



MISELLI

ACCESSORIES FOR
HYDRAULIC COMPONENTS





GENERAL CATALOGUE

MISELLI s.r.l.

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VISION

Miselli Srl wants to present itself as a reliable supplier of hydraulic accessories, with a long history in this industry, and it wants to be recognized for its competence, flexibility and, above all, for a culture aimed at quality.



MISSION

Following the vision guidelines, mission focuses on 4 different strategies that involve **PRODUCT, CUSTOMER, MARKET and TEAM.**

Innovation and product improvement are constant goals: technology and design are simultaneously enhanced in order to supply an article that ensures excellent performances.

The commitment is always aimed at establishing an extremely direct contact with customers in order to meet their needs concerning delivery times and customizations: in this way it is easy create a common advantage from sharing skills, needs and experiences.

Miselli Srl wants to be a globalized company, with dealers in the most important markets but also with an attention on the entry into new countries.

The strength of Miselli Srl lies in the team and it comes from the passion and the direct dialogue of our team members.

All business procedures are designed to minimize environmental impact.



SUSTAINABILITY COMMITMENT

The company's commitment to sustainability is among the priority of Miselli Srl.

A big step was taken in 2019 when photovoltaic system went into operation, placed on the roof of the plant: this produces, in full regime, 140.000 kWh/year, therefore permitting to cover about 50% of energy needs total.

PRODUCTS



OIL LEVEL
INDICATORS



PLASTIC FILLER
BREATHERS



PLASTIC
CLOSING PLUGS



METAL FILLER
BREATHERS
AND PLUGS



PLASTIC
PROTECTIONS

1950s



Miselli & Bedogni was founded in the late fifties, following the post-war crisis of the well-known "Officine Meccaniche Reggiane".

1980s



The company begins to specialize in the production of plastic accessories for hydraulic components, thanks to the skills learned in previous experiences and, above all, to deal with the local market, characterized by a high number of hydraulic OEM customers.

2000

Miselli Srl obtains, for the first time in 2007, Certification of its quality system according to ISO 9001 standards, issued by the BVQI Bureau Veritas Italia. It was renewed every year by the same Institute, also following the new ISO 9001:2015 rules.

Today



The company, still totally family-owned, employs 26 people. Operating within a globalized market, percentage of export sales stands every year around 50% of the total turnover serving nearby markets but also distant such as the United States, Canada, South Africa, Australia and South America. Main efforts of the team focus on offering an ever greater quality to the customers which primarily concerns the product and its innovations but also the service.

1960s - 1970s



It is precisely during these years that, thanks to a lively and courageous group of entrepreneurs, the area of Reggio Emilia specializes in the mechanic field. Main business of Miselli & Bedogni, characterized by an artisan dimension, deals with the creation of molds for thermoplastic material and molding of technical items for third parties.

1990s

The company expands its market abroad both through a network of dealers and through direct OEM customers. In these years there was the changement of the company name, becoming Miselli Srl.

2015



In order to improve manufacturing efficiency and service for customers, Miselli Srl moves its headquarters in a new plant of 2300 m²: 1800 m² are production area while 500 m² are offices.



INDUSTRIAL POWER PACKS

Vertical oil level gauges
Oil sight glass
Plastic filler breathers
Metal filler breathers
Drain plugs with magnet
Oil level dipsticks

MINI POWER PACKS

Plastic filler breathers
Metal filler breathers

COMPRESSOR PISTON PUMPS

Plastic oil sight glass
Metal oil sight glass



HIGH PRESSURE PUMPS

Plastic filler breathers
Metal filler breathers



GEAR BOXES AND POWER TRANSMISSIONS

Plastic oil sight glass
Metal oil sight glass
Plastic filler breathers
Metal filler breathers

PUMPS FOR AGRICULTURAL MACHINERY

Vertical oil level gauges
Plastic filler breathers
Metal filler breathers
Oil level dipsticks

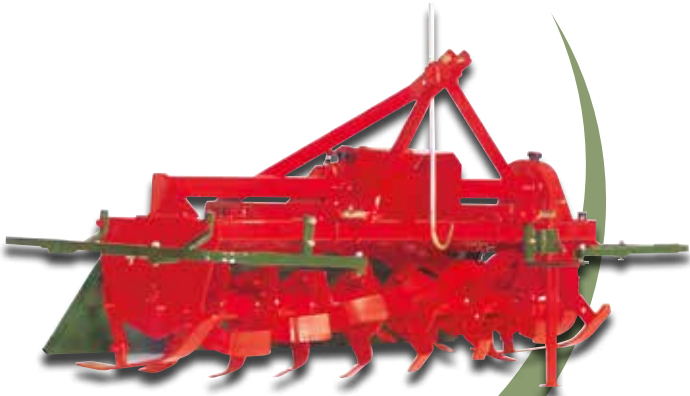


MOBILE TANKS FOR FUEL

Plastic filler breathers (70 mm)
Plastic closing plugs

CHILLERS

Vertical oil level gauges resistant to aggressive liquids
Oil sight glass resistant to aggressive liquids



LOG SPLITTERS

Plastic filler breathers
Metal filler breathers
Oil level dipsticks

AGRICULTURAL MACHINERY

Plastic filler breathers
Metal filler breathers
Oil level dipsticks



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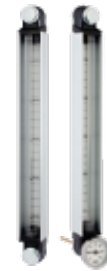
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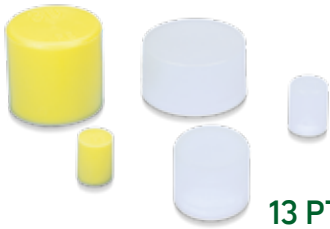


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ELECTRICAL LEVEL GAUGES - 127 mm



XL/127-PLAST-SL

XL/127-PLAST-ST

XL/127-PLAST-SL-ST

- **Material:** transparent polyamide, ultrasonic welded, resistant to hydraulic fluids, synthetic and mineral oils, diesel, some unleaded fluid. Avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures.

- **Sealing:** flat rubber back seals NBR 70 Shore.

- **Bolts and flanged nuts:** zinc plated steel, M12.

- **External case:** PA66 30% fiberglass reinforced, with front and side view.

- **Maximum working temperature:** 80°C (176 F).

- **Assembling instructions:** the mounting of the level gauge can be made externally by providing two threaded

holes M12 on 127 mm centre distance, tolerance $\pm 0,2\text{mm}$. Alternatively they can be secured internally through two plain holes $\varnothing 12,5\text{ mm}$ using the flanged nuts provided. Maximum tightening torque suggested: 5 Nm.

Special versions

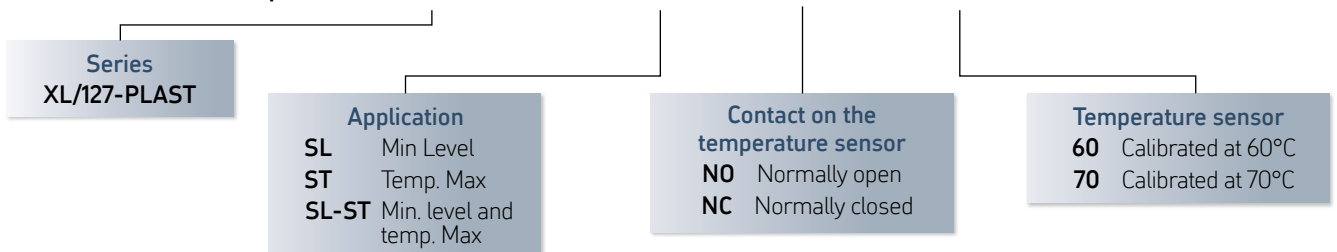
- **Sealing:** FKM type Viton®.

- **Bolts and flanged nuts:** stainless steel, M12.

- **Material -CX:** special resin resistant to fluid containing alcohol and anti-freeze liquids.

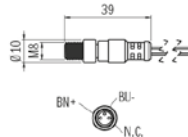
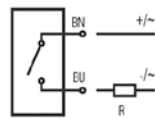
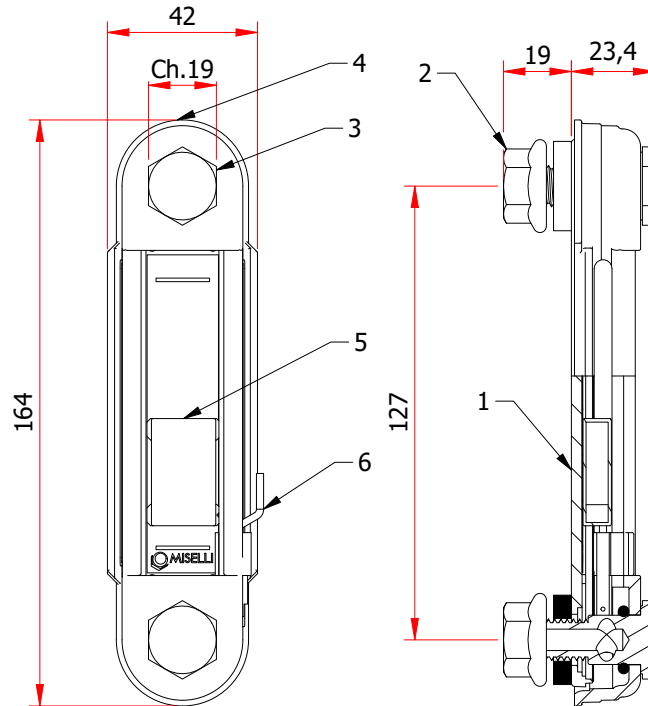
ORDERING CODE

Example: XL/127-PLAST — SL — NO — 70



XL/127-PLAST-SL

VERTICAL LEVEL GAUGE WITH MINIMUM LEVEL ELECTRICAL SWITCH



BN (+) = brown
 BU (-) = blue
 N.C = not connected

- **REED switch** attached on the external guard, adjustable in height according to the level design requirement; standard switch is supplied with power cable 30 cm in length with M8 male connector. On request it is possible to provide a separate connection cable (250 cm in length) complete with female M8 connector.

- **Floating element** made in technopolymer containing a magnet that, when in proximity with the REED sensor, closes the electrical contact.

- **Standard execution: normally open** electrical contact (NO).

- **Operation features:** the vertical level gauge XL/127-PLAST-SL, in addition to allowing a visual inspection, provides an electrical signal when the float element reaches the preset minimum level.

COMPONENTS LIST

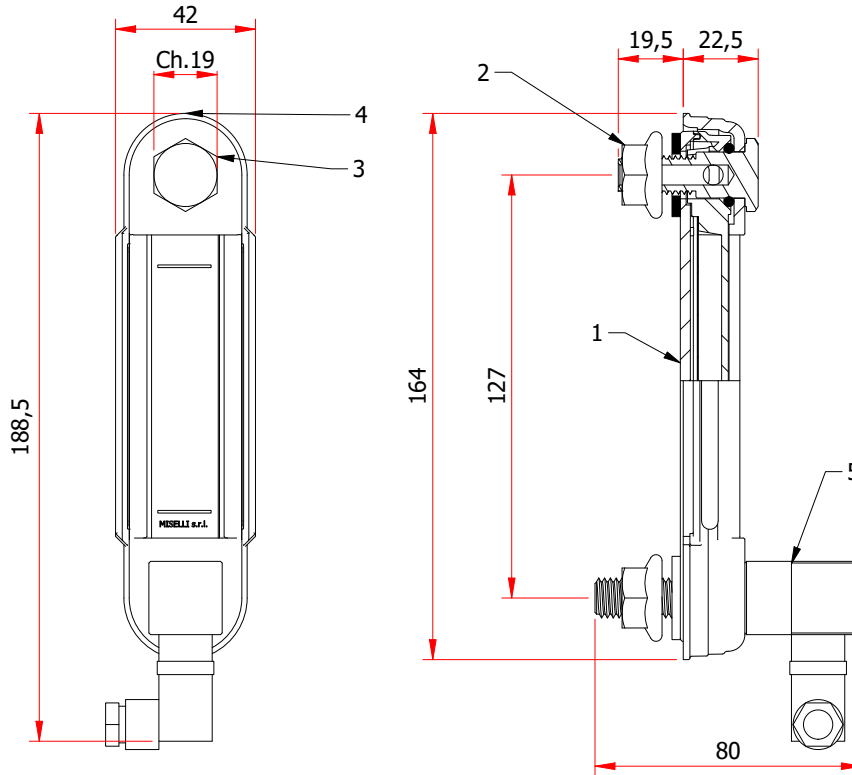
Item	Description
1	Transparent body
2	Flanged hex M12
3	Hollow bolt M12
4	Plastic guard
5	Magnetic floating element
6	"REED" sensor with M8 male connector

ELECTRICAL CHARACTERISTICS "REED" SWITCH

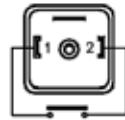
Sensor type	"REED" 2 wires
Supply voltage	3÷30 Vac/dc
Electrical contact	NO Normally open
Switching current	0,2 A
Power rating (Ohmic load)	6 W
Working temperature	-10°C/+70°C
Protection degree	IP67

XL/127-PLAST-ST

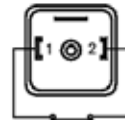
VERTICAL LEVEL GAUGE WITH MAXIMUM TEMPERATURE ELECTRICAL SWITCH



NO contact



NC contact



- **Preset electrical sensor with switching temperature available of 60°C/140°F or 70°C/158°F** incorporated into the zinc plated M12 bolt with adjustable DIN connector.

- **Standard executions: XL/127-PLAST-ST-NO** (electrical contact normally open on temperature sensor) and **XL/127-PLAST-ST-NC** (electrical contact normally closed on temperature sensor).

- **Operation features:** the level gauge XL/127-PLAST-ST in addition to allowing a visual oil level inspection provides an electrical signal when the temperature of the fluid inside the reservoir reaches the specified preset switching temperature (in conditions of use at room temperature of 20°C/68°F). The model XL/127-PLAST-ST-NO the electrical circuit is closed once it reaches the preset specified temperature, the model XL/127-PLAST-ST-NC is open once it reaches the preset specified temperature.

COMPONENTS LIST

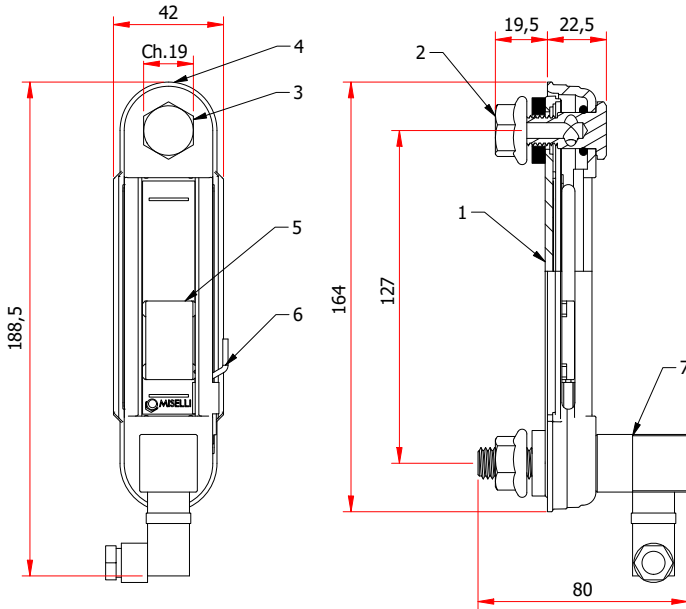
Item	Description
1	Transparent body
2	Flanged hex nut M12
3	Hollow bolt M12
4	Plastic guard
5	Max Temperature sensor

ELECTRICAL CHARACTERISTICS MAX TEMPERATURE ELECTRICAL SENSOR

Sensor type	Bimetal contact
Power supply	AC/DC
Electrical contact	NO Normally open NC Normally closed
Max applicable voltage	10 A / 250 Vac
Connector	Mini DIN 43650-C
Protection degree	IP65
Calibration	60°C/140°F - 70°C/158 °F
Accuracy	±5°C (data referred to a room temp. = 20°C /68°F)

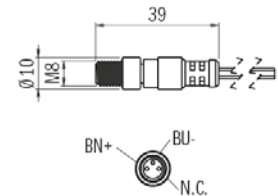
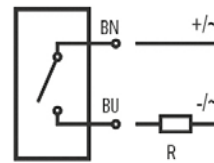
XL/127-PLAST-SL-ST

VERTICAL LEVEL GAUGE WITH MINIMUM LEVEL AND MAXIMUM TEMPERATURE SWITCH



COMPONENTS LIST

Item	Description
1	Transparent body
2	Flanged hex nut M12
3	Hollow bolt M12
4	Plastic guard
5	Magnetic floating element
6	REED sensor with M8 male connector
7	Max Temperature sensor



BN (+) = brown
 BU (-) = blue
 N.C = not connected

- **REED switch** attached on the external guard, adjustable in height according to the level design requirement; standard switch is supplied with power cable 30 cm in length with M8 male connector. On request it is possible to provide a separate connection cable (250 cm in length) complete with female M8 connector.

- **Floating element** made in technopolymer containing a magnet that, when in proximity with the REED sensor, closes the electrical contact.

- **Preset electrical sensor with switching temperature available of 60°C/140°F or 70°C/158°F** incorporated into the zinc plated M12 bolt with adjustable DIN connector.

- **Standard executions: XL/127-PLAST-SL-ST-NO** (electrical contact normally open on the temperature sensor) and **XL/127-PLAST-SL-ST-NC** (electrical contact normally closed on the temperature sensor).

- **Operation features:** the vertical level indicator XL/127-PLAST-SL-ST in addition to allow for a visual oil level inspection, provides an electrical signal when the required temperature of the fluid inside the tank is reached (in conditions of use at room temperature of 20°C/68°F), and provides as well an electrical signal when the float element reaches the preset minimum level.

- **XL/127-PLAST-SL-ST-NO:** the level sensor closes the electrical circuit when it reaches the pre-set minimum level; the maximum temperature sensor closes the electrical circuit at the pre-set temperature threshold.

- **XL/127-PLAST-SL-ST-NC:** the level sensor closes the electric circuit when it reaches the pre-set minimum level; the maximum temperature sensor opens the circuit at the pre-set threshold temperature

ELECTRICAL CHARACTERISTICS "REED" SWITCH

Sensor type	"REED" 2 wires
Supply voltage	3÷30 Vac/dc
Electrical contact	NO Normally open
Switching current	0,2 A
Power rating (Ohmic load)	6 W
Working temperature	-10°C / +70°C
Protection degree	IP67



NO contact



NC contact

ELECTRICAL CHARACTERISTICS MAX TEMPERATURE ELECTRICAL SENSOR

Sensor type	Bimetal contact
Power supply	AC/DC
Electrical contact	NO Normally open NC Normally closed
Max applicable voltage	10 A / 250 Vac
Connector	Mini DIN 43650-C
Protection degree	IP65
Calibration	60°C/140°F - 70°C/158 °F
Accuracy	±5°C (data referred to a room temp. = 20°C / 68°F)

ELECTRICAL LEVEL GAUGES - VARIABLE LENGHT



XLV/SL



XLV/ST



XLV/SL-ST

- **Material:** transparent polycarbonate tube, compatible with mineral and synthetic oils, hydraulic fluids, fluids containing glycole; limited resistance to unleaded fuel and diesel. Behind the tube is placed a graduated contrast screen to allow an accurate view of the level.

- **Sealing:** flat rubber back seals NBR 70 Shore.

- **Bolts and flanged nuts:** zinc plated steel, M12.

- **External case:** Aluminum U-shape.

- **Maximum working temperature:** 80°C (176 F).

- **Assembling instructions:** the mounting of the level gauge can be made externally by providing 2 threaded holes M12

on the center distance, tolerance ± 0.5 . Alternatively they can be secured internally through 2 plain holes 12,5 mm (-0,2). Max tightening torque suggested 5 Nm.

Special versions

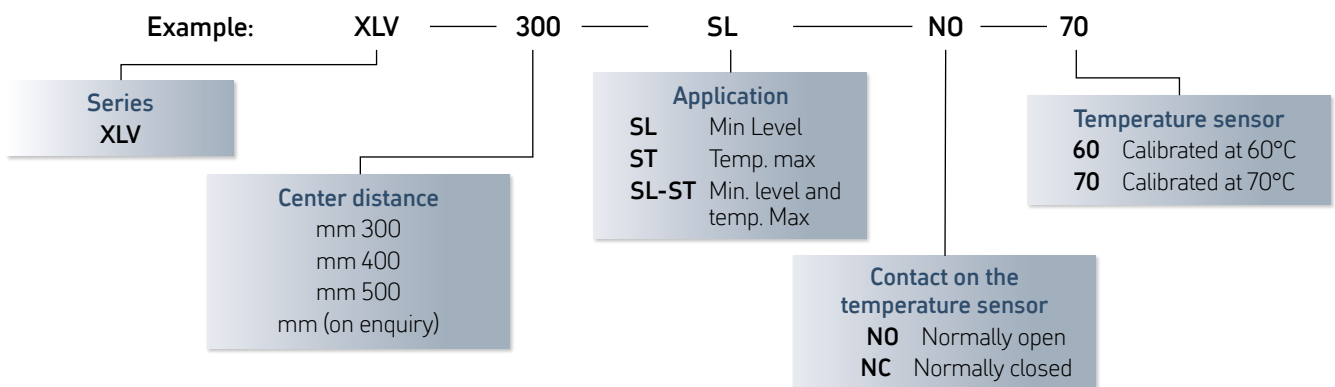
- **SL-NC:** level sensor with contact normally closed.

- **Sealing:** FKM type Viton®.

- **Bolts and flanged nuts:** stainless steel, M12 (only SL model).

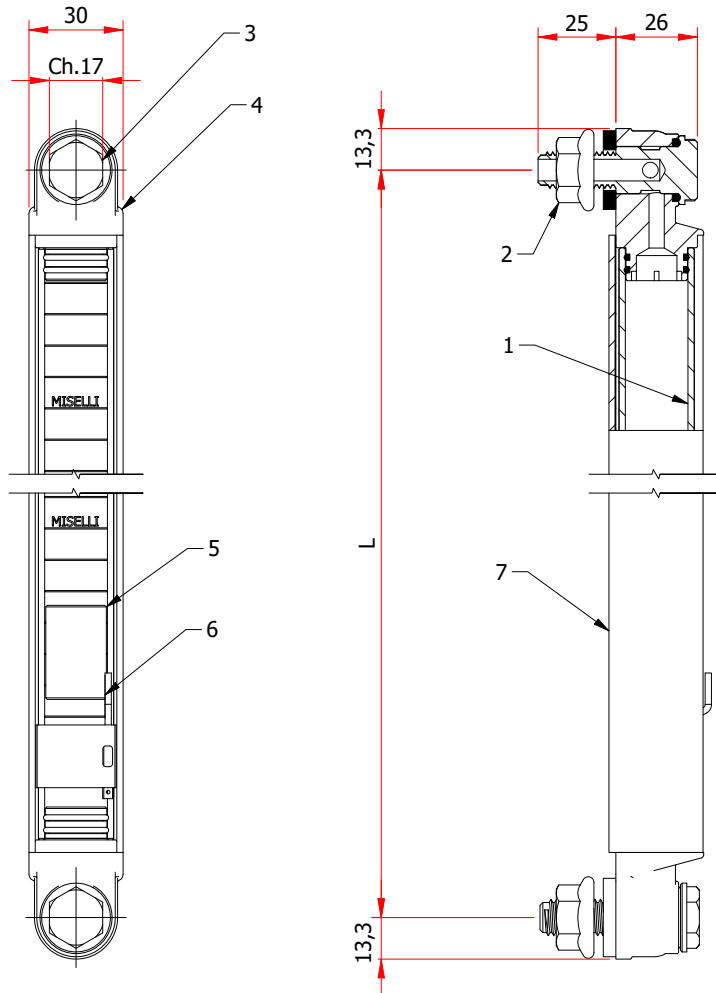
- Double REED sensor.

ORDERING CODE

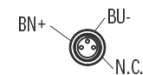
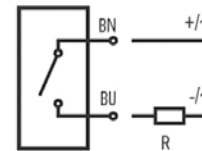


XLV-SL

VERTICAL LEVEL GAUGE - VARIABLE LENGTH - WITH MINIMUM LEVEL ELECTRICAL SWITCH

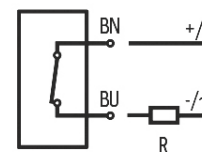


NO sensor



BN (+) = brown
 BU (-) = blue
 N.C. = not connected

NC sensor



BN (+) = brown
 BU (-) = blue

- **REED switch** attached on the external guard, adjustable in height according to the level design requirement; minimum location position is 2" or 50 mm from the center of the lower bolt. Standard switch is supplied with power cable 30 cm in length with M8 male connector. On request it is possible to provide a separate connection cable (250 cm in length) complete with female M8 connector. Possibility to apply more of level sensors positioned at different heights.

- **Floating element** made in technopolymer containing a magnet that, when in proximity with the REED sensor, closes the electrical contact.

- **Standard execution: normally open** electrical contact (NO). On request, it is possible to provide electrical contact **normally closed** (NC).

- **Operation features:** the vertical level gauge XLV/SL, in addition to allowing a visual inspection, provides an electrical signal when the float element reaches the preset minimum level.

COMPONENTS LIST

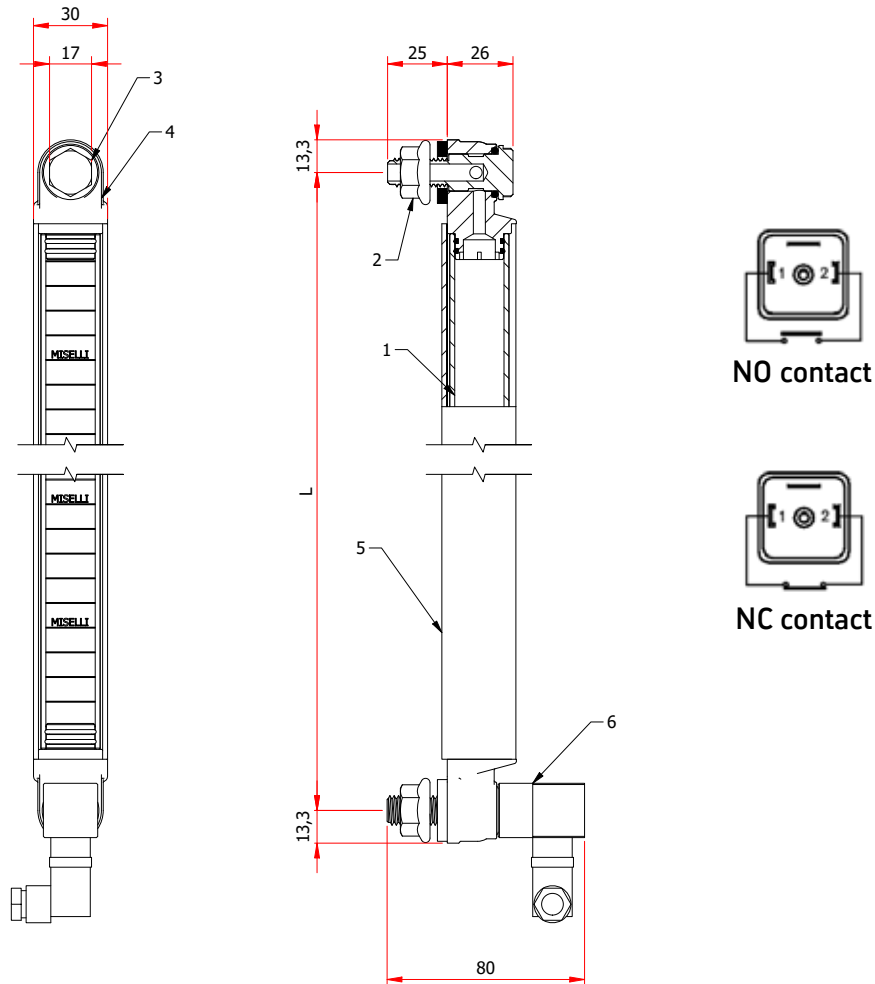
Item	Description
1	Polycarbonate transparent tube
2	Flanged hex M12
3	Hollow bolt M12
4	Plastic end caps
5	Magnetic floating element
6	"REED" sensor with M8 male connector
7	Aluminum U-shape guard

ELECTRICAL CHARACTERISTICS "REED" SWITCH

Sensor type	"REED" 2 wires
Supply voltage	3÷30 Vac/dc
Electrical contact	NO Normally open
Switching current	0,2 A
Power rating (Ohmic load)	6 W
Working temperature	-10°C/+70°C
Protection degree	IP67

XLV-ST

VERTICAL LEVEL GAUGE -VARIABLE LENGHT- WITH MAXIMUM TEMPERATURE ELECTRICAL SWITCH



- **Preset electrical sensor with switching temperature available of 60°C/140°F or 70°C/158°F** incorporated into the zinc plated M12 bolt with adjustable DIN connector.

- **Standard executions: XLV/ST-NO** (electrical contact normally open on temperature sensor) and **XLV/ST-NC** (electrical contact normally closed on temperature sensor).

- **Operation features:** the level gauge XLV-ST in addition to

allowing a visual oil level inspection provides an electrical signal when the temperature of the fluid inside the reservoir reaches the specified preset switching temperature (in conditions of use at room temperature of 20°C/68°F). The model XLV-ST-NO the electrical circuit is closed once it reaches the preset specified temperature, the model XLV-ST-NC is open once it reaches the preset specified temperature.

COMPONENTS LIST

Item	Description
1	Transparent body
2	Flanged hex nut M12
3	Hollow bolt M12
4	Plastic end caps
5	Aluminum U-shape guard
6	Max Temperature sensor

ELECTRICAL CHARACTERISTICS MAX TEMPERATURE ELECTRICAL SENSOR

Sensor type	Bimetal contact
Power supply	AC/DC
Electrical contact	NO Normally open NC Normally closed
Max applicable voltage	10 A / 250 Vac
Connector	Mini DIN 43650-C
Protection degree	IP65
Calibration	60°C/140°F - 70°C/158 °F
Accuracy	±5°C (data referred to a room temp. = 20°C/68°F)

XLV-SL-ST - VERTICAL LEVEL GAUGE - VARIABLE LENGTH - WITH MINIMUM LEVEL AND MAXIMUM TEMPERATURE SWITCH

- **REED switch** attached on the external guard, adjustable in height according to the level design requirement; minimum location position is 2" or 50 mm from the center of the lower bolt. Standard switch is supplied with power cable 30 cm in length with M8 male connector. On request it is possible to provide a separate connection cable (250 cm in length) complete with female M8 connector. Possibility to apply more of level sensors positioned at different heights.

- **Standard execution: normally open** electrical contact (NO). On request, it is possible to provide electrical contact **normally closed** (NC).

- **Floating element** made in technopolymer containing a magnet that, when in proximity with the REED sensor, closes the electrical contact.

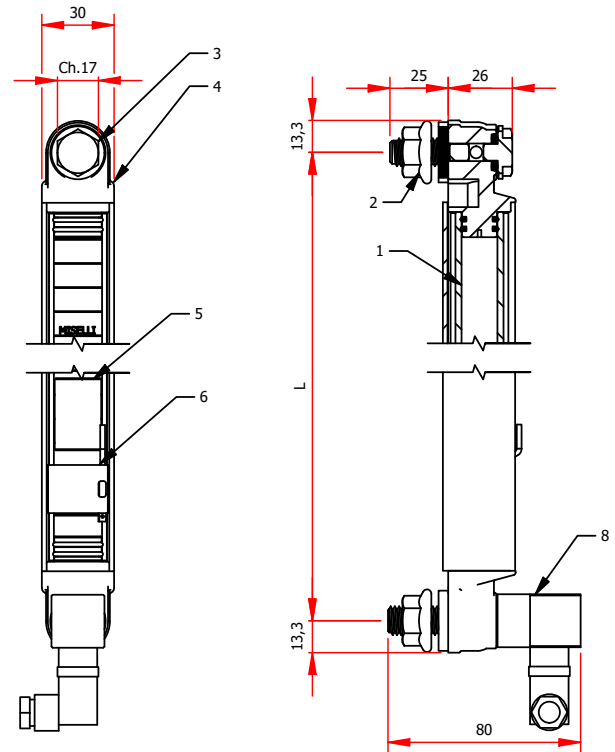
- **Preset electrical sensor with switching temperature available of 60°C/140°F or 70°C/158°F** incorporated into the zinc plated M12 bolt with adjustable DIN connector.

- **Standard executions: XLV/SL-ST-NO** (electrical contact normally open on the temperature sensor) and **XLV/SL-ST-NC** (electrical contact normally closed on the temperature sensor).

- **Operation features:** the vertical level indicator XLV/SL-ST in addition to allow for a visual oil level inspection, provides an electrical signal when the required temperature of the fluid inside the tank is reached (in conditions of use at room temperature of 20°C/68°F), and provides as well an electrical signal when the float element reaches the preset minimum level.

- **XLV/SL-ST-NO:** the level sensor closes the electrical circuit when it reaches the pre-set minimum level; the maximum temperature sensor closes the electrical circuit at the pre-set temperature threshold.

- **XL/SL-ST-NC:** the level sensor closes the electric circuit when it reaches the pre-set minimum level; the maximum temperature sensor opens the circuit at the pre-set threshold temperature.



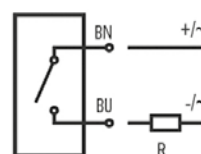
COMPONENTS LIST

Item	Description
1	Transparent body
2	Flanged hex nut M12
3	Hollow bolt M12
4	Plastic end caps
5	Magnetic floating element
6	REED sensor with M8 male connector
7	Aluminum guard - 90° rotation

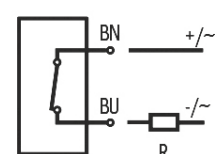
ELECTRICAL CHARACTERISTICS "REED" SWITCH

Sensor type	"REED" 2 wires
Supply voltage	3÷30 Vac/dc
Electrical contact	NO Normally open
Switching current	0.2 A
Power rating (Ohmic load)	6 W
Working temperature	-10°C/+70°C
Protection degree	IP67

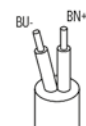
NO sensor



NC sensor



BN (+) = brown
 BU (-) = blue
 N.C. = not connected



ELECTRICAL CHARACTERISTICS MAX TEMPERATURE ELECTRICAL SENSOR

Sensor type	Bimetal contact
Power supply	AC/DC
Electrical contact	NO Normally open NC Normally closed
Max applicable voltage	10 A / 250 Vac
Connector	DIN 46350
Protection degree	IP65
Calibration	60°C/140°F - 70°C/158 °F
Accuracy	±5°C (data referred to a room temp. = 20°C /68°F)

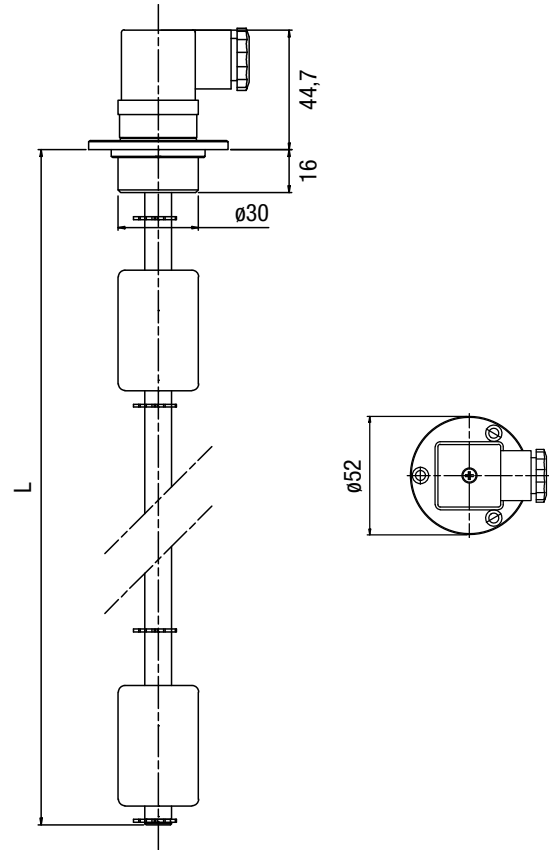
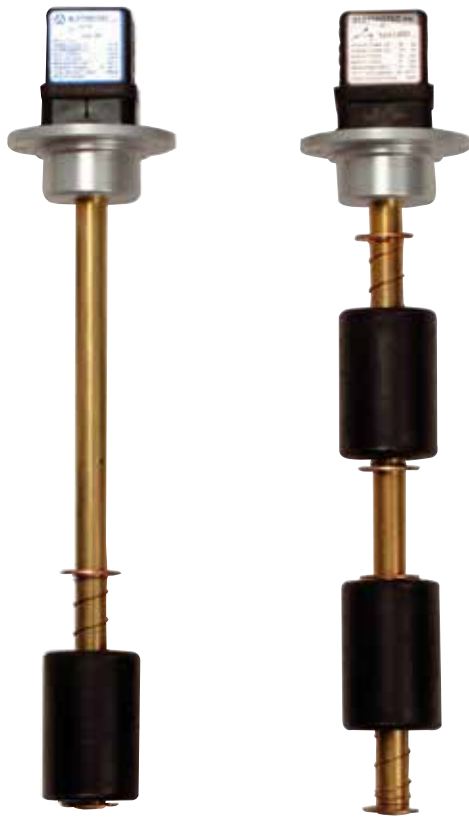
NO contact



NC contact



LSF - FLOAT LEVEL SWITCH WITH FLANGE



Level switch particularly suitable for hydraulics, lubrication plant, water treatment, industrial vehicles, fluid stocking, cleaning machines and equipment. The hermetically sealed reed switch housed inside the stem is actuated by a magnetic field created by a magnet equipped float. As the float rises and lowers with liquid level, the magnetic field passing the switch in the stem causes the switch to either open or close. Executions specifically approved R.I.N.A.

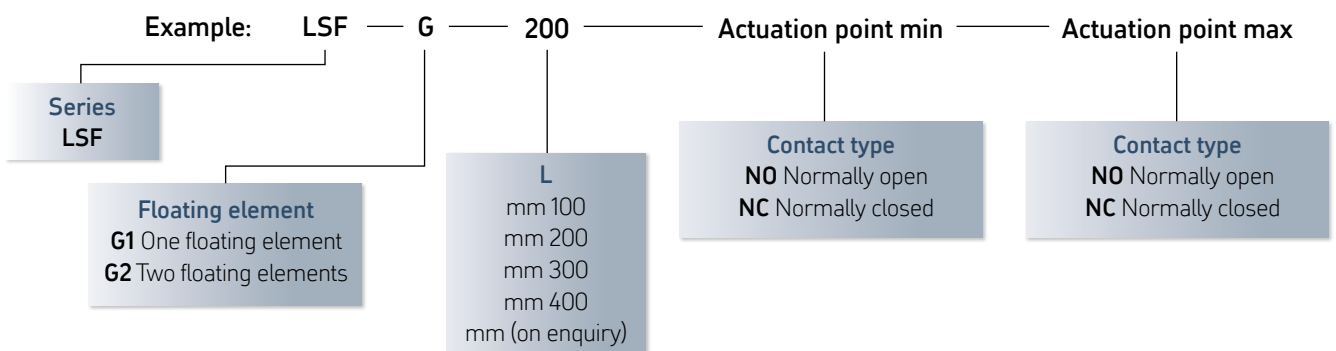
- **Flange:** anodized aluminum.
- **Stem:** in brass and stop rings in bronze.
- **Floating element:** NBR.
- **Maximum working pressure:** 10 bar.
- **Maximum working temperature:** 80°C (176 F).
- **Tube length:** customizable from 100 mm to 1500 mm.

Models

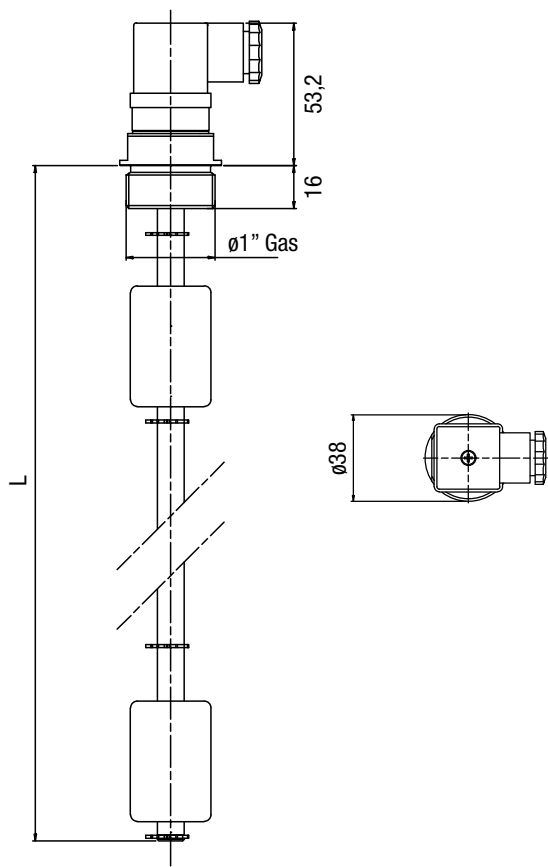
- One or two floating elements.
- One or two actuation points NO or NC.
- Integrated thermostat set at 40°-50°-60°-70°-80° C NO or NC.

Max. fluid viscosity	150 cSt
Fluid specific gravity	≥ 0,7 kg/dm ³
Max voltage	220 Vac
Rating power	30 W
Max current	0,5 A

ORDERING CODE



LS1 - FLOAT LEVEL SWITCH WITH THREADED HEAD



Level switch particularly suitable for hydraulics, lubrication plant, water treatment, industrial vehicles, fluid stocking, cleaning machines and equipment. The hermetically sealed reed switch housed inside the stem is actuated by a magnetic field created by a magnet equipped float. As the float rises and lowers with liquid level, the magnetic field passing the switch in the stem causes the switch to either open or close. Executions specifically approved R.I.N.A.

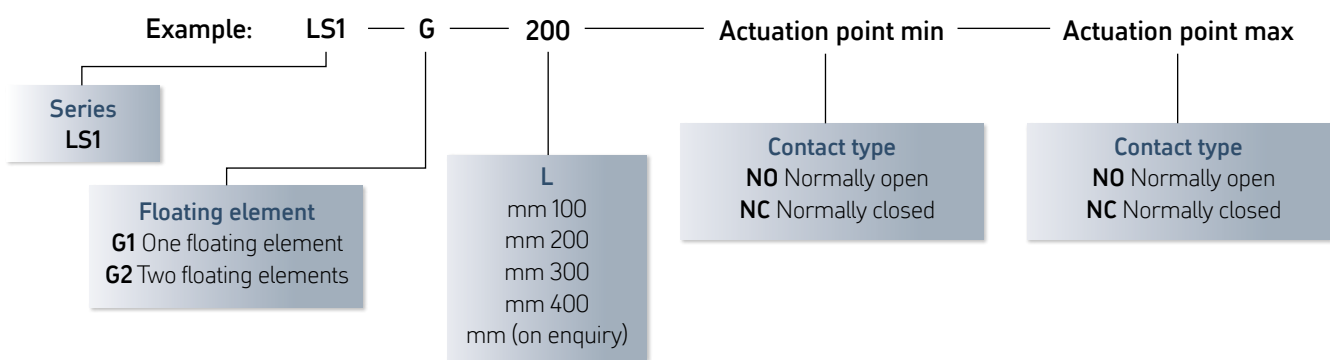
- **Head:** threaded G.1" anodized aluminum.
- **Stem:** in brass and stop rings in bronze.
- **Floating element:** NBR.
- **Maximum working pressure:** 10 bar.
- **Maximum working temperature:** 80°C (176 F).
- **Tube length:** customizable from 100 mm to 1500 mm.

Models

- One or two floating elements.
- One or two actuation points NO or NC.
- Integrated thermostat set at 40°-50°-60°-70°-80° C NO or NC.

Max. fluid viscosity	150 cSt
Fluid specific gravity	≥ 0,7 kg/dm 3
Max voltage	220 Vac
Rating power	30 W
Max current	0,5 A

ORDERING CODE



SLV - VERTICAL LEVEL GAUGE

SLVT - VERTICAL LEVEL GAUGE WITH THERMOMETER



SLV/127



SLVT/127



SLV/127/RB

Vertical level gauge designed for use on tanks and power packs of hydraulic fluids and fuel with good visibility, even lateral. The body of the level gauge is made by ultrasonically welding two halves together to ensure a leak free seal around the body. Inside it is fitted a white screen with minimum and maximum level indications.

- **Material:** transparent polyamide which provides good mechanical resistance to shocks, hydraulic fluids, synthetic and mineral oils, diesel and some unleaded fuel. Avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures.

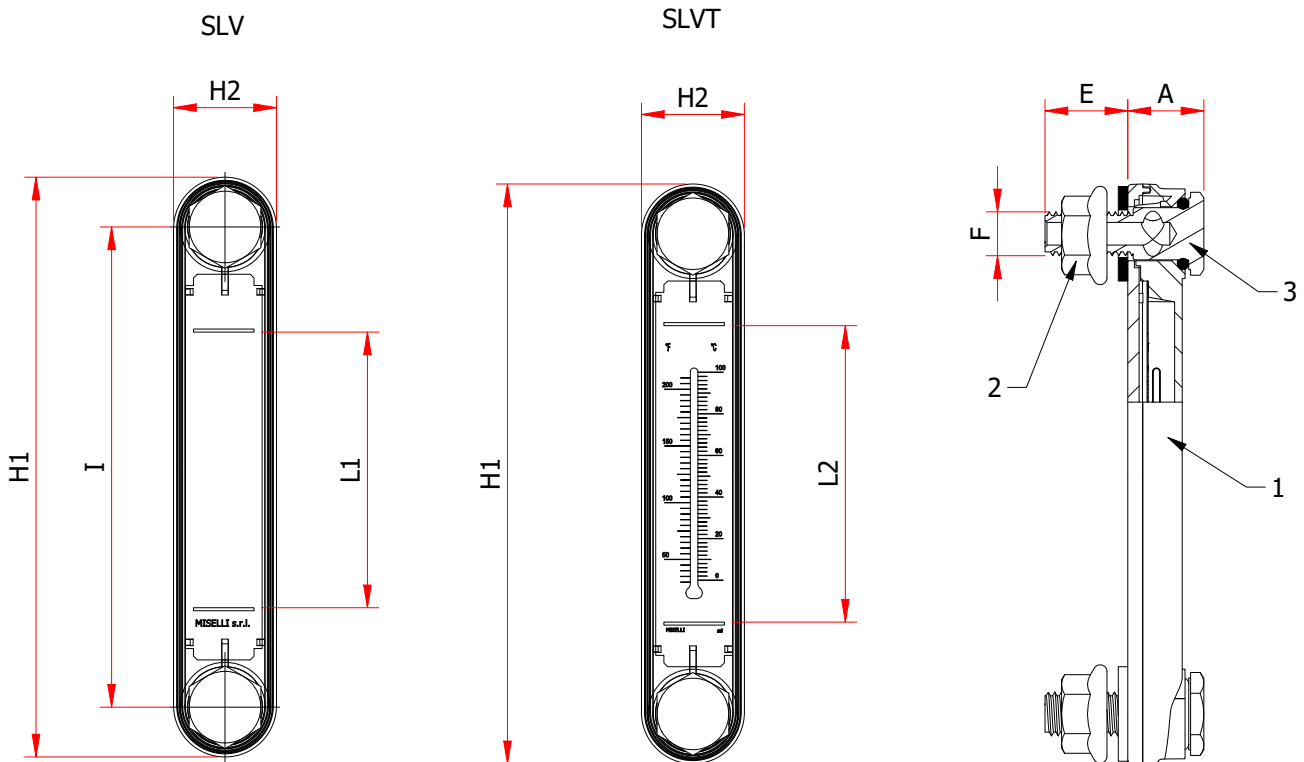
- **Sealing:** O-rings and flat rubber washers NBR 80 Shore.

- **Bolts and flanged nuts:** zinc plated steel.

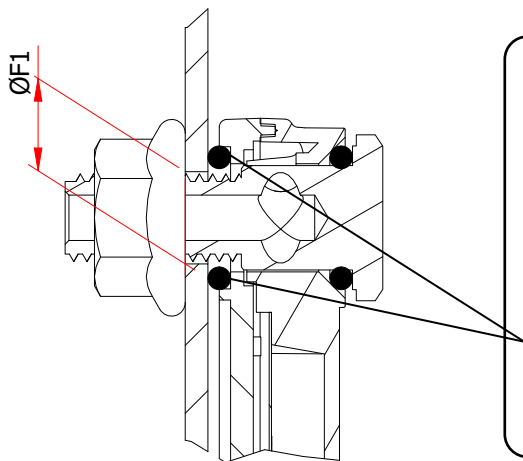
- **Thermometer:** possibility to check both the fluid level and its temperature by a inside capillary thermometer scaled in degree Celsius 0-100° C and Fahrenheit 50-200°F (Model SLVT-76 0-80°C/50-175°F).

- **Max working temperature:** 90°C/194°F (test made up 3 bar /43,5 PSI of pressure). In case of use under pressure and/or temperature conditions, contact the technical service Miselli srl.

- **Assembling instructions:** the mounting of the level gauge can be made externally by providing 2 threaded holes M10 or M12 on 76-127 mm centre distance, tolerance ± 0.2 mm. Alternatively they can be secured internally through 2 plain holes $\varnothing 10.2$ mm or $\varnothing 12.2$ mm using the flanged nuts provided. Maximum tightening suggested 3 Nm.



1 = Transparent main body
 2 = Flanged hex nut
 3 = Hollow bolt



Special versions

- **SLV-T/CX** made from special resin resistant to fluid containing alcohol and anti-freeze liquids.
- **SLV-T/RB** with floating red ball to improve the visibility of the fluid level of light colored liquids.
- **SLV-T/INOX** provided with stainless steel nuts and bolts suitable for applications in corrosive environments such as marine.
- **SLV-T/OR** back seal provided through O-Ring in NBR synthetic rubber.
- **SLV-T/V** sealing FKM type VITON®.
- **SLV-T/UVR** made from special resin resistant to UV rays.

Cod.	I	H1	H2	F	E	A	L1	L2	ØF1	Weight gr	Pack.
SLV/76	76	100	27	M10-M12	19	23	37		10,2-12,2	105	5
SLVT/76	76	100	27	M10-M12	19	23		37	10,2-12,2	105	5
SLV/127	127	150	27	M10-M12	19	23	73		10,2-12,2	145	5
SLVT/127	127	150	27	M10-M12	19	23		78	10,2-12,2	145	5

XL - VERTICAL LEVEL GAUGE WITH METAL CASING

XLT - VERTICAL LEVEL GAUGE WITH THERMOMETER AND METAL CASING



XL/05

XL/05-VL

External protection made from painted steel



XL/05T-PLAST

External protection made from PA66 30% fiberglass

Vertical level gauge designed for use on tanks and power packs of hydraulic fluids and fuel with good visibility, even lateral. The body of the level gauge is made by ultrasonically welding two halves together to ensure a leak free seal around the body. Inside it is fitted a white screen with minimum and maximum level indications.

- **Material:** transparent polyamide which provides good mechanical resistance to shocks, hydraulic fluids, synthetic and mineral oils, diesel and some unleaded fuel. Avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures.

- **Sealing:** O-rings and flat rubber washers NBR 80 Shore.

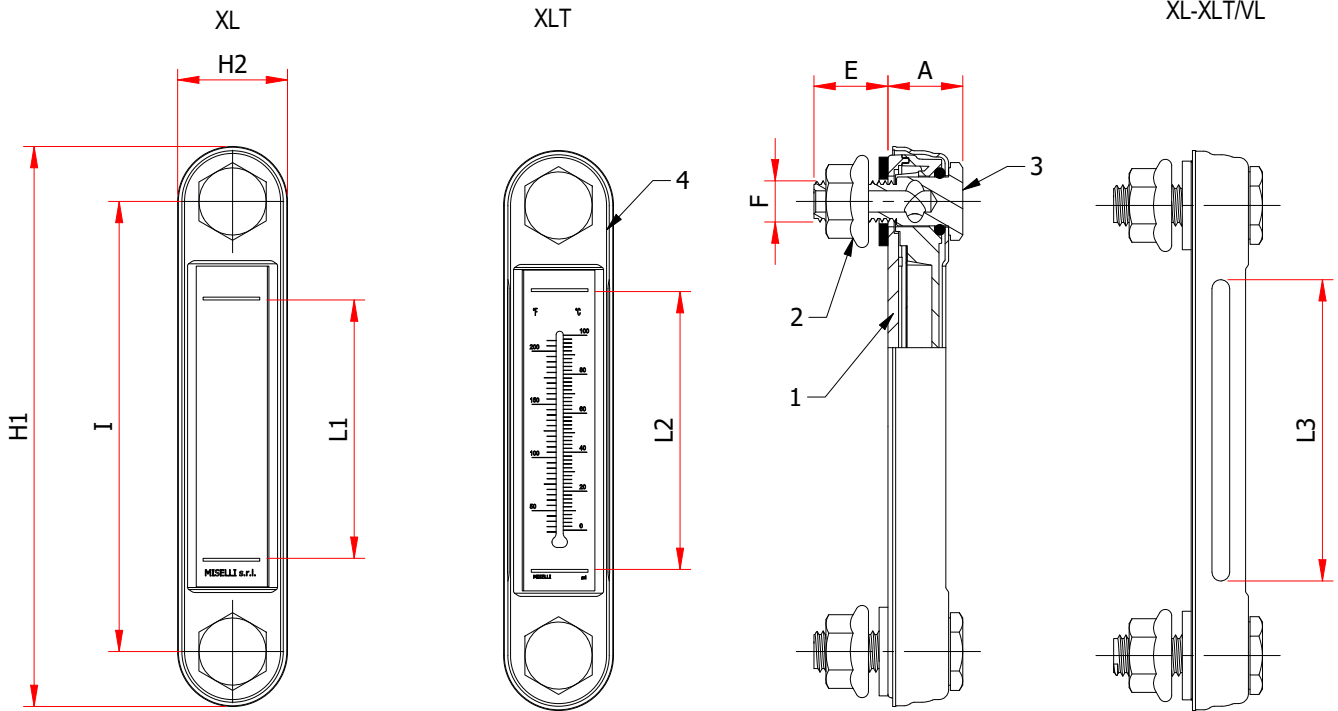
- **Bolts and flanged nuts:** zinc plated steel.

- **External case:** painted black steel.

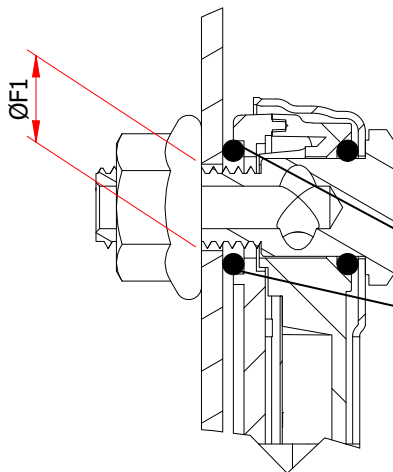
- **Thermometer:** possibility to check both the fluid level and its temperature by a inside capillary thermometer scaled in degree Celsius 0-100° C and Fahrenheit 50-200°F (Model XL/03T 0-80°C/50-175°F).

- **Max working temperature:** 90°C/194°F (test made up 3 bar /43,5 PSI of pressure). In case of use under pressure and/or temperature conditions, contact the technical service Miselli srl.

- **Assembling instructions:** the mounting of the level gauge can be made externally by providing 2 threaded holes M10 or M12 on 76-127 mm centre distance, tolerance ± 0.2 mm. Alternatively they can be secured internally through 2 plain holes $\varnothing 10.2$ mm or $\varnothing 12.2$ mm using the flanged nuts provided. Maximum tightening suggested 3 Nm.



- 1 = Transparent main body
- 2 = Flanged hex nut
- 3 = Hollow bolt
- 4 = External case



Special versions

- XL-T/CX** made from special resin resistant to fluid containing alcohol and anti-freeze liquids.
- XL-T/RB** with floating red ball to improve the visibility of the fluid level of light colored liquids.
- XL-T/PLAST** with external casing made from polyamide 66 30% fiberglass reinforced.
- XL-T/OR** back seal provided through O-Ring in NBR synthetic rubber.
- XL-T/V** sealing FKM type VITON®.
- XL-T/VL** with external casing with side openings to allow visibility from both sides.
- XL-T/UVR** made from special resin resistant to UV rays.
- XL-T/INOX** provided with stainless steel nuts and bolts suitable for applications in corrosive environments such as marine.

Cod.	I	H1	H2	F	E	A	L1	L2	ØF1	L3	Weight gr	Pack.
XL/03	76	107	31	M10-M12	17,5	24,5	37		10,2-12,2	34	135	5
XL/03T	76	107	31	M10-M12	17,5	24,5		37	10,2-12,2	34	135	5
XL/05	127	158	31	M10-M12	17,5	24,5	73		10,2-12,2	85	187	5
XL/05T	127	158	31	M10-M12	17,5	24,5		78	10,2-12,2	85	187	5

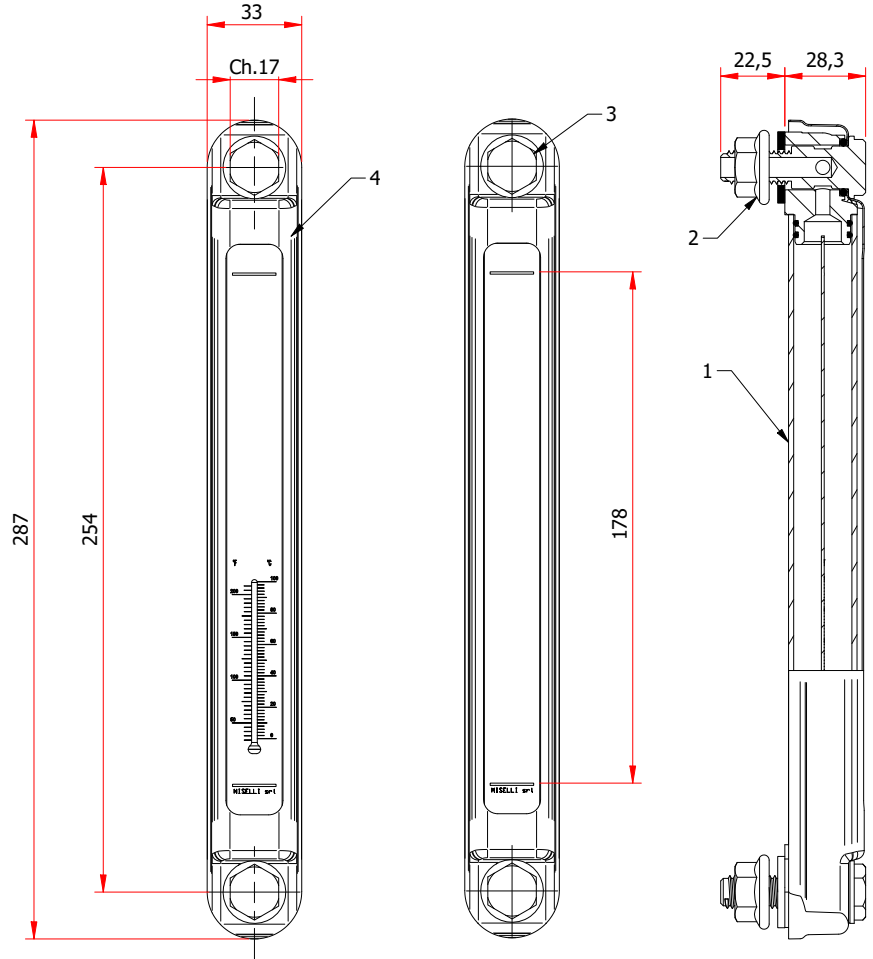
XL/10 - VERTICAL LEVEL GAUGE WITH METAL CASING

XL/10T - VERTICAL LEVEL GAUGE WITH THERMOMETER AND METAL CASING



XL/10

XL/10T



- 1 = Transparent tube
- 2 = Flanged Hex nut
- 3 = Hollow bolt
- 4 = Metal Shell

Vertical level gauge 254 mm (10") designed for use on tanks and power packs.

- **Material:** transparent internal tube made from Polycarbonate (PC), compatible with mineral and synthetic oils, hydraulic fluids, fluids containing glycole; limited resistance to unleaded fuel and diesel.

- **Bolts and flanged nuts:** zinc plated steel.

- **Sealing:** O-rings and flat rubber washers NBR 70 Shore.

- **External case:** painted black steel.

- **Thermometer:** possibility to check both the fluid level and its temperature by a inside capillary thermometer scaled in degree Celsius 0-100° C and Fahrenheit 50-200°F.

- **Max working temperature:** 90°C/194°F (test made up 1 bar /14.5 PSI of pressure). In case of use under pressure and/or temperature conditions, contact the technical service Miselli srl.

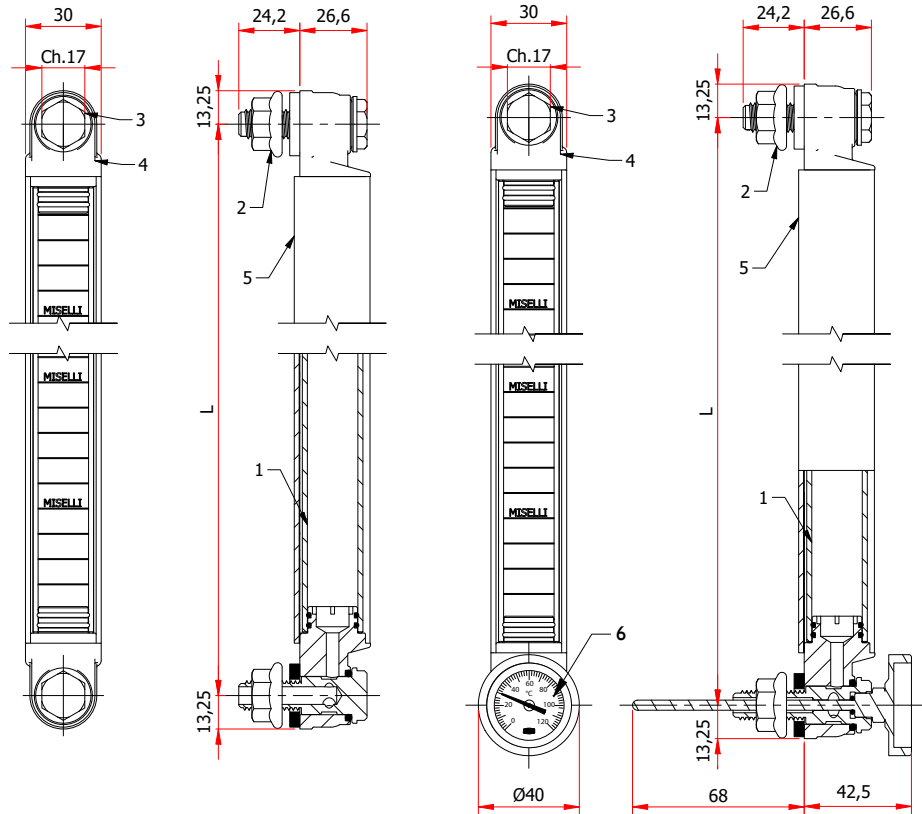
- **Assembling instructions:** the mounting of the level gauge can be made externally by providing 2 threaded holes M12 on 254 mm center distance, tolerance ± 0.2 . Alternatively they can be secured internally through 2 plain holes 12.5 mm (± 0.2). Max tightening torque suggested: 3 Nm.

Special versions

- **XL-T/10/G** with the transparent tube made in glass resistant to aggressive liquids.
- **XL-T/10/RB** with floating red ball to improve the visibility of the fluid level of light colored liquids.
- **XL-T 10/V** sealing FKM type VITON®.
- **XL-T/10/INOX** provided with stainless steel nuts and bolts suitable for applications in corrosive environments such as marine.

XLV - EXTENDED LEVEL GAUGE

XLV-T - EXTENDED LEVEL GAUGE WITH THERMOMETER



- 1 = Transparent tube
 2 = Flanged hex nut
 3 = Hollow bolt
 4 = Assembling end cap
 5 = Aluminum U-shape external case
 6 = Probe thermometer

Vertical level gauge, available with customized lengths, designed for use on big tanks and power packs. Standard center-to-center distance 300, 400 and 500 mm.

-**Material:** transparent polycarbonate tube, compatible with mineral and synthetic oils, hydraulic fluids, fluids containing glycole; limited resistance to unleaded fuel and diesel. Behind the tube is placed a graduated contrast screen to allow an accurate view of the level.

-**Bolts and flanged nuts:** zinc plated steel, M12.

-**Sealing:** flat rubber back seals NBR 70 Shore.

-**External case:** Aluminum U-shape. It can be turned 90 degrees where necessary side viewing.

-**Assembling end caps:** Polyamide PA66 black color.

-**Thermometer:** probe graduated 0-120°C (30-250°F).

-**Maximum working temperature:** 90°C/194°F (test made up to 1 bar/14,5 PSI of pressure).

-**Assembling instructions:** the mounting of the level gauge can be made externally by providing 2 threaded holes M12

on the center distance, tolerance $\pm 0,5$. Alternatively they can be secured internally through 2 plain holes 12,5 mm ($\pm 0,2$). Max tightening torque suggested 5 Nm.

Special versions

-**XLV/10/G** with the transparent tube made in glass resistant to aggressive liquids.

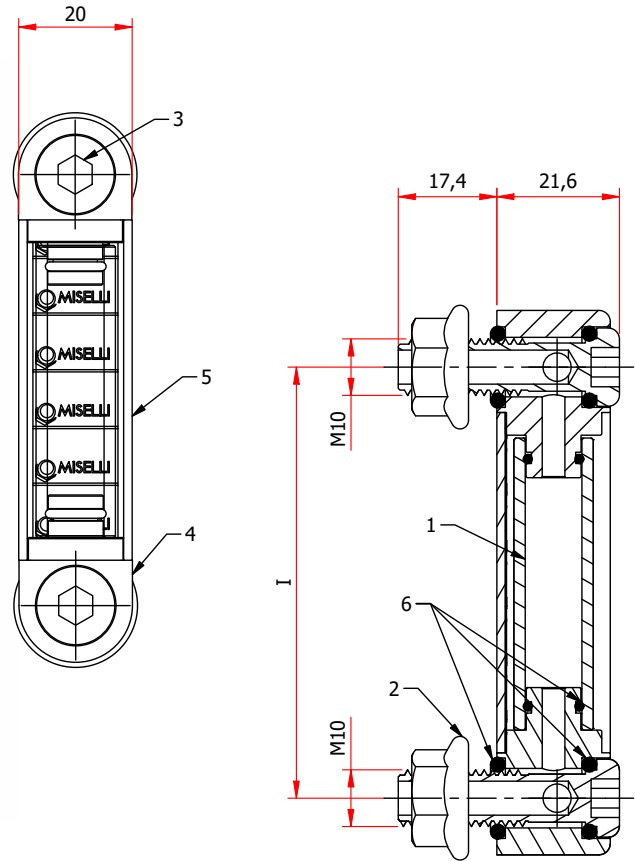
-**XLV/10/RB** with floating red ball to improve the visibility of the fluid level of light colored liquids.

-**XLV/10/V** sealing FKM type VITON®.

-**XLV/10/INOX** provided with stainless steel nuts and bolts suitable for applications in corrosive environments such as marine.

Cod.	L	Weight gr
XLV/300/M12	300	330
XLV/400/M12	400	400
XLV/500/M12	500	470

XLP - CUSTOMIZABLE LEVEL GAUGE FOR SMALL OVERALL DIMENSION



1 = Transparent tube
 2 = Flanged hex nut
 3 = Screw with socket hexagon

4 = Assembling end cap
 5 = Aluminum U-shape external case
 6 = O-Rings

Vertical level gauge, available with customized lengths, designed for use on small tanks. Excellent visibility thanks to transparent assembling end caps. Suggested for center-to-center distance lower than 254 mm.

- **Material:** transparent polycarbonate tube, compatible with mineral and synthetic oils, hydraulic fluids, fluids containing glycole; limited resistance to unleaded fuel and diesel. Behind the tube is placed a graduated contrast screen to allow an accurate view of the level.

- **Bolts and flanged nuts:** zinc plated steel, M10.

- **Sealing:** O-ring NBR 70 Shore.

- **External case:** Aluminum U-shape.

- **Assembling end caps:** transparent polyamide.

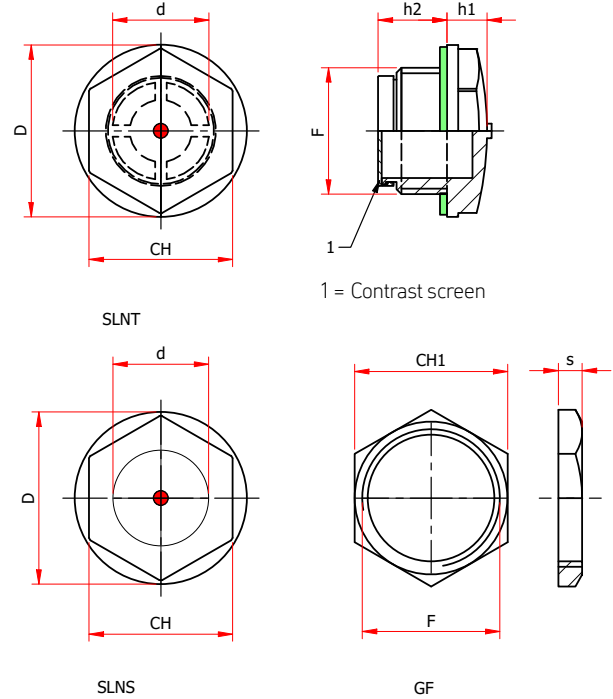
- **Assembling instructions:** the mounting of the level gauge can be made externally by providing 2 threaded holes M10 on the center distance, tolerance ± 0.2 . Alternatively they can be secured internally through 2 plain holes 10,5 mm (± 0.2). Max tightening torque suggested 3 Nm.

Special versions

XLP/HT With glass tube and FKM type VITON® sealing O-ring suggested for applications involving aggressive liquids or temperatures exceeding 100°C, for short period.

SLNS - OIL LEVEL INDICATOR

SLNT - OIL LEVEL INDICATOR WITH REFLECTOR



Threaded oil level indicator, hex head with shoulder. Utilized in oil tanks, gearboxes, hydraulic machinery and tools.

-**Material:** transparent polyamide which provides good mechanical resistance to shocks, hydraulic fluids, synthetic and mineral oils, diesel, some unleaded fuel; avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures

-**Sealing:** flat fiber gasket.

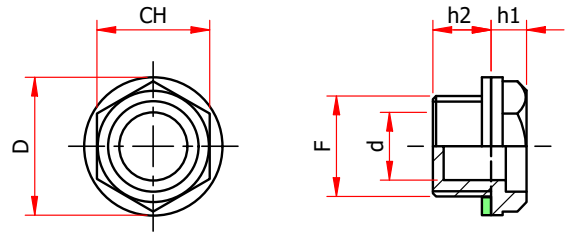
-**Maximum working temperature:** 90°C/194°F.

Special versions

- Material -CX:** special resin resistant to fluid containing alcohol and anti-freeze liquids.
- Sealing:** flat gasket NBR 70 Shore.
- Fixing nut:** in brass, for wall thickness less than 5 mm.

Cod.	CH	F	D	d	h1	h2	Nm	CH1	s	Pack.	
SLNS/14	17	G 1/4	20,5	9	8,5	8,5	5	-	-	100	
SLNS/38	SLNT/38	18	G 3/8	22	10	7	12	7	19	5	100
SLNS/12	SLNT/12	24	G 1/2	28	13,5	8	12,5	15	27	5	100
SLNS/34	SLNT/34	30	G 3/4	36	19,5	9	14	20	32	6	50
SLNS/1	SLNT/1	36	G 1	42	23,5	10	16	25	36	6	50
SLNS/114	SLNT/114	42	G 1 1/4	51	31	10	17,5	-	46	6	25
SLNS/112	SLNT/112	50	G 1 1/2	57,5	38,5	9,5	22	-	-	-	25
SLNS/2	SLNT/2	64	G 2	74	48	12,2	20,5	-	-	-	25
SLNS/14.15		17	M14x1,5	20	9	8,5	9,5	5	-	-	100
SLNS/16.15	SLNT/16.15	18	M16x1,5	22	10	7	13	7	-	-	100
SLNS/18.15	SLNT/18.15	21	M18x1,5	25,5	12	6	12,5	10	-	-	100
SLNS/20.15	SLNT/20.15	24	M20x1,5	28	13,5	7,5	12	15	-	-	100
SLNS/22.15	SLNT/22.15	24	M22x1,5	28	14	7,5	12	15	-	-	100
SLNS/26.15	SLNT/26.15	30	M26x1,5	36	20	9	13,5	20	-	-	50
SLNS/27.15	SLNT/27.15	30	M27x1,5	36	20	9	13,5	20	-	-	50
SLNS/40.15	SLNT/40.15	42	M40x1,5	51	31	10	17,5	-	-	-	25

SLC - OIL LEVEL SIGHT GLASS



Threaded oil level indicator, hex head with shoulder, utilized in oil tanks, gearboxes, hydraulic machinery and tools. The base of the threaded end is solid therefore residual fluid which could give false indication is not trapped inside when level dropped down.

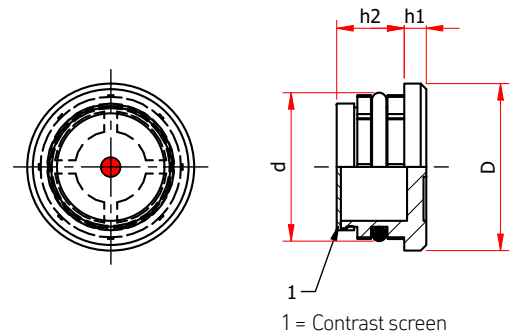
-Material: transparent polyamide which provides good mechanical resistance to shocks, hydraulic fluids, synthetic and mineral oils, diesel, some unleaded fuel; avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures

-Maximum working temperature: 90°C/194°F.

-Sealing: flat fiber gasket.

Cod.	CH	F	D	d	h1	h2	Nm	Weight gr	Pack.
SLC/38	18	G 3/8"	22	12	7	10	6	2	100
SLC/12	24	G 1/2"	29	16	5	10	10	4	100

SLP - PRESS-FIT LEVEL SIGHT GLASS



Press-fit oil level indicator with mounting on plain holes, referred to the diameter F (drilling diameter) with wall thickness \geq than 5 mm, with tolerance $\pm 0,1$, chamfer 1/45°. Do not use in pressurized tanks.

and mineral oils, diesel, some unleaded fuel; avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures.

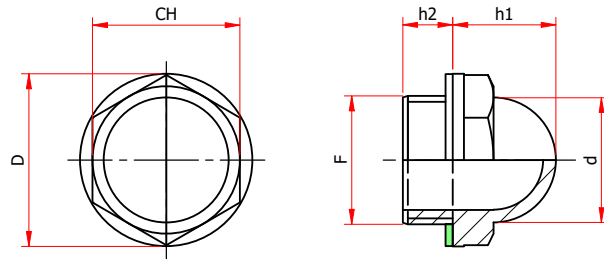
-Sealing: O-ring NBR 70 Shore.

-Maximum working temperature: 90°C/194°F.

-Material: transparent polyamide which provides good mechanical resistance to shocks, hydraulic fluids, synthetic

Cod.	F=Ø mm	D	Ø d	h1	h2	Weight gr	Pack.
SLP/17	17	18	16.9	3	7	4	100
SLP/20	20	24	19.6	4	10	4	100
SLP/26	26	30	25	4	11.5	5	100
SLP/32	32	36	31.7	4	13	8	100
SLP/38	38	42	37.5	4	14	10	100
SLP/40	40	44	39.5	4	14	12	50

LSB - DOME SHAPED OIL LEVEL GLASS



Dome shaped transparent level glass, enabling oil level to be read from any angle.

-**Material:** transparent polyamide which provides good mechanical resistance to shocks, hydraulic fluids, synthetic and mineral oils, diesel, some unleaded fuel; avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures.

-**Maximum working temperature:** 90°C/194°F.

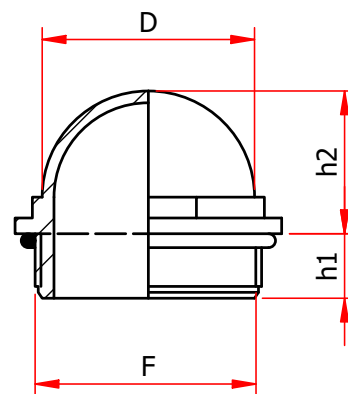
-**Sealing:** flat fiber gasket.

Special version

Sealing: flat gasket NBR 70 Shore.

Cod.	F	CH	D	d	h1	h2	Nm	Weight gr	Pack.
LSB/38	G 3/8"	19	22	15	14	10	6	4	100
LSB/12	G 1/2"	24	28	20	18	10	10	5	100
LSB/34	G 3/4"	30	35	25	20	10	15	8	50
LSB/1	G 1"	36	42	31	24	10,5	20	17	50
LSB/20.15	M 20x15	24	28	20	18	10	10	4	100

CF - DOME SHAPED FLUID LEVEL INDICATOR



Dome shaped transparent level glass, enabling oil level to be read from any angle. This product is utilized on trucks/ tankers and large reservoir containing liquids, especially in agricultural machinery.

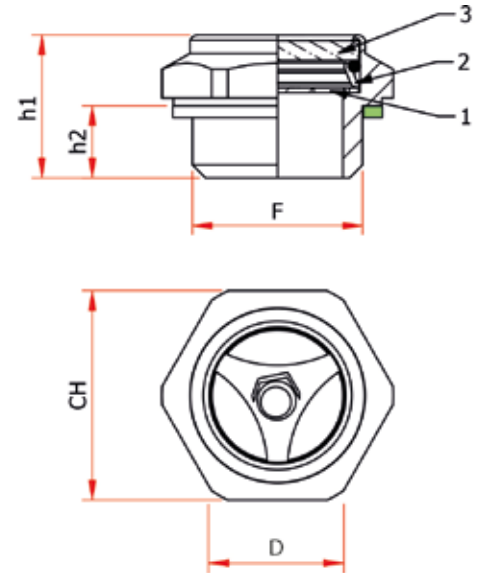
-**Material:** thermoplastic resin for optimal shock resistance and high strenght.

-**Sealing:** on request, O-ring NBR 70 Shore (codes OR/2 - OR/3).

-**Maximum working temperature:** 70°C/158°F.

Cod.	F	D	h1	h2	Weight gr
CF/2	G 2"	59	22	32	45
CF/3	G 3"	85	32	63	135

SM - OIL LEVEL INDICATOR - ALUMINUM AND CRYSTAL CLEAR PLASTIC



- 1 - Contrast screen
- 2 - Spacer
- 3 - Plastic viewer

Threaded hex-head oil level indicator. Internal contrast screen in aluminum helps the control of the level inside the tank.

- **Material:** aluminum alloy.

- **Lens:** transparent PA Polyamide, compatible with mineral and synthetic oils, diesel, brake fluid and some unleaded fuel; avoid contact with alcohol based solutions and antifreeze liquids, especially at high temperatures.

- **Sealing:** flat fiber gasket.

- **Maximum working temperature:** 90°C/194°F.

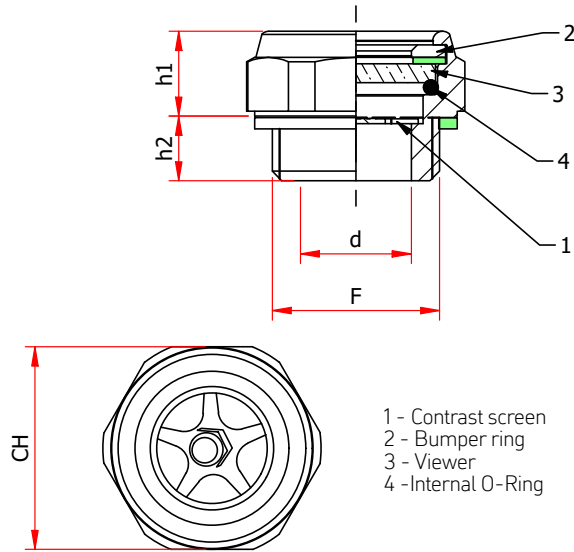
- **Max operating pressure:** 5 bar/14,5 PSI.

Special versions

Sealing: flat aluminium gasket.

Cod.	F	CH	D	h1	h2	Nm	Weight gr	Pack.
SM/14	G.1/4"	17	19	18,8	8	4	5	100
SM/38	G.3/8"	22	24	18	9	10	9	100
SM/12	G.1/2"	27	29,5	20	9	15	15	100
SM/34	G.3/4"	32	35,5	22	11	22	22,5	50
SM/1	G.1"	40	44	22	10	25	35	50
SM/114	G. 1 1/4"	50	55	27	12	-	60	5
SM/112	G. 1 1/2"	55	62	26	13	-	80	5
SM/14.15	M14x1,5	17	18,5	17	8	4	5	100
SM/16.15	M16x1,5	22	24	18	9	10	8,5	100
SM/18.15	M18x1,5	22	24	18	9	12	14	100
SM/20.15	M20x1,5	24	26,5	21	10	15	12	100
SM/22.15	M22x1,5	27	29,5	20	9	15	15	100
SM/24.15	M24x1,5	30	33,5	24	11	18	22,5	100

SM/HP – OIL LEVEL INDICATOR - ALUMINUM AND NATURAL GLASS



Threaded hex-head oil level indicator for screw compressors, gearboxes or any others applications where high pressure and mechanical resistance are required. Internal contrast screen in aluminum helps the control of the level inside the tank.

- **Maximum working temperature:** 130°C/248°F.
- **Max operating pressure:** 5 Bar/14,5 PSI with fiber seal, 20 Bar/290 PSI with aluminium seal.

- **Material:** aluminum alloy.
- **Lens:** natural glass with internal seal in FKM type VITON®.
- **Sealing:** flat fiber gasket.

Special versions

Sealing: flat aluminium gasket.

Cod.	F	CH	d	h1	h2	Weight gr	Pack.
SM-12/HP	G.1/2"	27	14	10	9	16	25
SM-34/HP	G.3/4"	32	17,5	12,5	10	29	25
SM-1/HP	G.1"	40	23	13	10	50	10
SM-20,15/HP	M20x1,5	27	14	10	9	16	25
SM-33,15/HP	M33x1,5	40	23	13	10	50	10

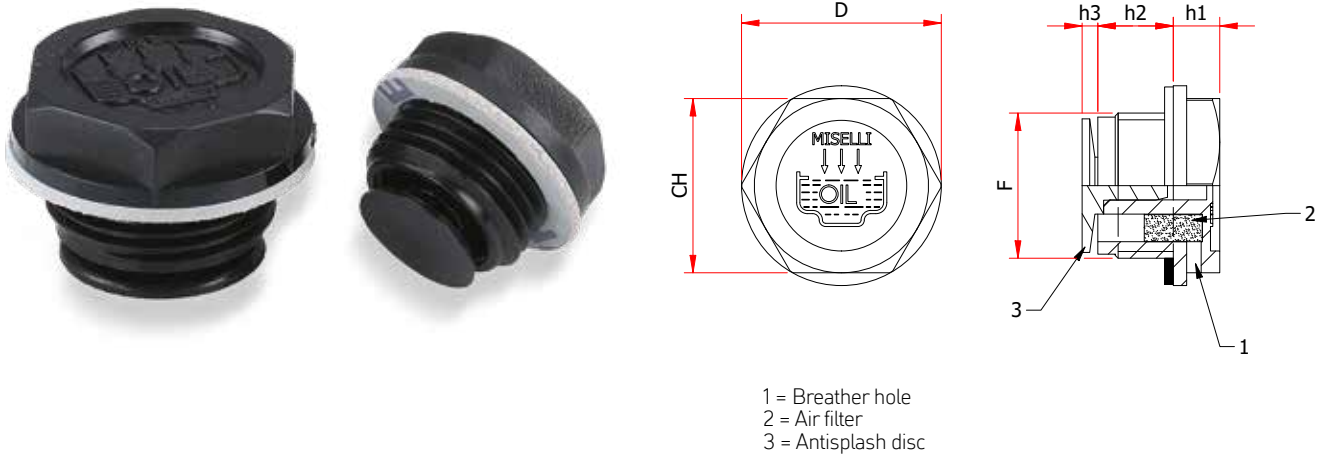
38 – SPECIAL OIL LEVEL INDICATORS



Cod.	Material	Temp. °C	Bar
38B	Brass – glass	-10°C – 150°C	> 40 bar
38B.I	Stainless steel – glass	-10°C – 150°C	> 40 bar
38D	Aluminum – glass	-10°C – 150°C	> 10 bar
38D.I	Stainless steel – glass	-10°C – 150°C	> 10 bar
Cod.	Threads available		
38B	G. 1/2" – 3/4" – 1" – 1 1/4" – 1 1/2" – 2"		
38B.I	G. 1/2" – 3/4" – 1"		
38D	G. 1/4" – 3/8" – 1/2" – 3/4" – 1" – 1 1/4" – 1 1/2" M14-M16-M18-M20-M22 x 1,5		
38D.I	G. 1/4" – 3/8" – 1/2" – 3/4" – 1" – 1 1/4"		

TCSA - OIL FILL PLUG WITH BREATHER AND ANTI - SPLASH DISC

TCSF - OIL FILL PLUG WITH BREATHER, FILTER AND ANTI - SPLASH DISC



1 = Breather hole
 2 = Air filter
 3 = Antisplash disc

Plastic hex threaded oil filler breather plug ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. These plugs have the "fill" graphic symbol and the word OIL molded on the top. The breather hole is located on the side of the hex with a diameter from 2 to 3,5 mm, depending on the plug size. Incorporated anti-splash disc, positioned under the thread, will reduce spillage when heavy oil movement in the reservoir or gearbox take place.

- **Material:** Polyamide PA66.

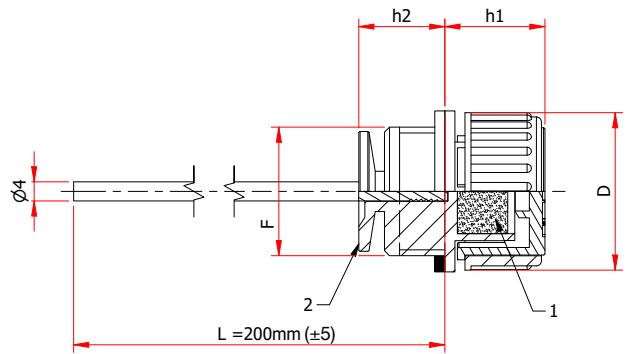
- **Sealing:** flat fiber gasket.

- **Maximum working temperature:** 100°C/212°F.

- **Filter:** polyurethane foam filter element prevents contaminations from the ambient atmosphere polluting the oil.

Cod.	F	CH	D	h2	h1	h3	Nm	Pack.
TCSA/14	G 1/4"	17	19,5	9	7	3	5	100
TCSA/38	G 3/8"	18	22	10	7,5	3	8	100
TCSA/12	TCSF/12	G 1/2"	23	11	7,5	3	9	100
TCSA/34	TCSF/34	G 3/4"	30	11	9	4	11	50
TCSA/1	TCSF/1	G 1"	36	12	10,5	4	20	50
TCSA/114	TCSF/114	G 1 1/4"	42	13,5	12	4	-	25
TCSA/14.15		M 14x1,5	17	19,5	9	7	5	100
TCSA/16.15		M 16x1,5	18	21	10	7,5	6	100
TCSA/18.15		M 18x1,5	21	26	10	7,5	7	100
TCSA/20.15	TCSF/20.15	M 20x1,5	24	28	10	8	8	100
TCSA/22.15	TCSF/22.15	M 22x1,5	24	28	11	8	10	100

TCSZF(A) - KNURLED OIL FILL PLUG WITH BREATHER AND ANTI-SPLASH DISC



1 = Breather hole
 2 = Antisplash disc

plastic filler breathers

Plastic knurled head threaded filler breather ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. Incorporated anti-splash disc, positioned under the thread, will reduce spillage when heavy oil movement in the reservoir or gearbox take place.

- **Material:** Polyamide PA66.
- **Sealing:** flat gasket NBR 90 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Filter:** polyurethane foam filter element prevents

contaminations from the ambient atmosphere polluting the oil.

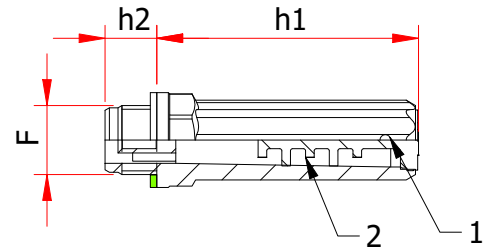
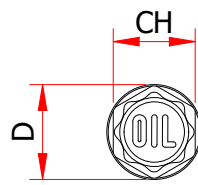
- **Airflow rate "P":** indicated in the table expressed in Lt/ min measured at a pressure of 50 mbar/0,73 PSI.

Special versions

Level dipstick: cylindrical section with zinc steel phosphated surface, standard length 200 mm (± 5), with customizable length with MIN-MAX notches.

	Cod.	F	D	h1	h2	P	Pack.
	TCSZF/14	G 1/4"	21,5	16	11	NR	100
	TCSZF/38	TCSZF/38+A	G 3/8"	21,5	13	35	100
	TCSZF/12	TCSZF/12+A	G 1/2"	24	11,50	100	100
	TCSZF/34	TCSZF/34+A	G 3/4"	31	19	80	50
	TCSZF/1	TCSZF/1+A	G 1"	38	19,5	250	50
	TCSZF/14.15	M14x1,5	21,5	16	11	NR	100

TK - EXTENDED FILLER PLUG WITH BUILT-IN LABYRINTH OVERFLOW PROTECTION



1 = Breather hole
 2 = Internal labyrinth

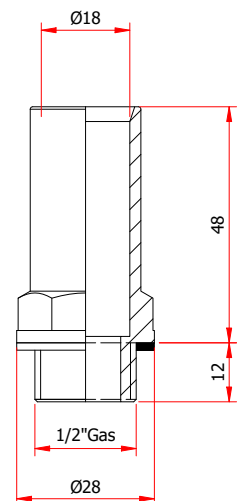
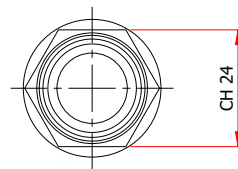
plastic filler breathers

Threaded extended plug with labyrinth vane located in its body, designed for applications where there is a considerable movement of oil and consequent danger of oil leaks from the breather hole (\varnothing 2,5 mm). Hex bottom allows tightening by wrench. The combined action of the internal splash guards and the raised position of the vent hole at the top of the cylinder protects against oil leakages.

- **Materiale:** Polyamide PA66.
- **Sealing:** flat fiber gasket.
- **Maximum working temperature:** 100°C/212°F.

Cod.	F	CH	D	h1	h2	Weight gr	Pack.
TK/14	G 1/4"	17	20	55	12	9	100
TK/38	G 3/8"	19	22	60	12	12	100
TK/12	G 1/2"	22	28	65	12	18	100
TK/16.15	M 16x1,5	19	22	60	12	13	100
TK/18.15	M 18x1,5	19	22	60	12	13	100

PFP - THREADED EXTENSION FOR PRESS-FIT BREATHER PLUG



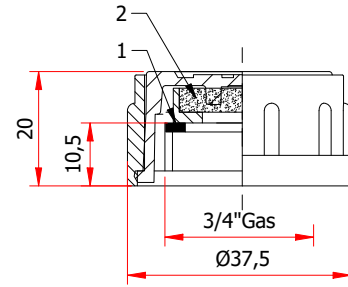
Extension casing with bottom thread 1/2" BSP male, and top hole 18 mm diameter for press-fit component; it can be used combined with our filler breather TP-TPBS-ALS/18. Due to this extension, the breather hole in the press-fit breather is located at an raised position, helping to reduce overflow of oil.

- **Sealing:** flat fiber gasket.
- **Maximum working temperature:** 100°C/212°F.

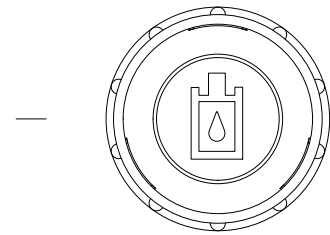
Special versions

Sealing: O-ring or flat rubber gasket NBR 70 Shore.

TF - FILLER BREATHER WITH FILTER, INTERNAL THREAD



1 = NBR flat seal
2 = Air filter



Plastic filler breather with air filter and 3/4" BSP internal thread, designed for use on plastic molded tanks. The internal thread allows mounting on to a molded external thread. It makes the design and manufacturing of the plastic tank easier.

- **Material:** Polyamide PA66.
- **Filter:** polyurethane foam filter element prevents

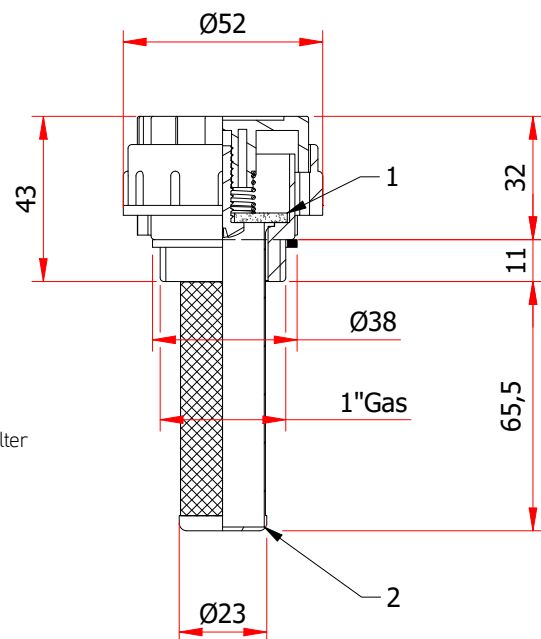
contaminations from the ambient atmosphere polluting the oil.

- **Sealing:** flat gasket NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Airflow capacity:** up to 100 Lt/min (data measured with a pressure difference between outside and inside of 110 mbar).

TMDF/1/BRC - FILLER BREATHER WITH METAL STRAINER



1 = Sintered bronze filter
2 = Metal strainer



Plastic filler breather, suitable for application on small/ medium sized tanks. Oil filling is done by pulling directly the quick release cap placed on top. The presence of the strainer allows, in the phase of filling, to preserve the tank from the entrance of impurity.

- **Material:** Polyamide PA66.

- **Filter:** bronze sintered air filter (filtration degree 30 microns) and filtering stainless steel strainer (300 μ filtration degree).

- **Airflow capacity:** up to 500 Lt/min (data measured with a pressure difference between outside and inside of 110 mbar).

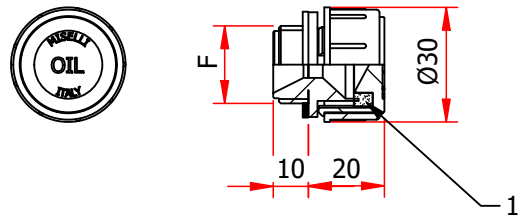
TSF(BR) - FILLER BREATHER WITH FILTER

TSAF(BR) - FILLER BREATHER WITH FILTER AND DIPSTICK

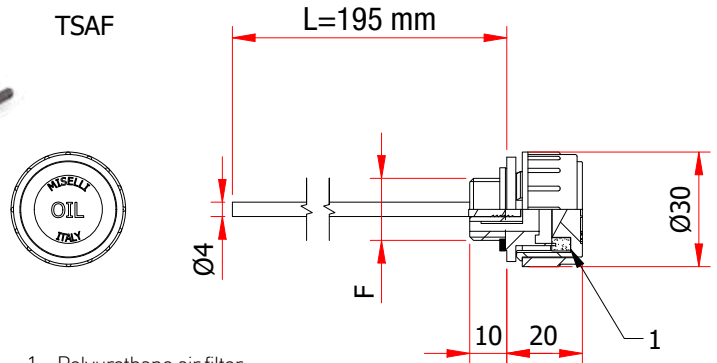
plastic filler breathers



TSF



TSAF



1 = Polyurethane air filter

Threaded filler breather, cylindrical head 30 mm \varnothing , with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance.

- **Material:** Polyamide PA66.
- **Sealing:** flat gasket NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Filter:** Polyurethane air filter located under the lid.
- **Bronze filter:** where the vent hole is subjected to strong oil splashes, especially during the starting of the machine when the oil is still thick, sintered bronze filter (30 microns filtration degree) allows the air to flow but stops fluid overflowing.

- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 195 mm (± 5).

- **Airflow rate "P":** indicated in the table expressed in Lt/ min measured at a pressure of 50 mbar/0.73 PSI.

Special versions

- **Level dipstick:** customizable length with MIN-MAX notches.
- **Lid:** possible customization of color, logo or neutral version.
- All sizes are also available with conical thread.

Cod.	P	Cod.	P	F	Pack.
TSF/14	60	TSAF/14	60	G 1/4"	100
TSF/38	70	TSAF/38	78	G 3/8"	100
TSF/12	60	TSAF/12	75	G 1/2"	100

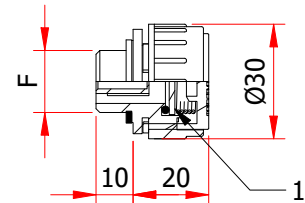
Cod.	F	P	Pack.
TSF/14/BR	G 1/4"	40	100
TSF/38/BR	G 3/8"	30	100
TSF/12/BR	G 1/2"	20	100

TSV - FILLER BREATHER WITH VALVE

TSAV - FILLER BREATHER WITH VALVE AND DIPSTICK



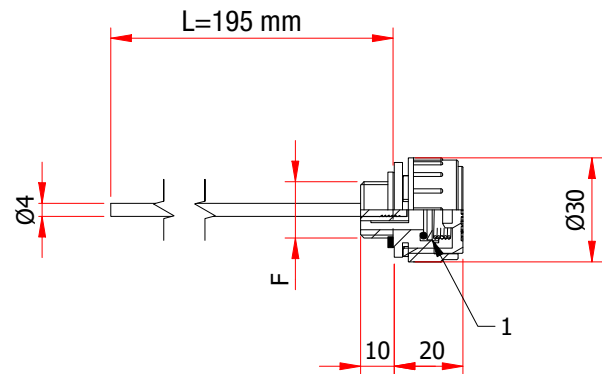
TSV



1 = Air relief valve



TSAV



1 = Air relief valve

Threaded filler breather, cylindrical head 30 mm \varnothing , with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. It is used in applications where a certain pressure needs to be maintained into the tank. Extensively used in small oil tanks, gearboxes, gear reducers, torque multipliers and transmissions.

- **Material:** Polyamide PA66.
- **Sealing:** flat gasket NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Check valve:** opens at a pressure of about 0.25 bar/3.6 PSI and closes reset at similar pressure. It allows air to vent

out under the above conditions, but does not allow air to move back in, preventing dust particles or other forms of contamination from the atmosphere to enter the oil.

- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 195 mm (\pm 5).

Special versions

- **Level dipstick:** customizable length with MIN-MAX notches.
- **Lid:** possible customization of color, logo or neutral version.
- All sizes are also available with conical thread.

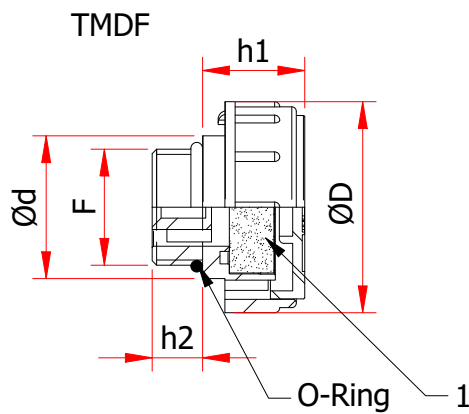
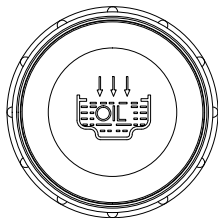
Cod.	F	Pack.
TSV/14 TSAV/14	G 1/4"	100
TSV/38 TSAV/38	G 3/8"	100
TSV/12 TSAV/12	G 1/2"	100

TMD - FILLER BREATHER

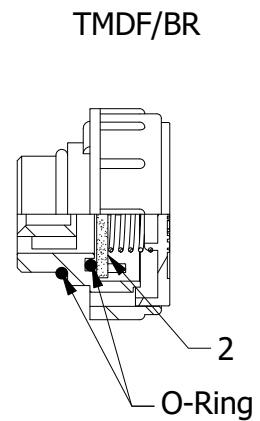
TMDF(BR) - FILLER BREATHER WITH FILTER



plastic filler breathers

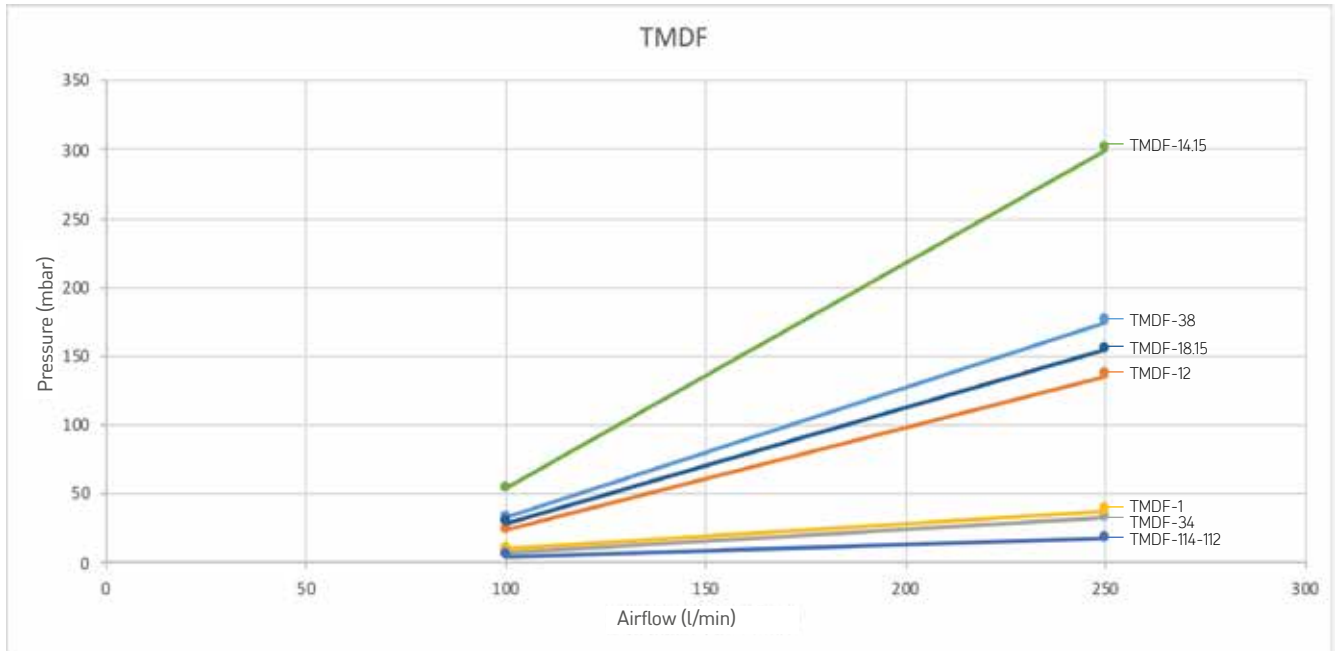


1 = Polyurethane air filter



2 = Sintered bronze filter

Cod.	Cod.	Cod.	F	D	d	h1	h2	Pack.
TMD/38	TMDF/38	TMDF/38/BR	G 3/8"	36	23	21	11	100
TMD/12	TMDF/12	TMDF/12/BR	G 1/2"	41	28	21	12	100
TMD/34	TMDF/34	TMDF/34/BR	G 3/4"	47	33	22	12	50
TMD/1	TMDF/1	TMDF/1/BR	G 1"	52	38	25	12	50
TMD/114	TMDF/114	TMDF/114/BR	G 1 1/4"	63	49	29	13	25
TMD/112	TMDF/112	TMDF/112/BR	G 1 1/2"	63	55	29	13,5	25
TMD/14.15	TMDF/14.15	TMDF/14.15/BR	M 14x1,5	41	28	21,5	12	100
TMD/16.15	TMDF/16.15	TMDF/16.15/BR	M 16x1,5	36	23	21	11	100
TMD/18.15	TMDF/18.15	TMDF/18.15/BR	M 18x1,5	41	28	21	12	100
TMD/20.15	TMDF/20.15	TMDF/20.15/BR	M 20x1,5	41	28	21	12	100
TMD/22.15	TMDF/22.15	TMDF/22.15/BR	M 22x1,5	41	28	21	12	100



plastic filler breathers

Threaded filler breather, cylindrical head, with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. It allow air passage at high volume, through the vents located on the bottom of the head; recommended to be used in systems where frequent oil level changes take place in short amount of time, allowing the air to enter and leave the system, without any unwanted air pressure increase or decrease.

- Material:** Polyamide PA66.
- Sealing:** O-ring NBR 70 Shore.
- Maximum working temperature:** 100°C/212°F.
- Filter:** polyurethane foam filter element prevents contaminations from the ambient atmosphere polluting the oil.

-**Bronze filter:** where the vent hole is subjected to strong oil splashes, especially during the starting of the machine when the oil is still thick, sintered bronze filter (30 microns filtration degree) allows the air to flow but stops fluid overflowing.

Special versions

- Sizes G. $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{3}{4}$ " and 1" are also available with conical thread.
- Lid:** on request, models G.1 $\frac{1}{4}$ " and G.1 $\frac{1}{2}$ " have an option for a yellow lid, available with text "DIESEL". For other models, possible customization of color, logo or neutral version.

TMDA - FILLER BREATHER WITH DIPSTICK

TMDFA(BR) - FILLER BREATHER WITH DIPSTICK AND SINTERED BRONZE

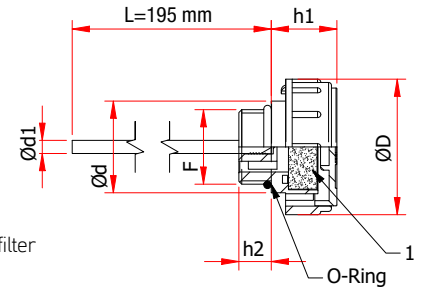
plastic filler breathers



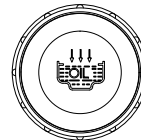
TMDFA



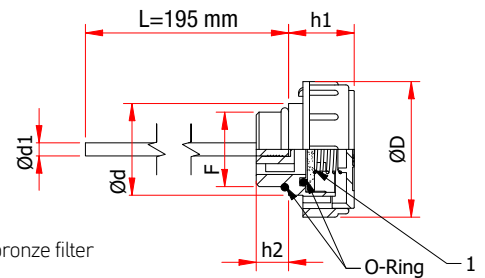
1 = Polyurethane air filter



TMDFA/BR



2 = Sintered bronze filter



Threaded filler breather, cylindrical head, with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. It allows air passage at high volume, through the vents located on the bottom of the head; recommended to be used in systems where frequent oil level changes take place in short amount of time, allowing the air to enter and leave the system, without any unwanted air pressure increase or decrease.

- **Material:** Polyamide PA66.
- **Sealing:** O-ring NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Filter:** polyurethane foam filter element prevents contaminations from the ambient atmosphere polluting the oil.
- **Bronze filter:** where the vent hole is subjected to strong oil splashes, especially during the starting of the machine when the oil is still thick, sintered bronze filter (30 microns filtration degree) allows the air to flow but stops fluid overflowing.
- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 195 mm (± 5).

Special versions

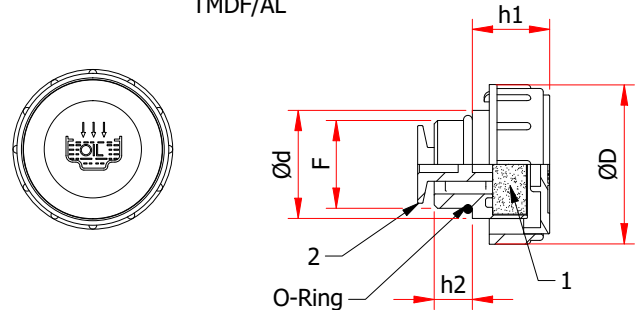
- **Level dipstick:** customizable length with MIN-MAX notches.
- **Flex:** blade-style level dipstick with zinc phosphated surface, customizable laser inscriptions. Flexible dipstick is suitable for applications that require special shaped profile has to be followed.
- **Lid:** on request, models G.1 1/4" and G.1 1/2" have an option for a yellow lid, available with text "DIESEL". For other models, possible customization of color, logo or neutral version.
- Sizes G. 1/4", 3/8", 1/2", 3/4" and 1" are also available with conical thread.

Cod.	Cod.	Cod.	F	D	d	d1	h1	h2	Pack.
TMDA/38	TMDFA/38	TMDFA/38/BR	G 3/8"	36	23	4	17	11	100
TMDA/12	TMDFA/12	TMDFA/12/BR	G 1/2"	41	28	4	18	12	100
TMDA/34	TMDFA/34	TMDFA/34/BR	G 3/4"	47	33	5	17	12	50
TMDA/1	TMDFA/1	TMDFA/1/BR	G 1"	52	38	5	20	12	50
TMDA/114	TMDFA/114	TMDFA/114/BR	G 1 1/4"	63	49	5	23	13	25
TMDA/112	TMDFA/112	TMDFA/112/BR	G 1 1/2"	63	55	5	23	13,5	25
TMDA/14.15	TMDFA/14.15	TMDFA/14.15/BR	M 14x1,5	41	28	4	21,5	12	100
TMDA/16.15	TMDFA/16.15	TMDFA/16.15/BR	M 16x1,5	36	23	4	17	11	100
TMDA/18.15	TMDFA/18.15	TMDFA/18.15/BR	M 18x1,5	41	28	4	17,5	12	100
TMDA/20.15	TMDFA/20.15	TMDFA/20.15/BR	M 20x1,5	41	28	4	17,5	12	100
TMDA/22.15	TMDFA/22.15	TMDFA/22.15/BR	M 22x1,5	41	28	4	17,5	12	100

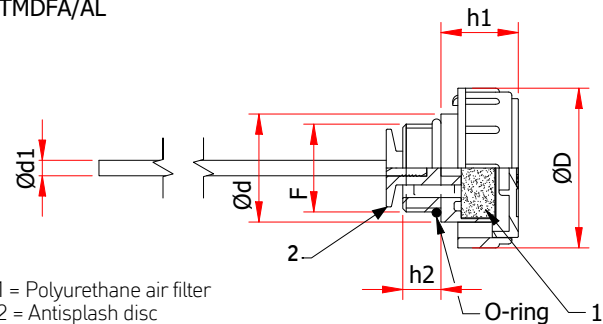
TMDF(A)/AL - FILLER BREATHER WITH ANTI-SPLASH DISC AND FILTER



TMDF/AL



TMDFA/AL



Threaded filler breather, cylindrical head, with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. It allows air passage at high volume, through the vents located on the bottom of the head. Anti splash disc positioned under the thread allows to protect the vents from occasional splashes of oil during machine operation or during transport.

- **Material:** Polyamide PA66.
- **Sealing:** O-ring NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Filter:** polyurethane foam filter element prevents contaminations from the ambient atmosphere polluting the oil.
- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 200 mm (± 5).

Special versions

- **Level dipstick:** customizable length, with MIN-MAX notches.
- **Bronze filter:** where the vent hole is subjected to strong oil splashes, especially during the starting of the machine when the oil is still thick, sintered bronze filter (30 microns filtration degree) allows the air to flow but stops fluid overflowing.
- **Lid:** on request, models G.1 1/4" and G.1 1/2" have an option for a yellow lid, available with text "DIESEL". For other models, possible customization of color, logo or neutral version.

Cod.	F	D	d	d1	h1	h2	Pack.
TMDF/38/AL TMDFA/38/AL	G 3/8"	36	23	4	21	11	100
TMDF/12/AL TMDFA/12/AL	G 1/2"	41	28	4	21	12	100
TMDF/34/AL TMDFA/34/AL	G 3/4"	47	33	5	22	12	50
TMDF/1/AL TMDFA/1/AL	G 1"	52	38	5	25	12	50
TMDF/114/AL	G 1 1/4"	63	49	5	29	13	25
TMDF/14.15/AL	M 14x1.5	41	28	4	21.5	12	100
TMDF/16.15/AL TMDFA/16.15/AL	M 16x1.5	36	23	4	21	11	100
TMDF/18.15/AL TMDFA/18.15/AL	M 18x1.5	41	28	4	21	12	100
TMDF/20.15/AL TMDFA/20.15/AL	M 20x1.5	41	28	4	21	12	100
TMDF/22.15/AL TMDFA/22.15/AL	M 22x1.5	41	28	4	21	12	100

plastic filler breathers

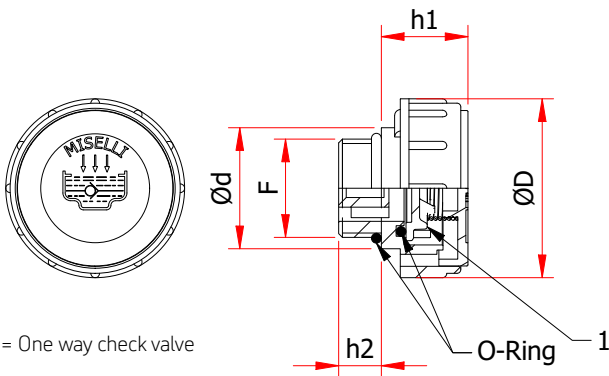
TMDV - FILLER BREATHER WITH ONE WAY AIR VENT VALVE

TMDAV - FILLER BREATHER WITH ONE WAY AIR VENT VALVE AND DIPSTICK

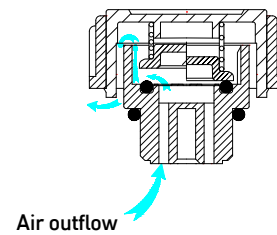


TMDAV

TMDV



1 = One way check valve



Threaded filler breather, cylindrical head, with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. It allows air passage at high volume, through the vents located on the bottom of the head. This article equipped with one-way valve is made for those applications where air breathe out only. Recommended for compressor housing and gearboxes.

- **Material:** Polyamide PA66.
- **Sealing:** O-ring NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.

- **Check valve:** set around at 0.30 bar/4.3 PSI, allows the vent and prevents the entry of impurities inside and oil leakage.

- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 195 mm (± 5).

Special versions

- **Level dipstick:** customizable length, with MIN-MAX notches.
- **Check valve:** set around at 0.10 bar/1.5 PSI.

	Cod.	F	D	d	h1	h2	Pack.
	TMDV/38 TMDAV/ 38	G 3/8"	36	23	21	11	100
	TMDV/12 TMDAV/12	G 1/2"	41	28	21	12	100
	TMDV/34 TMDAV/34	G 3/4"	47	33	22	12	50
	TMDV/1 TMDAV/1	G 1"	52	38	25	12	50
	TMDV/114 TMDAV/114	G 1 1/4"	63	49	29	13	25
	TMDV/14.15 TMDAV/14.15	M 14x1,5	41	28	21,5	12	100
	TMDV/16.15 TMDAV/16.15	M 16x1,5	36	23	21	11	100
	TMDV/18.15 TMDAV/18.15	M 18x1,5	41	28	21	12	100
	TMDV/20.15 TMDAV/20.15	M 20x1,5	41	28	21	12	100
	TMDV/22.15 TMDAV/22.15	M 22x1,5	41	28	21	12	100

TF - FILLER BREATHER CAP INTERNAL THREAD

TFA - FILLER BREATHER CAP INTERNAL THREAD WITH DIPSTICK



plastic filler breathers

Filler breather with internal thread, screw mounting.

- **Material:** Polyamide PA66.
- **Sealing:** flat gasket NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Filter:** polyurethane foam filter.

- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 180 mm (± 5).

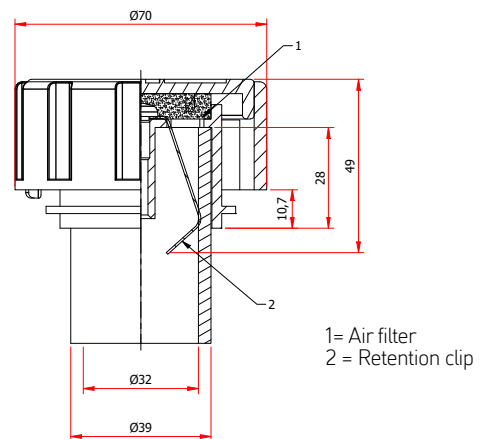
- **Airflow capacity:** up to 75 Lt/min (data measured with a pressure difference between outside and inside of 275 mbar).

Cod.	F	Pack.
TF/2	G 2"	10
TF/60.2	M60x2	10

Special versions

- **Level dipstick:** customizable length, with MIN-MAX notches.

NYPO-24 - PUSH-FIT FILLER BREATHER



Filler breather with spring retention clip to suit 39 mm Ø and 32 mm Ø steel tube.

- **Material:** Polyamide PA66.
- **Maximum working temperature:** 100°C/212°F.

- **Filter:** polyurethane foam filter.

- **Airflow capacity:** up to 750 Lt/min (data measured with a pressure difference between outside and inside of 275 mbar).

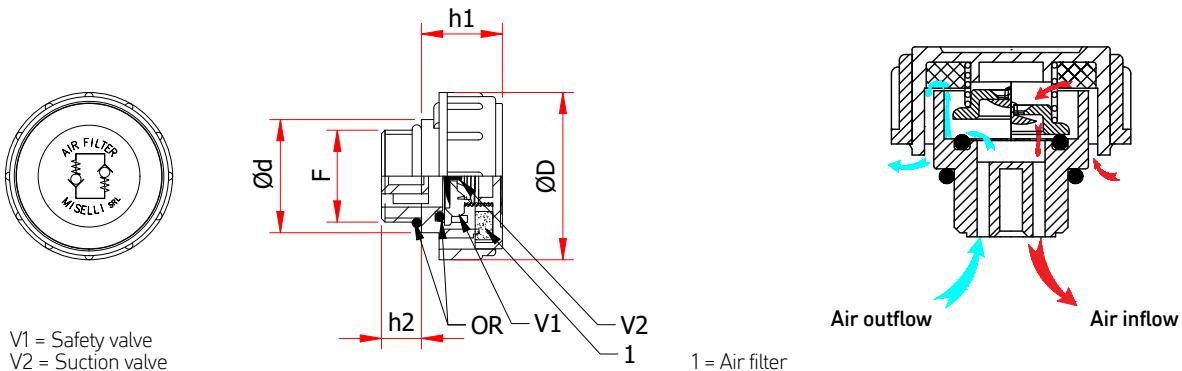
TMDV/DS - PRESSURIZED FILLER BREATHER WITH FILTER

TMDAV/DS - PRESSURIZED FILLER BREATHER WITH FILTER AND DIPSTICK



TMDAV-DS

TMDV-DS



V1 = Safety valve
 V2 = Suction valve

1 = Air filter

Threaded filler breather, cylindrical head, with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. This model is used on hydraulic applications where the airflow needs to be controlled in both directions, externally when internal overpressure is created and internally when, decreasing the fluid level and the vacuum is created.

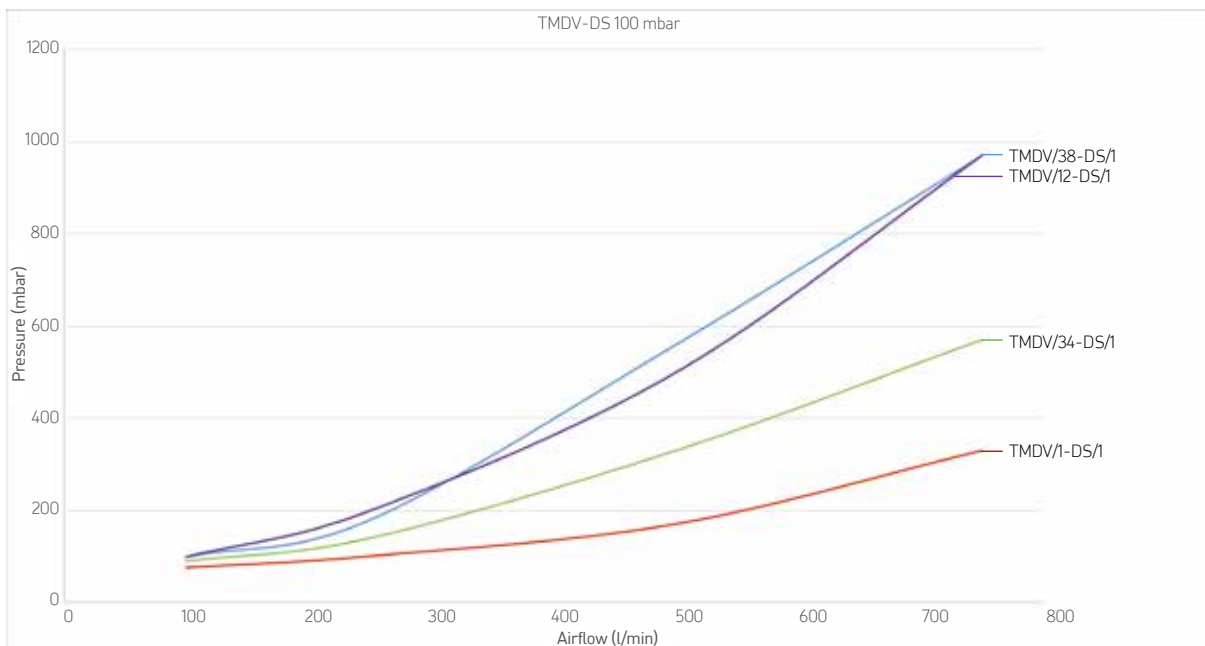
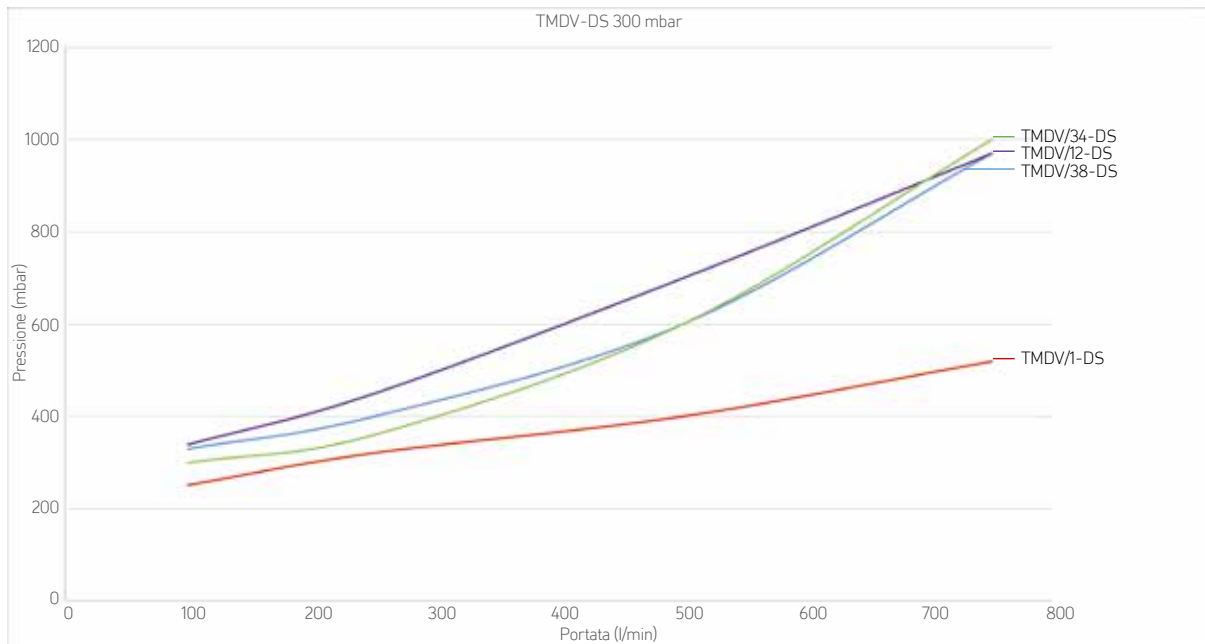
- **Material:** Polyamide PA66.
- **Sealing:** O-ring NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Filter:** polyurethane foam filter element prevents contaminations from the ambient atmosphere polluting the oil.

- **Double valve:** check valve is set around at 0.30 bar/4.3 PSI and the suction valve is set around at 8 mbar /0.12 PSI.
- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 195 mm (± 5).
- **Airflow capacity:** up to 750 Liters/min (see data and graphic p. 45).

Special versions

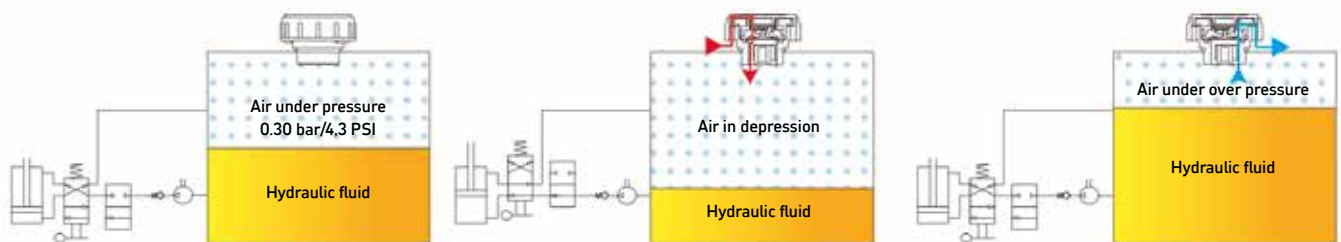
- **Level dipstick:** customizable length, with MIN-MAX notches.
- **Check valve:** set around at 0.10 bar/1.5 PSI
- **Metric threads:** M14, M16, M18, M20 e M22X1.5.

	Cod.	F	D	d	h1	h2	Pack.
TMDV/38-DS	TMDAV/38-DS	3/8	41	28	21	11	100
TMDV/12-DS	TMDAV/12-DS	1/2	41	28	22	12	100
TMDV/34-DS	TMDAV/34-DS	3/4	47	33	22	12	50
TMDV/1-DS	TMDAV/1-DS	1	52	38	25	12	50



plastic filler breathers

OPERATING DIAGRAM OF THE TMDV-DS BREATHER CAP IN A HYDRAULIC CIRCUIT



Standard operating conditions

When a depression higher than 8mbar/0.12 PSI is created inside the tank, an air flow enters through the suction valve

When an overpressure higher than 0.30 bar/4.3 PSI (or 0.10 bar/1.5 PSI) is created inside the tank, the air flow exits through the safety valve

TMDF-70 - FILLER BREATHER WITH FILTER

TMDF-70-AS - FILLER BREATHER WITH FILTER AND INTERNAL ANTI-SPLASH

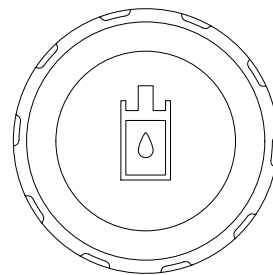
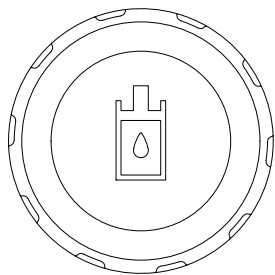
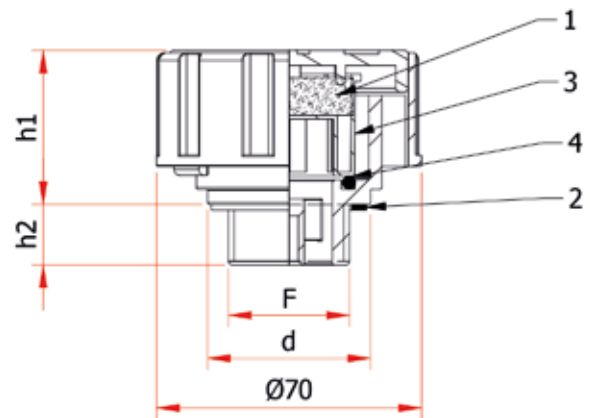
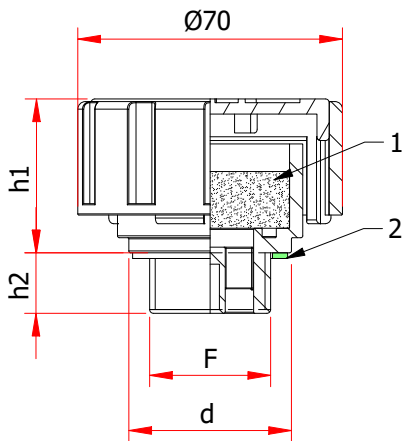


TMDF-70



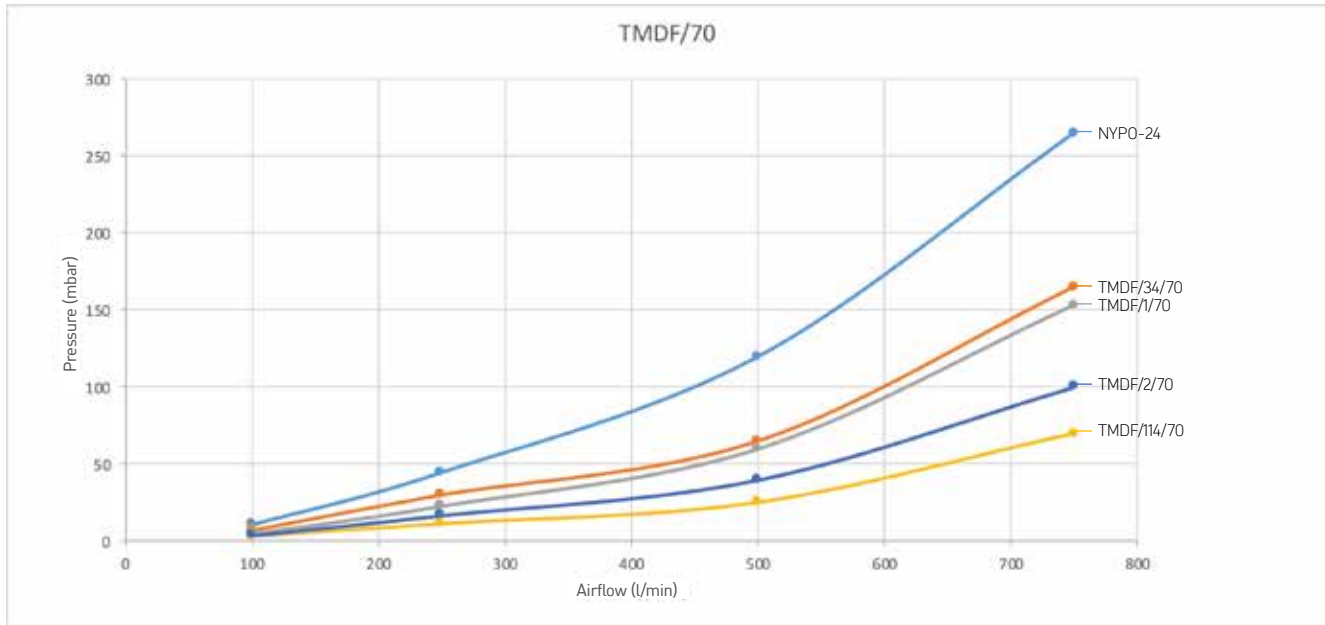
TMDF-70-AS

plastic filler breathers



- 1 = Air filter
- 2 = NBR flat seal
- 3 = Internal anti splash
- 4 = Internal O-Ring

Cod.	Cod.	F	d	h1	h2	Pack.
TMDF/34/70	TMDF/34/70-AS	G 3/4"	47	41.5	15.5	10
TMDF/1/70	TMDF/1/70-AS	G.1	49	40.7	16	10
TMDF/114/70	TMDF/114/70-AS	G 1 1/4"	53	41	14.5	10
TMDF/112/70	TMDF/112/70-AS	G 1 1/2"	43	41	14.5	10
TMDF/2/70	TMDF/2/70-AS	G.2"	69	42	16	10
TMDF/56.4/70	TMDF/56.4/70-AS	56x4	69	42	16	10



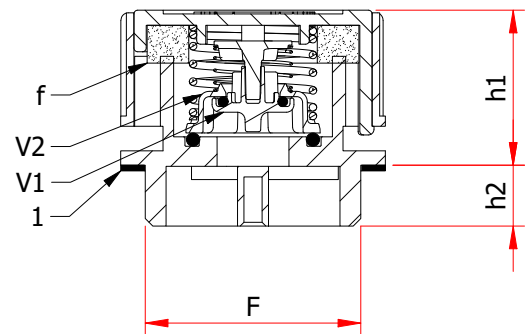
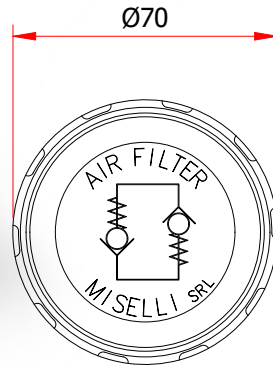
plastic filler breathers

Threaded filler breather, cylindrical head 70 mm \varnothing , with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance, designed for applications where is required a large capacity of air flow as hydraulic tanks subject to rapid changes in the internal fluid volume.

- Material:** Polyamide PA66.
- Sealing:** flat gasket NBR 70 Shore.
- Maximum working temperature:** 100°C/212°F.
- Filter:** polyurethane foam filter element.
- Internal anti-splash:** version -AS (blue lid) with internal anti-splash system suggested for mobile applications or where the fluid inside is subjected to strong movements.
- Airflow capacity:** up to 750 Liters/min (see data and graphic).

TMDV-DS70 – PRESSURIZED FILLER BREATHER WITH DOUBLE VALVE AND FILTER

plastic filler breathers



f = Air filter
V1 = Safety valve
V2 = Suction valve
1 = NBR flat seal

Threaded filler breather, cylindrical head 70 mm \varnothing , with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. The use of the double valve system minimizes the exchange of the air between the reservoir and the environment, as well the entry of contamination thus the life of the air filter element is increased. Inside the cap there are two valves equipped with nitrile rubber O-rings. The functionality of the valves is ensured by the guided axial sliding and by the application of two coil springs in stainless steel. This model can be also an antispash, as long as the hydrostatic pressure generated by the liquid itself does not exceed the pressure of the check valve.

- **Material:** Polyamide PA66.
- **Sealing:** flat gasket NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Filter:** polyurethane foam filter element prevents

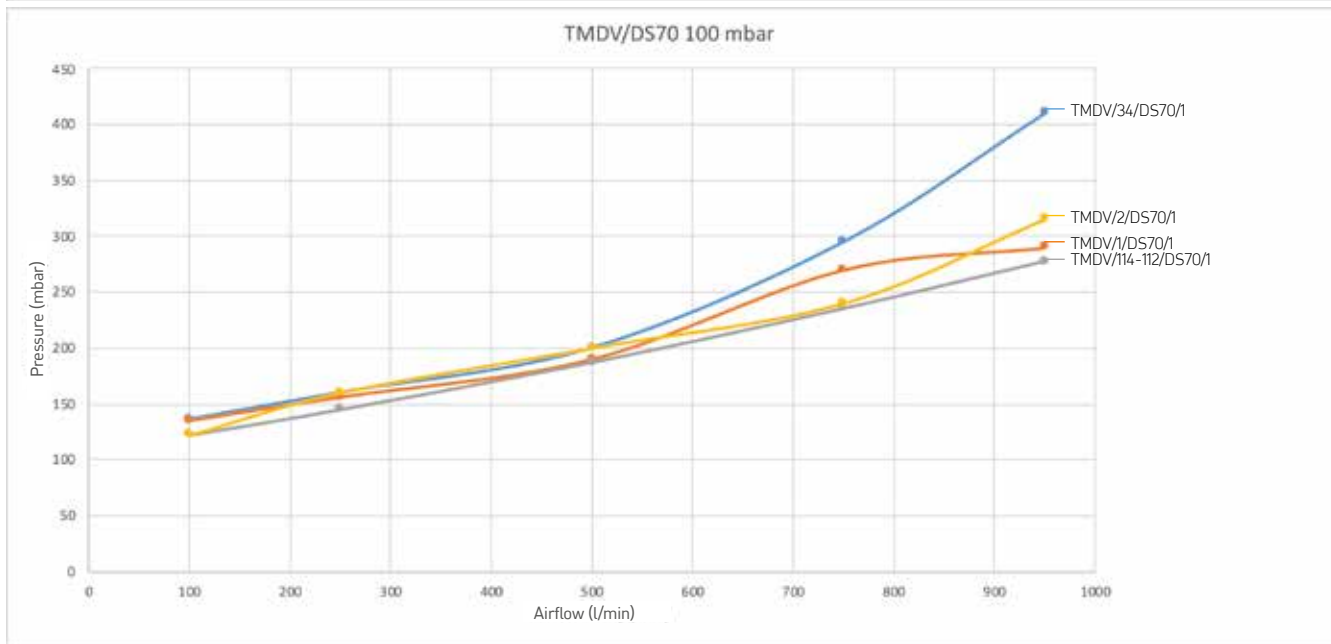
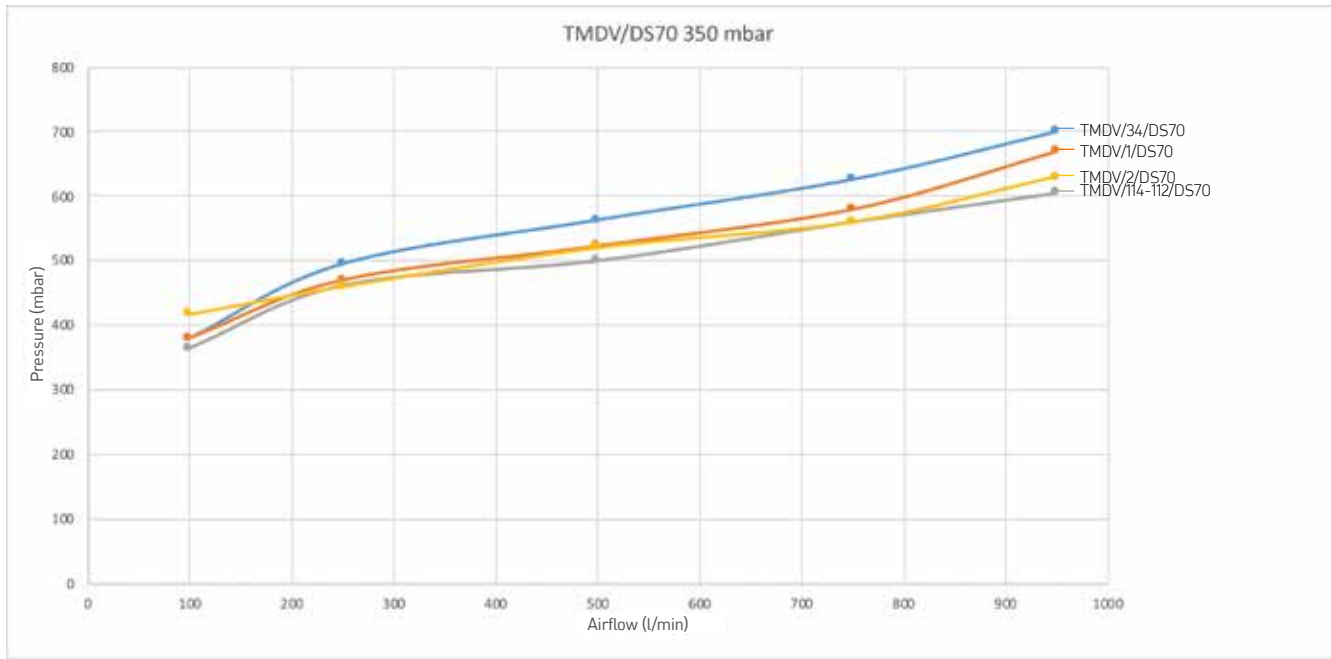
contaminations from the ambient atmosphere polluting the oil.

- **Check valve:** set around at 0.35 bar/5 PSI, to keep the pressure stable inside the tank by eliminating or reducing the possibility of cavitation phenomena.
- **Suction valve:** set around at 0.03 bar/0.43 PSI to prevent the tank from undergoing of the deformations during the extraction of the liquid which could lead to implosion phenomena due to the depression created by the pump in the suction phase.
- **Airflow capacity:** up to 950 Liters/min (see data and graphic p. 49).

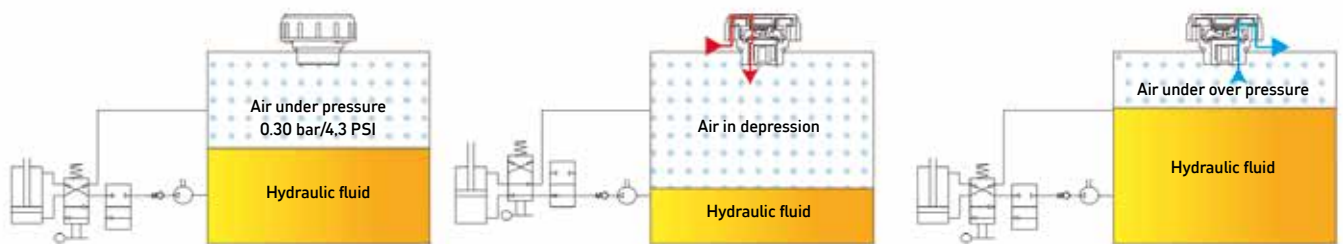
Special versions

Check valve: set around at 0.10 bar/1.5 PSI.

Cod.	F	h1	h2	Pack.
TMDV/34/DS70	G. 3/4"	42	16	10
TMDV/1/DS70	G. 1"	41	15	10
TMDV/114/DS70	G. 1 1/4"	41	15	10
TMDV/112/DS70	G. 1 1/2"	41	15	10
TMDV/2/DS70	G. 2"	42	16	10
TMDV/56.4/DS70	56x4	42	16	10



OPERATING DIAGRAM OF THE TMDV-DS BREATHER CAP IN A HYDRAULIC CIRCUIT



Standard operating conditions

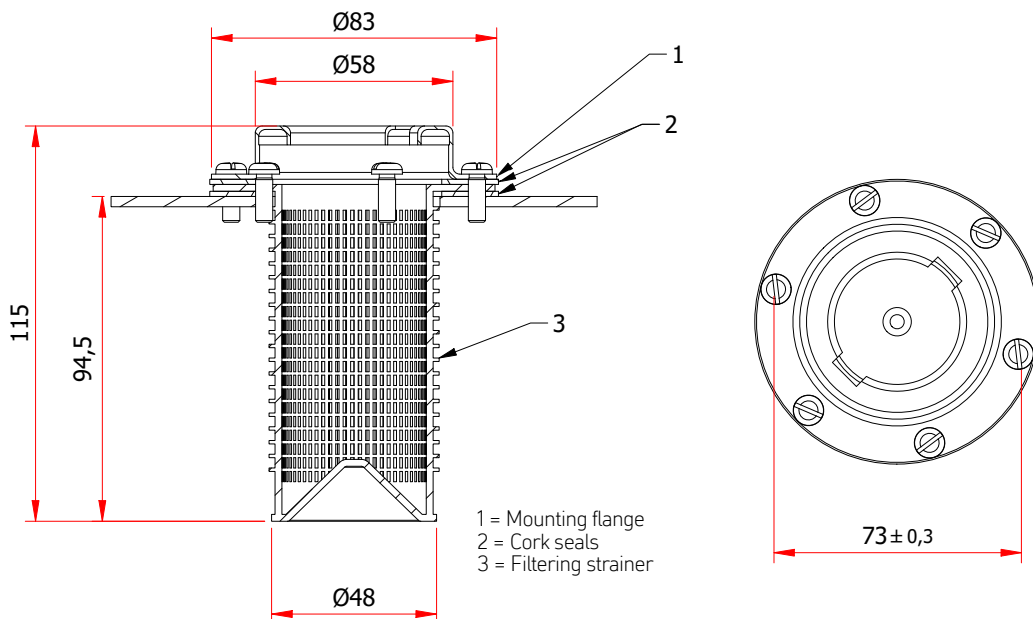
When a depression higher than 8mbar/0.12 PSI is created inside the tank, an air flow enters through the suction valve

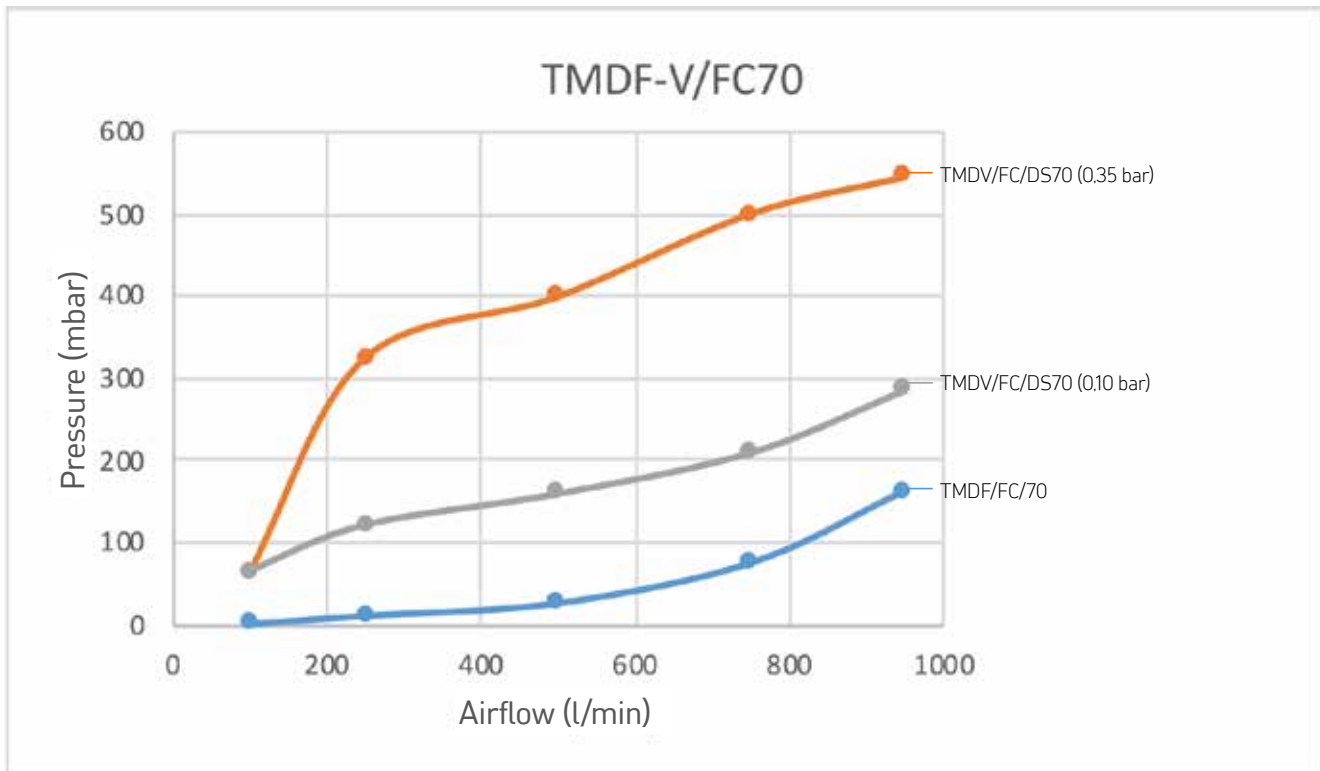
When an overpressure higher than 0.30 bar/4.3 PSI (or 0.10 bar/1.5 PSI) is created inside the tank, the air flow exits through the safety valve

TMDF/FC/70 - FILLER BREATHER WITH FILTER, BAYONET CONNECTION AND STRAINER

TMDV/FC/DS70 - PRESSURIZED FILLER BREATHER, BAYONET CONNECTION AND STRAINER

plastic filler breathers





plastic filler breathers

Round headed 70 mm \varnothing filler breather with vertical ribs for better grip, bayonet connection, safety chain and zinc plated steel flange with filtering basket.

TMDF/FC/70: black body, red lid with graphic "FILL OIL" symbol, designed for applications where is required a large capacity of air flow as hydraulic tanks subject to rapid changes in the internal fluid volume.

TMDV/FC/DS70: black body, black lid with graphic "double valve" symbol. This model is used on hydraulic applications where the airflow needs to be controlled in both directions, externally when internal overpressure is created and internally when, decreasing the fluid level, the vacuum is created. TMDV/FC/DS70 is fitted a plastic safety device with a double-valve system: check valve set at around 0.35bar/5 PSI (0.10 bar/1.5 PSI), suction valve set at around 0.03 bar/ 0.72 PSI.

- Material:** Polyamide PA66.
- Sealing:** flat gasket NBR 70 Shore.
- Sealing flange/strainer:** cork.
- Maximum working temperature:** 100°C/212°F.
- Filter:** polyurethane foam filter element.
- Flange:** galvanized steel with for quick coupling bayonet.
- Strainer:** polypropylene.
- Airflow capacity:** up to 950 Liters/min (see data and graphic).

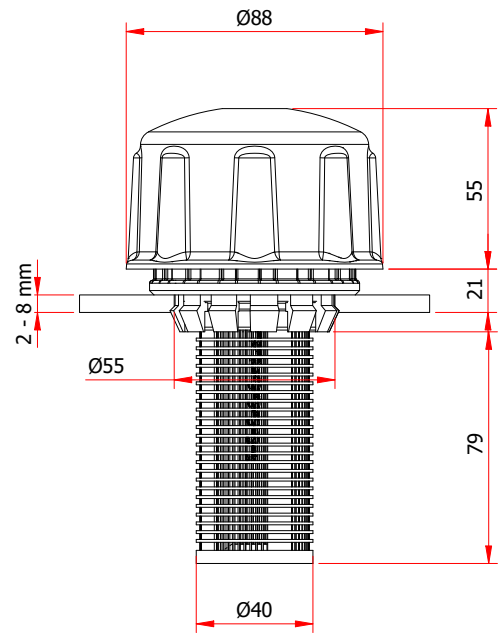
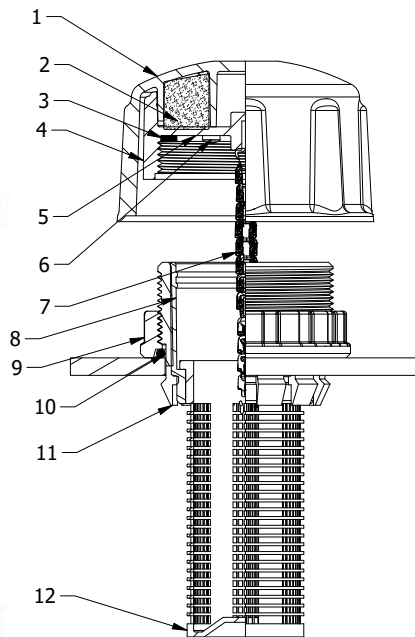
Special versions

Available breather cap only (bayonet style connection) without flange and strainer.

CTR - FILLER BREATHER WITH STRAINER - TANK TOP MOUNT

Cod.	Description
CTR	Filler breather without safety chain packed in plastic bag
CTR/C	Filler breather with safety chain packed in plastic bag

plastic filler breathers



Filler breather for tank-top installation with strainer.

- **Top cap with breather:** made from Polyamide 66 black color, which is connected to the fixing base by screwing; Polyurethane foam air filter.

- **Main body:** manufactured from technopolymer black color contains threaded locking ring and inside locking ring, is placed in a pre-drilled hole ($\varnothing 55 \text{ mm} \pm 0,3 \text{ mm}$) on to the tank top. Tanktop thickness must be min 2 mm. max 8 mm. With this model drilling and tapping of mounting holes is

not needed. Safety chain available, which connects the cap to the body, preventing misplacements of the cap when removed.

- **Strainer:** in Polypropilene, hooked to the fixing block, for oil pre-filtration in phase of loading.

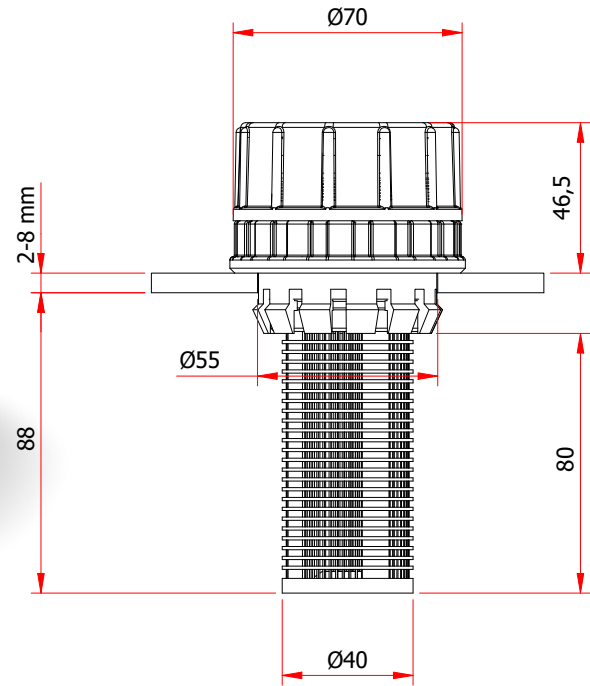
- **Maximum working temperature:** 80°C/176 °F..

- **Airflow capacity:** up to 950 Liters/min (see data and graphic p. 53).

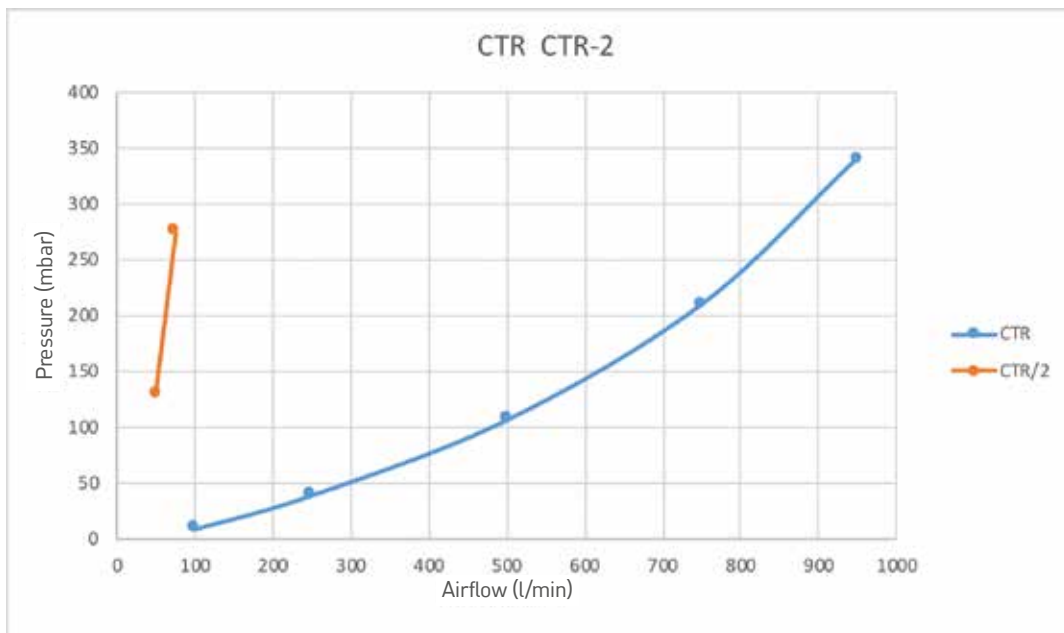
1 Filler breather cap	7 Safety chain
2 Polyurethane air filter	8 Quick fastening coupling
3 Inner Cap threaded M60x2	9 Locking ring (esternal)
4 NBR flat seal	10 O-Ring
5 Breather holes	11 Internal locking ring
6 Self tapping screw (3x)	12 Filtering basket

CTR/2 - FILLER BREATHER WITH STRAINER - TANK TOP MOUNT

Cod.	Description
CTR/2	Filler breather without safety chain packed in plastic bag
CTR/2/C	Filler breather with safety chain packed in plastic bag



plastic filler breathers



Filler breather for tank-top installation with strainer.

- **Top cap with breather:** made from Polyamide 66 black color, which is connected to the fixing base by screwing; Polyurethane foam air filter.

- **Main body:** manufactured from technopolymer black color contains threaded locking ring and inside locking ring, is placed in a pre-drilled hole ($\varnothing 55 \text{ mm} \pm 0,3 \text{ mm}$) on to the tank top. Tanktop thickness must be min 2 mm. max 8 mm. With this model drilling and tapping of mounting holes is

not needed. Safety chain available, which connects the cap to the body, preventing misplacements of the cap when removed.

- **Strainer:** in Polypropilene, hooked to the fixing block, for oil pre-filtration in phase of loading.

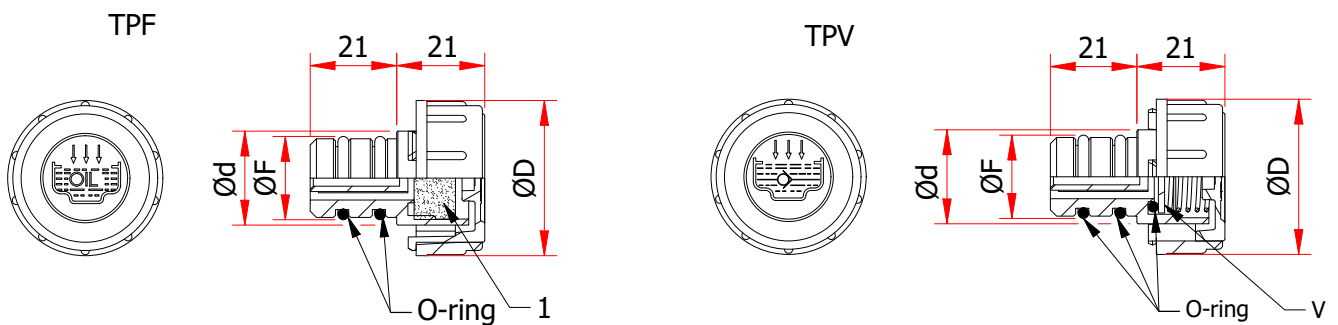
- **Maximum working temperature:** 80°C/176 °F.

- **Airflow capacity:** up to 75 Liters/min (see data and graphic).

TP – PUSH-FIT FILLER BREATHER

TPF (BR) – PUSH-FIT FILLER BREATHER WITH FILTER

TPV – PUSH-FIT FILLER BREATHER WITH VENT VALVE



1 = Air filter V = One way check valve

Filler breather, with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. Push-fit mounting into drilled hole (refer to corresponding sizes shown in the table below) tolerance $\pm 0,1$ mm with $1/45^\circ$ chamfer.

- **Material:** Polyamide PA66.
- **Sealing:** two O-rings NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.

TPF: with large breathing capacity, it is suggested to be used where a high volume of airflow takes place; not recommended for usage on mobile equipment, where strong movement of the oil tank is present.

- **Filter:** Polyurethane air filter located under the lid.
- **Bronze filter:** where the vent hole is subjected to strong oil splashes, especially during the starting of the machine when the oil is still thick, sintered bronze filter (30 microns filtration degree) allows the air to flow but stops fluid overflowing.

TPV: used in applications where a certain pressure needs to be maintained into the tank.

- **Check valve:** opens at a pressure of about 0.30 bar and closes reset at similar pressure. It allow air to vent out under the above conditions, but does not allow air to move back in, preventing dust particles or other forms of contamination from the atmosphere to enter the oil.

Special version

Lid: possible customization of color, logo or neutral version.

Cod.	Cod.	Cod.	F	D	d	Pack.
TP/18	TPF/18 (BR)	TPV/18	18	36	23	100
TP/20	TPF/20 (BR)	TPV/20	20	36	24	100
TP/26	TPF/26 (BR)	TPV/26	26	41	28	50
TP/30	TPF/30 (BR)		30	47	33	50

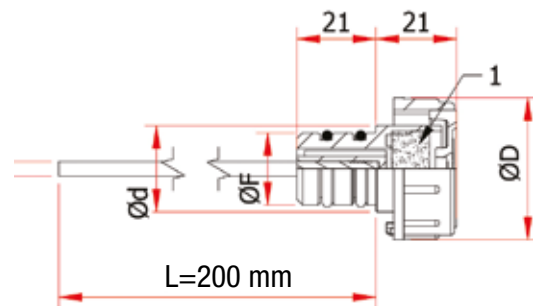
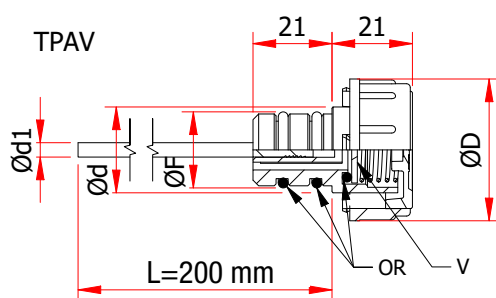
TPA – PUSH-FIT FILLER BREATHER WITH DIPSTICK

TPFA (BR) – PUSH-FIT FILLER BREATHER WITH FILTER AND DIPSTICK

TPAV – PUSH-FIT FILLER BREATHER WITH VENT VALVE AND DIPSTICK



1 = Air filter
 V = One way check valve



Filler breather, with easy grip vertical ribs, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance. Push fit mounting into drilled hole (refer to corresponding sizes shown in the table below) tolerance $\pm 0,1$ mm with $1/45^\circ$ chamfer.

- **Material:** Polyamide PA66.
- **Sealing:** two O-rings NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 200 mm (± 5).

Special versions

- **Level dipstick:** customizable length with MIN-MAX notches.
- **Lid:** possible customization of color, logo or neutral version.

TPFA: with large breathing capacity, it is suggested to be used where an high volume of airflow takes place; not recommended for usage on mobile equipment, where strong movement of the oil tank is present.

- **Filter:** Polyurethane air filter located under the lid.
- **Bronze filter:** where the vent hole is subjected to strong oil splashes, especially during the starting of the machine when the oil is still thick, sintered bronze filter (30 microns filtration degree) allows the air to flow but stops fluid overflowing.

TPAV: used in applications where a certain pressure needs to be maintained into the tank.

- **Check valve:** opens at a pressure of about 0.30 bar and close reset at similar pressure. It allow air to vent out under the above conditions, but does not allow air to move back in, preventing dust particles or other forms of contamination from the atmosphere to enter the oil.

Cod.	Cod.	Cod.	F	D	d	d1	Pack.
TPA/18	TPFA/18	TPAV/18	18	36	23	4	100
TPA/20	TPFA/20	TPAV/20	20	36	24	4	100
TPA/26	TPFA/26	TPAV/26	26	41	28	4	50
TPA/30	TPFA/30		30	47	33	5	50

TPB - "LOW PROFILE" PUSH-FIT FILLER PLUG

TPBS - "LOW PROFILE" PUSH-FIT FILLER BREATHER

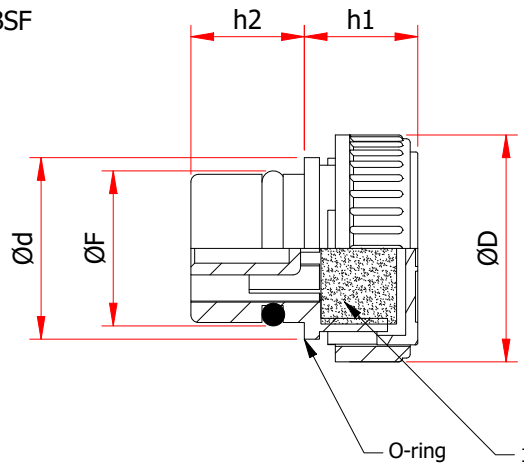
TPBSF - "LOW PROFILE" PUSH-FIT FILLER BREATHER WITH FILTER



TPBSF



1 = Air filter



Knurled "low-profile" filler plug, applied where overhead space is limited. Push-fit mounting into drilled hole (refer to corresponding sizes shown in the table below) tolerance $\pm 0,1$ mm with $1/45^\circ$ chamfer.

- **Material:** Polyamide PA66.

- **Sealing:** O-ring NBR 70 Shore.

- **Maximum working temperature:** 100°C/212°F.

- **Breather:** six vents located on the bottom of plug's head.

- **Filter:** Polyurethane air filter located under the lid.

Special versions

Lid: possible customization of color, logo or neutral version.

Cod.	Cod.	Cod.	F	D	d	h1	h2	Pack.
TPB/18	TPBS/18	TPBSF/18	18	30	23	14,5	14	100
TPB/20	TPBS/20	TPBSF/20	20	30	24	14,5	15,5	100
TPB/26	TPBS/26	TPBSF/26	26	30	30	15,5	16,3	50
TPB/30	TPBS/30	TPBSF/30	30	30	34	15,5	16,3	50

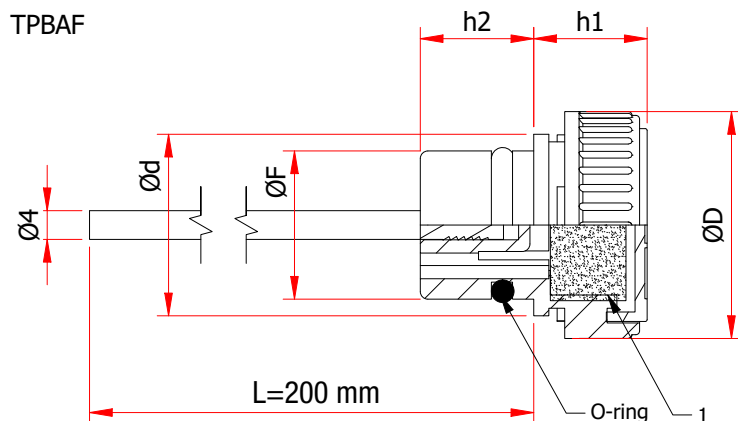
TPBA - "LOW PROFILE" PUSH-FIT FILLER PLUG WITH DIPSTICK

TPBAS - "LOW PROFILE" PUSH-FIT FILLER BREATHER WITH DIPSTICK

TPBAF - "LOW PROFILE" PUSH-FIT FILLER BREATHER WITH FILTER AND DIPSTICK



1 = Air filter



plastic filler breathers

Knurled "low-profile" filler plug, applied where overhead space is limited. Push-fit mounting into drilled hole (refer to corresponding sizes shown in the table below) tolerance $\pm 0,1$ mm with $1/45^\circ$ chamfer.

- **Material:** Polyamide PA66.
- **Sealing:** O-ring NBR 70 Shore.
- **Maximum working temperature:** $100^\circ\text{C}/212^\circ\text{F}$.
- **Breather:** six vents located on the bottom of plug's head.
- **Filter:** Polyurethane air filter located under the lid.
- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 200 mm (± 5).

Special versions

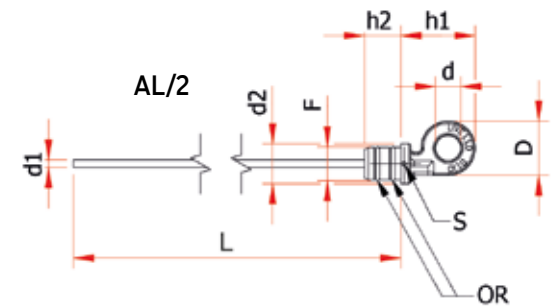
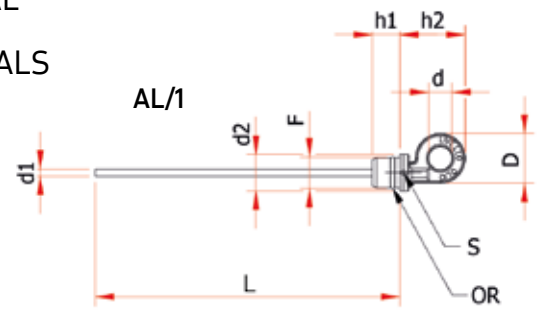
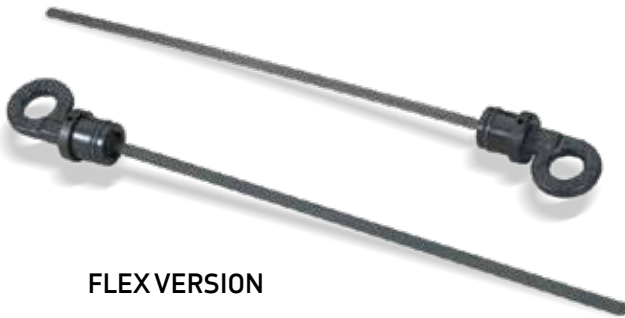
- **Level dipstick:** customizable length with MIN-MAX notches.
- **Flex:** blade-style level dipstick with zinc phosphated surface, customizable laser inscriptions. Flexible dipstick is suitable for applications that require special shaped profile.
- **Lid:** possible customization of color, logo or neutral version.

Cod.	Cod.	Cod.	F	D	d	h1	h2	d1	Pack.
TPBA/18	TPBAS/18	TPBAF/18	18	30	23	14	14	4	100
TPBA/20	TPBAS/20	TPBAF/20	20	30	24	14	15,5	4	100
TPBA/26	TPBAS/26	TPBAF/26	26	30	30	14	16,5	4	50
TPBA/30	TPBAS/30	TPBAF/30	30	30	34	14	17	4	50

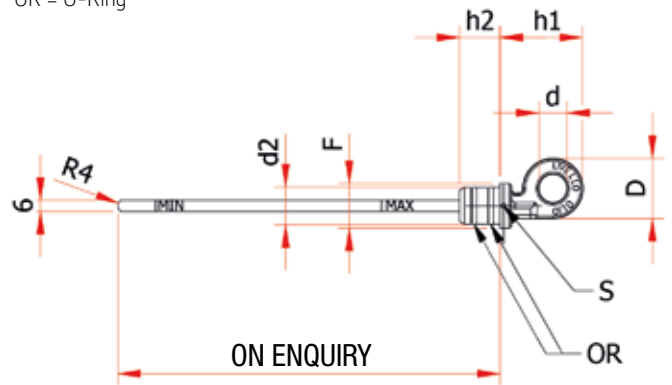
AL(S)/1 – OIL LEVEL DIPSTICK, PUSH-FIT ONE SEAL

AL(S)/2 – OIL LEVEL DIPSTICK, PUSH-FIT TWO SEALS

plastic filler breathers



S = Breather hole
OR = O-Ring



Push-fit dipstick with eye-handle, ensuring high mechanical resistance at both low and high temperatures, dimensional stability and shocks resistance.

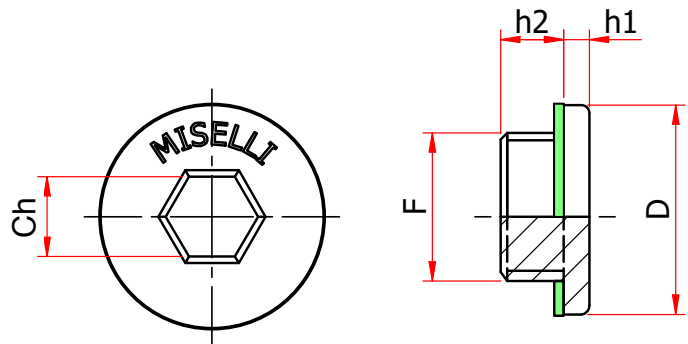
- **Material:** Polyamide PA66.
- **Sealing:** O-ring NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Breather:** model ALS provided with one or two breather holes located on to the shoulder of the dipstick handle.
- **Level dipstick:** cylindrical section with zinc steel phosphated surface.

Special versions

- **Level dipstick:** customizable length with MIN-MAX notches.
- **Flex:** blade-style level dipstick with zinc phosphated surface, customizable laser inscriptions. Flexible dipstick is suitable for applications that require special shaped profile.

	Cod.	Ø F	D	d	d1	d2	h2	h1	L	Pack.
	AL/1/14 ALS/1/14	14	27	13	4	17,9	13	34	180 ±5	100
	AL/1/18 ALS/1/18	18	32	14	5	23,6	17	45	180 ±5	100
	AL/1/20 ALS/1/20	20	32	14	5	23,6	18	44,5	180 ±5	100
	AL/1/30 ALS/1/30	30	32	14	5	33,6	17	45	190 ±5	100
	AL/2/12	12	27	14	4	18	20	36	180 ±5	100
	AL/2/14 ALS/2/14	14	27	13	4	18	20	34	195 ±5	100
	AL/2/18 ALS/2/18	18	32	14	5	23,5	21	44	195 ±5	100
	AL/2/20 ALS/2/20	20	32	16	5	23,6	21	44	180 ±5	100

TCNB - PLASTIC PLUG WITH INTERNAL HEX HEAD



plastic closing plugs

Socket style low profile threaded plug.

- **Material:** reinforced thermoplastic material PA 66 material with 30% fiberglass providing an excellent mechanical resistance at both low and high temperatures.

- **Sealing:** flat fiber gasket.

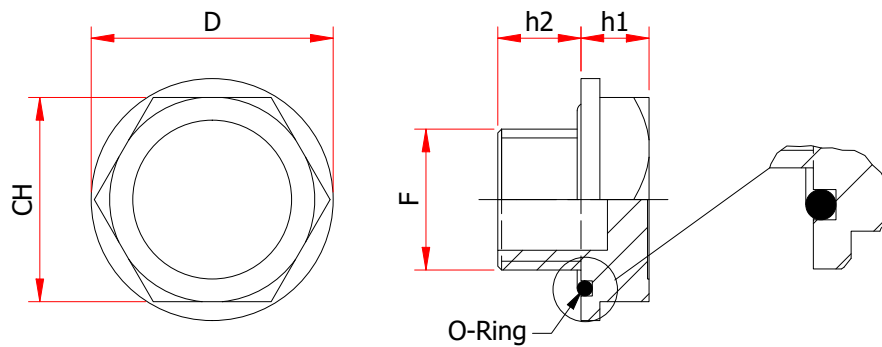
- **Maximum working temperature:** 100°C/212°F, 120°C/248°F for short periods.

Special versions

- **Sealing:** flat NBR seal or O-Ring 70 Shore.
 - **Material:** Polyamide PA66 reinforced with 50% fiberglass suggested to be used on industrial application where high resistance to deformation and to mechanical shocks are requested. Max operating temperature 120°C/248°F, 150°/302°F for short periods.

Cod.	F	Ch	D	h1	h2	Nm	Nm 50% FV	Pack.
TCNB/14	G 1/4"	6	18	3	8	3÷5	5÷7	100
TCNB/38	G 3/8"	8	22,5	3,5	10,5	6÷8	8÷10	100
TCNB/12	G 1/2"	10	28	4	10	8÷10	10÷12	100
TCNB/34	G 3/4"	12	35	4	10,5	10÷12	18÷20	50
TCNB/14.15	M 14x1,5	6	20	2,5	9	3÷5	5÷7	100
TCNB/16.15	M 16x1,5	8	22,5	3,5	10,5	6÷8	8÷10	100
TCNB/18.15	M 18x1,5	10	26	3	10	7÷9	10÷12	100
TCNB/20.15	M 20x1,5	10	28	3,5	10,5	7÷9	10÷12	100
TCNB/22.15	M 22x1,5	10	28	3,5	10,5	7÷9	10÷12	100
TCNB/26.15	M 26x1,5	12	35	3	11,5	10÷12	18÷20	50

TCN/OR - PLASTIC PLUG WITH O-RING INTEGRATED



Threaded hex head oil plug.

- **Material:** Polyamide PA66 glass-fiber reinforced material, ensuring a high mechanical resistance for both low and high temperature, dimensional stability and shocks resistance.

- **Sealing:** NBR O-Ring seal 70 Shore, press fitted into a groove under the hexagon.

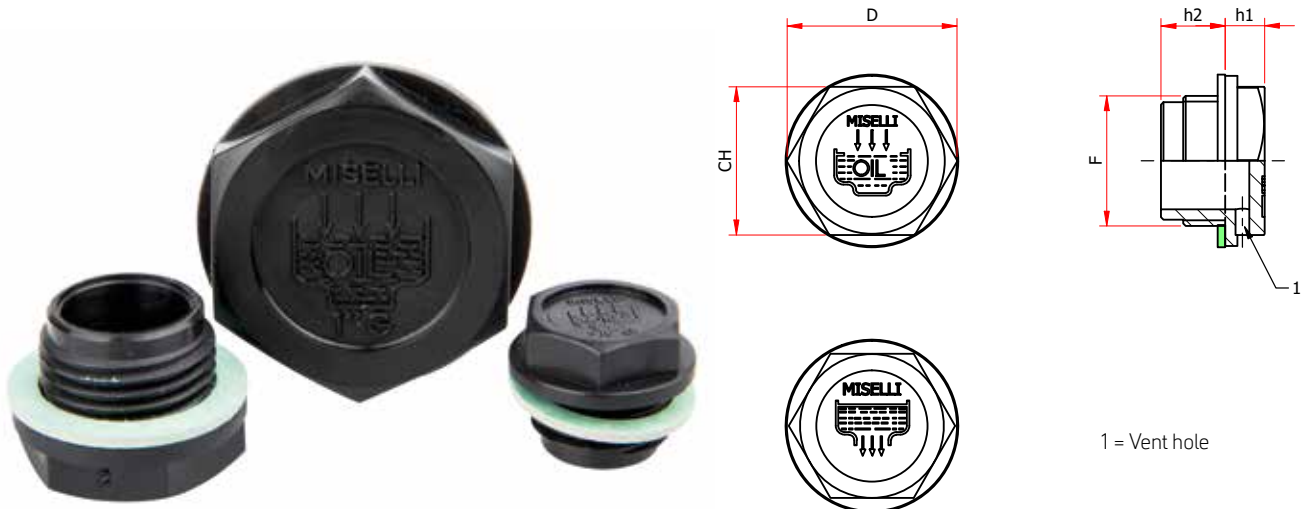
- **Maximum working temperature:** 100°C/212°F.

- **Max operating pressure:** 100 bar/1450 PSI (test performed in the laboratory at room temperature with ENI OSO VG hydraulic oil, report available on request).

Cod.	F	CH	D	h1	h2	Weight gr
TCN/38-OR	G 3/8"	22	25,5	8,7	9	2
TCN/12-OR	G 1/2"	27	32	9	11	5
TCN/34-OR	G 3/4"	32	37	10	13	9

TCN(S) - OIL FILL PLUG

TSN - OIL DRAIN PLUG



Threaded hex head oil plug ensuring high mechanical resistance at both low and high temperature, dimensional stability and shock resistance. TCN and TCNS style have the “fill” graphic symbol and the word OIL moulded on the top. TSN has a graphic symbol of drain moulded on the top.

-**Breather:** model TCNS has a breather hole located on the side of the hex with a diameter from 2 to 3,5 mm, depending on the size.

- Material:** Polyamide PA66.
- Sealing:** flat fiber gasket.
- Maximum working temperature:** 100°C/212°F.

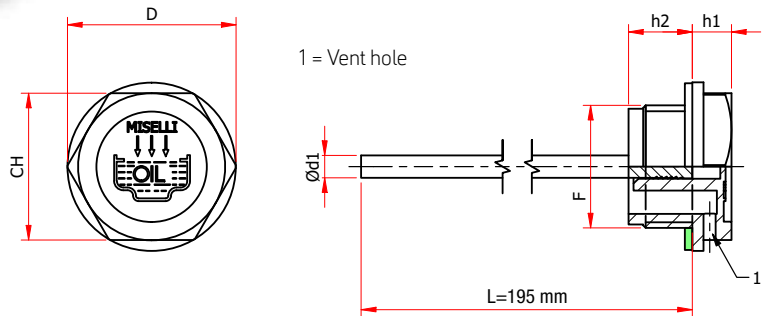
Special versions

- Sealing:** flat gasket NBR 70 Shore.
- Color:** red.

	Cod.		F	CH	D	h2	h1	Nm	Pack.
TCN/14	TCNS/14	TSN/14	G 1/4"	17	19,5	9	7	5	100
TCN/38	TCNS/38	TSN/38	G 3/8"	18	22	10	7,5	8	100
TCN/12	TCNS/12	TSN/12	G 1/2"	23	28	11	7,5	9	100
TCN/34	TCNS/34	TSN/34	G 3/4"	30	34	11	9	11	50
TCN/1	TCNS/1	TSN/1	G 1"	36	42	12	10,5	20	50
TCN/114	TCNS/114	TSN/114	G 1 1/4"	42	51	13,5	12	-	25
TCN/112	TCNS/112	TSN/112	G 1 1/2"	50	58	16	10	-	25
TCN/2	TCNS/2	TSN/2	G 2"	64	74	16	12	-	25
TCN/10.15*	TCNS/10.15*		M 10x1,5	18	22	9	7	5	100
TCN/12.15*	TCNS/12.15*		M 12x1,5	18	22	9	7	5	100
TCN/14.15	TCNS/14.15	TSN/14.15	M 14x1,5	17	19,5	8	7	5	100
TCN/16.15	TCNS/16.15	TSN/16.15	M 16x1,5	18	21	10	7,5	6	100
TCN/18.15	TCNS/18.15	TSN/18.15	M 18x1,5	21	26	10	7,5	7	100
TCN/20.15	TCNS/20.15	TSN/20.15	M 20x1,5	24	28	10	8	8	100
TCN/22.15	TCNS/22.15	TSN/22.15	M 22x1,5	24	28	11	8	10	100
TCN/40.15	TCNS/40.15	TSN/40.15	M 40x1,5	42	52	13	10		25

*Hex surface blank and rubber flat seal.

TCA(S) - HEX PLUG WITH DIPSTICK



plastic closing plugs

Threaded hex head oil plug ensuring high mechanical resistance at both low and high temperature, dimensional stability and shock resistance. These codes have the “fill” graphic symbol and the word OIL moulded on the top.

- **Material:** Polyamide PA66.
- **Sealing:** flat fiber gasket.
- **Maximum working temperature:** 100°C/212°F.
- **Breather:** model TCAS has a breather hole located on the side of the hex with a diameter from 2 to 3,5 mm, depending on the size.

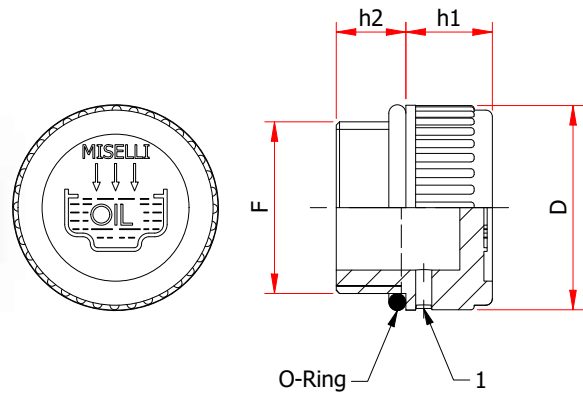
- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 195 mm (± 5).

Special versions

- **Level dipstick:** customizable length with MIN-MAX notches.
- **Sealing:** flat gasket NBR 70 Shore.
- **Color:** red.

	Cod.	F	Ch	D	h1	h2	d1	Pack.
	TCA/14 TCAS/14	G 1/4"	17	19	7	9	4	100
	TCA/38 TCAS/38	G 3/8"	18	22	7,5	10	4	100
	TCA/12 TCAS/12	G 1/2"	24	28	7,5	11	4	100
	TCA/34 TCAS/34	G 3/4"	30	34	9	11	5	50
	TCA/1 TCAS/1	G 1"	36	42	10,5	12	5	50
	TCA/114 TCAS/114	G 1 1/4"	42	51	12	13,5	5	25
	TCA/2 TCAS/2	G 2"	64	74	13,5	16	5	25
	TCA/14.15 TCAS/14.15	M 14x1,5	17	19	7	8	4	100
	TCA/16.15 TCAS/16.15	M 16x1,5	18	21	7,5	10	4	100
	TCA/18.15 TCAS/18.15	M 18x1,5	21	26	7,5	10	4	100
	TCA/20.15 TCAS/20.15	M 20x1,5	24	28	8	10	4	100
	TCA/22.15 TCAS/22.15	M 22x1,5	24	28	8	11	4	100

TCZ(S) - KNURLED OIL FILL PLUG



1 = Vent hole

Threaded plug with knurled head, ensuring high mechanical resistance at both low and high temperatures.

- **Material:** Polyamide PA66.

- **Sealing:** O-Ring NBR 70 Shore.

- **Maximum working temperature:** 100°C/212°F.

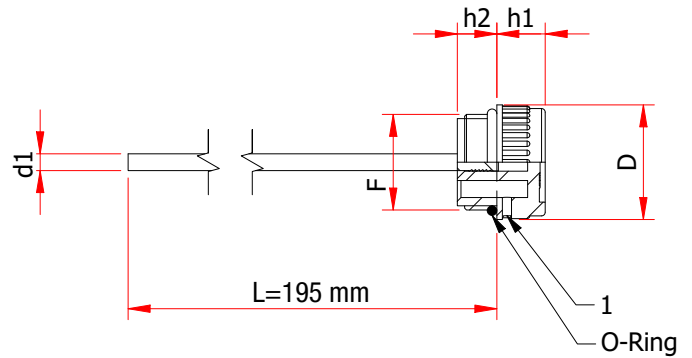
- **Breather:** model TCZS has a breather hole located on the side of the hex with a diameter from 2 to 3,5 mm, depending on the size.

Special versions

- **Color:** red.
- Thread G.1 1/2", 1 1/4" and 2" available with GASOIL or DIESEL graphic symbol moulded on the top.

	Cod.	F	D	h2	h1	Pack.
	TCZ/14 TCZS/14	G 1/4"	20	9	9	100
	TCZ/38 TCZS/38	G 3/8"	20,5	10	9	100
	TCZ/12 TCZS/12	G 1/2"	28	10,5	10,5	100
	TCZ/34 TCZS/34	G 3/4"	31	11	12	50
	TCZ/1 TCZS/1	G 1"	39	12	12	50
	TCZ/114 TCZS/114	G 1 1/4"	49	13,5	13	25
	TCZ/112 TCZS/112	G 1 1/2"	55	14,5	14,7	25
	TCZ/2 TCZS/2	G 2"	68,5	16	15	25
	TCZ/14.15 TCZS/14.15	M 14x1,5	20	9	9	100
	TCZ/16.15 TCZS/16.15	M 16x1,5	20	10	9	100
	TCZ/18.15 TCZS/18.15	M 18x1,5	28	10	10,5	100
	TCZ/20.15 TCZS/20.15	M 20x1,5	28	10	10,5	100
	TCZ/22.15 TCZS/22.15	M 22x1,5	28	10	10,5	100

TCAZ(S) - KNURLED OIL FILL PLUG WITH DIPSTICK



1 = Vent hole

plastic closing plugs

Threaded plug with knurled head, ensuring high mechanical resistance at both low and high temperatures. These codes have the "fill" graphic symbol and the word OIL moulded on the top.

- **Material:** Polyamide PA66.
- **Sealing:** O-Ring NBR 70 Shore.
- **Maximum working temperature:** 100°C/212°F.
- **Breather:** model TCASZ has a breather hole located on the side of the hex with a diameter from 2 to 3,5 mm,

depending on the size.

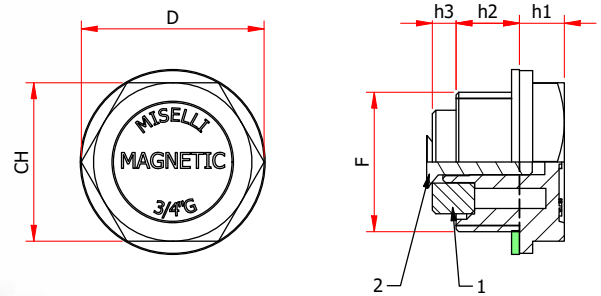
- **Level dipstick:** cylindrical section with zinc steel phosphated surface, standard length 195 mm (± 5).

Special versions

- **Level dipstick:** customizable length with MIN-MAX notches.
- **Color:** red.

	Cod.	F	D	h2	h1	d1	Pack.
TCAZ/14	TCASZ/14	G 1/4"	20	9	9	4	100
TCAZ/38	TCASZ/38	G 3/8"	20,5	10	9	4	100
TCAZ/12	TCASZ/12	G 1/2"	28	10,5	10,5	4	100
TCAZ/34	TCASZ/34	G 3/4"	31	11	12	5	50
TCAZ/1	TCASZ/1	G 1"	39	12	12	5	50
TCAZ/114	TCASZ/114	G 1 1/4"	49	13,5	13	5	25
TCAZ/2	TCASZ/2	G 2"	68,5	16	15	5	25
TCAZ/14.15	TCASZ/14.15	M 14x1,5	20	9	9	4	100
TCAZ/16.15	TCASZ/16.15	M 16x1,5	20	10	9	4	100
TCAZ/18.15	TCASZ/18.15	M 18x1,5	28	10	10,5	4	100
TCAZ/20.15	TCASZ/20.15	M 20x1,5	28	10	10,5	4	100
TCAZ/22.15	TCASZ/22.15	M 22x1,5	28	11	10,5	4	100

TM - DRAIN PLASTIC PLUG WITH MAGNET



1 = Magnet
 2 = Fixing rivet

Threaded hex head oil plug that can be fitted on the bottom of the transmission or tank, to be used as drain plug; the magnet attract ferrous metal parts, preventing damage to gears and others moving components.

-**Material:** Polyamide PA66.

-**Sealing:** flat fiber gasket.

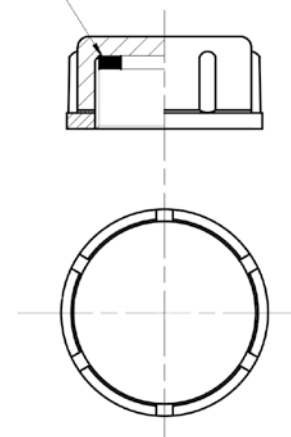
-**Maximum working temperature:** 100°C/212°F.

Cod.	F	CH	D	h3	h2	h1
TM/14	G 1/4"	17	20	5	9	7
TM/38	G 3/8"	18	22	10	10	7,5
TM/12	G 1/2"	24	27	9	11	8
TM/34	G 3/4"	30	34	6,5	11	9
TM/1	G 1"	35	42	14	12	10,5

TF/C - BLANKING CAP WITH INTERNAL THREAD



EPDM SEAL



Blanking cap with internal thread designed for plastic tanks.

-**Material:** Nylon.

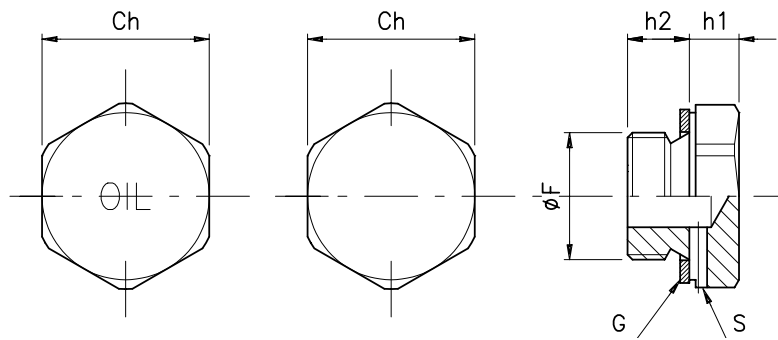
-**Sealing:** internal flat gasket in EPDM, on enquiry.

-**Maximum working temperature:** 90°C/194°F.

-**Thread sizes:** G:1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2", 2", 2 1/2", 3".

M/TCN(S) - ALUMINUM FILL PLUG

M/TSN - ALUMINUM DRAIN PLUG



M/TCN - M/TCNS

M/TSN

G = Fiber gasket
 S = Breather hole

Aluminium hex head plug. M/TCN – M/TCNS comes marked OIL, M/TSN comes blank.

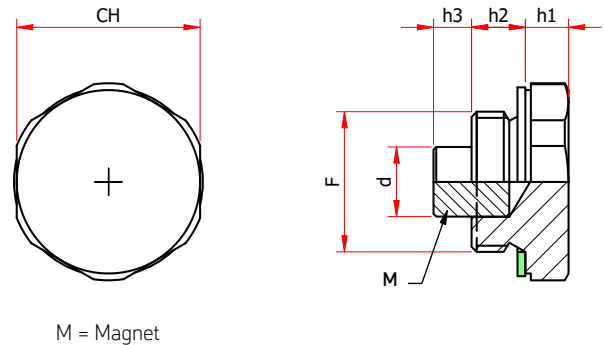
- **Material:** Aluminum alloy.
- **Sealing:** flat fiber gasket.

Special versions

Sealing: flat aluminium gasket.

Cod.			F	Ch	h2	h1	Nm	Pack.
M/TCN-14	M/TCNS-14	M/TSN-14	G 1/4"	19	10	7	10	100
M/TCN-38	M/TCNS-38	M/TSN-38	G 3/8"	22	10	7	15	100
M/TCN-12	M/TCNS-12	M/TSN-12	G 1/2"	27	10	8	20	100
M/TCN-34	M/TCNS-34	M/TSN-34	G 3/4"	34	10	8	25	50
M/TCN-1	M/TCNS-1	M/TSN-1	G1"	40	14	8	50	50
-	-	M/TSN-M10	M10x1	14	8	5	8	-
-	-	M/TSN-M12	M12x1,5	17	8	6	9	-
-	-	M/TSN-M14	M14x1,5	17	8	6	11	-
-	-	M/TSN-M16	M16x1,5	22	10	7	13	-
-	-	M/TSN-M18	M18x1,5	22	10	7	15	-
-	-	M/TSN-M20	M20x1,5	24	10	7	18	-

TMA - ALUMINIUM DRAIN PLUG WITH MAGNET



M = Magnet

Aluminium hex plug with a pressed-in cylindrical magnet, located in the base of the plug. This plug is fitted to the bottom of the tank, in order to collect ferrous particles that are floating in the oil, helping to protect pumps, valves and cylinders.

-Material: Aluminum alloy.

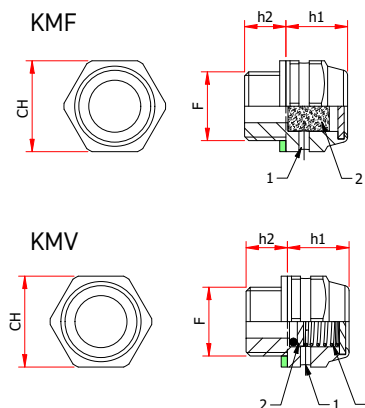
-Sealing: flat fiber gasket.

-Magnet: anisotropic ferrite.

Cod.	Ch	F	d	h1	h2	h3	Weight gr	Pack.
TMA/14	19	G 1/4"	5	7	10	6	10	100
TMA/38	22	G 3/8"	8	7	10	7	15	100
TMA/12	27	G 1/2"	10	8	10	7	27	100
TMA/34	34	G 3/4"	13	8	10	7	42	50
TMA/1	40	G 1"	13	8	14	7	68	50

KMF - BRASS FILLER PLUG WITH FILTER

KMV - BRASS FILLER PLUG WITH VENT VALVE



1 = Breather holes
 2 = Air filter
 3 = One-way check valve

Brass filler breather with two breather holes located under the hex head, providing an adequate airflow capacity. Extensively used in small oil tanks, gearboxes, gear reducers, torque multipliers and transmissions.

-Material: Brass.

-Sealing: flat fiber gasket.

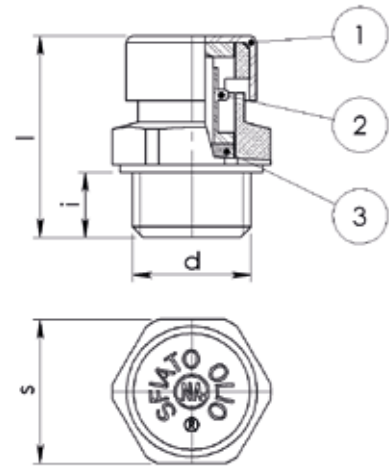
-Maximum working temperature: 90°C/194°F.

KMF: metal filter (filtration degree around 200 microns) to avoid pollution of the oil.

KMV: pre-tensioned spring of the valve will allow the valve disc to be lifted from its seat at a pressure of 0.35 bar/5 PSI, thus allowing the air to escape; when the pressure is reduced after venting, the valve will close and stop air from entering the tank. The vent valve, in closed position, prevent dust particles or other forms of contamination from the atmosphere to enter the oil.

Cod.	F	Ch	h1	h2	Pack.
KMF/14 KMV/14	G 1/4"	18	15,5	9	100
KMF/38 KMV/38	G 3/8"	22	14,5	10	100
KMF/12 KMV/12	G 1/2"	27	14,5	10	50

31 A - BREATHER PLUG WITH SINTERED BRONZE FILTER



- (1) Protection cap: steel white zinc plated
 (2) Labyrinth: Aluminium alloy
 (3) Filter: Bronze sintered 50 microns

Metal filler breather that allow air to flow freely in both directions designed for use in speed reducers, gearboxes, bearing housings and transmissions of all types.

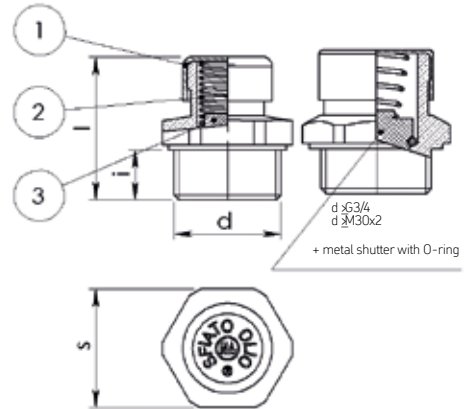
- **Material:** body in brass and cap made in zinc plated steel.
- **Filter:** bronze filter element (50 microns filtration degree).
- **Labyrinth:** Aluminium, to contain oil leakages.

Special versions

For sizes 3/8" and 1/2" possibility to supply conical threads.

Cod.	d	i (mm)	s (mm)	l (mm)	Weight gr	Pack.
31A-G.1/8	G1/8	7	14	22	16	100
31A-G.1/4	G1/4	9	17	29	31,5	100
31A-G.3/8	G3/8	9	20	28	37,5	100
31A-R.3/8	R3/8	10	19	27	36,5	100
31A-G.1/2	G1/2	10	24	29	59	50
31A-R.1/2	R1/2	11	22	30	56	50
31A-G.3/4	G3/4	12	32	35	96	50
31A-G.1	G1	13,5	40	43	201,5	25
31A-G.1 1/4 (on enquiry)	G1 1/4	15	50	53	450	-
31A-M10x1	M10x1	7	14	22	15	100
31A-M12x1,5	M12x1,5	9	17	29	30	100
31A-M14x1,5	M14x1,5	9	17	29	33	100
31A-M16x1,5	M16x1,5	9	22	28	43,5	100
31A-M18x1,5	M18x1,5	9	22	28	46,5	100
31A-M20x1,5	M20x1,5	10	24	32	71	50
31A-M22x1,5	M22x1,5	10	27	30	79	50
31A-M24x2	M24x2	11	30	33	118	25
31A-M30X2 (on enquiry)	M30X2	12	36	35	120	-

33 A - BREATHER PLUG WITH VENT VALVE



Threaded metal plug with internal one-way vent valve designed for use in gearboxes, bearing housings and transmissions of all types.

- **Material:** body in brass and cap made in zinc plated steel.

- **Vent valve:** it opens at around 0.25 bar/4,35 PSI and exhausts excess pressure in the reservoir, and then closes once the preset pressure setting is reached. In off-highway applications the breather assists in containing oil leaks from the unit.

- **Maximum working temperature:** 90°C/194°F.

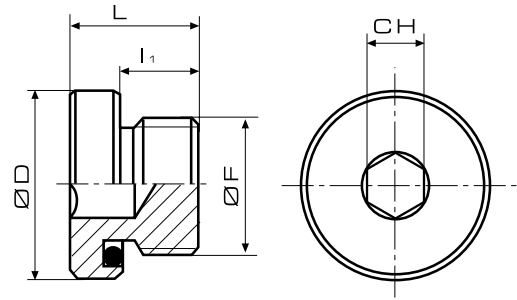
- (1) Protection cap: Steel white zinc plated
- (2) Spring: Stainless steel
- (3) Internal seal: NBR

Special versions

For sizes 1/4" 3/8" 1/2" 3/4" possibility to supply conical threads.

Cod.	d	i (mm)	s (mm)	l (mm)	Weight gr	Pack.
33A-G.1/8	G1/8	7	14	21,5	14,5	100
33A-G.1/4	G1/4	9	17	29	30,5	100
33A-R.1/4	R1/4	10	17	29	32	100
33A-G.3/8	G3/8	9	20	28	38	100
33A-R.3/8	R3/8	10	19	27	32	100
33A-G.1/2	G1/2	10	24	29	61	50
33A-R.1/2	R1/2	11	22	30	56	50
33A-G.3/4	G3/4	12	32	35	98	50
33A-R.3/4	R3/4	14	32	37	88	50
33A-G.1	G1	13	40	43	194	25
33A-G.1 1/4 (on enquiry)	G1 1/4	15,5	50	53	510	-
33A-G.1 1/2 (on enquiry)	G1 1/2	15	55	53	600	-
33A-M10x1	M10x1	7	14	22	14,5	100
33A-M12x1,5	M12x1,5	9	17	29	30	100
33A-M14x1,5	M14x1,5	9	17	29	32	100
33A-M16x1,5	M16x1,5	9	22	28	44	100
33A-M18x1,5	M18x1,5	9	22	28	45,6	100
33A-M20x1,5	M20x1,5	10	24	32	71	50
33A-M22x1,5	M22x1,5	10	27	30	81	50
33A-M24x1,5	M24x1,5	11	30	33	120	25
33A-M24x2	M24x2	11	30	33	120	25
33A-M30x2 (on enquiry)	M30x2	12	36	35	150	-

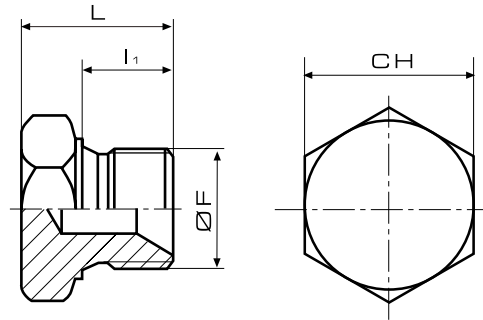
TTCE - CYLINDRICAL STEEL PLUG WITH INTERNAL HEX AND NBR SEAL



- **Material:** Steel 11SMnPb37
- **Sealing:** NBR 90 Shore.
- **Max. working temperature:** 100°C/212°F

Cod.	ØF	l1	L	ØD	CH	Pack.
TTCE-18	G 1/8"	9	13	15	4	100
TTCE-14	G 1/4"	11	16	19	6	100
TTCE-38	G 3/8"	11	17	22	6	100
TTCE-12	G 1/2"	14	20	27	8	50
TTCE-34	G 3/4"	14	20	32	12	50
TTCE-1	G 1"	16	22	40	12	25
TTCE-114 (on enquiry)	G 1 1/4"	18	25	50	12	-
TTCE-112 (on enquiry)	G 1 1/2"	17	24	55	24	-
TTCE-10.1	M 10x1	8	12	15	5	100
TTCE-12.15	M 12x1.5	10	16	17	6	100
TTCE-14.15	M 14x1.5	10	16	19	6	100
TTCE-16.15	M 16x1.5	10	16	22	6	100
TTCE-18.15	M 18x1.5	11	17	25	6	100
TTCE-20.15	M 20x1.5	12	18	27	8	50
TTCE-22.15	M 22x1.5	12	18	28	8	50
TTCE-26.15 (on enquiry)	M 26x1.5	13.5	20	32	12	-
TTCE-27.2 (on enquiry)	M 27x2	13.5	20	32	12	-
TTCE-33.2 (on enquiry)	M 33x2	15	21	40	17	-
TTCE-42.2 (on enquiry)	M 42x2	17	24	50	22	-
TTCE-48.2 (on enquiry)	M 48x2	17	24	55	24	-

TTE - HEX HEAD STEEL PLUG



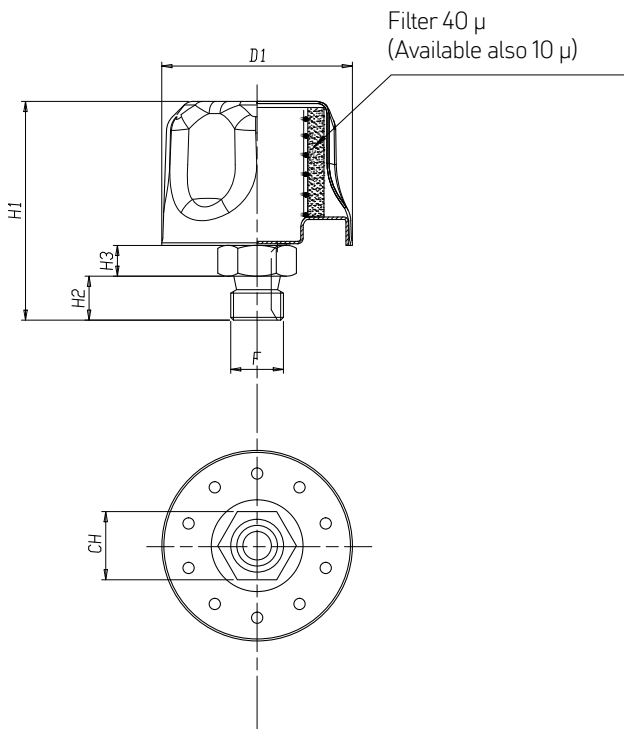
Material: Steel 11SMnPb37

Cod.	ØF	l1	L	CH	Pack.
TTE-18	G 1/8"	8	13	14	100
TTE-14	G 1/4"	11	17	19	100
TTE-38	G 3/8"	12	19	22	100
TTE-12	G 1/2"	14	22	27	50
TTE-34	G 3/4"	16	25	32	50
TTE-1	G 1"	19	29	41	25
TTE-114 (on enquiry)	G 1 1/4"	20	31	50	-
TTE-112 (on enquiry)	G 1 1/2"	21	33	55	-
TTE-10.1	M 10x1	8	12	14	100
TTE-12.15	M 12x1.5	10	15	17	100
TTE-14.15	M 14x1.5	11	17	19	100
TTE-16.15	M 16x1.5	12	19	22	100
TTE-18.15	M 18x1.5	13	20	24	100
TTE-20.15	M 20x1.5	14	22	27	50
TTE-22.15	M 22x1.5	15	23	27	50
TTE-24.15 (on enquiry)	M 24x1.5	16	25	30	-
TTE-26.15 (on enquiry)	M 26x1.5	16	25	32	-

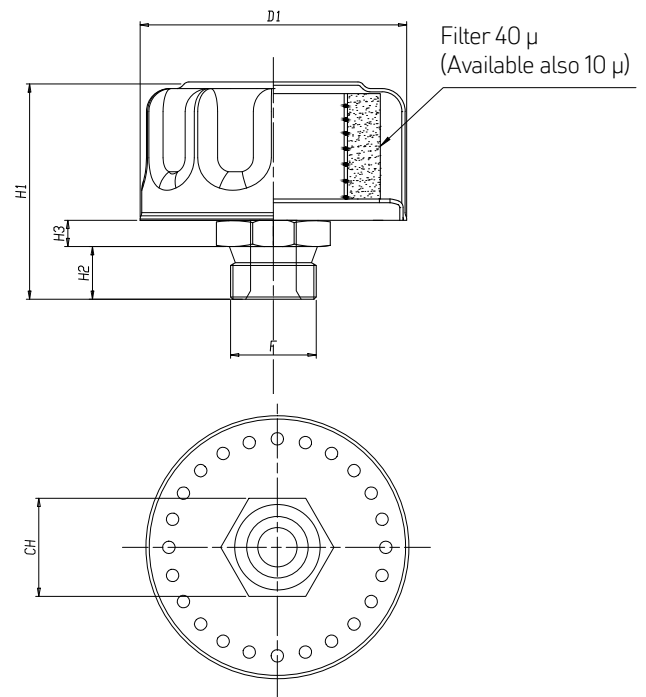
TA - METAL FILLER BREATHERS



TA4046



TA4080



Metal filler breather screw-in version.

- **Material:** zinc plated steel with chrome-plated cap.
- **Filter:** air filter element made of polyurethane foam, filtration degree 40 microns (10 microns on request)

allowing the reservoir to breathe whilst protecting it from contamination found in dusty environments.

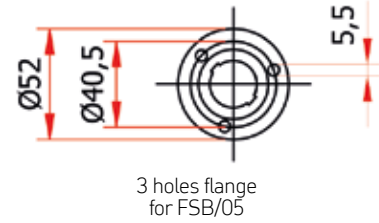
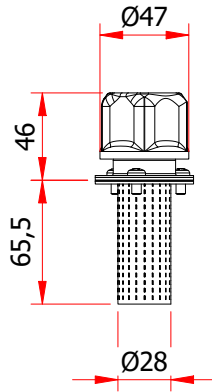
- **Airflow rate "P":** indicated in the table expressed in Lt/ min measured at a pressure of 50 mbar/0.73 PSI.

Cod.	F	CH	D1	H1	H2	H3	P	Weight gr	Pack.
TA4046-14	G1/4	17	46	52	10	7	130	60	10
TA4046-38	G3/8	19	46	54	12	7	168	70	10
TA4046-12	G1/2	24	46	56	14	9	175	80	10
TA4046-34	G3/4	30	46	54	16	8	170	120	10
TA4080-12	G1/2	24	80	68	14	8	670	200	10
TA4080-34	G3/4	30	80	70	16	8	680	240	10
TA4080-1	G1	36	80	74	18	10	680	300	10

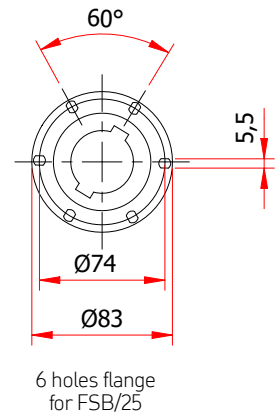
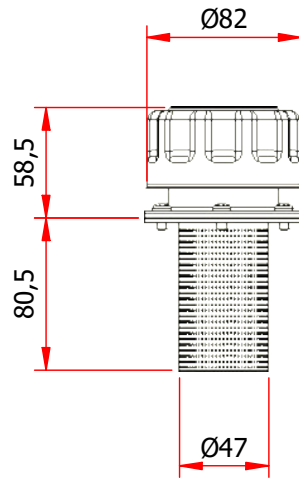
FSB - FILLER BREATHERS CAP WITH STRAINER



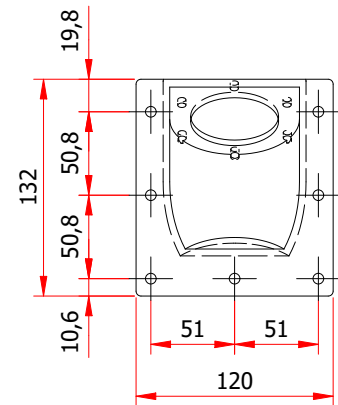
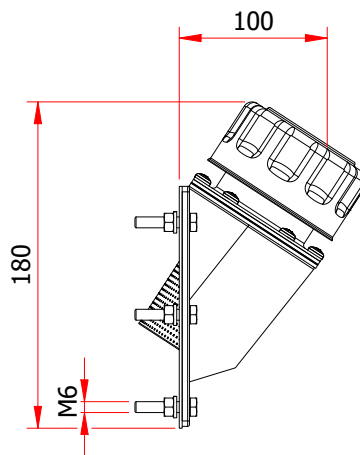
FSB/05



FSB/25



FSB/25 BM



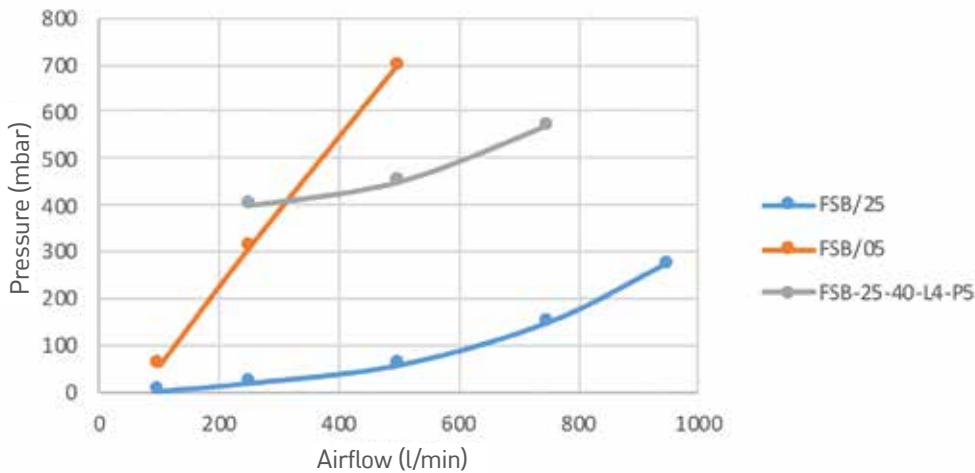
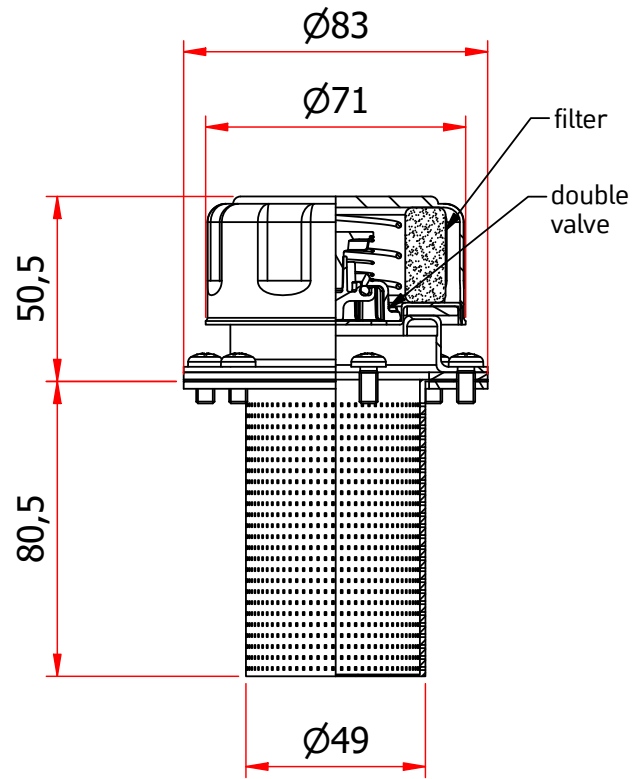
Filler breather cap with air filter. Mounting with flange and self tapping M5 screws, bayonet connection.

- **Material:** chromed steel.
- **Filter:** air filter element made of polyurethane foam, filtration degree 40 microns (10 microns on request).
- **Filtering strainer:** 800 μ filtration degree.
- **Sealing:** Cork.
- **Airflow capacity:** up to 950 Liters/min (see data and graphic page 75).

Special versions

- **FSB/25-SD:** with welding flange.
- **FSB/25-38:** with removable metal filtering strainer.
- **FSB/25-150:** with 150 mm metal filtering strainer.
- **FSB/25-L:** with predisposition ring for safety lock.
- **FSB/25-L+C:** supplied with safety lock.
- **FSB/25-G:** with NBR flat seals.

FSB/P5 - PRESSURIZED FILLER BREATHER CAP

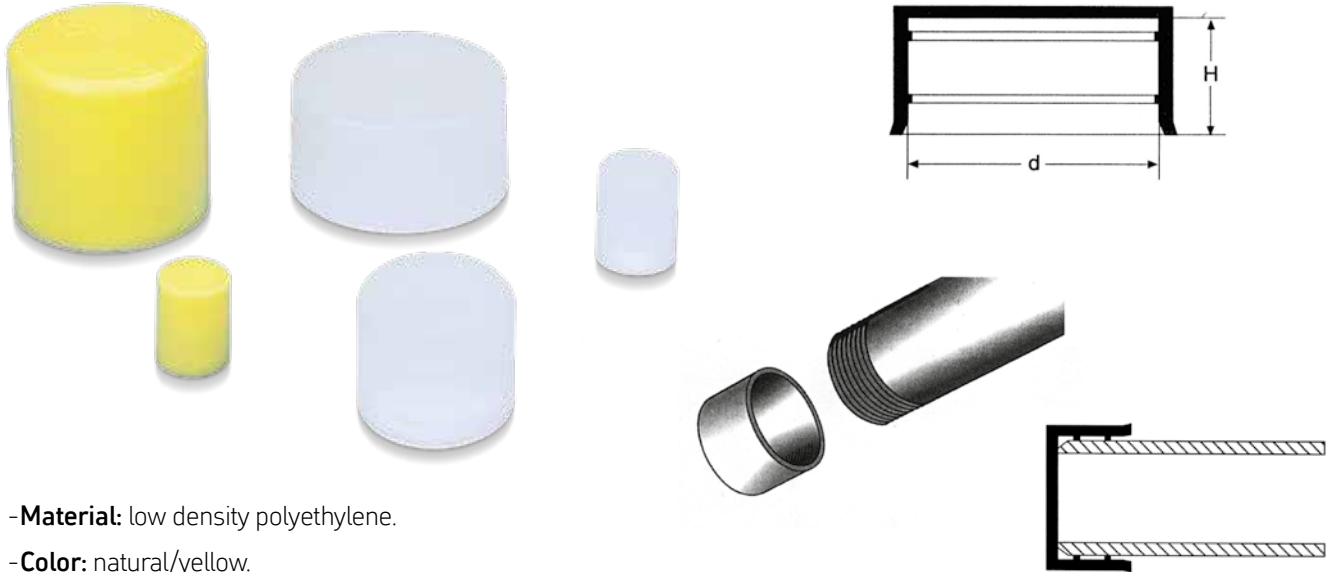


Pressurized filler breather cap with double valve system, that allows a constant pressure to be kept in the tank. Mounting with flange and self tapping M5 screws, bayonet connection.

- **Material:** chromed steel.
- **Filter:** air filter element made of polyurethane foam, filtration degree 40 microns.
- **Sealing:** with NBR flat seals.

When the fluid level falls, air enters the reservoir through the suction valve and the air filter. When the level rises, the pressure increased created is regulated by the safety valve (set at 0.35 bar/5 PSI) allowing the airflow to exit the tank only once that pressure is reached. This pressurization system reduces the air volume allowed into the reservoir, and consequently reduces the ingress of impurities into the oil, keeping the fluid clean. Ultimately this will assist in the correct functioning of the hydraulic system. These filler breathers are recommended for systems that are expected to operate in extremely dusty environments and mobile applications where leakages prevention is necessary.

13 PT - PIPE PROTECTION CAP



- **Material:** low density polyethylene.

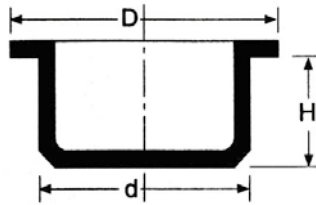
- **Color:** natural/yellow.

Cod.	Ø d	Ø F	H	Pack.	Cod.	Ø d	Ø F	H	Pack.
13PT/04	4		22	1.000	13PT/35	35		25	1.000
13PT/05	5		18	1.000	13PT/36,5	36,5		20	1.000
13PT/06	6		18	1.000	13PT/38	38		20	1.000
13PT/06,35	6,35		18	1.000	13PT/40	40		25	1.000
13PT/07	7		18	1.000	13PT/41,3	41,3	G. 1 1/4"	20	1.000
13PT/08	8		19	1.000	13PT/42,4	42,4	1 1/4"	25	1.000
13PT/09,6	9,6	G. 1/8"	18	1.000	13PT/44,5	44,5		25	1.000
13PT/10	10	1/8"	18	1.000	13PT/45,4	45,4		20	1.000
13PT/11	11		15	1.000	13PT/47,5	47,5	G. 1 1/2"	25	1.000
13PT/11,5	11,5		19,5	1.000	13PT/48,3	48,3	1 1/2"	25	1.000
13PT/12	12		18	1.000	13PT/50	50		28	1.000
13PT/12,7	12,7		18	1.000	13PT/51	51		27,5	1.000
13PT/13	13	G. 1/4"	18	1.000	13PT/52	52		28	800
13PT/13,7	13,7	1/4"	18	1.000	13PT/54	54	1 3/4"	28	1.000
13PT/14	14		20	1.000	13PT/55	55		29	750
13PT/15	15		19	1.000	13PT/57	57		27	1.000
13PT/15,5	15,5		19,5	1.000	13PT/59	59	G. 2"	27	1.000
13PT/16	16		20	1.000	13PT/60,3	60,3	2"	27	1.000
13PT/16,5	16,5	G. 3/8"	20	1.000	13PT/65	65		35	500
13PT/17	17	3/8"	20	1.000	13PT/67	67		35	500
13PT/18	18		20	1.000	13PT/70	70		35,5	500
13PT/18,5	18,5		20	1.000	13PT/73	73		30	600
13PT/19	19		20	1.000	13PT/75	75	2 1/2"	28	600
13PT/20	20		20	1.000	13PT/76	76	G. 2 1/2"	30	600
13PT/21,3	21,3	1/2" - G. 1/2"	16	1.000	13PT/77	77	2 1/2"	35	700
13PT/22	22		20	1.000	13PT/78	78		29,5	500
13PT/23,2	23,2		19	1.000	13PT/80	80		29,5	500
13PT/24	24		20	1.000	13PT/82	82		30	500
13PT/25,4	25,4		20	1.000	13PT/83	83		30	500
13PT/26	26	G. 3/4"	20	1.000	13PT/85	85		30	350
13PT/26,9	26,9	3/4"	20	1.000	13PT/88,9	88,9		35	500
13PT/28,5	28,5		23,5	1.000	13PT/90	90		35	500
13PT/30	30		25	1.000	13PT/92,4	92,4	G. 3" - 3"	25	350
13PT/31,8	31,8		20	1.000	13PT/95	95		37,5	400
13PT/33,7	33,7	1" - G. 1"	20	1.000	13PT/98	98		37,5	350
					13PT/100	100		31	250

01 S/T - PROTECTION PLUG FOR FEMALE THREAD



Cod.	d	D	H	Metric threads	B.S.P.	Cod.	d	D	H	Metric threads	B.S.P.	
01ST/02	2	6,5	3			01ST/25,5	25,5	29	10,5	M27x2		
01ST/02,5	2,5	6,5	3,5			01ST/26	26	30,5	10,5		M27x1,5	
01ST/03	3	6,5	4,5			01ST/26,5	26,5	30	10,5			
01ST/03,5	3,5	7	4,5	M4		01ST/27	27	31	9,5	M30	M28x1,5	
01ST/04	4	7,5	5			01ST/27,5	27,5	31	10,5			
01ST/04,5	4,5	8	5	M5		01ST/28	28	32,5	10,5			
01ST/05	5	9	6	M6		01ST/28,5	28,5	32	10		M30x2	
01ST/05,5	5,5	9	6			01ST/29	29	32	9,5		M30x1,5	
01ST/06	6	9,5	6	M7		01ST/29,5	29,5	33	10,5			
01ST/06,5	6,5	10	7			01ST/30	30	33	9,5	M33		
01ST/07	7	10	6	M8		01ST/30,5	30,5	34	10,5		G 1"	
01ST/07,5	7,5	10,5	6,5		M8x1	01ST/31	31	35,5	10,5		M32x1,5	
01ST/08	8	11	7			01ST/31,5	31,5	35	10,5		G 1"	
01ST/08,5	8,5	11,5	7,5	M10		01ST/32	32	37	10,5		M33x2	
01ST/09	9	11,5	7,5		M10x1	G 1/8"	01ST/32,5	32,5	37	10,5	M36	
01ST/9,5	9,5	12,5	7,5				01ST/33	33	38	10,5		
01ST/10	10	13	8,5				01ST/33,5	33,5	37,5	10,5		M36x3
01ST/10,5	10,5	13,5	8	M12	M12x1,5		01ST/34	34	38,5	10,5		
01ST/11	11	14	8,5		M12x1,25		01ST/34,5	34,5	38	10,5		
01ST/11,5	11,5	14,5	9		M12x1		01ST/35	35	40	10,5		M36x2
01ST/12	12	15	8,5			G 1/4"	01ST/35,5	35,5	39	10,5	M39	M36x1,5
01ST/12,5	12,5	15,5	9	M14			01ST/36	36	41	11		
01ST/13	13	16	9		M14x1,5		01ST/36,5	36,5	40	10,5		M39x3
01ST/13,5	13,5	16,5	9,5				01ST/37	37	42	10,5		
01ST/14	14	17	9,5				01ST/37,5	37,5	41,5	10,5		M39x2
01ST/14,5	14,5	17,5	9,5	M16			01ST/38	38	43	10,5	M42	M39x1,5
01ST/15	15	18	9,5		M16x1,5		01ST/38,5	38,5	42	10,5		
01ST/15,5	15,5	18,5	9,5			G 3/8"	01ST/39	39	44	10,5		
01ST/16	16	19,5	10	M18			01ST/39,5	39,5	43	11		M42x3
01ST/16,5	16,5	19,5	10,5		18x2		01ST/40	40	44,5	10,5		G 1 1/4"
01ST/17	17	20,5	10,5		M18x1,5		01ST/40,5	40,5	45	11		M42x2
01ST/17,5	17,5	20,5	10,5				01ST/41	41	45,5	10,5	M45	M42x1,5
01ST/18	18	21,5	10,5	M20			01ST/42	42	46,5	10,5		
01ST/18,5	18,5	23	10		20x2		01ST/43	43	47,5	10,5		
01ST/19	19	22	10,5		M20x1,5	G 1/2"	01ST/44	44	49	10,5	M48	M45x2
01ST/19,5	19,5	23	10,5				01ST/45	45	50,5	10,5		M45x1,5
01ST/20	20	23,5	11	M22			01ST/46	46	50,5	10,5		G 1 1/2"
01ST/20,5	20,5	24,5	10,5		22x2		01ST/47	47	51,5	10,5	M52	M48x2
01ST/21	21	24,5	11		M22x1,5	G 5/8"	01ST/48	48	52,5	10,5		M48x1,5
01ST/21,5	21,5	25,5	11	M24			01ST/48,5	48,5	53	10,5		
01ST/22	22	25,5	11				01ST/49	49	54,5	11		M52x3
01ST/22,5	22,5	25,5	10,5		24x2		01ST/50	50	54	10		
01ST/23	23	27	10,5		M24x1,5		01ST/51	51	56	11	M56	M52x2
01ST/23,5	23,5	27	10,5				01ST/52	52	57,5	11		M52x1,5
01ST/24	24	28	11				01ST/53	53	59	11		
01ST/24,5	24,5	28	10,5	M27		G 3/4"	01ST/54	54	61	11		M55x1,5
01ST/25	25	28	12			G 3/4"	01ST/55	55	61	11		M56x1,5
							01ST/56	56	63	12		60x4



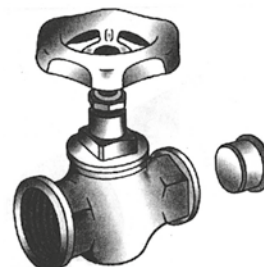
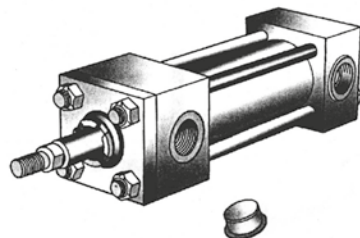
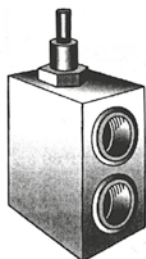
-**Material:** low density polyethylene.

-**Color:** natural.

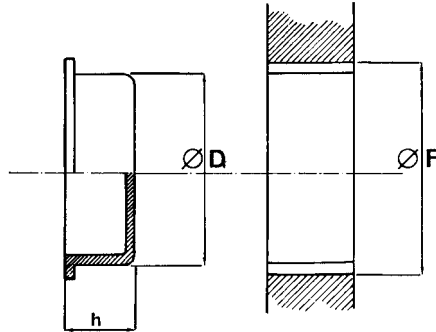
-**Standard packing:** N.1000 pcs codes 01ST/02 - 01ST/40,5
N. 500 pcs codes 01ST/41 - 01ST/67

-For bigger dimensions, ask for the packing.

Cod.	d	D	H	Rif. Ø	Cod.	d	D	H	Rif. Ø
01ST/57	56,5	61	10		01ST/90	89,5	93,5	9,5	
01ST/57,5	57,5	63	13,5	G. 2"	01ST/91	91	94,5	9,5	
01ST/58	58	65	11	M60x2	01ST/92	92	95,5	9,5	
01ST/59	59	65	11	M60x1,5	01ST/93	93	101	13,5	
01ST/60	60	64	11		01ST/94	94	98	9,5	
01ST/61	61	67,5	11		01ST/95	95	98	9,5	
01ST/61,5	61,5	67,5	13		01ST/96	96	104	13,5	
01ST/62	62	68	11		01ST/97	97	101	9,5	
01ST/63	62,5	66,5	9,5		01ST/98	98	102	9,5	
01ST/64	63,5	67,5	9,5		01ST/99	99	103	9,5	G. 4"
01ST/65	65	69	10		01ST/100	100	104	10,5	
01ST/66	65,5	71	10,5		01ST/101	101	105	10,5	
01ST/67	67	73	10		01ST/102	102	104	10	
01ST/68	68	75	11		01ST/103	103	113	13,5	
01ST/69	68,5	75	10,5		01ST/104	104	107	10,5	
01ST/70	69,5	74	11		01ST/105	105	108	10,5	
01ST/71	71	77	11		01ST/106	106	109	10,5	
01ST/72	72	79	12		01ST/107	107	115	13,5	
01ST/73	72,5	76,5	9,5		01ST/108	107,5	112	10,5	
01ST/74	74	77,5	10,5	G. 2 1/2"	01ST/110	110	114	12	
01ST/75	75	79			01ST/111	111	116,5	13	
01ST/76	76	80	9,5		01ST/112	112	115	10	
01ST/77	77	81	10,5		01ST/115	115	124	15	
01ST/78	78	82	9,5		01ST/120	120	130	15,5	
01ST/79	79	86	10,5		01ST/121	121	123	12	
01ST/80	79,5	84	13,5		01ST/125	125	136	16	
01ST/81	80,5	85	9,5		01ST/130	129	134,5	13	
01ST/82	82	85,5	9,5		01ST/132	132	141	13,5	
01ST/83	82,5	86,5	9,5		01ST/140	140	151	15,5	
01ST/84	83,5	90	9,5		01ST/150	150	160	16	
01ST/85	84,5	88,5	10		01ST/160	160	170	16	
01ST/85,5	85,5	92	9,5	G. 3"	01ST/167	167	178	17,5	
01ST/86	86	90	11		01ST/170	170	175	13,5	
01ST/86,5	86	90,5	9,5		01ST/180	180	191	16	
01ST/87	86,5	90,5	9,5		01ST/184	184	194	16	
01ST/88	87	91,5	9,5		01ST/186	186	194	16	
01ST/89	88	92,5	9,5		01ST/190	190	195	13,5	
					01ST/200	200	211	15	



PF - PROTECTION PLUG



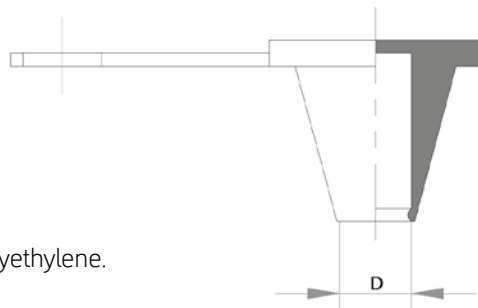
Protection plug for female threads from dirt and damage under storage or shipping.

- **Material:** low density polyethylene.

- **Color:** red.

Cod.	Ø F	D	h	Pack.
PF/18R	G 1/8"	9	8,5	2000
PF/14R	G 1/4"	12	9	2000
PF/38R	G 3/8"	15,5	10,5	2000
PF/12R	G 1/2"	19	11,5	1000
PF/34R	G 3/4"	25	12,7	1000
PF/1R	G 1"	30,5	11	500
PF/114R	G 1 1/4"	39,5	11,5	500
PF/112R	G 1 1/2"	46	11,5	500
PF/14.15R	M14x1,5	12,5	10	2000
PF/16.15R	M16x1,5	14,2	10	2000
PF/18.15R	M18x1,5	16,5	10	2000
PF/20.15R	M20x1,5	18,5	10	1000
PF/22.15R	M22x1,5	20,2	10	1000

13 PGR - GREASE NIPPLE CAP



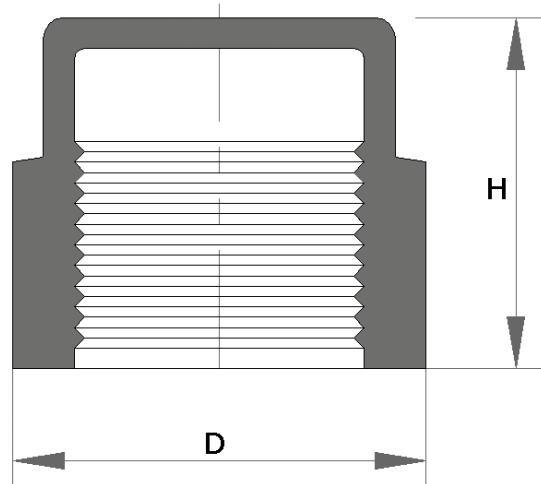
- **Material:** low density polyethylene.

- **Colore:** red.

- **D:** 6 mm.



EP 510 - PIPE PROTECTION CAP



Cod.	Ø F	D	H	Pack.
EP510/ M8x1	M8x1	12	12	1.000
EP510/M10x1	M10x1	14,5	14	1.000
EP510/M 12x1	M12x1	16,5	14	1.000
EP510/ M 12x1,5	M12x1,5	16,5	14	1.000
EP510/ M 14x1,5	M14x1,5	18,5	14	1.000
EP510/ M 16x1,5	M16x1,5	20,5	14	1.000
EP510/ M 18x1,5	M 18x1,5	22	15	1.000
EP510/ M 20x1,5	M 20x1,5	24,5	16	1.000
EP510/ M 22x1,5	M 22x1,5	26,5	16	1.000
EP510/ M 24x1,5	M 24x1,5	28,5	16	1.000
EP510/ M 26x1,5	M 26x1,5	31	15	1.000
EP510/ M 27x2	M 27x2	32	15	1.000
EP510/ M 30x1,5	M 30 x1,5	35	16	1.000
EP510/ M 30x2	M 30 x 2	35	16	1.000
EP510/ M 36x1,5	M 36x1,5	42	18,5	500
EP510/ M 36x2	M 36 x 2	42	18,5	500
EP510/ M 42x2	M 42 x 2	50,5	18	250
EP510/ M 45x1,5	M 45 x 1,5	51,5	20,5	250
EP510/ M 45x2	M 45 x 2	51,5	20,5	250
EP510/ M 52x2	M 52 x 2	59	20	250
EP510/ 1/8"	G. 1/8"	13	12	1.000
EP510/ 1/4"	G. 1/4"	16	13	1.000
EP510/ 3/8"	G. 3/8"	20,5	14,5	1.000
EP510/ 1/2"	G. 1/2"	24,5	15,5	1.000
EP510/ 5/8"	G. 5/8"	28	15,5	1.000
EP510/ 3/4"	G. 3/4"	30,5	16,5	1.000
EP510/ 1"	G. 1"	40	19,5	500
EP510/ 1 1/4"	G. 1 1/4"	48	17,5	500
EP510/ 1 1/2"	G. 1 1/2"	56	18	250
EP510/ 2"	G. 2"	68	19	250
EP510/ 2 1/2"	G. 2 1/2"	83	31	50

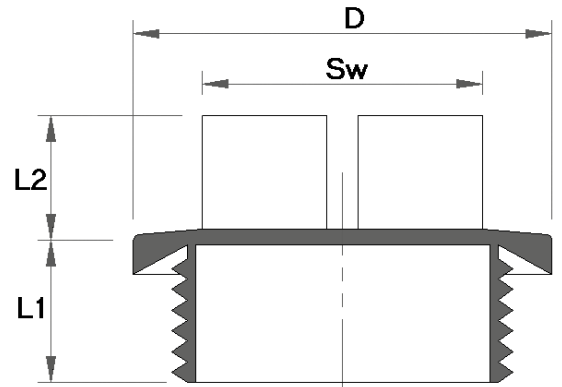
Cap designed to protect male threads, screw mounting.

-**Material:** Polyethylene.

-**Color:** yellow.



EP 434 - PFN/2.0P - THREADED PLUG



Threaded plug with hex head made to protect female hole, screw mounting.

- **Material:** Polyethylene.

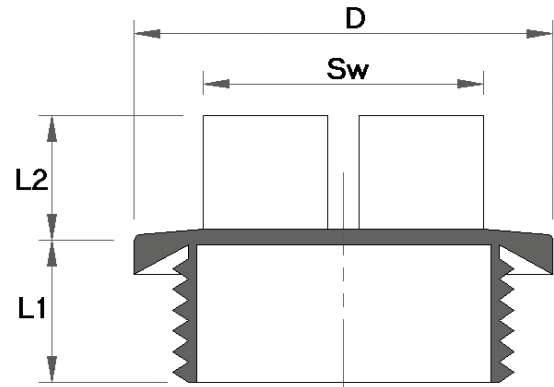
- **Color:** red.

- **Maximum working temperature:** 70°C/158°F.

Cod.	Ø F	D	L1	L2	Sw	Pack.
EP434/M10x1	M10x1	14.2	7	10	10	2.000
EP434/M 12x1,5	M12x1,5	17.2	10	10	13	2.000
EP434/ M 14x1,5	M14x1,5	19.2	10	10	13	2.000
PFN/2.0/16.15P	M16x1,5	22	10	10	17	2.000
PFN/2.0/18.15P	M 18x1,5	24	10	11	17	2.000
PFN/2.0/20.15P	M 20x1,5	26	10	14	19	2.000
PFN/2.0/22.15P	M 22x1,5	27.2	10	14	19	2.000
EP434/ M 24x1,5	M 24x1,5	31.5	12	14	24	1.700
EP434/ M 26x1,5	M 26x1,5	32	10	14	24	1.700
EP434/ M 27x2	M 27x2	32.3	13	14	24	1.500
EP434/ M 33x2	M 33x2	40.4	13	14	27	900
EP434/ M 42x2	M 42 x 2	50	13	15	36	550
EP434/ 1/8"	G. 1/8"	16.8	9	10	13	2.000
PFN/2.0/14 P	G. 1/4"	19.2	9	10	13	2.000
PFN/2.0/38 P	G. 3/8"	22.2	9	11	17	2.000
PFN/2.0/12 P	G. 1/2"	27.2	12	13	19	2.000
EP434/ 3/4"	G. 3/4"	32.3	12	13	24	1.600
EP434/ 1"	G. 1"	40	15	14	27	1.800
EP434/ 1 1/4"	G. 1 1/4"	50.4	15	15	36	1.100
EP434/ 1 1/2"	G 1 1/2"	55.4	15	15	41	900
EP434/ 2"	G 2"	68.4	15	15	55	500



EP 435 - PFN/2.0N - THREADED PLUG



Threaded plug with hex head made to protect female hole, screw mounting.

- **Material:** Polyamide PA6.

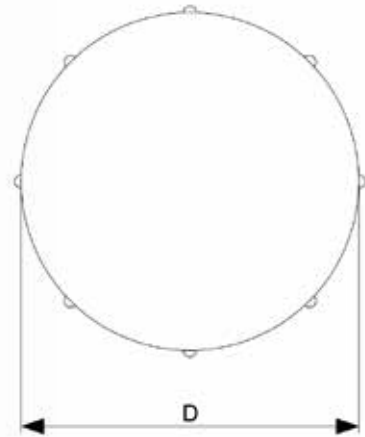
- **Color:** yellow.

- **Maximum working temperature:** 90°C/194°F.

Cod.	Ø F	D	L1	L2	Sw	Pack.
EP435/M10x1	M10x1	14,2	7	10	10	2.000
EP435/M 12x1,5	M12x1,5	17,2	10	10	13	2.000
EP435/ M 14x1,5	M14x1,5	19,2	10	10	13	2.000
PFN/2.0/16.15N	M16x1,5	22	10	10	17	2.000
PFN/2.0/18.15N	M 18x1,5	24	10	11	17	2.000
PFN/2.0/20.15N	M 20x1,5	26	10	14	19	2.000
PFN/2.0/22.15N	M 22x1,5	27,2	10	14	19	2.000
EP435/ M 24x1,5	M 24x1,5	31,5	12	14	24	1.700
EP435/ M 26x1,5	M 26x1,5	32	10	14	24	1.700
EP435/ M 27x2	M 27x2	32,3	13	14	24	1.500
EP435/ M 33x2	M 33x2	40,4	13	14	27	900
EP435/ M 42x2	M 42 x 2	50	13	15	36	550
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EP435/ 1/8"	G. 1/8"	16,8	9	10	13	2.000
PFN/2.0/14 N	G. 1/4"	19,2	9	10	13	2.000
PFN/2.0/38 N	G. 3/8"	22,2	9	11	17	2.000
PFN/2.0/12 N	G. 1/2"	27,2	12	13	19	2.000
EP435/ 3/4"	G. 3/4"	32,3	12	13	24	1.600
EP435/ 1"	G. 1"	40	15	14	27	1.800
EP435/ 1 1/4"	G. 1 1/4"	50,4	15	15	36	1.100
EP435/ 1 1/2"	G 1 1/2"	55,4	15	15	41	900
EP435/ 2"	G 2"	68,4	15	15	55	500

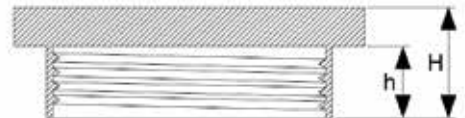


TFU - THREADED PLUG



Threaded cap recommended as protection against dust and humidity during transport and storage.

- **Material:** low density polyethylene.
- **Color:** red.
- On enquiry available UNF/JIC sizes.



Cod.	Ø F	D	H	h
TFU1/8	1/8" x 28	16,4	10,5	4,2
TFU1/4	1/4" x 19	18,8	12,8	6,5
TFU3/8	3/8" x 19	22,9	12	5,5
TFU1/2	1/2" x 14	28	17,3	10,3
TFU5/8	5/8" x 14	31,3	18,4	13,9
TFU3/4	3/4" x 14	32,3	17	11
TFU7/8	7/8" x 14	38	18,1	13,5
TFU1	1" x 11	39,8	16,9	10,8
TFU1.1/4	1,1/4" x 11	49,9	20,9	15
TFU1.1/2	1,1/2" x 11	55,2	16,9	18,5
TFU2	2" x 11	73,7	17,5	10,7
TFU3	3" x 11	105	16,5	11,3
TFU8	M8 x 1	12,3	14,3	9,5
TFU10	M10 x 1	15,3	14,6	10,4
TFU12X1	M12 x 1	18,5	16,7	10,7
TFU12X1.5	M12 x 1,5	16,7	16,3	8,7
TFU14	M14 x 1,5	18,5	17,2	9,5
TFU14X2	M14 x 2	18,5	17,2	9,5
TFU16	M16 x 1,5	22	17,2	12,5
TFU18	M18 x 1,5	24,4	18,3	13,7
TFU18X2.5	M18 x 2,5	24,4	18,3	13,7
TFU20	M20 x 1,5	26,3	18,2	14
TFU20X2	M20 x 2	26,3	18,2	14
TFU20X2.5	M20 x 2,5	26,3	18,2	14
TFU22	M22 x 1,5	28,2	18,3	13,7
TFU24	M24 x 1,5	31,3	18,5	13,8
TFU25	M25 x 1,5	31,3	18,5	14
TFU26	M26 x 1,5	32,7	18,7	13,8
TFU52	M52 x 1,5	63,7	21,5	15,5

EP 190 - SHAFT PROTECTION CAPS



Yellow polyethylene shaft protectors. Cylindrical protection with countersinking that rests on the base of the motor. Equipped with a keyway, it has an aesthetic as well as protective value.

- **Material:** low density polyethylene.

- **Color:** yellow.

Cod.	W (mm)	D (mm)	H (mm)	Key max width
EP190/W9	9	14,5	24	3
EP190/W11	11	17,5	27,5	4
EP190/W14	14	22,5	35	5
EP190/W15	15	25,5	32	5
EP190/W16	16	25,5	47	5
EP190/W19	19	30,5	47	6
EP190/W20	20	32	58,5	6
EP190/W22	22	35,5	58,5	6
EP190/W24	24	38,5	58,5	8
EP190/W25	25	40	70	8
EP190/W28	28	45	70	8
EP190/W30	30	48	93,5	10
EP190/W32	32	51	93,5	10
EP190/W35	35	56	93,5	10
EP190/W38	38	61	93,5	10
EP190/W42	42	67	127,5	12
EP190/W45	45	72	117,5	14
EP190/W48	48	77	127,5	14
EP190/W55	55	88	127,5	16
EP190/W60	60	96	164	18
EP190/W65	65	104	164	20
EP190/W75	75	112	164	20

PROT/VM - PROTECTION FOR MAXIMUM PRESSURE VALUE



Tamper protection for relief valves.

- **Material:** ABS.
- **Color:** black, white, yellow and red.
- **Available:** M6X0,75, M8X1, M10X1, M10X1,5, M12.

EE - EPDM CAP



Cap designed for protection of the threads.

- **Material:** black EPDM.
- **Max working temperature:** 177°C/350 °F.
- **Available:** from \varnothing 0,5 mm to \varnothing 23,8 mm.

Special versions

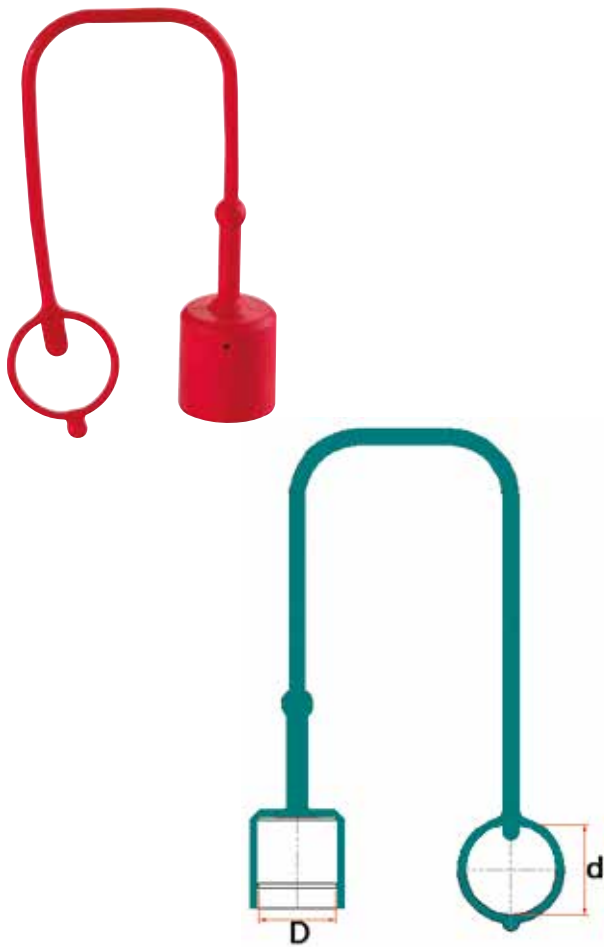
Material: Silicone model EC for high temperatures applications up to 315°C/599 °F.

IR - PROTECTIONS FOR QUICK COUPLING

Rubber female cap for quick coupling.

- **Material:** thermoplastic elastomer (TPE).

- **Color:** red, blue, green and yellow.



Cod.	D	d	Type
IRF / 14	16.5	20	FASTER
IRF / 38	21	23	FASTER
IRF / 12	23	28	FASTER
IRF / 34	30	36	FASTER
IRF / 1	34	38	FASTER
IRF / 14 A	12.7	20	ISO A
IRF / 38 A	18.3	25	ISO A
IRF / 12 A	24.3	28	ISO A
IRF / 34 A	30.7	35	ISO A
IRF / 1 A	36.5	42	ISO A
IRF / 14 B	15.5	20	ISO B
IRF / 38 B	20	23	ISO B
IRF / 12 B	25.7	28	ISO B
IRF / 34 B	32.7	34	ISO B
IRF / 1 B	40.5	43	ISO B

Rubber male cap for quick coupling.

- **Material:** thermoplastic elastomer (TPE).

- **Color:** red, blue, green and yellow.



Cod.	D	d	Type
IRM / 14	16.5	20	FASTER
IRM / 38	21	23	FASTER
IRM / 12	23	28	FASTER
IRM / 34	30	36	FASTER
IRM / 1	34	38	FASTER
IRM / 14 A	12.7	19.6	ISO A
IRM / 38 A	18.3	25	ISO A
IRM / 12 A	23.6	31	ISO A
IRM / 34 A	29.2	36	ISO A
IRM / 1 A	36.5	48	ISO A
IRM / 14 B	15.5	22.2	ISO B
IRM / 38 B	20	28	ISO B
IRM / 12 B	25.7	35	ISO B
IRM / 34 B	32.7	42	ISO B
IRM / 1 B	40.5	51	ISO B

24 - FIBER GASKET



- **Material:** Fasit 202 (technical sheet available on request).
- **Color:** green.
- **Applications:** gases, oils, lubricants, fuels, air and water.
- Available for thread BSP from G.1/4" to G.2", for metric threads from M 14x1,5 to M 26x1,5.

92A - FIBER GASKET



- **Material:** Rollmart (technical sheet available on request).
- **Color:** light blue.
- **Applications:** air, water, low concentrated acids, gases, mineral oils.
- Available for thread BSP from G.1/8" to G.2", for metric threads from M 12x1,5 to M 24x1,5.

25 - RUBBER GASKET



- **Material:** NBR 70-80 Shore durometer (depending of the size).
- **Color:** black.
- Available for thread BSP from G.1/4" to G.2", for metric threads from M 10x1,5 to M 40x1,5.

90B - ALUMINUM GASKET



- **Material:** Aluminum alloy.
- **Color:** grey.
- Available for thread BSP from G.1/8" to G.2, for metric threads from M 10x1,5 to M 42x1,5.

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