

DECEMBER 2019

Liquid level indicators

Data sheet



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Liquid level indicators

Application

Type	Standard features													Options					
	Dial diameter (mm)	Holes x Ø (mm)	Wheelbase (mm)	Weight (kg)	Fixed contacts (up to 4)	Indication: Pointer	Indication: Circular dial (red/white)	Angle design	Radial movement	Axial movement	Suitable for conservator with rubber bag	Removable body from the fixing flange	Corrosion protection: C4 Medium Moderate salinity (ISO 12944)	Adjustable contact (up to 4)	4-20 mA oil level monitoring	MODBUS RTU communication	Corrosion protection: C5 Medium (ISO 12944)	Solution with carter (Fig. 4)	Remote visual indicator (eViewer)
Comem OLI	146	4 x Ø 13	102	3.3	●	●	-	●	●	●	●	●	●	●	●	●	●	-	-
Comem eOLI	146	4 x Ø 13	102	3.5	●	●	-	●	●	●	●	●	●	●	●	●	●	-	●
Comem OLI22	146	8 x Ø 11.5	190	3.5	●	●	-	●	●	●	●	●	●	●	●	●	●	●	-
Comem eOLI22	146	8 x Ø 11.5	190	3.7	●	●	-	●	●	●	●	●	●	●	●	●	●	●	●
Comem L140	90	6 x Ø 7	125	1.4	●	●	●	-	●	●	●	-	●	-	-	●	●	-	-
Comem L220	166	8 x Ø 11,5	190	2.3	●	-	●	-	●	●	●	-	●	-	-	●	●	-	-
Comem L340	250	8 x Ø 18	305	6.0	●	-	●	-	●	●	●	-	●	-	-	●	●	-	-

Liquid Level Indicators

Technical data

Liquid Level Indicators	Technical data
Material	
Housing and upper part inclusive terminal box	Aluminum casting, RAL 7032 powder coated (C4 Medium); C5 Medium on request (surface treatment, not painted)
Lens material (dial protection)	Polycarbonate (standard), temperate glass (optional)
Float	Rohacell
Characteristics data	
Installation	Indoors and outdoors, tropical proof
Ambient temperature	-40°C to 80°C / -40°F to 176°F (arctic version on demand)
Oil temperature	-40°C to 120°C / -40°F to 248°F
Degree of protection	IP66 in accordance with EN60529 (Comem L340 available only IP65)
Protected micro switches	
Number and types	Up to 4 micro switches
Tolerance switches operation	±2.5°
Switching points	5° before the Min and Max
Nominal Voltage	24 – 230 VAC/DC
Making capacity	2A
Max breaking capacity DC	0.25 A at 250 VDC (L/R<40 ms)
Max breaking capacity AC	3 A at 250 VAC (cosΦ>0.5)
Rated insulation voltage	2.0 kV AC 1 min between contacts and earth, 1.0 kV AC 1 min between open contacts
Connection	
Connection terminals	Min 0.25 mm ² / max. 4 mm ²
Cable gland	M25 x 1.5 (n°1 for conventional version and n°3 for eDevices)
Mechanical test	
Sinusoidal (EN 60721-3-4)	cl.4M4: 2-9 Hz (6 mm peak to peak), 9 – 200 Hz (1 g) – All axis
Shock	cl.4M4: 10 g (11 ms) in all the directions (EN60721-3-4)
Seismic	EN60068-3-3 (cl.0, level II)

Liquid level indicators

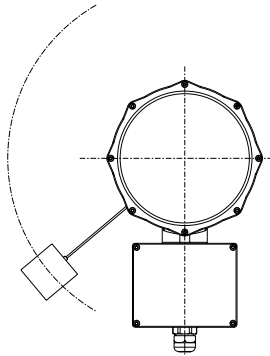
Technical data

Oil Level Indicator	Dial indication movement
Angle range	120° (axial or radial)
eDevices (Comem eOLI/eOLI22)	
Technical data	
Analog output	4-20 mA (dielectric strength between electronic card and analogical output: 2kV) Maximum resistance: 450 Ω Accuracy : 2.5% of full scale
Digital output	Serial RS485 for MODBUS RTU Accuracy : 2.5% of full scale
Rated voltage	24 VDC ±10% polarized - active current loop
Ventilation valve	To prevent the formation of condensation
Wires	Max 2.5mm ² – advised 4x1mm ² or 6x1mm ² shielded twisted pair cable for analog/ digital output
EMC guaranteed	Cable length up to 30 m / 98 ft
Current consumption	Max. 0.5 W
Comem eViewer	
Analog input (eOLI or eOLI22)	4-20 mA
Rated voltage	24 VDC ±10% polarized
Ventilation valve	To prevent the formation of condensation
Wires	Max 2.5mm ² – advised 4x1mm ² or 6x1mm ² shielded twisted pair cable for analog/ digital output
EMC guaranteed	Cable length up to 30 m / 98 ft
Current consumption	Max 0.5 W

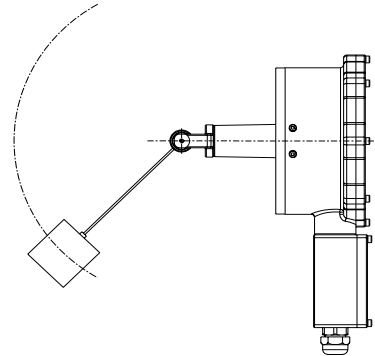
Liquid level indicators

Floating elements

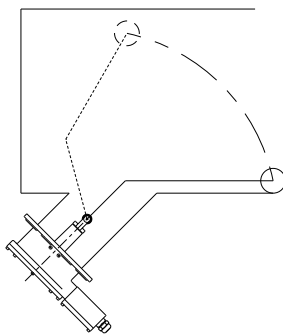
Radial movement "LA" (Fig.1)



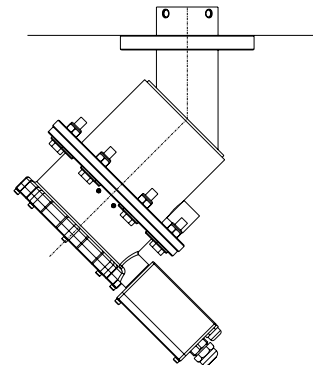
Axial movement "LB" (Fig.2)



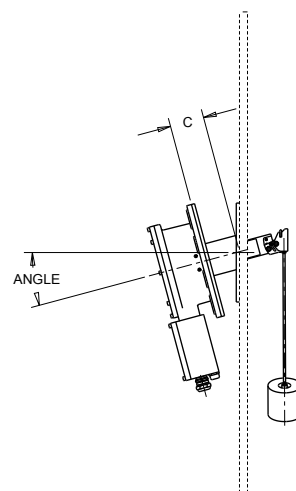
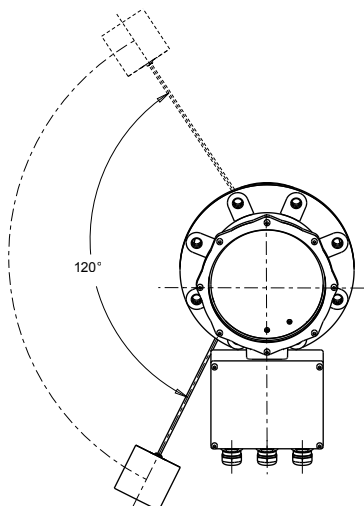
Axial movement with Bended arm "LB" (Fig.3)



Axial movement for Carter design (Fig.4)



Radial movement for angle design (Fig.5)

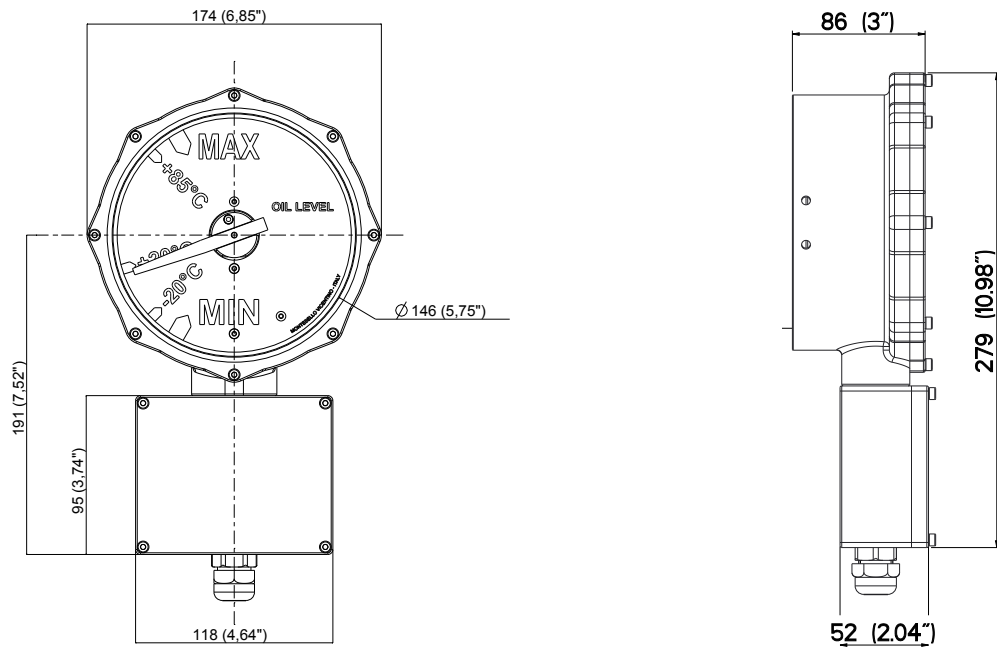


Liquid level indicators

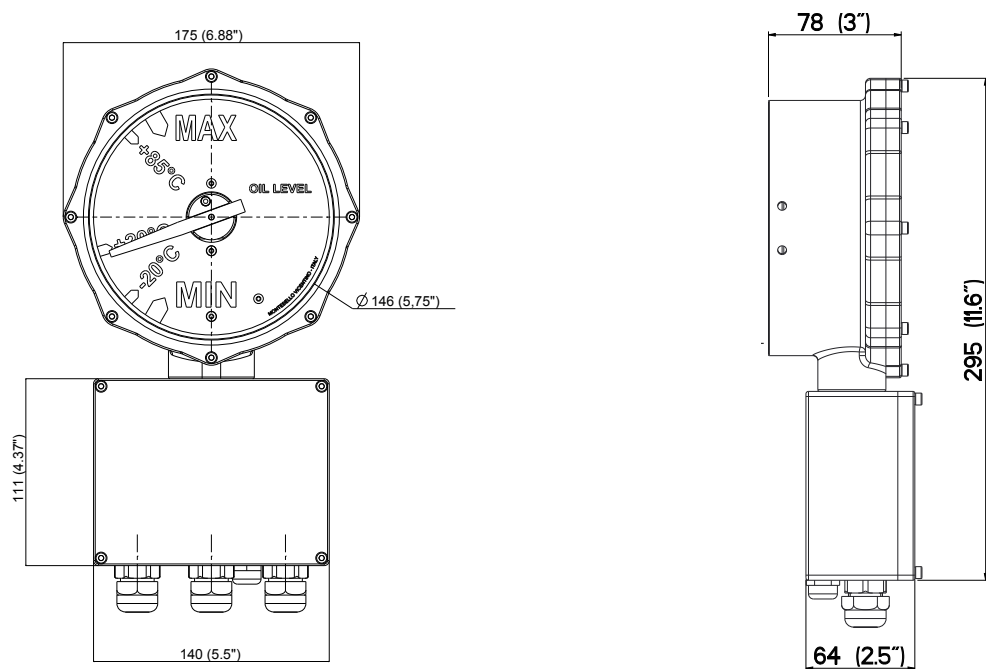
Case dimensions

Comem OLI/OLI22/eOLI/eOLI22

Comem OLI/Comem OLI22



Comem eOLI/Comem eOLI22

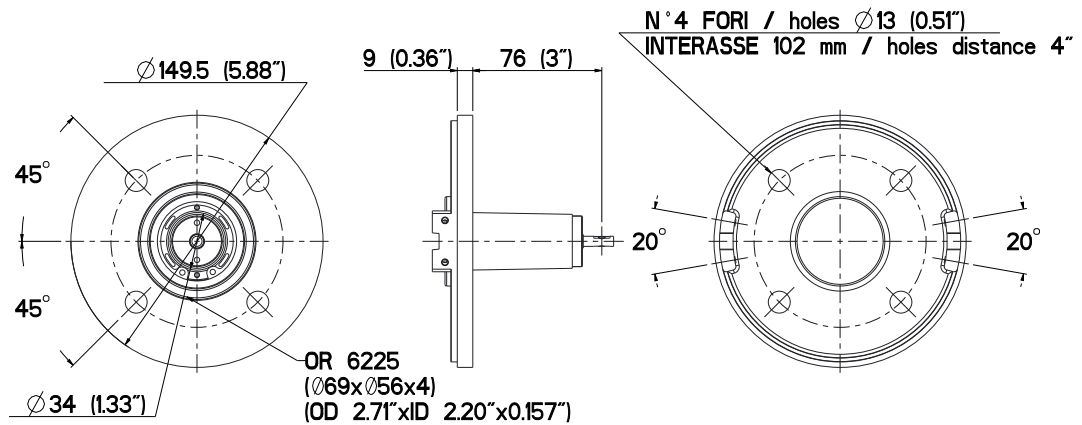


Liquid level indicators

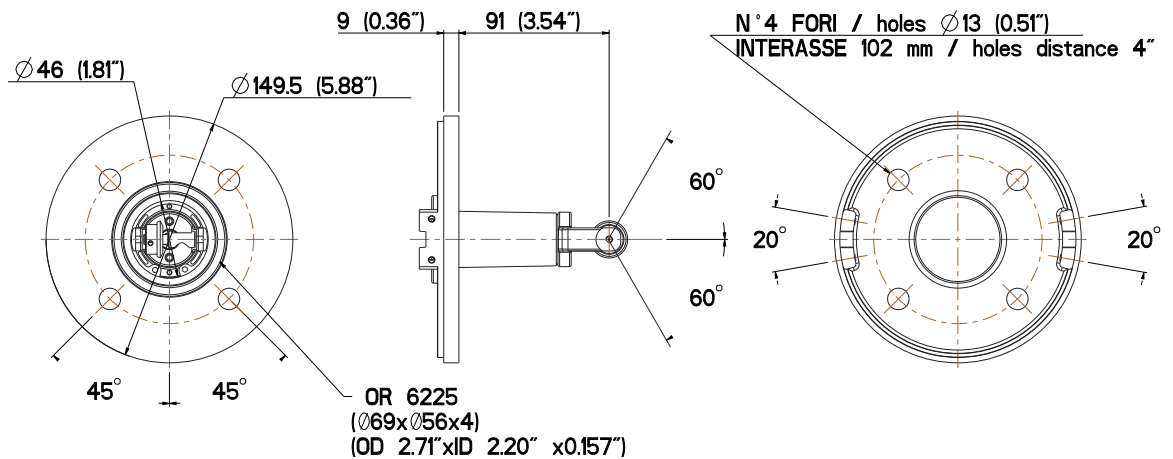
DIN Flange dimensions

Comem OLI / Comem eOLI

Radial movement for Comem OLI/Comem eOLI



Axial movement for Comem OLI/Comem eOLI

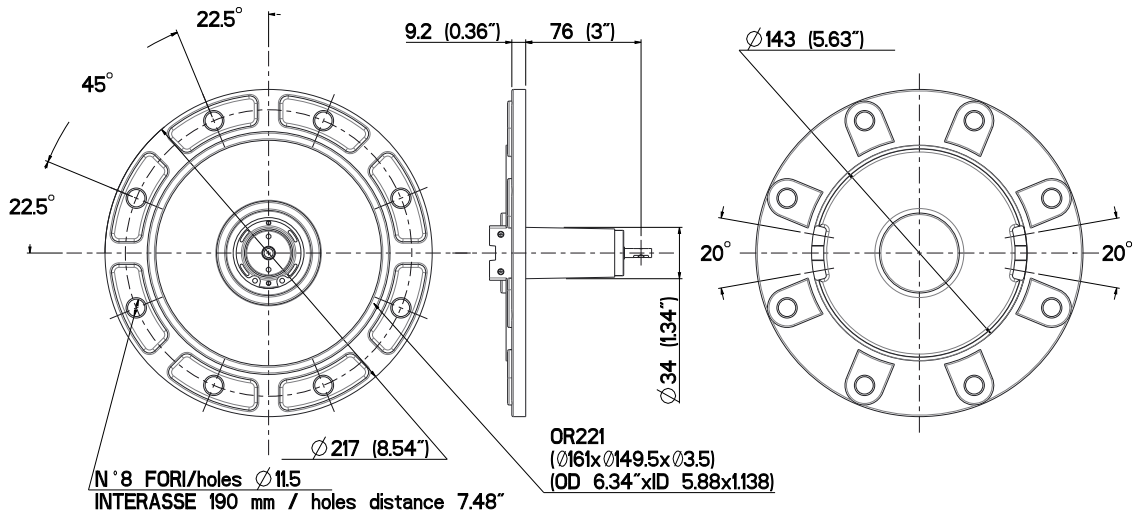


Liquid level indicators

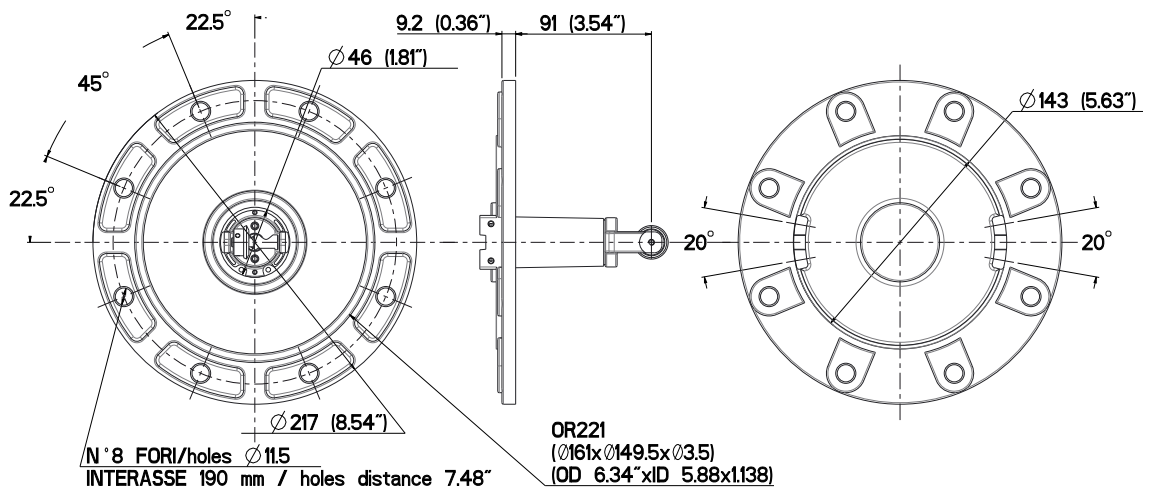
Flange dimensions

Comem OLI22 / Comem eOLI22

Radial movement for Comem OLI22/Comem eOLI22



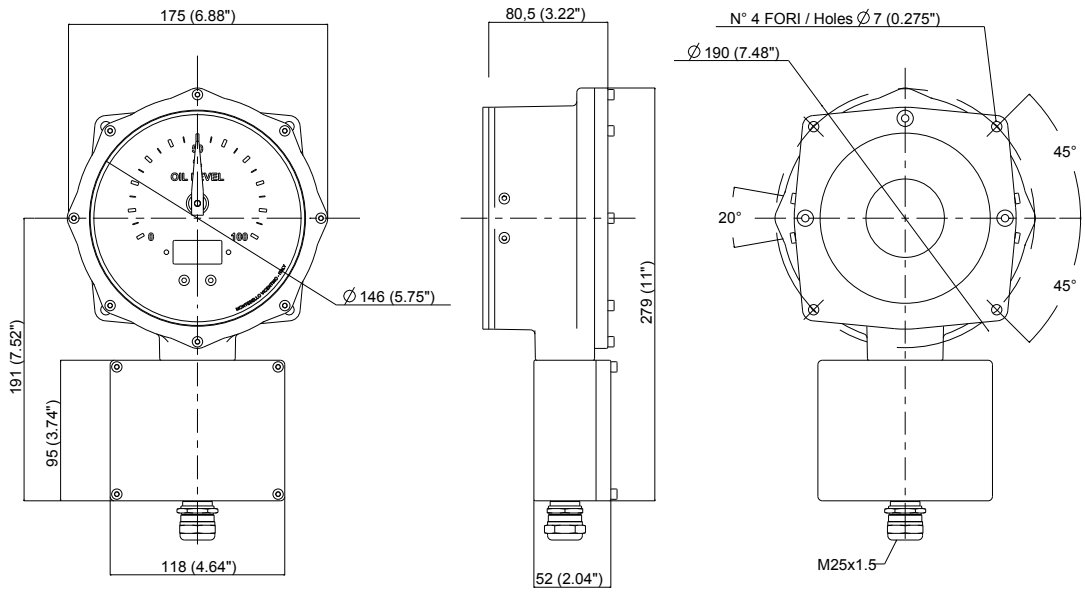
Axial movement for Comem OLI22/Comem eOLI22



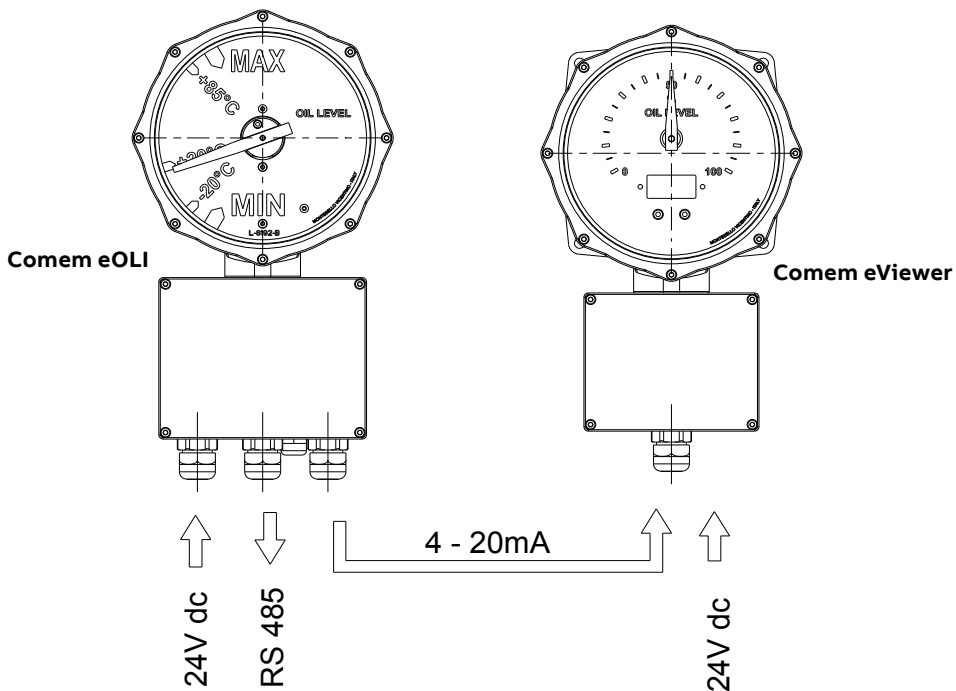
Liquid level indicators

Comem eViewer dimensions

Comem eViewer



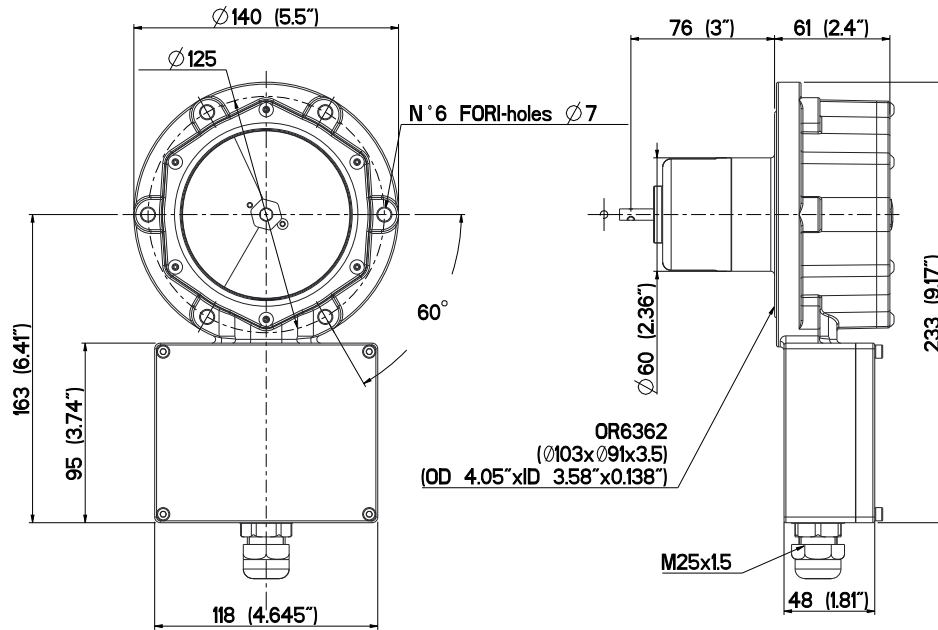
Comem eOLI - Comem eViewer connection



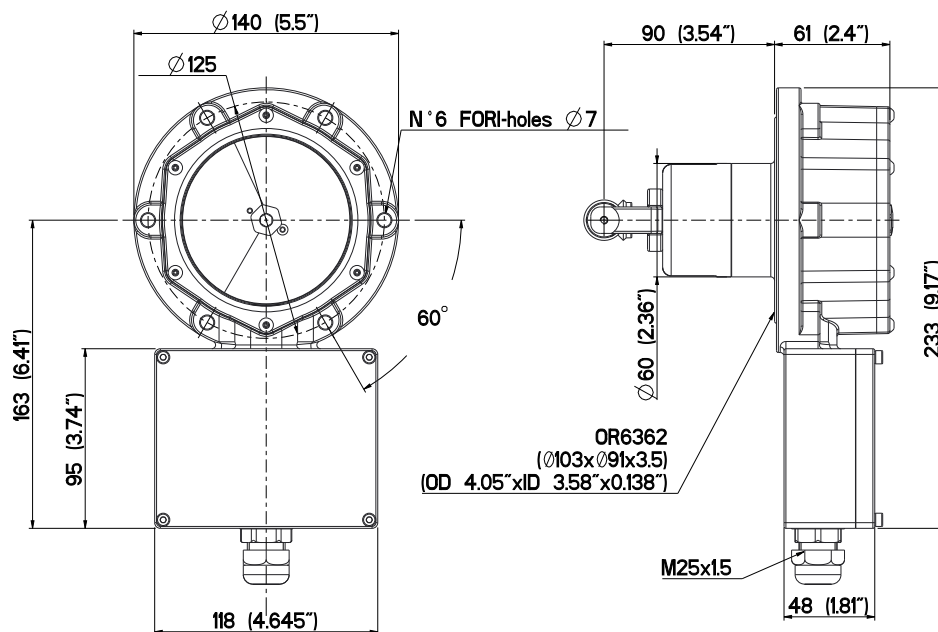
Liquid level indicators

Comem L140 dimensions

Radial movement for Comem L140



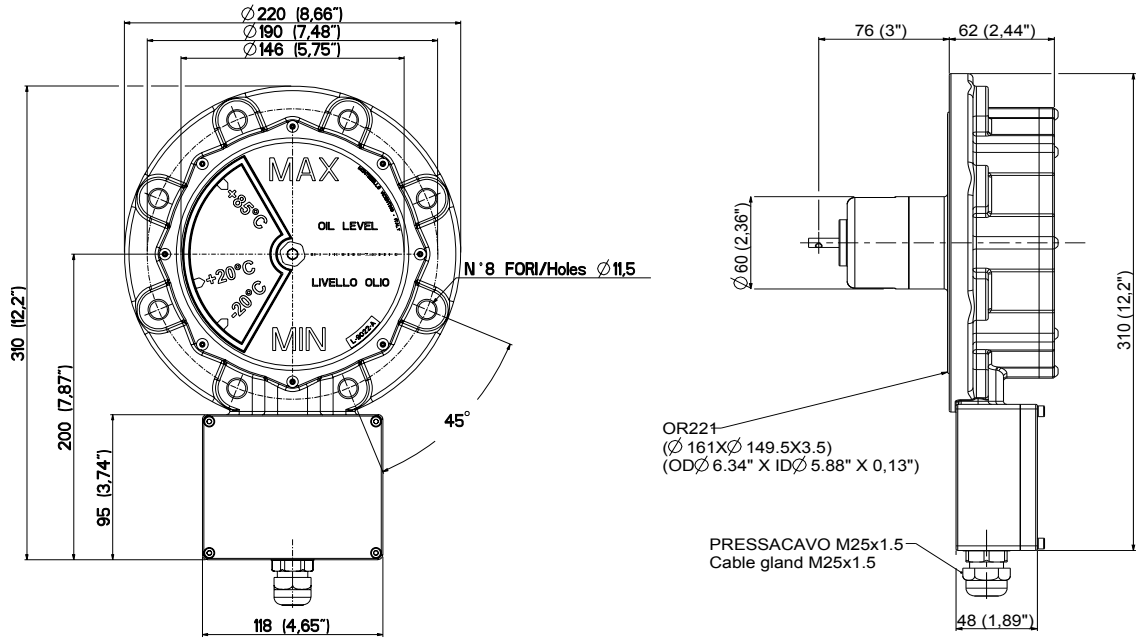
Axial movement for Comem L140



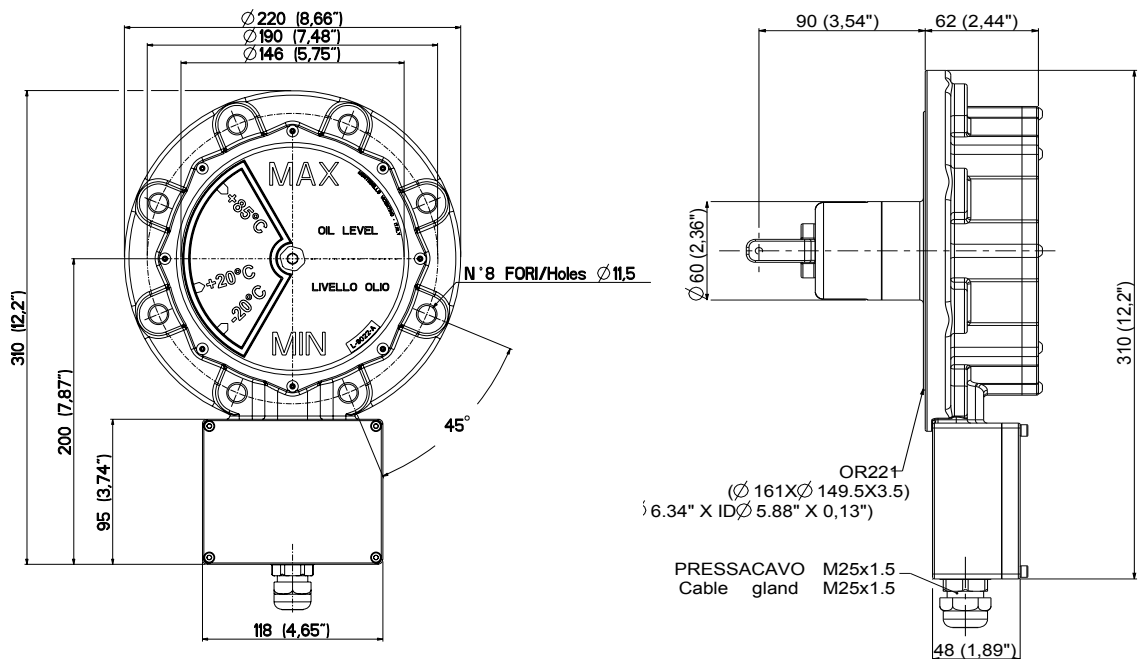
Liquid level indicators

Comem L220 dimensions

Radial movement for Comem L220



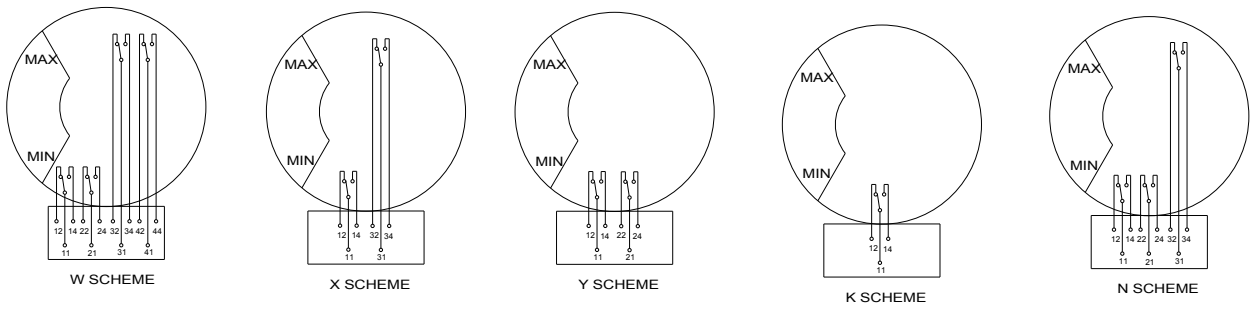
Axial movement for Comem L220



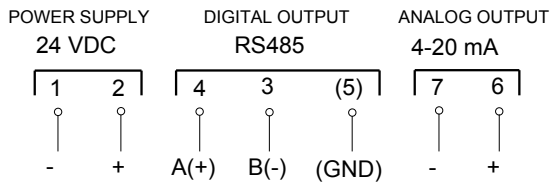
Liquid level indicators

Electrical scheme

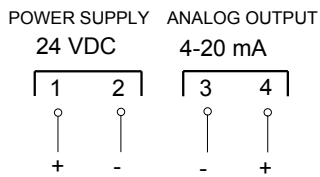
Micro switch types



Comem eOLI / eOLI22

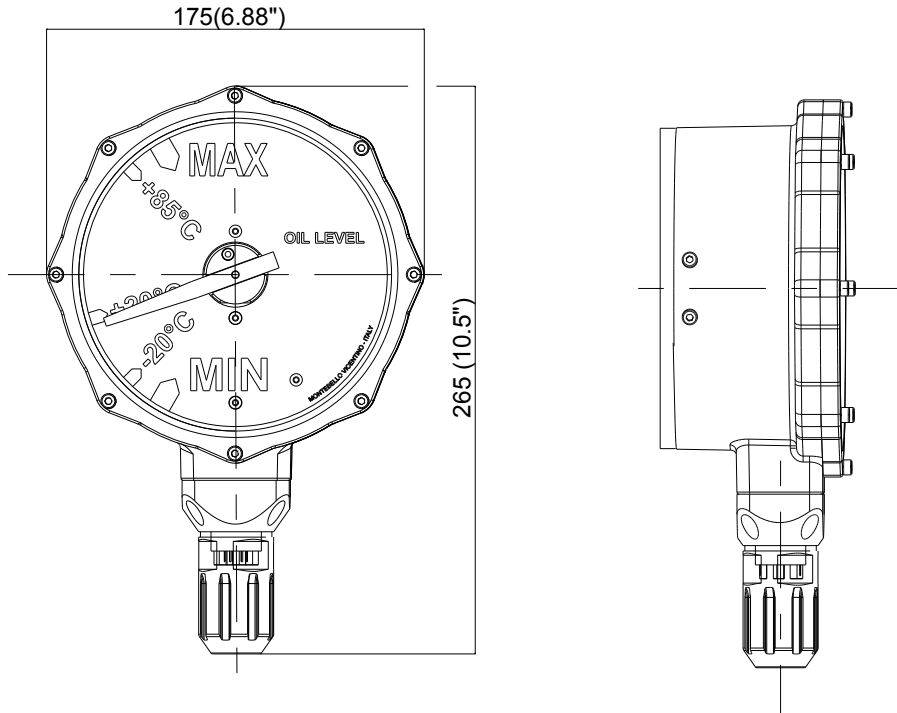


Comem eViewer



Liquid level indicators with plug-in connector

Case dimensions for Comem OLI/Comem OLI22 with plug-in connector



Electrical scheme for Comem OLI/Comem OLI22 with plug-in connector

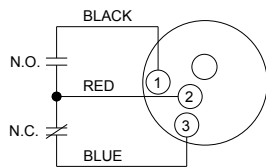


Fig. A

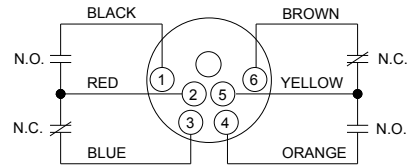


Fig. B

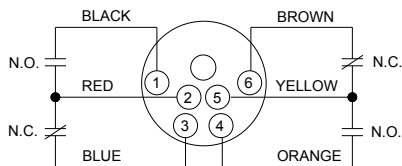


Fig. C

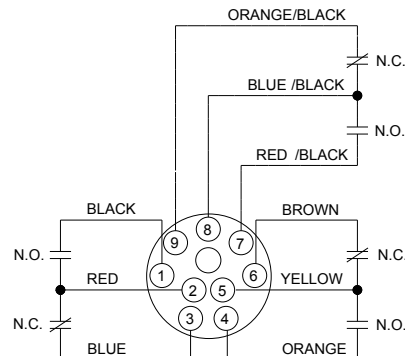


Fig. D

Liquid level indicators

Order sheet

Date	
Rev.	
Customer reference	

Type	See Fig. 6-7
Comem L140	Pointer
Comem L140	Circular Red/white
Comem OLI	Pointer
Comem eOLI	Pointer
Comem OLI22	Pointer
Comem eOLI22	Pointer
Comem L220	Circular Red/white
Comem L340	Circular Red/white
Comem eViewer (for visualisation only)	Pointer

Shaft movement	For complete details fill-in:
Radial movement (Fig.1 - Page 7)	page 19
Axial movement (Fig.2 - Page 7)	page 20
Axial movement with bended arm (Fig.3 - Page 7)	page 21
Axial movement for carter design - only Comem OLI22 – eOLI22 – L220 (Fig.4 - Page 7)	page 22
Radial movement for angle design (Fig.5 - Page 7)	page 23

Type of switches
Fixed (standard)
Adjustable (only for Comem OLI/OLI22 /eOLI/eOLI22)

Electrical Scheme with terminal box (page. 15)	
1 min	K scheme
2 min	Y scheme
1 min + 1 max	X scheme
2 min + 1 max	N scheme
2 min + 2 max	W scheme

Electrical Scheme with plug-in connector only for Comem OLI/OLI22 (page. 16)	
1 min	Fig. A
2 min	Fig. B
1 min + 1 max	Fig. C
2 min + 1 max	Fig. D

Lens material (dial protection)
Polycarbonate (standard)
Glass (optional)

Gasket
NBR (from -40°C up to 120°C) Standard
Viton (from -10°C up to 150°C)
Fluorosilicone (from -60°C up to 200°C)

Corrosion protection class
C4 Medium acc. to ISO 12944 (standard)
C5 Medium acc. to ISO 12944 (not paintable)

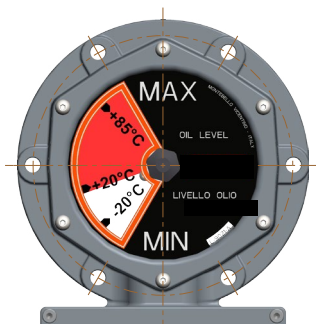


Fig.6: Circular Red/White

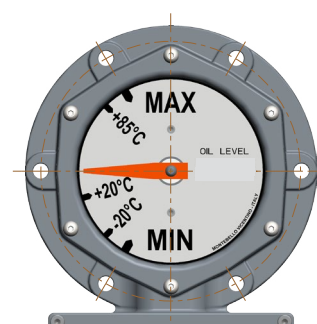


Fig.7: Pointer

Liquid level indicators

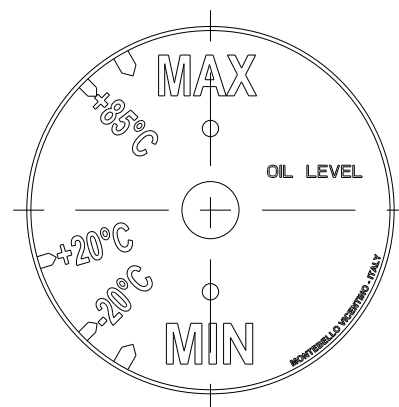
Order sheet

Dial type

Dial with standard marks

Mark	Oil conservator height Y* (mm)	Position and number of micro switches
Max		
+85°C		
+20°C		
-20°C		
Min		

For oil conservator height Y consult the following pages

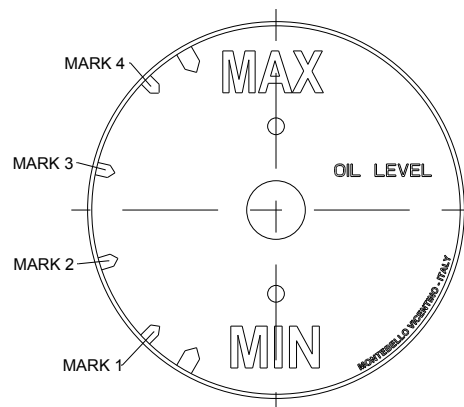


STANDARD MARKS

Dial with special marks

Mark	Marking on dial	Oil conservator height Y* (mm)	Position and number of micro switches
Max			
Mark 4			
Mark 3			
Mark 2			
Mark 1			
Min			

For oil conservator height Y consult the following pages



SPECIAL MARKS

Liquid level indicators

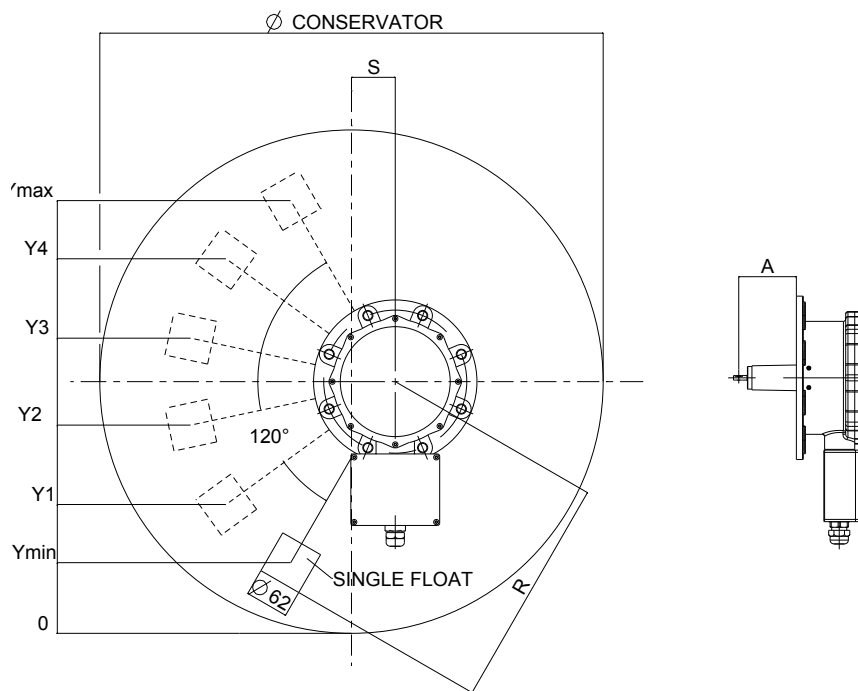
Order sheet

Liquid level indicator with radial movement (Fig.1 - page 7)

Date	
Rev.	
Customer reference	

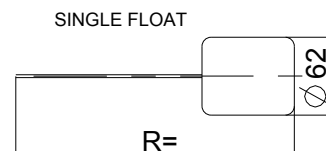
General features (mm)

Conservator diameter	Ø	
Displacement between the conservator and dial centers	S	
Length shaft inside the conservator	A	76 mm (standard)
		90 mm (special)
		120 mm (special)



Length of the arm with float

Type	R: Standard (mm)	R: Special mm
Comem L140	370	
Comem L220	550	
Comem OLI	550	
Comem OLI22	550	
Comem L340	713	



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Liquid level indicators

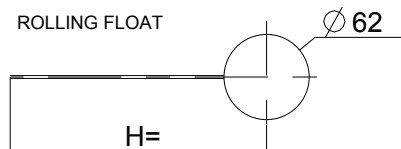
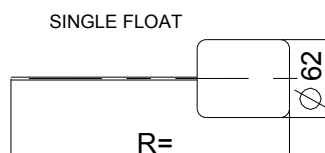
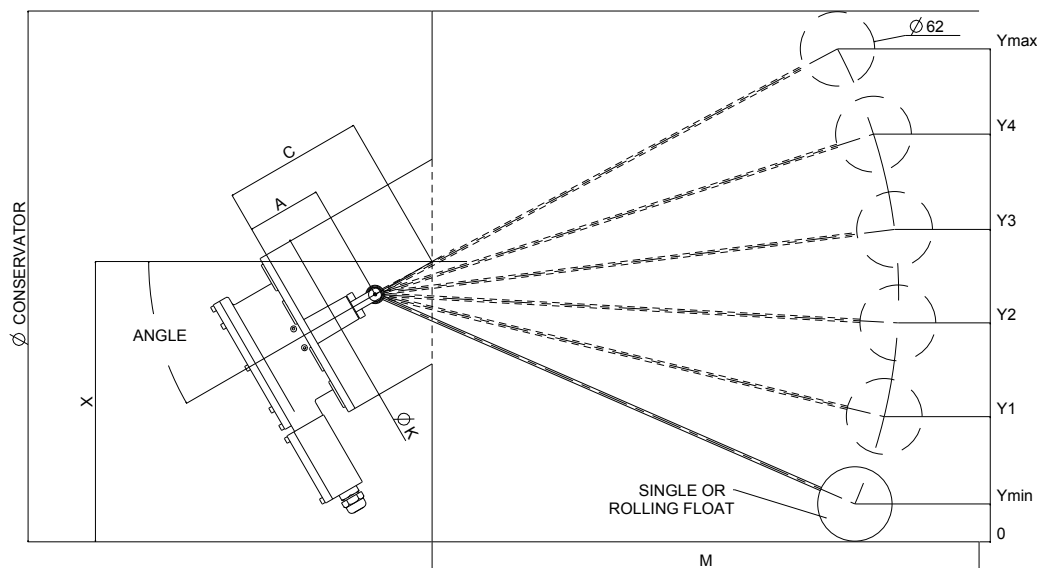
Order sheet

Liquid level indicator with axial movement (Fig.2 - page 7)

Date	
Rev.	
Customer reference	

General features (mm)

Conservator diameter	\emptyset	
Conservator length	M	
Oil Level Indicator inclination	Angle	0° (Standard)
		special:
Length inside the conservator	A	90 mm (Standard)
		120 mm (Special)
		180 mm (Special)
Displacement between flange and conservator	C	
Height from the conservator base	X	
Tube diameter	K	



Length of the arm with single float

Type	R: Standard (mm)	R: Special (mm)
Comem L140	370	
Comem L220	550	
Comem OLI	550	
Comem OLI22	550	
Comem L340	713	

Length of the arm with rolling float

Type	H: Standard (mm)	H: Special (mm)
Comem L140	370	
Comem L220	550	
Comem OLI	550	
Comem OLI22	550	
Comem L340	713	

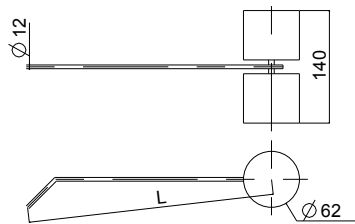
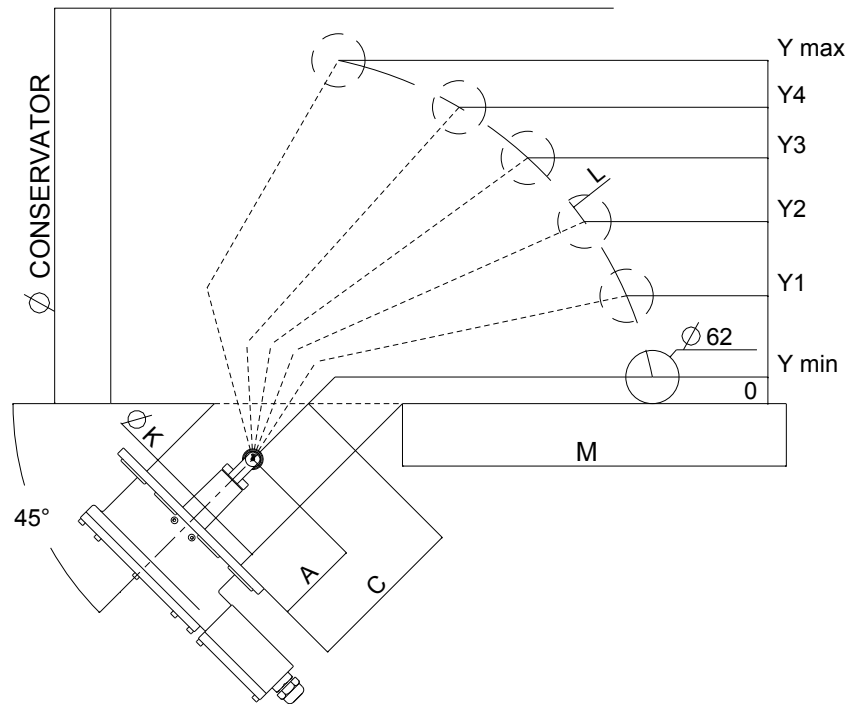
Liquid level indicators

Order sheet

Liquid level indicator with bended arm with axial movement (Fig.3 - page 7)

Date	
Rev.	
Customer reference	

General features (mm)		
Conservator diameter	\varnothing	
Conservator length	M	
Length inside the conservator	A	90 mm (Standard)
		120 mm (Special)
		180 mm (Special)
Displacement between flange and conservator	C	
Tube diameter	K	



Bended arm lengths (mm)	
L	

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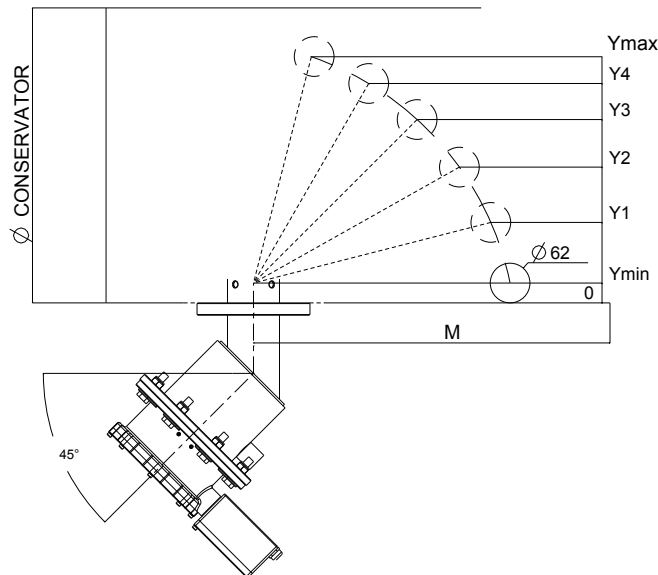
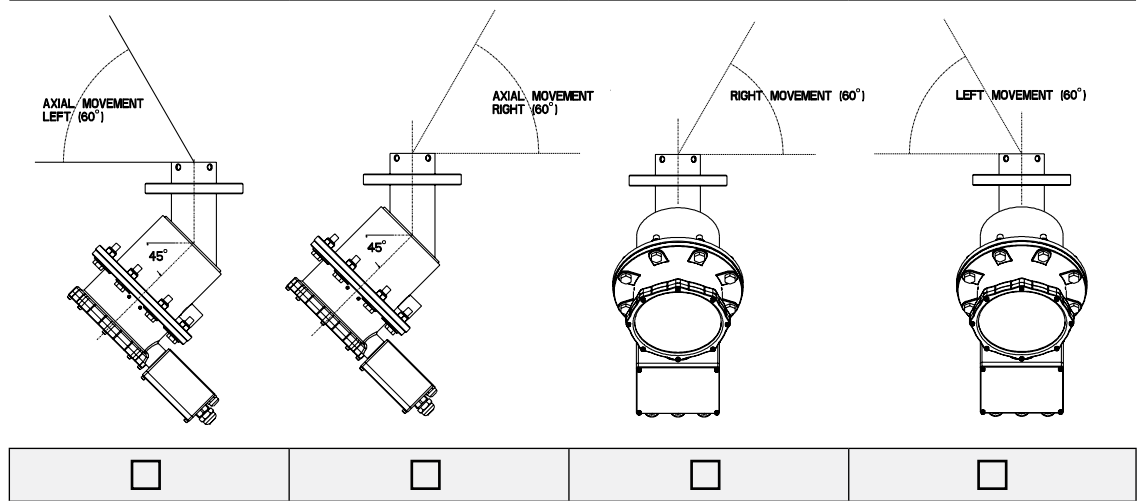
Liquid level indicators

Order sheet

Liquid level indicator carter design with axial movement (Fig.4 - page 7)

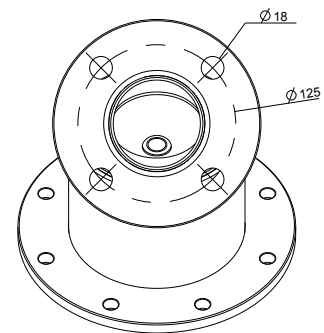
Date	
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Customer reference	

Arm movements



General features (mm)

Conservator diameter	Ø	
Conservator length	M	



Carter fixing flange

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Liquid level indicators

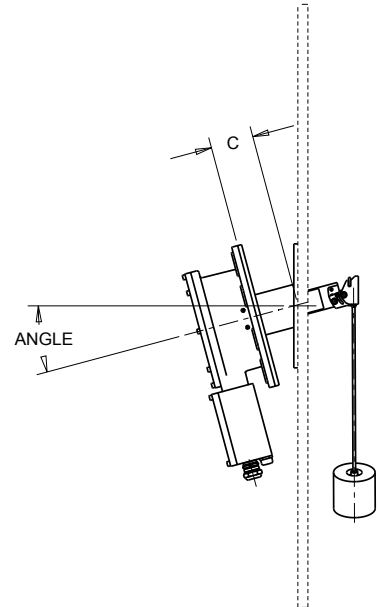
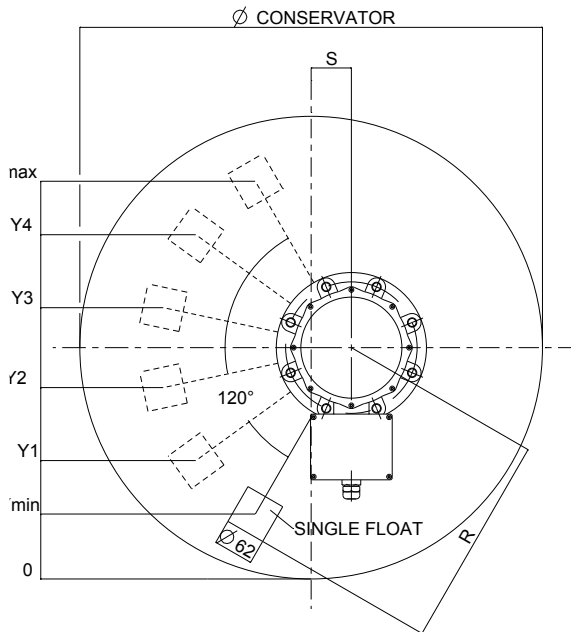
Order sheet

Liquid level indicator with angle design with radial movement (Fig.5 - page 7)

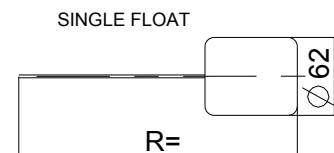
Date	
Rev.	
Customer reference	

General features (mm)	
Conservator diameter	\emptyset
Conservator length	M
Displacement between the conservator and dial centers	S

Angle	
	-15° (C = 50 mm)
	-30° (C = 115 mm)
	-45° (C = 160 mm)



Length of the arm with float		
Type	R: Standard (mm)	R: Special (mm)
Comem L140	370	
Comem L220	550	
Comem OLI	550	
Comem OLI22	550	
Comem L340	713	



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