

Top-mounted level indicator, Typ UTN

EN



UTN-C

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Prior to starting any work, read the operating instructions!
Keep for later use!

Vor Beginn aller Arbeiten Betriebsanleitung lesen!
Zum späteren Gebrauch aufbewahren!

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1. General information

- The top-mounted level indicator described in the operating instructions are designed and manufactured in accordance with the current state-of-the-art. During production, all components are subject to strict quality and environmental criteria. Our management systems are certified in accordance with ISO 9001.
- These operating instructions provide information on how to use the unit. Compliance with all specified safety instructions and work instructions are a prerequisite for working safely.
- Compliance with the local applicable accident prevention regulations and general safety regulations for the area of use of the unit is required.
- The operating instructions are a component of the product and must be kept in the immediate vicinity of the unit where they are accessible to the technicians at all times. Pass on the operating instructions to subsequent users or owners of the unit.
- The technicians must read and understand the operating instructions prior to starting any work.
- The general terms and conditions from the sales documents apply.
- Technical changes reserved.
- Additional information:
 - Internet address: www.ksr-kuebler.com or www.wika.com

2. Design and function

2.1 Functional description

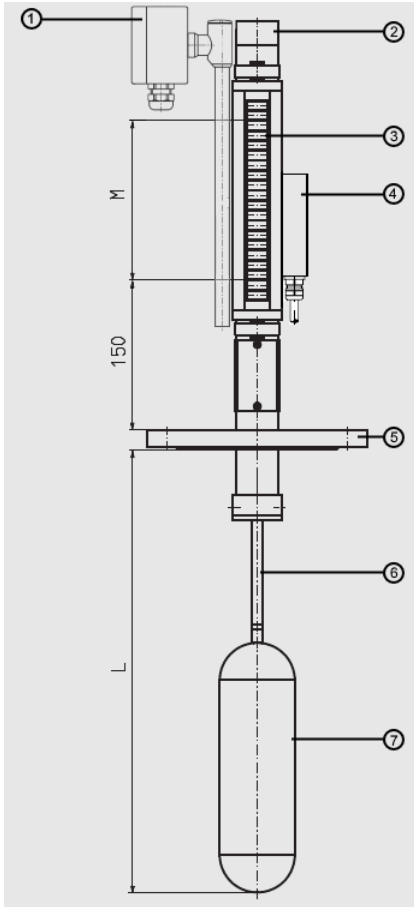


Figure 1: UTN-C with cylindrical float

M = Measuring range

L = Total length (float length + Measuring range + 50mm)

1. Level sensor
2. Measuring chamber
3. Magnetic display
4. Magnetic switch
5. Mounting flange
6. Guide rod
7. Float

A float (7) connected to a guide rod (6) changes its height in proportion to the filling level of the tank. At the end of the guide rod is a built in permanent magnet. The magnetic field actuates magnetic display (3) and switches (4) or level sensors (1) attached to the outside of the indicator tube (2). Also measuring with guided radar is possible.

These options are factory mounted to customer specifications.

The basic configuration is shown in Fig. 1. Customised versions will have been implemented as ordered.

2.2 Scope of delivery

Compare the contents of the delivery with the delivery certificate.

3. Safety

3.1 Symbols



DANGER!

... indicates an immediately hazardous situation which might result in death or severe injuries if it is not avoided.



WARNING!

... indicates an potentially hazardous situation which might result in death or severe injuries if it is not avoided.



CAUTION!

... indicates an potentially hazardous situation which might result in light or minor injuries or property or environmental damages if it is not avoided.



INFORMATION

... highlights useful tips and recommendations and information for efficient and fault-free operation.



Installation, electrotechnical expertise!

For the installation particular electrotechnical expertise is required.



Installation, mechanical expertise!

For the installation particular mechanical expertise is required.



Information for Ex equipment

... highlights information relevant and/or required for use in hazardous area

3.2 Proper intended use

The Top-mounted level gauge is solely intended for monitoring the liquid level of fluids. The area of use is based on the technical performance limits and materials.

- The UTN indicates the filling level of the tank, which may be arranged underground or above ground
- Monitoring the level of viscous or contaminated media.
- Mounted above the tank to be monitored.
- Compliance with the usage conditions specified in the operating instructions is required.
- Do not operate the unit in direct proximity of ferromagnetic environments (distance min. 50mm).
- Do not operate the unit in direct proximity of strong electromagnetic fields or in direct proximity of facilities that can be impacted by magnetic fields (distance min. 1m).
- The Top-mounted level indicator may not be subjected to strong mechanical stresses (impact, bending, vibrations). The unit is exclusively designed and constructed for the intended use described here and may only be used accordingly.
- The Top-mounted level indicator cannot be adjusted.
- These instructions are intended for technicians who execute the installation and calibration.
- Compliance with the relevant safety regulations for the use is required.
- Compliance with the technical specifications in these operating instructions is required. Improper use or operation of the unit outside the technical specifications requires immediate shut-down and inspection by an authorized WIKA service technician.

Claims of any kind due to improper use are excluded.



DANGER!

When working on containers, there is a risk of poisoning or suffocation. Work may only be performed using suitable personal safety equipment (e.g. respiratory protection, protective clothing, etc.).

3.3 Improper use

Any use that exceeds the technical performance thresholds or that is incompatible with the materials is considered improper use.



WARNING!

Injury due to improper use

Improper use of the unit can result in hazardous situations and injuries.

- Do not modify the unit without authorization
- Do not use the unit in potentially explosive areas.

Any use beyond the proper intended use or any other use is considered improper use.

Do not use this unit in safety or emergency off equipment.

3.4 Responsibility of the operator

The unit is used in the industrial sector. The operator is therefore subject to statutory obligations with respect to occupational safety.

Compliance with the safety instructions in these operating instructions and the applicable safety, accident prevention and environmental protection regulations for the area of use of the unit is required.

In order to safely work on the unit, the operator must ensure

- the operating personnel is regularly trained in all matters pertaining to occupational safety, first aid and environmental conservation and is familiar with the operating instructions and, in particular, the safety instructions contained therein
- the unit is suitable for the application in accordance with the proper intended use (check for improper use).

After check, improper use is excluded.

3.5 Personnel qualification



WARNING!

Risk of injury due to insufficient qualifications

Improper use can result in significant personal injury and property damages.

- The activities described in these operating instructions may only be performed by specialist technicians with the following qualifications.

Specialist personnel

The specialist personnel authorized by the operator is capable of executing the described work and autonomously detect potential hazards due their technical training, knowledge of measuring and control technology and their experience and knowledge of country-specific regulations, applicable standards and guidelines.

3.6 Personal safety equipment

The personal safety equipment serves to protect the technicians against hazards that might impact the safety or health while working. When executing the various tasks on and with the unit, the technicians must wear personal safety equipment.

Comply with warning signs posted in the work area regarding personal safety equipment!

The required personal safety equipment must be provided by the operator.

4. Transport, packaging and storage

4.1 Transport

Check Top-mounted level gauge for potential transport damage. Immediately report obvious damage.



CAUTION!

Damage due to improper transport

Improper transport can result in significant property damages.

- When unloading packages upon delivery and for internal facility transport, proceed carefully and comply with the symbols on the packaging.
- For internal facility transport, follow the instructions in Chapter 4.2 “Packaging and storage”

4.2 Transport and storage

Remove packaging immediately prior to assembly. Keep the packaging as it provides optimum protection during transport (e.g. changing installation location, repair shipment).

5. Commissioning, operation

Observe all instructions given on the shipment packaging for removing the transportation safety devices.

Comply with all of the instructions on the packaging pertaining to removing the transport locks.

Remove the Top-mounted level indicator from the packaging carefully!

When unpacking, check all parts for external damage.

Mounting preparation

- Detach the float attached to the bypass level indicator from the measuring chamber and remove the transport sleeve.
- Remove the protection caps of the process connections.
- Ensure that the sealing faces of the vessel or top-mounted level indicator are clean and do not show any mechanical damage.

Initialisation of magnetic display and magnetic switch

Slowly move the enclosed float from bottom to top on the magnetic display and then back down again.

Align additionally mounted magnetic switches on the basis of the same principle.

5.2 Mounting

- Observe the torque values of screws specified in pipefitting work.
- Install the bypass level indicator without tension.
- In the selection of the mounting material (sealings, screws, washers and nuts), take the process conditions into account.
- The suitability of the sealing must be specified with regard to the medium and its vapours.

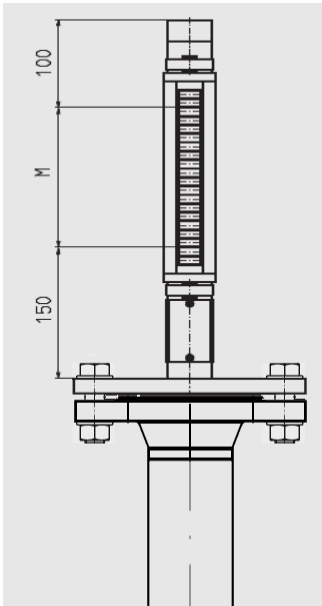


Figure 2: Mounting UTN

In addition, ensure it has corresponding corrosion resistance. The top-mounted level gauge is mounted in a vertical position above the vessel to be monitored using the process connections provided. Seals, screws, washers and nuts suitable for the process connection must be used for mounting.

Installing the float

1. Clean the float of anything stuck on it in the area of the float magnet system.
2. Mount the bypass level indicator on the tank to be monitored using the mounting flange (5) provided.
3. Please use gaskets, screws, washers and nuts suitable for the flange when mounting. Please ensure adequate corrosion resistance when selecting the gasket.

Attachment of accessories to the bypass level indicator

For the mounting of accessories (e.g. BLR or BLM sensors or BGU switches), the relevant maximum values for the instrument must be considered. The applicable laws and directives for the assembly and the planned purpose of application must be observed.



Always observe the mounting and operating instructions of accessories before putting them into operation.

6. Faults



The most frequent root causes and required countermeasures are listed in the following table.

Störungen	Ursachen	Maßnahmen
Bypass level indicator cannot be fitted at the planned place on the vessel	The thread sizes or flange sizes for the bypass level indicator do not match	Modification of the vessel Return to the factory
	Thread on the screwed coupling on the vessel is faulty	Rework the thread or replace the screwed coupling
	Mounting thread on the bypass level indicator is faulty	Return to the factory



CAUTION!

Bodily injuries, property and environmental damages

If faults cannot be rectified with the help of the listed measures, immediately shut the unit off.

- Ensure the pressure is switched off and secure the unit against unintentionally being switched on.
- Contact the manufacturer.
- If return shipment is necessary, follow the instructions in Chapter 8.2 “Return Shipment”.

7. Maintenance and cleaning

7.1 Maintenance

Top-mounted level indicator Typ UTN do not require maintenance if operated properly.

The indicator should be repaired by the manufacturer or by persons authorized by the manufacturer only. You should observe the international and national regulations regarding the implementation of the repair. Please use KSR-Kuebler spare parts only, for otherwise the conformity with the approval of the type of protection cannot be guaranteed.



DANGER!

When working on containers, there is a risk of poisoning or suffocation. Work may only be performed using suitable personal safety equipment (e.g. respiratory protection, protective clothing, etc.).



NOTICE!

Fault-free functionality of the Top-mounted level indicator can only be guaranteed if original KSR Kuebler accessories and spare parts are used.

7.2 Cleaning



CAUTION!

Bodily injuries, property and environmental damages

Improper cleaning may result in bodily injuries, property and environmental damages. Measurement material residues in the disassembled unit can result in risks to persons, the environment and equipment.

- Flush and clean the disassembled unit.
 - Implement sufficient precautionary measures.
1. Prior to cleaning the unit, properly disconnect it from the process and the power supply.
 2. Carefully clean the unit with a damp cloth.
 3. Do not let electrical connections come into contact with moisture!



CAUTION!

Property damage

Improper cleaning will damage the unit!

- Do not use any aggressive cleaning agents.
- Do not use any hard or sharp objects for cleaning.

8. Dismounting, return and disposal



WARNING!

Bodily injuries, property and environmental damages due to measuring material residues

Measuring material residues in a disassembled unit can result in risks to persons, the environment and equipment.

- Wear the necessary protective equipment
- Flush and clean the disassembled unit in order to protect persons and the environment from risks posed by adhering measuring material residues.

8.1 Disassembly

Only disassemble the measuring unit when it has been disconnected from the pressure and voltage!

If necessary, the container must be relaxed.

8.2 Return shipment

Use the original packaging or suitable transport packing for the return shipment of the unit.

Instructions for return shipment can be found in the “Service” section on our local website.

8.3 Disposal

Incorrect disposal can result in risks to the environment.

Dispose of unit components and packaging materials in an environmentally compatible manner in accordance with the country-specific waste management and disposal regulations.

9. Specifications

Top-mounted level gauge	Material	Max. pressure in bar	Max. temperature in °C
Compact version, Model UTN-C	Stainless steel 1.4571 (316 Ti)	40	-120...+150
	Stainless steel 1.4401/1.4404 (316/316L)	40	-120...+150
Standard version, Model UTN-S	Stainless steel 1.4571 (316Ti)	40	-120...+300
	Stainless steel 1.4404 (316L)	40	-196...+300
	Stainless steel 1.4401/1.4404 (316/316L)	40	-196...+300
High pressure version, Typ UTN-H	Stainless steel 1.4571 (316Ti)	100	-120...+300
	Stainless steel 1.4404 (316L)	100	-196...+300
	Stainless steel 1.4401/1.4404 (316/316L)	100	-196...+300

Detailed information about Top-mounted level gauge can be found separately in the following data sheets:

- Top-mounted level gauge; Type UTN; see data sheet UTN

9.3 Type code

Field-No.	Code	Description
Design		
1	C	Compact
	S	Standard
	H	High pressure
Pressure equipment category according to PED		
2	0	Good engineering practice or PED inapplicable
	1	category 1
	2	category 2
	3	category 3
	4	category 4
Approval		
		without
	C	ATEX Ex c
	G	DNV•GL

Type code: **UTN** (1) (2) (3)

Zastoupení pro Českou a Slovenskou Republiku



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