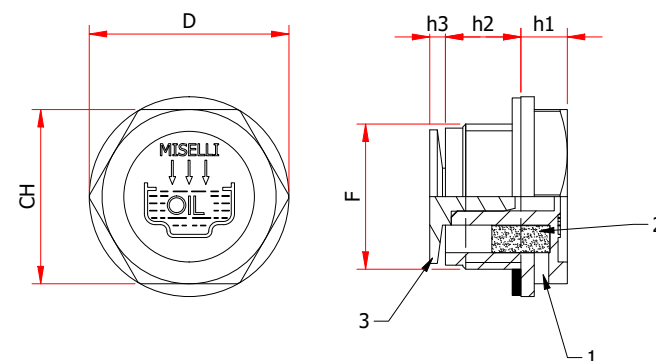


TCSA - OIL FILL PLUG WITH BREATHER AND ANTI - SPLASH DISC

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.

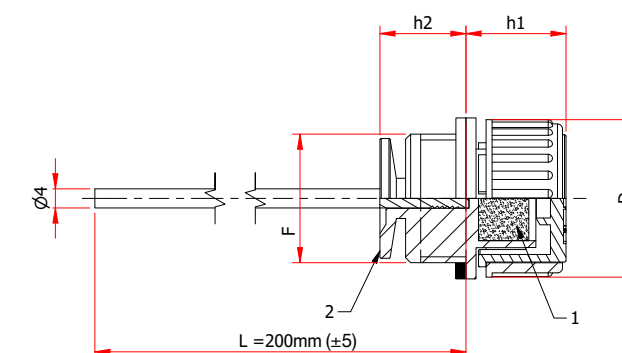
Sealing: flat fiber gasket.

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	28	11	7,5	3	9	100
TCSA/34 TCSF/34	G 3/4"	30	34	11	9	4	11	50
TCSA/1 TCSF/1	G 1"	36	42	12	10,5	4	20	50
TCSA/114 TCSF/114	G 1 1/4"	42	51	13,5	12	4	-	25
TCSA/14.15	M 14x1,5	17	19,5	9	7	3	5	100
TCSA/16.15	M 16x1,5	18	21	10	7,5	3	6	100
TCSA/18.15	M 18x1,5	21	26	10	7,5	3	7	100
TCSA/20.15 TCSF/20.15	M 20x1,5	24	28	10	8	3	8	100
TCSA/22.15 TCSF/22.15	M 22x1,5	24	28	11	8	3	10	100

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



- 1 = Breather hole
- 2 = Antisplash disc

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.

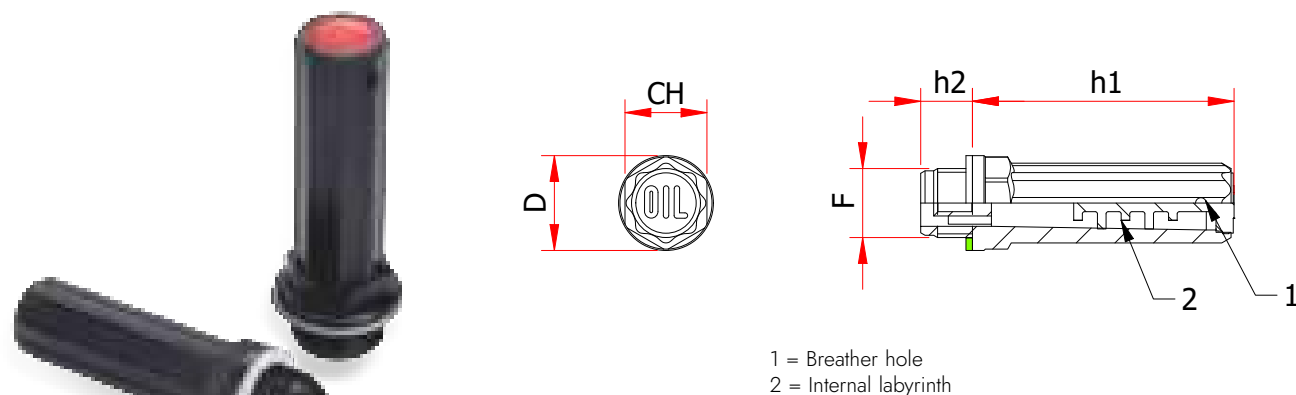
Airflow rate "P": indicated in the table expressed in Lt/min measured at a pressure of 50 mbar/0,73 PSI.

Special versions

Level dipstick: cylindrical section with zinc steel phosphated surface, standard length 200 mm, 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	16	13	35	100
TCSZF/12 TCSZF/12+A	G 1/2"	24	11,50	14	100	100
TCSZF/34 TCSZF/34+A	G 3/4"	31	19	13,5	80	50
TCSZF/1 TCSZF/1+A	G 1"	38	16	19,5	250	50
TCSZF/14.15	M14x1,5	21,5	16	11	NR	100

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



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 (Ø 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.

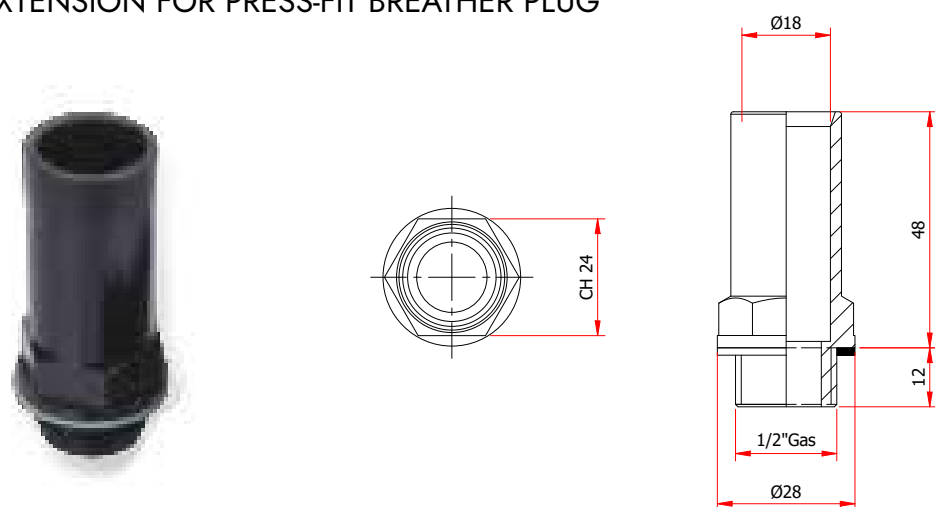
Materiale: Polyamide PA66.

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.

Materiale: Polyamide PA66.

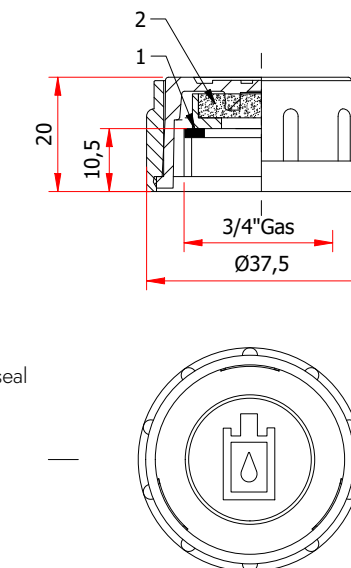
Sealing: flat fiber gasket.

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



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.

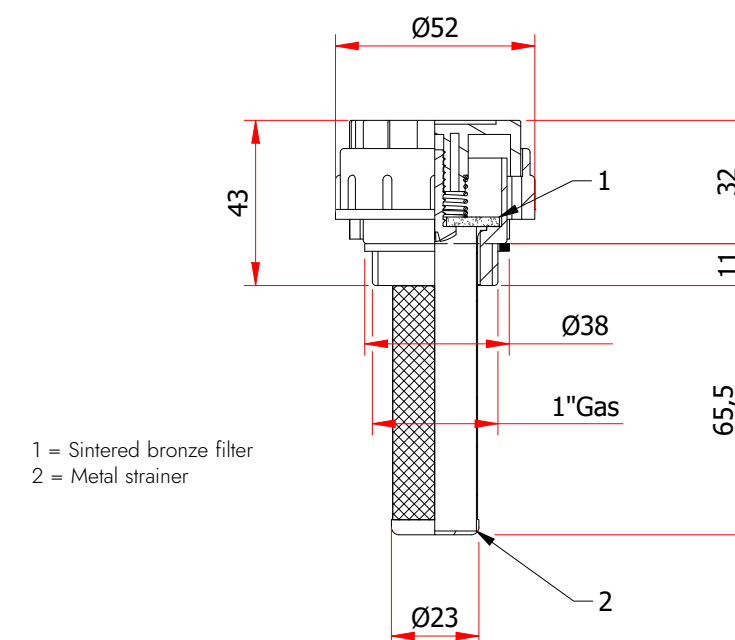
Filter: polyurethane foam filter element prevents contaminations from the ambient atmosphere polluting the oil.

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



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.

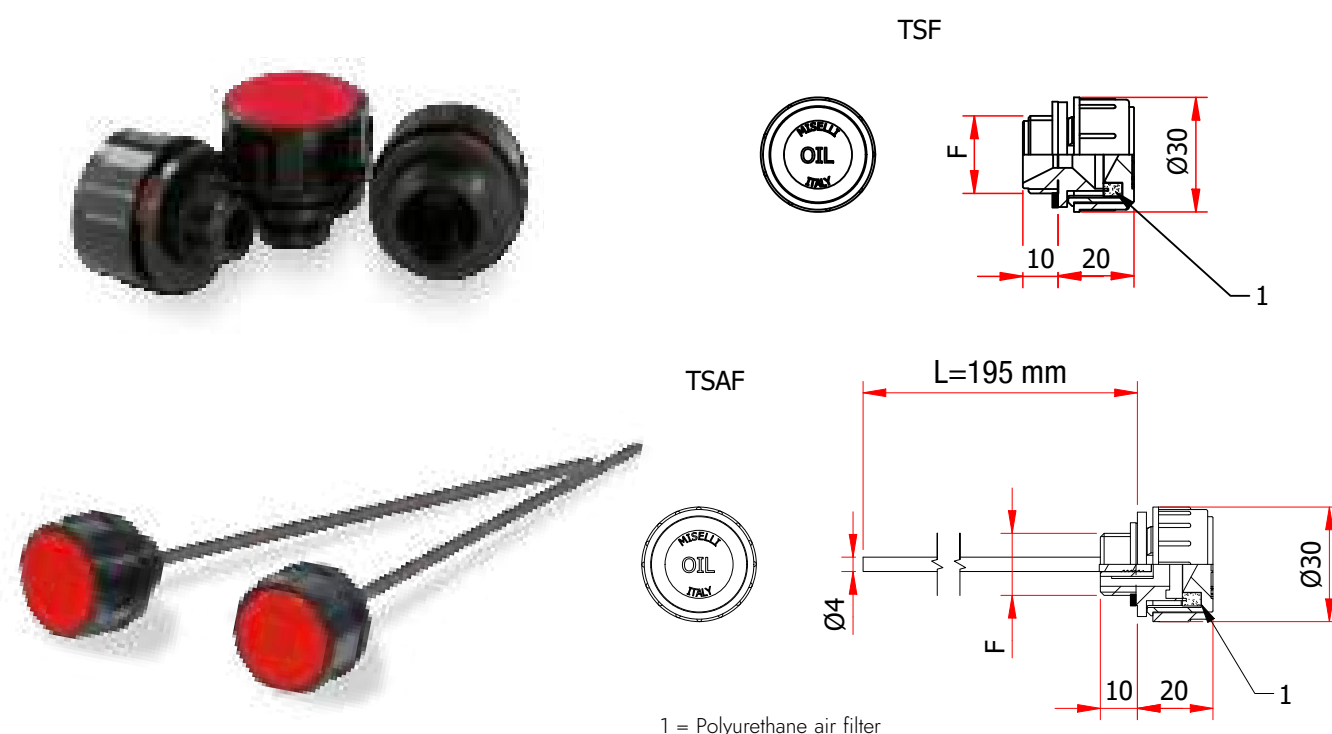
Material: Polyamide PA66.

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



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.

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.

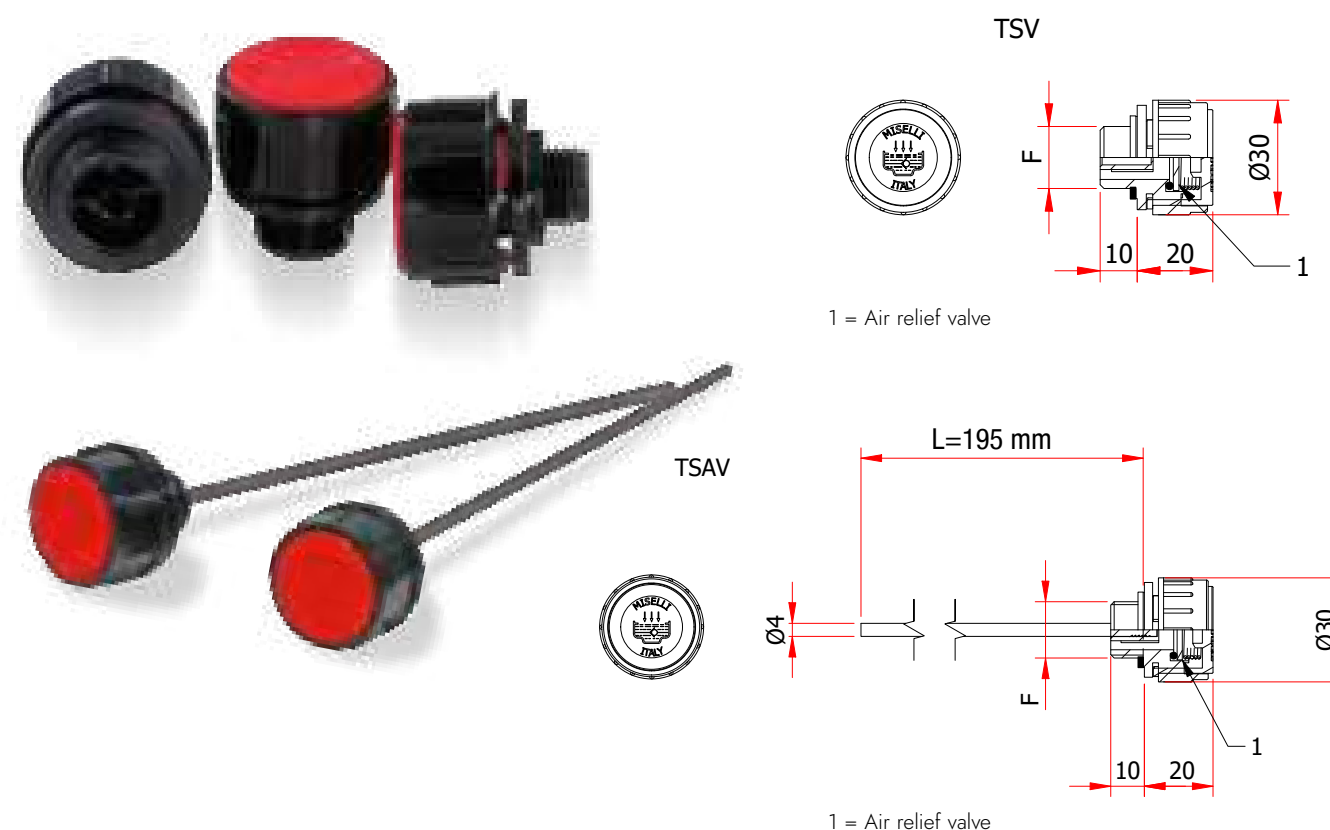
All models are also available with NPT thread

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



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.

Special versions

Level dipstick: customizable length with MIN-MAX notches.

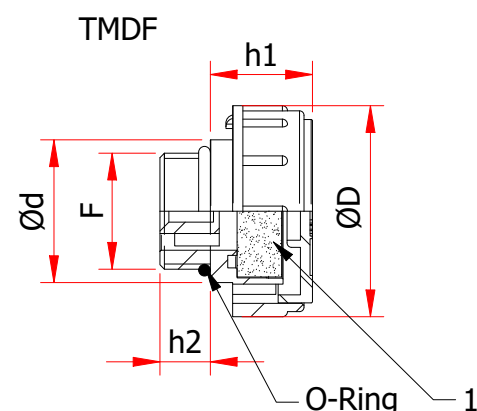
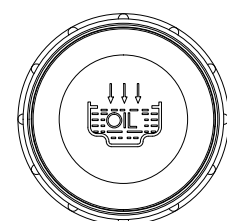
Lid: possible customization of color, logo or neutral version.

All models are also available with NPT thread

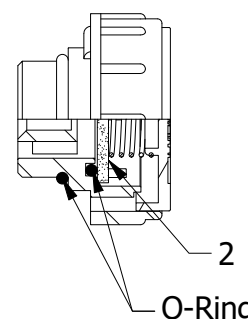
Cod.	F	Pack.
TSV/14	G 1/4"	100
TSV/38	G 3/8"	100
TSV/12	G 1/2"	100

TMD - FILLER BREATHER

TMDF(BR) - FILLER BREATHER WITH FILTER



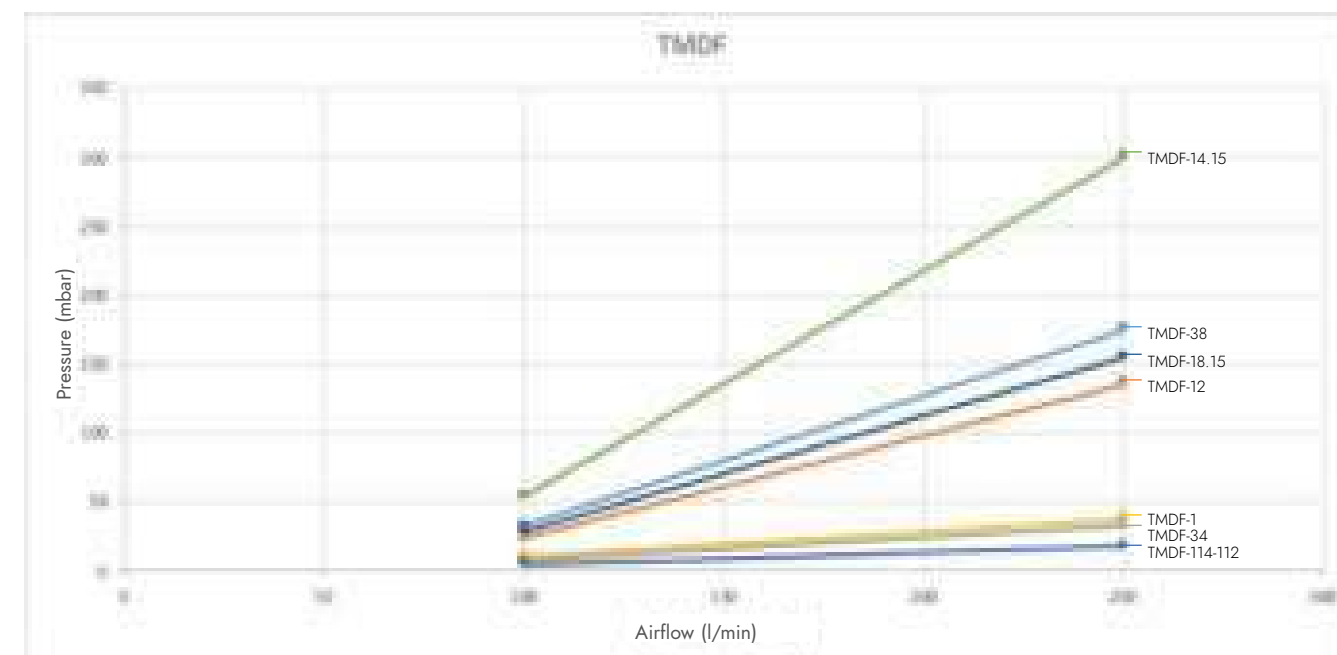
TMDF/BR



1 = Polyurethane air filter

2 = Sintered bronze filter

Cod.	Cod.	Cod.	F	D	d	h1	h2	Pack.
TMD/14	TMDF/14	TMDF/14/BR	G 1/4"	36	22,5	21	11	100
TMD/38	TMDF/38	TMDF/38/BR	G 3/8"	36	22,5	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



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.

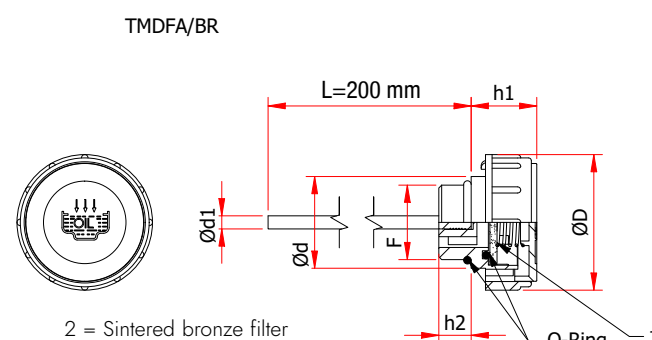
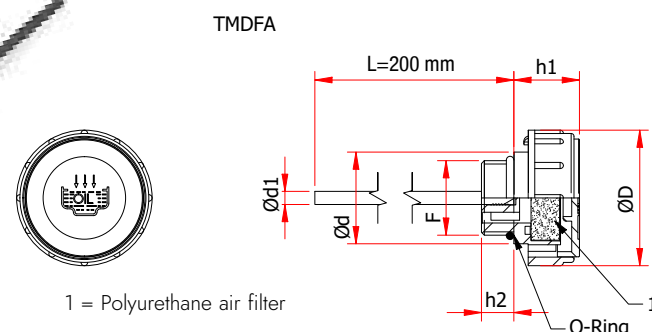
Special versions

Sizes 1/4" – 3/8" – 1/2" – 3/4" – 1" are also available with NPT thread

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.

TMDA - FILLER BREATHER WITH DIPSTICK

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



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 200 mm.

Special versions

Level dipstick: customizable length with MIN-MAX notches.

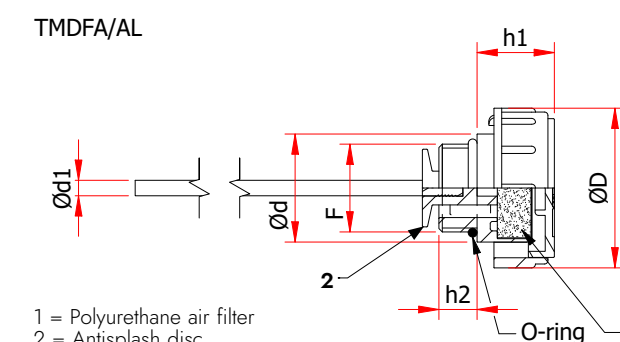
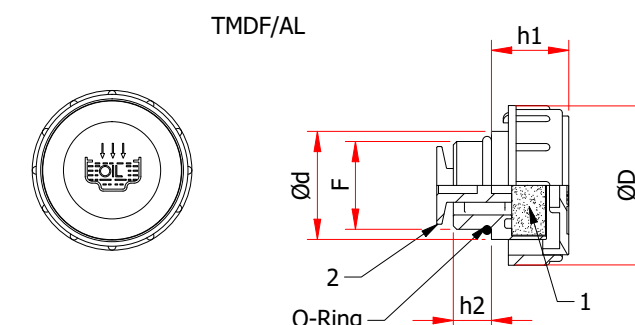
Flex: blade-style level dipstick with zinc phosphated surface, customizable laser inscriptions. Flexible dipstick is suitable for applications that require special shaped profile has to be followed.

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 1/4" - 3/8" - 1/2" - 3/4" - 1" are also available with NPT thread

Cod.	Cod.	Cod.	F	D	d	d1	h1	h2	Pack.
TMDA/14	TMDFA/14	TMDFA/14/BR	G 1/4"	36	22,5	4	21	11	100
TMDA/38	TMDFA/38	TMDFA/38/BR	G 3/8"	36	22,5	4	21	11	100
TMDA/12	TMDFA/12	TMDFA/12/BR	G 1/2"	41	28	4	21	12	100
TMDA/34	TMDFA/34	TMDFA/34/BR	G 3/4"	47	33	5	22	12	50
TMDA/1	TMDFA/1	TMDFA/1/BR	G 1"	52	38	5	25	12	50
TMDA/114	TMDFA/114	TMDFA/114/BR	G 1 1/4"	63	49	5	29	13	25
TMDA/112	TMDFA/112	TMDFA/112/BR	G 1 1/2"	63	55	5	29	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	21	11	100
TMDA/18.15	TMDFA/18.15	TMDFA/18.15/BR	M 18x1,5	41	28	4	21	12	100
TMDA/20.15	TMDFA/20.15	TMDFA/20.15/BR	M 20x1,5	41	28	4	21	12	100
TMDA/22.15	TMDFA/22.15	TMDFA/22.15/BR	M 22x1,5	41	28	4	21	12	100

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

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.

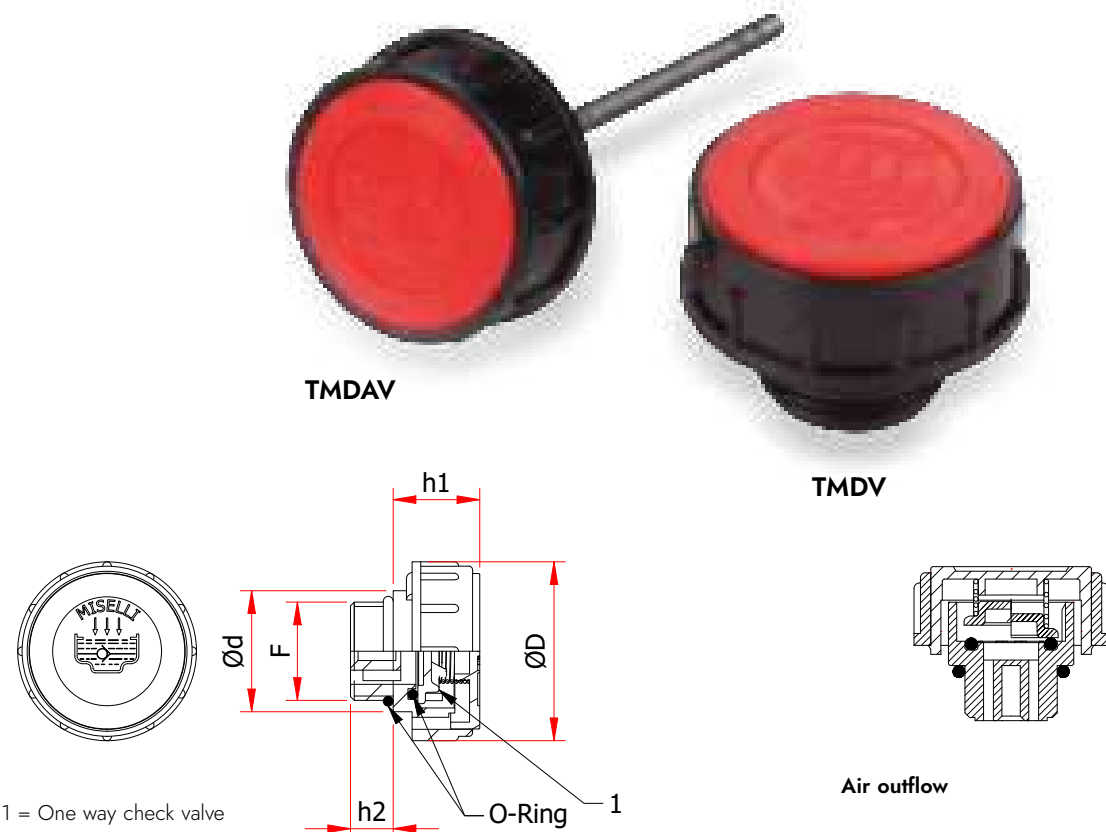
Lid: on request, models G.1 1/4" and G.1 1/2" have an option for a yellow lid, available with text "DIESEL". For other models, possible customization of color, logo or neutral version.

Sizes 1/4" - 3/8" - 1/2" - 3/4" - 1" are also available with NPT thread

Cod.	F	D	d	d1	h1	h2	Pack.
TMDF/14/AL	G 1/4"	36	22,5		21	11	100
TMDF/38/AL	G 3/8"	36	23	4	21	11	100
TMDF/12/AL	G 1/2"	41	28	4	21	12	100
TMDF/34/AL	G 3/4"	47	33	5	22	12	50
TMDF/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	M 16x1,5	36	23	4	21	11	100
TMDF/18.15/AL	M 18x1,5	41	28	4	21	12	100
TMDF/20.15/AL	M 20x1,5	41	28	4	21	12	100
TMDF/22.15/AL	M 22x1,5	41	28	4	21	12	100

TMDV - FILLER BREATHER WITH ONE WAY AIR VENT VALVE

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



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 200 mm.

Special versions

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

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

Sizes 1/4" – 3/8" – 1/2" – 3/4" – 1" are also available with NPT thread

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

TF - FILLER BREATHER CAP INTERNAL THREAD

TFA - FILLER BREATHER CAP INTERNAL THREAD WITH DIPSTICK



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.

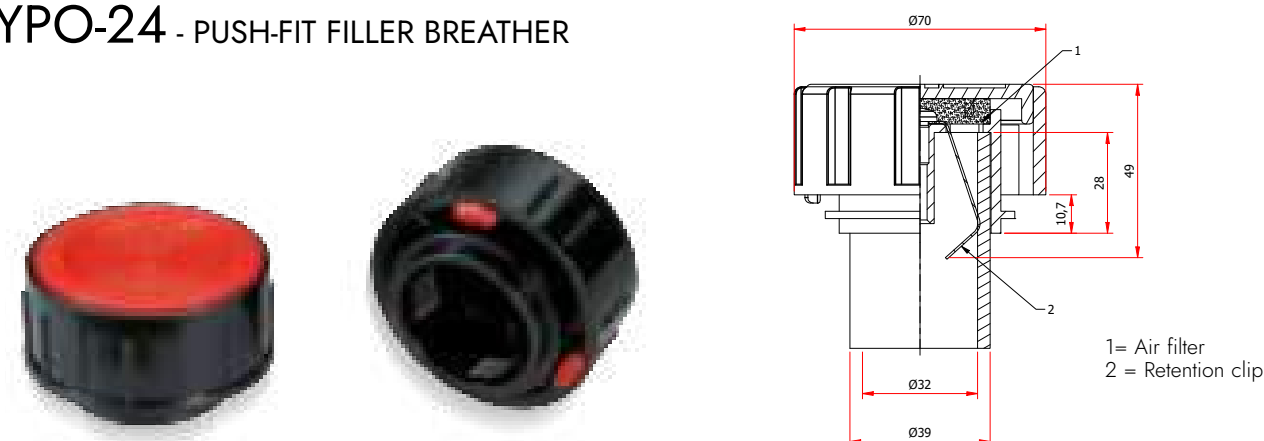
Level dipstick: cylindrical section with zinc steel phosphated surface, standard length 180 mm (± 5).

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

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).

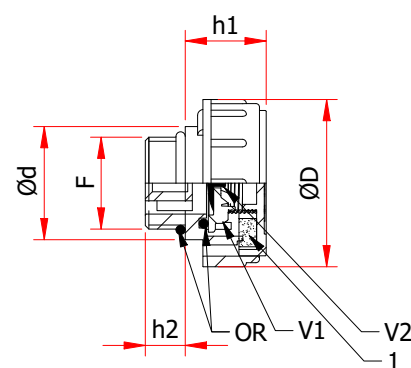
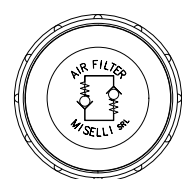
TMDV/DS - PRESSURIZED FILLER BREATHER WITH FILTER

TMDAV/DS - PRESSURIZED FILLER BREATHER WITH FILTER AND DIPSTICK

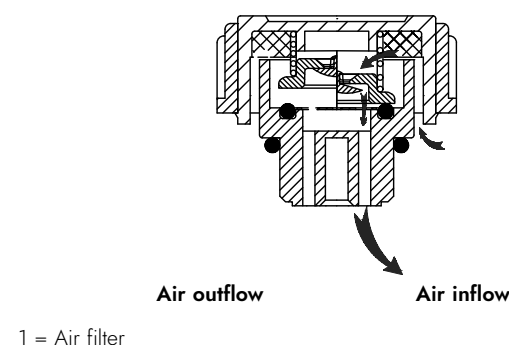


TMDAV-DS

TMDV-DS



V1 = Safety valve
V2 = Suction valve



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 200 mm.

Airflow capacity: up to 750 Liters/min (see data and graphic p. 47).

Special versions

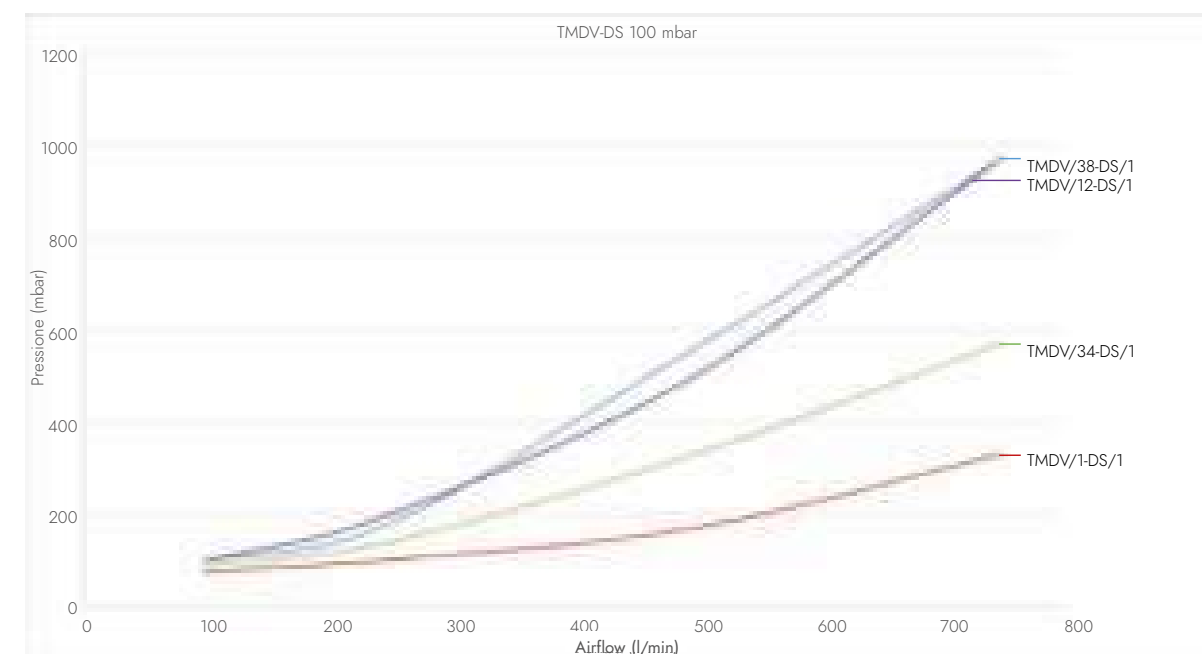
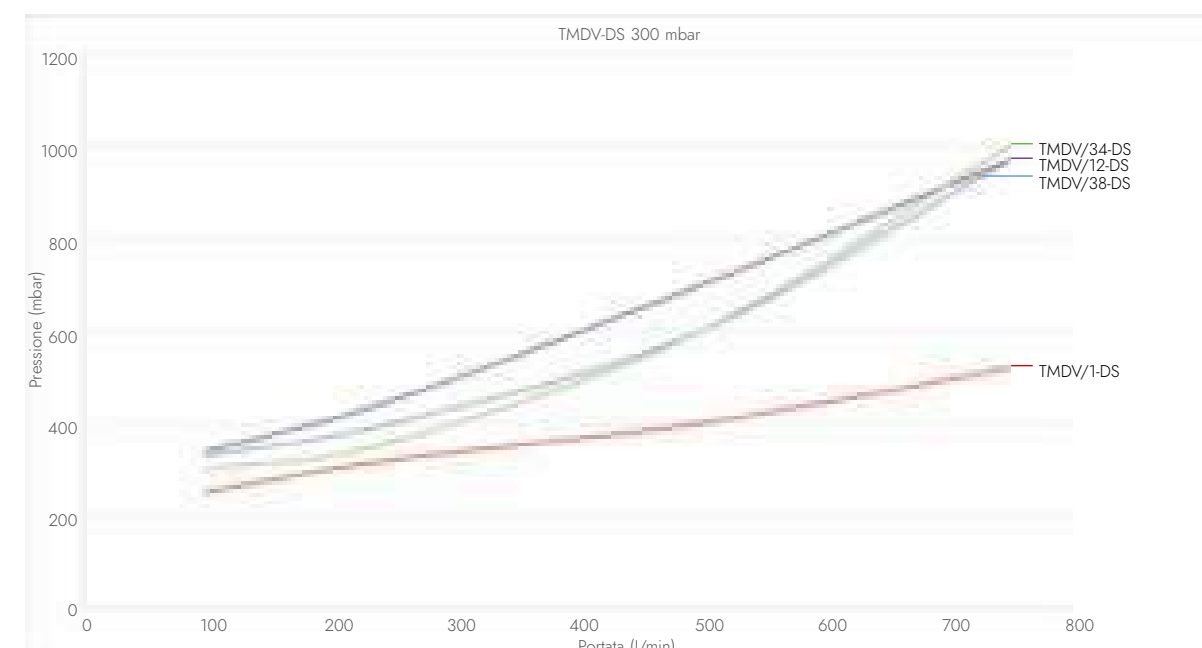
Level dipstick: customizable length, with MIN-MAX notches.

Check valve: set around at 0.10 bar/1.5 PSI

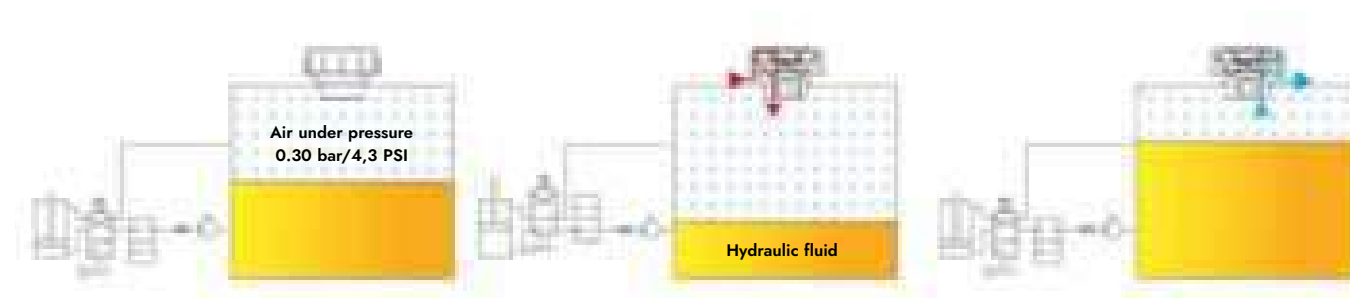
Methrical threads: M14, M16, M18, M20 e M22X1.5.

All models are also available wit NPT thread

	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



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

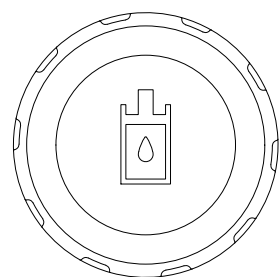
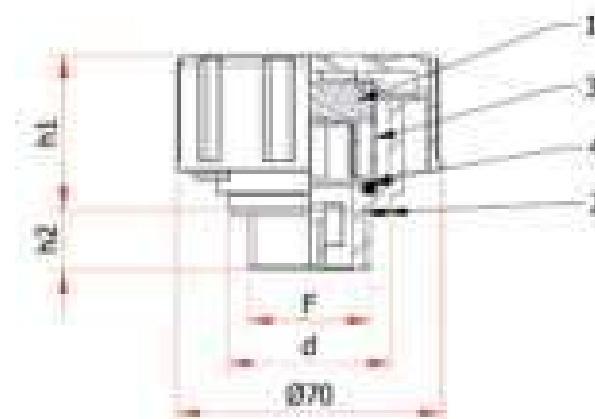
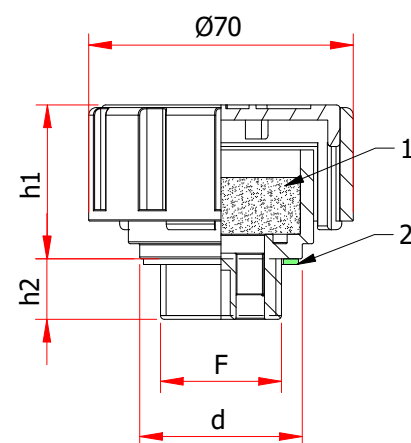
TMDF-70-AS - FILLER BREATHER WITH FILTER AND INTERNAL ANTI-SPLASH



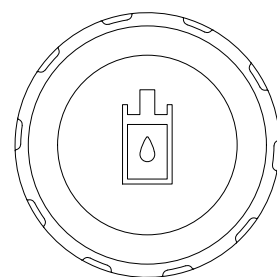
TMDF-70



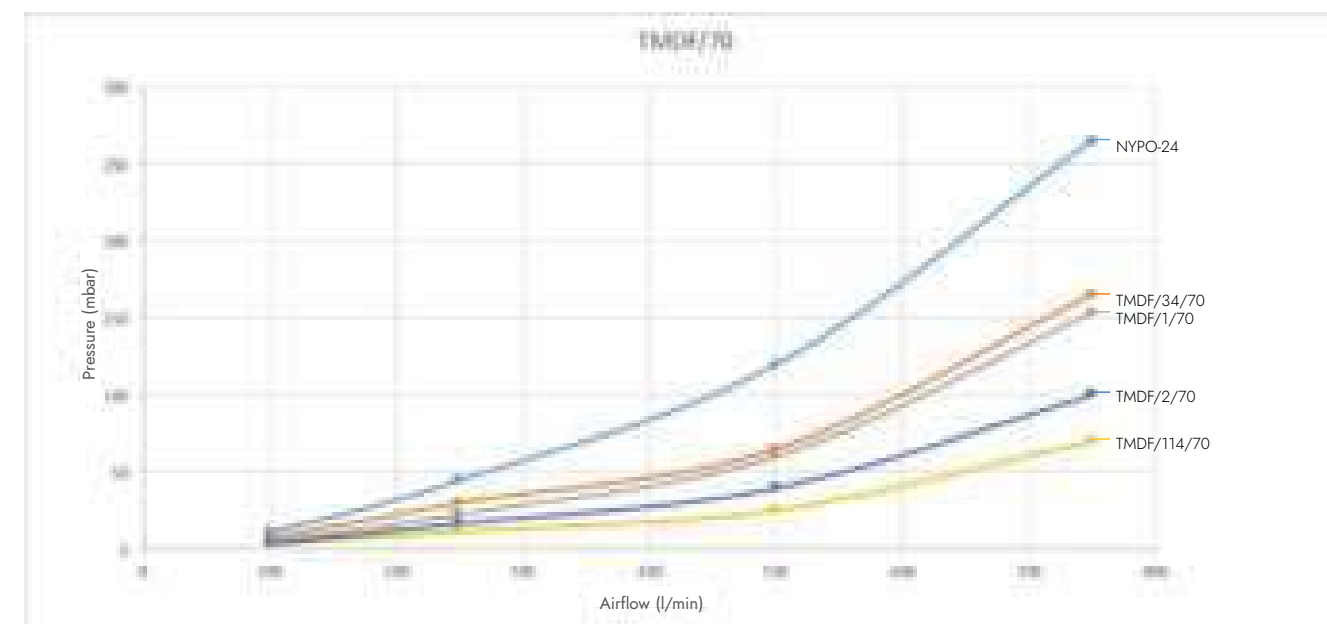
TMDF-70-AS



- 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



Special versions

The models 3/4" -1" - 1 1/4" are available with NPT threads

Threaded flange with strainer FPF/C: coupled with TMDF/114/70(AS), to be ordered separately (p. 54).

Threaded filler breather, cylindrical head 70 mm ø, 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.

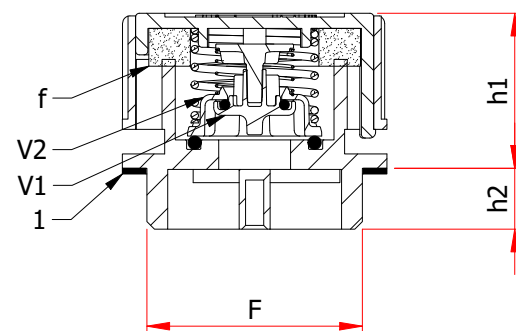
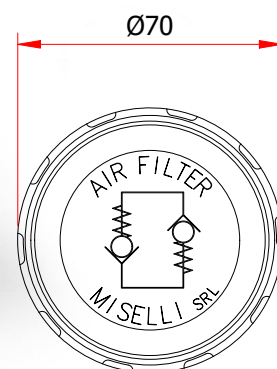
Maximum working temperature: 100°C/212°F.

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



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 antisplash, 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. 51).

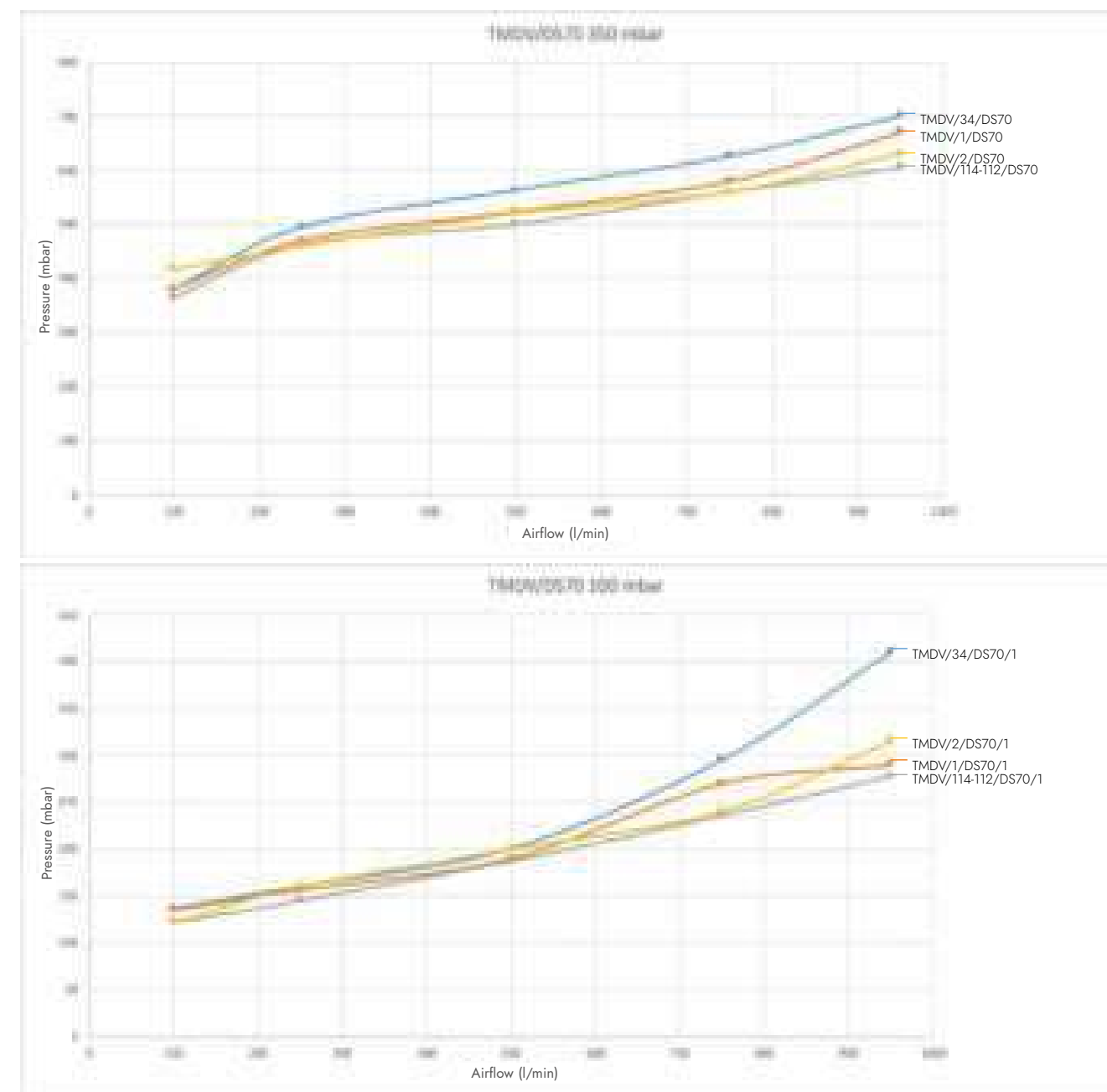
Special versions

Check valve: set at around 0,10 Bar/1.5 PSI.

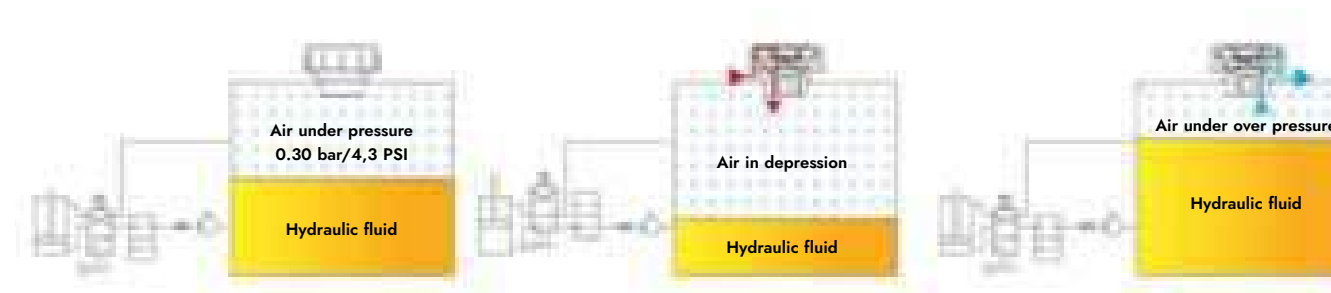
The models 3/4" - 1" - 1 1/4" are available with NPT threads

Threaded flange and strainer FPF/C: coupled with TMDV/114/DS70, to be ordered separately (p. 54)

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



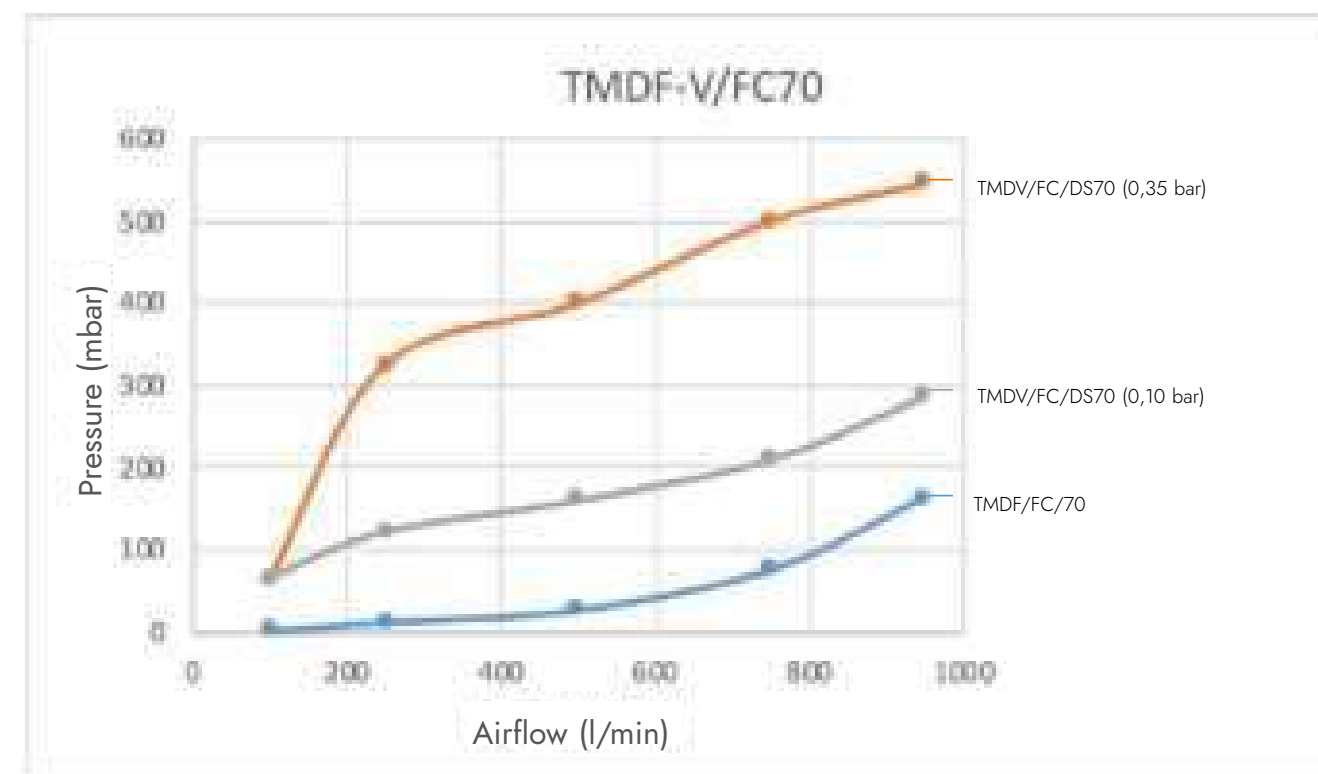
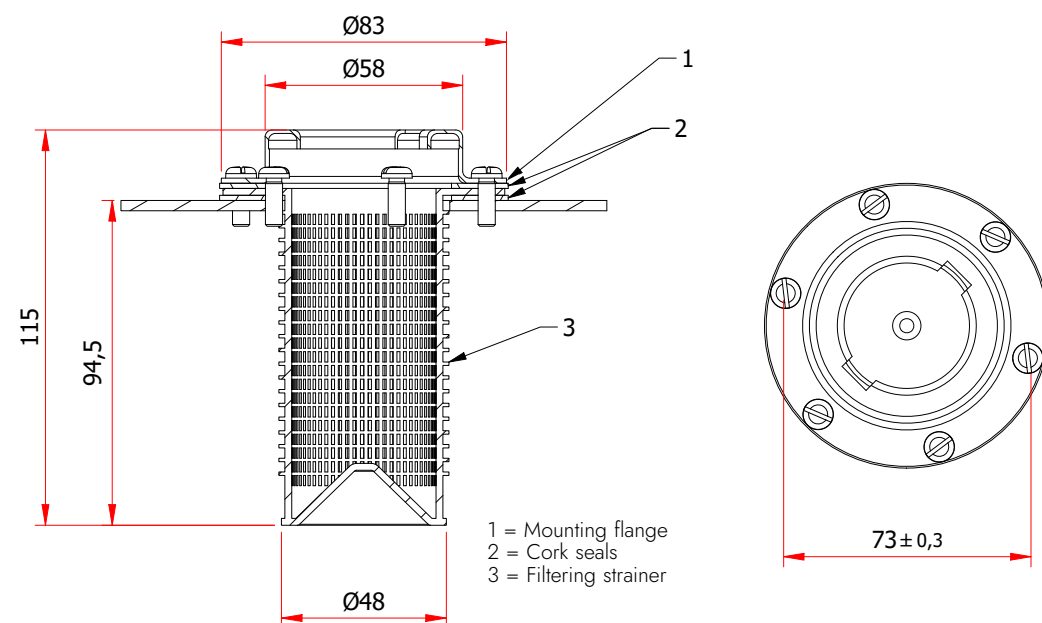
Standard operating conditions

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

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

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



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.

T MDF/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.

T MDV/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.

Fixing screws: 6 white zinc plated steel TC screws (5x10) included.

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

Filter: polyurethane foam filter element.

Flange: galvanized steel with for quick coupling bayonet.

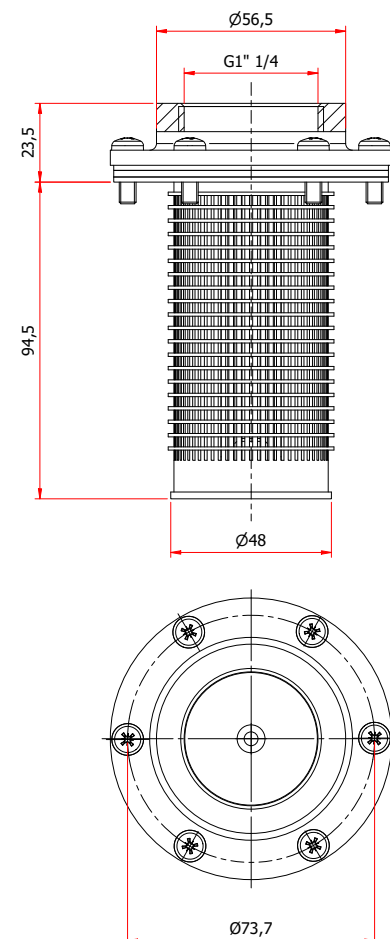
Strainer: polypropylene.

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

Special versions

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

FPF/C - FILLING FLANGE WITH STRAINER



Flange with threaded fitting G.1 1/4" and strainer. This code can be coupled with Ø 70 mm filler breathers, codes TMDF/114/70 (p. 48) and TMDV/114/DS70 (p. 50)

Materials: flange in Polyamide (PA 66) reinforced with fiber glass; strainer in Polypropylene(PP).

Sealing gaskets: 2, made of cork.

Maximum working temperature: 80°C

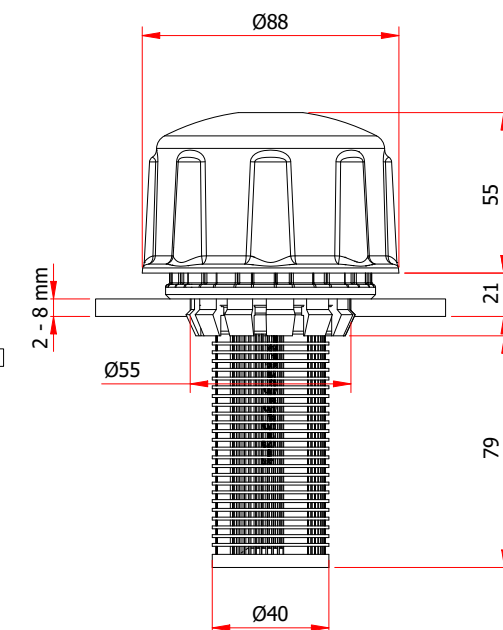
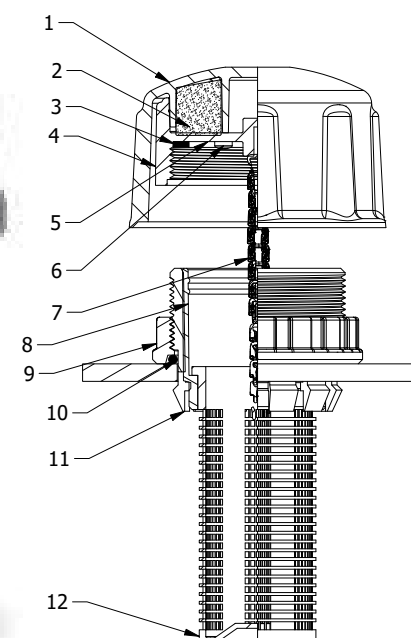
Assembling instructions: kit 6 zinc-plated steel included in the supply.

Special versions

FPF The flange can be supplied separately, without basket.

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



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 (Ø 55 mm ± 0,3 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.

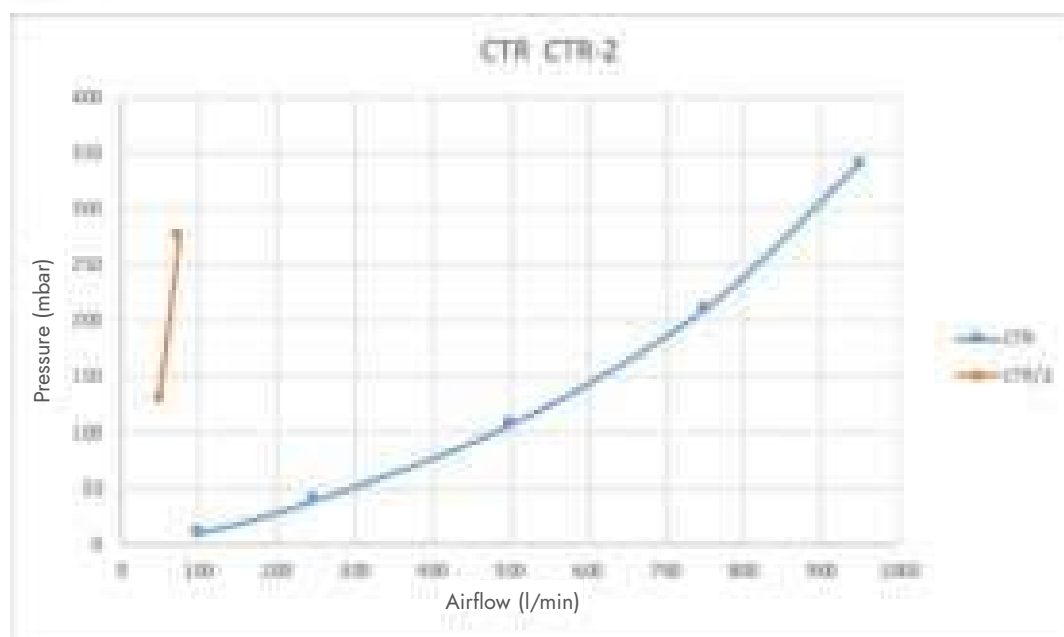
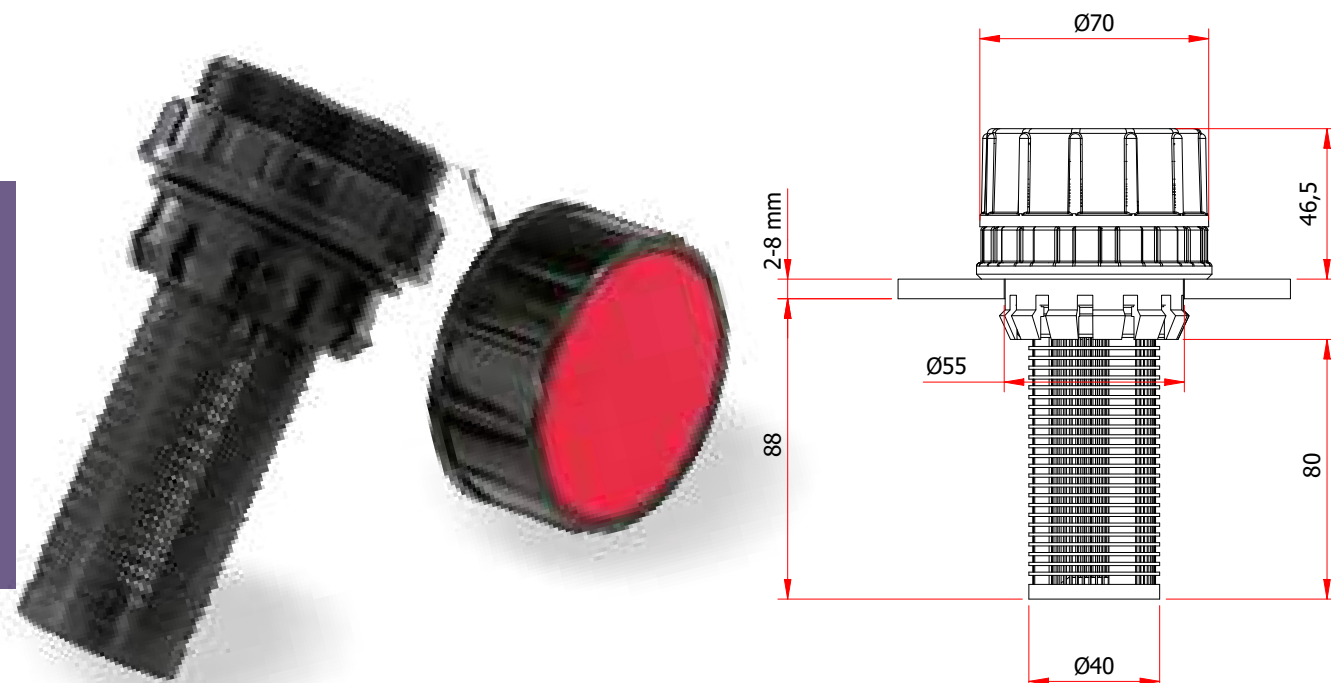
Maximum working temperature: 80°C/176 °F..

Airflow capacity: up to 950 Liters/min (see data and graphic p. 56).

1 Filler breather cap	7 Safety chain
2 Polyurethane air filter	8 Quick fastening coupling
3 Inner Cap threaded M60x2	9 Locking ring (external)
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



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 (Ø 55 mm ±0,3 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 Polypropylene, hooked to the fixing block, for oil pre-filtration in phase of loading.

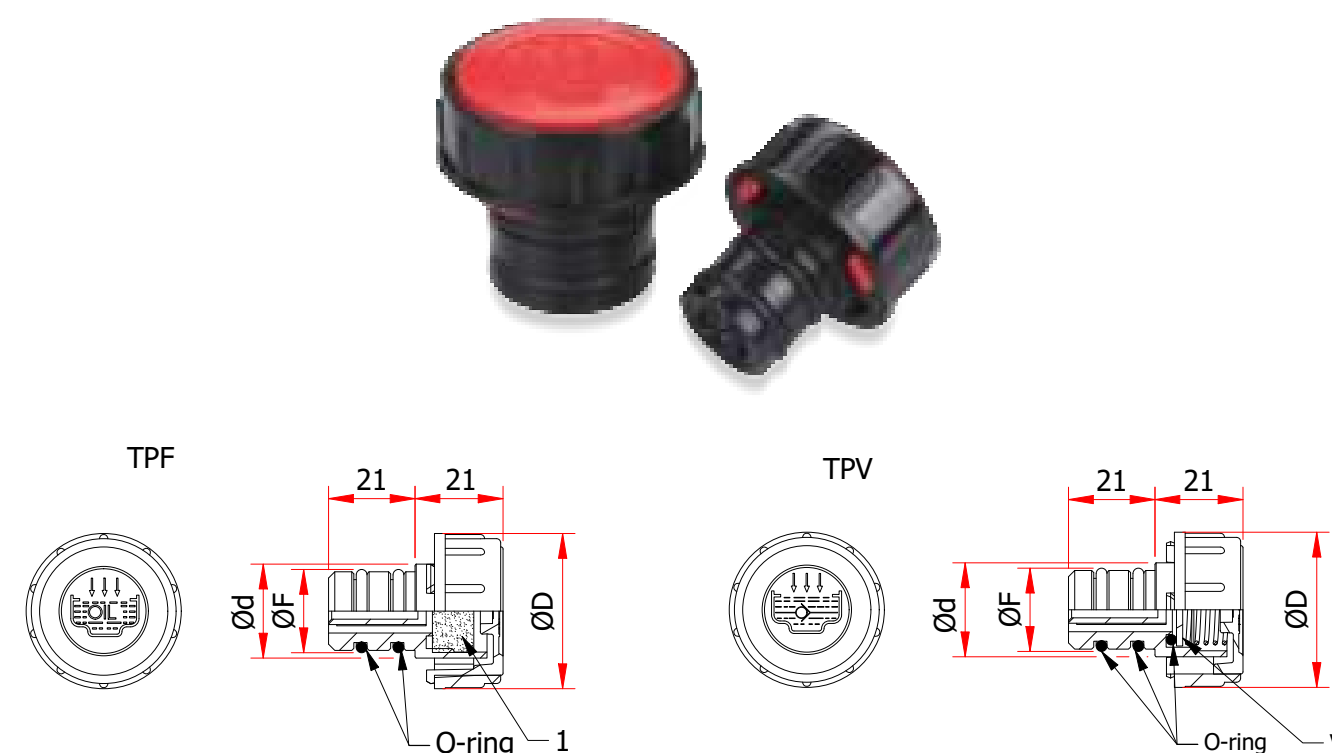
Maximum working temperature: 80°C/176 °F.

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 ± 0,1 mm with 1/45° 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 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.

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

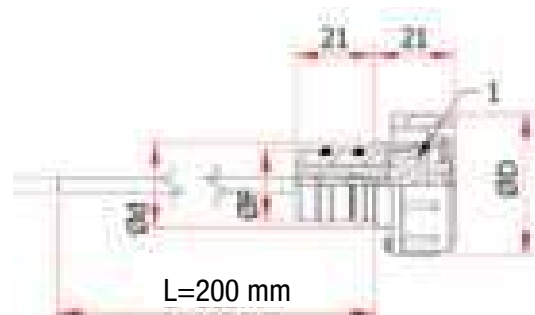
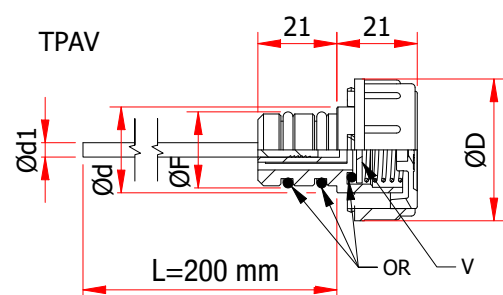
TPA – PUSH-FIT FILLER BREATHER WITH DIPSTICK

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.

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

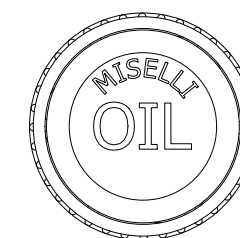
TPB - "LOW PROFILE" PUSH-FIT FILLER PLUG

TPBS - "LOW PROFILE" PUSH-FIT FILLER BREATHER

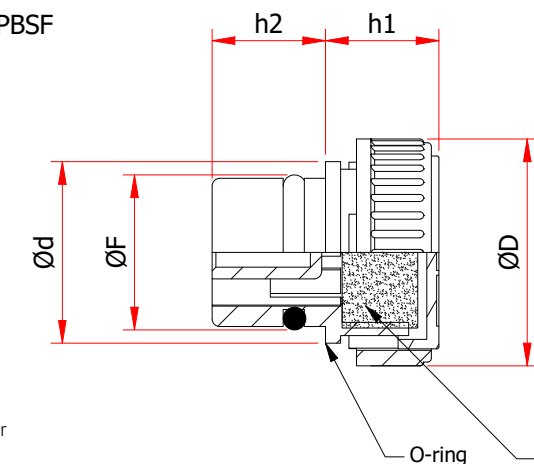
TPBSF - "LOW PROFILE" PUSH-FIT FILLER BREATHER WITH FILTER



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	14,5	16,5	50
TPB/30	TPBS/30	TPBSF/30	30	30	34	14,5	17	50

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

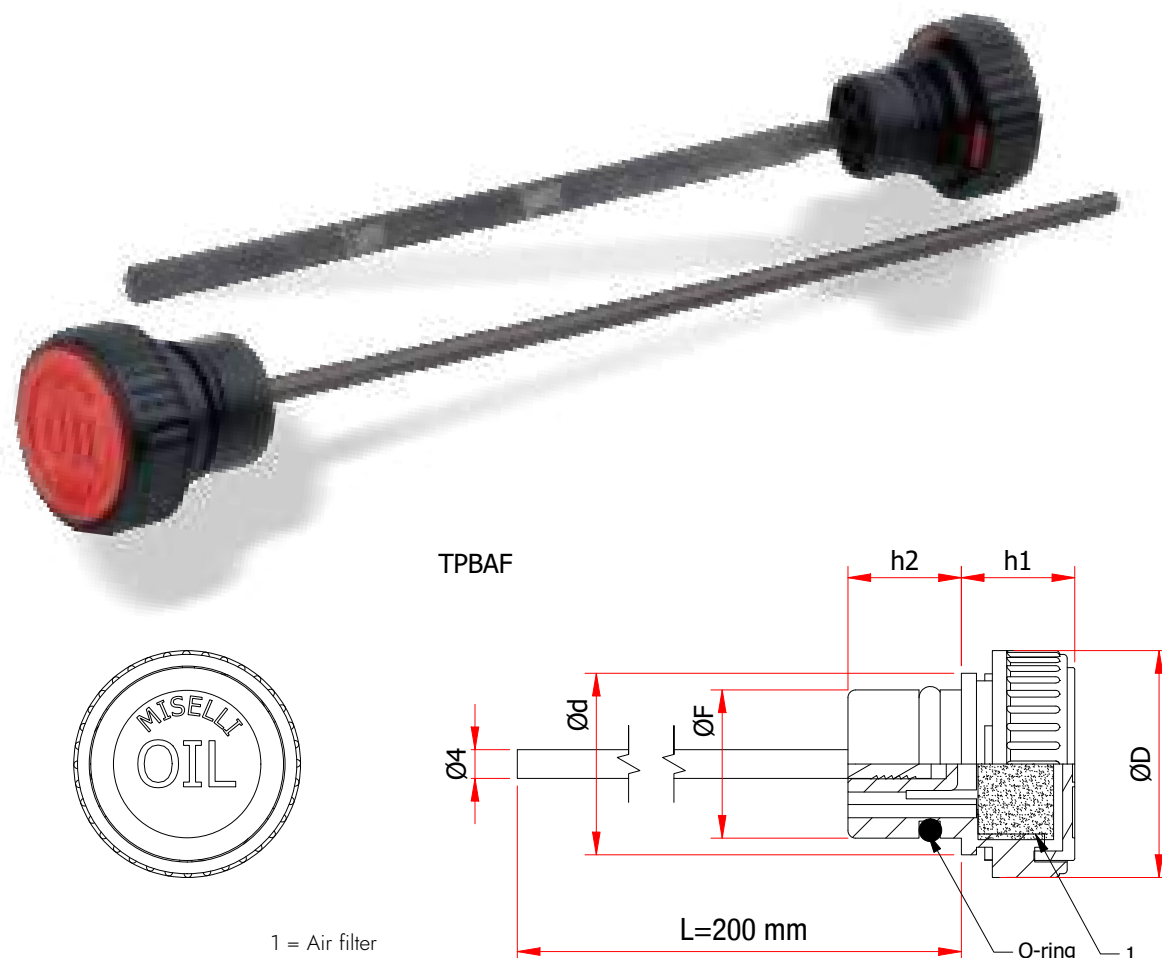
TPBAS - "LOW PROFILE" PUSH-FIT FILLER BREATHER WITH DIPSTICK

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

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

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

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.

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	14,5	14	4	100
TPBA/20	TPBAS/20	TPBAF/20	20	30	24	14,5	15,5	4	100
TPBA/26	TPBAS/26	TPBAF/26	26	30	30	14,5	16,5	4	50
TPBA/30	TPBAS/30	TPBAF/30	30	30	34	14,5	17	4	50



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

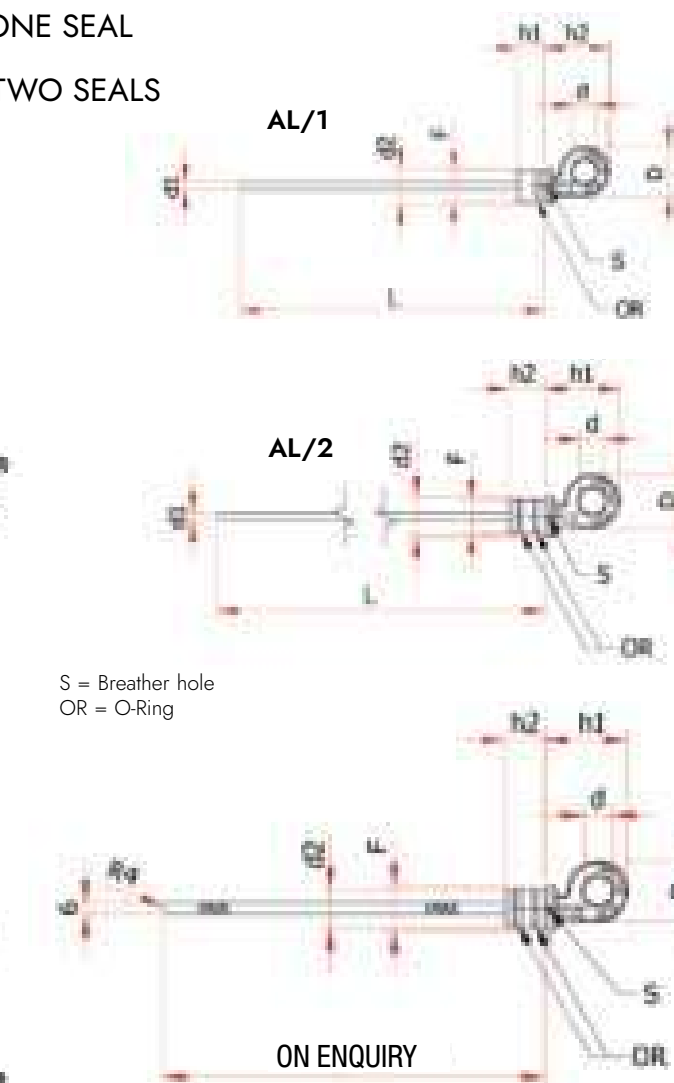
Material: Polyamide PA66.

Sealing: O-ring NBR 70 Shore.

Maximum working temperature: $100^\circ\text{C}/212^\circ\text{F}$.

Breather: model ALS provided with one or two breather holes located on to the shoulder of the dipstick handle.

Cod.	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



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.

plastic filler breathers