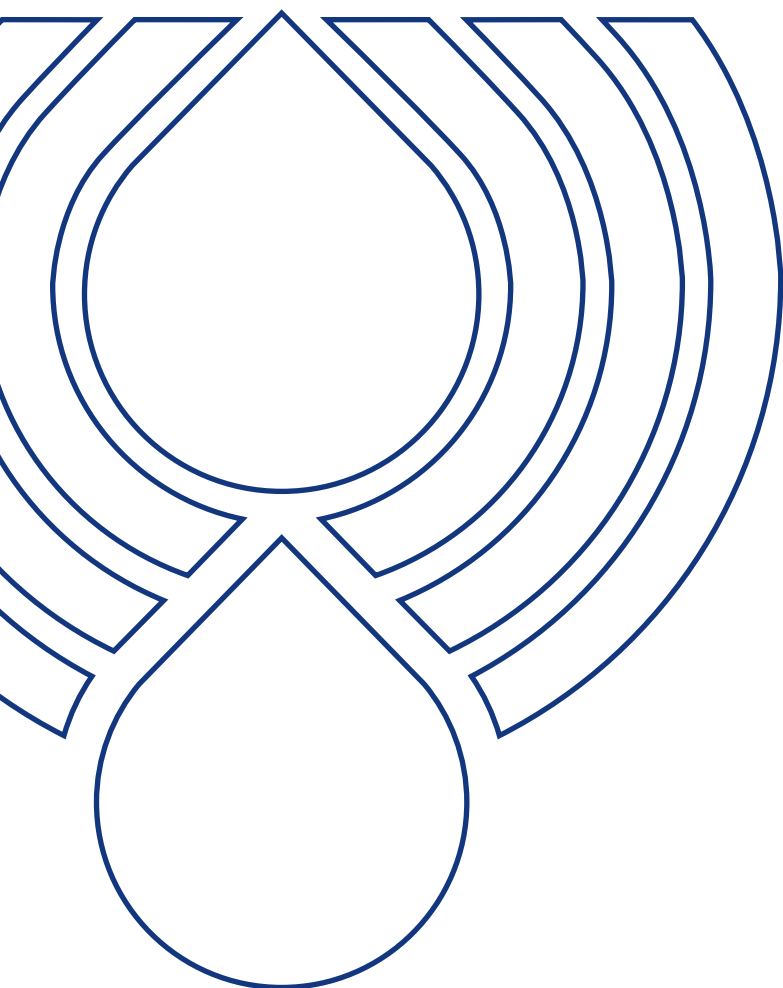


TANK ACCESSORIES

ELECTRICAL OIL LEVEL INDICATORS



PASSION TO PERFORM





A WORLDWIDE LEADER IN THE FIELD OF HYDRAULIC FILTRATION EQUIPMENT.

Our company started life in 1964, when Bruno Pasotto decided to attempt to cater for the requests of a market still to be fully explored, with the study, design, development, production and marketing of a vast range of filters for hydraulic equipment, capable of satisfying the needs of manufacturers in all sectors. The quality of our products, our extreme competitiveness compared with major international producers and our constant activities of research, design and development has made us a worldwide leader in the field of hydraulic circuit filtering. Present for over 50 years in the market, we have played a truly decisive role in defining our sector, and by now we are a group capable of controlling our entire chain of production, monitoring all manufacturing processes to guarantee superior quality standards and to provide concrete solutions for the rapidly evolving needs of customers and the market.

MARKET LEADER



Our work is based on a skillful interaction between advanced technology and fine workmanship, **customizing products according to specific market requests**, focusing strongly on innovation and quality, and following every step in the manufacturing of both standard and special products, fully respecting customer expectations.



Our customer-oriented philosophy, which enables us to satisfy all customer requests **rapidly and with personalized products**, makes us a **dynamic and flexible enterprise**. The possibility of constantly controlling and monitoring the entire production process is essential to allow us to guarantee the quality of our products.

WORLDWIDE PRESENCE

Our foreign Branches enable us to offer a diversified range of products that allow us to successfully face the aggressive challenge of international competition, and also to maintain a stable presence at a local level.

The Group boasts **8** business branches



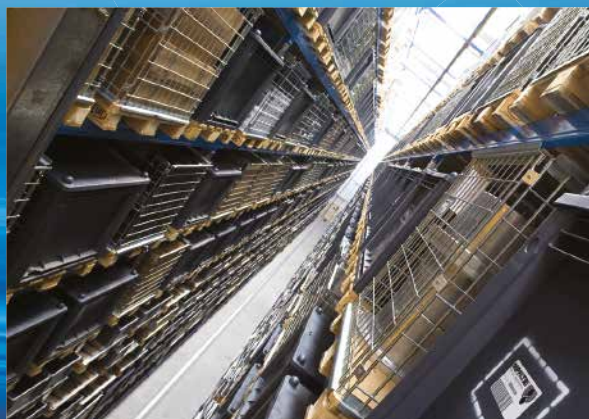
TECHNOLOGY

Our constant **quest for excellence in quality and technological innovation** allows us to offer only the best solutions and services for applications in many fields, including general industry, test rigs, lubrication, heavy engineering, renewable energies, naval engineering, offshore engineering, aviation systems, emerging technologies and mobile plant (i.e. tractors, excavators, concrete pumps, platforms).



AND PRODUCTION

Our high level of technological expertise means **we can rely entirely on our own resources, without resorting to external providers.** This in turn enables us to satisfy a growing number of customer requests, also exploiting our constantly updated range of machines and equipment, featuring **fully-automated workstations** capable of **24-hour production.**





SUCTION FILTERS

Flow rates
up to 875 l/min

- Mounting:
- Tank immersed
 - In-Line
 - In tank with shut off valve
 - In tank with flooded suction

RETURN FILTERS

Flow rates
up to 3000 l/min

- Pressure
up to 20 bar
- Mounting:
- In-Line
 - Tank top
 - In single and duplex designs

RETURN / SUCTION FILTERS

Flow rates
up to 300 l/min

- Pressure
up to 80 bar
- Mounting:
- In-Line
 - Tank top

SPIN-ON FILTERS

Flow rates
up to 365 l/min

- Pressure
up to 35 bar
- Mounting:
- In-Line
 - Tank top

LOW & MEDIUM PRESSURE FILTERS

Flow rates
up to 3000 l/min

- Pressure
up to 80 bar
- Mounting:
- In-Line
 - Parallel manifold version
 - In single and duplex designs

HIGH PRESSURE FILTERS

Flow rates
up to 750 l/min

- Pressure from 110 bar
up to 560 bar
- Mounting:
- In-Line
 - Manifold
 - In single and duplex designs

PRODUCT RANGE

MP Filtri can offer a vast and articulated range of products for the global market, suitable for all industrial sectors using hydraulic equipment.

This includes filters (suction, return, return/suction, spin-on, pressure, stainless steel pressure) and structural components (motor/pump bell-housings, transmission couplings, damping rings, foot brackets, aluminium tanks, cleaning covers).

We can provide all the skills and solutions required by the modern hydraulics industry to monitor contamination levels and other fluid conditions.

Mobile filtration units and a full range of accessories allow us to supply everything necessary for a complete service in the hydraulic circuits.



STAINLESS STEEL HIGH PRESSURE FILTERS

Flow rates up to 125 l/min
Pressure from 320 bar up to 1000 bar

- Mounting:
- In-Line
 - Manifold
 - In single and duplex designs

CONTAMINATION MONITORING PRODUCTS

- Online, in-line particle counters
- Off-line bottle sampling products
- Fully calibrated using relevant ISO standards
- A wide range of variants to support fluid types and communication protocols

MOBILE FILTRATION UNITS

Flow rates from 15 l/min up to 200 l/min

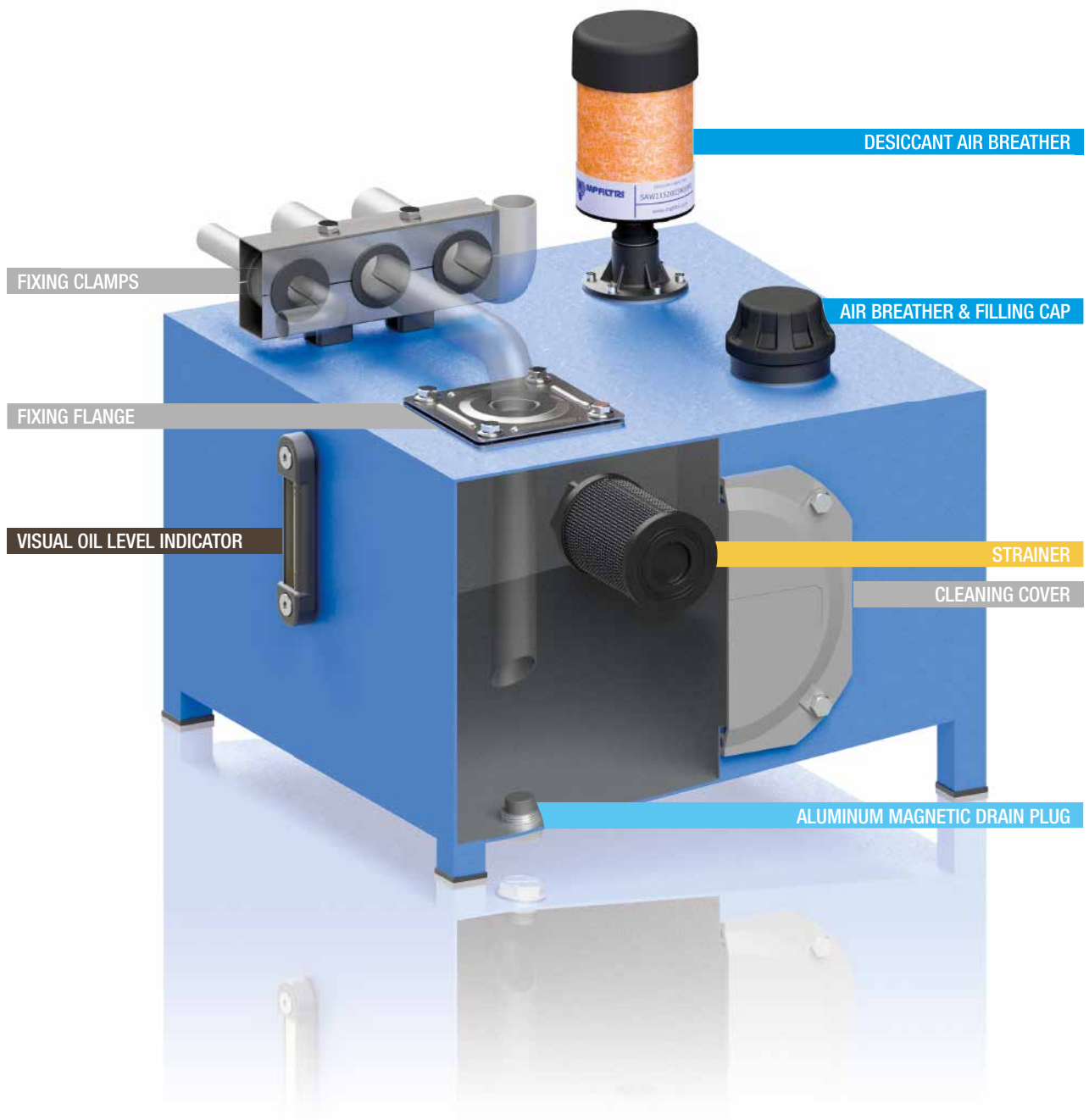
POWER TRANSMISSION PRODUCTS

- Aluminium bell-housings for motors from 0.12 kW to 400 kW
- Couplings in Aluminium Cast Iron - Steel
- Damping rings
- Foot bracket
- Aluminium tanks
- Cleaning covers

TANK ACCESSORIES

- Oil filler and air breather plugs
- Optical and electrical level gauges
- Pressure gauge valve selectors
- Pipe fixing brackets
- Pressure gauges

TANK ACCESSORIES



1 page INTRODUCTION

1	COMPANY
6	PRODUCT RANGE

10 page STRAINERS

13	STR & MPA - MPM	Submerged suction filter, with bypass or magnetic column
----	-----------------	--

20 page AIR BREATHERS AND FILLER PLUGS

23	SAP 054-075 - SA	Air breathers
29	SAW 115	Desiccant air breathers
33	SCS	Metal air breathers with interchangeable filter element
39	SME 1 - SMF 1 - SML 1	Risers for breathers and filler caps installation
45	TA 46 - TAP 50 - SAP 50	Filling cap, air breather & filling cap
53	TA 80	Filling cap
57	TAP 90	Air breather & filling cap
63	TAP 114	Air breather & filling cap
67	TAP 115 & SAP 115	Filling cap, air breather & filling cap

72 page FILLER AND DRAIN PLUGS

75	TC 50	Nylon filler plug
79	TKT - TSD	Nylon filler plugs
79	TKM	Aluminium magnetic drain plug

86 page VISUAL OIL LEVEL INDICATORS

89	LCP - LCC	Spy eyes
95	LVA - LVU	Visual oil level indicator

100 page ELECTRICAL OIL LEVEL INDICATORS

103	LEN - LEG - LET - LEM - LEU	Electrical oil level indicator
115	LVK	Electrical and visual oil level indicator

120 page ACCESSORIES

123	EM1	Gauge isolator valves
129	SVM	Gauge isolator valves
133	FTA - FTR	Oil tank fixing flange
137	SFT	Fixing clamps
143	OB	Cleaning covers
149	SE10LT	Aluminium tanks

Electromagnetic float level indicators use the action of a magnet fixed to the float to change the electrical status of a reed switch mounted inside the tube.

As the fluid level in the tank changes, the float moves together with the magnet that, connected with the reed switch, move the contacts thereby tripping an alarm signal.

The movement of the float is normally limited by mechanical stops because once the magnet exceeds the point at which it activates the reed switch, the switch reverts to its original status.

To invert the contact status from N.O. to N.C. and vice versa, it is normally sufficient to invert the float.

Electrical Oil Level Indicators



LEN - LEG - LET - LEM - LEU page 103
LVK 115

LEN - LEG - LET - LEM - LEU series

Electrical oil level indicators



Technical data

Electrical oil level indicators

LEN is a range of electrical fluid level indicators for monitoring of the fluid level into the tank.

They are directly fitted on the tank.

The float moves through the rod while the fluid level changes.

A magnet, fitted into the float, turns a reed sensor fixed into the rod.

Available features:

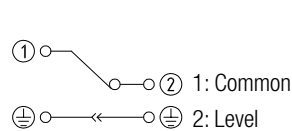
- G 1" male threaded or flanged connections
- Adjustable size on request, to meet every size of tank
- 1 or 2 floats, to monitor the minimum level, the maximum level or both of them.

Common applications:

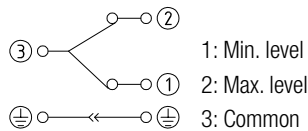
- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:

LEN 1 Float



LEN 2 Floats



Note: to invert the contact status from NC to NO and vice versa, simply invert the float.

Materials

- Flange/Threaded body: Aluminium
- Tube: Brass, AISI 304 (on request)
- Float: Nylon foam, AISI 316 (on request)
- O-Ring: NBR
- Circlip: Phosphor bronze
- Contact: N.C. reed, N.O. (on request)

Electrical data

- Protection rating: IP65
- Max switching capacity: 80 W
- Max switching current: 1 A
- Max switching voltage: 250 Vac
- Fluid specific gravity: > 0.75

Temperature

From -15 °C to + 80 °C

Weight

LEN 1 float 0.185 kg
LEN 2 floats 0.230 kg

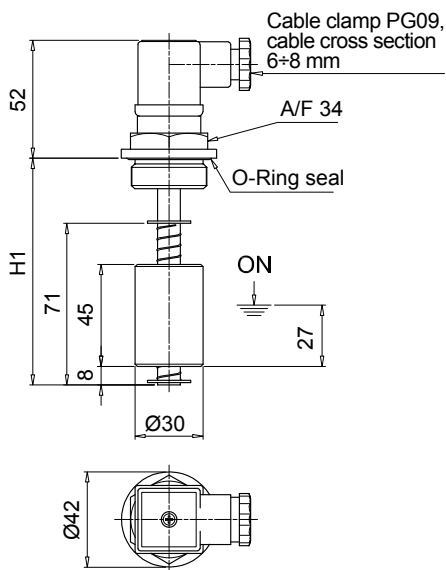


Designation & Ordering code

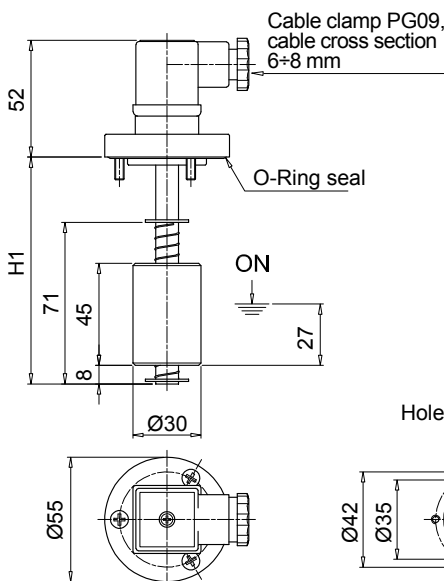
LEN

Series	Configuration example :									
LEN	LEN	A	350	2	A	1	A	G	S	P01
Tube material										
A Brass										
Length										
150 200 250 350 400 500										
Number of floats										
	Length									
	150	200	250	350	400	500				
1 Nr. 1 float	•	•	•	•	•	•				
2 Nr. 2 floats		•	•	•	•	•				
Float material										
A Nylon foam										
Electrical switch										
1 N.C. (Normally Closed)										
Seals										
A NBR										
Connections to the tank										
G Thread G 1"										
F Nr. 3 holes flange										
Electrical connection										
S DIN 43650 connector										
Execution										
P01 MP Filtri standard										
Pxx Customized										

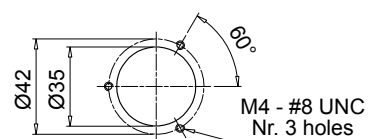
Connection "G"



Connection "F"



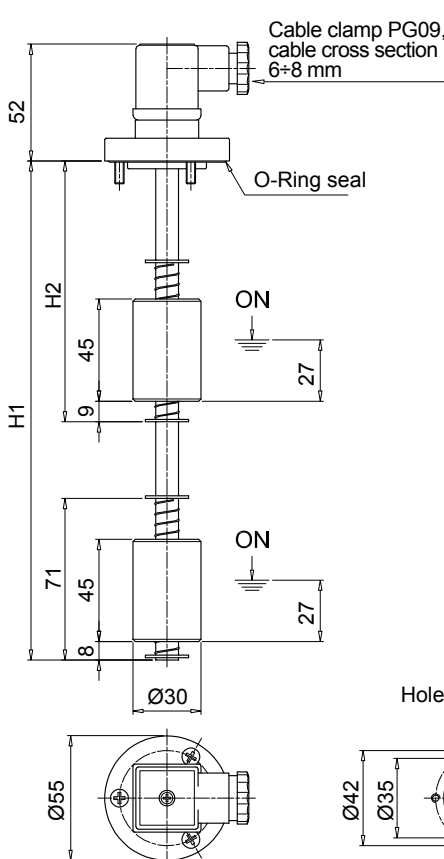
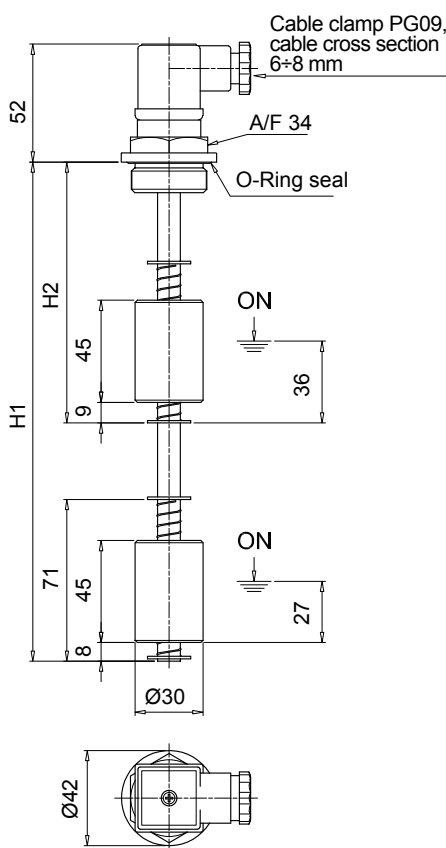
Holes on the tank



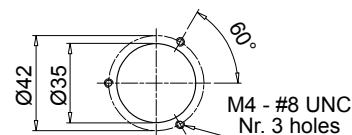
LEN

Nr. 1 float

Length	H1 [mm]
150	150
200	200
250	250
350	350
400	400
500	500



Holes on the tank



LEN

Nr. 2 floats

Length	H1 [mm]	H2 [mm]
200	200	95
250	250	105
350	350	115
400	400	115
500	500	125

Optional

DIN 43650 CONNECTOR

Materials

- Flange: aluminum
- Rod: brass
- Float: nylon foam
- Seals: A= NBR - V= FPM

Temperature

From -15 °C to +80 °C

For temperatures outside this range, contact MP Filtri Technical and Sales Department

Technical data

Electrical oil level indicators

LEG is a range of electrical fluid level indicators for monitoring of the fluid level into the tank.

They are directly fitted on the tank side.

The float moves through the rod while the fluid level changes.

A magnet, fitted into the float, turns a reed sensor fixed into the rod.

Available features:

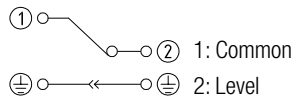
- Flanged connections
- Adjustable size on request, to meet every size of tank
- 1 float, to monitor the minimum level or the maximum level.

Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:

LEG 1 Float



Note: to invert the contact status from NC to NO and vice versa, simply invert the float.

Materials

- Flange: Aluminium
- Tube: Brass
- Float: Nylon foam
- O-Ring: NBR
- Circlip: Phosphor bronze
- Contact: N.C. reed, N.O. (on request)

Electrical data

- Protection rating: IP65
- Max switching capacity: 80 W
- Max switching current: 1 A
- Max switching voltage: 250 Vac
- Fluid specific gravity: > 0.75

The electrical properties indicated are referred to resistive loads; for capacitive and inductive loads and incandescent lamps, use protection circuits.

Temperature

From -15 °C to + 80 °C

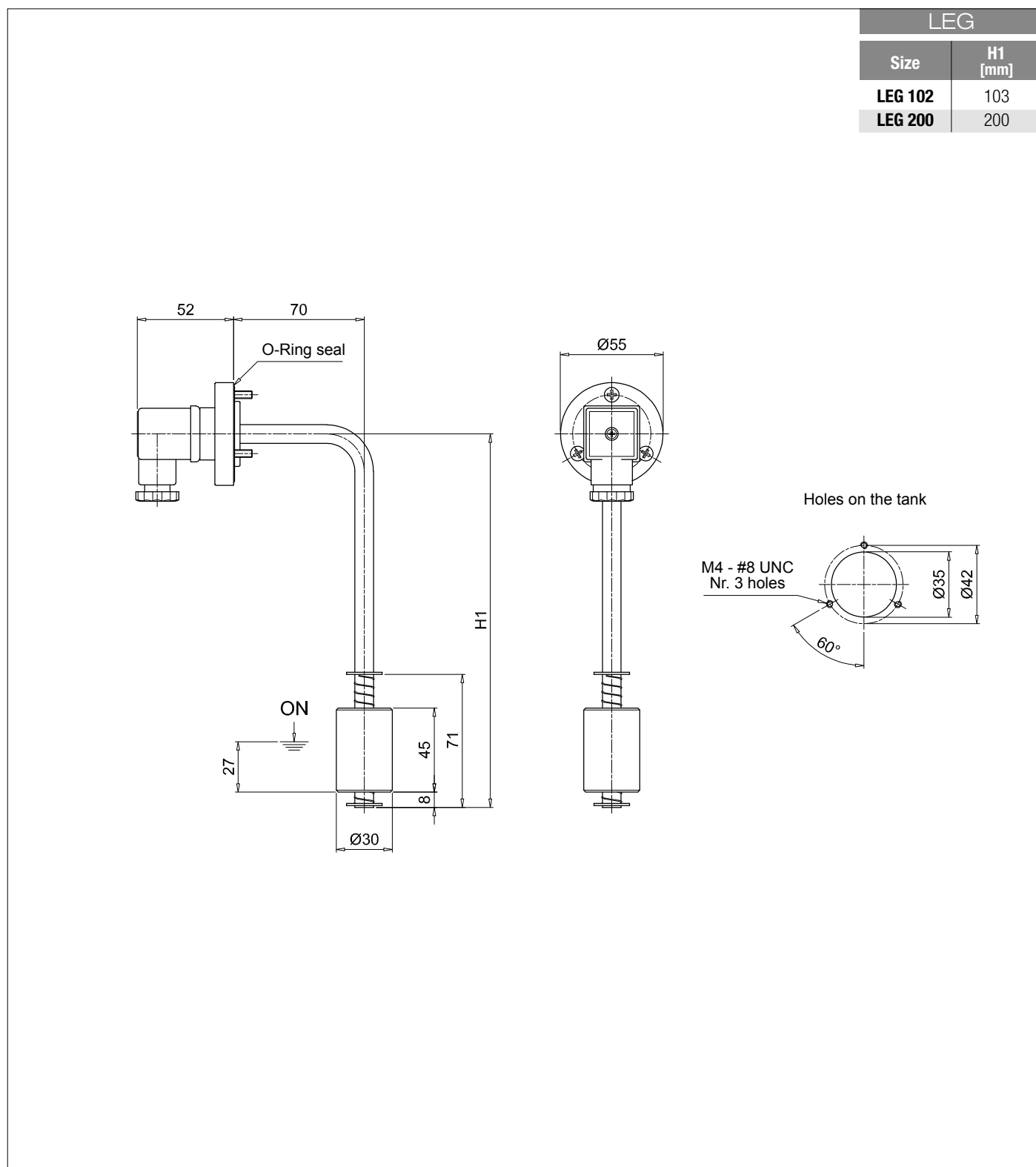
Weight

LEG A 102 0.19 kg
LEG A 200 0.22 kg



Designation & Ordering code

LEG	
Series	Configuration example : LEG A 200 1 A 1 A F S P01
LEG	
Tube material	A Brass
Length	102 200
Number of floats	1 Nr. 1 float
Float material	A Nylon foam
Electrical switch	1 N.C. (Normally Closed)
Seals	A NBR
Connection to the tank	F Nr. 3 holes flange
Electrical connection	S DIN 43650 connector
Execution	P01 MP Filtri standard Pxx Customized



Optional

DIN 43650 CONNECTOR

Materials

- Flange: aluminum
- Rod: brass
- Float: nylon foam
- Seals: A= NBR - V= FPM

Temperature

From -15 °C to +80 °C

For temperatures outside this range, contact
MP Filtri Technical and Sales Department

Note: for installation onto OB Cleaning covers see page 147

Technical data

Electrical oil level indicators

LET is a range of electrical fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank.

The float moves through the rod while the fluid level changes.

A magnet, fitted into the float, turns a reed sensor fixed into the rod.

The integrated thermostat allows to get a remote monitoring of the temperature.

Available features:

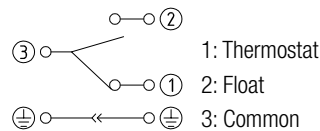
- G 1" male threaded or flanged connections
- Adjustable size on request, to meet every size of tank
- 1 float, to monitor the minimum level or the maximum level.

Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:

LET 2 Floats with thermostat



Note: to invert the contact status from NC to NO and vice versa, simply invert the float.

Materials

- Flange/Threaded body: Aluminium
- Tube: Brass, AISI 304 (on request)
- Float: Nylon foam, AISI 316 (on request)
- O-Ring: NBR
- Circlip: Phosphor bronze
- Contact: N.C. reed, N.O. (on request)

Electrical data

- Protection rating: IP65
- Max switching capacity: 80 W
- Max switching current: 1 A
- Max switching voltage: 250 Vac
- Fluid specific gravity: > 0.75

Temperature

From -15 °C to + 80 °C

Weight

LET A 200	0.20 kg
LET A 300	0.23 kg
LET A 400	0.28 kg



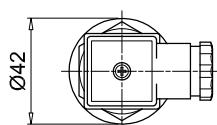
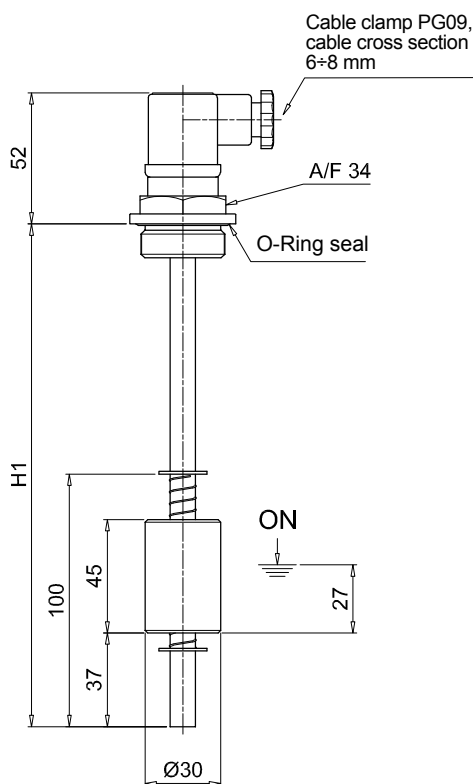
Designation & Ordering code

LET

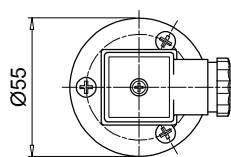
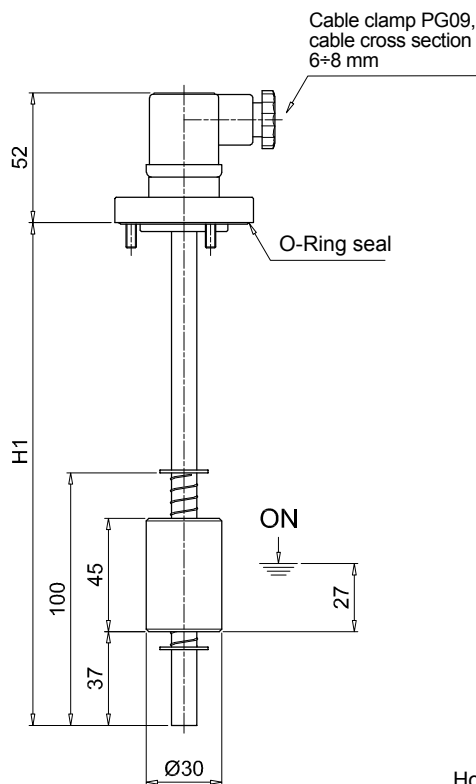
Series	Configuration example :	LET	A	300	1	A	1	A	F	S	50	P01
LET												
Tube material			A									
A Brass												
Length				300								
200 300 400												
Number of floats					1							
1 Nr. 1 float												
Float material						A						
A Nylon foam												
Electrical switch							1					
1 N.C. (Normally Closed)												
Seals								A				
A NBR												
Connections to the tank									F			
G Thread G 1"												
F Nr. 3 holes flange												
Electrical connection										S		
S DIN 43650 connector												
											Thermostat setting	
											50 50°C N.O. (Normally Open)	
												Execution
												P01 MP Filtri standard
												Pxx Customized

LET	
Length	H1 [mm]
200	200
300	300
400	400

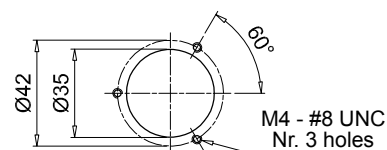
Connection "G"



Connection "F"



Holes on the tank



Optional

DIN 43650 CONNECTOR

Materials

- Flange: aluminum
- Rod: brass
- Float: nylon foam
- Seals: A= NBR - V= FPM

Temperature

From -15 °C to +80 °C

For temperatures outside this range, contact
MP Filtri Technical and Sales Department

Technical data

Electrical oil level indicators

LEM is a range of electrical fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank.
The float moves through the rod while the fluid level changes.
A magnet, fitted into the float, turns a reed sensor fixed into the rod.
The setting point is adjustable on site, with few easy actions.

Available features:

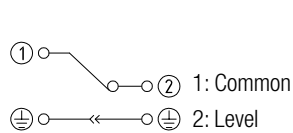
- Flanged connections
- Adjustable size on request, to meet every size of tank
- 1 float, to monitor the minimum level or the maximum level
- Integrated thermostat, to get a remote monitoring of the temperature.

Common applications:

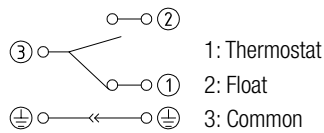
- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:

LEM 1 Float



LEM 2 Floats with thermostat



Note: to invert the contact status from NC to NO and vice versa, simply invert the float.

Materials

- Flange/Threaded body: Aluminium
- Tube: Brass
- Float: Nylon foam
- O-Ring: NBR
- Circlip: Phosphor bronze
- Float contact: N.C. reed, N.O. (on request)
- Thermostat contact: N.O., N.C. (on request)

Electrical data

- Protection rating: IP65
- Max switching capacity: 80 W
- Max switching current: 1 A
- Max switching voltage: 250 Vac
- Fluid specific gravity: > 0.75

Temperature

From -15 °C to + 80 °C

Weight

LEM 0.406 kg



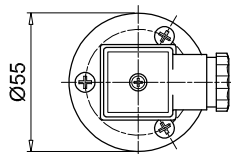
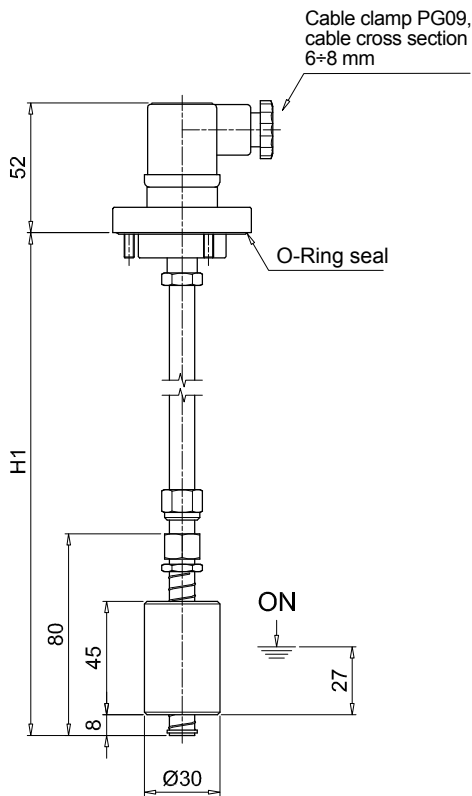
Designation & Ordering code

LEM

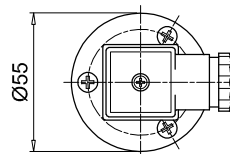
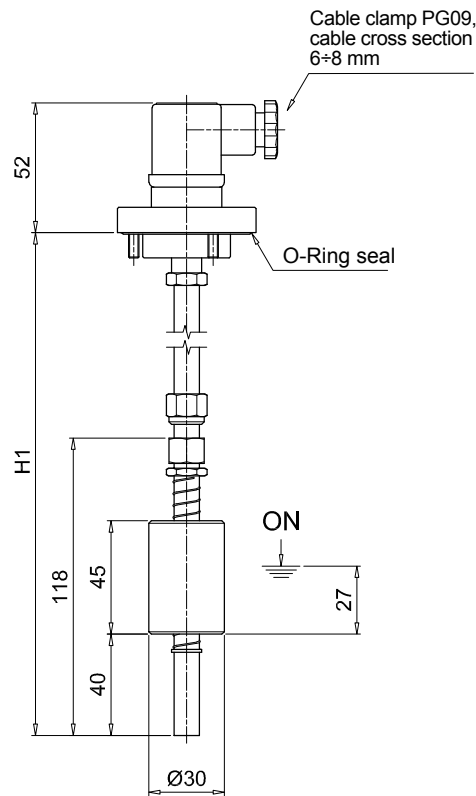
Series		Configuration example :	LEM	A	1000	1	A	1	A	F	S	60	P01
LEM													
Tube material			A										
A Brass													
Length													
500 1000													
Number of floats													
1 Nr. 1 float													
Float material													
A Nylon foam													
Electrical switch													
1 N.C. (Normally Closed)													
Seals													
A NBR													
Connections to the tank													
F Nr. 3 holes flange													
Electrical connection													
S DIN 43650 connector													
Thermostat setting													
00 Without thermostat													
60 60°C N.O. (Normally Open)													
Execution													
P01 MP Filtri standard													
Pxx Customized													

LEM	
Length	H1 [mm]
500	500
1000	1000

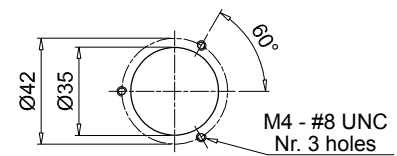
Without thermostat



With thermostat



Holes on the tank



Optional

DIN 43650 CONNECTOR

Materials

- Flange: aluminum
- Rod: brass
- Float: nylon foam
- Seals: A= NBR - V= FPM

Temperature

From -15 °C to +80 °C

For temperatures outside this range, contact
MP Filtri Technical and Sales Department

Technical data

Electrical oil level indicators

LEU is a range of electrical fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank.

The float moves through the rod while the fluid level changes.

A magnet, fitted into the float, turns a reed sensor fixed into the rod.

The setting point is adjustable on site, with few easy actions.

They are made of stainless steel, to meet every heavy duty application.

Available features:

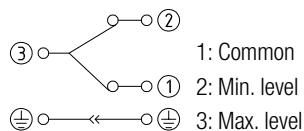
- Flanged connections
- Adjustable size on request, to meet every size of tank
- 2 floats, to monitor both the minimum level and the maximum level.

Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:

LEU 2 Floats



Note: to invert the contact status from NC to NO and vice versa, simply invert the float.

Materials

- Flange: Aluminium
- Tube: AISI 304
- Float: Hard rubber, AISI 316 (on request)
- O-Ring: NBR
- Circlip: AISI 304
- Float contact: N.C. reed, N.O. (on request)

Electrical data

- Protection rating: IP65
- Max switching capacity: 50 W
- Max switching current: 0.5 A
- Max switching voltage: 250 Vac
- Fluid specific gravity: > 0.75

Temperature

From -15 °C to + 80 °C

Weight

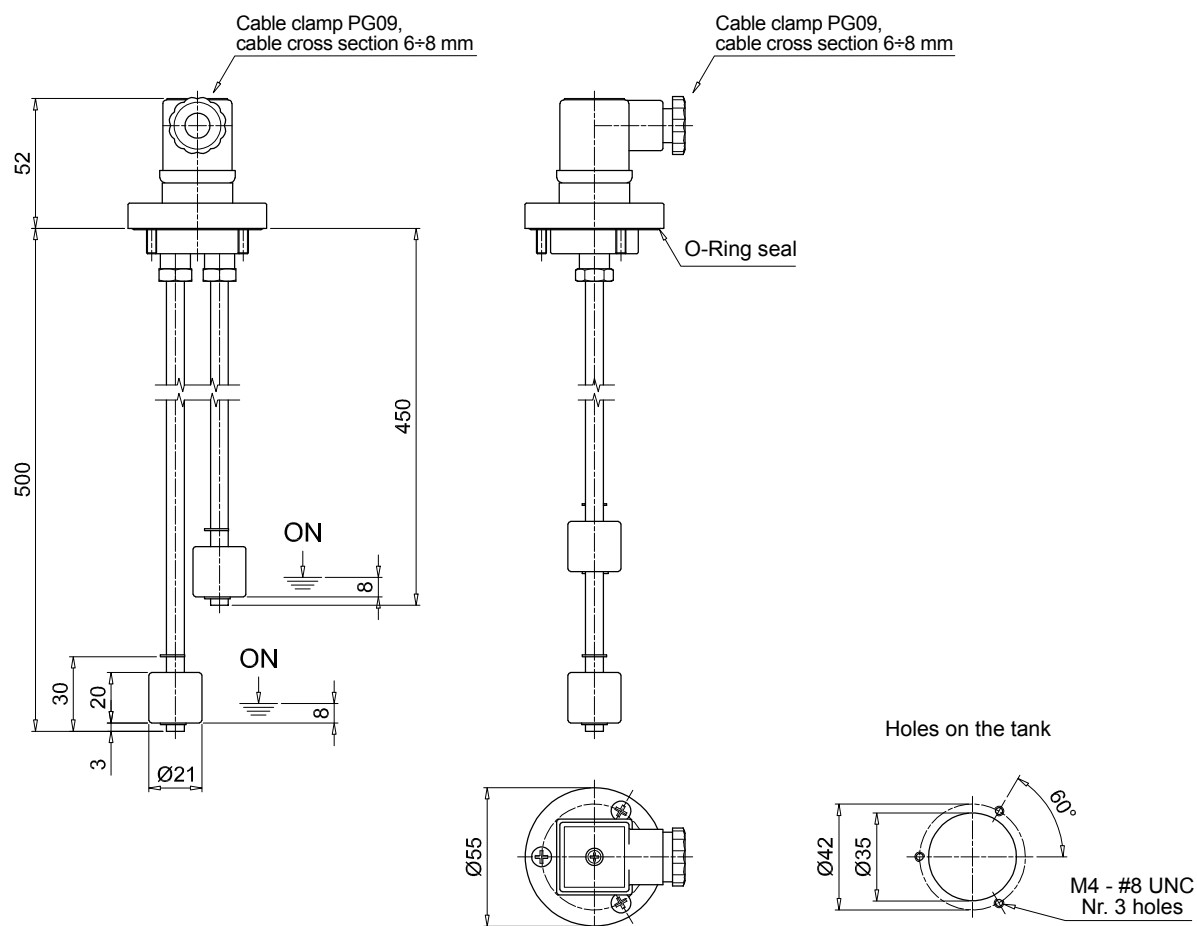
LEU 1 float 0.310 kg
LEU 2 floats 0.415 kg



Designation & Ordering code

LEU	
Series	Configuration example : LEU B 2 B 1 A F S P01
LEU	
Tube material	B AISI 304
Number of floats	2 Nr. 2 floats
Float material	B NBR
Electrical switch	1 N.C. (Normally Closed)
Seals	A NBR
Connections to the tank	F Nr. 3 holes flange
Electrical connection	S DIN 43650 connector
Execution	P01 MP Filtri standard
	Pxx Customized

LEU



Optional

DIN 43650 CONNECTOR

Materials

- Flange: aluminum
- Rod: brass
- Float: nylon foam
- Seals: A= NBR - V= FPM

Temperature

From -15°C to $+80^\circ\text{C}$

For temperatures outside this range, contact
MP Filtri Technical and Sales Department

LVK series

Electrical and visual oil level indicator



Technical data

Electrical and visual oil level indicators

LVK is a range of electrical and visual fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank side. The float moves through the indicator housing while the fluid level changes.

A magnet, fitted into the float, turns a reed sensor fixed into the housing.

Available features:

- Several male threaded connections
- Three different sizes, to meet every size of tank
- Thermometer, thermostat or PT100, to check the temperature of the fluid

Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:

see page. 118

Materials

- Head: Polyamide
- Screws: Nickel plated brass (standard), Aisi 314 (optional)
- Seal: NBR (standard), FPM (optional)
- Float: Polyamide
- Sensor thermometer: Screw + thermometer

Temperature

From -20 °C to + 80 °C

Weight

LVK 10	0.140 kg
LVK 20	0.170 kg
LVK 30	0.250 kg

Quantity

25 pcs/pack



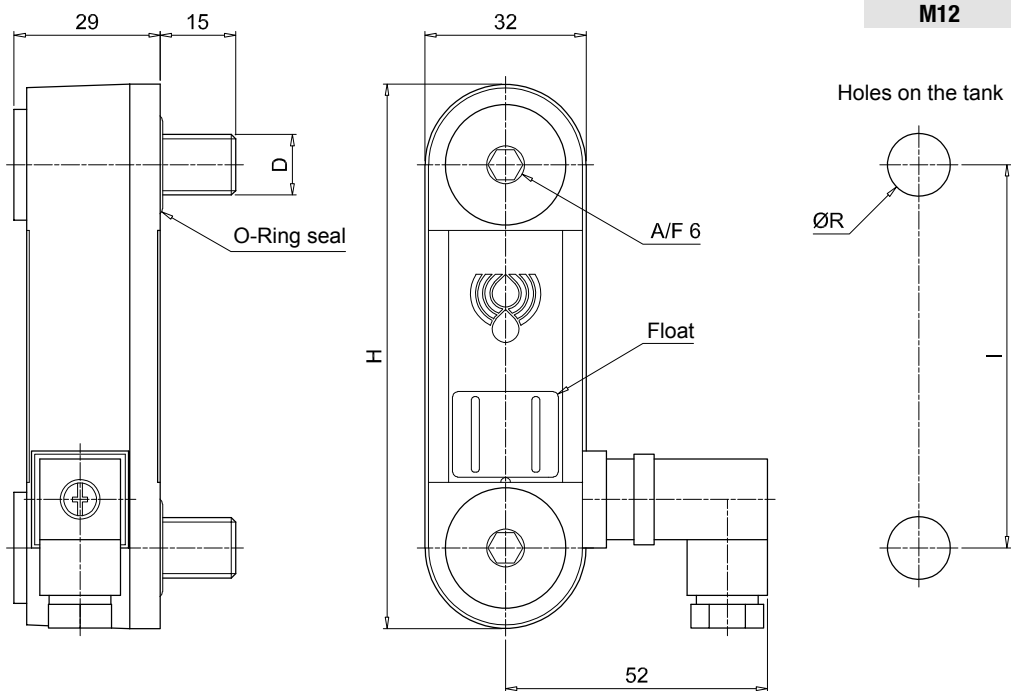
Designation & Ordering code

LVK

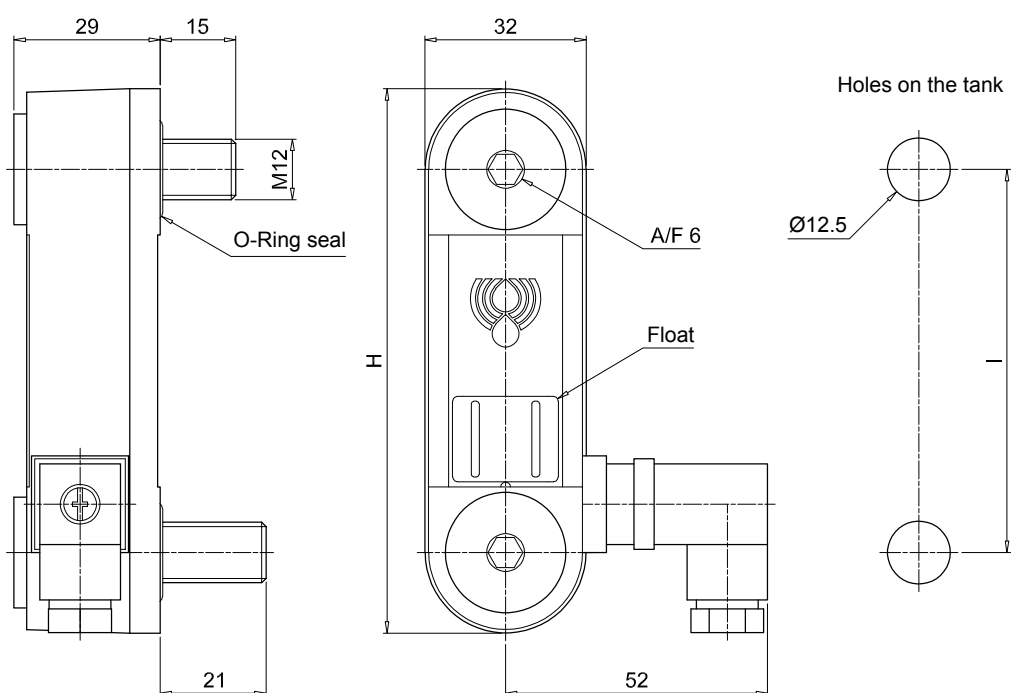
Series	Configuration example : LVK 20 A M12 1 T 5 P01								
LVK									
Length	10 20 30								
Seals	A NBR								
Connections	M10 Screws M10	M12	Screws M12						
Electrical switch in absence of fluid	1 N.O. (Normally Open)								
	2 N.C. (Normally Closed)								
	3 SPDT (single-pole, double throw)								
Version		Connection							
		M10	M12						
S Standard		•	•						
T With thermostat			•						
P With PT100 sensor			•						
Thermostat setting		Version							
		S	T	P					
S Standard (no setting)		•		•					
1 50°C N.O. (Normally Open)			•						
2 60°C N.O. (Normally Open)			•						
3 70°C N.O. (Normally Open)			•						
5 50°C N.C. (Normally Closed)			•						
6 60°C N.C. (Normally Closed)			•						
7 70°C N.C. (Normally Closed)			•						
		Execution							
		P01 MP Filtri standard							
		Pxx Customized							

LVK		
Size	H [mm]	I [mm]
10	108	76
20	159	127
30	286	254
Connection	D [mm]	ØR [mm]
M10	M10	10.5
M12	M12	12.5

Without thermostat

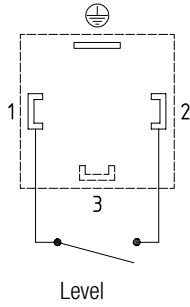


With thermostat

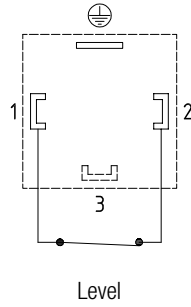


Electrical symbols

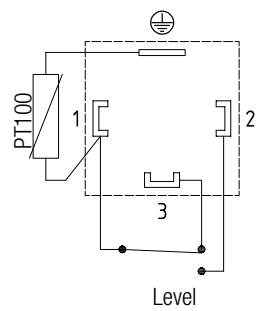
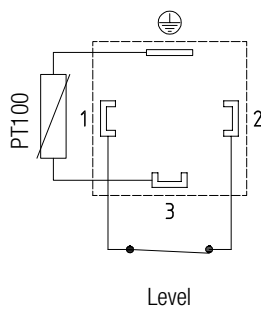
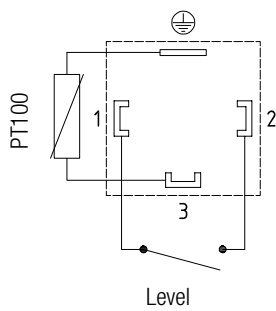
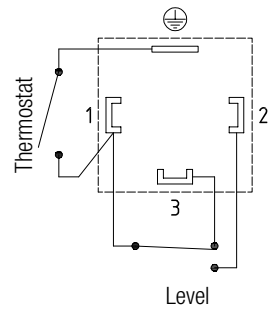
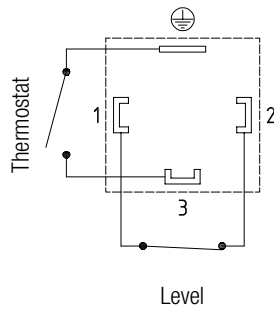
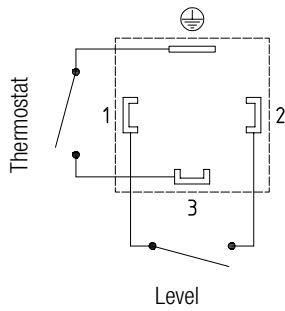
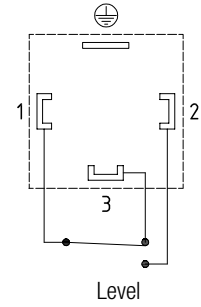
N.O.
(Normally Open)



N.C.
(Normally Closed)



SPDT
(single-pole, double-throw)





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PASSION TO PERFORM



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