



# Protective Vents

## SCREW-IN SERIES

## Increase outdoor enclosure durability in harsh environments

### VENTING PROTECTION FOR YOUR APPLICATION

Harsh or changing environmental conditions cause seals to fail and allow contaminants to damage sensitive electronics. GORE® Protective Vents effectively equalize pressure and reduce condensation in sealed enclosures, while keeping out solid and liquid contaminants. They improve the safety, reliability and service life of outdoor electronic devices.

GORE® Vent Screw-In Series is engineered to provide oleophobic protection and withstand the mechanical stresses of challenging environments. Choose from a full range of sizes and performance options to meet all your application needs.

- **GORE® PolyVent XS** has a compact, low-profile design that meets some of the industry's toughest standards, making it ideal for today's smaller (up to 2 l) housings.
- **GORE® PolyVent Standard** offers reliable venting for volumes up to 5 l, and comes in two colors and two thread sizes for different wall thicknesses, with or without a counter nut.
- **GORE® PolyVent High Airflow** has the protection level of "Standard" – with nearly 10 times the airflow. For housings up to 50 l, it easily manages the strong pressure differentials caused by extreme weather.
- **GORE® PolyVent XL** maintains exceptionally high airflow in extra-large enclosures (volumes up to 200 l) and meets the most rigorous standards, such as solar resistance (IEC 62108).
- **GORE® PolyVent Stainless Steel** **NOW WITH IK10 PERFORMANCE** offers exceptional durability, chemical and corrosion resistance, to reliably protect enclosures up to 20 l in the most rugged environments.
- **GORE® PolyVent Ex+** is both IECEx and ATEX certified for equipment operating in potentially explosive environments and offers exceptional venting performance for enclosures up to 20 liters in volume.



### REALIZE THE BENEFITS OF GORE® VENTS SCREW-IN SERIES:

- **Easy to install:** ensures fast, foolproof integration for durable performance in any application.
- **Increased safety:** the rugged screw-in construction, improved cap design and O-ring keep the vent reliably secured in the housing.
- **Reliable protection:** even after immersion, the GORE™ Membrane blocks contaminant ingress.
- **Rugged durability:** engineered for chemical, UV and temperature resistance, and hydrolytic stability.
- **Product quality:** 100 % quality control, plus full traceability for all vents with thread size M6 and M12.
- **Flammability resistance:** All PolyVent cap, body and O-ring materials are rated UL 94 V-0. PolyVent XS, Stainless Steel and Ex+ also incorporate a UL 94 VTM-0 rated membrane.



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## PRODUCT INFORMATION



Now IK10-RATED



Product Name	PolyVent XS	PolyVent Standard	PolyVent Standard	PolyVent High Airflow	PolyVent XL	PolyVent Stainless Steel	PolyVent Ex+
Thread Size	M6x0.75	M12x1	M12x1.5	M12x1.5	M32x1.5	M12x1.5	M12x1.5
Product Number	PMF100600	PMF100318 (black) / PMF100319 (grey)	PMF100320 (black) / PMF100321 (grey)	PMF100585 (black) / PMF100586 (grey)	PMF200542	PMF200444	PMF200400
<b>Product Performance Characteristics</b>							
Typical airflow	300 ml/min (dp = 70 mbar)	450 ml/min (dp = 70 mbar)	450 ml/min (dp = 70 mbar)	4000 ml/min (dp = 70 mbar)	16 l/min (dp = 12 mbar)	1600 ml/min (dp = 70 mbar)	1600 ml/min (dp = 70 mbar)
Laminate: membrane/backing material	ePTFE / -	ePTFE / Polyester (PET)	ePTFE / Polyester (PET)	ePTFE / Polyester (PET)	ePTFE / Polyester (PET)	ePTFE / -	ePTFE / -
Membrane characteristic	Oleophobic	Oleophobic	Oleophobic	Oleophobic	Oleophobic	Oleophobic	Oleophobic
Vent body & cap: material	Polyamide (PA6/66)	Polyamide (PA6T/66)	Polyamide (PA6T/66)	Polyamide (PA6T/66)	Polycarbonate (PC)	Stainless steel (1.4404 / 316L)	Stainless steel (1.4404 / 316L)
Vent body & cap: color similar to	Black: RAL 9004	Black: RAL 9011 / Grey: RAL 7035	Black: RAL 9011 / Grey: RAL 7035	Black: RAL 9011 / Grey: RAL 7035	Grey: RAL 7035	Metallic	Metallic
Wrench size	10 mm	16 mm	16 mm	16 mm	70 mm	18 mm	18 mm
O-Ring material	Silicone 60 Shore A	Silicone 60 Shore A	Silicone 60 Shore A	Silicone 60 Shore A	Silicone 60 Shore A	Silicone 60 Shore A	Silicone 60 Shore A
Counter nut: material/color/part number	Stainless steel (SUS304) / M10510-017	n/a	Plastic / Grey / M10510-009	Plastic / Grey / M10510-009	Plastic / Grey / M10510-010	Stainless steel (1.4404/316L) / M10510-016 Nickel-plated brass / M10510-008	n/a
Traceability	Yes: Individually laser-marked	Yes: Individually laser-marked	Yes: Individually laser-marked	Yes: Individually laser-marked	No	Yes: Individually laser-marked	Yes: Individually laser-marked
IECEX/ATEX Certification	No	No	No	No	No	No	Yes

## Design and Dimensions

Units are in mm

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## Recommended Installation

Units are in mm

<ul style="list-style-type: none"> <li>Install on a flat, vertical housing surface where water or other contaminants will not pool.</li> <li>Install vent with cap on exterior of housing.</li> </ul>							
Torque	0.3 ± 0.1 Nm	0.7 ± 0.1 Nm	0.7 ± 0.1 Nm	0.7 ± 0.1 Nm	5 Nm	0.9 ± 0.3 Nm (for IK10: 5.0 ± 0.5 Nm)	0.9 ± 0.3 Nm (required)
Through-hole diameter	6.2 ± 0.1 mm	-	12.2 ± 0.1 mm	12.2 ± 0.1 mm	33 ± 0.5 mm	12.2 ± 0.1 mm	-



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### ENVIRONMENTAL PERFORMANCE

<p><b>Ingress Protection Testing</b></p> <p>Vent protection against ingress of particulates and water</p> <p>METHOD:</p> <ul style="list-style-type: none"> <li>IEC 60529</li> </ul> <p>RATINGS:</p> <ul style="list-style-type: none"> <li>IP65</li> <li>IP66</li> <li>IP67</li> <li>IP68 (extended immersion: 2 meters for 1 hour; or up to 72 hours for PolyVent XS)</li> <li>IP69k (available for all vents except for PolyVent XS)</li> </ul>	<p><b>Temperature Testing</b></p> <p>Vent durability for a range of temperatures</p> <p>METHODS:</p> <ul style="list-style-type: none"> <li>IEC 60068-2-1 (to -40 °C)</li> <li>IEC 60068-2-2 (to +125 °C, or +150 °C for PolyVent XS)</li> <li>IEC 60068-2-14 (cycling: -40 °C to +125 °C, or to +150 °C for PolyVent XS)</li> </ul>	<p><b>Humidity Testing</b></p> <p>Vent durability in hot, humid environments (accelerated aging test)</p> <p>METHOD:</p> <ul style="list-style-type: none"> <li>IEC 60068-2-78</li> </ul> <p>TEST CONDITIONS:</p> <ul style="list-style-type: none"> <li>85 °C</li> <li>85 % relative humidity</li> <li>1,000 hours</li> </ul>	<p><b>Salt Fog Testing</b></p> <p>Vent resistance to salty environments</p> <p>METHODS:</p> <ul style="list-style-type: none"> <li>IEC 60068-2-11 (salt fog)</li> <li>IEC 60068-2-52 (cyclic salt fog)</li> </ul>	<p><b>Corrosive Gas Testing</b></p> <p>Vent durability in corrosive gas environment (e.g., NO<sub>x</sub>, SO<sub>x</sub>, H<sub>2</sub>S, Cl<sub>2</sub>)</p> <p>METHOD:</p> <ul style="list-style-type: none"> <li>GR-3108-CORE</li> </ul>
<p><b>Vibration Testing</b></p> <p>Vent resistance against vibration</p> <p>METHODS:</p> <ul style="list-style-type: none"> <li>ETSI EN 300 019-2-2</li> <li>IEC 60068-2-64</li> </ul>	<p><b>Flammability and UV Resistance Testing</b></p> <p>NOT APPLICABLE TO STAINLESS STEEL MATERIALS</p> <p>Resistance to open flame, radiant heat and ultraviolet light</p> <p>METHODS:</p> <ul style="list-style-type: none"> <li>UL 94 V-0 and UL 746C f1 All non-metal PolyVent caps/bodies materials</li> <li>UL 94 V-0 All PolyVent O-ring materials</li> <li>UL 94 VTM-0 GORE™ Membranes in PolyVent XS, Stainless Steel and Ex+</li> </ul>	<p><b>Solar Industry Testing</b></p> <p>POLYVENT XL ONLY</p> <p>Durability in solar applications</p> <p>METHODS:</p> <ul style="list-style-type: none"> <li>IEC 62108 10.8 (humidity freeze – high temperature / humidity followed by freezing temperature)</li> <li>IEC 62108 10.9 (hail impact)</li> </ul>	<p><b>Explosive Environments Testing</b></p> <p>POLYVENT EX+ ONLY</p> <p>Durability in explosive environment acc. to IECEx and ATEX</p> <p>METHODS:</p> <ul style="list-style-type: none"> <li>ATEX directive 2014/34/EU</li> <li>IEC/EN 60079-0</li> <li>IEC/EN 60079-7</li> <li>IEC/EN 60079-31</li> </ul> <p>CLASSIFICATION:</p> <ul style="list-style-type: none"> <li>Ex II 2G Ex eb IIC Gb</li> <li>Ex II 2D Ex tb IIIC Db</li> </ul>	<p><b>Mechanical Impact Testing</b></p> <p>POLYVENT STAINLESS STEEL ONLY</p> <p>Vent resistance against external mechanical impact when using a 60° chamfer and 5.0 ± 0.5 Nm torque.</p> <p>METHOD:</p> <ul style="list-style-type: none"> <li>IEC 62262 (IK code: IK10)</li> </ul> <p>GORE® Vents Screw-In Series have been tested by independent laboratories and have been verified to meet these performance standards.</p> <p><b>All certificates are available upon request.</b></p>

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### ABOUT GORE

W. L. Gore & Associates is a global materials science company dedicated to transforming industries and improving lives. Since 1958, Gore has solved complex technical challenges in demanding environments – from outer space to the world’s highest peaks to the inner workings of the human body.

With approximately 9,500 Associates and a strong, team-oriented culture, Gore generates annual revenues that exceed \$ 3 billion.

Learn more at [gore.com](http://gore.com).

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