



# Protective Vents

## SCREW-IN VENTS

## Durable designs for harsh environments

GORE® Protective Vents come in a variety of product forms, including screw-in vents, snap-in vents and adhesive vents.

### SPECIFIC BENEFITS OF SCREW-IN VENTS

- high airflow membrane for reduced stress on housing seals
- advanced roll-off properties for quick venting recovery after liquid immersion
- available for highest IP standards including IP69K for high pressure spray
- rugged, single-body design and robust plastic for increased protection against mechanical impact
- high temperature operating range, hydrolysis stability and UV resistance to increase product lifetime
- various thread types ensure secure mechanical fastening and compatibility with different wall thicknesses
- 100% online quality control including individual laser marking allows for full product traceability
- GORE® Metal Vents provide reliable functionality even in explosive environments (Ex I M2 II 2G10 Ex e I/II IP6X)

### VENTING FOR PROTECTION

GORE® Protective Vents are a leading solution for pressure equalization, condensation reduction and the protection of sensitive electronics because they vent and protect. Gore vents provide a barrier against liquid, dust and dirt, while allowing the product to breathe during changing environmental conditions. The result – improved reliability, increased safety and longer product life for sensitive electronics and sealed devices.

With proven expertise in the industry for over 20 years, Gore's products set new standards for reliability and performance. Gore responds to the demands of an industry with fast-changing design cycles by offering:

- global R&D and engineering support
- range of materials for every environment
- rapid sampling
- production flexibility



### REALIZE THE BENEFITS OF GORE® PROTECTIVE VENTS:

- **Rapid equalization of pressure** to reduce stress on enclosure seals
- **Reliable hydrophobic and oleophobic membranes** to protect sensitive electronics from water, salts and other corrosive liquids
- **Flexible design** for easier installation and maintenance
- **Outstanding technical expertise** from Gore's engineering organization, currently supporting over 200 million installations worldwide
- **Proven in over 20 years of use** in a variety of demanding applications in different industries



# Protective Vents

## SCREW-IN VENTS

### PRODUCT INFORMATION



Product Performance	PolyVent/M12x1	PolyVent/M12x1.5	PolyVent/M12x1.5 HA		Metal Vent/M12x1.5
Part number	PMF100318 (Black) PMF100319 (Pale gray)	PMF100320 (Black) PMF100321 (Pale gray)	PMF100391 (Black) PMF100392 (Pale gray) Hydrophobic	PMF100519 (Black) PMF100520 (Pale gray) Oleophobic	PMF100444
Accessory parts	n/a	Plastic backing nut (Black) M10510-007			Metal backing nut M10510-008
IP rating <sup>***</sup> (IEC 529, 2nd / DIN 40050-9)	IP66 <sup>***</sup> , IP67, IP68 <sup>****</sup> , IP69k				
Water entry pressure	>0.6 bar/30 sec		>0.3 bar/30 sec		
Typical airflow (dp = 70 mbar)	450 ml/min		2500 ml/min	2000 ml/min	1700 ml/min
UL-rating/flammability of housing material	UL 94-V0				n/a
Explosion approval (Directive 94/9/EC ATEX [95])	n/a				Approved <sup>1</sup> (see drawing for detail)

Product Characteristics	PolyVent/M12x1	PolyVent/M12x1.5	PolyVent/M12x1.5 HA		Metal Vent/M12x1.5
Membrane type	ePTFE				
Membrane characteristic	Oleophobic		Hydrophobic	Oleophobic	
Backing material	Polyester (PET)				
Housing material	Polyamide (PA6)				Aluminum zinc alloy with nickel, copper coating
Color of housing material	Black or pale gray				Metallic
O-Ring material	Silicone 60 Shore A				
O-Ring color	Black				
Wrench size	16 mm				18 mm
Overall length	10.55 mm	15.55 mm			21.60 mm

Environmental Performance	PolyVent/M12x1	PolyVent/M12x1.5	PolyVent/M12x1.5 HA		Metal Vent/M12x1.5
Salt Spray: 30 day test <sup>**</sup> (GR-487-CORE, Sect. 3.34.1, Req. R3-203 in accordance with ASTM B117)	Pass <sup>2</sup>				
Temperature range	-40°C to 125°C				-40°C to 125°C <sup>*****</sup>
RoHS <sup>*****</sup>	Below threshold requirements				

\* IP ratings are product housing design dependent.

\*\* To be confirmed upon external laboratory testing.

\*\*\* External mount only.

\*\*\*\* Extended immersion testing: 2 meter immersion for 1 hour.

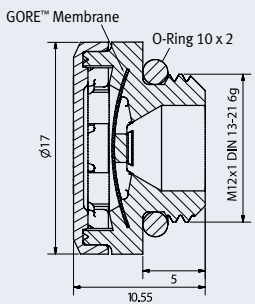
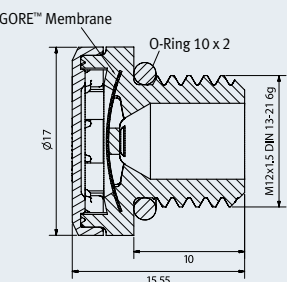
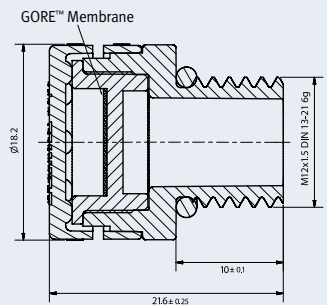
\*\*\*\*\* EU Directive 2002/95/EC (RoHS) amended by EU Commission Decision 2005/618/EC and EU Directive 2003/11/EC.

\*\*\*\*\* If used at temperatures below -20°C, special installation recommendations apply for the Metal Vent. Please contact a Gore representative for further information.

<sup>1</sup> Certificate available upon request.

<sup>2</sup> No penetration of salt crystals through the membrane into the housing.

## DESIGN AND DIMENSIONS

Cross Section	Dimensions in mm
<p><b>PolyVent/M12x1</b></p>  <p>Part numbers: PMF100318 PMF100319</p> <p>MFT00395-PU</p>	
<p><b>PolyVent/M12x1.5</b> <b>PolyVent/M12x1.5 HA</b></p>  <p>Part numbers: PMF100320 PMF100321 PMF100391 PMF100392 PMF100519 PMF100520</p> <p>MFT00383-PU</p>	
<p><b>Metal Vent/M12x1.5</b></p> <p>According to Council Directive 94/9/EC ATEX (95)</p> <p>⊕ I M2 Ex e I ⊕ II 2G Ex e II ⊕ II 1D</p> <p>Certificate number: IBExU05ATEX1132 U</p> <p>Part number: PMF100444</p>  <p>MFT00300-PU</p>	

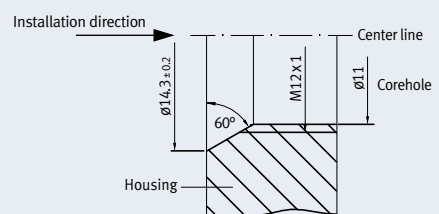
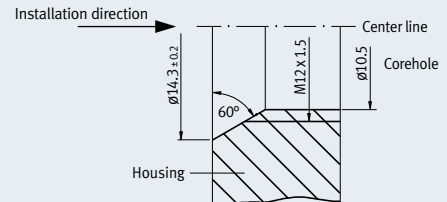
Tolerances: DIN 16901/130 unless otherwise specified.

Please contact Gore for the detailed *Installation and Handling Guidelines for Screw-In Vents*.

## CUSTOM DESIGNS

Gore engineers can assist in designing a solution that meets your application-specific criteria, such as part size, color and performance characteristics. For more information on custom part design, please contact a Gore representative.

## RECOMMENDED INSTALLATION

Housing Design Recommendations	Dimensions in mm
<p>Please note:</p> <ul style="list-style-type: none"> <li>• Install on a flat, vertical housing surface where water or other contaminants will not pool.</li> <li>• Membrane must face the external (liquid) environment.</li> </ul>	
<p><b>PolyVent/M12x1</b></p>  <p>MFT00164-PU</p>	
<p><b>PolyVent/M12x1.5</b> <b>PolyVent/M12x1.5 HA</b> <b>Metal Vent/M12x1.5</b></p>  <p>MFT00162-PU / MFT00300-PU</p>	
Through-hole diameter for applications using a backing nut	12.20 ± 0.2mm
Maximum torque for screw-in vents	0.6 – 0.8 Nm



# Protective Vents

## SCREW-IN VENTS

### THE SCIENCE BEHIND THE SOLUTION

GORE® Protective Vents incorporate a membrane of expanded polytetrafluoroethylene (ePTFE). Its microporous structure allows for the free passage of gases and vapors while at the same time preventing water, dust and salt crystals from entering the enclosure. GORE® Protective Vents can be designed with a variety of specific properties for maximum performance in any venting application.

#### The ePTFE GORE™ Membrane is:

- chemically inert
- UV-resistant
- non-shedding
- temperature-resistant

### ABOUT W. L. GORE & ASSOCIATES

Gore is a leading manufacturer of thousands of advanced technology products for the electronics, fabrics, industrial and medical markets. Perhaps best known for its waterproof and breathable GORE-TEX® fabric, the company's portfolio features a diverse array of innovations, including everything from guitar strings to life-saving cardiovascular devices. Gore is headquartered in Newark, DE, and is one of a select few companies to appear on all of the U.S. "100 Best Companies to Work For" lists since the rankings were introduced in 1984. Visit [www.gore.com](http://www.gore.com) to learn more.

### INTERNATIONAL CONTACTS

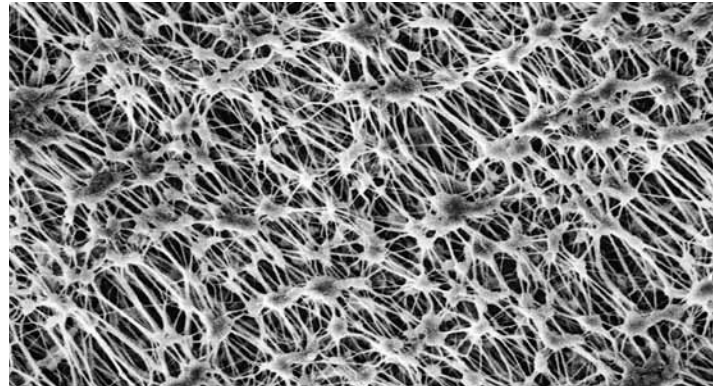
Australia	61.2.9473.6800	Mexico	52.81.8288.1281
Benelux	49.89.4612.2211	Scandinavia	46.31.706.7800
China	86.21.5172.8299	Singapore	65.6733.2882
France	33.1.5695.6565	South America	55.11.5502.7800
Germany	49.89.4612.2211	Spain	34.93.480.6900
India	91.22.6768.7000	Taiwan	886.2.8771.7799
Italy	39.045.6209.240	United Kingdom	44.1506.460123
Japan	81.3.6746.2572	USA	1.410.392.4440
Korea	82.2.393.3411		

#### W. L. Gore & Associates GmbH

Wernher-von-Braun-Str. 18 • D - 85640 Putzbrunn  
Tel.: 49.89.4612.2211 • Fax: 49.89.4612.2302  
E-mail: [protectivevents@wlgore.com](mailto:protectivevents@wlgore.com)

[gore.com/protectivevents](http://gore.com/protectivevents)

### MEMBRANE STRUCTURE



### ROHS INFORMATION

W. L. Gore & Associates declares that the products listed above are below the thresholds as established in EU Commission Decision 2005/618/EC amending EU Directive 2002/95/EC (ROHS) and Directive 2003/11/EC for these substances:

- Lead (Pb)
- Mercury (Hg)
- Cadmium (Cd)
- Hexavalent chromium (Cr6)
- Polybrominated Biphenyls (PBB)
- Polybrominated Diphenyl Ethers (PBDE) including:
  - Pentabromodiphenylether (PentaBDE)
  - Octabromodiphenylether (OctaBDE)
  - Decabromodiphenylether (DecaBDE)

This RoHS statement is based on the best of our knowledge as of this date of issue and W. L. Gore & Associates makes no warranties, express or implied, and assumes no liability in connection with the use of this information.

**FOR INDUSTRIAL USE ONLY. Not for use in food, drug, cosmetic or medical device manufacturing, processing, or packaging operations.**

All technical information and recommendations given here is based on Gore's previous experiences and/or test results. Gore gives this information to the best of its knowledge, but assumes no legal responsibility. Customers should check the suitability and usability in the specific application, since the performance of the product can only be judged when all necessary operating data are available. The above information is subject to change and is not to be used for specification purposes. Gore's terms and conditions of sale apply to the sale of the products by Gore.

GORE, GORE-TEX and designs are trademarks of W. L. Gore & Associates.  
© 2011 W. L. Gore & Associates GmbH

