate.

Compliance with the European guidelines and standards is confirmed by the EC Declaration of Conformity.

For hazardous-area applications, the sensors used must ensure proper separation of the ATEX zones.

There is no particular direct hazard caused by the operation of the device in the specified environment.

See also the user manual of the SensoGate® WA131M (Part No. 79586) for a description of the different device variants and order codes, installation and removal of a sensor, technical specifications and installation dimensions.

# Table of Contents

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SensoGate® WA 131M

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# Intended Use

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## SensoGate® WA 131M

The SensoGate® WA 131M manual sensor lock-gate is used for installing a sensor for measurements in liquids. The sensor can be cleaned, calibrated or replaced under process conditions (pressure and temperature). The operator can exchange process adaptations (flange, dairy pipe, Ingold socket) or convert the fitting for the use with solid-electrolyte sensors or liquid-electrolyte sensors.

The sensor lock-gate is suitable for sensors with an outer diameter of 12 mm:

- with solid electrolyte, length 225 mm, sensor head with Pg 13.5
- with liquid electrolyte, length 250 mm

The WA 131M sensor lock-gate allows:

- calibrating or adjusting the measuring system and cleaning the sensor in the running process
- replacing the sensor in the running process
- variable process adaptation by the operator at any time

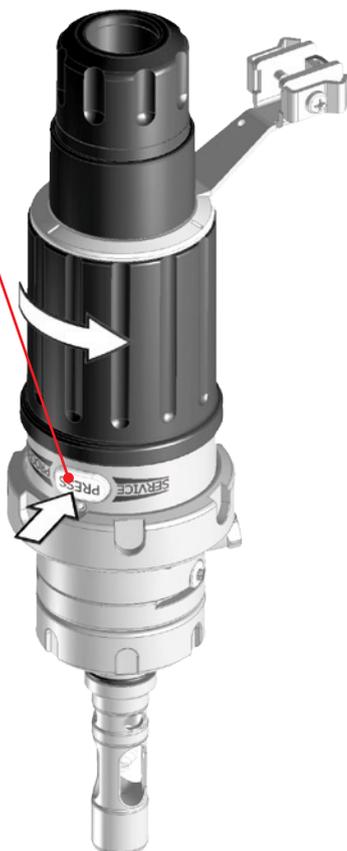
Take account of the influences of humidity, ambient temperature, chemicals and corrosion.

# Drive Unit

## Checking the drive unit function



Unlock button



### Moving to process position (measuring)

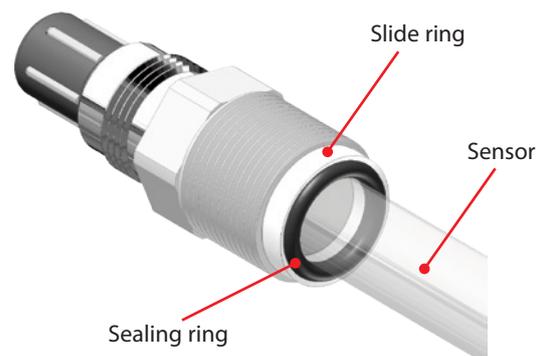
If the red unlock button is not pressed, the turning handle cannot be moved: Press the red unlock button and turn the turning handle clockwise. During the rotary movement the unlock button is automatically depressed. When the process position is reached, the unlock button pops out and mechanically locks the fitting.

Please check this function. If the function is impaired, see "Disassembling the Drive Unit" on page 15.

**Note:** All device variants for sensors with solid electrolyte do not allow moving the drive unit to PROCESS position without an installed sensor. Without sensor, the fitting is locked (safety function), i.e. you cannot press the red unlock button. To unlock the drive unit, the sensor must be screwed in completely until the stop. Be sure to check if slide ring and sealing ring are mounted on the sensor (see below).

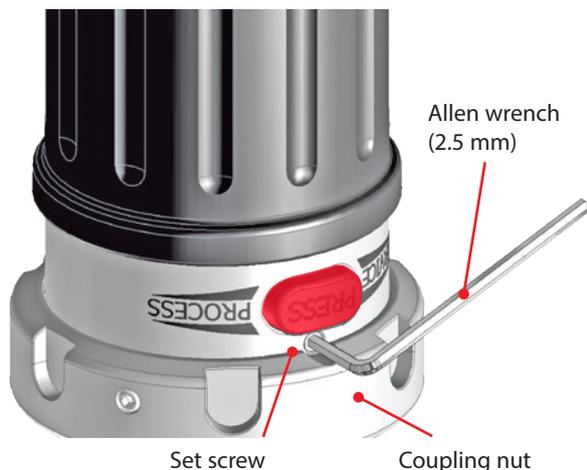
### Moving to service position

If the red unlock button is not pressed, the turning handle cannot be moved: Press the red unlock button and turn the turning handle counterclockwise. During the rotary movement the unlock button is automatically depressed. When the service position is reached, the unlock button pops out and mechanically locks the fitting. Please check this function. If the function is impaired, see "Disassembling the Drive Unit" on page 15.



# Drive unit

## Emergency release and check of lock-gate function



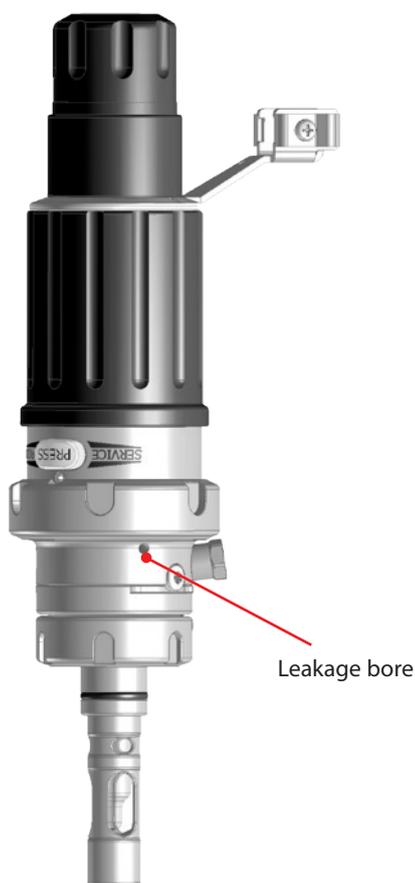
If the lock function does not work (e.g. the red unlock button cannot be depressed), you can perform an emergency release.

If the unlock button cannot be moved in SERVICE or PROCESS position although the sensor is properly installed, you should check the sensor gasket and reposition it if required. If that does not help, you can perform an emergency release. To do so, screw in the set screw (see fig.) using an Allen wrench (2.5 mm) until the stop. To get access to the set screw, you must turn the coupling nut correspondingly. Now, you can unlock the button.



### Caution!

The emergency release disables the sensor monitoring, i.e. the sensor lock-gate can be moved without a sensor. It remains locked in service and process position.



With correct lock-gate function, the process medium is reliably sealed off while the probe is moving or resting in an end position.

### Proceed as follows to check the lock-gate function:

Move the probe to the SERVICE position and observe the outlet.

If the sensor lock-gate is not tight, process fluid will leak from the outlet.

Observe the leakage bores (see fig.).

Process deposits on these leakage bores indicate that the calibration chamber is not tight.

If you suspect the lock-gate function to be impaired, remove the drive unit and detach the calibration chamber from the process adaptation. Check the gaskets and replace them if required (see following sections).

# Separating the Drive Unit from the Process Adaptation

SensoGate® WA131M

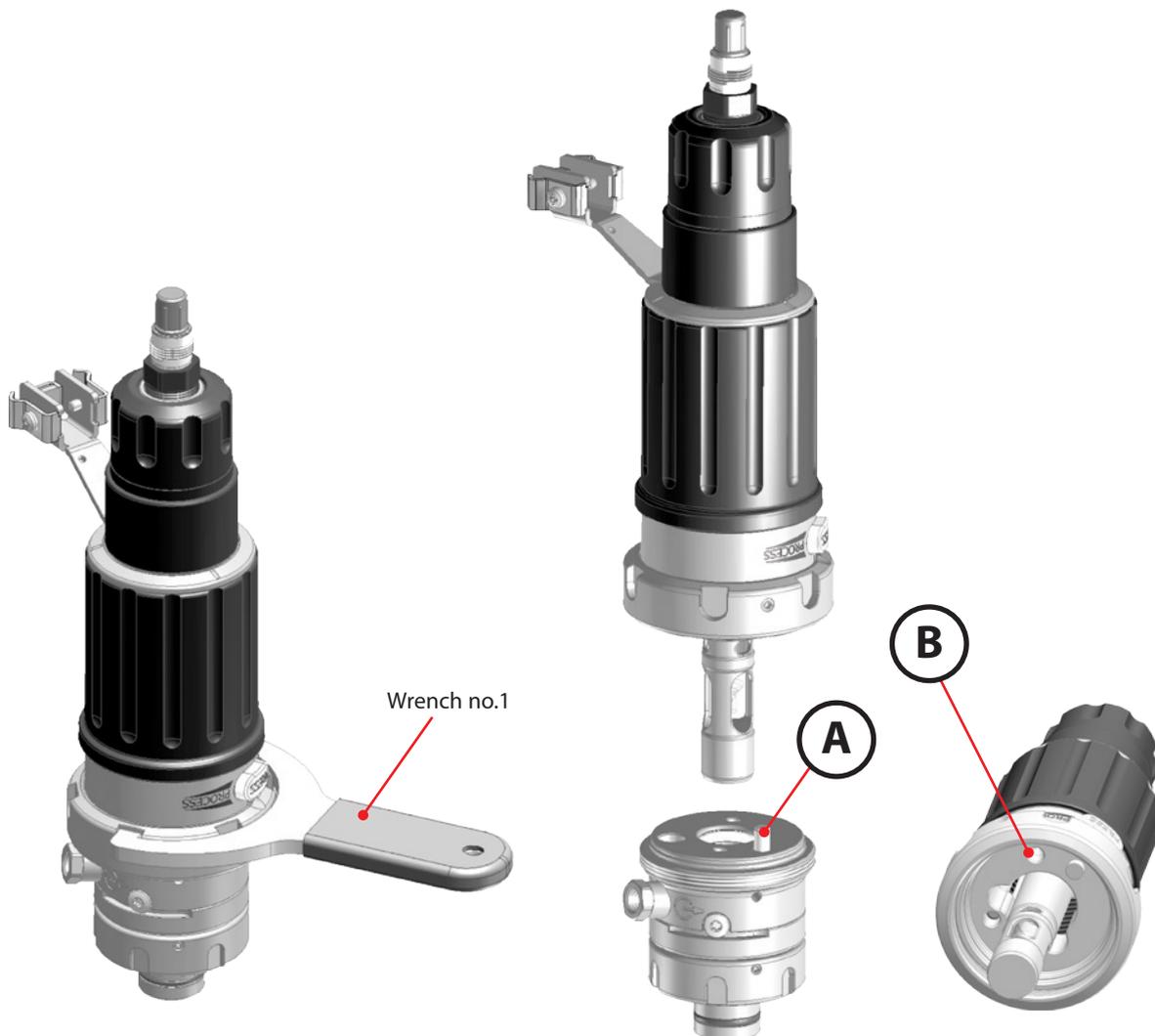


## Caution!

Always switch the system to unpressurized before disconnecting the drive unit to avoid discharge of process medium.

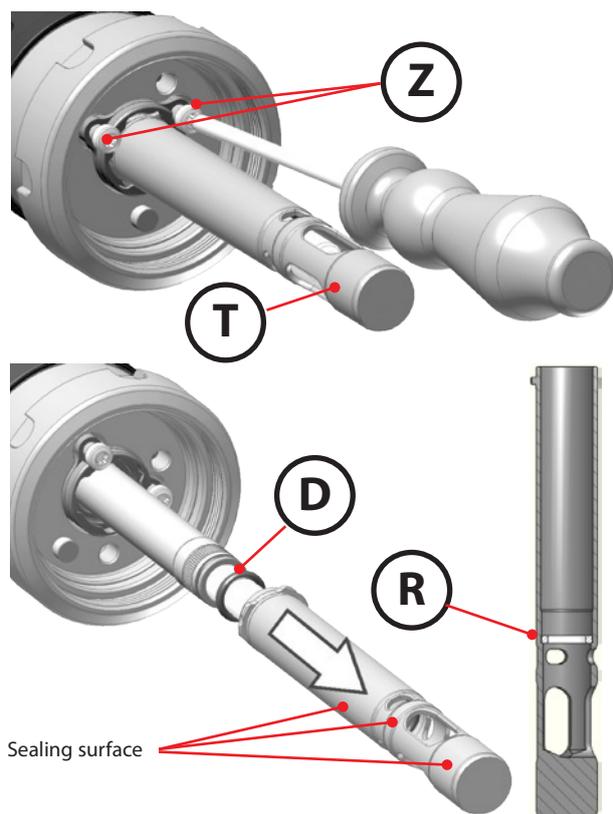
**Note:** Be sure to follow the steps below in the correct order.  
Take appropriate safety precautions against escaping process fluids.

- 1) Move probe into SERVICE position.
- 2) Make sure that no process fluid is leaking from the outlet.
- 3) Turn coupling nut counterclockwise (using the ZU 0680 or ZU 0740 accessory wrench no. 1 if required – see figure).  
Do not cant the unit and do not exert force.
- 4) Pull the drive unit upwards and off.
- 5) To re-attach the drive unit to the process adaptation, insert the immersion tube with the drive unit into the process unit while making sure that the coding pin (A) fits into the hole (B).  
Tighten the drive unit using the coupling nut.



# Checking the Immersion Tube and Sensor Gasket

SensoGate® WA131M



- 1) Move the sensor lock-gate to PROCESS position.
- 2) In PROCESS position two screws (Z) are accessible.
- 3) Loosen the two screws (Z) by approx. 4 turns using a screwdriver (TX25). (Do not remove them.) The screwdriver is part of the service sets ZU0680, ZU0754 or ZU0740 (see "Accessories" on page 26).
- 4) Turn the immersion tube (T) counterclockwise by approx. 60°.
- 5) The bayonet coupling opens so you can pull out the immersion tube (T) in direction of the arrow.
- 6) Now, O-ring (D) (sensor gasket) is visible. Replace this O-ring if it shows noticeable signs of mechanical abrasion or chemical attack (O-ring dimension: 11.9x2.6, see "Sealing Kits for Maintenance and Servicing" on page 31 for material).

Inspect the sealing surfaces of the detached immersion tube (see fig.) for scoring, corrosion, adhering substances or chemical attack. If the sealing surfaces are noticeably damaged, the immersion tube must be replaced. Refer to "Accessories / Spare Parts" on page 25 for order information.

Reordered immersion tubes always come equipped with a support ring (R) made of PTFE (see fig.). This support ring can also be ordered separately if required:

## Support ring PTFE, part no.: 72840

To re-assemble the immersion tube, perform the above steps in reverse sequence: Insert immersion tube into bayonet coupling, press strongly and then turn it clockwise until the stop.

Fasten the screws (Z) using the screwdriver (TX25).

**Note:** The bayonet coupling is locked by the form-fit screw heads.

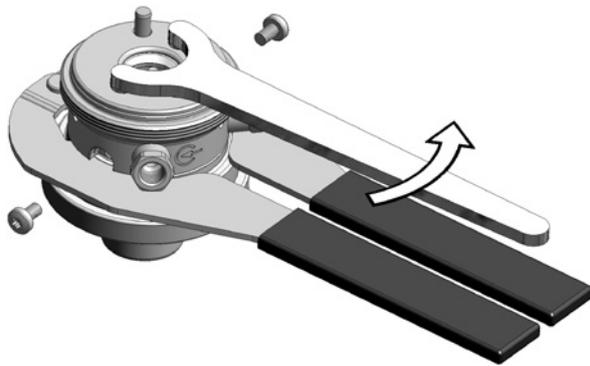
The immersion tube, however, remains movable to compensate for tolerances.

# Gaskets in the Calibration Chamber

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## Checking and replacing

The process unit basically consists of the calibration chamber and the respective process adaptation (e.g. flange, Ingold socket, dairy-pipe screw joint). It can be disassembled to access the scraper rings and gaskets for inspection and possible replacement. To do so, proceed as follows:



Loosen the 2 opposing screws using a TX25 screwdriver. (The screwdriver is part of the service sets ZU 0680, ZU 0754 or ZU 0740, see "Accessories" on page 26.)

Position the plier and loosen the thread of the module using the face pin spanner wrench (plier and face pin spanner wrench are part of the service sets ZU 0754 and ZU 0740 see "Accessories" on page 26).



Completely screw off the calibration chamber from the process adaptation. Now, the gaskets are accessible and can be checked and replaced if required.

To re-assemble the calibration chamber and process adaptation, perform the above steps in reverse sequence. Screw tight using plier and face pin spanner wrench and secure the parts using the two screws.

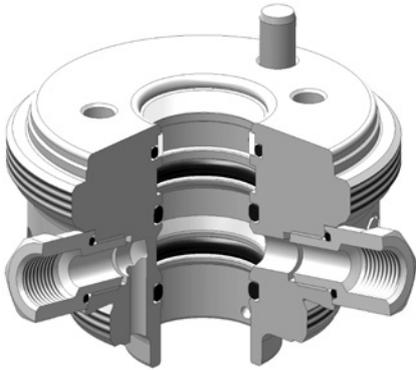
Inspect the O-rings. Replace them if they show noticeable signs of mechanical abrasion or chemical attack

You can reorder either the process adaptation or calibration chamber with correspondingly mounted gaskets (see following page) or only the sealing kit with the corresponding gaskets (see "Sealing Kits for Maintenance and Servicing" on page 31).

# Order Information

## Pre-assembled calibration chamber and process adaptation

To order a pre-assembled calibration chamber, you must specify the required options (see table):



Calibration chamber:	Process-wetted material:	Gasket material:
-without inlet	-1.4571	-FKM
-inlet/outlet	-Hastelloy C22	-EPDM
	-PEEK	-EPDM FDA
	-PVDF	-FFKM
	-PEEK HD	-without gaskets
	-PVDF HD	
	-PP	

Ordering example:

**Calibration chamber WA131 - inlet/outlet - PVDF - FKM**

To order a pre-assembled process adaptation, you must specify the required options (see table):



Process adaptation, collar bushing for:	Process-wetted material:	Gasket material:
-DIN flange DN32	-1.4571	-FKM
-DIN flange DN50	-Hastelloy C22	-EPDM
-DIN flange DN65	-PEEK	-EPDM FDA
-DIN flange DN80	-PVDF	-FFKM
-DIN flange DN100	-PEEK HD	-without gaskets
-ANSI flange 1 1/2"	-PVDF HD	
-ANSI flange 2"	-PP	
-ANSI flange 2 1/2"		
-ANSI flange 3"		
-dairy pipe DN50		
-dairy pipe DN65		
-dairy pipe DN80		
-dairy pipe DN100		
-Ingold socket 25mm		
-G2 1/4"		

Ordering example:

**Process adaptation WA131 - collar bushing for DIN flange - DN50 - PVDF - FKM**

See also "Flanges and nuts" on page 12.

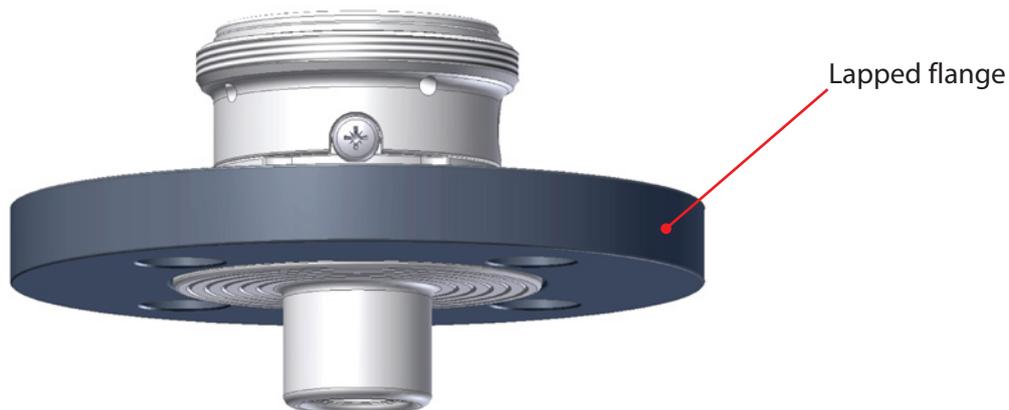
# Order Information

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## Flanges and nuts

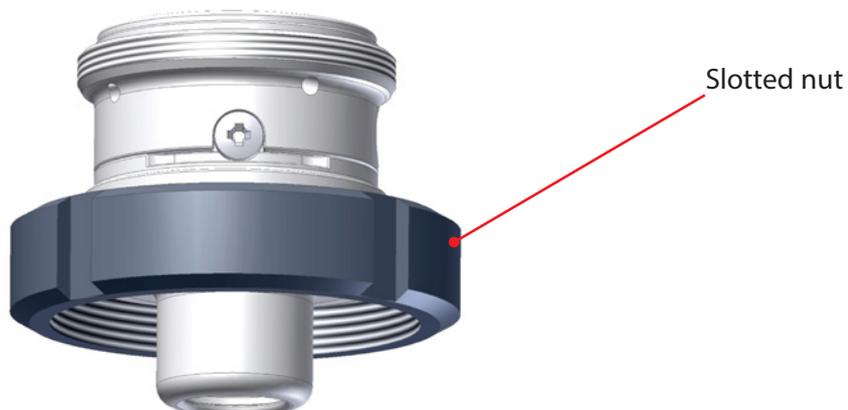
The following flanges and nuts are available for the different process adaptations:

Process adaptation:	Mounting element	Part no.:
-DIN flange DN32	Lapped flange	72767
-DIN flange DN50	Lapped flange	72768
-DIN flange DN65	Lapped flange	70207
-DIN flange DN80	Lapped flange	70209
-DIN flange DN100	Lapped flange	70211
-ANSI flange 1 1/2"	Lapped flange	On request
-ANSI flange 2"	Lapped flange	On request
-ANSI flange 2 1/2"	Lapped flange	On request
-ANSI flange 3"	Lapped flange	On request
-dairy pipe DN50	Slotted nut DN50	70227
-dairy pipe DN65	Slotted nut DN65	70226
-dairy pipe DN80	Slotted nut DN80	70228
-dairy pipe DN100	Slotted nut DN100	70229



Ordering example:

**Lapped flange DIN DN50 part no. 72768**



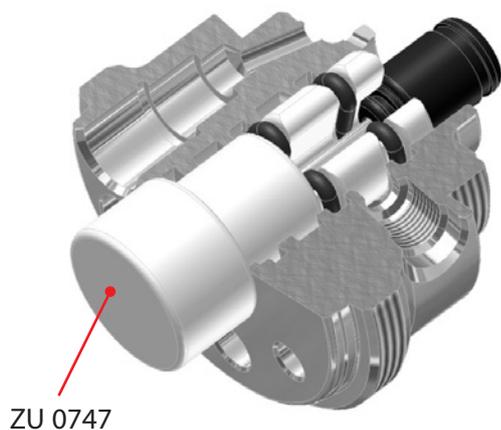
Ordering example:

**Slotted nut Dairy pipe DN50 part no. 70227**

# Mounting Aids for Slide Rings and O-Rings

SensoGate® WA 131M

If you only want to replace the gaskets of the calibration chamber or process adaptation, you can order one of our various sealing kits (see "Sealing Kits for Maintenance and Servicing" on page 31).



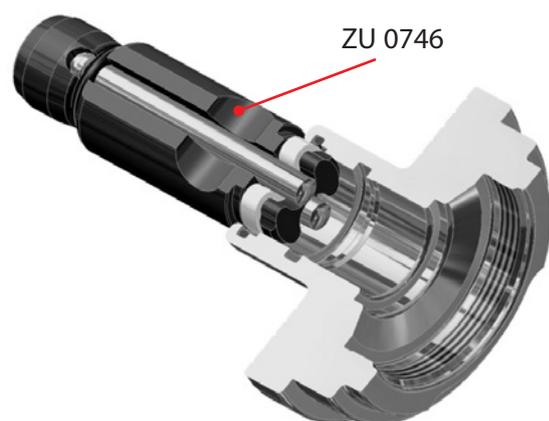
## Installing O-rings in calibration chamber

For installing the 20x2.5 O-rings, we recommend using the ZU 0747 mounting aid (see "Accessories" on page 26 et seq.).

This ensures proper mounting.

The ZU 0747 mounting aid comes with detailed handling instructions.

(See also "Sealing Kits for Maintenance and Servicing" on page 31.)



## Installing the scraper ring in the process adaptation

For installing the scraper ring, we recommend using the ZU 0746 mounting aid (see "Accessories" on page 26 et seq.).

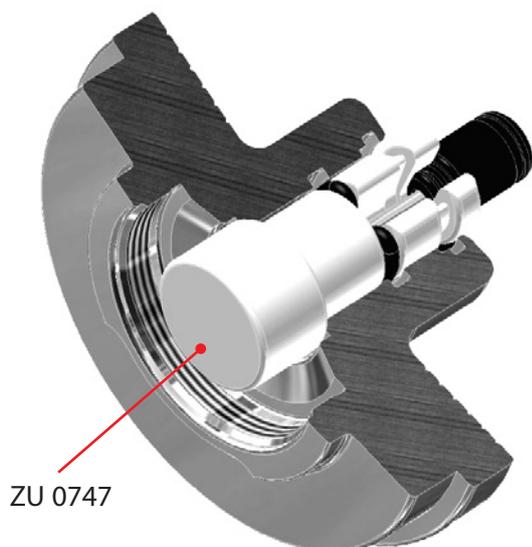
This ensures proper mounting.

The ZU 0746 mounting aid comes with detailed handling instructions.

Example shown on the left:

Process adaptation flange

(See also "Sealing Kits for Maintenance and Servicing" on page 31.)



## Installing the O-ring in the process adaptation

For installing the 20x2.5 O-ring, we recommend using the ZU 0747 mounting aid (see "Accessories" on page 26 et seq.).

This ensures proper mounting.

The ZU 0747 mounting aid comes with detailed handling instructions.

Example shown on the left:

Process adaptation flange

(See also "Sealing Kits for Maintenance and Servicing" on page 31.)

## Drive Units Available

SensoGate® WA 131M

To order a pre-assembled drive unit, you must specify the required options (see table):

Explosion protection	Sensor type	Immersion depth	Housing material	Electrical limit positions
-ATEX Zone 0	Solid electrolyte	-Short immersion depth	-Stainless steel/PP housing	-With electrical limit positions
-Without explosion protection	Liquid electrolyte	-Long immersion depth	-Stainless steel/PEEK housing	-Without electrical limit positions

Ordering example:

**Drive WA131M - Without explosion protection - Solid electrolyte - Short immersion depth - Stainless steel/PEEK housing - With electrical limit positions**

**Note:** The drive units do not contain the immersion tube. The immersion tube must be ordered separately (see "Accessories / Spare Parts" on page 25).



Drive for short immersion depth  
Solid-electrolyte sensor



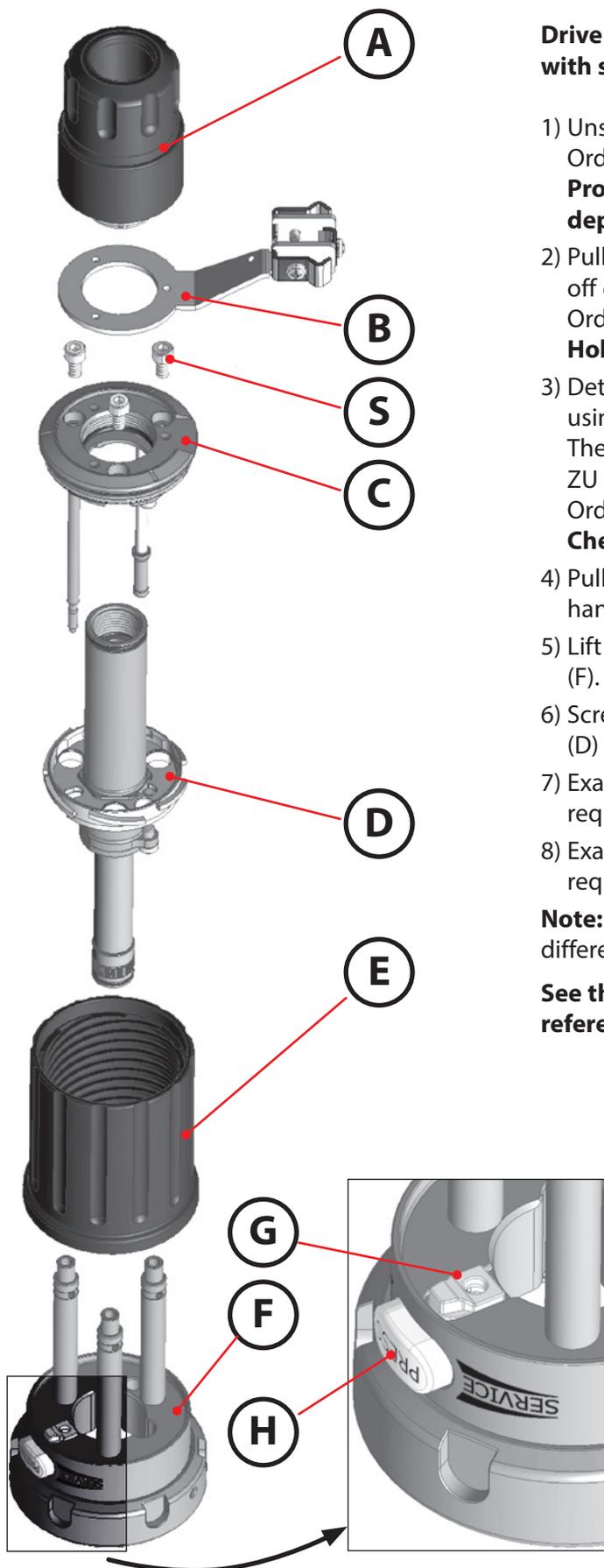
Drive for short immersion depth  
Liquid-electrolyte sensor



Drive for long immersion depth  
Solid-electrolyte sensor

# Disassembling the Drive Unit

SensoGate® WA 131M



## Drive for short immersion depth and sensors with solid electrolyte

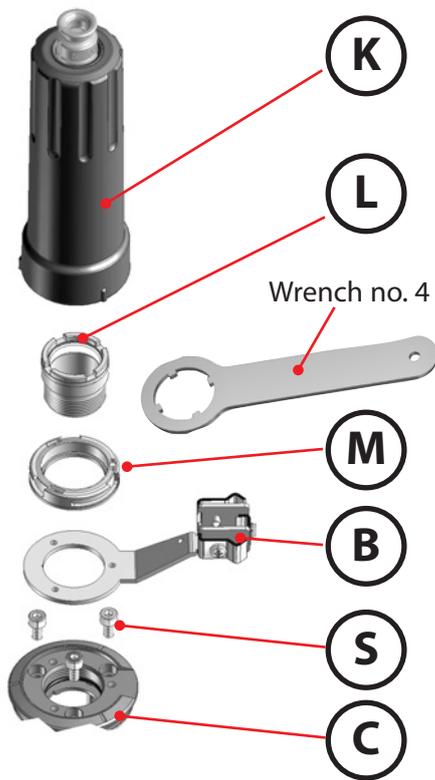
- 1) Unscrew the protection sleeve (A).  
Order reference for protection sleeve (A):  
**Protection sleeve WA131 - Short immersion depth - Solid electrolyte**
- 2) Pull holding bracket (B) upwards and off endpiece (C).  
Order reference for holding bracket (B):  
**Holding bracket WA131M pre-assembled**
- 3) Detach the screws (S) (M5x10 DIN912, 3x) using a TX25 screwdriver.  
The screwdriver is part of the service sets ZU 0680, ZU 0754 or ZU 0740 (see page 26)  
Order reference for screws (S):  
**Cheese head screw M5x10 - part no. 78530**
- 4) Pull endpiece (C) upwards and off the turning handle (E).
- 5) Lift the turning handle (E) off the base body (F).
- 6) Screw the threaded piston and sensor holder (D) off the turning handle (E).
- 7) Examine the locking bar (G) and replace if required.
- 8) Examine the pushbutton (H) and replace if required.

**Note:** The illustration may vary slightly for different drives.

**See the following pages for further order references.**

# Disassembling the Drive Unit

SensoGate® WA 131M



## Drive for long immersion depth and sensors with solid electrolyte

1) Turn extension (K) counterclockwise to unlock it and pull it upwards and off (see also WA131M user manual)

**Note:** The extension (K) can only be unlocked in SERVICE position (safety function).

Order reference for extension (K):

**Extension WA131 - long immersion depth**

2) Screw off threaded ring (L) using wrench no. 4 (from service set ZU 0740) (cf. "Accessories" on page 26).

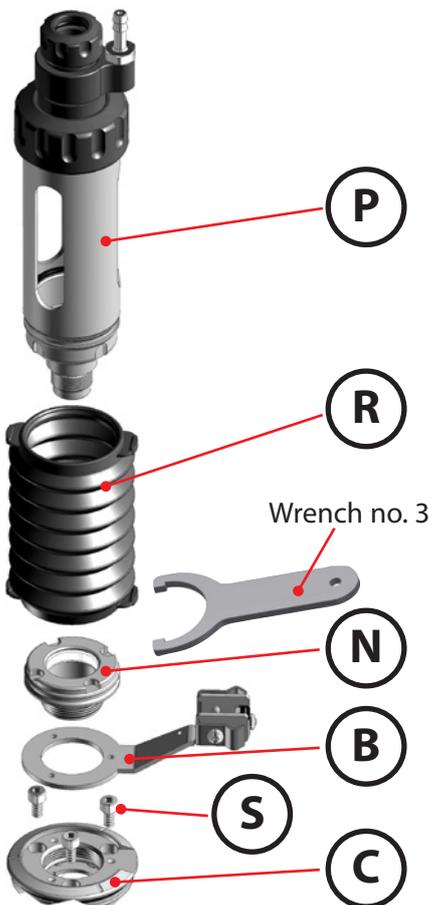
Order reference for threaded ring (L):

**Threaded ring, pre-assembled WA131 - long immersion depth**

3) Pull the bayonet ring (M) upwards and off. Order reference for bayonet ring (M):

**Bayonet ring, pre-assembled WA131 - long immersion depth**

4) To proceed, refer to page 15, step 4 and the following.



## Drive for short immersion depth and sensors with liquid electrolyte

1) Pull the bellows (R) off the pressurization unit (P).

2) Unscrew the pressurization unit (P). Order reference for pressurization unit (P):

**Pressurization unit part no. 74727**

3) Pull the bellows (R) off the retainer ring (N). Order reference for bellows (R):

**Bellows ZU 0739 (see also "Accessories" on page 26 et seq.)**

4) Unscrew the retainer ring (N). Use the wrench no. 3 from service set ZU 0740 (see also "Accessories" on page 26).

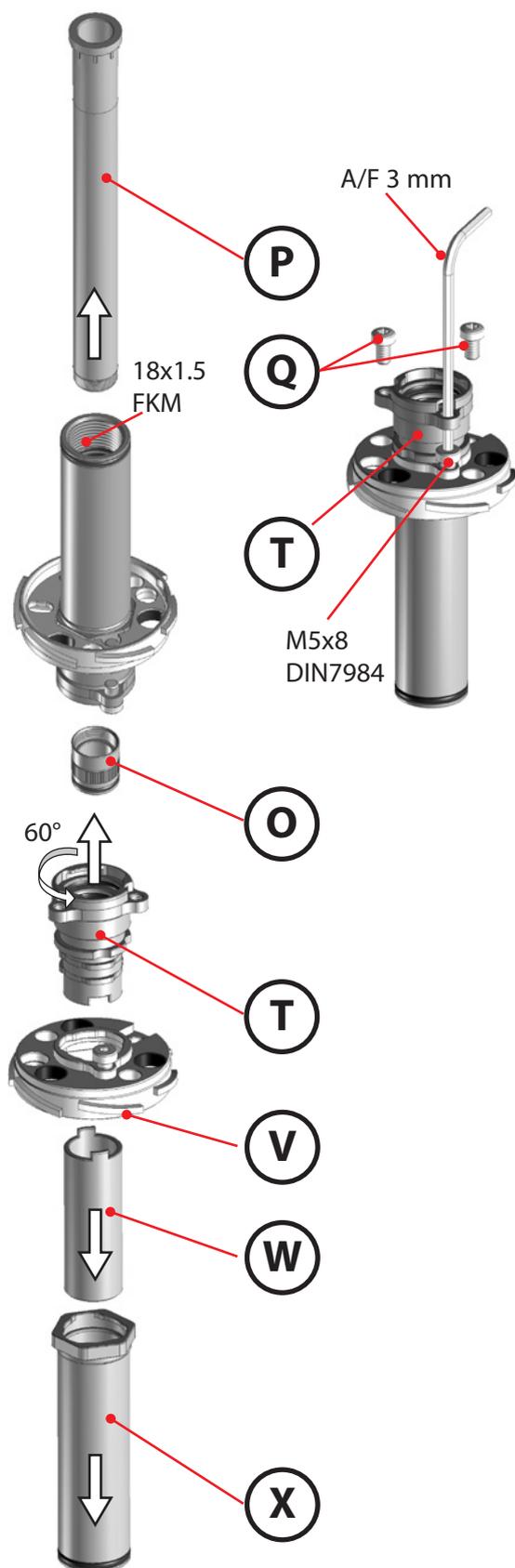
Order reference for retainer ring (N):

**Retainer ring WA131M for pressurization unit, pre-assembled**

5) To proceed, refer to page 15, step 2 and the following.

# Disassembling the Threaded Piston with Sensor Holder

SensoGate® WA 131M



## Disassembling the threaded piston with sensor holder (short immersion depth)

- 1) Remove O-ring 18x1.5 FKM using a fine tip.  
**O-ring 18x1.5 FKM part no. 69632**
- 2) Unscrew the endpiece (O) from the electrode tube (P).
- 3) Pull out the electrode tube (P) (see fig.).  
**Part no.: 69487**
- 4) Unscrew the screws (Q).  
**Part no.: 72642**
- 5) Loosen screw M5x8 DIN7984 A4 using a 3-mm Allen wrench until you can turn the immersion tube holder (T) (loosen the screw by approx. 4 turns). **Screw M5x8 part no. 78481**

- 6) Turn the immersion tube holder (T) counter-clockwise by approx. 60° and then pull it off the threaded piston (V) as shown in the illustration.

Order reference for immersion tube holder (T) (with installed O-rings)  
**Immersion tube holder WA131M, pre-assembled**

- 7) This gives access to the inner tube (W) and the piston rod (X), so you can remove them.

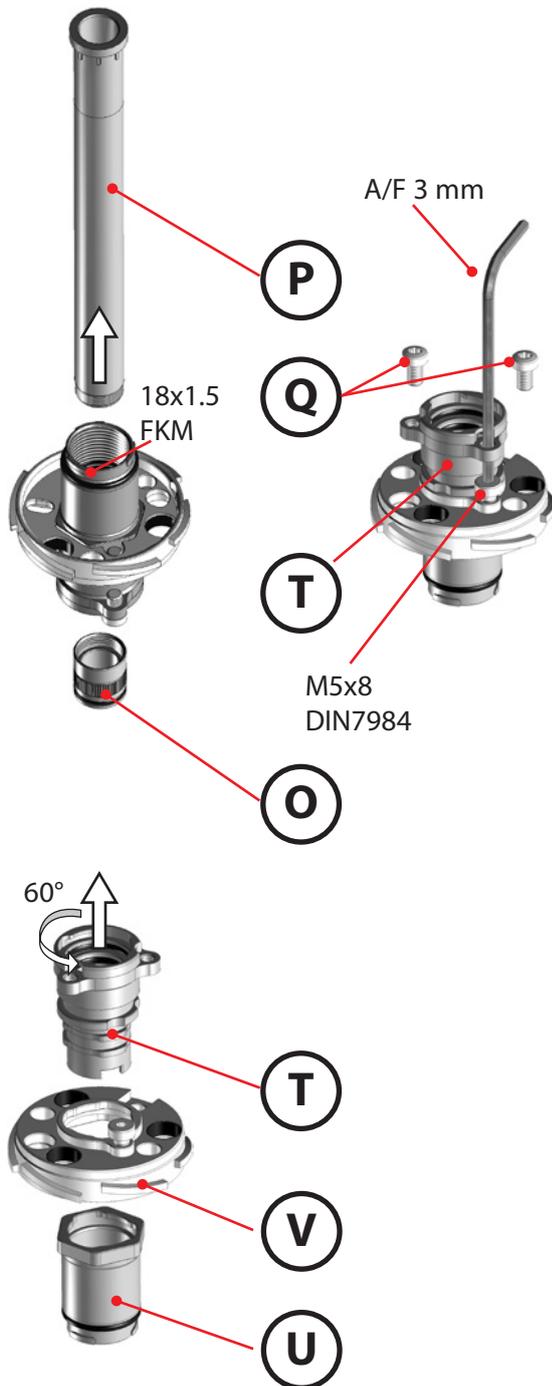
Order reference for threaded piston (V) (with installed bushings)  
**Threaded piston WA131M**

Order reference for inner tube (W)  
**Inner tube WA131M part no. 78745**

Order reference for piston rod (X) (with installed O-rings)  
**Piston rod WA131M, short immersion depth**

# Disassembling the Threaded Piston with Sensor Holder

SensoGate® WA 131M



## Disassembling the threaded piston with sensor holder (long immersion depth)

- 1) Remove O-ring 18x1.5 FKM using a fine tip.  
**O-ring 18x1.5 FKM part no. 69632**
- 2) Unscrew the endpiece (O) from the electrode tube (P).
- 3) Pull out the electrode tube (P) (cf. fig.).  
**Part no.: 69487**
- 4) Unscrew the screws (Q).  
**Part no.: 72642**
- 5) Loosen screw M5x8 DIN7984 A4 using a 3-mm Allen wrench until you can turn the immersion tube holder (T) (loosen the screw by approx. 4 turns).  
**Screw M5x8 part no. 78481**
- 6) Turn the immersion tube holder (T) counter-clockwise by approx. 60° and then pull it off the threaded piston (V) as shown in the illustration.

Order reference for immersion tube holder (T) (with installed O-rings)

**Immersion tube holder WA131M, pre-assembled**

- 7) This gives access to the piston rod (U), so you can remove it.

Order reference for threaded piston (V) (with installed bushings)

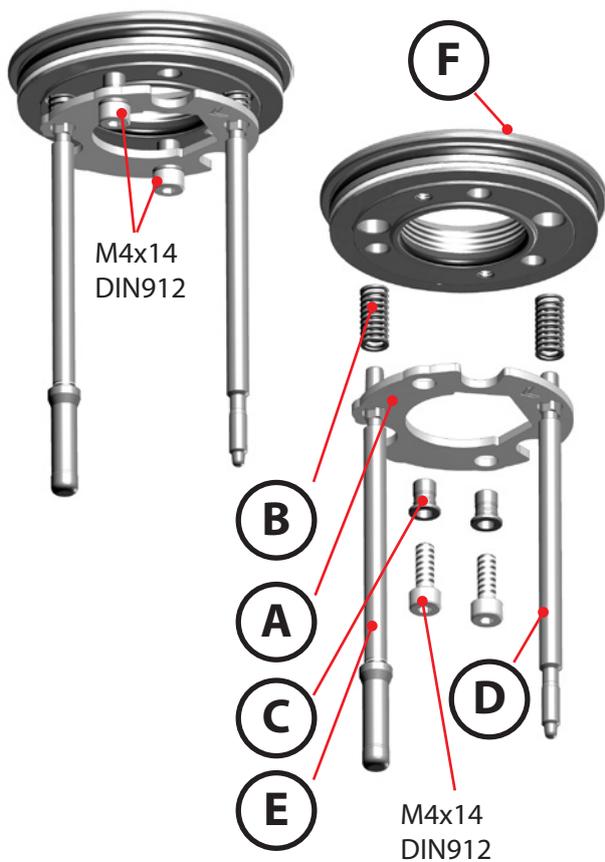
**Threaded piston WA131M**

Order reference for piston rod (U) (with installed O-rings)

**Piston rod WA131M, long immersion depth**

# Disassembling the Endpiece

SensoGate® WA 131M



## Disassembling the pre-assembled endpiece (short and long immersion depth)

1) Unscrew the two screws M4x14 DIN912 from the endpiece (F).

**Screw part no.: 78795**

2) You can remove the actuating plate (A) with springs (B), spacer sleeves (C), locking rod (D) and actuating rod (E) and replace them if required.

To separate the rods (D, E) completely from the actuating plate (A), push them into the actuating plate (A), rotate them by 90° and pull them out of the actuating plate (A).

### Order references for parts:

Order reference for endpiece (F)

**Endpiece WA131M with slide ring and O-ring**

Order reference for spring (B)

**Part no. 78439**

Order reference for actuating plate (A)

**Actuating plate part no. 78789**

Order reference for spacer sleeve (C)

**Spacer sleeve part no. 78703**

Order reference for locking rod (D)

**Part no. 78953 (short immersion depth)**

**Part no. 78954 (long immersion depth)**

Order reference for actuating rod (E)

(with installed magnet capsule)

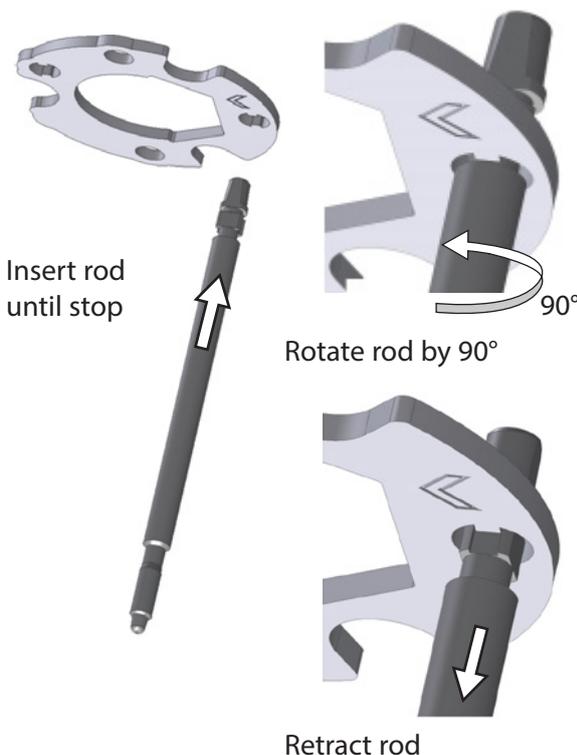
**Actuating rod WA131M**

(short immersion depth)

**Actuating rod WA131M**

(long immersion depth)

Installing the actuating or locking rod, resp. (short and long immersion depth)



**Important notice:** Locking rod (D) and actuating rod (E) depend on the immersion depth of the SensoGate®!

## Further Order References

SensoGate® WA 131M



Available base bodies with pre-installed guiding rods:

Immersion depth	Electrical limit signal
Short	With
Long	Without

Ordering example:

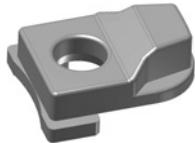
**Base body WA131M short immersion depth, without electrical limit signal**



Pushbutton, pre-assembled with compression springs

Ordering example:

**Pushbutton WA131M complete**



Locking bar

Ordering example:

**Locking bar part no. 79468**



Available turning handles with gasket:

Immersion depth	Material of turning handle
Short	PP
Long	PEEK

Ordering example:

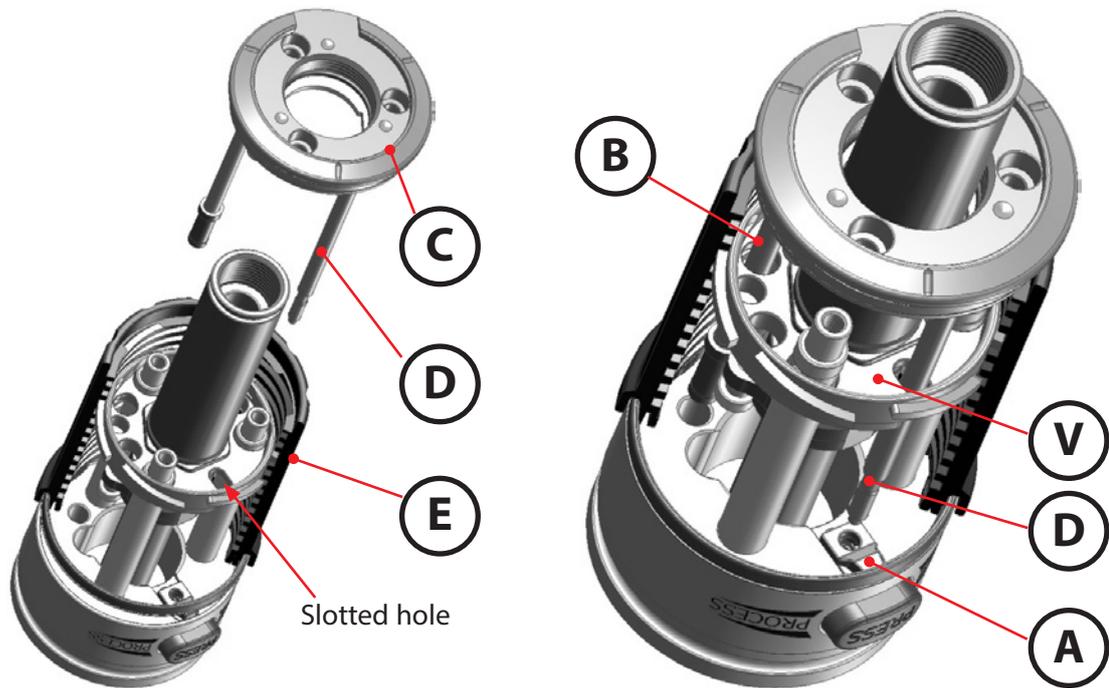
**Turning handle WA131M short immersion depth, material: PEEK**

Short immersion depth

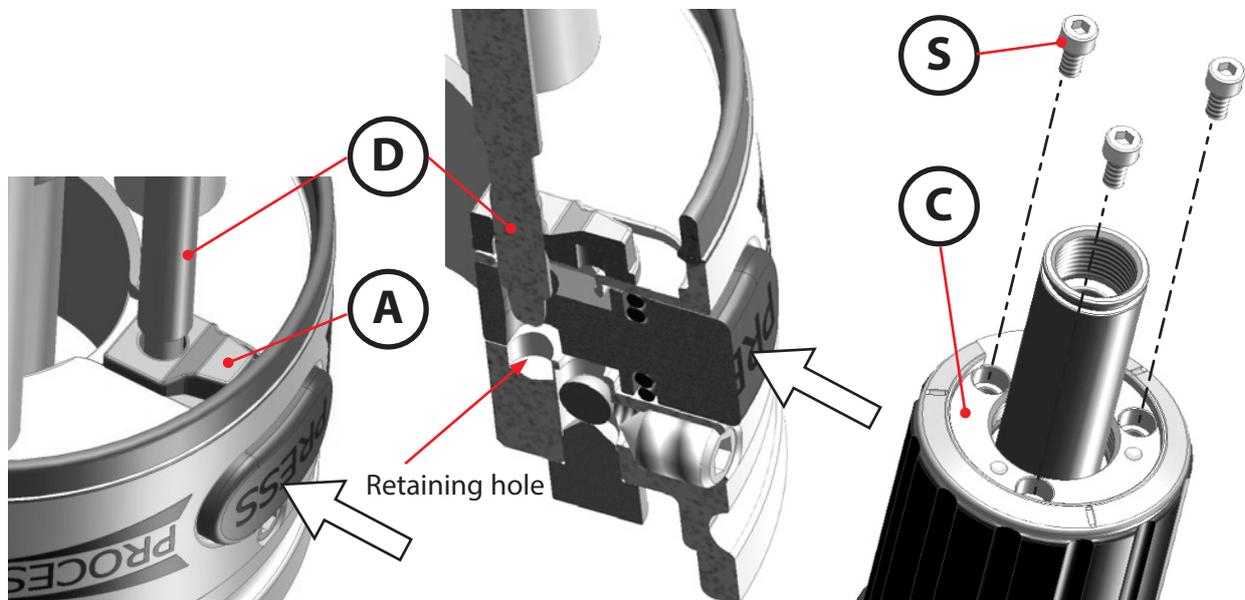
Long immersion depth

# Installing the Drive Unit

SensoGate® WA 131M



Push the pre-assembled endpiece with actuating plate (C) over the turning handle (E). Make sure that the locking rod (D) passes through the slotted hole of the threaded piston (V) and fits into the locking bar (A). Position the actuating rod (B) as illustrated.



When the locking rod (D) has engaged with the locking bar (A), press and hold the button. Locking rod (D) and locking bar (A) will be pushed in direction of the arrow.

Continue pushing the end-piece while pressing the button until the locking rod (D) snaps into place in the retaining hole of the base body (see fig.).

Fix the endpiece (C) using the three screws (S) (M5x10 DIN912). To continue assembling the drive unit, follow the steps for disassembling the unit in reverse sequence (page 15, steps 2 and 1).

## Limit Switches (Option)

### Checking the switching function

Optionally, the SensoGate® WA131M is equipped with an electrical limit switch. This limit switch is screwed to the drive unit and can be replaced. When a limit position is reached (SERVICE or PROCESS position), a reed switch is actuated (normally-open contact). This indicates the position of the sensor lock-gate. The signals are output via a 4-pin M12 connector according to IEC 60947-5-2.

### Checking the switching function:

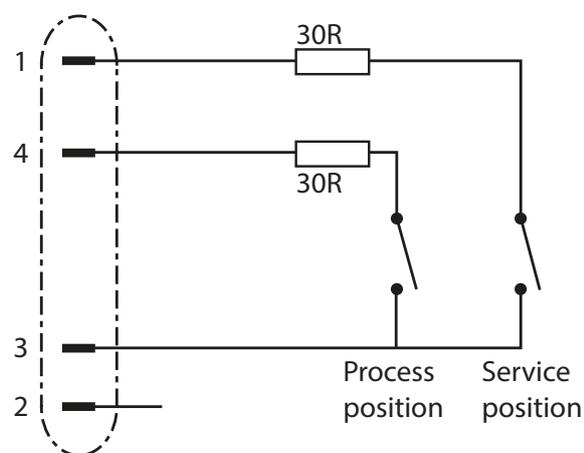
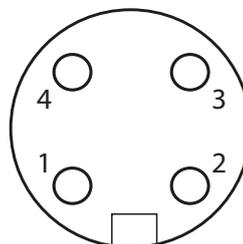
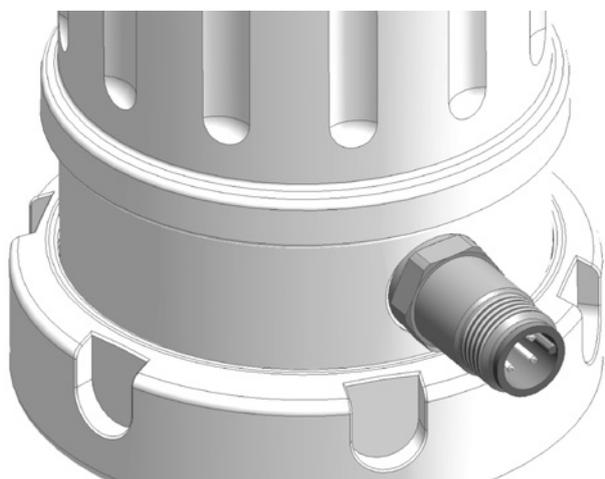
Move probe to SERVICE position and interrogate the contacts 1 and 3 (30 Ω).

Move probe to PROCESS position and interrogate the contacts 4 and 3 (30 Ω).

See diagram below.

If there is a fault, replace the limit switch. If the switch signals continue to be faulty after a new or tested limit switch has been installed, you must return the drive unit to the manufacturer for repair.

**Note:** Be sure to observe the specified maximum electrical ratings.



### Limit switches

Reed contacts, normally open

Contact resistance (closed):

30 Ω against GND

Max. switching voltage: 30 V DC

Max. switching current: 0.1 A

M12 connector

to IEC 60947-5-2, 4 pins

### Important notice:

Reed contacts are sensitive to overrange conditions, even if momentary (e.g. due to cable capacitance or inductance)!

Order reference:

**Limit switch WA131M**

# Maintenance Intervals

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SensoGate® WA 131M

Because of the highly variable process conditions (pressure, temperature, chemically aggressive media etc.), general information on necessary maintenance intervals is difficult to provide. If proven experience has been gained from similar points of measurement with regard to materials used and their resistance under process conditions, the maintenance intervals can be adjusted by the customer. If previous experience is positive, parts of the first inspection may be omitted.

The following maintenance intervals are generally recommended:

<b>Maintenance interval*</b>	<b>Operations required</b>
First inspection after a few weeks	Move the probe to the SERVICE position and observe the outlet. If the sensor lock-gate is not tight, process fluid will leak from the outlet hose. Observe the leakage bores (holes directly below the coupling nut). Process deposits on these leakage bores indicate that the calibration chamber is not tight.
After 6 – 12 months (after successful first inspection and suitability of all materials used, this time period may be extended.)	Repeat the operations of the first inspection. When there are deposits on the leakage bores, replace the process-wetted (dynamically stressed) gaskets.
After 5,000 – 10,000 probe travels	The process-wetted (dynamically stressed) gaskets should be replaced.
After approx. 2 years	Particularly when chemically aggressive cleaning agents are used, the rinse-wetted gaskets should be checked and replaced if required.
After approx. 5 years	Servicing the drive unit and relubricating the gaskets

\*) These maintenance intervals are rough recommendations. The actual intervals depend on the application of the sensor lock-gate.

## Selection of Suitable Lubricants

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SensoGate® WA 131M

For fittings used in the chemical industry, the lubricant Syntheso Glep1 (silicone-free) is applied. For fittings used in the pharmaceutical / food industry (when FDA conformity is required), the lubricant Beruglide L (silicone-free) is applied (registered according to NSF-H1). These lubricants are silicone-free. On request, the lubricant Paraliq GTE 703 can be applied (excellent lubricating properties also at increased temperatures and for a large number of travel movements). This lubricant contains silicone and is only used as special application on specific request.

Application	Pharma / Food		Chemistry / Wastewater
<b>Lubricant</b>	Beruglide L (silicone-free) FDA-conforming NSF-H1-registered	Paraliq GTE 703 (containing silicone) FDA-conforming (USDA H1)	Syntheso Glep 1 (silicone-free)
<b>Materials of elastomeric gaskets</b>			
FKM	X	X	X
FFKM	X	X	X
EPDM	X	X	X

**Note:** The SensoGate® is lubricated at the factory with Syntheso Glep1. For hygienic applications (FDA conformity), the sealings in contact with process and rinse media are lubricated with Beruglide L. The sealing kits provided for replacing the O-rings during maintenance (see page 31) include the corresponding lubricant.

# Accessories / Spare Parts

Overview for SensoGate® WA 131M

<b>Accessories</b>	<b>Order No.</b>
Service set, basic	ZU 0680
Service set, maintenance, repair, retrofit	ZU 0740
Service set, calibration chamber	ZU 0754
Sensor mounting wrench, 19 mm	ZU 0647
Mounting aid for scraper ring	ZU 0746
Protective cap (for solid-electrolyte sensors only)	ZU 0759
Air supply for pressurized sensors, 0.5 - 4 bars	ZU 0670/1
Air supply for pressurized sensors, 1 - 7 bars	ZU 0670/2
Hose, 20 m (extension for ZU 0670)	ZU 0713
Retainer clamp for Ingold socket, 25 mm	ZU 0818
Sealing washer, PEEK/FFKM DN80	ZU 0755
Sealing washer, PEEK/FFKM DN100	ZU 0756
Sealing washer, PVDF/FFKM DN80	ZU0757
Sealing washer, PVDF/FFKM DN100	ZU 0758
Safety weld-in socket, straight	ZU 0717
Safety weld-in socket, beveled 15°	ZU 0718
Safety weld-in socket, straight, adapted for DN50	ZU 0717/DN50
Safety weld-in socket, straight, adapted for DN65	ZU 0717/DN65
Safety weld-in socket, straight, adapted for DN80	ZU 0717/DN80
Safety weld-in socket, straight, adapted for DN100	ZU 0717/DN100
Safety weld-in socket, 15°, adapted for DN50	ZU 0718/DN50
Safety weld-in socket, 15°, adapted for DN65	ZU 0718/DN65
Safety weld-in socket, 15°, adapted for DN80	ZU 0718/DN80
Safety weld-in socket, 15°, adapted for DN100	ZU 0718/DN100

<b>Spare Parts</b>	<b>Order No.</b>
Scraper ring, reinforced, PTFE/PEEK	ZU 0760
Bellows (for liquid-electrolyte sensors)	ZU 0739
Immersion tube, short, 1.4571	ZU 0722
Immersion tube, long, 1.4571	ZU 0723
Immersion tube, short, Hastelloy C-22	ZU 0853
Immersion tube, long, Hastelloy C-22	ZU 0854
Immersion tube, short, PEEK	ZU 0724
Immersion tube, long, PEEK	ZU 0725
Immersion tube, short, PVDF	ZU 0726
Immersion tube, long, PVDF	ZU 0727
Immersion tube, short, PP	ZU 0825
Immersion tube, long, PP	ZU 0826

## Accessories

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SensoGate® WA 131M



### **ZU 0680**

#### **SensoGate® Service Set, Basic**

These tools are suitable for minor maintenance operations. They help separating the drive unit from the process unit, allow mounting an Ingold socket and replacing the immersion tube including sensor gasket maintenance.



### **ZU 0754**

#### **SensoGate® Calibration Chamber Service Set**

These tools are suitable for maintenance operations at the calibration chamber and its gaskets. They allow easy separation of the split calibration chamber.



### **ZU 0740**

#### **SensoGate® Service Set Maintenance/Repair/Retrofit**

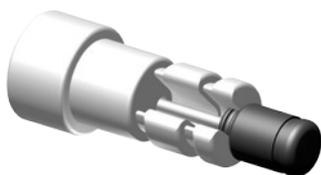
This set provides all tools required for comprehensive maintenance, repair or retrofitting of the sensor lock-gate. With this set, you can completely dismantle every SensoGate®.



### **ZU 0647**

#### **Sensor mounting wrench**

Required for safely screwing in the sensor without overloading the Pg 13.5 plastic thread of the sensor head by an excessive torque (caused by an open-end wrench).



### **ZU 0747**

#### **Mounting aid for 20 x 2.5 O-rings**

The ZU 0747 mounting aid is used for easy and correct fitting of the 20x2.5 O-rings in the calibration chamber of the Sensogate®.

## Accessories

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SensoGate® WA 131M



### **ZU 0746** **Mounting aid for scraper ring**

The ZU 0746 mounting aid is used for easy and correct fitting of the scraper rings in the calibration chamber of the Sensogate®.



### **ZU 0670/1** **Air supply for pressurized sensors** 0.5 – 4 bars

### **ZU 0670/2** **Air supply for pressurized sensors** 1 – 7 bars

This module maintains the defined overpressure in the pressure chamber of the sensor.



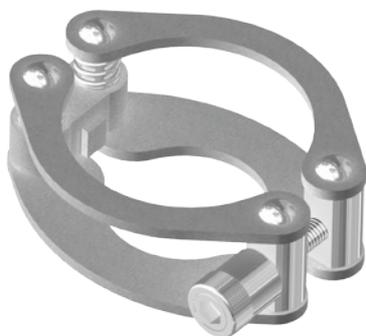
**ZU 0755** sealing washer, PEEK / FFKM DN80

**ZU 0756** sealing washer, PEEK / FFKM DN100

**ZU 0757** sealing washer, PVDF / FFKM DN80

**ZU 0758** sealing washer, PVDF / FFKM DN100

These sealing washers are required for process adaptations made of plastic material with DIN flanges and nominal widths of DN 80 or DN100.



### **ZU 0818** **Retainer clamp for 25mm socket (Ingold)**

The ZU 0818 retainer clamp is only suitable for Ingold sockets. It prevents unintended loosening or twisting of the coupling nut or the fitting from the tank port, thus avoiding possible hazards. Even if the coupling nut is not properly tightened (due to incorrect mounting, vibrations, or the like), it cannot loosen any further (increased safety).

## Accessories

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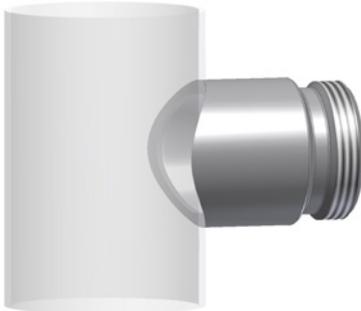
SensoGate® WA 131M



### **ZU 0759** **Protective cap**

The ZU0759 protective cap protects against intrusion of liquids or particles into the area of the electrical connector of a sensor (e.g. due to weather exposure during outdoor use).

**Caution!** Can only be used with fittings for solid-electrolyte sensors.



**Safety weld-in socket, straight**  
adapted to DN50 **ZU 0717/DN50**  
adapted to DN65 **ZU 0717/DN65**  
adapted to DN80 **ZU 0717/DN80**  
adapted to DN100 **ZU 0717/DN100**



**Safety weld-in socket, beveled 15°**  
adapted to DN50 **ZU 0718/DN50**  
adapted to DN65 **ZU 0718/DN65**  
adapted to DN80 **ZU 0718/DN80**  
adapted to DN100 **ZU 0718/DN100**

The weld-in sockets are suitable for mounting fittings with Ingold socket (dia. 25 mm, G1 ¼). The contour-optimized straight and beveled (15°) weld-in sockets are adapted to the nominal width of the pipeline (outer diameter). This minimizes the gap widths during welding. The sockets are designed in a way that the thicknesses of socket and pipe wall are similar at the welding point. This allows welding with low energy input and therefore reduced warping. Thanks to the special contour and the weld zone being separated from the mating hole (dia. 25 H7), there should be no need to rework the parts after welding, provided that the welding has been done properly. If required, check the hole using a plug gauge, dia. 25 H7.

## Accessories

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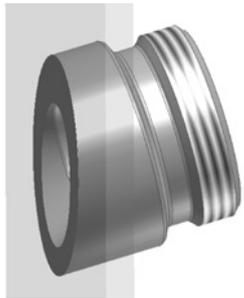
SensoGate® WA 131M



### ZU 0717

#### Safety weld-in socket, straight

The safety weld-in sockets are suitable for mounting fittings with Ingold socket (dia. 25 mm, G1 ¼) to plane tank walls, straight version.



### ZU 0718

#### Safety weld-in socket, beveled 15°

The safety weld-in sockets are suitable for mounting fittings with Ingold socket (dia. 25 mm, G1 ¼) to plane tank walls, 15° beveled version.



### ZU 0877

#### Locking clamp for SensoGate® sensor lock-gate with process adaptation G1, R1, NPT1

The locking clamp prevents mounted sensor lock-gates from twisting. It is suitable for installed WA131 sensor lock-gates with G1, R1, NPT1 process adaptation. It can be used with threaded couplings with a minimum length of 10 mm and an outer diameter of 39 to 48 mm.

## Accessories

SensoGate® WA 131M

### PTFE-Ring

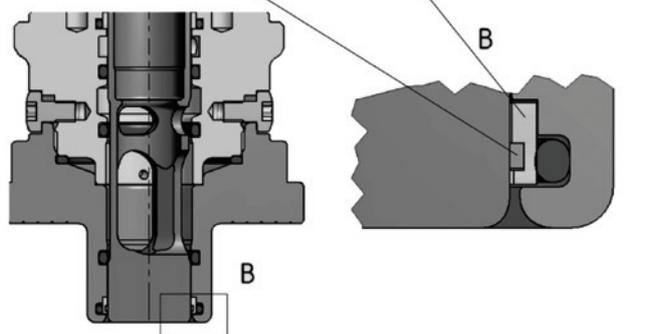
Lage des Abstreifers beachten

### PTFE ring

Observe position of scraper ring

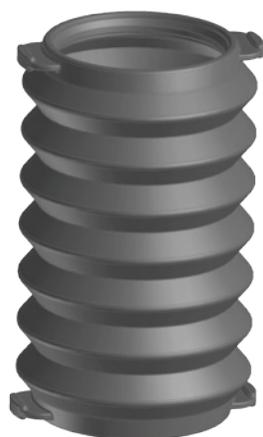
### PEEK-Abstreifer

PEEK scraper ring



### ZU 0760 scraper ring, reinforced, PTFE/PEEK

The reinforced scraper ring (with PEEK edge) is recommended for adhering, sticky media. ZU 0746 is required as mounting aid.



### ZU 0739 Bellows

The bellows (for liquid-electrolyte sensors only) protects the fitting beneath the sensor pressure chamber against pollution and wear.

# Sealing Kits for Maintenance and Servicing

SensoGate® WA 131M

The sealing kits are available in different materials. The smaller sealing kits ("Set X/1") only contain gaskets for direct contact with the process.

The extended sealing kits ("Set X/2") also include gaskets for contact with the rinse medium.

**Caution!** Take account of the process adaptations.

Special sealing kits are available for Ingold sockets.

The sealing kits come with detailed illustrations for installation.

The new gaskets must be lubricated with the included lubricant.

## The following sealing kits are available:

Gaskets			Order No.
Flange or dairy pipe process connection	Set A/1	Process-wetted gasket material: FKM	ZU 0689/1
	Set A/2	Process-wetted gasket material: FKM, wetted by rinse medium: FKM	ZU 0829
	Set B/1	Process-wetted gasket material: EPDM	ZU 0690/1
	Set B/2	Process-wetted gasket material: EPDM, wetted by rinse medium: EPDM	ZU 0830
	Set E/1	Process-wetted gasket material: EPDM FDA	ZU 0692/1
	Set E/2	Process-wetted gasket material: EPDM FDA, wetted by rinse medium: EPDM FDA	ZU 0831
	Set K/1	Process-wetted gasket material: FFKM	ZU 0691/1
	Set K/2	Process-wetted gasket material: FFKM, wetted by rinse medium: FFKM	ZU 0832
Process connection Ingold socket	Set A/1	Process-wetted gasket material: FKM	ZU 0693/1
	Set A/2	Process-wetted gasket material: FKM, wetted by rinse medium: FKM	ZU 0833
	Set B/1	Process-wetted gasket material: EPDM	ZU 0694/1
	Set B/2	Process-wetted gasket material: EPDM, wetted by rinse medium: EPDM	ZU 0834
	Set E/1	Process-wetted gasket material: EPDM FDA	ZU 0696/1
	Set E/2	Process-wetted gasket material: EPDM FDA, wetted by rinse medium: EPDM FDA	ZU 0835
	Set K/1	Process-wetted gasket material: FFKM	ZU 0695/1
	Set K/2	Process-wetted gasket material: FFKM, wetted by rinse medium: FFKM	ZU 0836

# O-Ring Dimensions

SensoGate® WA 131M

## Flange or dairy pipe process adaptation

Process-wetted gaskets

Rinse-wetted gaskets

215.000-420

23x2

11.9x2.6

20x2.5

20x2.5

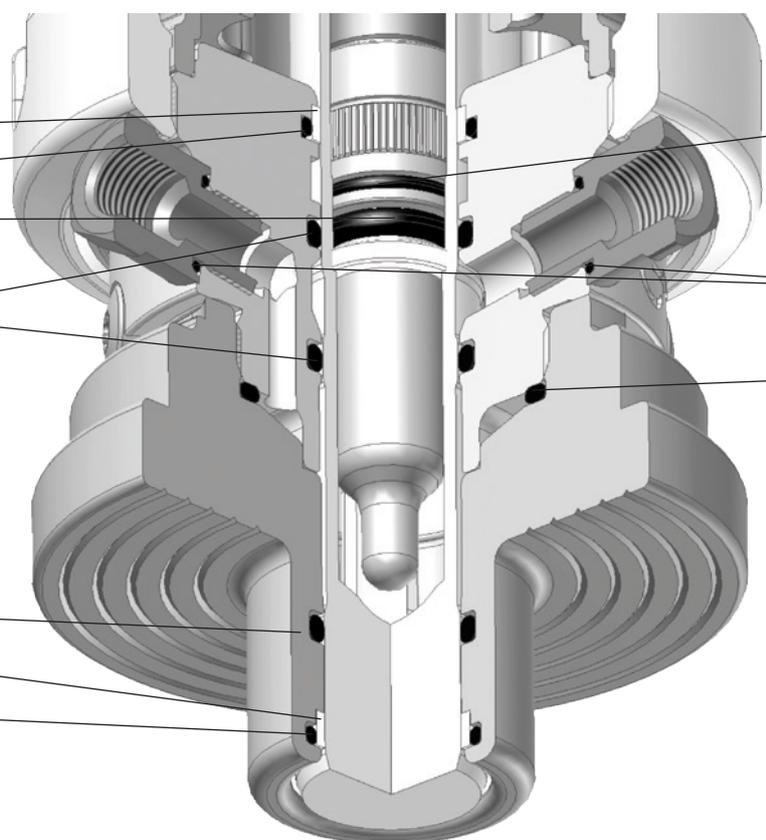
215.000-420

23x2

13x1.5

8x1.5

40x2.5



## Ingold socket process adaptation

Process-wetted gaskets

Rinse-wetted gaskets

215.000-420

23x2

11.9x2.6

20x2.5

20x2

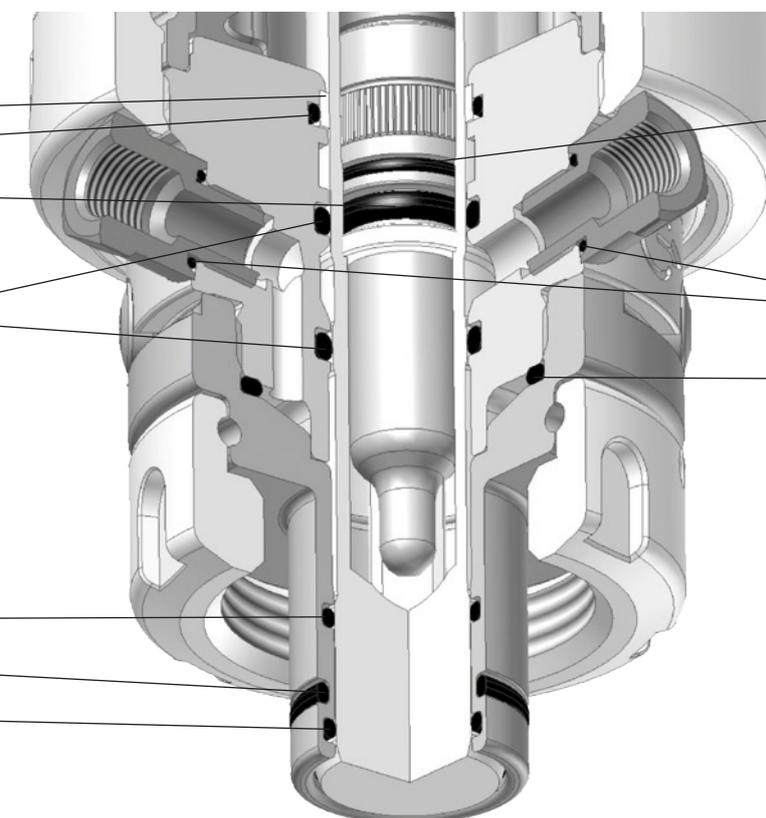
21x2

20x2

13x1.5

8x1.5

40x2.5



# Declaration of Contamination

SensoGate® WA 131M



## Declaration on the potential hazards presented by the enclosed devices/sensors

For acceptance and execution of your order we require this completed declaration form. Please enclose it with the shipping documents.

### Customer data

Company name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact person: \_\_\_\_\_ Phone: \_\_\_\_\_

### Device/sensor specifications

Sensor: \_\_\_\_\_  
(Catalog number)

Serial no. \_\_\_\_\_

Your order number: \_\_\_\_\_

Knick order confirmation no.: \_\_\_\_\_

Included accessories: \_\_\_\_\_

Reason for return of product: \_\_\_\_\_

### Warning notices as to the medium in which the device/sensor has been used (please tick where applicable):

- |                          |   |                          |   |                             |  |                          |   |
|--------------------------|---|--------------------------|---|-----------------------------|--|--------------------------|---|
| <input type="checkbox"/> |  | <input type="checkbox"/> |  | <input type="checkbox"/>    |  | <input type="checkbox"/> |  |
| harmless                 | harmful/<br>irritant  | toxic / corrosive        | oxidizing /<br>explosive  | infectious /<br>radioactive |  |                          |   |

Cleaning measures taken before shipment (cleaning methods and cleaning agents used):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

I herewith declare that the shipped parts do not pose any health hazards for employees of Knick Elektronische Messgeräte GmbH & Co. KG. I further declare that I have answered the questions above truthfully and to the best of my knowledge. I understand that I may be held liable for any damage resulting from false or incorrect information.

Name: \_\_\_\_\_ Company: \_\_\_\_\_

Date: \_\_\_\_\_ Signature: \_\_\_\_\_

Knick Elektronische Messgeräte GmbH & Co. KG, Beuckestraße 22, 14163 Berlin  
Telefon: ++49 (0) 30 8 01 91 – 0 / Telefax: ++49 (0) 30 8 01 91 – 200  
Email: [knick@knick.de](mailto:knick@knick.de) / Internet: [www.knick.de](http://www.knick.de)





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