



MESSKO® MFLOC 2.0

FLOW INDICATOR –
KEEPS THINGS MOVING.

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MESSKO® MFLOC 2.0 – MONITORS THE TRANSFORMER COOLING CIRCUIT.

Great importance is placed on the operational safety of transformers during energy distribution. The cooling system plays an important role in ensuring operational safety and extending the service life of the transformer.

What counts: Transformer safety

The MESSKO® MFLOC 2.0 flow indicator detects pump failure in a transformer's oil and water cooling circuit immediately and reliably. A specially-designed spoon-shaped paddle made of fiberglass-reinforced plastic is positioned in the cooling circuit as flow resistance to monitor the coolant flow. If the pump is active, the coolant flows against the paddle, and it is pressed reliably against the end stop with both laminar and non-laminar (turbulent) flows (starting at flow rates as low as 0.70 m/s).

The MESSKO® MFLOC 2.0 uses a patented magnetic coupling to translate the movement of the paddle into rotary movement on the indicator. Two securely installed micro-switches (changeover contacts) signal the pump status.

The long service life of a transformer

The MESSKO® MFLOC 2.0 flow indicator has all the usual MESSKO quality features. The cast aluminum housing is extremely robust and weather-resistant. Moreover, an offshore version is optionally available. The water-tightness of the cooling circuit is guaranteed thanks to separation of the sensor and the indicator. This means that if the indicator becomes defective, it can be replaced while the transformer is still in operation.

The MESSKO® MFLOC 2.0 is designed for use at an ambient temperature of -40 °C to +80 °C and at a coolant temperature of -30 °C to +120 °C. The viewing glass, made of laminated safety glass, has an integrated UV filter.

These quality features ensure reliable function and unobscured readability of the indicator over many years.



Additional products

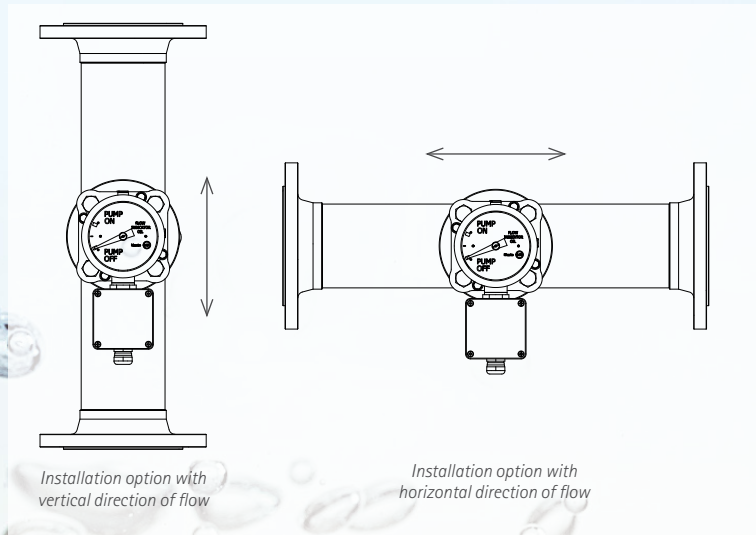


MESSKO® COMPACT
Temperature measurement
system for transformers



MESSKO® MLog®
Transport monitoring

ONE PRODUCT FOR ALL INSTALLATION POSSIBILITIES.



No settings, such as adjustment of paddle size or adjustment for different flow rates, need to be changed when the MESSKO® MFLOC 2.0 flow indicator is being assembled.

The MESSKO® MFLOC 2.0 covers all common pipe diameters and flow directions. This reduces procurement and assembly costs and prevents adjustment errors, increasing the reliability of the entire system.

Excerpt from the technical data

MESSKO® MFLOC 2.0	Technical data
	Specifications / dimensions
Indicator labeling	PUMP ON /PUMP OFF, OIL or WATER (additional labels available upon request)
Ambient temperature	-40 °C to +80 °C
Coolant temperature	-30 °C to +120 °C
Degree of protection	IP 54 and IP 65 (upon request) in accordance with DIN EN 60 529
Pipe diameter	DN100 to DN300; other diameters available upon request
Max. flow rate	2.5 [m/s] / 98.43 [inch/s]
Min. flow rate	0.7 [m/s] / 27.56 [inch/s]
Indicator housing	Ø 100 mm / 3.94"
	Micro-switches
Number of switches	2 changeover contacts, galvanically separated, securely set
Contact load	Max. 10 A / 250 V AC or 4 A / 24 V DC, min. 0.5 mA / 5 V DC (gold switch upon request)
Rated insulation voltage	Min. 0.15 mm ² / max. 2.5 mm ² 2.5 kV AC/1 min., contacts against housing
	Electrical connection
Connection design	Connection box with M20 x 1.5 cable gland

Are you interested in all the
MESSKO® MFLOC 2.0 technical data?
Visit us at www.reinhausen.com/messko-mfloc



MESSKO® MFLOC 2.0 – AN OVERVIEW OF THE HIGHLIGHTS.



Reliable & functional

- ▮ Functions reliably, even with non-laminar (turbulent) flows in a cooling circuit
- ▮ Reliable paddle return after the pump has been shut off
- ▮ Cooling circuit completely watertight thanks to separation of the sensor and the indicator
- ▮ Optimized paddle functionality confirmed by internal and external laboratory tests



Long service life

- ▮ Robust and weather-resistant cast aluminum housing
- ▮ Coating in accordance with the current DIN EN ISO 12944-9:2018-06 standard, available in C4H and CX
- ▮ Long-lasting indicator readability thanks to laminated safety glass with integrated UV filter
- ▮ Paddle is made of fiberglass-reinforced plastic – a proven material in the Reinhausen Group



Quick & easy assembly

- ▮ No adjustment of the paddle size or adjustment for different flow rates required
- ▮ Convenient adjustment to the various flow directions thanks to the indicator, which can be rotated in 90° increments



Possible uses

- ▮ Can be used in oil, water and alternative liquid coolants
- ▮ A single product for the most common pipe diameters
- ▮ For all flow directions
- ▮ For flow rates starting at 0.70 m/s

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