

GORE™ MEMBRANE VENTS

Screw-In Vent: POV/M12 x1,5

As Effective as Hermetically Sealed ... at a Fraction of the Cost



GORE™ Membrane Vents POV/M12x1,5

GORE™ Membrane Vents Enhance the Reliability, Quality and Image of Your Products.

Designing an electronic device for use in a harsh, wet environment is a balance between protection, cost and serviceability.

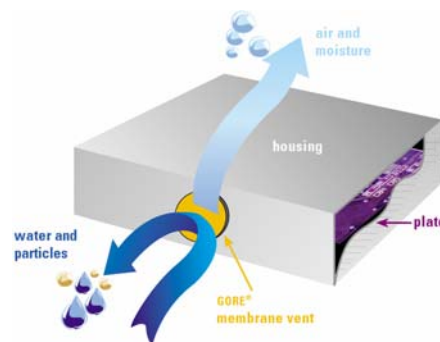
Hermetically sealing and potting are excellent sealing methods, but they make board level repairs or board swaps impossible. Gasketed enclosures provide the serviceability, but getting a water-tight housing and seal design can be difficult, especially in applications that will see thermal or altitude cycling.

GORE™ Membrane Vents are designed to enhance the ingress protection (IP) of gasketed enclosures. The microporous expanded polytetrafluoroethylene (ePTFE) membrane continuously allows the free passage of gases and vapors, equalizing the pressure differential before it builds to the point that a seal is compromised.

Water, dust, dirt, cleaning agents and most oils are repelled by the oleophobic membrane, thereby protecting expensive and sensitive electronics.

The free-flow of gases makes GORE™ Membrane Vents indispensable when it comes to designing a water proof battery powered device. By allowing hydrogen gas to diffuse through the membrane vent, the concentration of hydrogen inside the case is kept below potentially explosive levels.

With over 50 million vents installed worldwide in automotive and electronic applications, GORE™ Membrane Vents are proven to be a reliable, rugged and cost effective solution.



Typical enclosure with GORE™ Membrane Vent

- Water proof and dust proof to IP69K, protecting sensitive electronics.
- High airflow allows pressure equalization to prevent stress on enclosure seals, ultimately lowering enclosure design and manufacturing costs.
- Water and oil repellant ePTFE membrane is inert, non-shedding, chemically resistant, UV resistant and enclosed in a tough polyamide housing to ensure a long trouble-free service life even in extreme conditions.
- The microporous structure of the ePTFE membrane even keeps salt crystals from passing, minimizing electrical malfunctions caused by salt corrosion.
- Moisture vapor permeable to help aid in condensation and fogging reduction.
- Screw-in housing with silicone O-ring for versatile and easy installation.

All GORE™ Membrane Vents incorporate the unique GORE-TEX® expanded PTFE membrane from the world leaders in ePTFE technology, W. L. Gore & Associates.



GORE™ MEMBRANE VENTS

Screw-In Vent: POV/M12 x1,5

Membrane Characteristic

Hydrophobic and Oleophobic
 Oil Rating 3 (AATCC 118-1997ASTM)
 Water entry pressure of the membrane ≥ 0.6 bar/60 sec

Ingress Protection class of the installed POV/M12x1,5

IP65 - Water jets
 IP67 - 1 meter water submersion for 30 minutes
 IP69K - High pressure spray

Temperature Resistance (DIN IEC 68-2-14, Na)

Cycle test Cycles 400
 $T_{\text{dwell}} = 20$ min, $t_{\text{change}} < 10$ sec.

POV/M12x1,5 vents are designed for service temperature range of -40°C to 125°C .

UV and Climate Resistance

Industrial climate test (DIN 50-0-18) Test criteria SFW 2,0 S
 Cycle 9

UV and climate resistance: other than a little yellowing of the top surface, no significant change in mechanical characteristics.

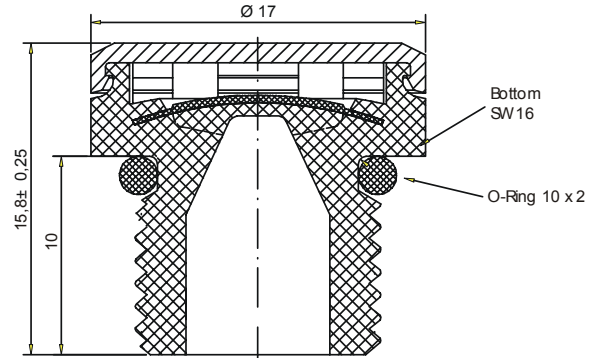
Salt Spray Test (DIN 50-0-21)

No penetration of salt crystals through the membrane into the housing.

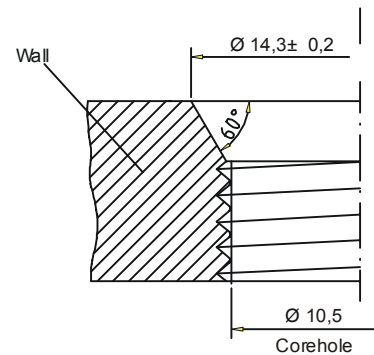
85/85 Storage Test (DIN IEC 60068-2-3: 85°C , 85% r.H. dwell time 1000 hours)

No significant change in mechanical characteristics.

Design and Dimensions



Recommended Installation



Maximum applied torque: 0.6 – 0.8 Nm.

Recommendations for through holes (require backing nut):
 Through hole ID 12.2 mm / Chamfer OD 14.0 mm.
 For more information on installation recommendation for thinner walls and trough hole, please see Gore Technical Bulletins:
 Additional installation recommendations for POV/M12x1,5.

Available Designs

Part Number	Plastic	Color	O-Ring	Typical Airflow @ dp=70mbar in ml/min
PMF100320	PA6 GF10 / UL-V0	Black	Silicone 50° Shore A / UL-V0	400
PMF100321	PA6 GF10 / UL-V0	Grey	Silicone 50° Shore A / UL-V0	400
M10510-007 (Backing Nut)	PA6 GF10 / UL-V0	Black		



For customized design please contact us

W. L. Gore & Associates

Gore Technical Venting Solutions
www.gore.com/ventsolutions
 Email: vents@wlgore.com

Sales & Customer Service Sites

Argentina	+54 351 488 6427	Netherlands	+49 (0) 89 46 12 22 11
Australia	+61 2 9473 6800	Singapore	+65 6 275 4673
China	+86 21 6247 1999	Sweden	+46 (0) 31 70 67 800
France	+33 (0) 156 95 65 65	Taiwan	+886 2 8771 7799
Germany	+49 (0) 89 46 12 22 11	UK	+44 (0) 1506 460123
Italy	+39 04 56 20 92 40	USA	+1 410 392 4440

Note: The optimal performance of any GORE™ Membrane Vent is dependent on how it is handled and incorporated into the final product. This includes such elements as the device design, sealing method and assembly method. While Gore is able to provide general guidelines based upon our experience with the GORE™ Membrane Vent, it is ultimately the responsibility of the device manufacturer to validate each product and its performance for its intended electronic application. Contact one of our technical sales associates today for assistance in determining the best GORE™ Membrane Vent for your specific electronic application. Specifications are subject to change without notice.
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Protective Vents

SCREW-IN SERIES

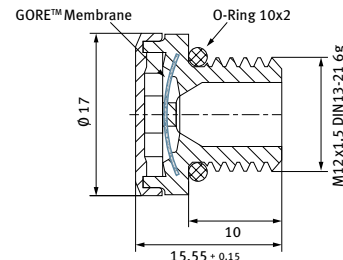
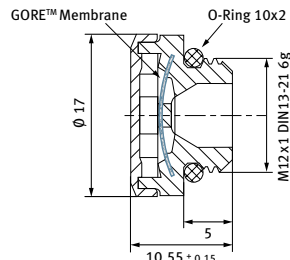
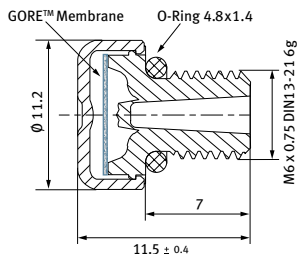
PRODUCT INFORMATION



Product Name	PolyVent XS	PolyVent Standard	PolyVent Standard
Thread Size	M6x0.75	M12x1	M12x1.5
Product Number	PMF100600	PMF100318 (black) / PMF100319 (grey)	PMF100320 (black) / PMF100321 (grey)
Product Performance Characteristics			
Typical airflow	300 ml/min (dp = 70 mbar)	450 ml/min (dp = 70 mbar)	450 ml/min (dp = 70 mbar)
Laminate: membrane/ backing material	ePTFE / -	ePTFE / Polyester (PET)	ePTFE / Polyester (PET)
Membrane characteristic	Oleophobic	Oleophobic	Oleophobic
Vent body & cap: material	Polyamide (PA6/66)	Polyamide (PA6)	Polyamide (PA6)
Vent body & cap: color	Black: RAL 9004	Black: RAL 9011 / Grey: RAL 7035	Black: RAL 9011 / Grey: RAL 7035
Wrench size	10 mm	16 mm	16 mm
O-Ring material	Silicone 60 Shore A	Silicone 60 Shore A	Silicone 60 Shore A
Counter nut: material / color / part number	n/a	n/a	Plastic / Grey / M10510-009
Traceability	Yes: Individually laser-marked	Yes: Individually laser-marked	Yes: Individually laser-marked

Design and Dimensions

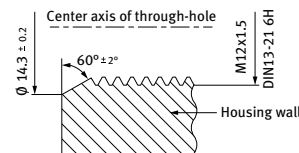
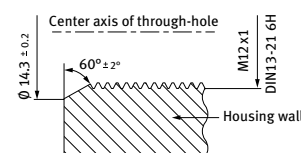
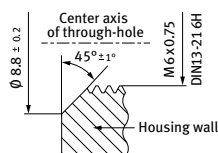
Units are in mm



Recommended Installation

Units are in mm

- Install on a flat, vertical housing surface where water or other contaminants will not pool.
- Install vent with cap on exterior of housing.



Recommended torque

0.3 ± 0.1 Nm

0.7 ± 0.1 Nm

0.7 ± 0.1 Nm

Through-hole diameter

-

-

12.2 ± 0.1 mm

ENVIRONMENTAL PERFORMANCE

GORE® Vents Screw-In Series have been tested by independent laboratories and have been verified to meet these performance standards.

All certificates are available upon request.



Ingress Protection Testing

Vent protection against ingress of particulates and water

METHOD:

- IEC 60529
 - IP66
 - IP67
 - IP68 (extended immersion: 2 meters for 1 hour)
 - IP69k (for Standard, High Airflow, XL and Stainless Steel vents)



Temperature Testing

Vent durability in a range of temperatures

METHODS:

- IEC 60068-2-1 (to -40 °C)
- IEC 60068-2-2 (to +125 °C, or +150 °C for PolyVent XS)
- IEC 60068-2-14 (cycling: -40 °C to +125 °C, or to +150 °C for PolyVent XS)



Humidity Testing

Vent durability in hot, humid environments (accelerated aging test)

METHOD:

- IEC 60068-2-78

TEST CONDITIONS:

- 85 °C
- 85% relative humidity
- 1,000 hours