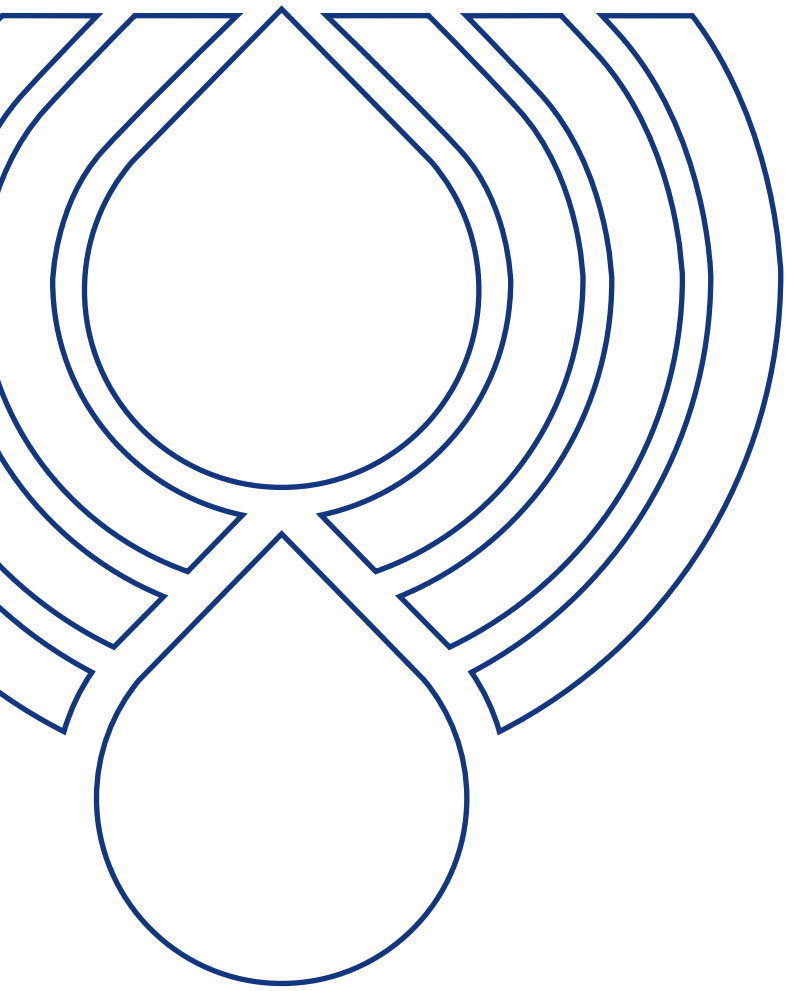
TANK ACCESSORIES

ELECTRICAL OIL LEVEL INDICATORS



PASSION TO PERFORM

MP FILTRI®

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.

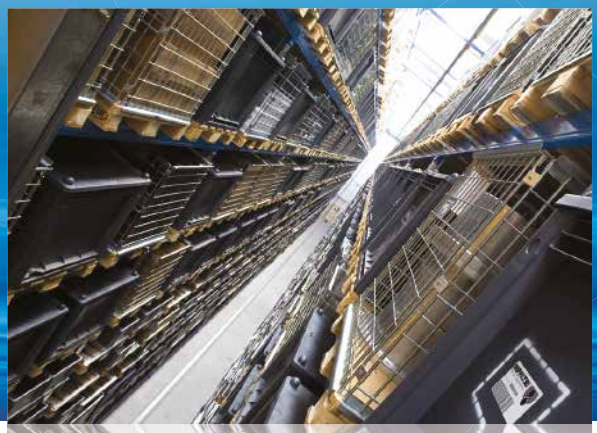
The Group boasts **8** **business branches**

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

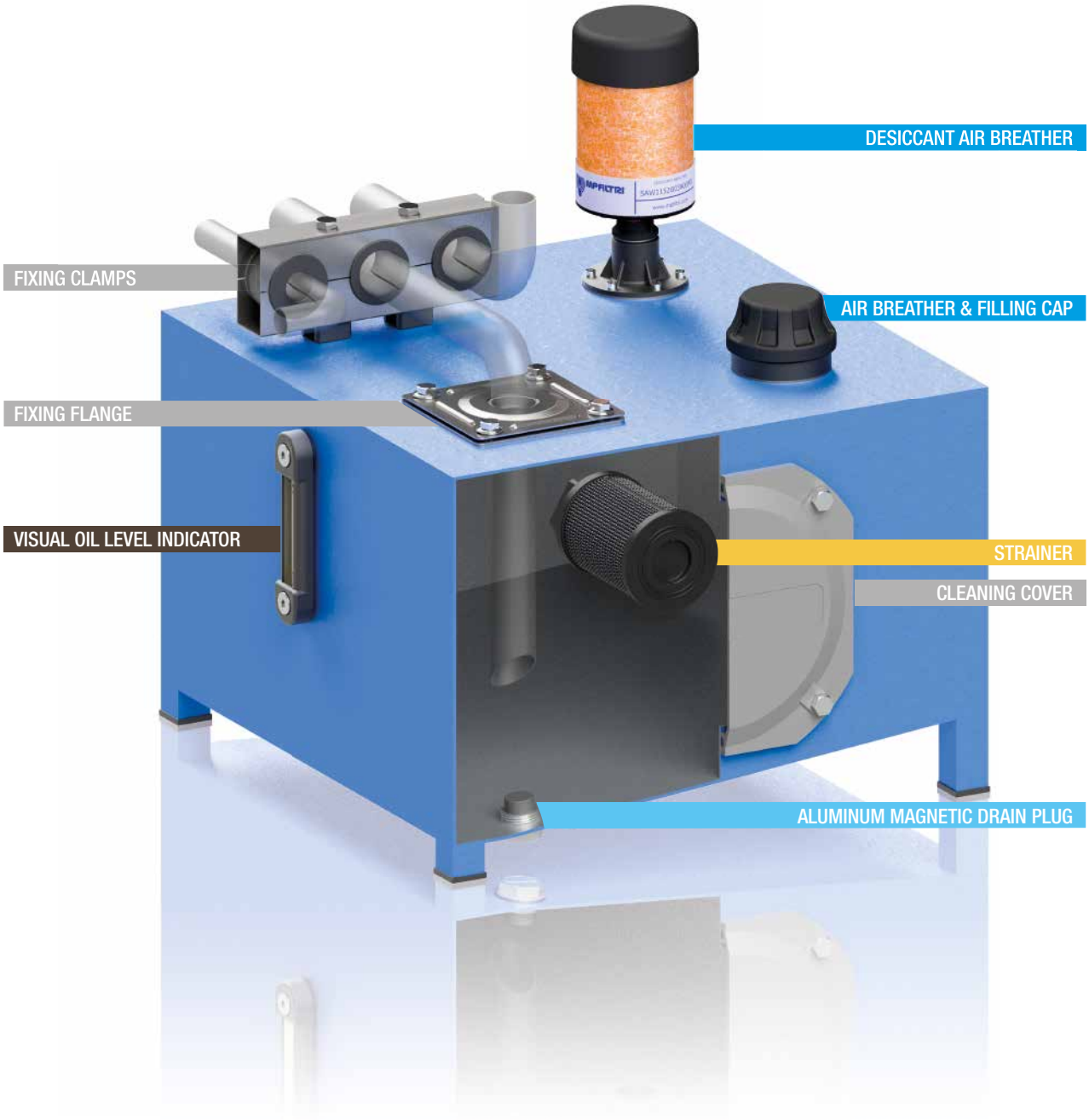
POWER TRANSMISSION PRODUCTS

- 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



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115	LVK	Electrical and visual oil level indicator
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129	SVM	Gauge isolator valves
133	FTA - FTR	Oil tank fixing flange
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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

LEN GENERAL INFORMATION

Technical data

Electrical oil level indicators

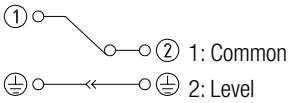
LEN is a range of electrical fluid level indicators for monitoring of the fluid level into the tank.
They are directly fitted on the tank.
The float moves through the rod while the fluid level changes.
A magnet, fitted into the float, turns a reed sensor fixed into the rod.

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.

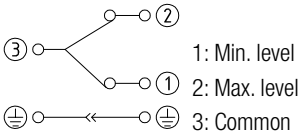
Common applications:
- Hydraulic systems
- Mobile machines
- Industrial equipment

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.

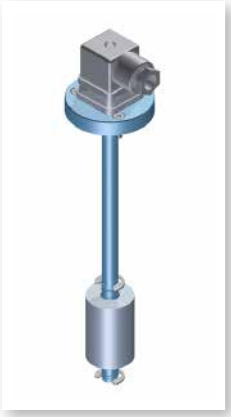
Materials
- Flange/Threaded body: Aluminium
- Tube: Brass, AISI 304 (on request)
- Float: Nylon foam, AISI 316 (on request)
- O-Ring: NBR
- Circlip: Phosphor bronze
- Contact: N.C. reed, N.O. (on request)

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

Configuration example : LEN | A | 350 | 2 | A | 1 | A | G | S | P01

Series
LEN

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)

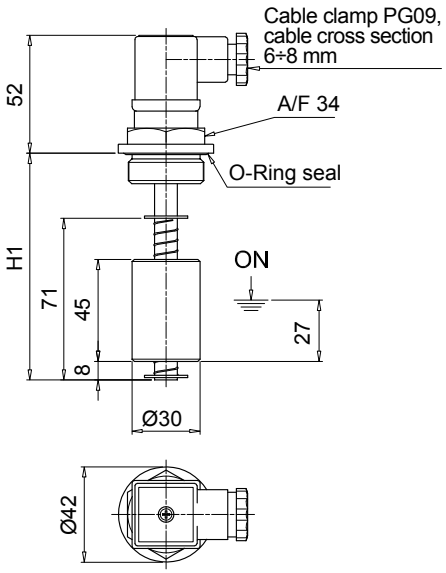
Seals
A NBR

Connections to the tank
G Thread G 1"
F Nr. 3 holes flange

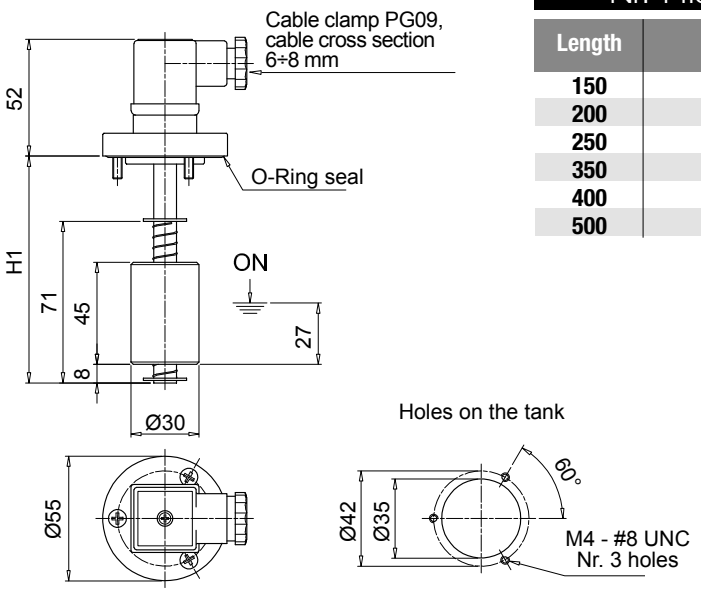
Electrical connection
S DIN 43650 connector

Execution
P01 MP Filtri standard
Pxx Customized

Connection “G”



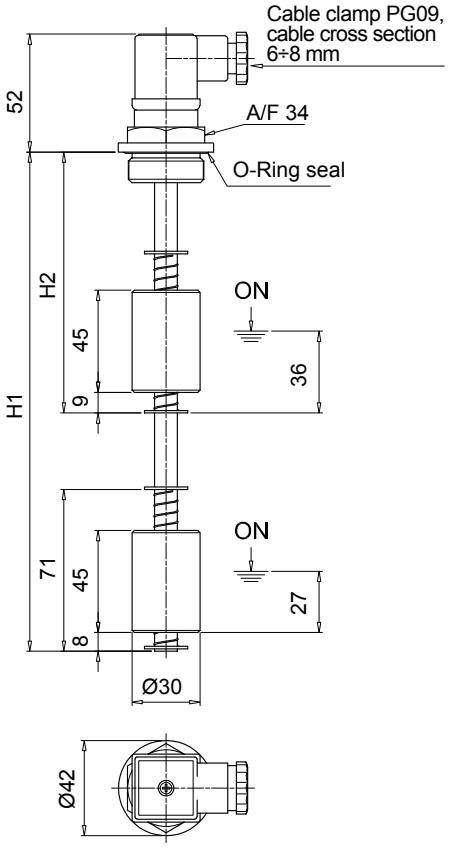
Connection “F”

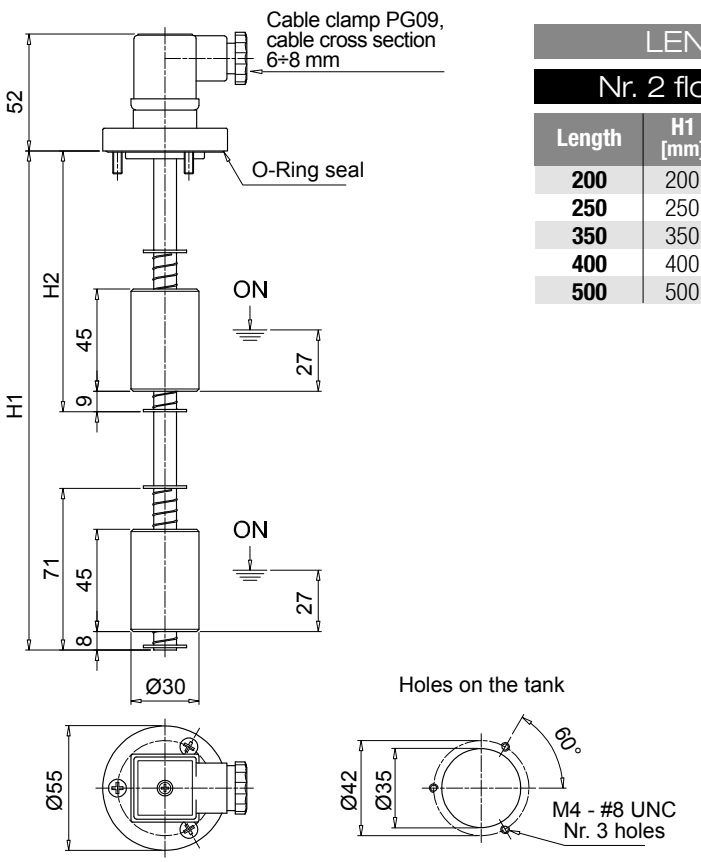


LEN

Nr. 1 float

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





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

LEG GENERAL INFORMATION

Technical data

Electrical oil level indicators

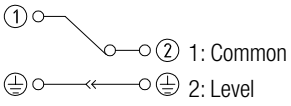
LEG is a range of electrical fluid level indicators for monitoring of the fluid level into the tank.
They are directly fitted on the tank side.
The float moves through the rod while the fluid level changes.
A magnet, fitted into the float, turns a reed sensor fixed into the rod.

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

Configuration example : LEG | A | 200 | 1 | A | 1 | A | F | S | P01

Series
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)

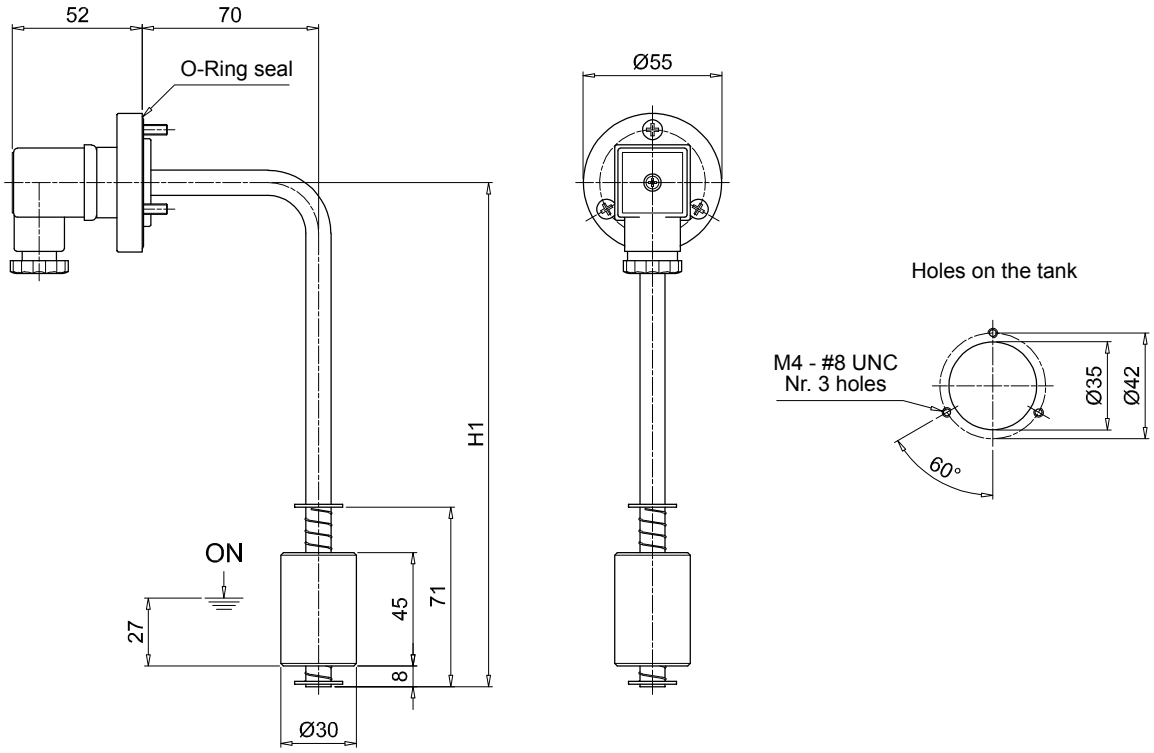
Seals
A NBR

Connection to the tank
F Nr. 3 holes flange

Electrical connection
S DIN 43650 connector

Execution
P01 MP Filtri standard
Pxx Customized

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



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

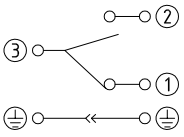
LET is a range of electrical fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank.
The float moves through the rod while the fluid level changes.
A magnet, fitted into the float, turns a reed sensor fixed into the rod.
The integrated thermostat 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

Configuration example :	LET	A	300	1	A	1	A	F	S	50	P01

Series
LET

Tube material
A Brass

Length
200 | **300** | **400** |

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
G Thread G 1"
F Nr. 3 holes flange

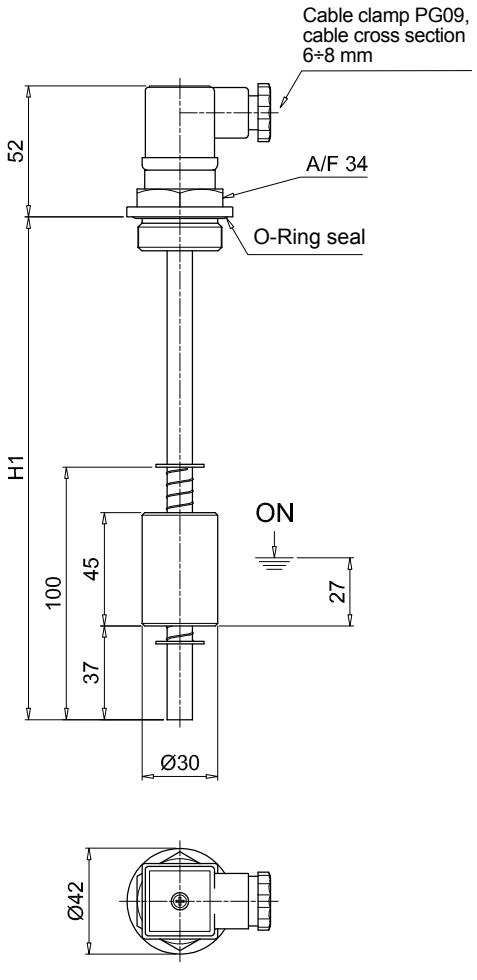
Electrical connection
S DIN 43650 connector

Thermostat setting
50 50°C N.O. (normally open)

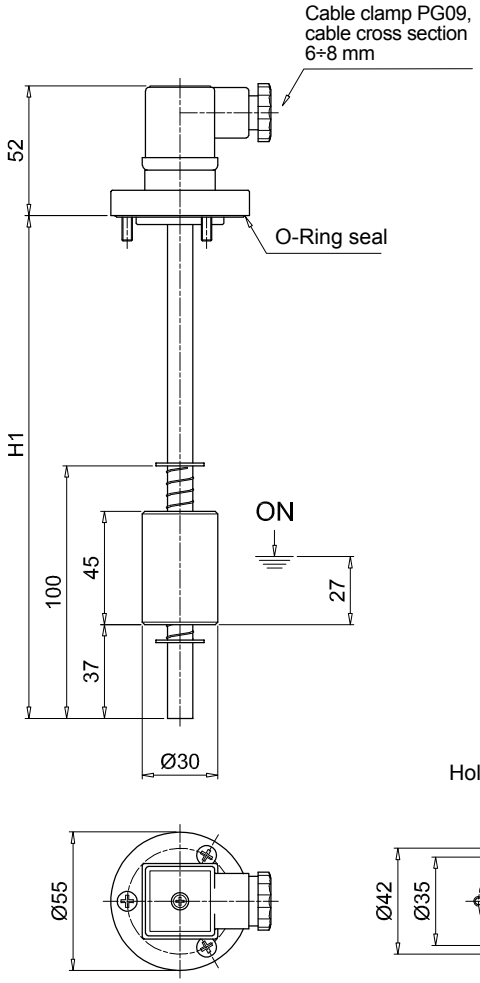
Execution
P01 MP Filtri standard
Pxx Customized

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

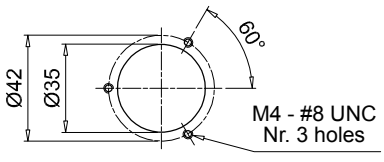
Connection “G”



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

LEM GENERAL INFORMATION

Technical data

Electrical oil level indicators

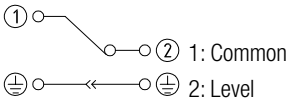
LEM is a range of electrical fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank.
The float moves through the rod while the fluid level changes.
A magnet, fitted into the float, turns a reed sensor fixed into the rod.
The setting point is adjustable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

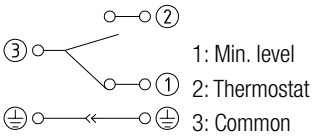
Common applications:
- Hydraulic systems
- Mobile machines
- Industrial equipment

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

	Configuration example :	LEM	A	1000	1	A	1	A	F	S	60	P01

Series
LEM

Tube material
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

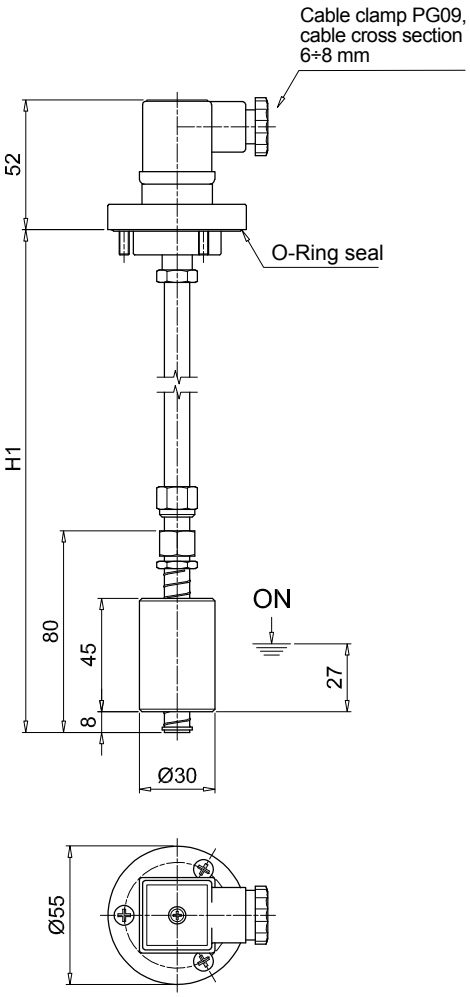
Electrical connection
S DIN 43650 connector

Thermostat setting
00 Without thermostat
60 60°C N.O. (normally open)

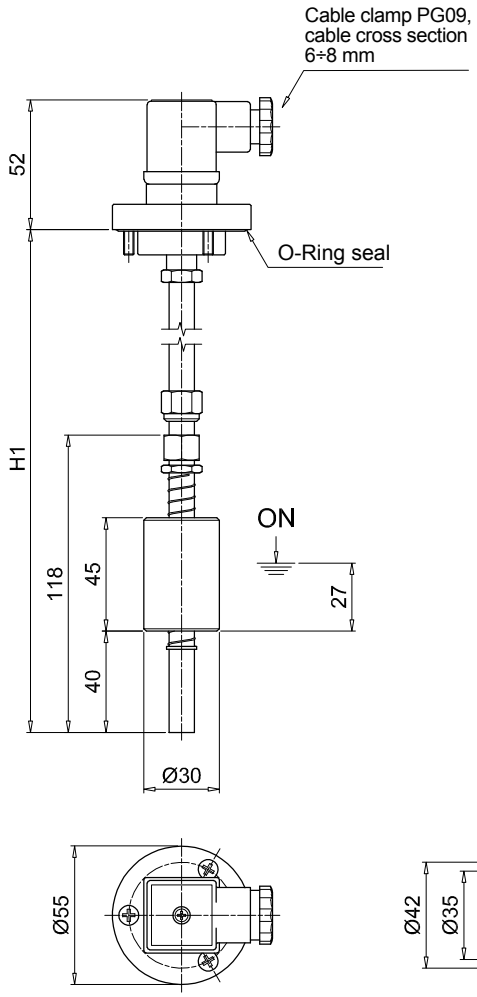
Execution
P01 MP Filtri standard
Pxx Customized

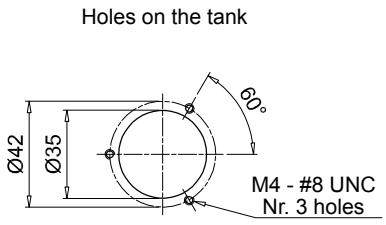
LEM	
Length	**H1 [mm]**
500	500
1000	1000

Without thermostat



With thermostat





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

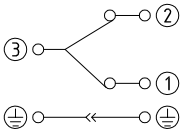
LEU is a range of electrical fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank.
The float moves through the rod while the fluid level changes.
A magnet, fitted into the float, turns a reed sensor fixed into the rod.
The setting point is adjustable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

Configuration example : LEU | B | 2 | B | 1 | A | F | S | P01

Series
LEU

Tube material
B AISI 304

Number of floats
2 Nr. 2 floats

Float material
B NBR

Electrical switch
1 N.C. (normally closed)

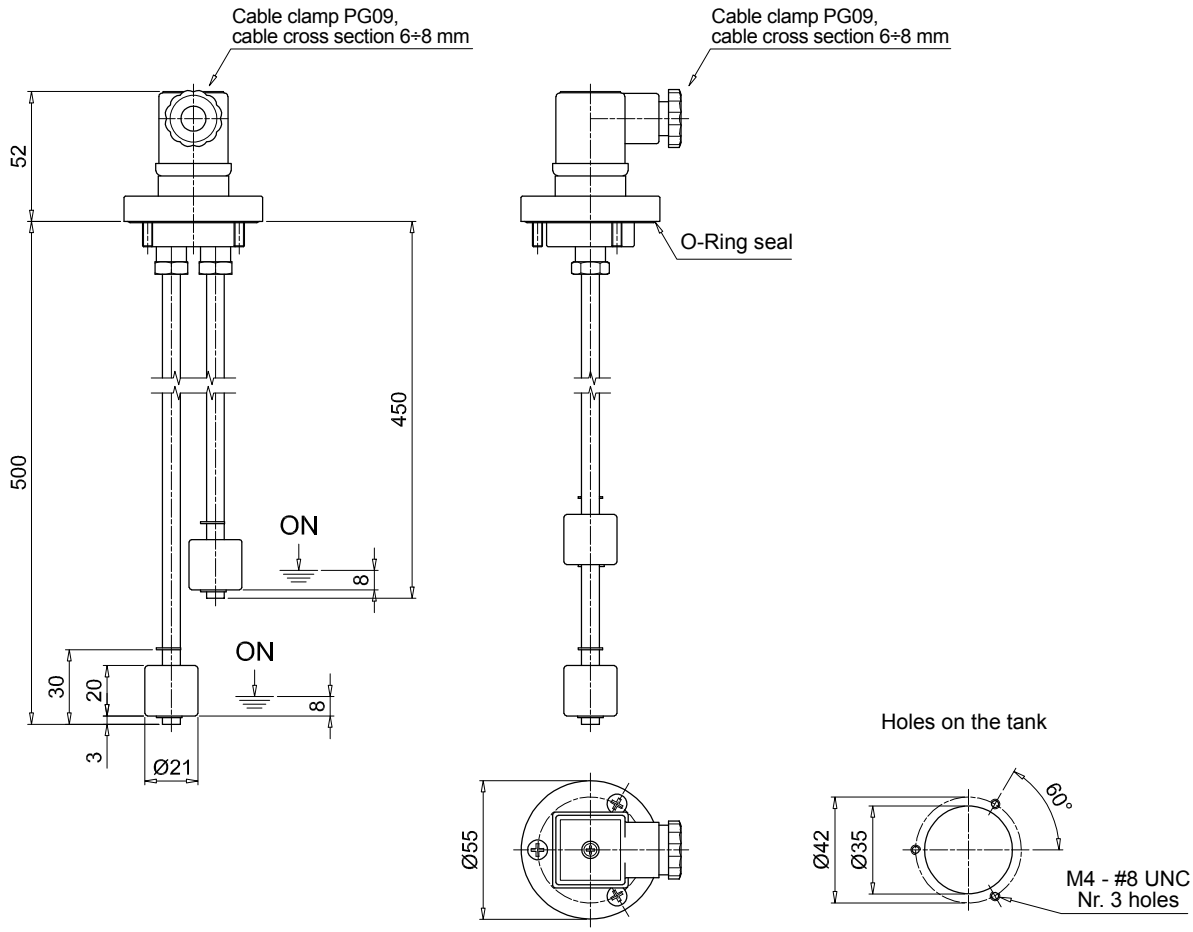
Seals
A NBR

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

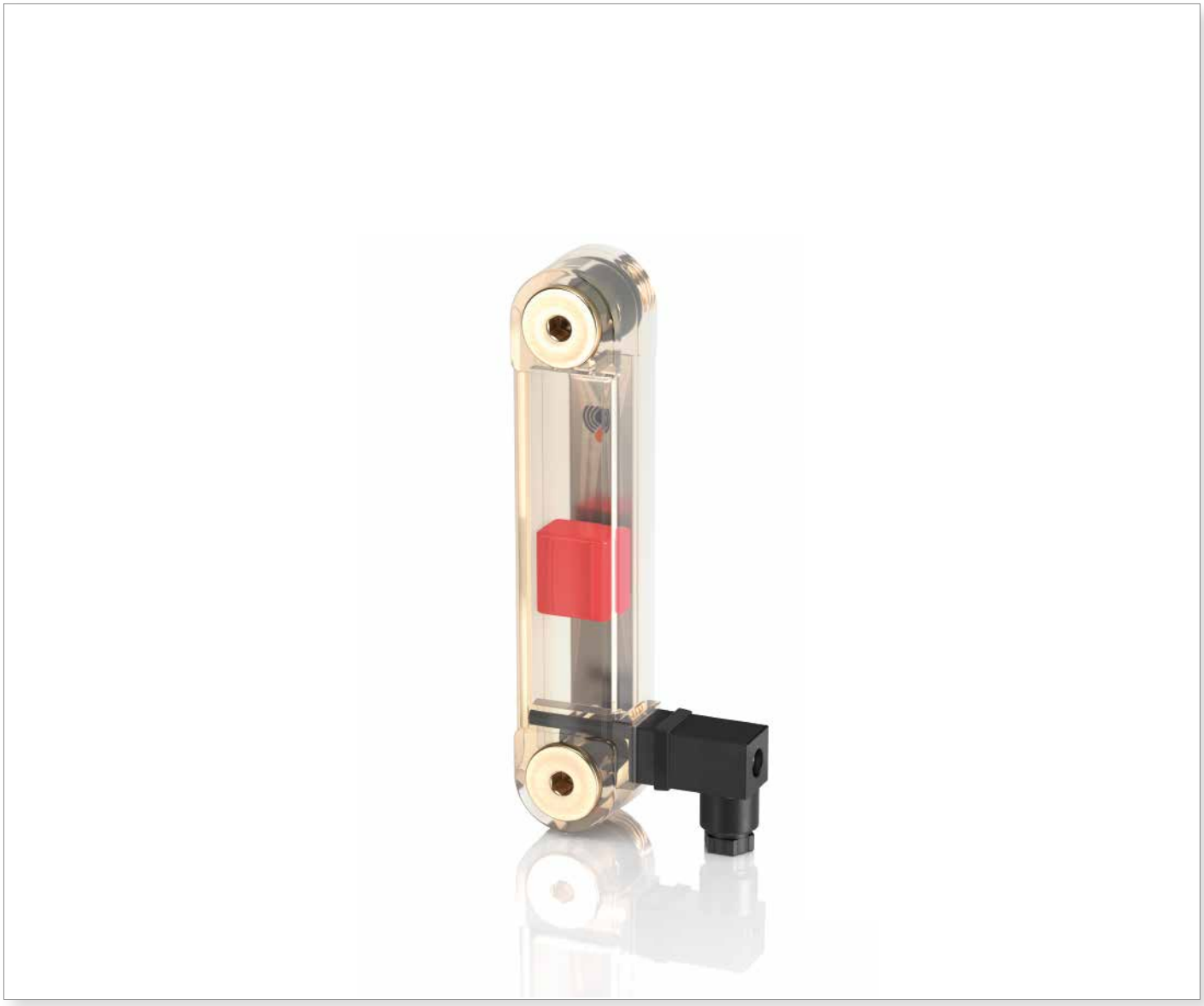
Materials
- Flange: aluminum
- Rod: brass
- Float: nylon foam
- Seals: A= NBR - V= FPM

Temperature
From -15 °C to +80 °C

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

LVK series

Electrical and visual oil level indicator



LVK GENERAL INFORMATION

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

Configuration example : LVK | 20 | A | M12 | 1 | T | 5 | P01

Series
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	Connection M12
S Standard	•	•
T With thermostat		•
P With PT100 sensor		•

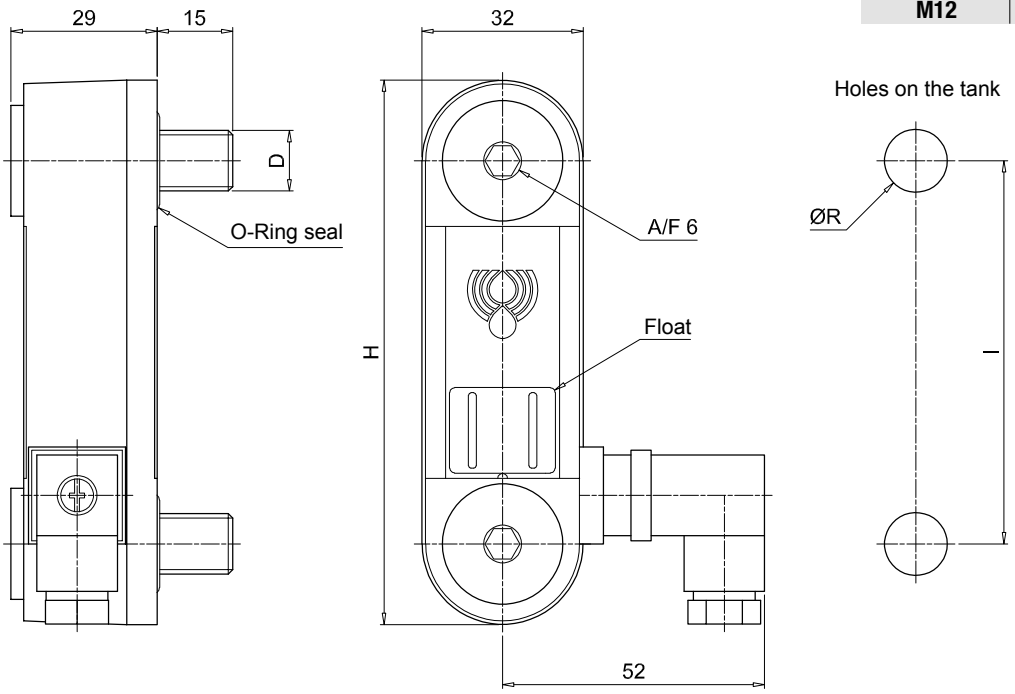
Thermostat setting	Version S	Version T	Version P
S Standard (no setting)	•		•
1 50°C N.O. (normally open)		•	
2 60°C N.O. (normally open)		•	
3 70°C N.O. (normally open)		•	
5 50°C N.O. (normally closed)		•	
6 60°C N.O. (normally closed)		•	
7 70°C N.O. (normally closed)		•	

Execution
P01 MP Filtri standard
Pxx Customized

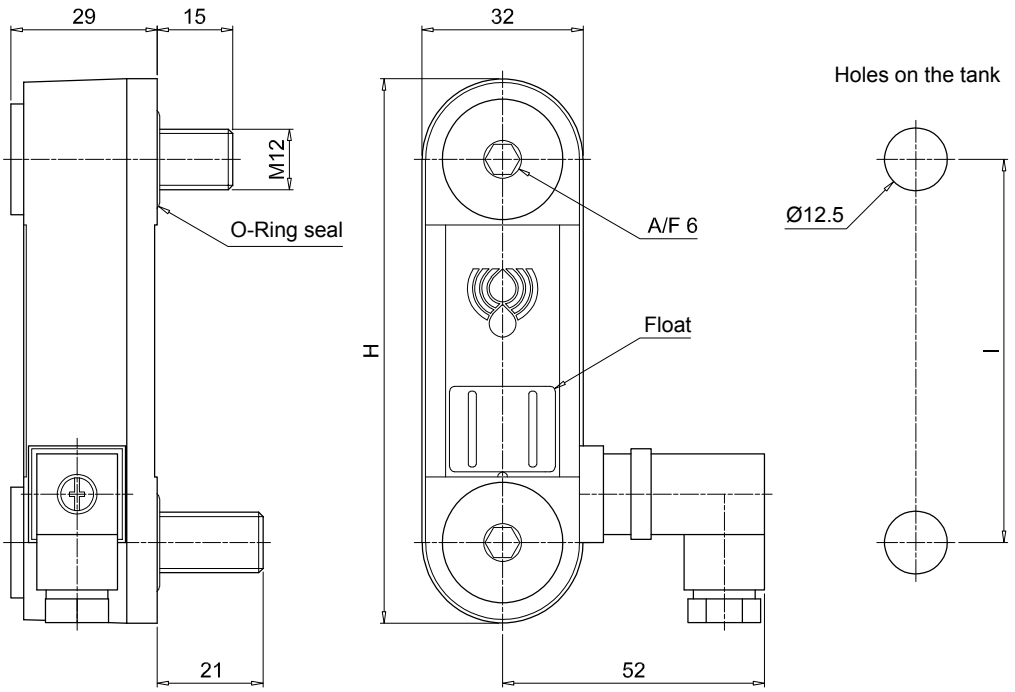
LVK		
Size	**H [mm]**	**I [mm]**
10	108	76
20	159	127
30	286	254

Connection	**D [mm]**	**ØR [mm]**
M10	M10	10.5
M12	M12	12.5

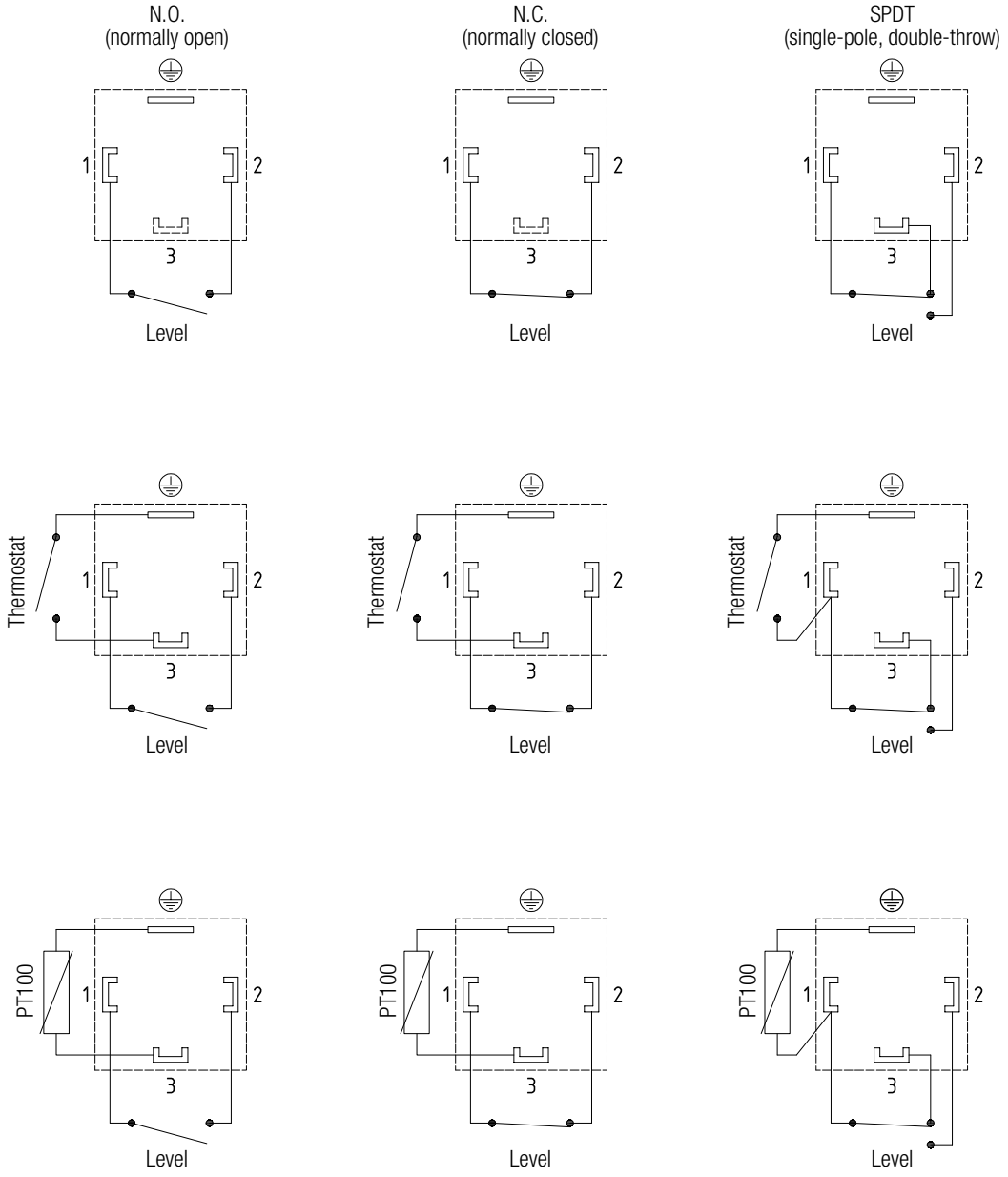
Without thermostat



With thermostat



Electrical symbols



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

WORLDWIDE NETWORK

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