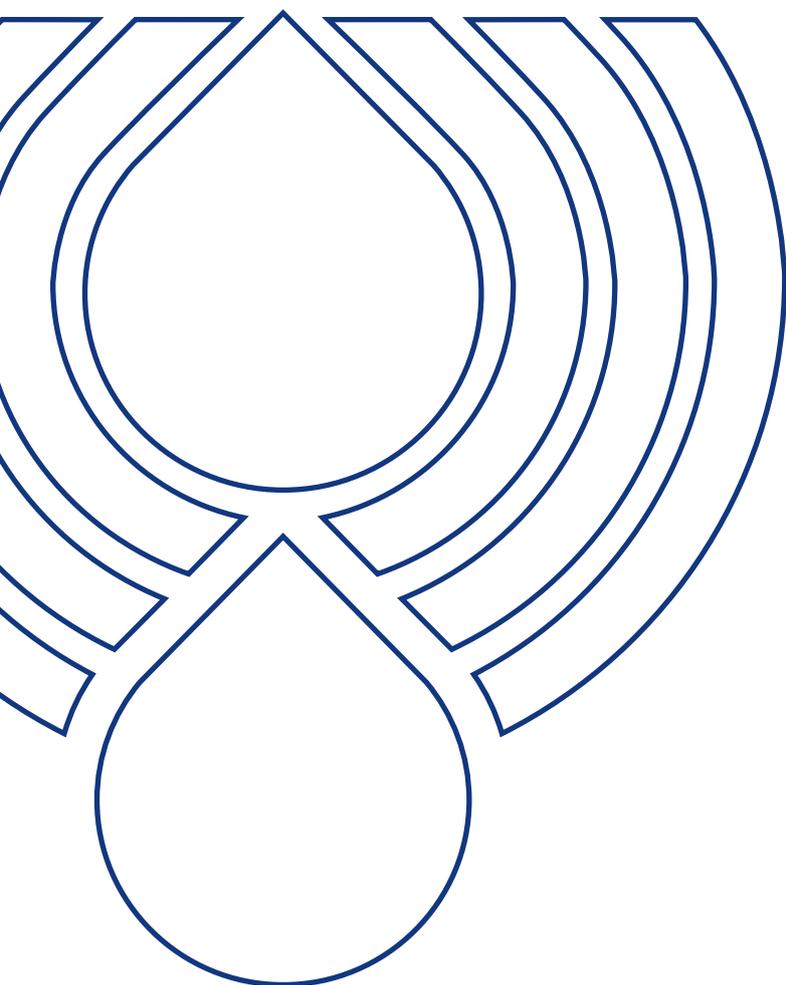


TANK ACCESSORIES

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 **9** 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

- Off-line, 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

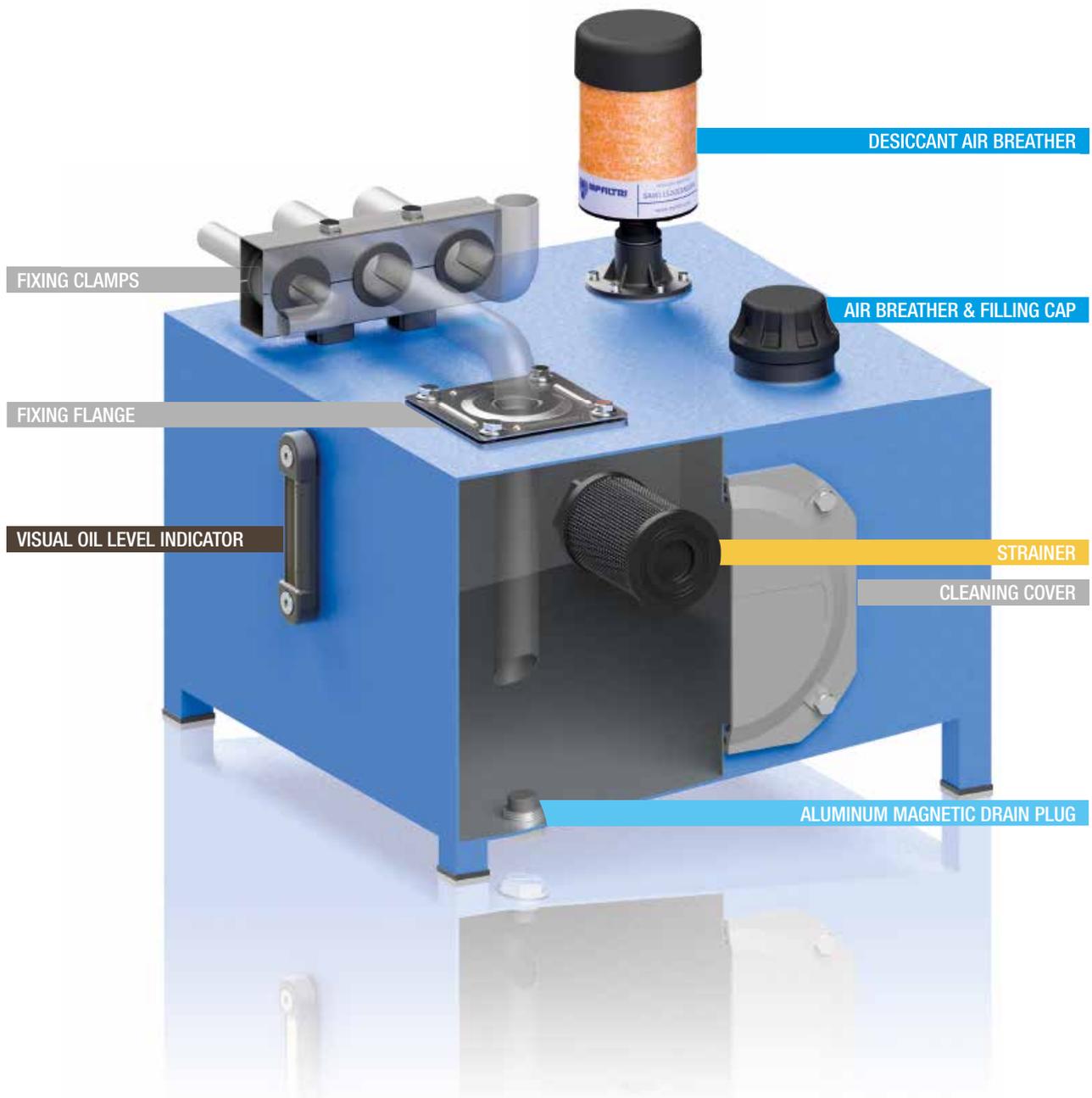
POWER TRANSMISSION PRODUCTS

- 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	Moisture control 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	Filler plug and air filter up to 200 l/min
53	TA 80	Steel filler plug and air filter up to 500 l/min
57	TAP 90	Filler plug and polyamide air filter up to 550 l/min
63	TAP 114	Filler plug and polyamide air filter up to 1600 l/min
67	TAP 115 & SAP 115	Filler plug and polyamide air filter up to 3000 l/min
72	page	FILLER AND DRAIN PLUGS
75	TC 50	Polyamide filler plug
79	TKT - TSD - TKM	Filler and draining plugs
86	page	VISUAL OIL LEVEL INDICATORS
89	LCP - LCC	Visual oil level indicator - round shape
95	LVA - LVU	Visual oil level indicator - vertical shape
100	page	ELECTRICAL OIL LEVEL INDICATORS
103	LEN - LEG - LET - LEM - LEU	Electric oil level indicator
115	LVK	Visual and Electric oil level indicator
120	page	ACCESSORIES
123	EM1	Pressure gauge isolator
129	SVM	Gauge selector valve
133	FTA - FTR	Oil tank fixing flange
137	MULTIFIT 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 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:

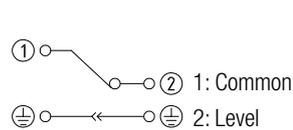
- G 1" male threaded or flanged connections
- Adjustable size on request, to meet every size of tank
- 1 or 2 floats, to monitor the minimum level, the maximum level or both of them

Common applications:

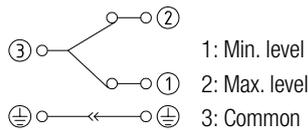
- Hydraulic systems
- Mobile machines
- Industrial equipment

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
- Float: Polyamide foam
- O-Ring: NBR
- Circlip: Phosphor bronze
- Contact: N.C. (Normally Closed)

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

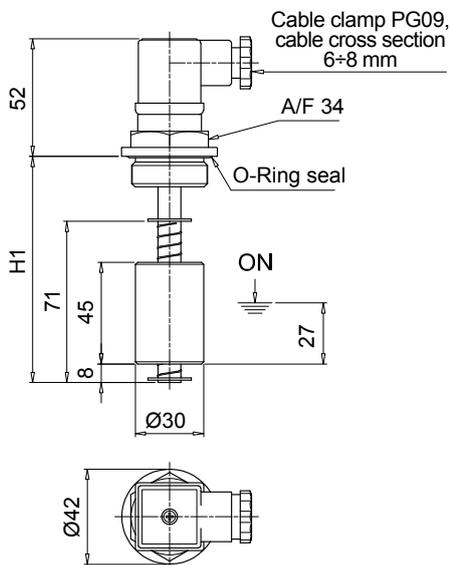


Designation & Ordering code

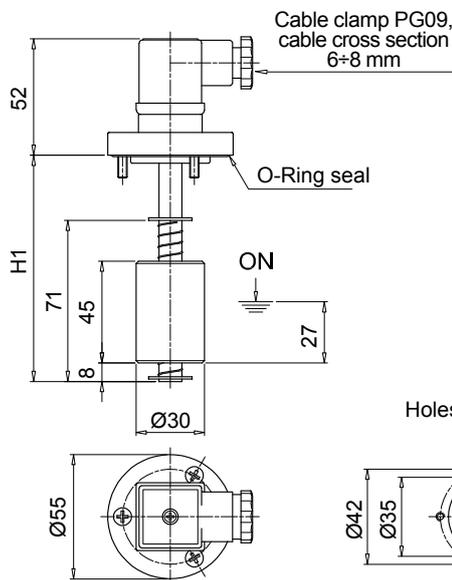
COMPLETE ELECTRICAL OIL LEVEL INDICATORS

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 Polyamide foam										
Electrical switch										
1 N.C. (Normally Closed)										
Seals										
A NBR										
Connections										
G G 1"										
F Nr. 3 holes flange										
Electrical connection										
S EN 175301-803 connector										
Execution										
P01 MP Filtri standard										
Pxx Customized										

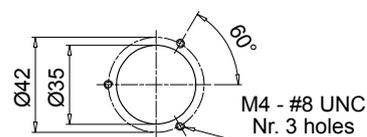
Connection "G"



Connection "F"



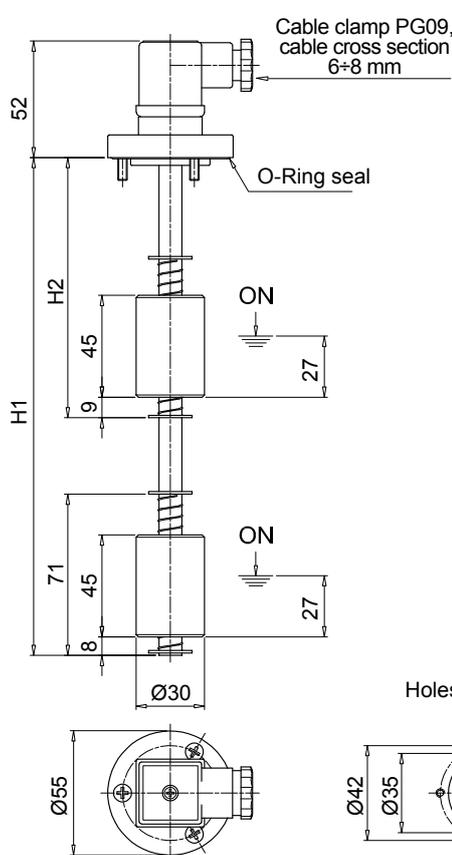
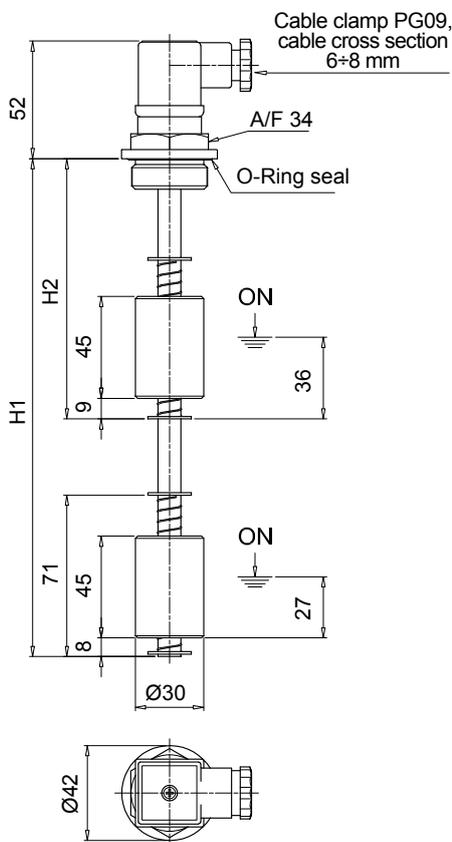
Holes on the tank



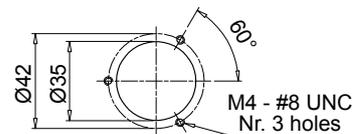
LEN

Nr. 1 float

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



Holes on the tank

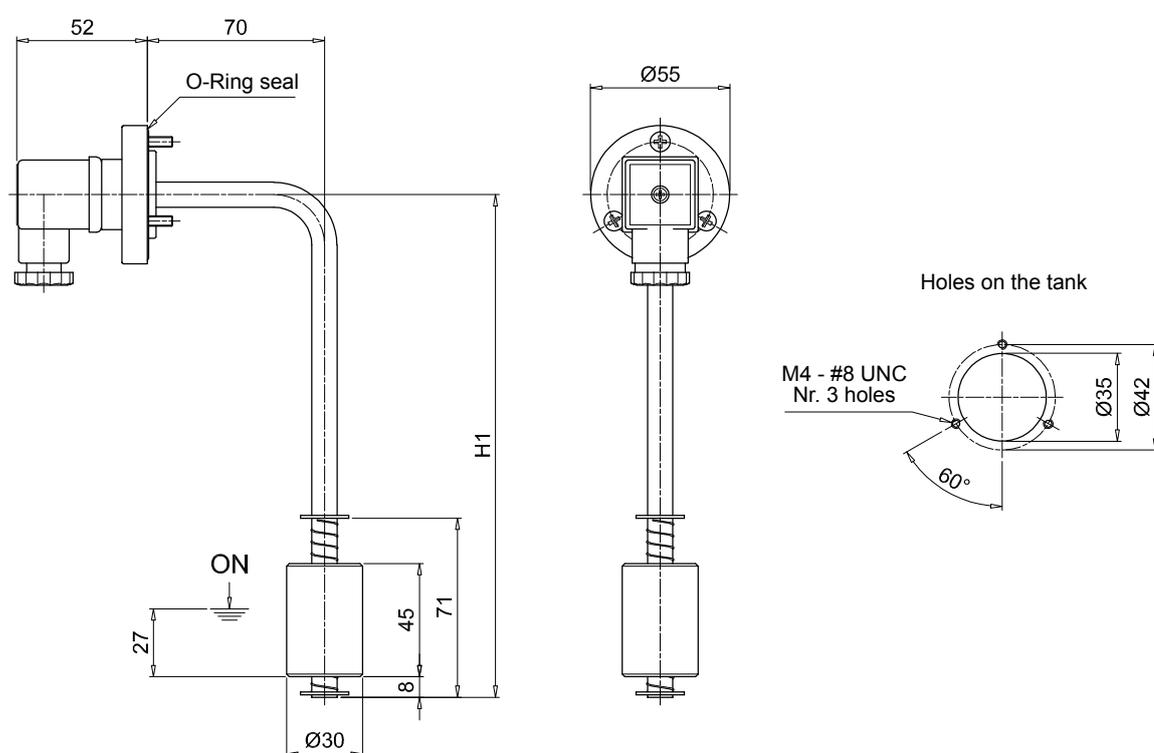


LEN

Nr. 2 floats

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

LEG	
Size	H1 [mm]
LEG 102	103
LEG 200	200



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.

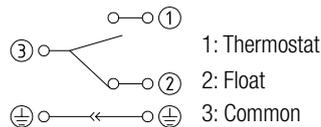
Available features:

- G 1" male threaded or flanged connections
- Adjustable size on request, to meet every size of tank
- Floating monitor for oil level check

Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:



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: Polyamide foam
- O-Ring: NBR
- Circlip: Phosphor bronze
- Contact: N.C. (Normally Closed)

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



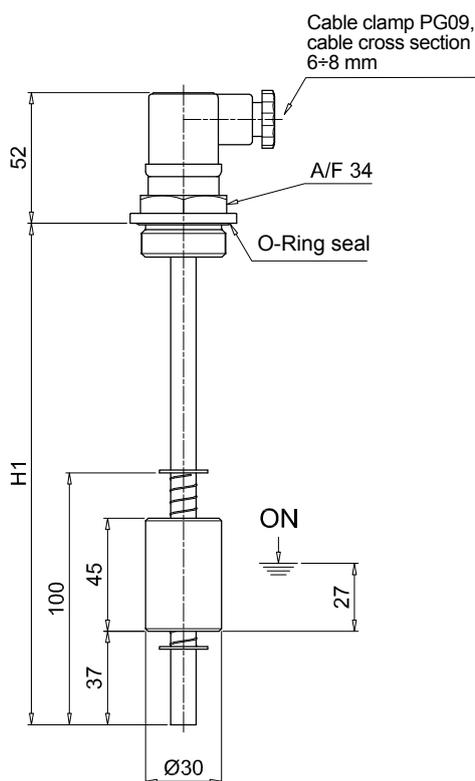
Designation & Ordering code

COMPLETE ELECTRICAL OIL LEVEL INDICATOR

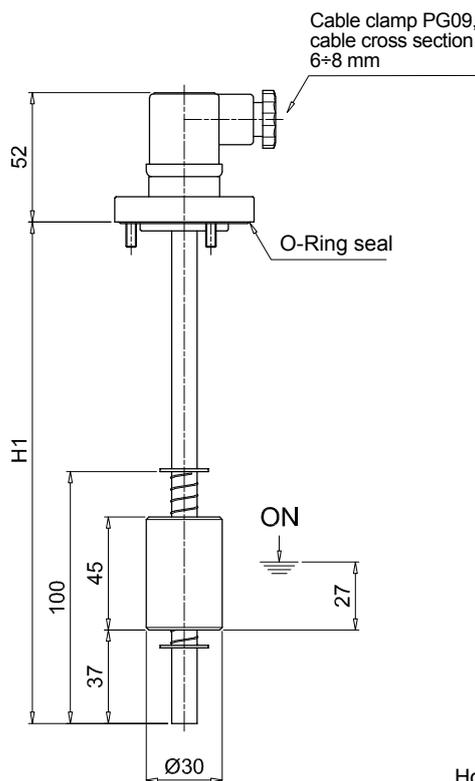
Series	Configuration example :	LET	A	300	1	A	1	A	F	S	50	P01
LET												
Tube material												
A Brass												
Length												
200 300 400 												
Number of floats												
1 Nr. 1 float												
Float material												
A Polyamide foam												
Electrical switch												
1 N.C. (Normally Closed)												
Seals												
A NBR												
Connections												
G G 1"												
F Nr. 3 holes flange												
Electrical connection												
S EN 175301-803 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

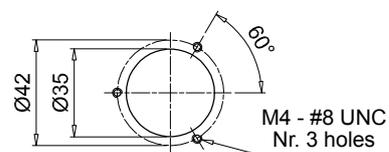
Connection "G"



Connection "F"

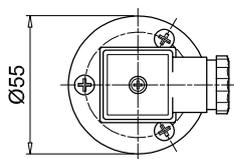
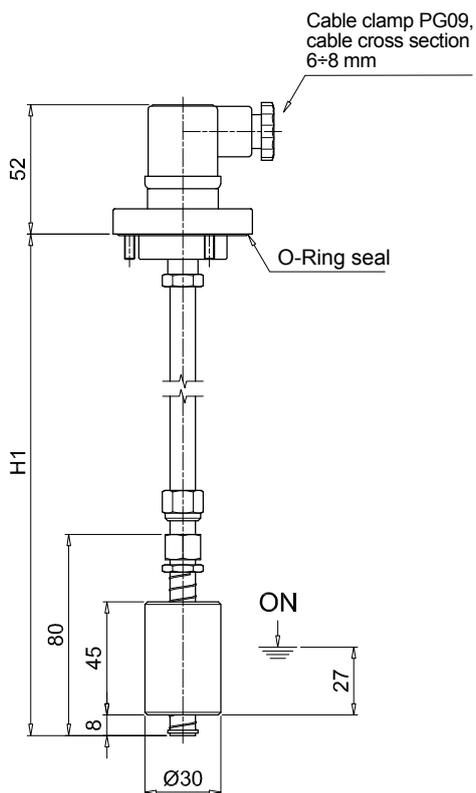


Holes on the tank

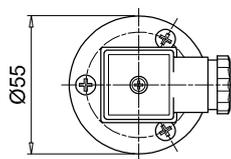
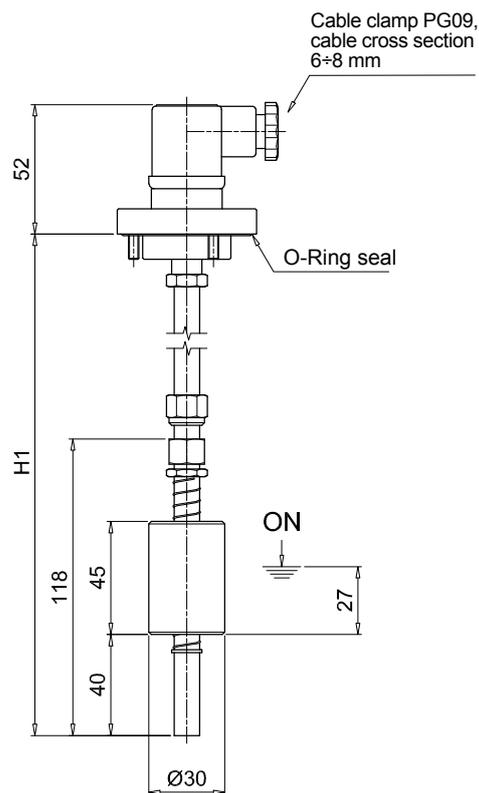


LEM	
Length	H1 [mm]
500	500
1000	1000

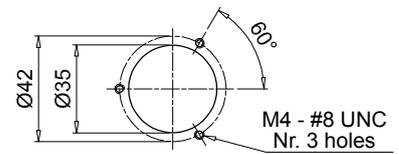
Without thermostat



With thermostat



Holes on the tank



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.

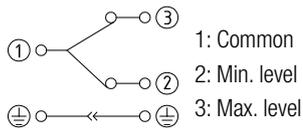
Available features:

- Flanged connections
- Setting size for each tank type
- Double Floating monitor for oil level check

Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

Electrical symbol:



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

Materials

- Flange / Threaded body: Aluminium
- Tube: AISI 304
- Float: NBR, 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 0.415 kg



Designation & Ordering code

COMPLETE ELECTRICAL OIL LEVEL INDICATOR

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										
F Nr. 3 holes flange										
Electrical connection										
S EN 175301-803 connector										
Execution										
P01 MP Filtri standard										
Pxx Customized										

LVK series

Electrical and visual oil level indicator



Technical data

Electrical 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.

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



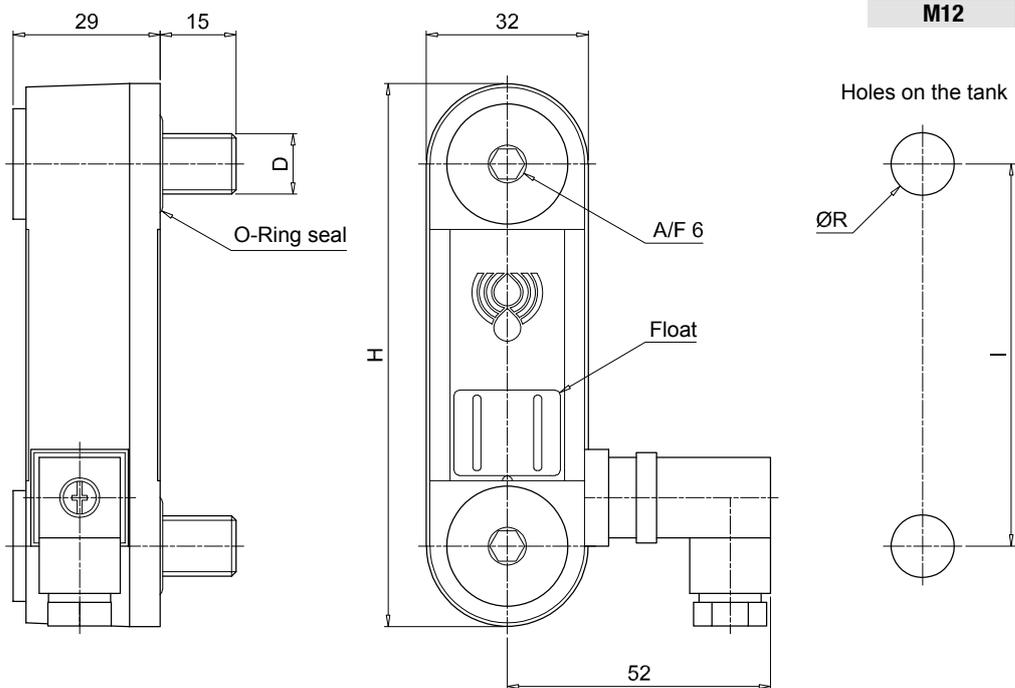
Designation & Ordering code

COMPLETE ELECTRICAL AND VISUAL OIL LEVEL INDICATORS

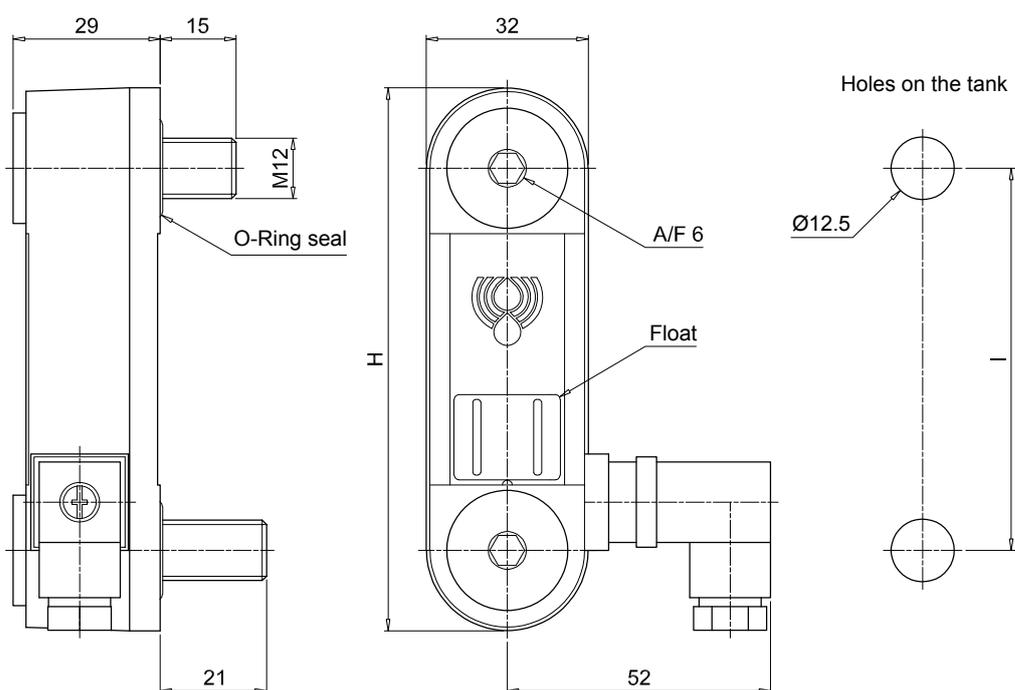
Series	Configuration example : LVK 20 A M12 1 T 5 P01								
LVK									
Length	10 20 30								
Seals	A NBR								
Connections	M10 Screws M10 M12 Screws M12								
Electrical switch in absence of fluid	1 N.O. (Normally Open) 2 N.C. (Normally Closed) 3 SPDT (single-pole, double throw)								
Version		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
Connections	D [mm]	ØR [mm]
M10	M10	10.5
M12	M12	12.5

Without thermostat

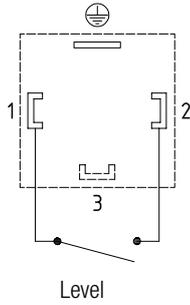


With thermostat

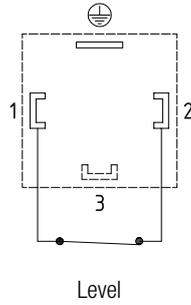


Electrical symbols

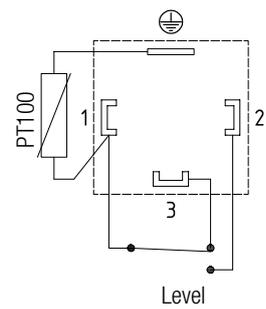
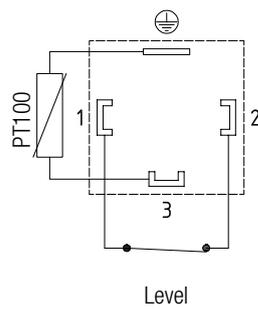
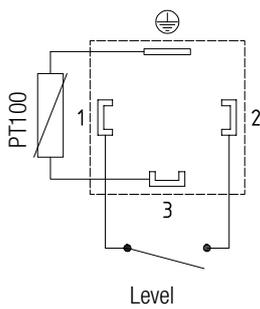
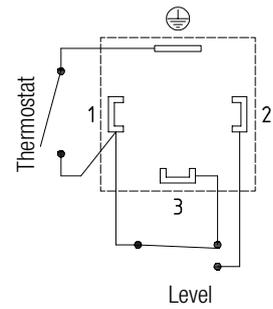
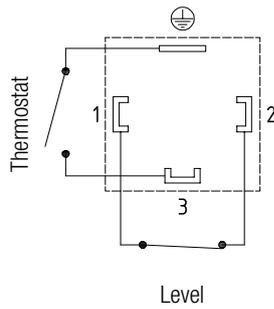
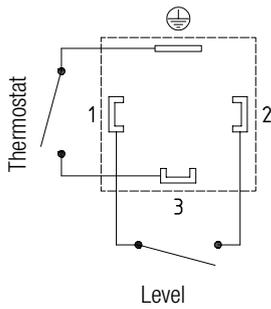
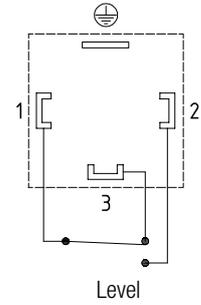
N.O.
(Normally Open)



N.C.
(Normally Closed)



SPDT
(single-pole, double-throw)



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PASSION TO PERFORM



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