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Level Gauge / Magnetic Flap Indicator MKL
Mounting and Start-Up Instructions

Safety Instructions

The precondition for flawless, safe operation of the magnetic flap indicator is appropriate transport, storage, assembly, professional installation and start-up, proper use and maintenance. These activities may only be performed by persons with the necessary expertise and appropriate qualifications.

For construction and operation in an ex-zone, the attached certificate **EX9A 043146 0002 Rev. 00** must be observed.

If information contained in these instructions should prove to be inadequate in any way, please contact the manufacturer.

Function

The level gauge is attached to the side of the tank/container. The standpipe fills to the same level as the medium in the container. A float that is situated in the standpipe activates the magnetic display fins, which rotate by 180°. The red colour of the fins shows the gauge level of the medium.

Use

The use of the level gauge is suitable for media, which do not tend to become encrusted, sticky or crystallised. These must not contain any magnetic/magnetisable particles. Only use the supplied float.

Assembly

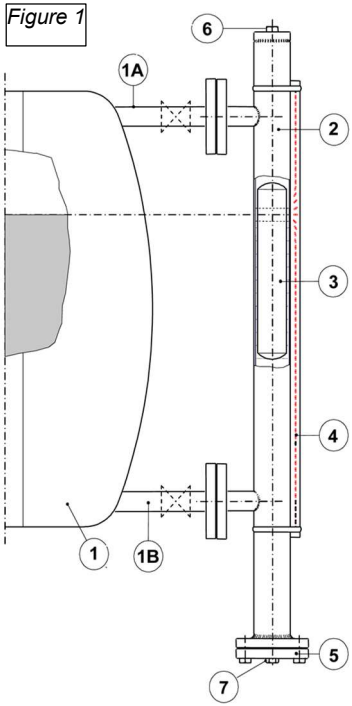
Check the connection flange of the container and the display for accuracy of fit. Ensure overpressure protection and equipotential bonding. The "TOP" marking on the float must be facing upwards during assembly. Remove the float for pressure-testing the system. Use separate operating instructions for the assembly and connection of optional switching contacts (BK-380, Ex-BK).

Assembly procedure

Step 1: Remove the blind flange (Figure 1-5) of the standpipe (Figure 1-2) and insert the float (Figure 1-3). Attach blind flange/gasket.

Step 2: Attach level gauge with appropriate gasket (operating temperature/resistance) to the container flange/thread. Screws and nuts are required in steel group A2 and A4 with strength class 70. (Observe standards: EN 1092-1 (flange) / DIN EN 1514-1 (gasket) / DIN ISO 3506 (screws+nuts).

Figure 1



1 Container / tank
1 A Connection upwards
1 B Connection downwards
2 Standpipe
3 Float
4 Indicator rail / fins
5 Blind flange
6 Vent plugs
7 Drain plugs

Start-up

Close vent plugs (Figure 1-6) and drain plugs (Figure 1-7) tightly. Open top intake valve on the top connector (Figure 1-1A) on the container side. Open bottom valve on bottom connector (Figure 1-1B) slowly (so that the float is not exposed to any violent pressure surges). At high operating temperatures, take safety measures (e.g. protective cage).

Use in explosive atmospheres

As already stated, the certificate **EX9A 043146 0002 Rev. 00** must be observed. In order to rule out potential ignition sources during proper use, the following measures must be taken:

- The level gauge must be installed with electrostatic conduction.

- To prevent sparks from an optional metal float, a PTFE part is installed on the blind flange/drain plug. This PTFE part is mandatory and must not be removed.

- Only appropriate, approved (ATEX) signal transmitters may be used.

Maintenance/servicing

Inspect screw fittings and components for condition and sealing on a regular basis. Dirt particles, which may settle in the standpipe can be rinsed out through the drain plugs. In the case of incrustations or similar, bring the MKL to a de-pressurised and normal temperature state, remove the blind flange, carefully remove the float and clean the standpipe mechanically. Check/renew gasket during dismantling/assembly.

Technical data

Standpipe	Material	Operating pressure	Media temperature
MKL 3/5 Ø 60.3x2 mm	Stainless steel 1.4571	max. 16 bar	PTFE gasket max. 150°C / Klingerit gasket max. 200°C
MKL 6	Stainless steel 1.4571	max. 40 bar	PTFE gasket max. 150°C / Klingerit gasket max. 200°C
MKL 7	PVC	max. 6 bar	max. 60°C
MKL 8	PPH	max. 6 bar	max. 90°C
MKL 9	PVDF	max. 6 bar	max. 130°C

Float Ø 52 mm	Material	Operating pressure	Media temperature	Weight	Media density
	Stainless steel	max. 16 bar	max. 200°C	~300g	ϱ ³ 0.70 g/cm³
	Stainless steel	max. 40 bar	max. 200°C	~320g	ϱ ³ 0.75 g/cm³
	Titanium	max. 40 bar	max. 200°C	~180g	ϱ ³ 0.73 g/cm³
	PVC	max. 6 bar	x °C	~331g	ϱ ³ 0.80 g/cm³
	PPH	max. 6 bar	x °C	~283g	ϱ ³ 0.69 g/cm³
	PVDF	max. 6 bar	x °C	~320g	ϱ ³ 0.85 g/cm³

		Material
Blind flange gasket		PTFE or Klingerit
Flange	**MKL 3/5/6**	Stainless steel 1.4571 or C-steel C 22.8
	MKL 7/8/9	Material like standpipe or stainless steel 1.4571

Container connector	Flange or thread DN 15,20,25,32,40,50