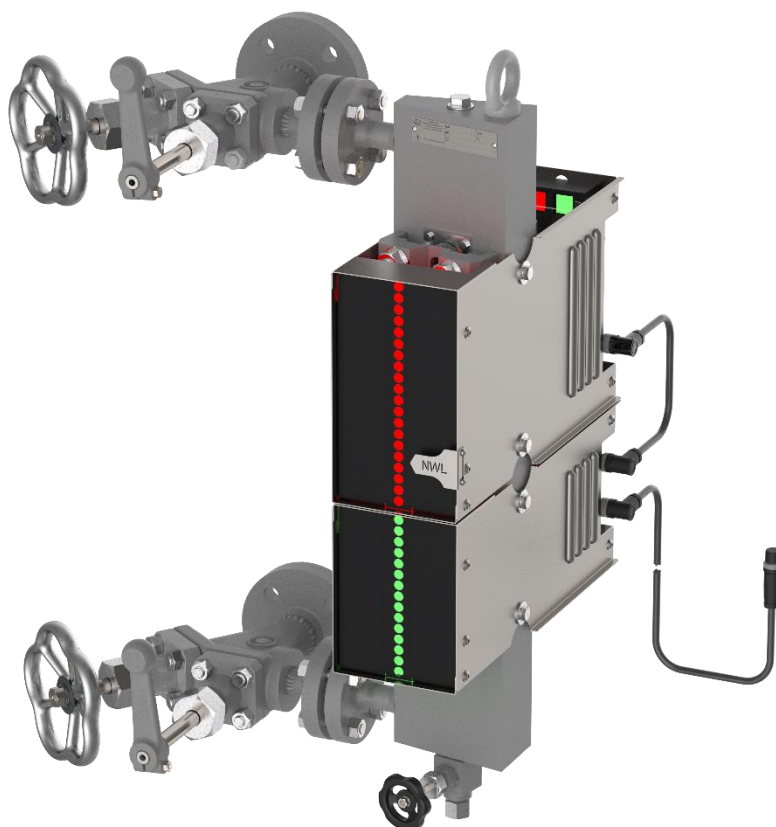




Bicolour level gauge

Typ Green-Red - longitudinal slot



Version 05/2024

D-04-B-50984-EN-03

Installation and operating instruction

(English translation)

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1 About this document

1.1 Introduction

The Installation and operating instruction are part of the Bicolour level gauge Typ Green-Red - longitudinal slot. It must be made available to the responsible departments "Incoming goods, transport, assembly, commissioning and maintenance". The Installation and operating instruction must be stored in such a way that the specialist personnel has access to them at all times. If the gauge is passed on to a third party, these Installation and operating instruction must also be included in the national language of the third party.



NOTE

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



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

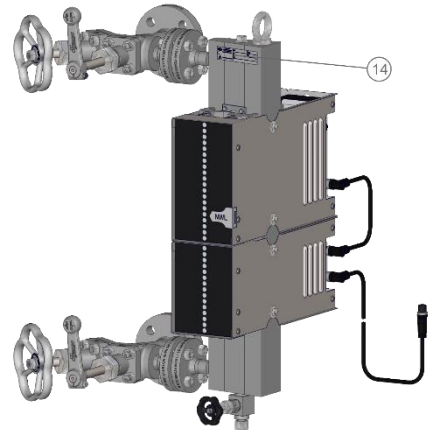
The Installation and operating instruction contains important information for the proper use and safe operation of the Bicolour level gauge. Please also note important information on the repair, maintenance, care, safety and value retention of your measurement and control system.

If the Installation and operating instruction or the accompanying documents are partially not available or have become unusable, a new 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 rating plate

On the basis of the rating plate, the Installation and operating instruction can be assigned to the corresponding Bicolour level gauge. The Installation and operating instruction belongs to the Bicolour level gauge of the **Typ Green-Red - longitudinal slot**.

Additions that are entered after the designation and describe the design of the Bicolour level gauge (e.g. 5/3ü) do not release these Installation and operating instruction from belonging to the Bicolour level gauge .



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

 IGEMA GmbH Mess- und Regelsysteme Antwerpener Straße 1 Germany - 48163 Münster  See installation instructions	S/N	A			Type	B	
	PS	C			TS	D	
	Conn. Type	PN	E	DN	F		
		G					

A	Year of manufacture and order number	E	Pressure level
B	Type designation (LS)	F	Nominal width
C	maximum permissible pressure	G	TAG No. (optional)
D	maximum permissible temperature		

1.3 Related documents

In addition to these Installation and operating instruction, the operating instructions of the shut-off and drain valves as well as the lighting system must be observed.

Product	Operating instruction number/ Link	QR-Code
Shutoff valve	62826 www.igema.com/document/62826	
Drain valves	62825 www.igema.com/document/62825	
LED Secure SOL	50226 www.igema.com/document/50226	
LED Secure Ex SOL	51196 www.igema.com/document/51196	

1.4 Marking of safety precautions

In the following installation and operating instructions, safety instructions are marked with the following symbols:

 SIGNAL WORD	
Nature and source of danger	SYMBOL(S)
Consequences of non-compliance	
Instructions for action to avoid the danger	

	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 operating 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 Münster

Germany

Violations oblige you to pay compensation.

2 Safety Instructions

2.1 Requirements for personnel

NOTE

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 install and connect lighting equipment.

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 depressurised and emptied.
- In principle, do not consider any system to be depressurised.

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.

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.



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 gauges.

Risk 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

NOTE

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 that the gauge and the lighting equipment are suitable for the intended use/application in the intended environment.
- 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

NOTE

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.

3 Contents of the packaging

3.1 Included

1. Typ Green-Red - longitudinal slot The Bicolour level gauge will be delivered as two pre-assembled units, unless otherwise contractually agreed:

Unit A:

- Gauge
- Upper shutoff valve
- Lower shutoff valve
- Drain valve

Unit B:

- Lighting device(s)

2. Installation and operating instructions

3.2 Optional versions

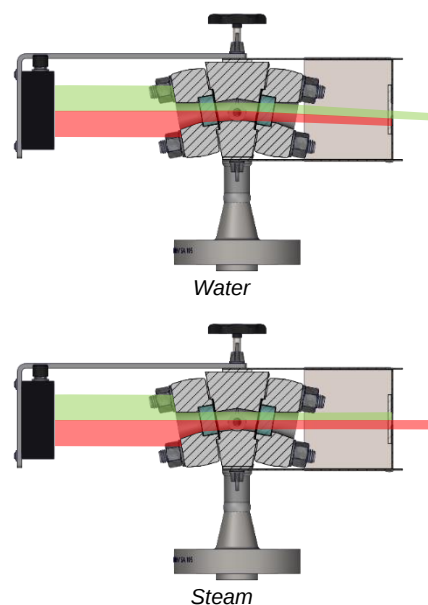
These Installation and operating instruction apply to the Bicolour level gauge in standard as well as in customer-specific design. The applicable documents must be additionally observed especially if the Bicolour level gauge is equipped with customer-specific shutoff or drain valves.

4 System Description

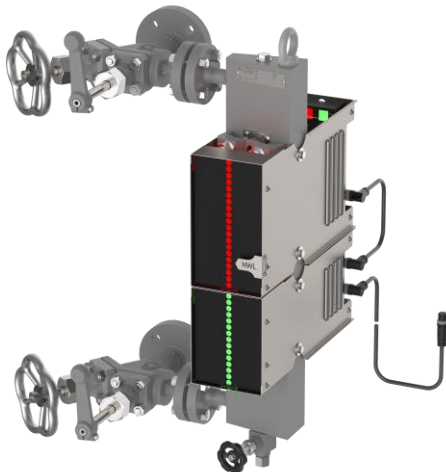
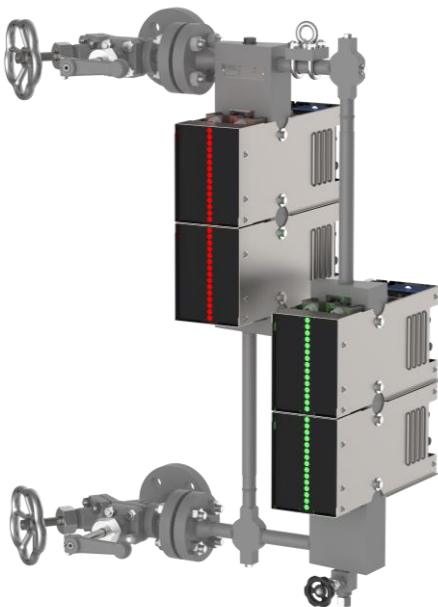
4.1 Function

The LED illumination on the back of the display unit emits red and green light. If there is water in the display area, then the light rays in the display body will be diverted in such a way that the green light beam falls on to the slit dazzling body. In the steam area the light rays are not diverted and the red light beam is projected.

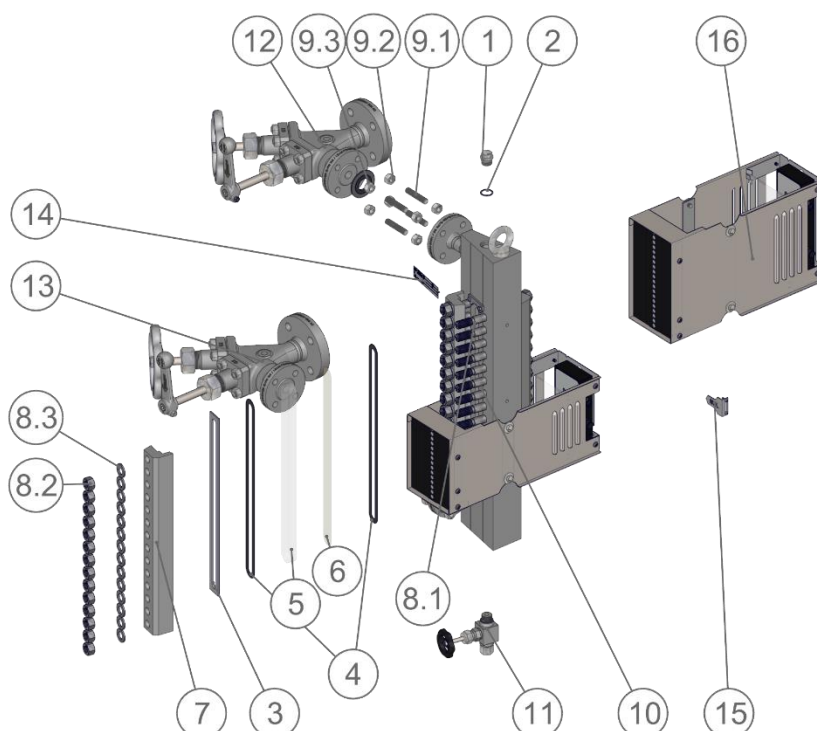
In the display area the water space always appears green and the steam space red.



4.2 Different variants

One display opening	Staggered sight glass openings on top of each other
	

5 Construction



1	Screw plug G $\frac{1}{2}$ "	9.1	Threaded bolt
2	Sealing ring	9.2	Hexagon nut
3	Pressure plate	9.3	Grooved metal gasket
4	Graphite seals	10	Display body
5	Glass	11	Drain valve
6	Mica	12	Upper shutoff valve
7	Cover rail	13	Lower shutoff valve
8.1	Cover screw	14	Rating plate (<i>chap. 1.2</i>)
8.2	Hexagon nut	15	Water level mark (<i>chap. 11.2</i>)
8.3	Washer	16	Lighting equipment

6 Technical data

6.1 Limitations of use

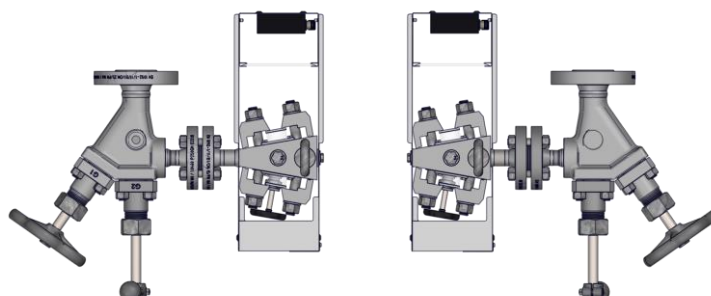
Limitations of use Typ Green-Red - longitudinal slot	all. Pressure [PS]	all. Temperature [TS]
	120 bar 1740 psig	326 °C 618 °F

The maximum permissible operating pressure of the Bicolour level gauge is determined by the lowest permissible pressure of the attached component.

The specified values refer to the standard design of the gauge. Customised designs can affect the application limits. The operating conditions on the nameplate of the gauge apply.

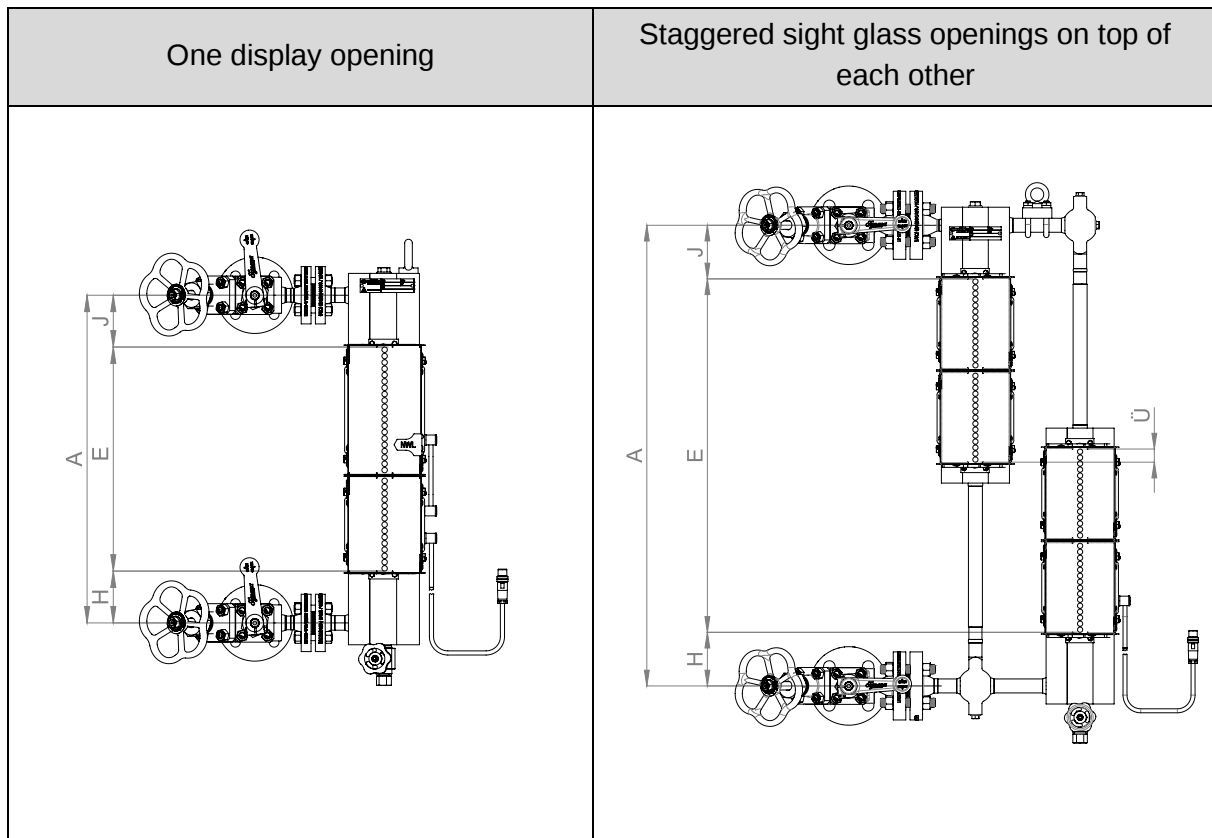
6.2 Possible display orientations

Left



Right

6.3 Dimensions



The displayed gauges are shown as a left-hand model.
The dimensions H, J and A are to be specified individually.

			min.		max.	
			[mm]	[inch]	[mm]	[inch]
Upper space	blind	[J]	25	1	On request	
Lower space	blind	[H]				
Overlap		[Ü]	25mm / 1"			

NOTE

Property damage due to weight loading

If the total weight of the gauge > 30kg the connecting elements are subjected to excessive loads.

- Provide sufficient support. (e.g. by spring hanger)

6.4 Basic version

The two-colour gauges are equipped with an A150-CS or A220-CS shut-off valve and an AV250 drain valve.



A150-CS shut-off valve



A220-CS shut-off valve



AV250 drain valve

Type	Data sheet	Item number
A150-CS shut-off valve	D-09-D-50581-DE	see data sheet
A220-CS shut-off valve	D-09-D-50501-DE	see data sheet
Drain valve AV250 Cutting ring screw DS12	D-09-D-50437-EN	15-16613

6.5 Optional versions

For versions with other shut-off and drain valves, the documents for the installed valves must also be observed.

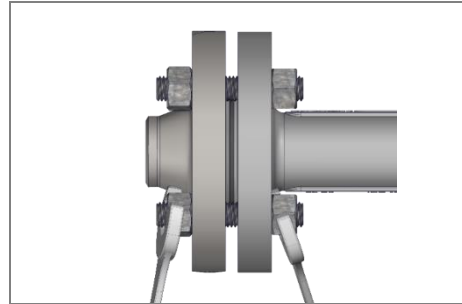
Examples of optional version	
Customised drain valves	Double drain valve
 <i>Example: Drain valve AV520</i>	 <i>Example AV251</i>

Type	Data sheet	Item number
AV520 Cutting ring screw DS12	D-09-D-50513-DE	40-01803
AV251 Cutting ring screw DS12	D-09-D-59264-EN	15-14733

7 Assembly

7.1 Version 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 Version with welding end



WARNING

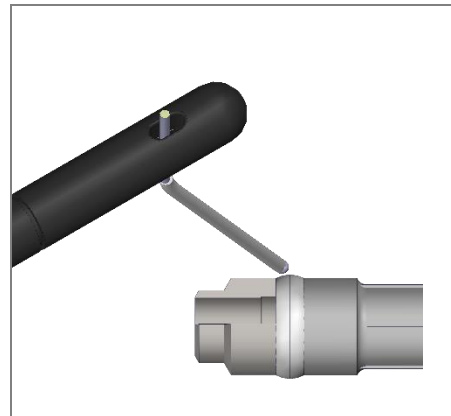
Eye damage due to lack of personal protective equipment



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 (metal-arc welding with covered electrode) or 141 (inert-gas tungsten-arc welding).
- Check on an application-specific basis whether a subsequent heat treatment of the weld seams is required.



7.3 Lighting device on the gauge

NOTE

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



Only trained electricians may install and connect lighting equipment.

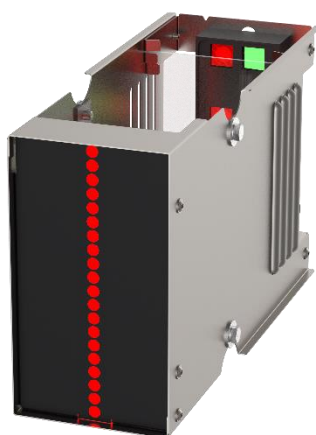
Igema GmbH can be commissioned for the installation and maintenance.

Included

Before installation, check that the scope of delivery shown is complete.

If the delivered lighting equipment shows signs of transport damage, is not complete or gives rise to other complaints, please contact our SERVICE department immediately on +49 2501 92424-0.

The quantities depend on the configuration of the gauge. Shown here are the quantities for a lighting system.

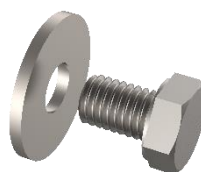


Pre-assembled dazdling box for LED Secure SOL 6 or 8
1pc.

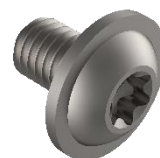
Components located/inserted in this module



LED Secure SOL 6 or 8



Hexagon head screw
M8x12 and washer



Screw with flattened half-round
head M5x8 TX25

Assembly instructions



TIP

Only install the lighting device after the gauge has been heated up once and then cooled down again.

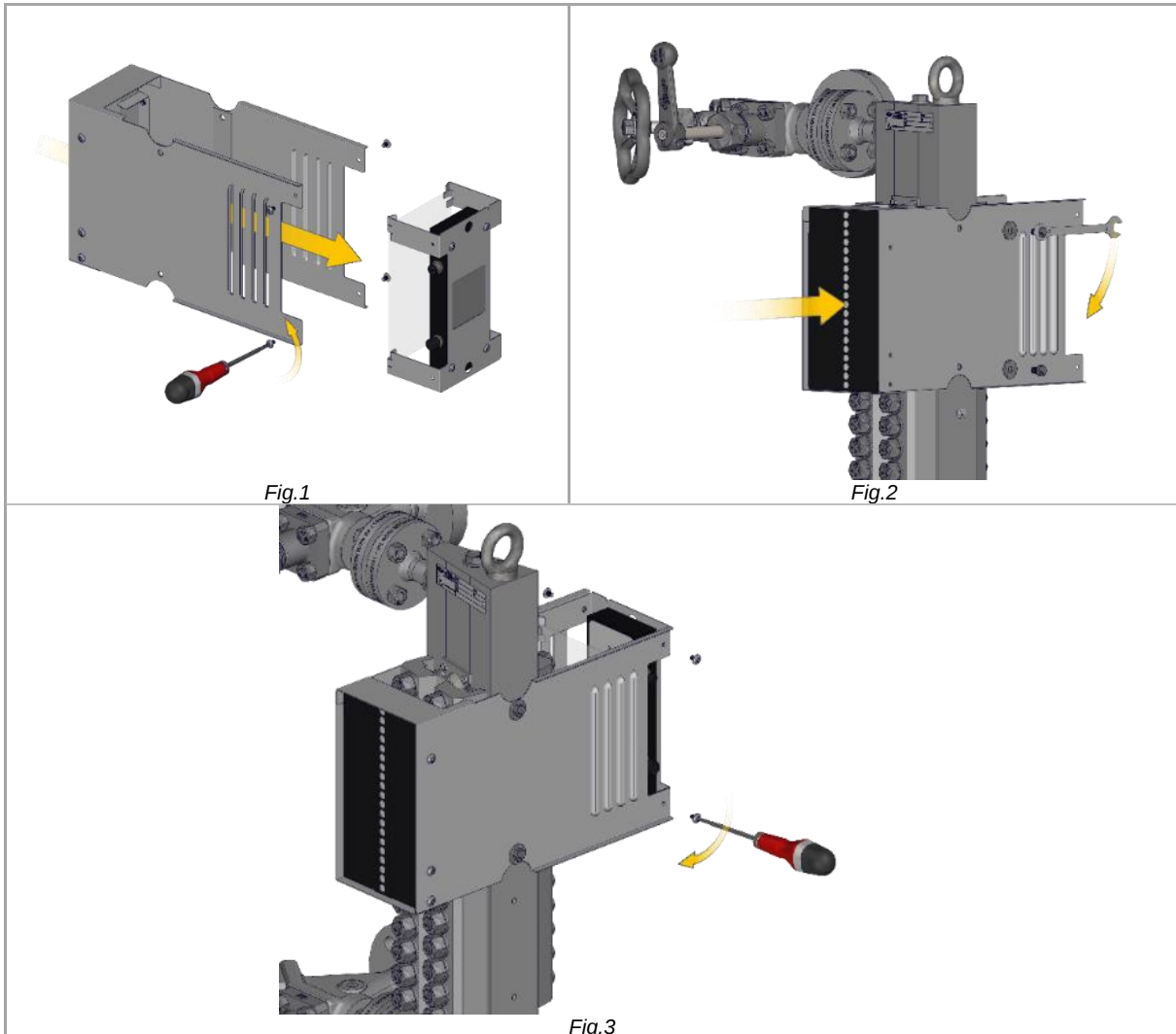


Figure 1:

- Remove the lamp holder from the pre-assembled lighting unit by loosening the M5x8 screws.

Figure 2

- Slide the dazzling box without lamp holder onto the display body and align.
- Screw the dazzling box to the holes provided on the display body using M8x12.

Figure 3:

- Screw the lamp holder back onto the dazzling box.
- Adjust the position of the light by moving the lighting module in the slotted holes.

By adjusting the position of the light, the light beam is optimally directed onto the display on the dazzling box.

Make sure that the green light is always on the wide side of the display body.

**NOTE****Property damage due to heat build-up**

Electronic devices can be damaged if they are exposed to heat build-up.

- Do not insulate lighting equipment and electrical components.

Power connection

For the electrical connection, the applicable document for the respective lighting device must be observed.

8 Commissioning

8.1 Before commissioning

Torque

All liquid level gauges are subjected to a pressure test before delivery. In individual cases, material placement may occur due to transport, storage or during assembly.

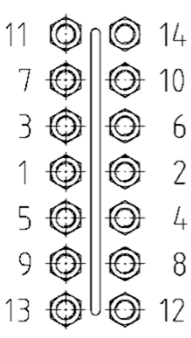
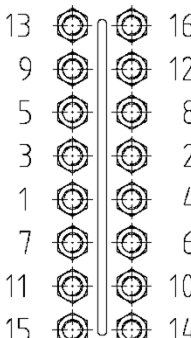


NOTE

Leaks due to insufficient torques

- Check screw connections for appropriate torque and a tight fit.
- 24 hours after commissioning, check all screw connections again for the correct torque and possibly retighten.
- Check for leaks in the first few days after commissioning

When retightening the screws, the following tightening sequence must be ensured. Tighten in the prescribed steps and sequence to tightening torque **Md_{max}** anziehen.

Screw rows	
Uneven number	Even number
	

all. pressure PS [bar]	Tightening torque Md → Md_{max} [Nm]				
	in steps				
	1	2	3	4	5
20-80	35	60	65	-	-
80-120	35	60	80	105	130

Condition of the boiler water

i NOTE**Property damage caused by contaminated medium**

Impurities in the medium can cause leaks during commissioning and possible subsequent flushing.

- Ensuring the cleanliness of the medium in the best possible way

💡 TIP

The pH value of the medium has a strong effect on the removal of the reflective glass.

8.2 Commissioning at the same time as the boiler

💡 TIP

This type of commissioning is recommended by Igema GmbH due to the lower stress on the components.

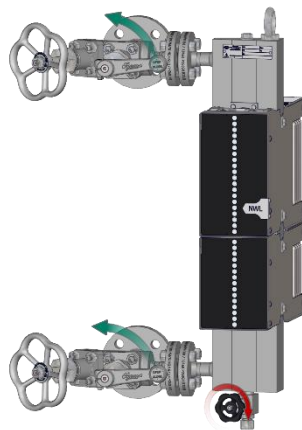


Fig.1

Figure 1:

- Close the drain valve (pos.11).
- Open the shut-off valves (pos. 12, 13) as far as they will go.

The commissioning of the pressure vessel/boiler with the gauge can now be carried out.

8.3 Commissioning under pressure and temperature loads

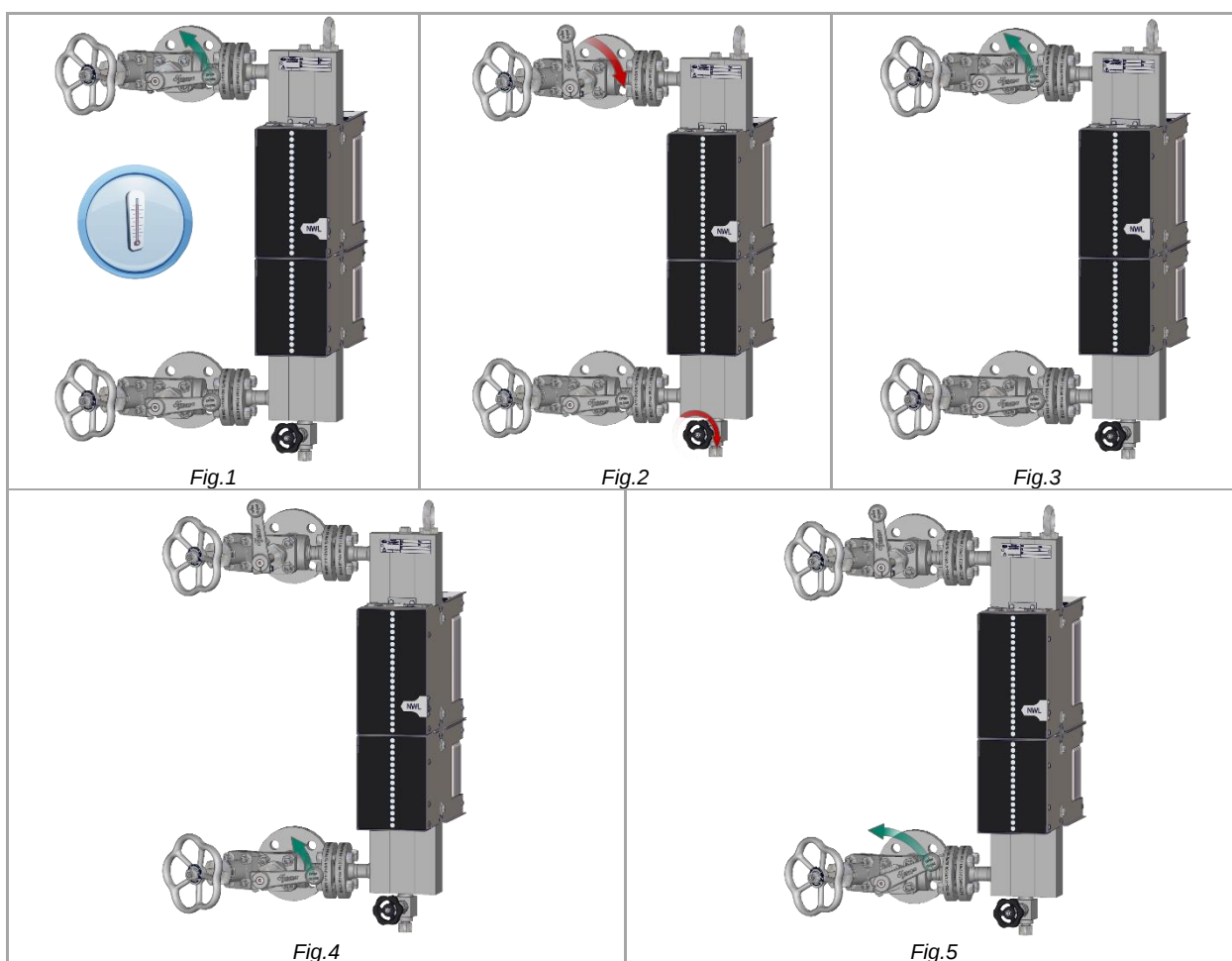


Figure 1:

- The gauge must be depressurised.
 - Open the upper shut-off valve (pos. 12) slowly

The gauge is heated to operating temperature by the steam flowing through it within 5-10min.

Figure 2:

- The operating temperature must be reached.
 - Close the upper shutoff valve (pos. 12)
 - Close the drain valve (pos.11).

Figure 3:

- Open the upper shut-off valve (pos. 12) slowly

Figure 4:

- Slightly open the lower shutoff valve(pos.13).
(lever in approx. 5 min. position)

The pressure equalisation now takes place.

Figure 5:

- The pressure must be equalized completely.
 - Open the lower shutoff valve (pos.13) completely.

The filling level is adjusted.

- Check the gauges for leaks.

**TIP**

If the level of the medium does not become visible, this may be related to the safety function of the self-closing ball in the valve.

- Close the lower shutoff valve (pos.13).
- Repeat commissioning under pressure and temperature loading from Fig.4.

9 Servicing



NOTE

Property damage caused by incorrect spare parts

Replaced spare parts that do not correspond to the characteristics of the original spare parts may cause damage to the gauge.

- Only use original parts from Igema GmbH for replacement.



CAUTION

Cuts caused by sharp objects



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

- Always expect sharp-edged parts and shards due to glass or mica breakage.
- Wear work gloves.

9.1 Preventive maintenance

Proper cleaning and maintenance of level gauges is essential for optimal level indication and service life.



NOTE

Leaks due to defective seal

Seals that appear to be in perfect condition may have hardened.

- Always replace gaskets during maintenance work.

Unrecognisable fill level due to contaminated mica

It is necessary to make sure that the visible fill level coincides with the actual one.

- Keep mica clean.

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

In order to ensure a trouble-free process, Igema GmbH recommends an annual replacement of the glass and the seals. Shorter maintenance intervals are recommended in extreme operating conditions.

Mica shields are a natural product and slight streaking and inclusions may occur.

These have no influence on the function and safety of the gauge.

9.2 Cleaning the gauge / depressurising

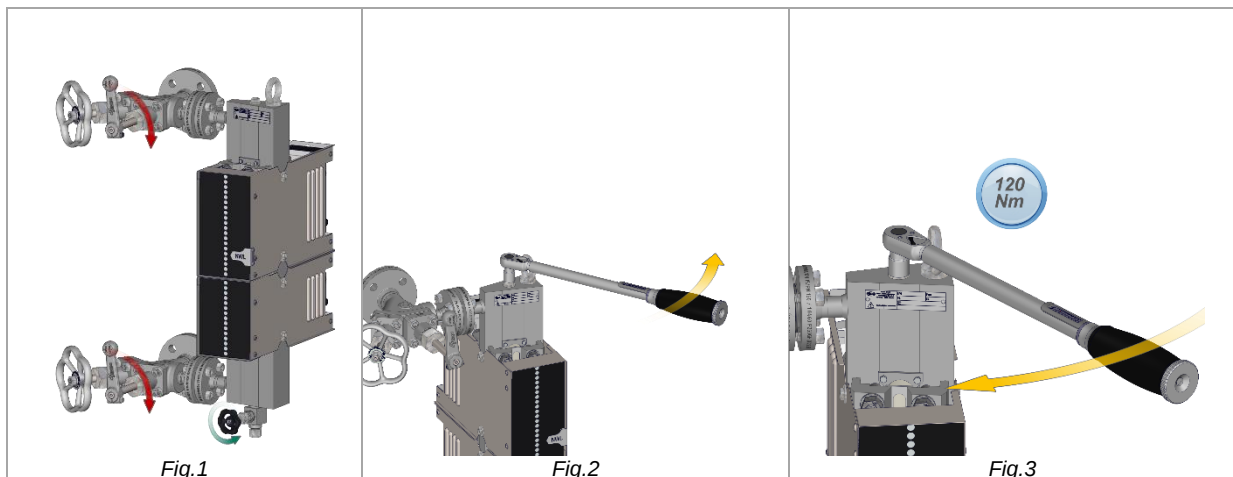


Figure 1

- Close the shutoff valves (pos. 12, 13).
- Open the drain valve (pos. 11).

The gauge is partially emptying.

Figure 2:

- Unscrew the screw plug (pos. 1).

The gauge is emptying completely.

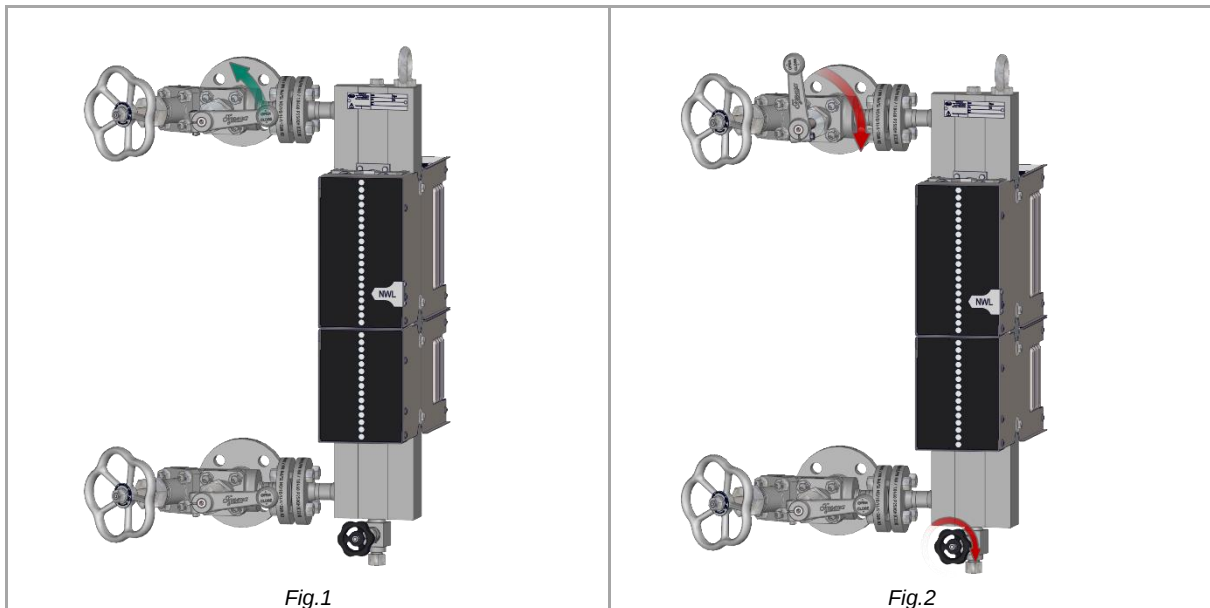
The cleaning has now been completed.

Figure 3:

- Screw in the screw plug (pos. 1) with the specified torque $M_d = 120 \text{ Nm}$.

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

9.3 Blowing through the gauge for further cleaning



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

Figure 1

- Open the upper shutoff valve slowly (*pos. 12*).

The steam flowing through cleans the mica.

Figure 2

- Close the upper shutoff valve (*pos. 12*)
- Close the drain valve (*pos.11*).

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

9.4 Cleaning the mica shields

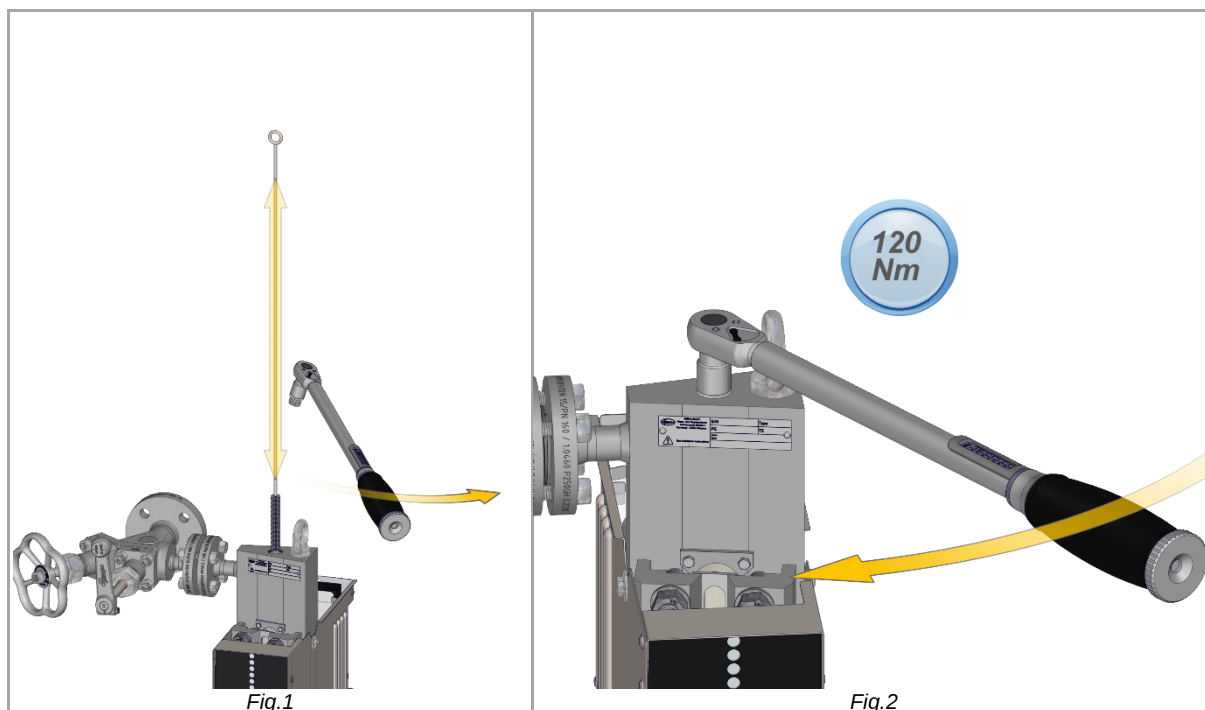


Figure 1

- The gauge must be depressurised (*chap.9.2*)
 - Unscrew the screw plug (*pos. 1*).
 - Clean glasses and channel in the display body with a round brush (*Article number 40-00775*).

Figure 2

- Screw in the screw plug (*pos.1*) with torque **Md=120Nm**.



TIP

If this cleaning is not sufficient, a new glass (*pos. 5*) must be installed. (*For spare parts packages and item numbers, see chap.11.1*)

9.5 Changing the glass and mica

NOTE

Property damage caused by damaged components

Components that appear to be intact can be damaged and lead to damage to the gauge when reinstalled or reused.

- After loosening the cover rails, install completely new seals.
- Create optimal operating conditions for the durability of the mica and seals.

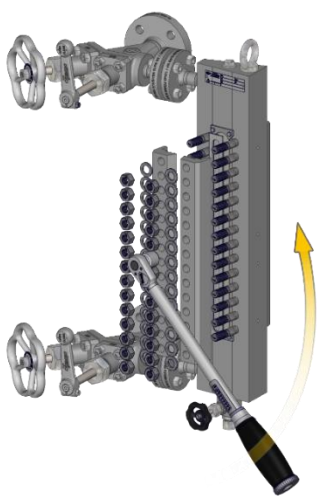


Fig.1

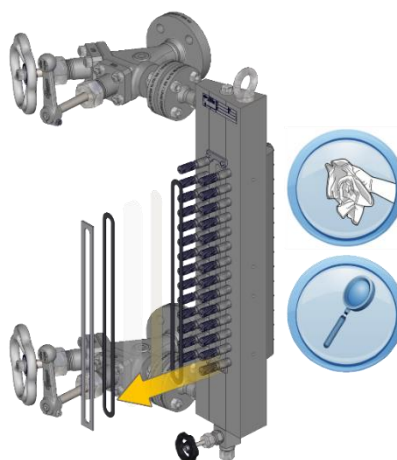


Fig.2

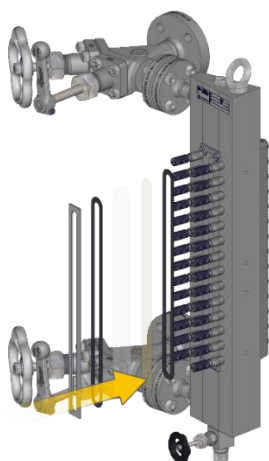


Fig.3

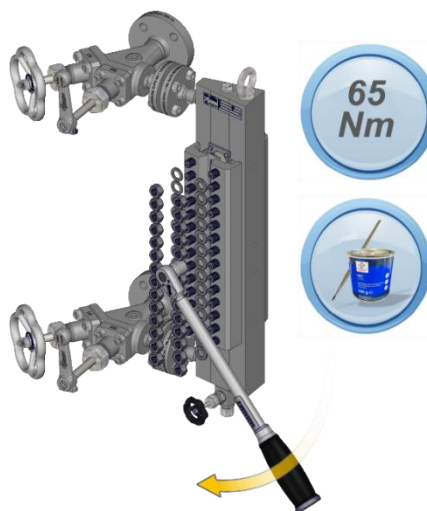


Fig.4

The lighting system must be dismantled for the following work. (chap.12). The work must be carried out on both sides of the gauge.

Figure 1:

- The gauge must be depressurised (chap.9.2)
 - Loosen nuts (pos. 8.2) from cover screws (pos. 8.1) and remove with washers (pos. 8.3).
 - Remove the cover rail (pos. 7).

Figure 2:

- Remove the pressure plate (pos. 3), seal (pos. 4), glass (pos. 5), mica discs (pos. 6) and other seal (pos. 4).
- Clean the sealing surfaces and check for damage.

Figure 3:

- Place the new seal (pos. 4), mica (pos. 6), glass (pos. 5), other seal (pos. 4) and pressure plate (pos. 3) on the indicator body (pos. 10) between the retaining plates and hold firmly.



NOTE

Leakages due to incorrect installation

The incorrect alignment of certain components leads to leaks in the gauge.

- Install the mica with the side marked "water side" facing the medium.
- Fit the glasses so that the marking is legible from outside.
- Install the seal with the rounded side facing the glass.

Figure 4:

- Slide the cover rail (pos. 7) onto the cover screws (pos. 8.1) .
- Grease the cover screws (pos. 8.1) with a suitable lubricant (e.g. *Fuchs Lubritech PBC 1574*) and screw on the hexagon nuts (pos. 8.2) with washer (pos. 8.3) .
- Tighten the hexagon nuts (pos. 8.2) in the prescribed sequence in the prescribed steps to the tightening torque **Md_{max} =65Nm**.

Subsequently, the gauge can be put back into operation. (chap.8)

10 Case of damage

Fault	Possible cause	Remediation
Leakage between the seal and the display body	Wear and tear	Tighten cover screws (<i>chap.10.1</i>)
Leakage at flange connection	Wear, stresses	Tighten the flange connection / replace the seal (<i>chap.10.2</i>)
Leakage at screw plug	Wear and tear	Tighten the screw, replace the seal (<i>chap. 10.3</i>)
Water level not visible	Deposits on the mica	Clean gauge (<i>chap.9.2</i>).
Water level not visible after cleaning	Heavy deposits on the mica	Change the mica (<i>chap.9.5</i>).

10.1 Leakage on the glass holder between the body and the graphite gasket

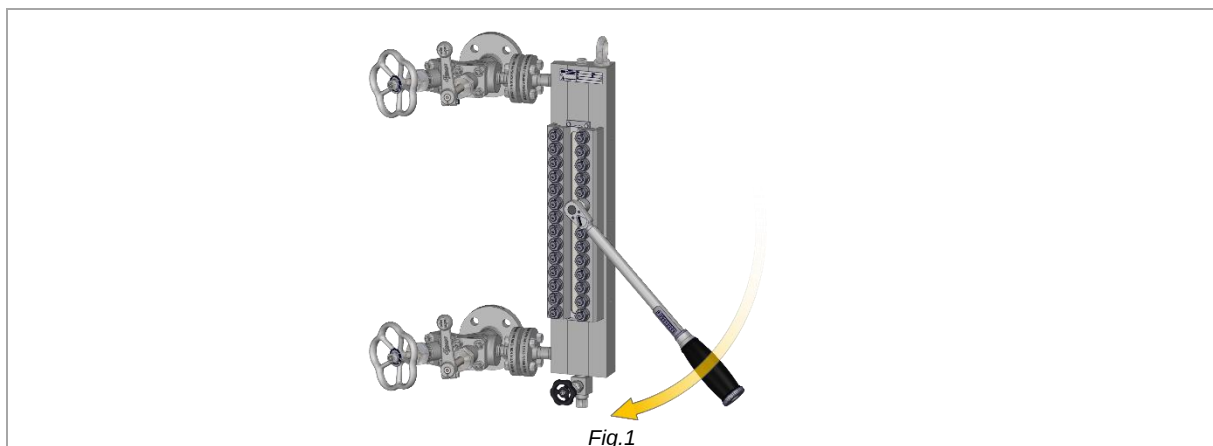


Fig.1

- The gauge must be depressurised (*chap.9.2*)
 - Dismantling the lighting equipment (*chap. 12.1*)

Figure 1:

- Tighten the hexagon nuts (*pos. 8.2*) on the cover screws (*pos. 8.1*) in the described sequence in several steps to the tightening torque $M_{d_{max}}$. (*chap. 8.1*)
- Refit the lighting device (*chap. 7.3*)

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



TIP

If the leakage does not stop after the work, the seal and possibly the glass must be replaced. (*Chap. 9.5*)

10.2 Leakage at flange connection

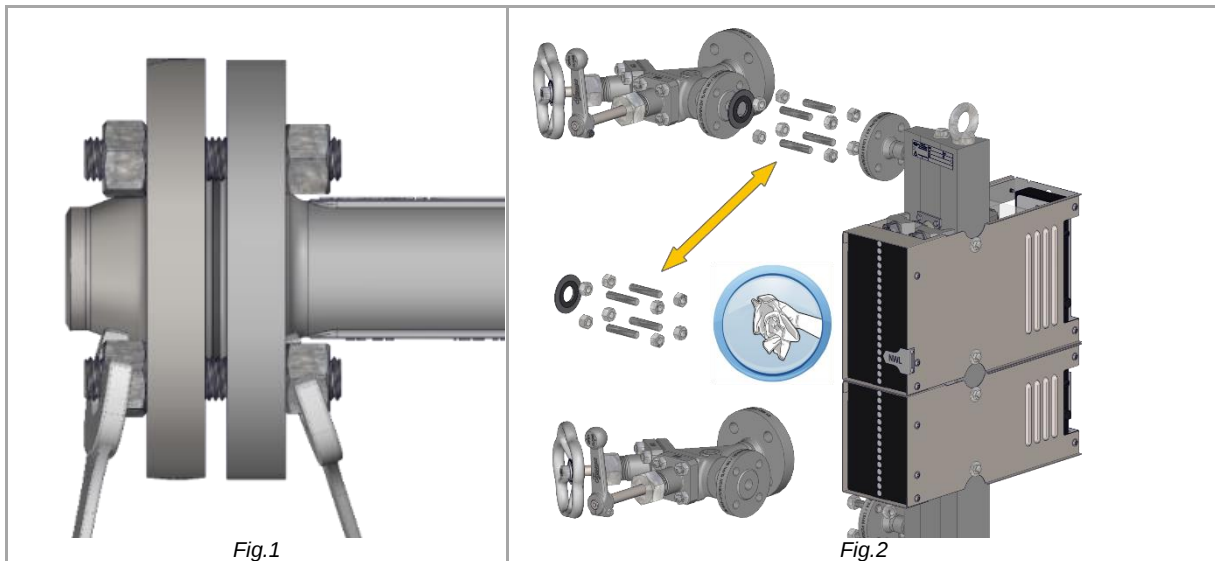


Figure 1:

- Install the flange connection between the gauge and the boiler/pressure vessel according to the applicable standard and torque.

If there is no improvement:

- Dismantling the display body (*chap.12.2*)

Figure 2:

- Clean the sealing surfaces and check for damage.
- Replace SMD package for connecting the flanges

Reconnect the indicator body to the valves. (chap. 7.1)

10.3 Leakage at screw plug

These working instructions apply to both the G $\frac{1}{2}$ " screw plug and the G $\frac{1}{4}$ " screw plug, which are screwed into the connection piece on offset versions of the gauges.

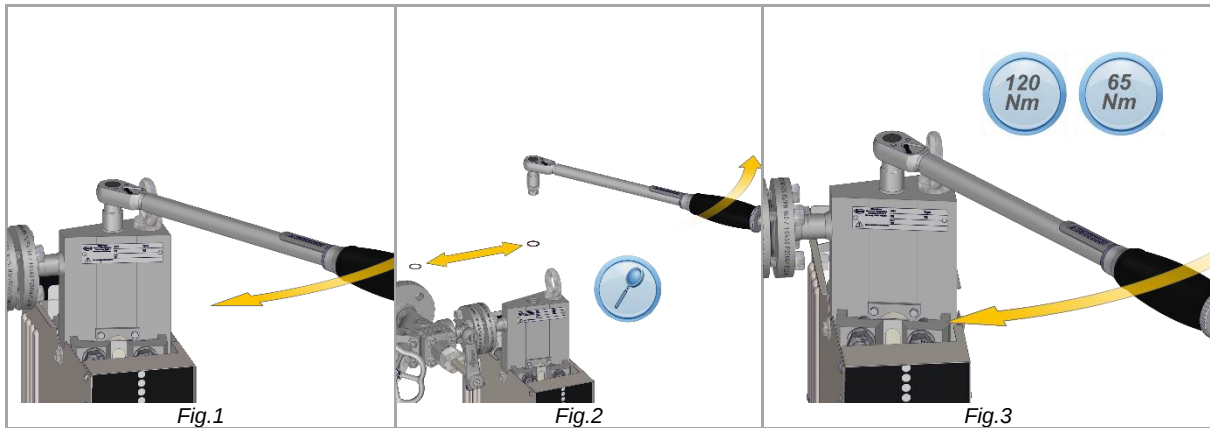


Figure 1:

- Tighten the torque of the screw plug (*pos. 1*)

Figure 2:

If there is no improvement:

- Unscrew the screw plug (*pos.1*).
- Replace seal (*pos. 2*).
- Check the sealing surface for contamination and damage.

Figure 3:

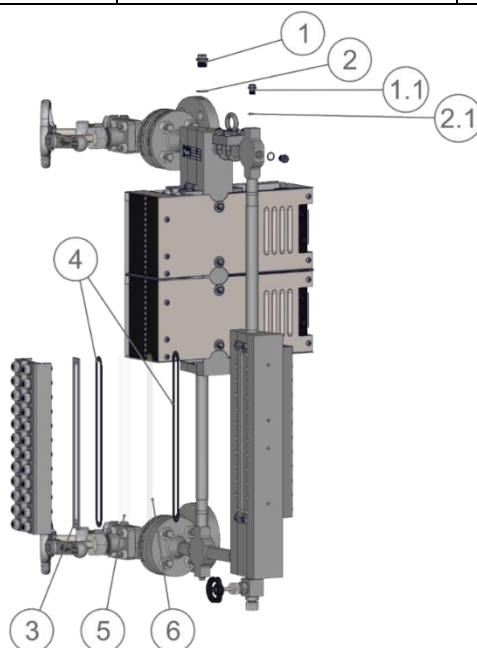
- Screw in the screw plug (*pos. 1*) with the specified torque.

Tightening torque Md_{max} [Nm]	
G 1/2"	G 1/4"
120	65

11 Spare parts and technical accessories

11.1 Spare parts

pos.	Designation	Size	Item no.	Quantity
1	Screw plug	G 1/2"	40-10481	1
2	Sealing ring	Ø21 x Ø26 x 1.5mm	40-00099	1
1.1	Screw plug	G 1/4"	40-03794	2
2.1	Sealing ring	Ø13.5 x Ø19 x 1.5mm	40-00114	2
3	Pressure plate	5	40-00425	n x 2
		6	40-00426	
		7	40-00427	
		8	40-00428	
		9	40-00429	
		10	40-00430	
4,5,6	Spare parts package	11	-	n x 1
		5	15-13067	
		6	15-13068	
		7	15-13069	
		8	15-13070	
		9	15-13071	
n.d.	Spare parts package SMD (flange connection)	10	15-13072	2
		11	15-13073	
		PN 40	15-13410	
		PN 160	15-18923	
		PN 250	15-18924	
		PN 320	15-18924	
		Class 300	15-18925	
		Class 600	15-13758	
		Class 1500	15-16130	
		Class 2500	15-17439	



11.2 Accessories

Designation	Label	Item no.
Water level mark	HHWL	25-12827
	HWL	25-12826
	NWL	25-12825
	LWL	25-12824
	LLWL	25-12823

Two screws are included for fixing each water level mark.



Water level mark LWL



NOTE

Property damage caused by incorrect spare parts

Replaced spare parts that do not correspond to the characteristics of the original spare parts may cause damage to the gauge.

- Only use original parts from Igema GmbH for replacement.

12 Decommissioning and disposal

12.1 Dismantling the lighting system

Dismantling the lighting system is carried out in reverse order to installation. (Chap. 7.3)

12.2 Dismantling the display body

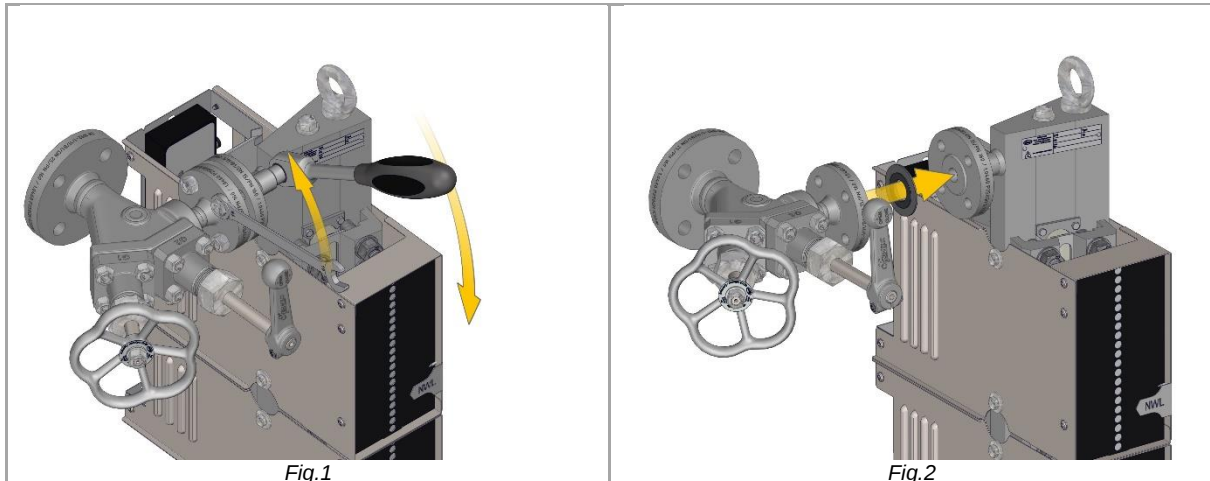


Figure 1

- The gauge must be depressurised (*chap.9.2*)
- Loosen the hexagon nuts (*pos. 9.2*) on the flange connection and remove the threaded bolt (*pos. 9.1*) together with the nuts (*pos. 9.2*).

The display body hangs freely after this step and must be secured against falling.



NOTE

Property damage due to impacts

When handling the gauge, it can be damaged by impacts.

- Secure the body against falling.

Figure 2

- Remove the display body from the flanges.
- Secure the sealing ring (*pos. 9.3*) between the flanges of the valves and the body against loss.

12.3 Disposal

**ENVIRONMENT****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.

Risk 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.

**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 +49 2501 92424-0 immediately.



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