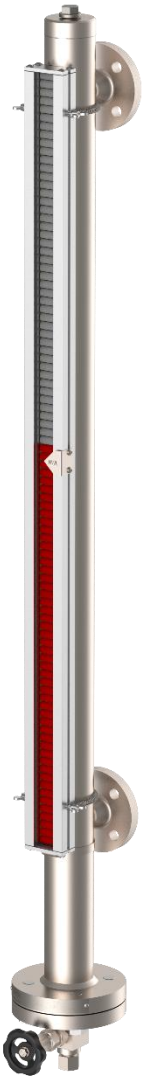
Magnetic level gauge

NA7



Version 05/2025

D-06-B-63275-EN-00

Installation and operating instruction

(English translation)

Table of Contents

1 About this document

1.1 Introduction

The Installation and operation instruction are part of the Magnetic level gauge NA7. It must be made available to the responsible departments "Incoming goods, transport, assembly, commissioning and maintenance". The Installation and operation instruction must be stored in such a way that the qualified person has access to them at all times. If the gauge is passed on to a third party, these Installation and operation instruction must also be included in the national language of the third party.

NOTICE

Safe and trouble-free operation of the Igema GmbH Magnetic level gauge is not possible without precise knowledge of the individual components.

- Installation and operation instruction Note installation and operating instructions.
- Familiarise yourself with all relevant documents.

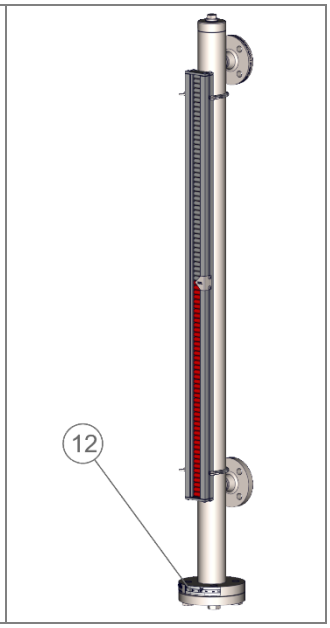
The Installation and operation instruction contains important information for the proper use and safe operation of the Magnetic level gauge. Please also note important information on the repair, maintenance, care, safety and value retention of your measurement and control system.

If the Installation and operation instruction or the accompanying documents are partially not available or have become unusable, a new copy of operating instructions for the gauge can be obtained by specifying the document number on the cover page. It is also possible to download the operating instructions after scanning the QR code shown on the back.

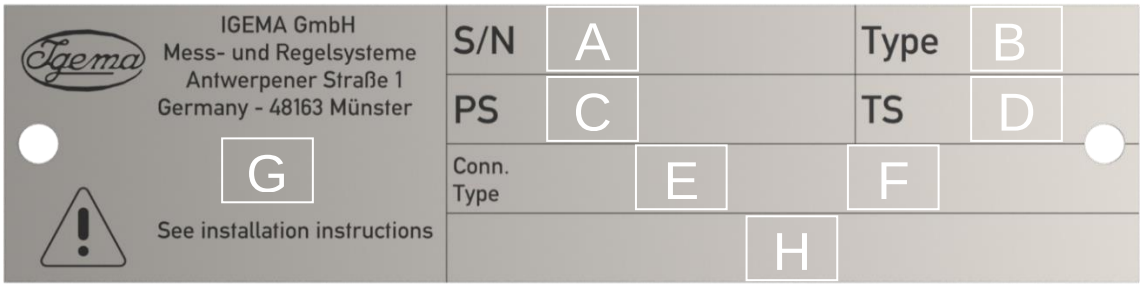
1.2 Product identification and type plate

On the basis of the type plate, the Installation and operation instruction can be assigned to the corresponding Magnetic level gauge. The Installation and operation instruction belongs to the Magnetic level gauge of the type **NA7**.

Additions that are entered after the description and describe the design of the Magnetic level gauge *(e.g.-80)* do not release these Installation and operation instruction from belonging to the Magnetic level gauge.



According to DIN EN19 the following are marked on the type plate:



A	Year of manufacture and Article number	E	Pressure level
B	Indicator type	F	Nominal width
C	maximum permissible pressure	G	CE mark *(depending on version)*
D	maximum permissible temperature	H	TAG-Nr. (optional)

1.3 Related documents

In addition to this Installation and operation instruction, if the magnetic level gauge is equipped accordingly, the operating instructions for the drain valves and the MRK110 transmitter, as well as the data sheet for the M510 limit switch and the indication bars must be observed.

Product	Document number/ Link	QR-Code
Drain valves	62825 www.igema.com/document/62825	
Transmitter MRK 110-S, MRK 110-SIL, MRK 110-Ex-SIL	52053 www.igema.com/document/52503	
Limit switch M510-1-60 / 76	50380 www.igema.com/document/50380	
Indicatior bar ALG-R, AL2-G, AL3-G	62659 www.igema.com/document/62659	
Globe valves WA3, WA10	50546 www.igema.com/document/50546	

1.4 Marking of safety precautions

In the following Installation and operation instruction, safety instructions are marked with the following symbols:

 **SIGNAL WORD**	
Nature and source of danger Consequences of non-compliance • Measures/ prohibitions to avoid the danger	**SYMBOL(S)**

	This symbol with the signal word DANGER and a background warning colour indicates a danger that will result in death or serious injury if not avoided.
	This symbol with the signal word WARNING and a background warning colour indicates a danger that can lead to death or serious injury if not avoided.
	This symbol with the signal word CAUTION and a background warning colour indicates a danger that can lead to injuries if not avoided.
	This symbol with the signal word NOTICE and a background colour indicates a danger that can lead to property damage if not avoided.
	This symbol with the signal word ENVIRONMENT and a background colour indicates a danger that can lead to environmental pollution if not avoided.
	This symbol with the signal word TIP and a background colour indicates a user tip that provides additional and useful tips.

1.5 Copyright

This Installation and operation instruction contains texts and drawings that may not be reproduced, distributed or otherwise communicated in whole or in part without the express permission of the manufacturer.

The copyright of the operating instructions remains with:

Igema GmbH

Antwerpener Str. 1

48163 Muenster

Germany

Violations oblige you to pay compensation.

2 Safety Instructions

2.1 Requirements for personnel

NOTICE

Property damage caused by incorrect installation, commissioning, maintenance and operation

Only qualified persons who are familiar with the measurement and control systems are allowed to carry out work.

Only trained electricians may commission electrical components and carry out maintenance work on them.

Igema GmbH can be commissioned for the installation and maintenance.

CAUTION

Risk of injury due to external influences

External influences can lead to injuries in the absence of protective equipment

- Put on personal protective equipment according to category Ⅱ

2.2 Safety at work

DANGER

Explosion hazard due to ignition sources

Working in potentially explosive atmospheres during assembly, commissioning, maintenance and disassembly can lead to explosions.

- Ventilate the environment
- Switch off the system
- Allow explosive gases to escape.
- Carry out a gas value measurement before starting work.

WARNING

Risk of injury due to leaking medium

Inflammatory, irritating and harmful substances can escape from the gauge and lead to skin injuries and burns. This danger is also to be expected in the case of an unpressurised cooled system.

- Wear protective clothing including safety glasses.
- Check the danger posed by the medium and, if necessary, wear respiratory protection or support.
- Observe the order of work.
- Perform work only when the gauge is depressurized and emptied.
- In principle, do not consider any system to be depressurized.

Danger of suffocation due to dangerous gases

Escaping gases can lead to suffocation.

- Check the danger of the medium.
- Wear protective clothing including safety glasses and respiratory protection.
- Before carrying out maintenance and dismantling work, wait until the system is adjusted to the atmospheric conditions.

Risk of injury due to corrosive liquids

Corrosive liquids can cause serious injuries in case of skin contact

- Check the danger of the medium.
- Wear protective clothing including safety glasses.

Risk of injury due to high temperatures

Surfaces of the gauges and areas near the gauges heat up to the maximum permissible temperature and can cause severe burns if touched.

- Check the danger of the medium.
- Wear protective clothing including safety glasses.
- Before carrying out maintenance and dismantling work, wait until the system is adjusted to the atmospheric conditions.

CAUTION

Risk of injury due to unsecured working area

An unsecured working area can endanger working and bystanders.

- Ensure safe access.
- Delimit and mark the secured working area.
- Sufficiently illuminate the working area.

Risk of injury due to heavy loads

There is a risk of injury when handling large and/or heavy gauges.

- Observe the load handling regulation.
- Use lifting equipment to move heavy and bulky appliances.

Danger of health damage due to noise

Noise leads to damage to the health of the hearing.

- Wear hearing protection.
- Avoid or limit noise if possible.

2.3 Intended use of the gauge

NOTICE

Property damage caused by irregular use

- Use gauges exclusively as a gauge of filling levels on containers.
- Maintain maximum pressure and temperature ranges of all components.
- Ensure the suitability of the gauge for the planned use/application.
- Ensure the compatibility of the gauge and the medium.
- Observe the correct orientation and flow direction of the gauge.

2.4 Damage to the product

NOTICE

Property damage caused by incorrect storage and transport

Incorrect transport and storage can cause damage to the gauge.

- Avoid bumps and hard setdown.
- Store the gauge protected from environmental influences and in a dry place.
- Secure the gauge against damage.

Material damage due to magnetic effects

Magnetic influences can change the magnetisation of the permanent magnets used.

- Exclude magnetic fields in the area of the permanent magnets.

3 Contents of the packaging

3.1 Included

1. NA7 The Magnetic level gauge will be delivered as a pre-assembled unit, unless otherwise contractually agreed:

- Surface-mounted housing with indication bar
- Float and flange seal *(attached to the outside of the display body)*
- Hand test magnet *(enclosed loose)*

2. Installation and operating instructions

3.2 Optional versions

These Installation and operation instruction apply to the Magnetic level gauge in standard as well as in customer-specific design. The applicable documents must be additionally observed especially if the Magnetic level gauge is equipped with customer-specific transmitters, limit switches or drain valves.

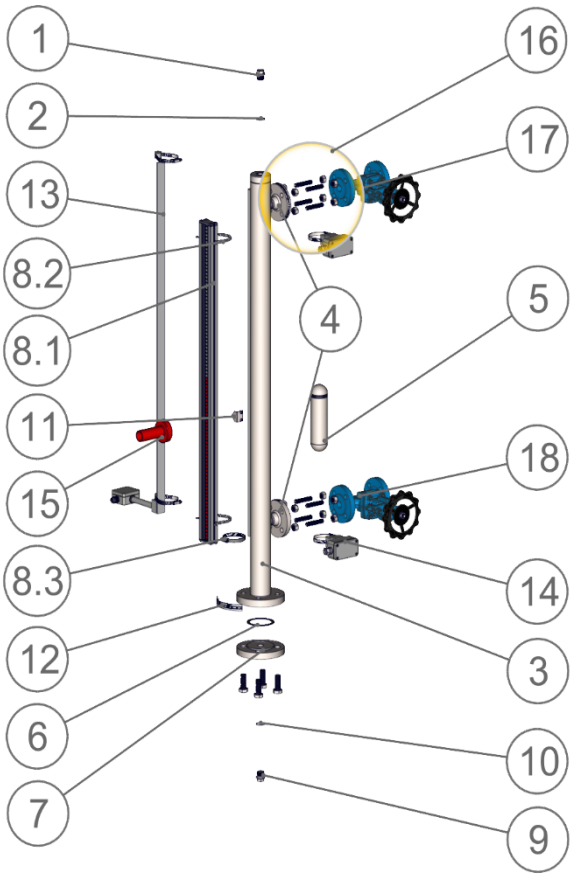
4 System Description

4.1 Function

The magnetic level gauge is an indirect level indicator that is used on steam boilers and tanks.

The magnetic level gauge works on the physics law of communicating tubes. The float floats in the add-on housing and acts magnetically on the discs (AL2-G, AL3-G) or rollers (ALG-R) in the indication bar. These rotate accordingly and show the red side when the float is above and the white side when the float is below. The magnet can actuate additionally attached limit switches *(e.g. M510)* or a transmitter *(e.g. MRK)*.

5 Construction



1	Screw plug	9	Drain plug / drain valve
2	Sealing ring	10	Sealing ring
3	Mounting housing	11	Water level mark *(chap. 11.2)*
4	Connection flanges / connection pieces	12	Rating plate *(chap. 1.2)*
5	Float	13	MRK transmitter *(optional)*
6	Seal	14	Limit switch M510 *(optional)*
7	Cover flange	15	Alignment magnet
8.1	Indication bar	16	SMD package for flange connection*
8.2	Fastening spring	17	Upper globe valve*
8.3	Stop clamp	18	Lower globe valve*

These components are not part of the standard version of the indicator bar.

6 Technical data

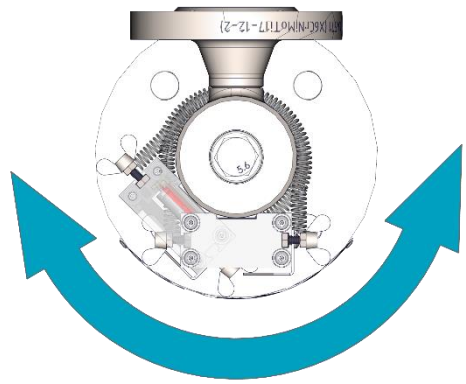
6.1 Operating limit

Operating limit NA7	perm. Pressure **[PS]**	perm. Temperature **[TS]**
NA7-50	20bar 290psig	214°C 417°F
NA7-52	50bar 725psig	265°C 509°F
NA7-80	80bar 1160psig	296°C 564°F
NA7-110	110bar 1595psig	318°C 604°F
NA7-150	150bar 2175psig	342°C 647°F

The maximum permissible operating pressure of the Magnetic level gauge is determined by the lowest permissible pressure of the attached component. The operating limits specified on the rating plate must be observed.

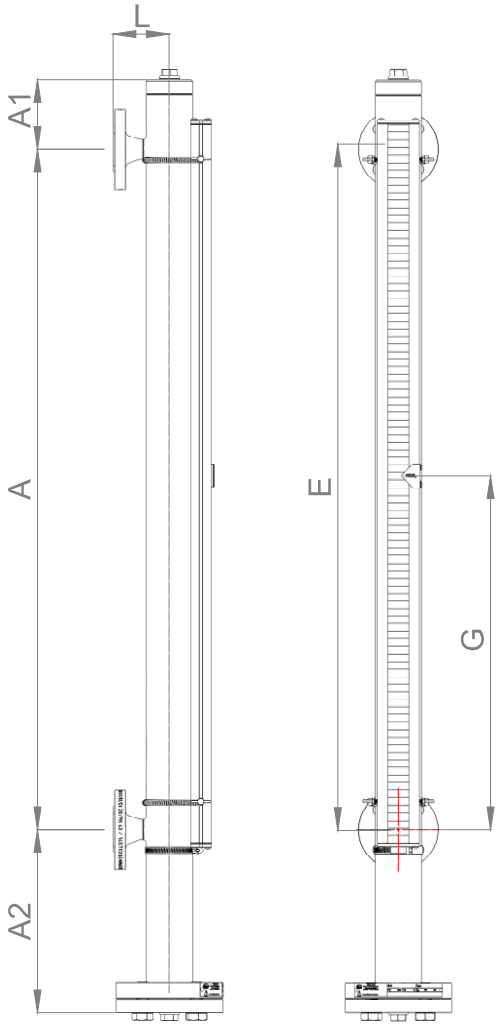
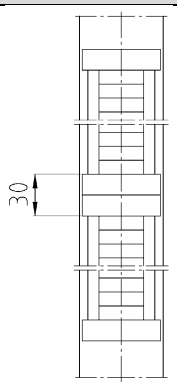
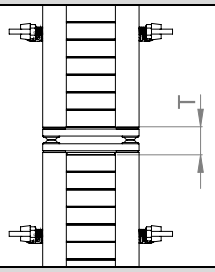
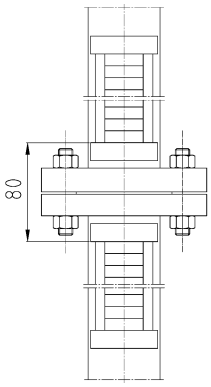
6.2 Possible display orientations

If not blocked by the connection piece or attached limit switches, the indication bar on the add-on housing can be rotated freely. The display orientation is therefore freely selectable. The stop clip *(Pos.8.3)* must also be turned so that the indication bar is still supported by it.



6.3 Dimensions

The indication bar can be positioned anywhere outside the area of the connection spigots. If the indication bar is larger than the maximum length of a single indication bar, it is possible to arrange two or more display bars on top of each other. Device lengths > 6 m are designed as split housing versions with intermediate flanges. From a length of 2600 mm, a retaining plate is fitted in the centre to support the indicator.

NA7-50 and NA7-52 with vent plug at the top and drain plug at the bottom	Sight length > 2.6 m *(with indication bar AL2-G)* *T=30mm*
	
	Sight length >2 m *(with indication bar ALG-R)* *T=16 mm*
	
	Sight length > 6 m *(version with intermediate flange)* *T=80 mm*
	

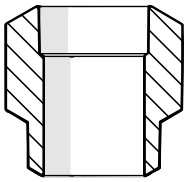
NOTICE

Property damage due to weight loading

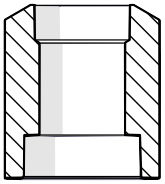
From a length of 2600 mm, the load on the indicator is too great and the connecting elements are subjected to too much stress.

- Ensure sufficient support via the connection bracket on the add-on housing. (e.g. by spring hanger)

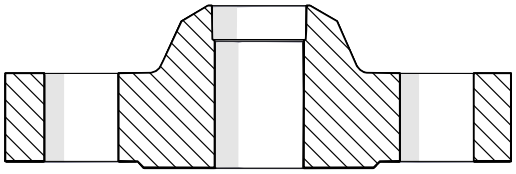
6.4 Process connection types



Welding end



Welding socket

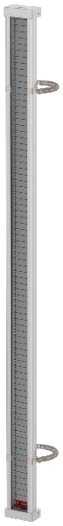


Flange

All connection variants are available according to DIN or ASME standard

6.5 Basic equipment

The magnetic level gauges are equipped with an indication bar *(customer and application-specific AL2-G or ALG-R)* and a drain and vent plug.



Indication bar AL2-G

Vent plug

Type	Document number	Article-No.
AL2-G	D-06-D-50338-EN	see data sheet
ALG-R	D-06-D-62659-EN	see data sheet

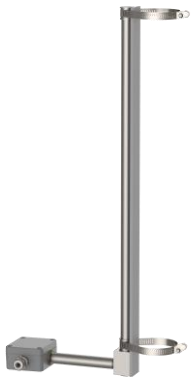
Float

Gauge Type	Pressure	Density ($^{kg}/_{dm^3}$)	Article number	Dimension A_2
NA7-50 / NA7-52	< PN25	0.85-1	15-12501	272
	< PN40	0.78-0.85	15-12973	287
	< PN63	0,78-0,815	15-12974	392
NA7-80	PS 80 bar	0.72-0.78	40-11869	347
NA7-110	PS 110 bar	0.63-0.72	40-11879	507
NA7-150	PS 150 bar	0.62-0.68	40-11886	607

6.6 Optional versions

In addition to customer-specific drain valves, the Magnetic level gauge can also be designed in a customer-specific manner via other properties. These Installation and operation instruction also apply to these versions.

Additional applicable documents for components that are considered optional must be observed.

Examples of optional version			
with customer specific drain valve	additional transmitter	ATEX version	with one or more limit switches
 *Example: AV250*	 *Example: MRK 110*		 *Example: Type M510-1-60*

Type	Document number	Article-No.
AV250 Cutting ring screw connection DS12	D-09-D-50437-EN	15-16613
Limit switch M510-1-60	D-06-D-50379-EN	15-03037
MRK 110 transmitter	D-06-D-52485-EN	see data sheet

With bypass and measuring probe V86

Example: NA7-130

The liquid level to be measured by the V86 probe is continuously measured in the bypass by high-frequency microwave pulses that are guided through a tube.

A version with bypass is possible for measuring ranges <6m.

The probe is also approved as a high and low water limiter.

It has an automatic runtime adjustment and can therefore compensate for temperature fluctuations.

The probe is suitable for use in potentially explosive atmospheres and has various ship approvals.

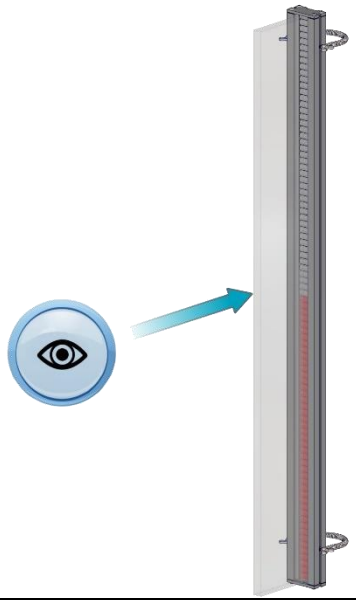
ATEX, IEC, GL, LRS and ABS approvals are possible

Measuring accuracy	± mm
Operating voltage	9.6 . . . 35 VDC
Output signal	4 . . . 20mA / HART
Protection class	IP66
Process temperature	-196 . . . +400°C
Ambient temperature	-40 . . . +80°C

Optional floats

Gauge Type	Pressure	Density(kg/dm³)	Article number	Dimension A2
NA7-50 / NA7-52	< PN25	1.1	15-16178	217
		0.78-0.85	15-14790	272
		0.683-0.78	15-13319	302
		0.585-0.683	15-14829	362
	< PN40	0.85-1	15-15048	257
	< PN63	1.3	15-17496	227
NA7-80	PS 80bar	0.85-1	40-11870	287
		0.78-0.85	40-11871	347
		0.68-0.78	40-11873	407
		0.63-0.72	40-11872	507
		0.60-0.68	40-11874	607
NA7-110	PS 110bar	0.85-1	40-11875	347
		0.78-0.85	40-11876	407
		0.72-0.78	40-11877	407
		0.68-0.78	40-11878	507
		0.60-0.68	40-11880	607
NA7-150	PS 150bar	0.85-1	40-11881	347
		0.78-0.85	40-11882	407
		0.72-0.78	40-11883	507
		0.68-0.78	40-11884	507
		0.63-0.72	40-11885	607

Anti-icing protection

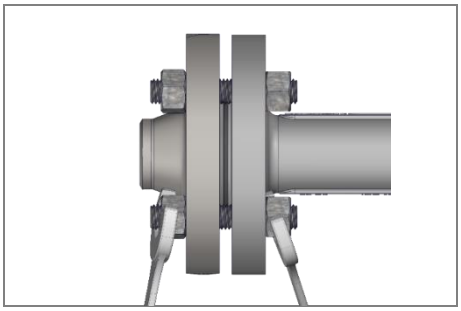
Anti-icing protection	
An indication bar with anti-icing protection should be used on gauges containing media with a temperature below 0°C. Due to the anti-icing protection, the visible side is further away from the medium and no frost develops. If the ambient temperature cools below 0°C, frost will continue to form on the pane.	

Operating temperature	Height of anti-icing protection		Article-No.
	[mm]	**[inch]**	
0 to -50°C 32 to -58°F	60	2 1/3	15-19310
-51°C to -100°C -59.8°F to -148°F	80	3 1/7	15-19321
-101°C to -150°C -149.8°F to -238°F	100	4	15-19322

7 Assembly

7.1 Assembly with flange

- Observe the orientation of the gauge.
- Check sealing surfaces for cleanliness
- Install the flange connection between the gauge and the boiler/pressure vessel according to the applicable standard



7.2 Assembly by welding

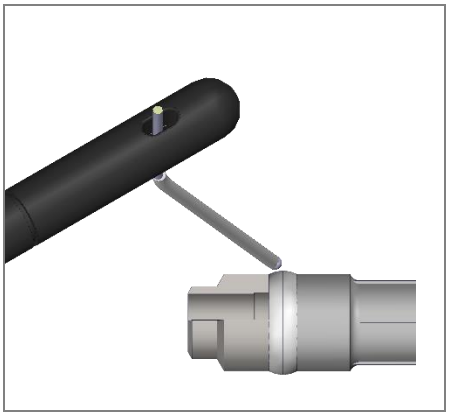
WARNING

Eye damage due to lack of personal protective equipment

Lack of eye protection during welding leads to eye damage in working and bystanders.

- Secure the working area.
- Wear a welding protective mask.

- Observe the orientation of the gauge.
- Remove protection caps. (locking for transport)
- Assembly only by using welding process
  111 (shielded metal arc welding)
  or
  141 (gas tungsten arc welding).
- Check on an application-specific basis whether a subsequent heat treatment of the weld seams is required.



NOTICE

Material damage due to incorrectly installed valve

- Install the valve spindle in a horizontal position.
- Install the valve with the arrow pointing in the direction of the add-on housing.

7.3 Float installation

The float is packaged on the outside of the housing when the indicator is delivered.

NOTICE

Material damage to float due to pressurisation

Pressurising the float to a higher pressure than the operating pressure can damage the float.

- Only carry out a pressure test on the attachment housing with the float removed.
- Only perform a pressure test on the boiler with the installation housing shut off.

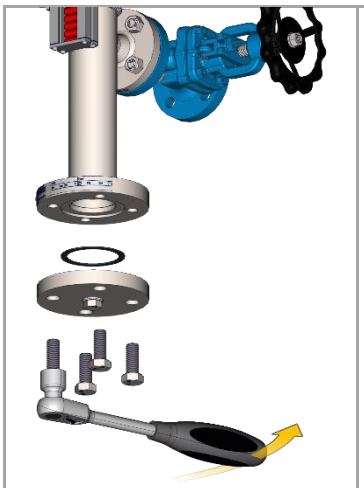


Fig.1

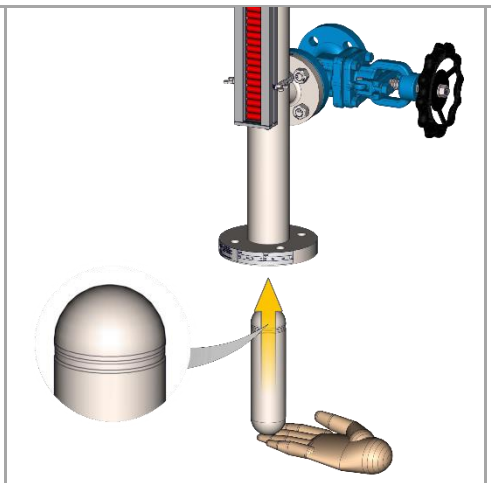


Fig.2

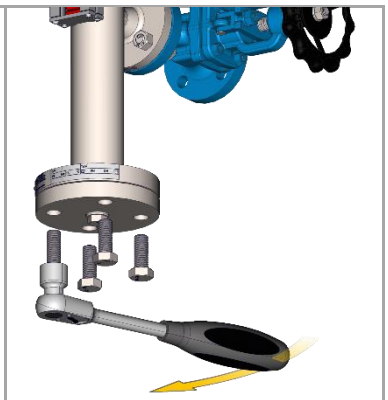


Fig.3

Figure 1:

- Loosen the screws on the cover flange and remove.
- Remove the cover flange and seal.

Figure 2:

- Carefully remove the float packaging
- Slide the float into the attachment housing with the top-heavy side facing upwards.

Figure 3:

- Screw the cover flange with seal to the add-on housing.
- Tighten the screws crosswise step by step to the specified torque **Md_{max}**. *(chap. 8.1)*

8 Commissioning

8.1 Before commissioning

Torque

perm. Pressure PS [bar]	Tightening torque Md → **Md max** [Nm]					
	in steps					
	1	2	3	4	5	6
32	35	50	65	**75**	-	-
50	50	75	100	125	150	**165**
80-130	60	90	120	150	180	**200**

Tightening torques of the screw plug / drain plug **Md= 150 Nm**

8.2 Align indicator discs / rollers

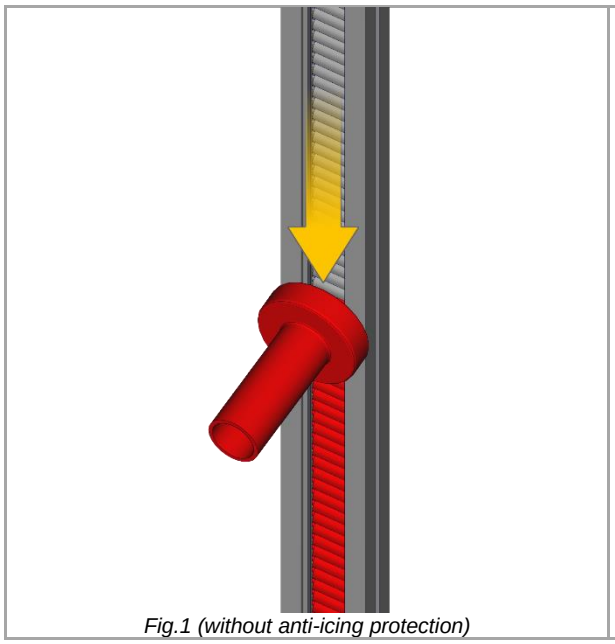


Fig.1 (without anti-icing protection)

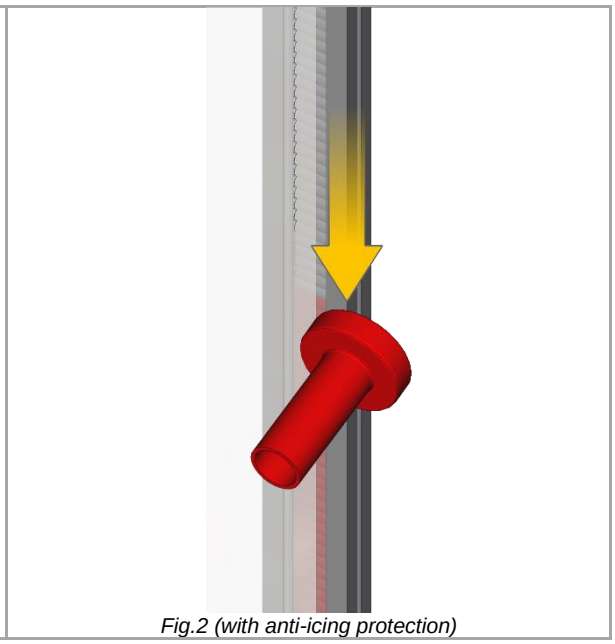


Fig.2 (with anti-icing protection)

- Pass the hand test magnet twice in front of the indication bar from top to bottom.

***Ensure that all slats / rollers display the correct colour** (fill level displayed in red)*

8.3 Commissioning at the same time as the boiler

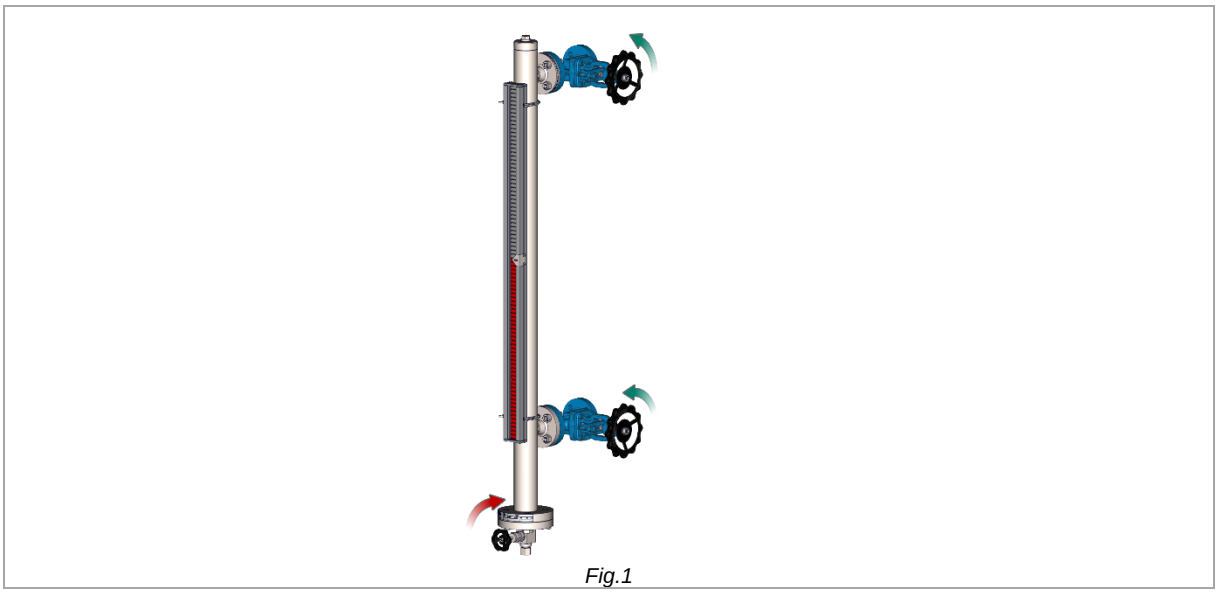


Fig.1

Figure 1:

- Close the drain valve/ screw in the screw plug
- Open shut-off valves

8.4 Commissioning under pressure and temperature loads

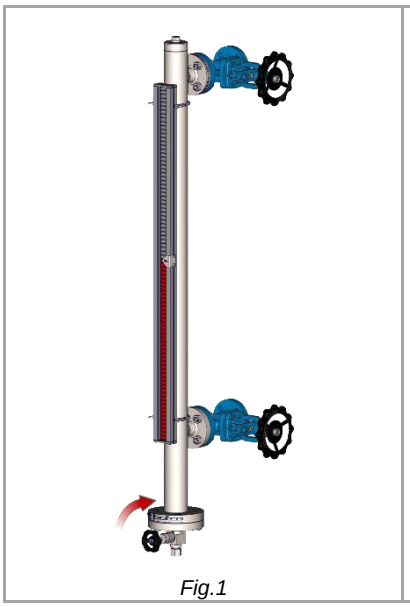


Fig.1

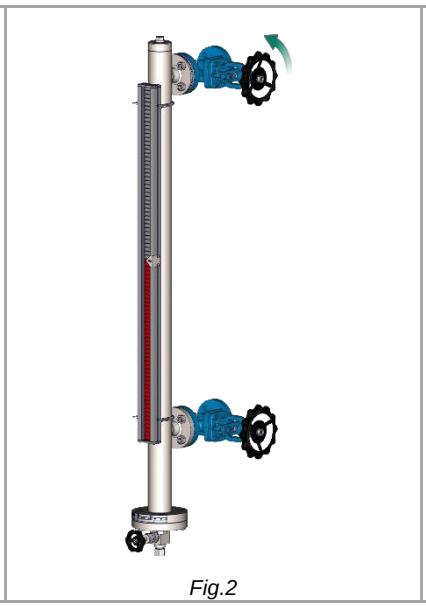


Fig.2

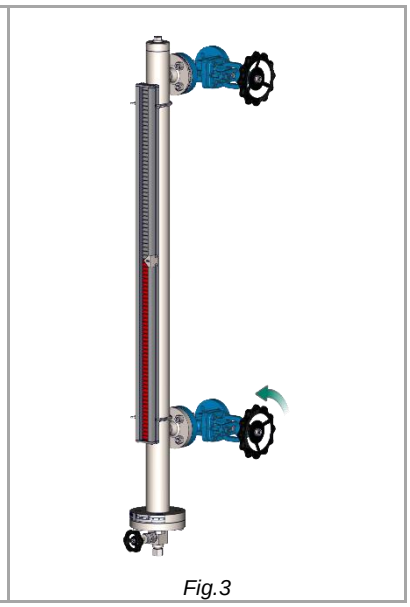


Fig.3

Figure 1:

- Close the drain valve / screw in the screw plug

Figure 2:

- Open the upper shut-off valve slowly

Figure 3:

- Open the lower shut-off valve slowly

9 Servicing

CAUTION

Cuts due to sharp-edged parts

During the maintenance of the product, sharp-edged parts may cause injuries.

- Always be aware of sharp-edged parts.
- Wear work gloves.

9.1 Preventive maintenance

NOTICE

Creation of a maintenance plan

The operator must determine a maintenance plan suitable for the specific application after evaluating his own operating experience. It should be noted that shorter maintenance intervals extend the service life of the level gauge.

TIP

Internal cleaning of the add-on housing is particularly necessary if it contains viscous or crystallising media.

9.2 Release pressure

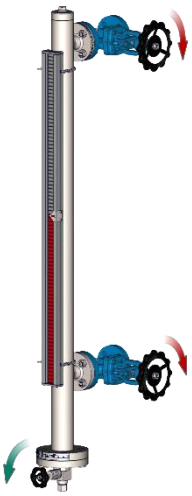


Fig.1

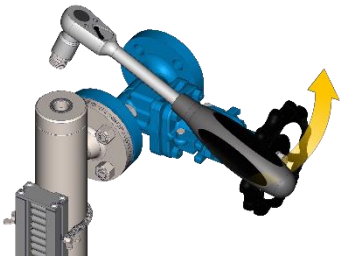


Fig.2

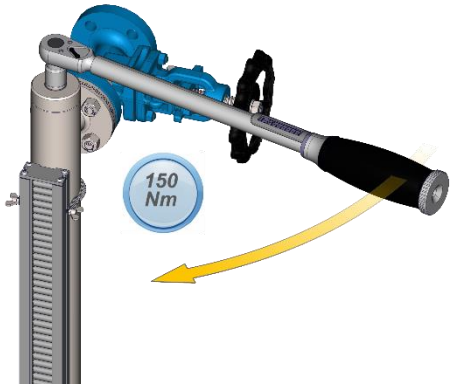


Fig.3

Figure 1:

- Close shut-off valves
- Slowly open the drain valve/unscrew the drain plug

The add-on housing partially empties.

Figure 2:

- Unscrew the bleed screw

The add-on housing drains completely, the pressure escapes completely via the vent opening.

Figure 3:

- Screw in the screw plug with the specified torque

The gauge can be put back into operation (chap. 8)

9.3 Emptying the attachment housing for cleaning

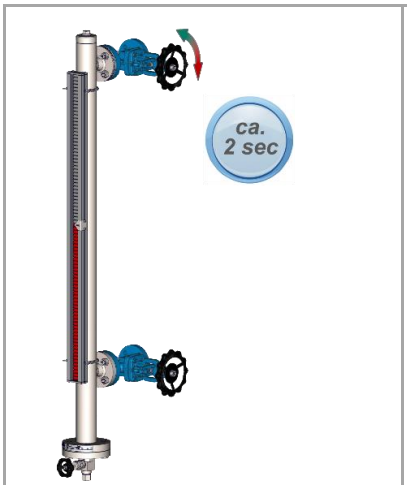


Fig.1

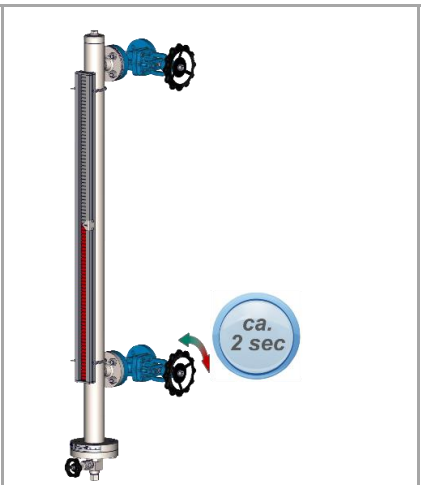


Fig.2

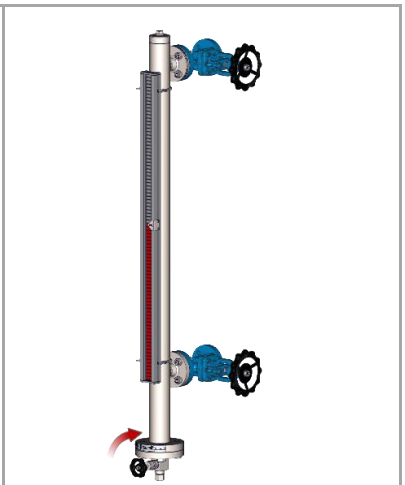


Fig.3

- The gauge must be depressurized and the drain valve open *(chap. 9.2)*

Figure 1:

- Open upper shut-off valve slightly, close after approx. 2 seconds.

Figure 2:

- Open lower shut-off valve D slightly, close after approx. 2 seconds.

Figure 3:

- Close the drain valve / screw in the screw plug.

The gauge can then be put back into operation. (Chap.8)

TIP

If this cleaning is not sufficient, the float must be removed from the attachment housing for cleaning.

9.4 Remove the float for cleaning

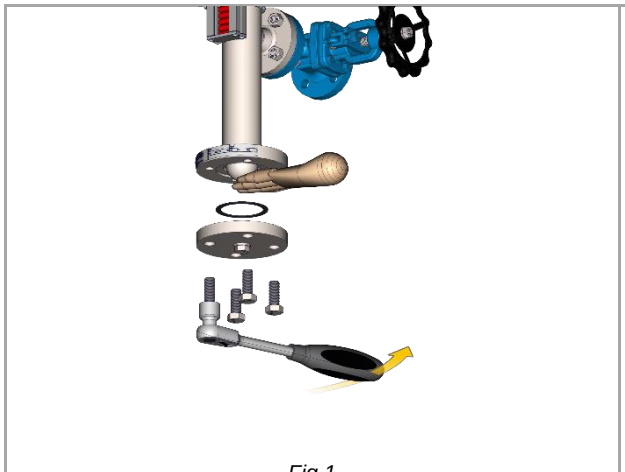


Fig.1

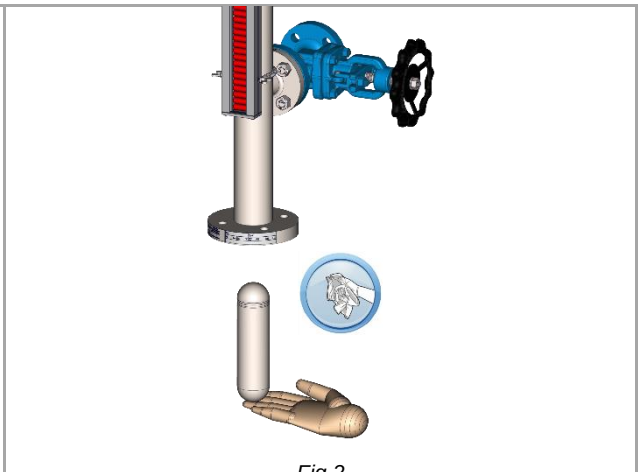


Fig.2

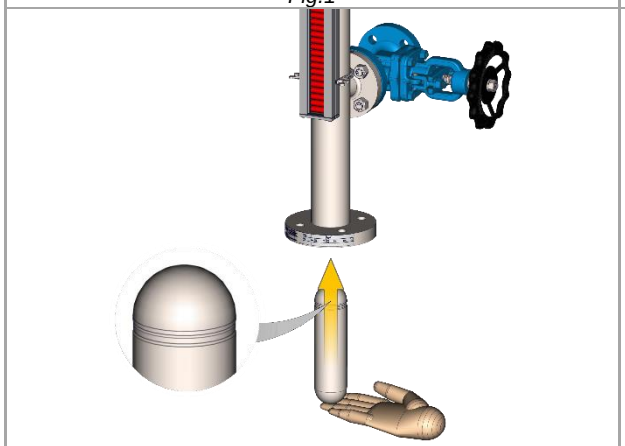


Fig.3

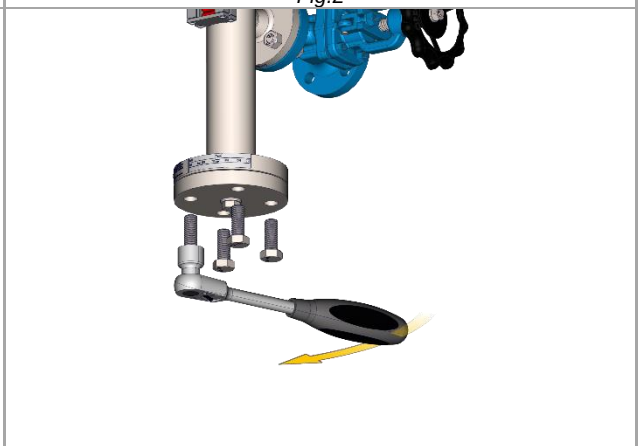


Fig.4

- The gauge must be depressurized *(chap.9.2)*

Figure 1:

- Loosen the screws on the cover flange and remove.
- Remove the cover flange and seal.
- Secure the float from falling out.

Figure 2:

- Remove the float from the attachment housing and clean it. Clean the inside of the add-on housing.

Figure 3:

- Slide the float into the attachment housing with the top-heavy side facing upwards.

Figure 4:

- Screw the cover flange with new seal to the add-on housing.
- Tighten the screws crosswise step by step to the specified torque **Md_{max}**. *(chap. 8.1)*

The gauge can be put back into operation. (Chap.8)

10 Case of damage

Fault	Cause	Remediation
Leakage at flange connection	Material settlements, wear	Tighten screws / replace seal *(chap. 10.1)*
Leakage at screw plug	Wear and tear	Tighten screws / replace seal *(chap. 10.2)*
Fill level is not displayed	Float contaminated	Clean float *(chap. 9.4)*
Rollers / slats in indication bar not aligned	Magnetic external influence on indication bar	Aligning indicator rollers / discs *(chap. 8.2)*

10.1 Leakage at flange connection

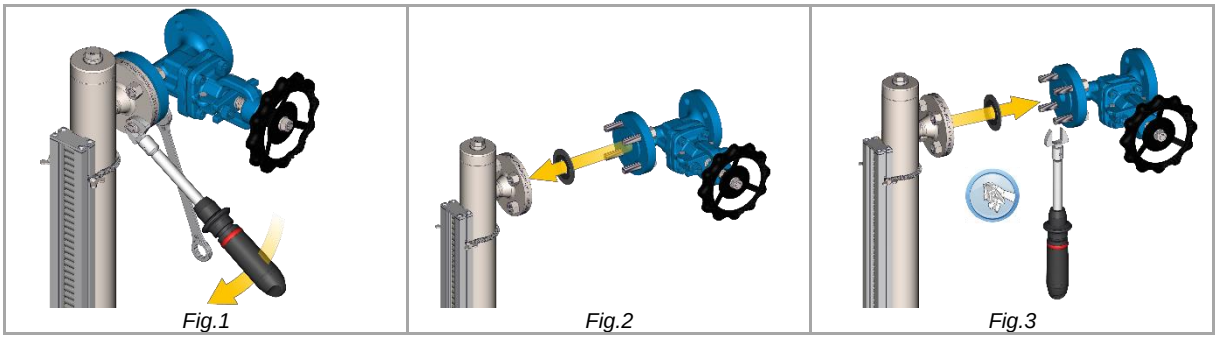


Fig.1 *Fig.2* *Fig.3*

Figure 1

- Tighten hexagon nuts to maximum torque in accordance with the prescribed standard.

Figure 2:

If there is no improvement:

- Loosen and unscrew the hexagon nuts of the threaded bolts of both valves on one side.
- Remove display body from shut-off valves.
- Secure the sealing ring and threaded bolt against falling.

NOTICE

Property damage due to impacts

The gauge hangs freely after the work in the following step.

- Secure the display body against falling.

Figure 3:

- Clean the sealing surface and check for damage, replace the sealing ring.
- Place the flanges of the display body on the flanges of the shut-off valves
- Connect flanges with threaded bolts and install according to the prescribed standard.

10.2 Leakage at the screw plug or drain plug

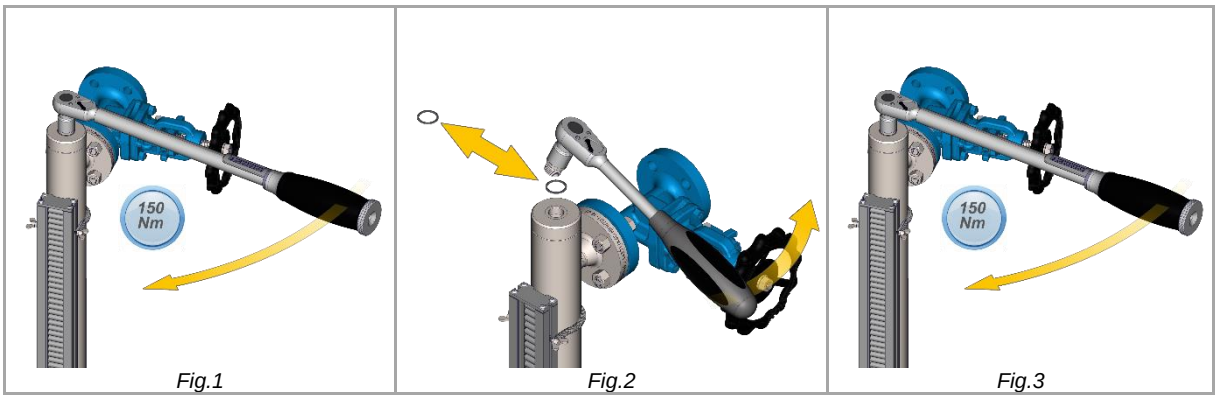


Fig.1 *Fig.2* *Fig.3*

Figure 1:

- Tighten the torque of the screw plug

Figure 2:

If there is no improvement:

- Unscrew the screw plug.
- Replace the gasket.
- Check the sealing surface for contamination and damage.

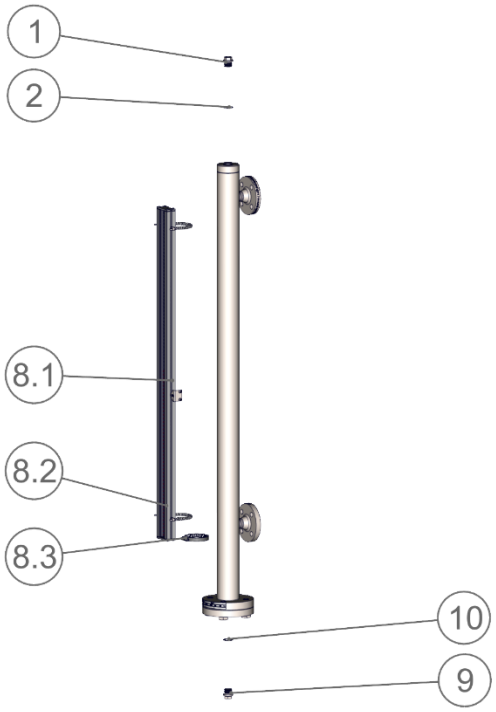
Figure 3:

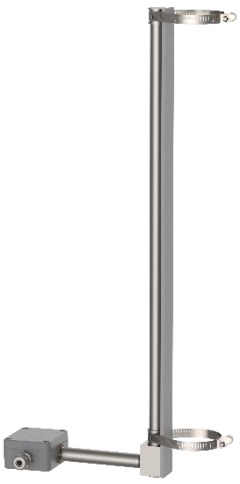
- Screw in the screw plug with the specified torque.

11 Spare parts and technical accessories

11.1 Spare parts

Pos.	Description	Size	Article-No.	Quantity
1 / 9	Drain / bleed screw	G ½	40-10492	1
2 / 10	Sealing ring	21 x 26 x 1.5mm	40-00128	1
5	Float	see tables *(chap. 6.4 & 6.5)*		1
8.1	Indication bar *(AL2-G, AL3-G or ALG-R)*	see data sheet		according to sight length
8.2/ 8.3	Fastening spring and stop clamp	see data sheet		
13	MRK transmitter	see data sheet		*optional*
14	Limit switch M510	-	15-03037	*optional*
15	Hand test magnet	-	40-00768	*optional*





MRK transmitter (Pos.13)

Limit switch M510 (Pos.14)

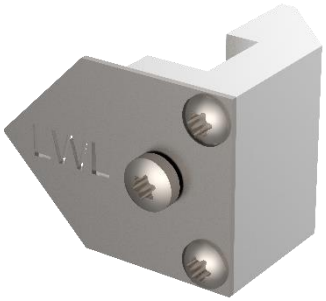
Float (Pos.5)

Manual test magnet (Pos.15)

11.2 Accessories

Description	Label	Article-No.
Water level mark	NWL	40-04500
	LWL	40-04499
	HWL	40-04501
	LLWL	40-04498
	HHWL	40-04502
	CL	40-11595

In addition, the fastening element with article number 25-14980 is required for fastening to the indication bar.



Water Level Mark-NWL
for indication bar AL2-G and AL3-G

Description	Label	Article-No.
Water level mark	NWL	40-11286
	LWL	40-11916
	HWL	40-11914
	LLWL	40-11917
	HHWL	40-11915

In addition, the fastening screws and nuts with article number 15-19296 are required for fastening to the indication bar.

Water level mark-NWL
for indication bar ALG-R

12 Decommissioning and disposal

12.1 Dismantling the display body

During the following work, the individual components hang freely and must be secured against falling.

- Loosen nuts on flange connections.
- Removing bolts from flanges
- Secure loose components against falling

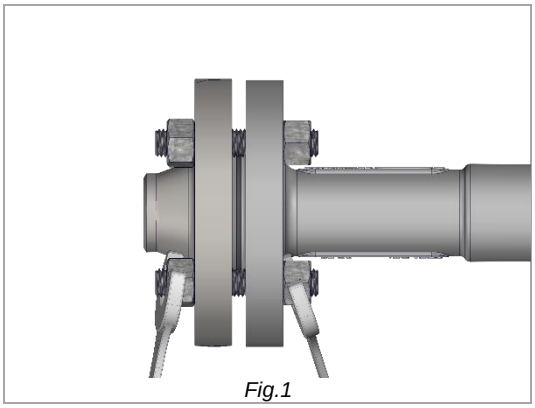


Fig.1

Valves and gauges that are firmly connected to each other (e.g. welded connections) must be separated from each other at the connection points. For this purpose, the appropriate tool must be selected according to the application and environment.

12.2 Disposal

ENVIRONMENT

Danger to the environment due to residues

Residues on the gauge can pose a danger to the environment.

- For returns, observe the applicable safety and environmental laws according to GGVSEB [The Dangerous Goods Ordinance on Roads, Railways and Inland Waterways].
- Indicate possible dangers and take precautionary measures.
- Label possible residues and enclose the safety data sheet.
- Register hazardous substance with the logistics service provider.

Danger to the environment from waste materials

Incorrectly disposed waste materials cause damage to the environment.

- Separating waste materials.
- Comply with local and legal regulations for waste disposal.

CAUTION

Health hazard due to dangerous residues

Residues of hazardous substances pose a health hazard.

- Indicate possible dangers and take precautionary measures.

This high-quality IGEMA product was designed, manufactured and tested with the application of the QM System guidelines in accordance with DIN EN ISO 9001:2015.

If the device supplied indicates transport damage or gives cause for complaint in spite of our final quality check, please contact our SERVICE department on telephone
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