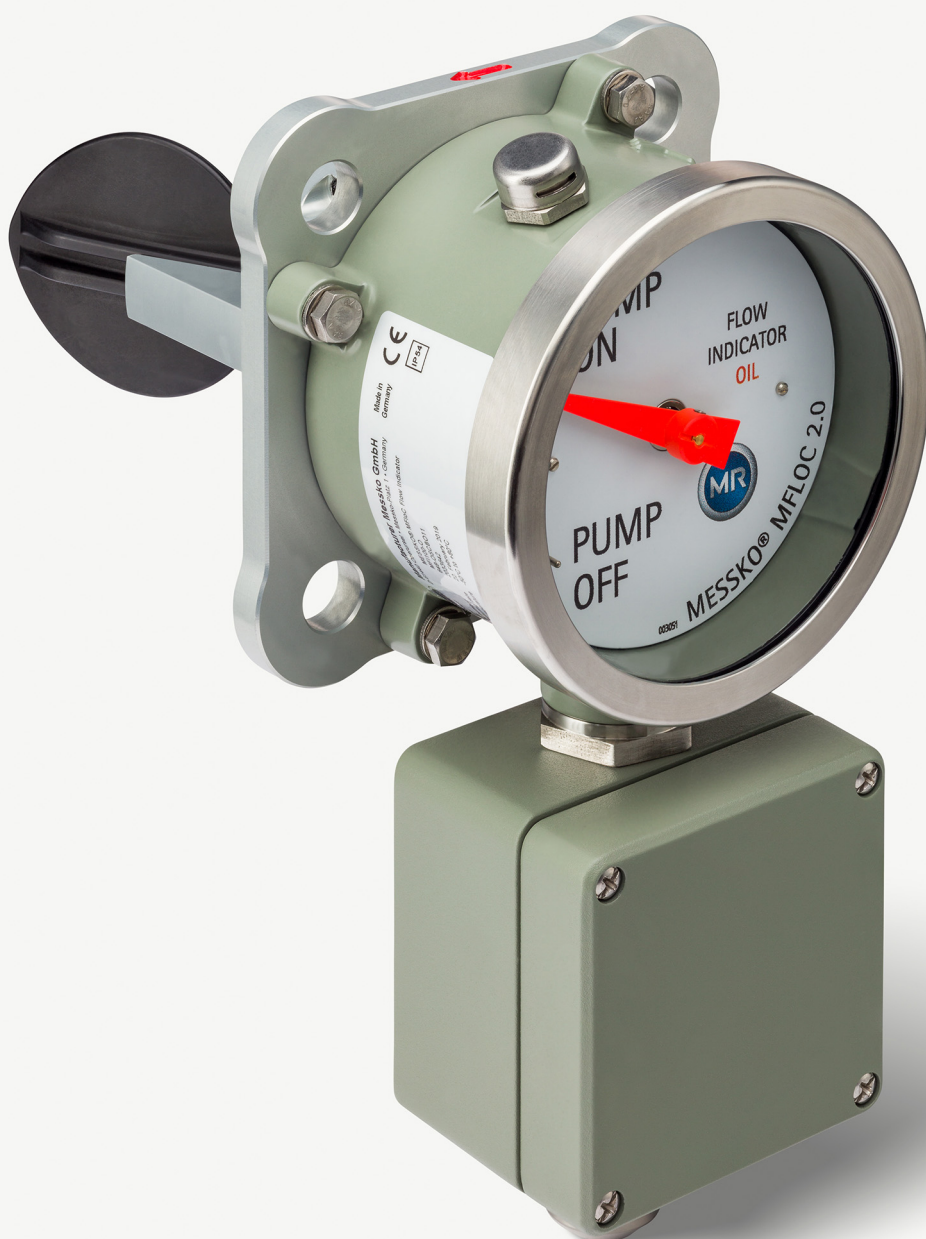


Technical data

MESSKO® MFLOC 2.0. Flow indicator

6667895/03 EN



1 Design/versions

This technical document contains detailed information about the technical properties of the product. To place an order, please use the "Bestellangabenblatt (Inquiry and order specifications)" form, which you will find on our website <http://www.reinhausen.com> below the respective product. Further information is available in the MR Reinhausen customer portal: <https://portal.reinhausen.com>.

The flow indicator consists of a display part and a transmitter part (flange with paddle). Depending on the cooling medium used, the display part is labeled with WATER or OIL (mineral insulating oil, alternative insulating fluids).

The micro-switches installed in the flow indicator are designed as change-over contacts, which you can electrically connect using either a terminal box or an ANSI plug / MIL plug.

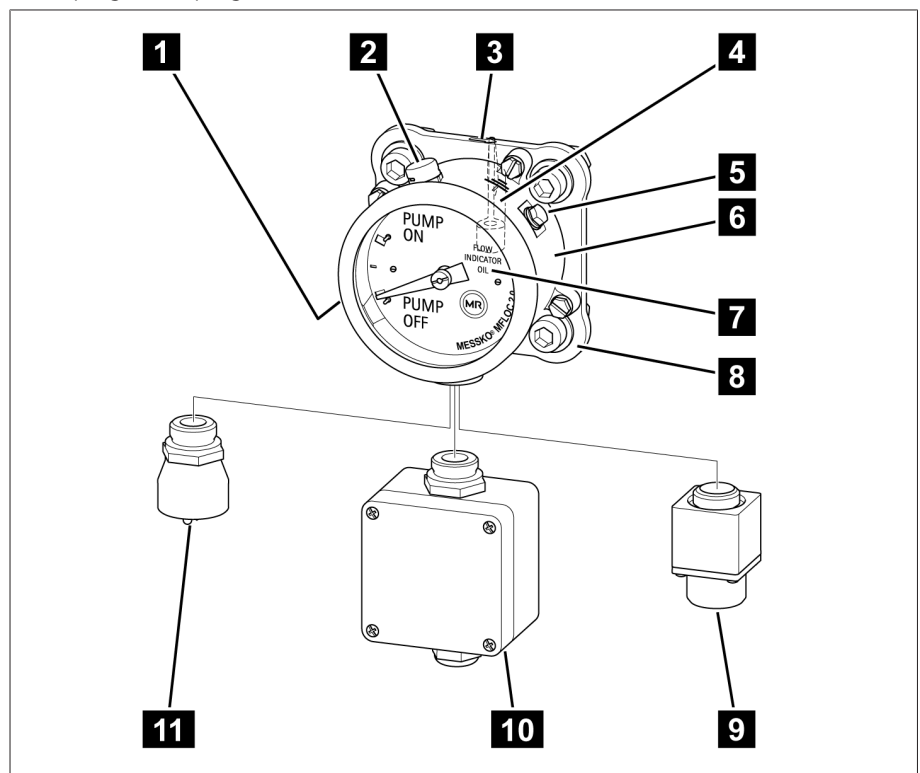


Figure 1: MESSKO® MFLOC 2.0

1	Nameplate	2	Pressure equalization element
3	Marking for mounting position	4	Paddle (on the device rear)
5	Grounding screw	6	Display part
7	Type of cooling medium used	8	Transmitter part
9	MIL plug	10	Terminal box with M20x1.5 or ¾" NPT cable screw connection
11	ANSI plug		

2 Technical data

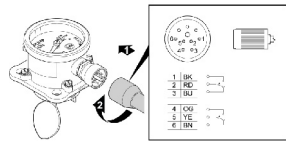
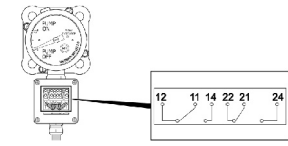
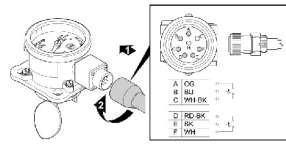
Basic materials	
Housing / terminal box	Aluminum alloy, RAL 7033 or 7038, powder-coated in accordance with DIN EN ISO 12944 part 9, class C4H or CX
Mounting flange	Aluminum alloy
Paddle	Glass fiber-reinforced plastic / polyamide copolymer, 50% glass fiber
Indicator dial	Aluminum, matted, anodized Color: black text on white indicator dial or white text on black indicator dial or yellow text on black indicator dial
Inspection window	Laminated safety glass with UV filter

Specifications	
Setup	Indoors and outdoors, tropic-proof
Operating temperature	-40 °C...+80 °C
Storage temperature	-40 °C...+85 °C
Insulating fluid temperature (or other operating medium, see "Operating medium" table)	-30 °C...+120 °C
Degree of protection	IP54 in accordance with DIN EN 60 529
Weight including terminal box	2 kg
Weight without terminal box	1.5 kg
Nominal diameter of the pipe, flange version	DN100 to DN300
Pressure-tightness	Tested up to 3 bar oil pressure, 75 °C
Max. flow speed	2.5 m/s / 98.43 inch/s
Min. flow speed	0.7 m/s / 27.56 inch/s
Pressure loss	< 0.1 bar
Minimum flow speed for the flow indicator to respond	See table "Minimum flow speed for the flow indicator to respond"
Noise development	No perceptible emission

Flange gasket	
Material	NBR for mineral insulating oil FPM (Viton) for alternative insulating fluids EPDM for water
Material hardness	75 shore

Micro-switches		
Tap-changer type	Tap-changer with standard contacts (silver alloy), tap-changer with gold-plated contacts	
Type of contact	Changeover contact	
Quantity	2	
Switching capacity standard tap-changer in accordance with IEC 60076-22-1	230 V AC	
	Making capacity:	250 VA / $\cos \varphi > 0.5$
	Breaking capacity:	60 VA / $\cos \varphi > 0.5$
	24 V DC to 220 V DC	
	Making capacity:	130 W / L/R < 40 ms
	Breaking capacity:	25 W / L/R < 40 ms
Switching capacity, switch with gold-plated contacts*	Making capacity:	24 V DC, max. 2.4 W, resistive load
*) Switching higher loads destroys the gold layer	Breaking capacity:	24 V DC, max. 2.4 W, resistive load
Switch point	Centered between PUMP ON and PUMP OFF	
Tap-changer characteristics in accordance with IEC 60076-22-1	Minimum dielectric strength, short-term power supply frequency withstand voltage	2 kV, 1 min, between circuit and ground 1 kV, 1 min, between the contacts in the open position
	Minimum dielectric strength lightning impulse withstand voltage	4 kV (peak), between circuit and ground 3 kV (peak), between the contacts in the open position

Terminal box	
Connection terminals	min. 1 mm ² / max. 2.5 mm ²
Cable gland	M20x1.5 for cable Ø 8...15 mm or 3/4" NPT

Electrical connection		
 ANSI plug	 Terminal box	 MIL plug

Minimum flow speed for the flow indicator to respond						
Nominal diameter DN	Piping interior diameter in accordance with DIN 2633		Minimum flow speed for the flow indicator to respond		Oil flow rate for the flow indicator to respond	
	[mm]	[inch]	[m/S]	[inch/s]	[l/min]	[gallons/min]
100	107.10	4.22	0.70	27.56	380.00	100.39
125	131.70	5.19	0.70	27.56	572.00	151.11
150	159.30	6.27	0.70	27.56	837.00	221.11
200	207.30	8.16	0.70	27.56	1,418.00	347.60
250	260.40	10.25	0.70	27.56	2,236.00	590.69
300	309.70	12.19	0.70	27.56	3,163.00	835.58

Operating medium
Water
Mineral oils in accordance with IEC 60296, ASTM D3487 and comparable standards
Alternative insulating fluids: – Synthetic esters: MIDEL7131, ENVIROTEMP200, Nycodiel 1255 and Nycodiel 1258 – Natural esters: ENVIROTEMP FR3, MIDEL eN1215 and eN1204, SunOhm Eco, PastellNeo, Paryol Electra 7426 – Other alternative insulating fluids on request

Offshore version
Paint of terminal box as per DIN EN ISO 12944 Part 9, Protection class CX
Unpainted parts made from stainless steel

3 Drawings

Datum	Name	Dokumentnummer
04.04.2023	THIELEK	SED 6317408 000 03
Gez.	Gepr.	Norm.
	04.04.2023	REHNELT
	04.04.2023	KLEYN
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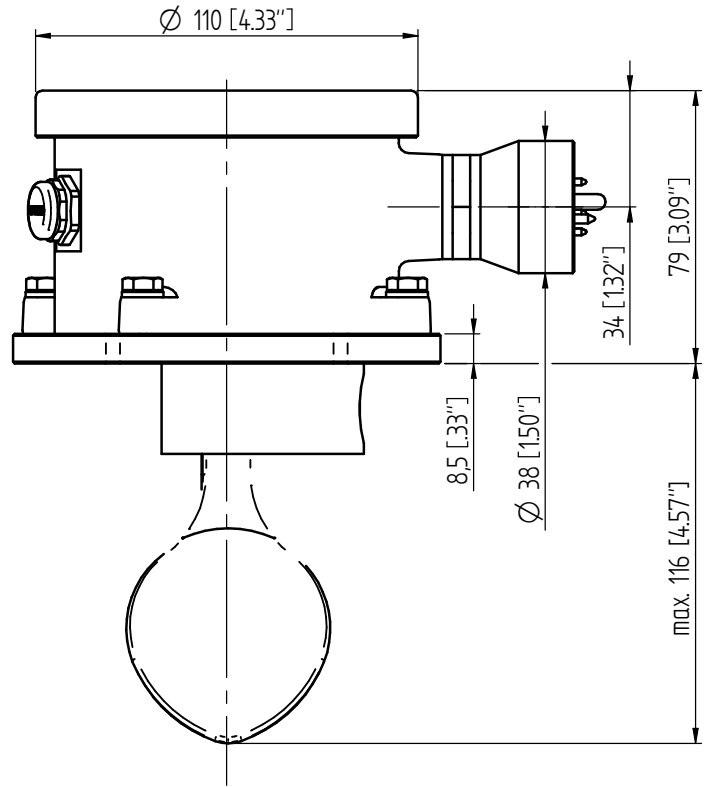
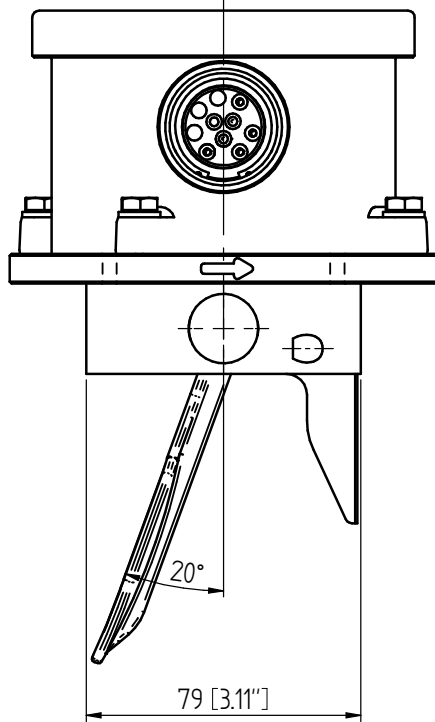
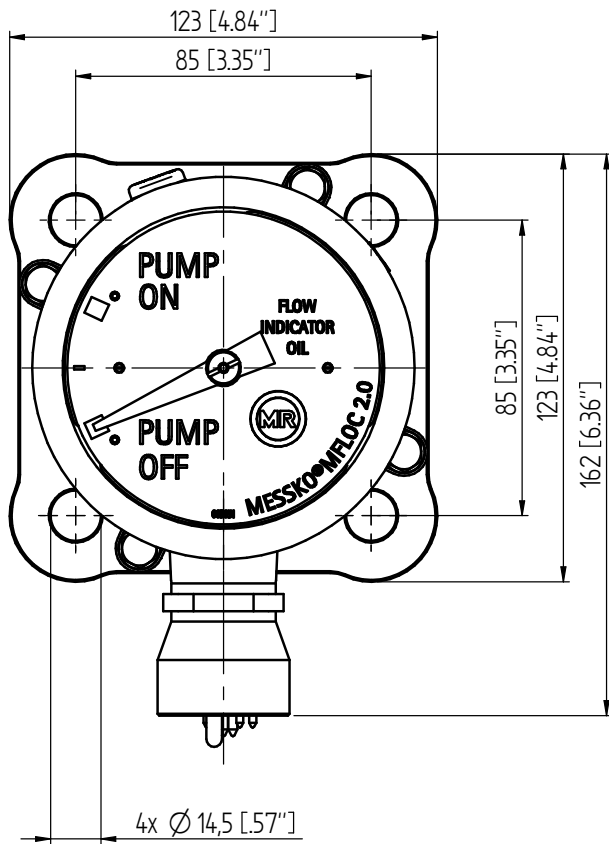


Zubehör Transformator / ACC
MFLOC - ANSI Stecker/CONNECTOR
Maßzeichnung/DIMENSION DRAWING

Serialnummer

Materialnummer
1012055420

Blatt
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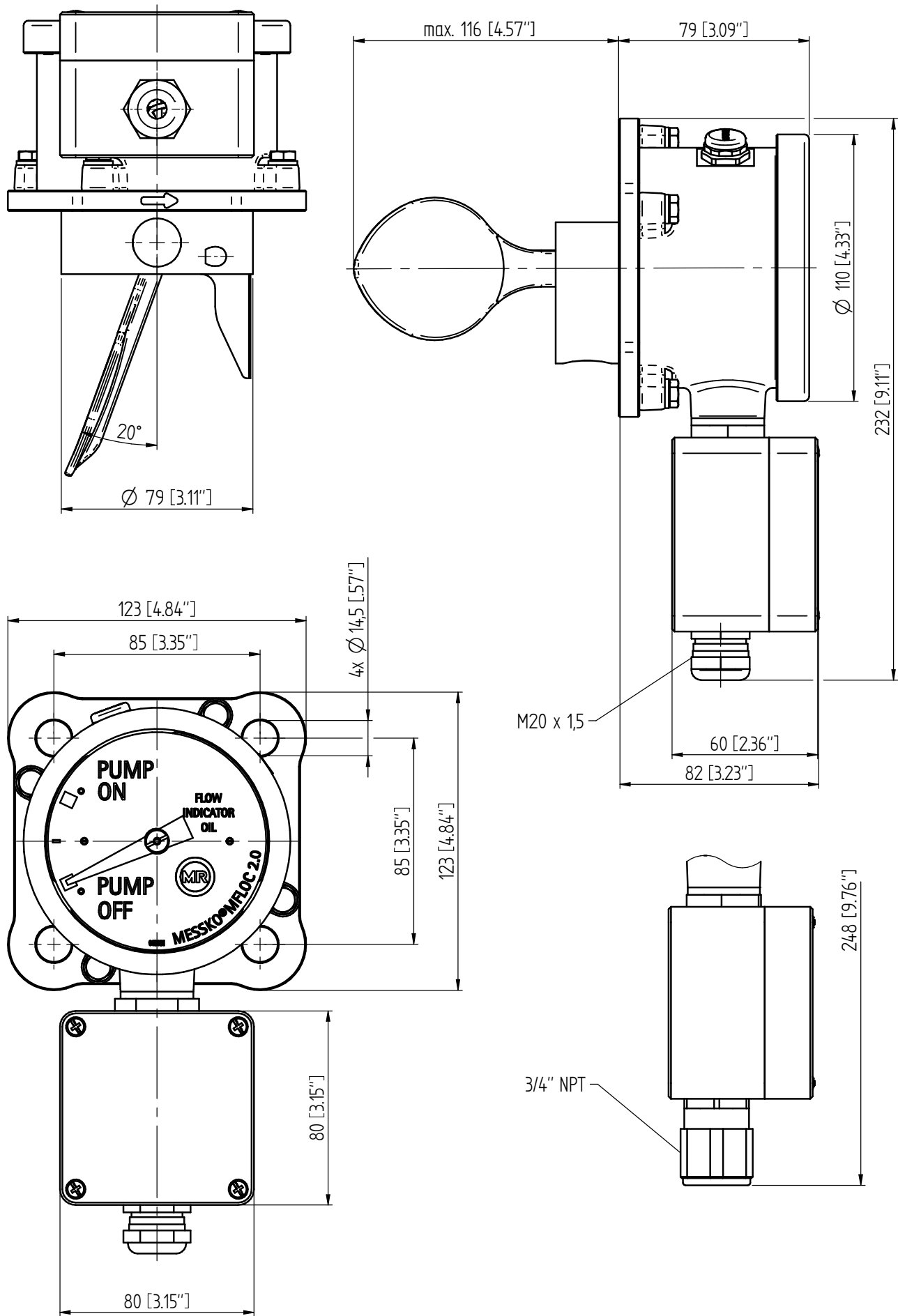


Zubehör Transformator / ACC
MFLOC -Anschlussbox/CONNECTION BOX
Maßzeichnung/DIMENSION DRAWING

Serialnummer

Materialnummer
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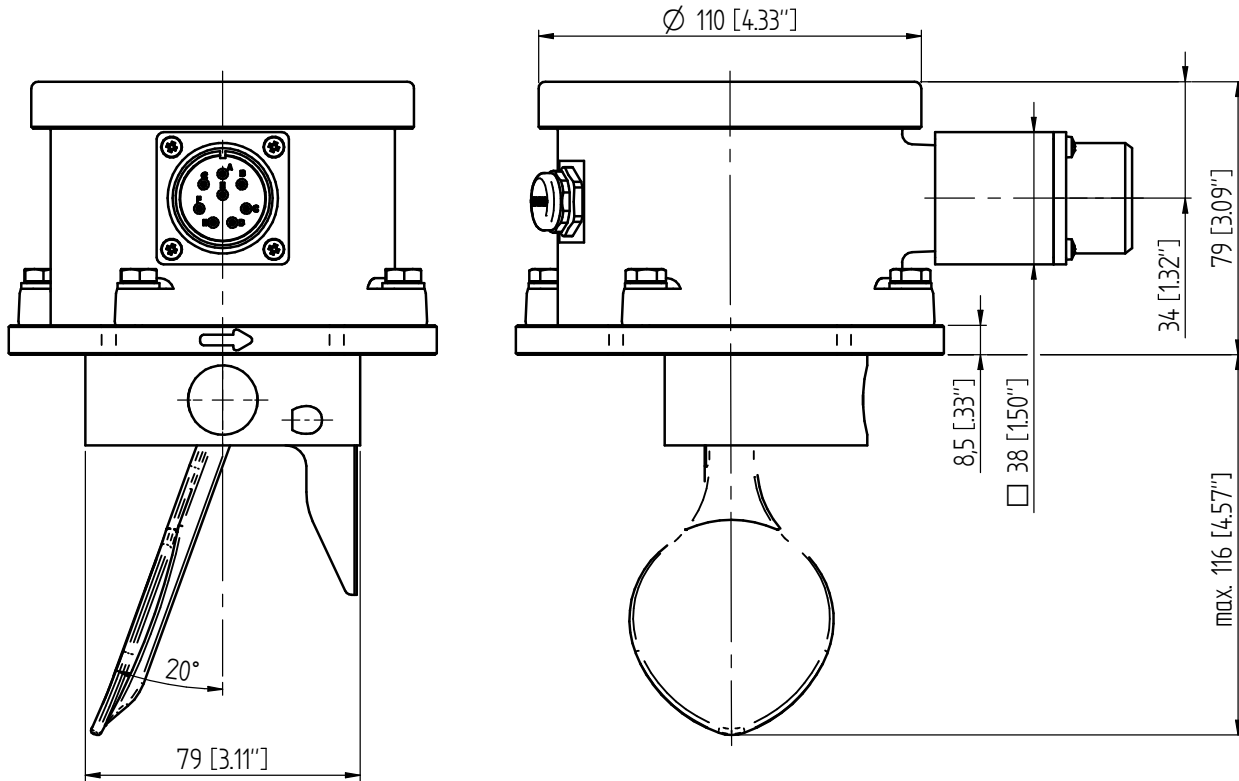
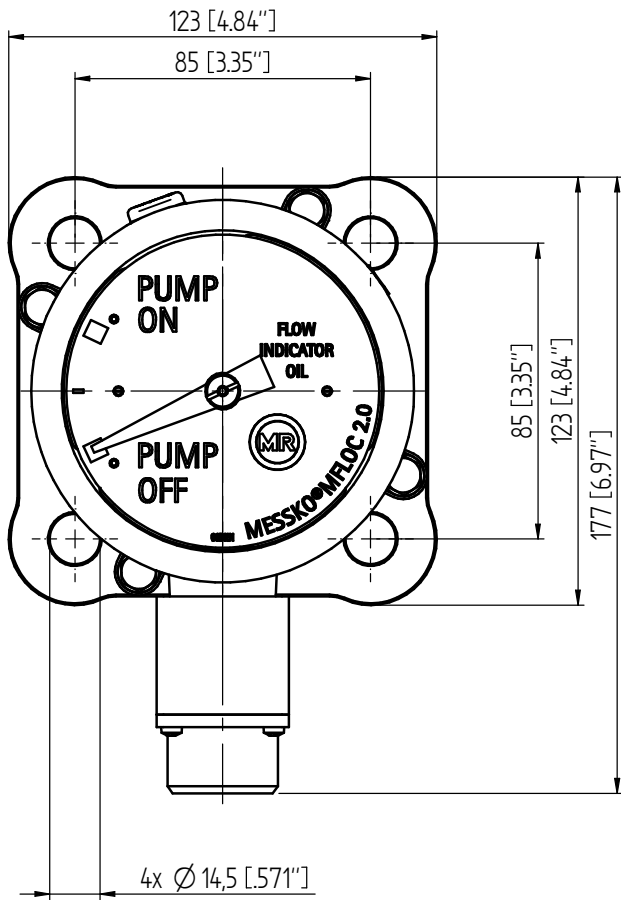


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MFLOC -MIL Stecker / CONNECTOR
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06/23
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