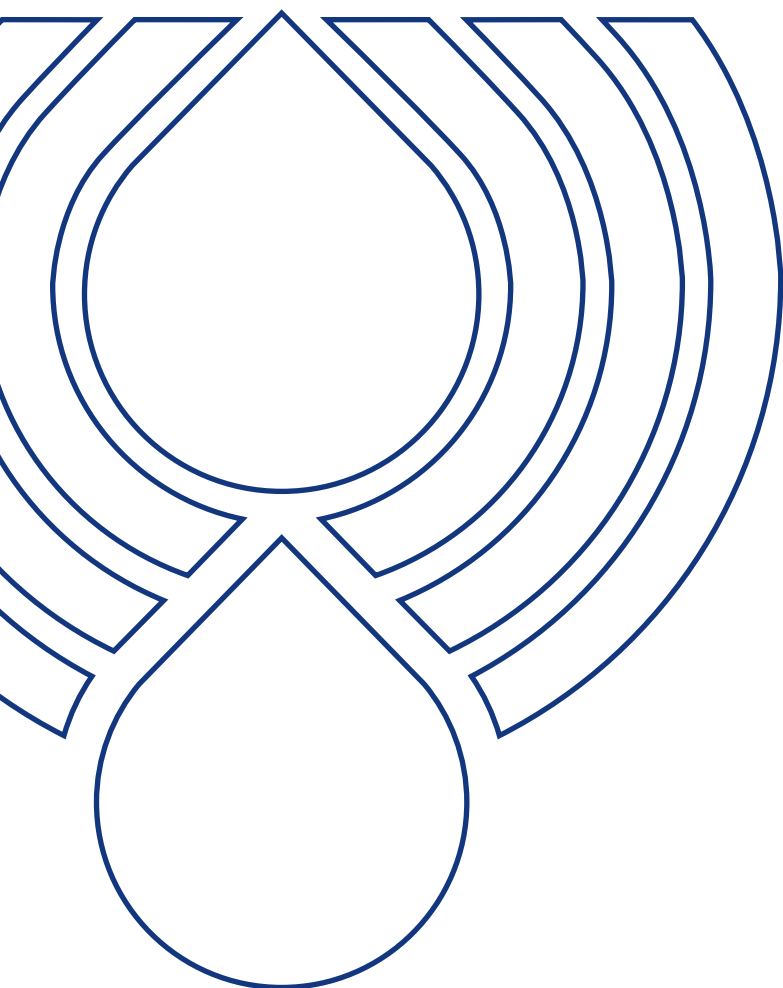


# TANK ACCESSORIES

VISUAL 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



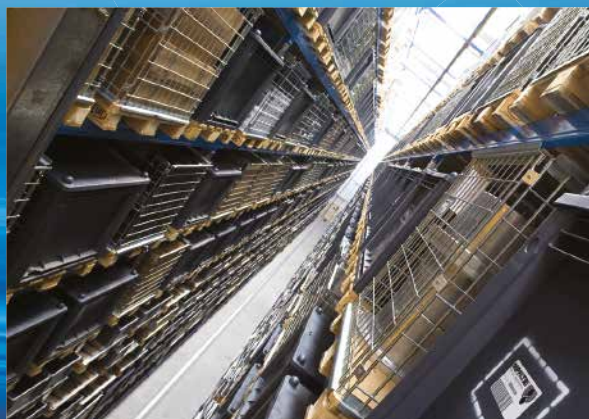
## TECHNOLOGY

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

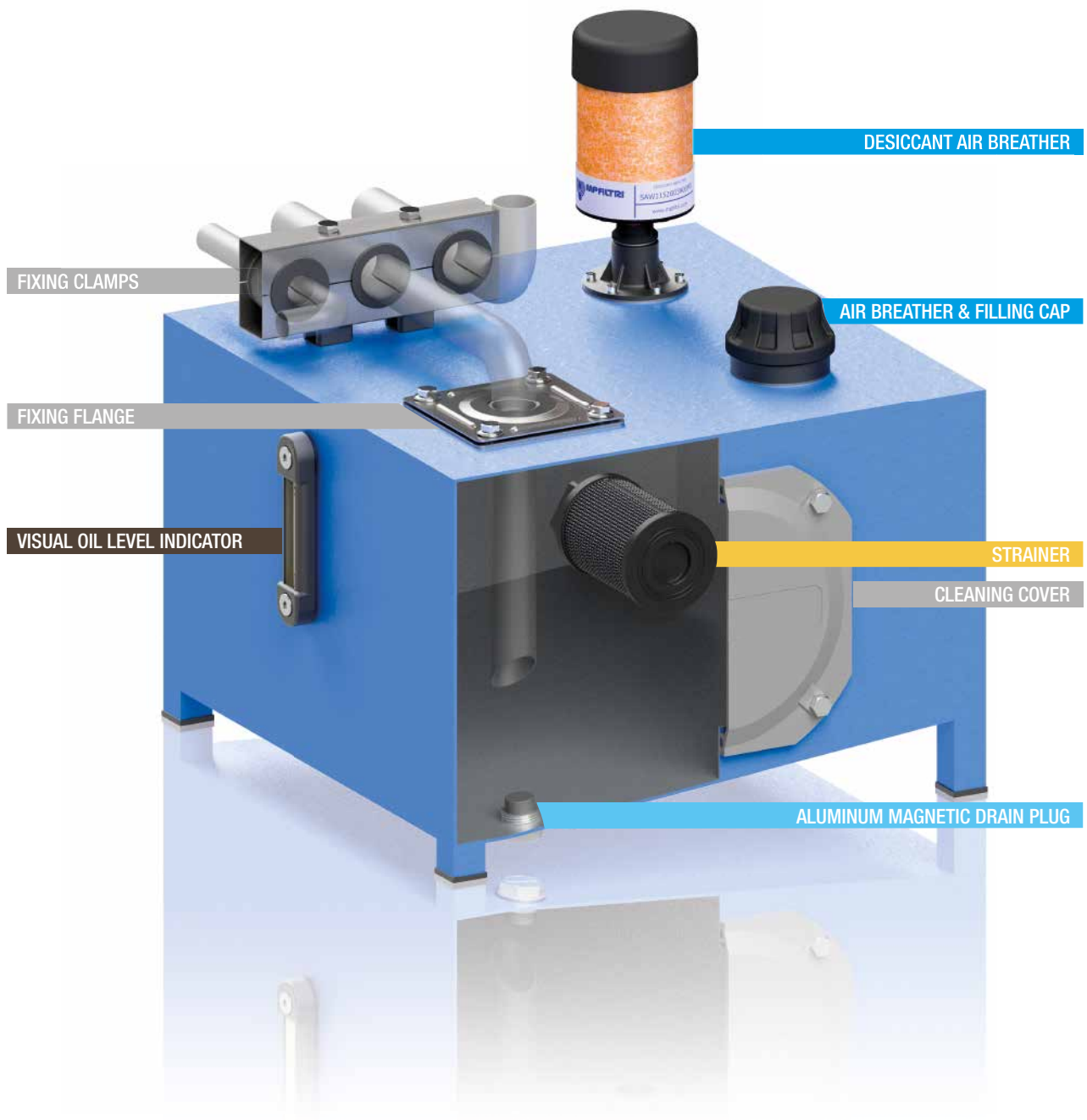
## POWER TRANSMISSION PRODUCTS

- 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

## **LC**

The sight plugs series allow visibility of the fluid contained in the reservoirs, showing the level and also any changes in transparency and emulsion.

## **LV**

The oil level indicators series is available for both static and mobile applications; the construction materials used make it possible to guarantee service with wide temperature variations and compatibility with all hydraulic fluids.

LVA / LVU level indicators are available with fixing centre distance from 76 to 1000 mm.

These indicators are available in three configurations, with transparent plastic body, with black plastic body and with aluminium body.

Fixing to reservoirs with unthreaded holes or with reduced thickness can be achieved using series LCC equipped with expansion kit.

# Visual Oil Level Indicators



LCP - LCC	page 89
LVA - LVU	95



# LCP - LCC series

Visual oil level indicators



# LCP GENERAL INFORMATION

## Technical data

### Visual oil level indicators

LCP is a range of plastic compact fluid level indicators, usually called spy eyes, for monitoring of the fluid level into the tank. They are directly fitted on the tank side.

Housings made of polyamide or steel can be selected, to meet every condition.

### Available features:

- Male threaded connections up to G 2"
- Baffle, to allow an easy monitoring of the level
- Expansion kit, for reliable sealing even in tanks with thin walls

### Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

### T Series

#### Weight

LCPG13	1 g
LCPG16	2 g
LCPG20	4 g
LCPG26	8 g
LCPG33	10 g
LCPG42	12 g

### Materials

- Body: Polyamide
- Contrast screen: Nylon
- Seals: NBR

### M Series

#### Weight

LCPG20	6 g
LCPG26	9 g
LCPG33	13 g

### Materials

- Body: Aluminium
- Lens: Thermoplastic
- Contrast screen: Nylon
- Seals: Inorganic fibre

### N Series

#### Weight

LCPG13	2 g
LCPG16	4 g
LCPG20	7 g
LCPG26	9 g
LCPG30	12 g
LCPG33	18 g
LCPG42	25 g
LCPG48	48 g
LCPG60	59 g

### Materials

- Body: Nylon
- Lens: Thermoplastic
- Contrast screen: Nylon
- Seals: Inorganic fibre, NBR
- Expansion kit: Brass, NBR

### Temperature

From -20 °C to + 80 °C

### Quantity

25 pcs/pack



## Designation & Ordering code

### LCP

#### Series and size

#### LCP

Configuration example 1 : LCP G26 N S B S P01

Configuration example 2 : LCP G42 T S A P01

Configuration example 3 : LCP G20 M C A P01

#### Connections to the tank

Material:	N	T	M
<b>G13</b> Thread G 1/4"	•	•	
<b>G16</b> Thread G 3/8"	•	•	
<b>G20</b> Thread G 1/2"	•	•	•
<b>G26</b> Thread G 3/4"	•	•	•
<b>G33</b> Thread G 1"	•	•	•
<b>G42</b> Thread G 1 1/4"	•	•	
<b>G48</b> Thread G 1 1/2"	•		
<b>G60</b> Thread G 2"	•		

#### Material

**N** Black nylon      **T** Transparent polyamide      **M** Metal (aluminium)

#### Baffle

Material:	N								T				M		
Connection:	G13	G16	G20	G26	G33	G42	G48	G60	G13	G16	G20	G26	G33	G42	M
<b>S</b> Without	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
<b>C</b> With baffle		•	•	•	•	•	•	•				•	•	•	•

#### Seals

Material:	N		T		M
Expansion kit:	S	K			
<b>A</b> NBR		•		•	•
<b>B</b> Inorganic fiber	•				

#### Expansion kit

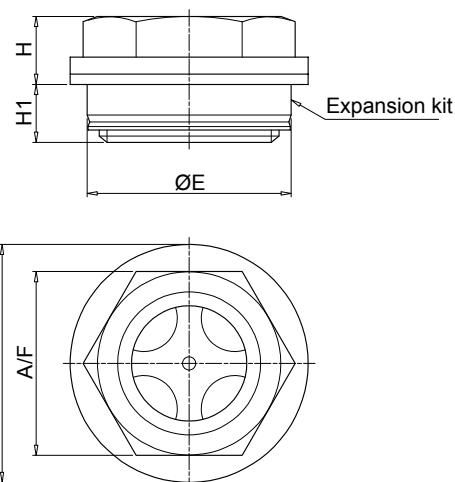
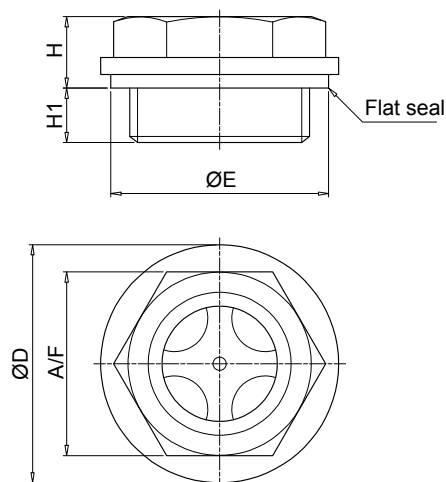
Material:	N						T		M		
Connection:	G13	G16	G20	G26	G33	G42	G48	G60			
<b>S</b> Without	•	•	•	•	•	•	•	•			
<b>K</b> With expansion kit			•	•	•	•	•	•			

#### Execution

**P01** MP Filtri standard  
**Pxx** Customized



### LCP - N



#### without expansion kit

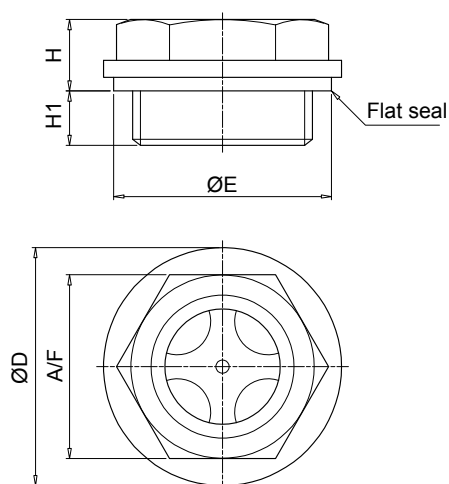
Connection	ØD [mm]	ØE [mm]	A/F [mm]	H [mm]	H1 [mm]
<b>G13</b>	20	18.5	17	9	7
<b>G16</b>	22	21.5	18	10	7
<b>G20</b>	28	26	22	10	7
<b>G26</b>	35	32	27	10.5	8
<b>G33</b>	42	41	34	13.5	10.5
<b>G42</b>	52	51	42	14	11
<b>G48</b>	58	53.5	47	16	11
<b>G60</b>	74	72	64	16	18

#### with expansion kit

Connection	ØD [mm]	ØE [mm]	A/F [mm]	H [mm]	H1 [mm]
<b>G20</b>	28	26	22	9	8
<b>G26</b>	35	30	27	10	8.5
<b>G33</b>	42	40	34	13	11
<b>G42</b>	52	50	42	13.5	11.5
<b>G48</b>	58	55	47	15.5	11.5

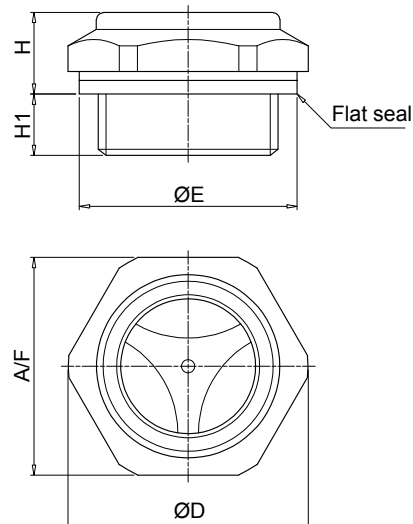
**Note:** for installation onto OB Cleaning covers see page 147

### LCP - T



Connection	ØD [mm]	ØE [mm]	A/F [mm]	H [mm]	H1 [mm]
<b>G13</b>	20	18.5	15	6.5	5
<b>G16</b>	22	21.5	17	7	5.5
<b>G20</b>	28	26	21	8	6
<b>G26</b>	33	32	26	8.5	7
<b>G33</b>	41	41	32	9	8
<b>G42</b>	52	51	42	14	11

### LCP - M



Connection	ØD [mm]	ØE [mm]	A/F [mm]	H [mm]	H1 [mm]
<b>G20</b>	29.5	26	27	11	7
<b>G26</b>	35.5	32	32	12	9
<b>G33</b>	44.5	41	40	13	8

**Note:** for installation onto OB Cleaning covers see page 147

## Technical data

### Visual oil level indicators

LCC is a range of plastic compact fluid level indicators, usually called spy eyes, for monitoring of the fluid level into the tank. They are directly fitted on the tank side.

The special shape of the screen allows the monitoring of the fluid level from every position.

#### Available features:

- Male threaded connections up to G 2"
- Expansion kit, for reliable sealing even in tanks with thin walls

#### Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

### N Series

#### Weight

LCCG26	7 g
LCCG42	20 g
LCCG60	40 g

### Materials

- Body: Nylon
- Lens: Polyamide
- Contrast screen: Nylon
- Seals: Inorganic fibre, NBR
- Expansion kit: Brass / NBR

### T Series

#### Weight

LCCG16	2 g
LCCG20	4 g
LCCG33	9 g

### Materials

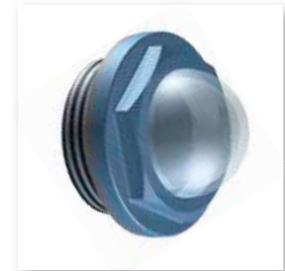
- Body: Polyamide
- Seals: NBR

### Temperature

From -20 °C to + 80 °C

### Quantity

25 pcs/pack



## Designation & Ordering code

### LCC

#### Series and size

**LCC**

Configuration example 1: LCC G20 N A K P01

Configuration example 2: LCC G33 T A P01

#### Connections to the tank

Material: N T

Material:	N	T
<b>G13</b> Thread G 1/4"		
<b>G16</b> Thread G 3/8"		•
<b>G20</b> Thread G 1/2"	•	•
<b>G26</b> Thread G 3/4"	•	•
<b>G33</b> Thread G 1"	•	•
<b>G42</b> Thread G 1 1/4"	•	
<b>G48</b> Thread G 1 1/2"	•	
<b>G60</b> Thread G 2"	•	

#### Material

**N** Black nylon      **T** Transparent polyamide

Material:	N			T
Expansion kit:	S	K		
<b>A</b> NBR		•		•
<b>B</b> Inorganic fiber	•			

Material:	N						T
Expansion kit:	Connection:	G20	G26	G33	G42	G48	G60
<b>S</b> Without		•	•	•	•	•	•
<b>K</b> With expansion kit		•	•	•	•	•	

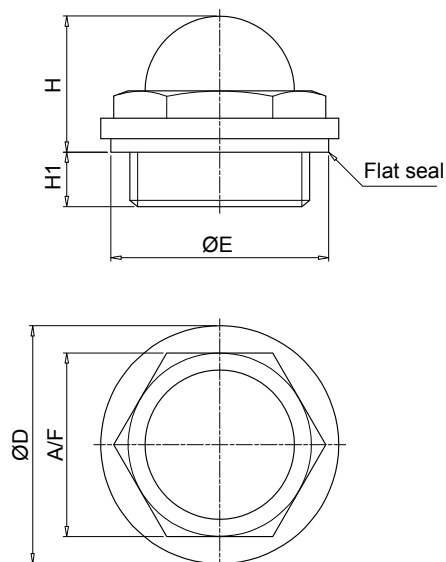
#### Execution

**P01** MP Filtri standard

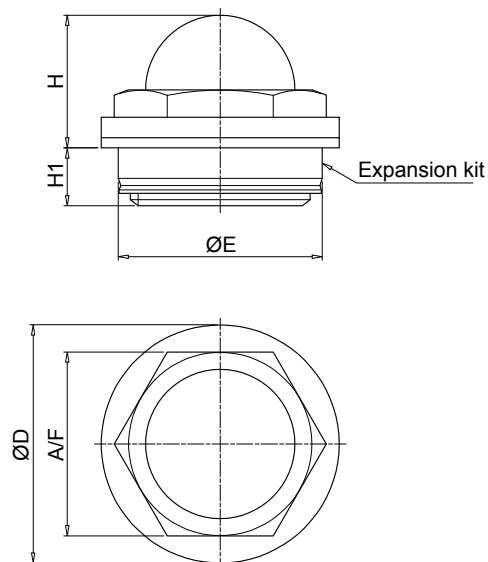
**Pxx** Customized

### LCC - N

without expansion kit



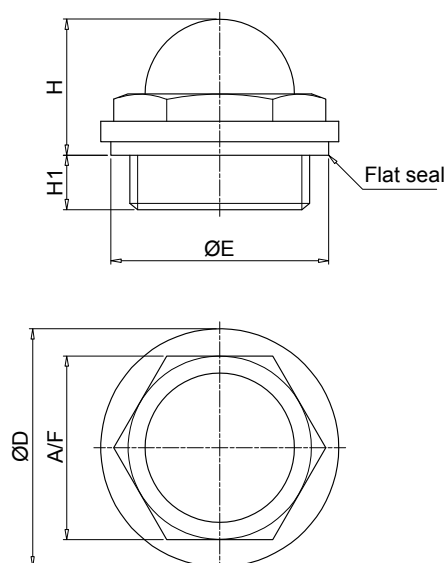
with expansion kit



Connection	ØD [mm]	ØE [mm]	A/F [mm]	H [mm]	H1 [mm]
<b>G20</b>	28	26	22	17.5	17.5
<b>G26</b>	35	32	27	20	8
<b>G33</b>	42	41	34	24	10
<b>G42</b>	52	51	44	30	11
<b>G48</b>	58	53.5	50	33	11.5
<b>G60</b>	74	72	64	39	18

Connection	ØD [mm]	ØE [mm]	A/F [mm]	H [mm]	H1 [mm]
<b>G20</b>	28	26	22	16.5	8.5
<b>G26</b>	35	30	27	19.5	8.5
<b>G33</b>	42	40	34	23.5	10.5
<b>G42</b>	52	50	44	29.5	11.5
<b>G48</b>	58	55	50	32.5	12

### LCC - T



Connection	ØD [mm]	ØE [mm]	A/F [mm]	H [mm]	H1 [mm]
<b>G13</b>	19	18.5	15	12.5	5
<b>G16</b>	21.5	21.5	17	14	5.5
<b>G20</b>	27	26	21	16.5	6
<b>G26</b>	33	32	26	19	7
<b>G33</b>	40	41	32	22.5	8



# LVA - LVU series

Visual oil level indicators



## Technical data

### Visual oil level indicators

LVA is a range of plastic compact fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank side. The fluid comes in through the lower connection screw and it is easily visible through the screen.

A white background plate, an orange line for the minimum level and a blue line for the maximum level allow an easy monitoring of the level.

### Available features:

- Several male threaded connections, with or without nuts
- Three different sizes, to meet every size of tank
- Thermometer, to check the temperature of the fluid

### Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

### Materials

- Body: Transparent amorphous polyamide lens
- Nylon guard
- Seal: A -NBR /V - FPM

### Operating pressure

Max 1 bar at +80°C

### Operating temperature

From -25 °C to +80 °C

### Weight

LVA 10 0.13 kg  
LVA 20 0.18 kg  
LVA 30 0.23 kg

### Quantity

10 pcs/pack



## Designation & Ordering code

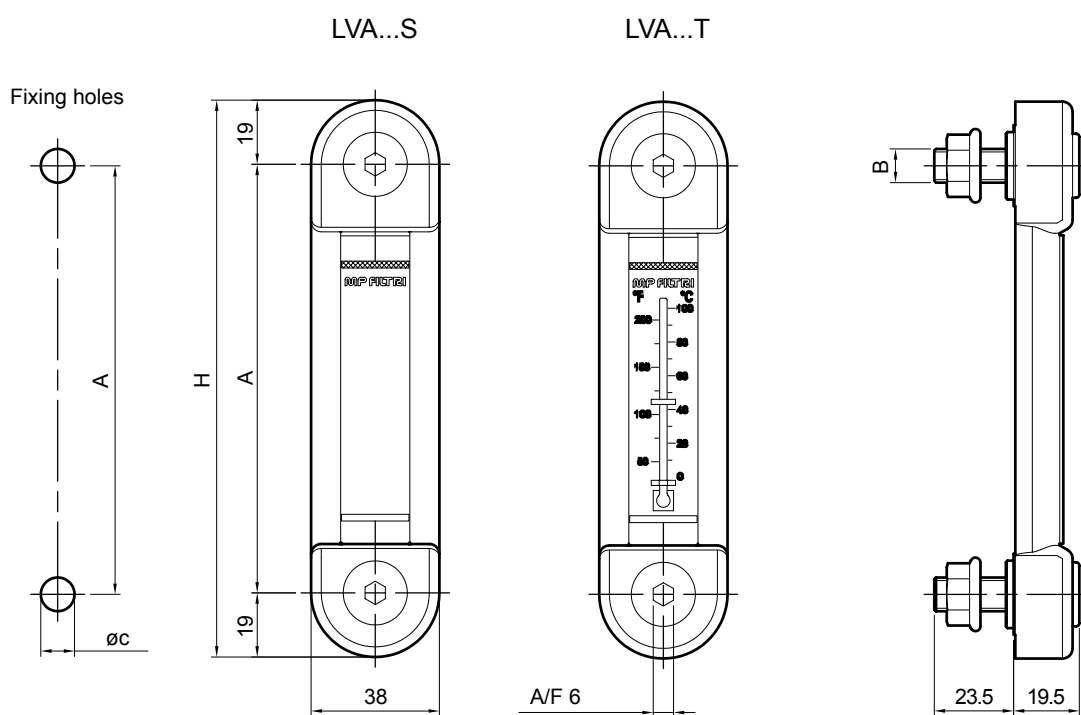
### LVA

Series	Configuration example :						
<b>LVA</b>	LVA	20	T	A	P	M10	S01
<b>Size</b>							
10   20   30							
<b>Thermometer</b>							
S Without thermometer							
T With thermometer							
<b>Seals</b>							
A NBR							
V FPM							
<b>Cover material</b>							
P Polyamide							
<b>Connections</b>							
M10 Screws M10							
M12 Screws M12							
U38 Screws 3/8" UNC							
U12 Screws G 1/2" UNC							
<b>Execution</b>							
S01 Tag MP Filtri, with nuts							
S02 Tag MP Filtri, without nuts							

LVA		
Size	A [mm]	H [mm]
<b>LVA10</b>	76	114
<b>LVA20</b>	127	165
<b>LVA30</b>	254	292

Type	B [mm]	C [mm]
<b>LVA...M10</b>	M10	10.5
<b>LVA...M12</b>	M12	12.5
<b>LVA...U38</b>	3/8" UNC	10.0
<b>LVA...U12</b>	1/2" UNC	13.5



**Note:** for installation onto OB Cleaning covers see page 147

## Technical data

### Visual oil level indicators

LVU is a range of plastic fluid level indicators for monitoring of the fluid level into the tank. They are directly fitted on the tank side.

The fluid comes in through the lower connection screw and it is easily visible through the screen.

A background plate, a red float and the adjustable minimum level and maximum level indicators allow an easy check of the level.

### Available features:

- G 3/8" male threaded connections
- Adjustable size on request, to meet every size of tank
- Drain valve, to drop the oil for the maintenance procedures
- Glass screen and "U" protection, to meet heavy duty applications

### Common applications:

- Hydraulic systems
- Mobile machines
- Industrial equipment

### Materials

- Head: Nylon
- Connection G 3/8": Nickel plated brass
- G 3/8" valve: Steel
- Seal: NBR
- Pipe seal: NBR, Acrylic
- Pipe: Pyrex
- Float: Nylon
- Protection: Aluminium
- Clamps min-max: Nylon

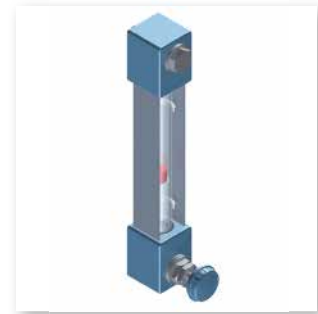
### Operating temperature

From -25 °C to +70 °C

Weight	version U	version S
LVU 0500	0.780 kg	0.580 kg
LVU 1000	1.150 kg	0.790 kg
LVU 1500	1.550 kg	1.100 kg
LVU 2000	1.950 kg	1.400 kg

### Quantity

10 pcs/pack



## Designation & Ordering code

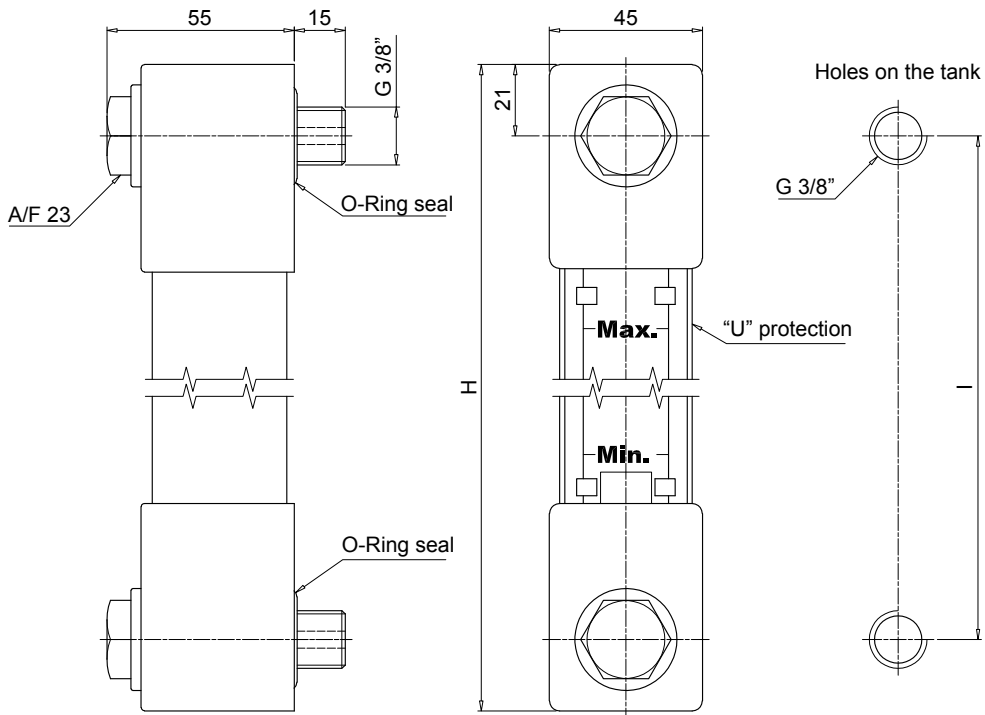
### LVU

Series	Configuration example :					
<b>LVU</b>	LVU	0500	U	A	10	P01
<b>Size</b>						
<b>0500</b>	Distance between center = 500 mm					
<b>1000</b>	Distance between center = 1000 mm					
<b>1500</b>	Distance between center = 1500 mm					
<b>2000</b>	Distance between center = 2000 mm					
Different sizes on request						
<b>Body</b>	Size					
	500	1000	1500	2000		
<b>S</b>	Standard plexiglass body					
<b>U</b>	Plexiglass body, with "U" protection					
<b>P</b>	Pyrex body, with "U" protection					
<b>Seals</b>						
<b>A</b>	NBR					
<b>V</b>	FPM					
<b>Connections</b>						
<b>10</b>	Connection G 3/8"					
<b>20</b>	Connection G 3/8", with drain valve					
<b>Execution</b>						
<b>P01</b>	MP Filtri standard					
<b>Pxx</b>	Customized					

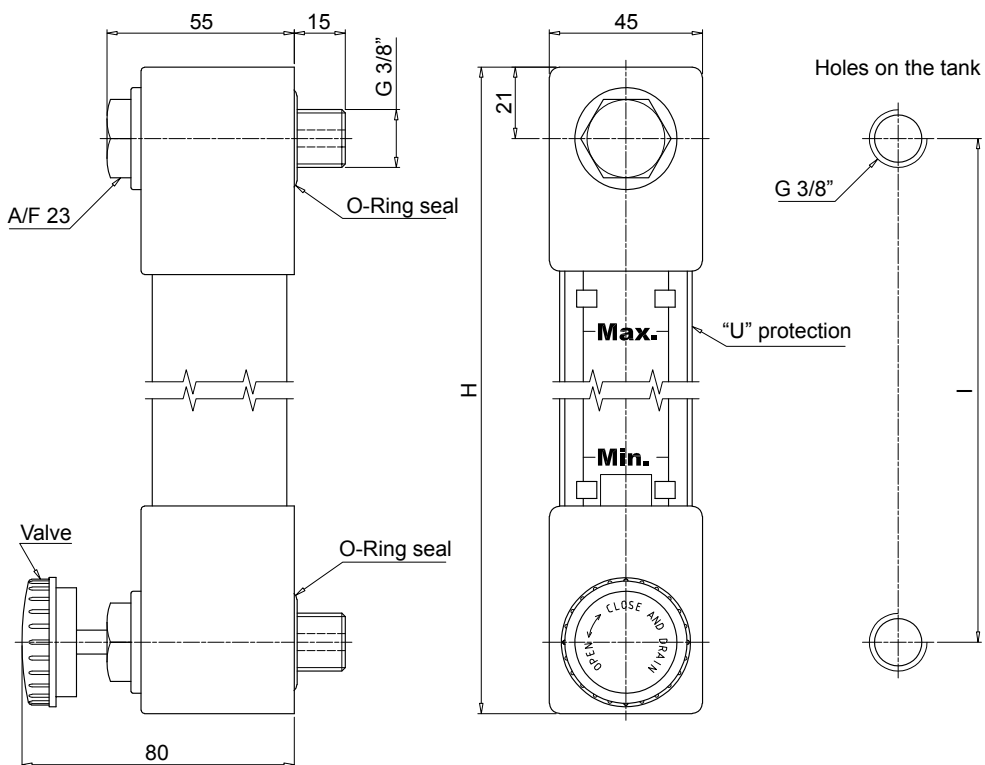


LVU		
Size	H [mm]	I [mm]
0500	542	500
1000	1042	1000
1500	1542	1500
2000	2042	2000

### Connection 10



### Connection 20





## WORLDWIDE NETWORK

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**PASSION TO PERFORM**



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