

3. Troubleshooting

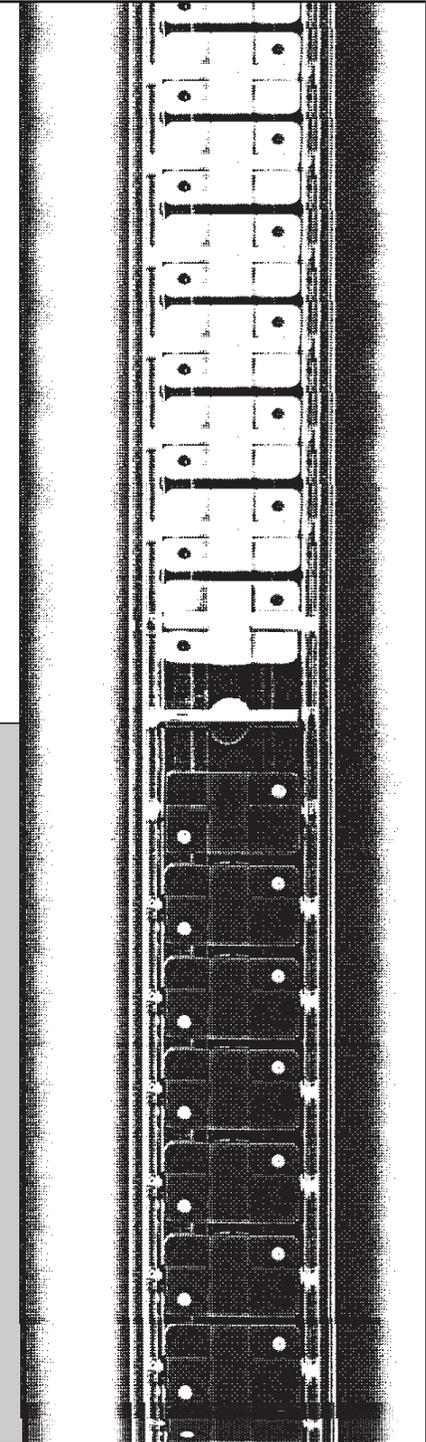
Problem	Possible reason	Remedy
No visual indication in spite of a sufficiently high liquid level in the vessel	<ul style="list-style-type: none"> - Process valves are shut off - Sticking of the float in the standpipe - Float leakage. Float has been filled up and drowned - Float is attracted by iron parts close to the level indicator. 	<ul style="list-style-type: none"> - Open the process valves - Open service flanges and thoroughly clean standpipe and the float. - Float has to be replaced. - Remove all iron parts
Failure of magnet switches in spite of visual indication	<ul style="list-style-type: none"> - Switch wired incorrectly - Switch in wrong position - Switch failure due to excessive temperature or electrical load 	<ul style="list-style-type: none"> - Compare wiring diagram with switch contact arrangement - Correct switch position cable up or down and opposite indication rail - Replace switch. Check actual operating temperature and/or reduce switch load i.e. with an auxiliary relay.
Magnet switch does close but not	<ul style="list-style-type: none"> - Hysteresis between on and off position. The bar magnet cannot reach the 2nd switching point. 	<ul style="list-style-type: none"> - Raise or Lower the switch in axial direction by 5 to 10 mm so that the floats magnet can reach the 2nd switching point.



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Operation- and Maintenance Instruction
WEKA Magnetic Top of Tank Level Indicators
Types 23013



1. Operating principle

The magnetic level indicator is mounted as shown on tank 1). The float 2) which monitors the level, is guided in its center by the guide rod 4A).

The indication of the level height is realized on the upper part 7) (range L1) by the bar magnet 3B) (fitted in the magnet carrier 3), which is connected by means of a connection rod 4) with the float 2).

The length of the connection rod 4) is adapted at the existing measures (range L and L1) in such a way, that, if the float is on the lowest point (sitting at the float limitation) the magnet position is on the standard position or on the specially requested positions.

The magnet carrier 3) is fitted on the connection rod in such a way that the north pole of the bar magnet 3B) is directed to the indication rail. This connection cannot be changed, i.e. no self-aligning of the float at changing of the position of the indication rail is possible.

This is given by the design rod 4A), which is slotted at the movement range of the float and in which the fixation part for the connection rod is (guided) running.

The requested direction of the indicating rail therefore must already be considered at mounting on the tank.

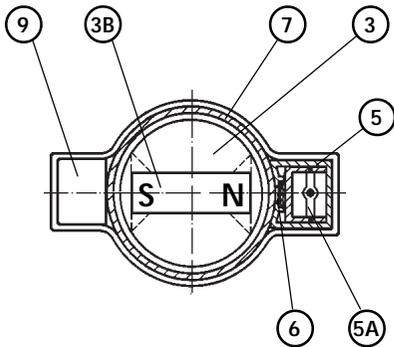
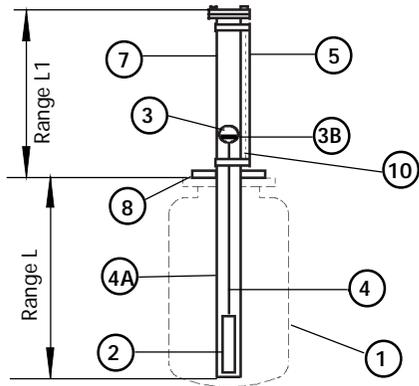
The indication flaps 5A) themselves are interlocked by individual magnets in each of the indication flaps which ensures a stable position of the flaps even under the most severe operation conditions, i.e. vibrations or fast changes in the liquid level.

While being attracted by the guide tape, the magnet field of the bar magnet overrides the "magnetic chain" of the magnets in the indicator flaps 5A), thus turning the flaps by 180° and thereby indicating the actual liquid level inside the vessel.

On the opposite, within $\pm 45^\circ$ of the indication rail, the south pole of the magnet is being used to activate accessories 9) such as Reed-switches or -transmitters for high-, low alarm functions or quasi analog signal output.

For spare part orders please always note the manufacturing number, type of indicator as well as the operating conditions as shown on the nameplate of the indicator.

With this information at hand your local WEKA representative will be able to serve you with your specific spare part requirements.



- 1 Tank
- 2 Float
- 3 Magnet carrier
- 3B Bar magnet
- 4 Connection Rod
- 4A Guide Rod
- 5 Indication Rail
- 5A Indication Flaps
- 6 Magnetic Guide Tape
- 7 Standpipe upper part
- 8 Tank flange
- 9 Accessories (Reed-switches etc.)
- 10 Nameplate

2. Installation

A) Preparation

For transport purposes the float 2) of your WEKA Level Indicator has been secured with the limitation screw. Prior to the installation this screw has to be removed and adjusted for limitation of the float. Place the level indicator in a horizontal position on a flat surface for this procedure.

Handle the float carefully, do not drop !

B. Installation, mechanical

Make sure that the mating flanges of the vessel onto which the level indicator will be installed are completely flush.

The level indicators must be installed with the nameplate 13) at the indicator.

If, for any reason the float has to be removed from the standpipe, i.e. for cleaning do not remove the float unless:

- you have made sure that the system is no longer under pressure.
- the level indicator has cooled down to an ambient temperature.

C. Installation, electrical

The maximum switch rating of WEKA magnetic switches is indicated on the switch label. This rating may, under no circumstances be exceeded.

The switches are preferably installed opposite the indication rail. In cases of very short switching distances between two switches, the switches can be installed next to each other. In such a case both switches have to be within an angle of $\pm 45^\circ$ opposite the indication rail.

In case you decide to change the indication rails position, do not forget to reposition the switches too.

The operating principle of the WEKA switches is based on the the magnetic field of the bar magnet. In no circumstances should iron parts such as screws, mounting brackets, bolts etc. be anywhere near or attached to the magnetic level indicator.

A deviation of the magnet field because of iron parts being too close to the level indicator will influence the proper function of the level indication as well as accessories.

IMPORTANT: Test- and operating pressure as well as operating temperature as shown on the nameplate 10) of the level indicator may not be exceeded.