


PorVent®



**INGRESS
PROTECTION VENTS**

Modern electronics have to perform reliably and consistently in often demanding conditions. Electronics are vulnerable to a multitude of environmental and operational factors, and choosing the right components in your enclosure design is essential.

Challenges such as densely-packed components creating high internal temperatures and pressures, frequent condensation leading to warranty claims, and longer life products demanding the entire system be robustly protected from dust and water ingress are becoming common place.

PorVent® IP protection vents are made keeping these problems in mind. Our robust Screw-in & Snap-fit series and low profile Adhesive vent series are made from breathable polytetrafluoroethylene (PTFE) membranes that keep water and dust out of electronics, while equalizing air pressure as temperatures fluctuate. We can also customize PTFE membrane configurations to allow for customized airflow properties and repellence to oils and other aggressive liquids.

PORVENT® PROTECTION VENTS ARE DESIGNED TO PROTECT YOUR EQUIPMENT:



Rapid pressure
equalization



Prevents condensation
and water ingress



Protects from
dust and debris



Reduces costs by optimizing
enclosure design



Easily integrates
into existing systems



Extends field-life

EXPERTISE IN A BROAD VARIETY OF APPLICATIONS:**OUTDOOR ELECTRONIC ENCLOSURES**

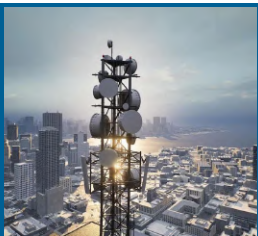
Outdoor electronic enclosures are used for various applications such as power distribution, access control, traffic systems and many more. They have to withstand harsh environments while ensuring performance and durability. PorVent® helps balance pressure, prevent moisture and dust ingress, and reduce condensation.

**CCTV CAMERAS**

Outdoor CCTV cameras are used for various purposes such as security, surveillance, and monitoring. They operate under different weather conditions while delivering high-quality video and audio. PorVent® makes sure that they are protected from water, dust, and condensation.

**SENSORS**

Sensors are devices that measure physical or chemical properties such as temperature, pressure, humidity, or gas concentration. It is essential for these sensors to be accurate and reliable. PorVent® is a cost-effective means of contamination control and corrosion resistance required to prevent the generation of erroneous signals and protect delicate components of the sensing elements.

**TELECOM SYSTEMS**

Today's telecommunication systems aim for reliable connectivity everywhere – requiring more equipment in remote locations, and greater exposure to extreme environmental conditions. PorVent® can extend the service life and reduce maintenance costs of telecommunication equipment like tower top enclosure, cell nodes, battery units, monitors and sensors.

**RENEWABLE ENERGY**

The renewable energy industry is changing rapidly as new technologies are developed and efficiency improves. PorVent® helps protect junction boxes, CPV Modules, Combiner Boxes, Tracking & Monitoring Equipment by keeping them safe from contaminants like dust and water and help improving the reliability, efficiency, and safety of their renewable energy systems.

INVERTERS



Solar energy, a clean and safe renewable source, has grown rapidly as fossil fuels decline. This has boosted the solar energy sector and the demand for solar inverters.

Solar inverters are designed to withstand the rigors of the outdoor environment, necessitating a high degree of waterproofing and dust resistance. A significant challenge arises from the substantial heat they emit during operation. Conventional enclosures must therefore possess excellent thermal conductivity. Yet, the heat, coupled with potential abrupt temperature fluctuations, can create intense pressure that may strain and deform the enclosures and its seals over time. To mitigate this, inverters are often not fully sealed, which introduces the risk of dust and moisture ingress, potentially harming the electronic components and posing safety risks. PorVent®'s waterproof venting solutions effectively block the entry of water and dust while maintaining sufficient air flow to keep the pressure equalised, thereby safeguarding the equipment and extending the lifespan of the inverters.

Key features of PorVent®'s Pressure Release Vents:

- Effective barrier against the ingress of water and solid particles like dust into the enclosure
- Rapid equalization of internal and external pressures to prevent early seal failures
- Minimization of condensation to enhance the inverter's longevity and reliability

LED LIGHTS



LED lights have gained popularity for outdoor lighting because they save energy and are eco-friendly. They are used for many types of fixtures like street, stadium, security, spot, tunnel, garden, and high-bay lights.

Given their constant exposure to the elements, LED outdoor lights must withstand prolonged sun exposure, rain, and abrupt temperature shifts, which leads to requiring a robust level of protection. Traditionally, light casings are hermetically sealed to block out dust and moisture that could contaminate the internal components. However, the intense heat produced by the LED driver causes the air inside to expand and contract, creating significant pressure that remains trapped by the seal. Over time, this pressure can accelerate the deterioration of the seal and reduce the lifespan of the lights. Additionally, the clear lenses can exacerbate condensation issues, making a waterproof yet breathable solution like PorVent® for outdoor lighting increasingly important.

PorVent® Pressure Release Vents Functions:

- Provide effective moisture control to significantly reduce condensation buildup and extend life of the product
- Block the ingress of water, dust and other particulate matter
- Constant pressure equalisation

SOLUTIONS SUITED TO YOUR NEEDS

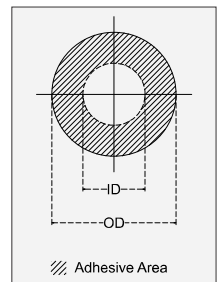
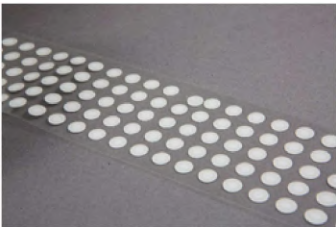
PORVENT® ADHESIVE DISC SERIES

Lowest AIRFLOW Highest	Sr. #	Dimension OD / ID (mm)*	Material Series				
			AD01	AD01L	AD02	AD03	AD04
	1	5.0 / 2.0	PV-AD01A	PV-AD01LA	PV-AD02A	PV-AD03A	PV-AD04A
	2	7.0 / 3.0	PV-AD01B	PV-AD01LB	PV-AD02B	PV-AD03B	PV-AD04B
	3	10.0 / 6.0	PV-AD01C	PV-AD01LC	PV-AD02C	PV-AD03C	PV-AD04C
	4	12.7 / 7.1	PV-AD01D PV-AD01DT*	PV-AD01LD	PV-AD02D PV-AD02DH# PV-AD02DTH*#	PV-AD03D	PV-AD04D
	5	20.0 / 13.0	PV-AD01E	PV-AD01LE	PV-AD02E	PV-AD03E	PV-AD04E
	6	30.0 / 25.0 - Oleo	PVAD01FT				

*Oleophobic
#High Temperature



ADHESIVE DISC









Adhesive disc vents are made of a thin membrane of sPTFE (sintered polytetrafluoroethylene). Adhesive disc vents are easy to apply, durable, and versatile. They come in different sizes, shapes, and constructions to fit various applications and environments. To choose the right vent for your application, you need to consider the size and shape of your enclosure, the location and orientation of the vent, the airflow and pressure requirements, the environmental conditions and exposure, and the installation method and equipment.

PorVent® offers a wide range of adhesive disc vents and can provide you with technical support, samples and customized solutions. If you want to learn more about adhesive disc vents and how they can benefit your application, please contact us.

MOULDED COMPONENTS

PORVENT® MOULDED COMPONENTS

Screw-in Series			Snap Fit Series		
PRODUCT	PRODUCT CODE	SPECIFICATION	PRODUCT	PRODUCT CODE	SPECIFICATION
	PVSVM10	Material : PA6 M10 x 1.5 6g		PVSF-S	Material: PA6 Wall Thickness: 4mm
	PVSVM12/N	Material : PA6 M12 x 1.5 6g			
	PVSVM20/N	Material : PA6 M20 x 1.5 6g			
	PVSVM12-SS	Material: SS316L M12 x 1.5 6g			

Moulded Venting components are a type of enclosure protection vent that can help your automotive components perform better and last longer. Screw-in vents are easy to install and integrate into your existing equipment, and they are made of durable materials that can withstand harsh environments.

PorVent® offers a wide range of screw-in and snap-fit vents with different sizes, shapes, materials, and media options to suit your specific needs. Choose a venting component that fits your enclosure, material, environment, protection needs and required airflow.

CERTIFIED TO MEET INDUSTRY STANDARDS

Water & Dust ingress : IP65, 66, 67 & 68*, IP6K9K

Flammability : UL 94 V-0, 5VA

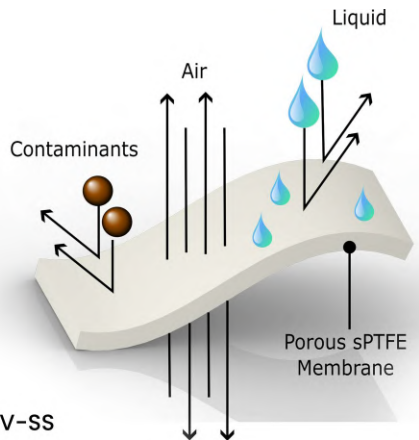
Outdoor suitability : UL 746C f2

Thermal cycle : IEC 60068-2-14:2009

Salt Fog* : IEC 60068-2-11

Vibration : AIS 156 (Annexure 8A)

Mechanical Impact* : IK10



*IP68 is a user defined test | *applicable to PVSVM12V-SS

PORVENT™'S MEMBRANE TECHNOLOGY

Porous PTFE (polytetrafluoroethylene) is a high-performance material used in various applications where durability and reliability are crucial. This versatile material exhibits excellent liquid and dust repellence while allowing air to flow omnidirectionally through it. Its unique composition makes it ideal for protection vents commonly used by the packaging, electrical/automotive, and medical industries.

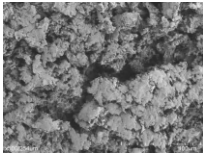
There are two types of porous PTFE: expanded PTFE (ePTFE), and sintered PTFE (sPTFE).

MANUFACTURING PROCESS

Its like baking a cake!

Porex sPTFE begins as a powder with tight particle size distribution. The powder goes through a forming and sintering process that fuses particles together but also creates a void between them.

sPTFE Membrane



DURABILITY

Tough and robust. Not easily damaged when handled

SUPPORT

Pure PTFE, no lamination required

AIRFLOW

Stable and dependable flow rates

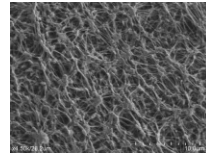
REPELLENCE

Inert and highly effective at material repellence

Heat and stretch rapidly!

ePTFE is made by extrusion of PTFE resin mixed with a lubricant. The microporous structure of ePTFE is obtained by a process that involves rapid sequential stretching of the extruded shape at high temperature.

ePTFE Membrane



DURABILITY

Easily damaged when handled

SUPPORT

Has to be laminated with non-PTFE materials such as adhesives and polybackings

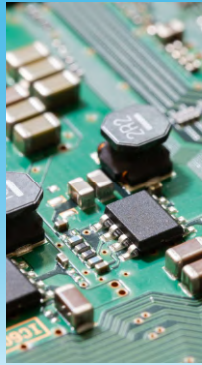
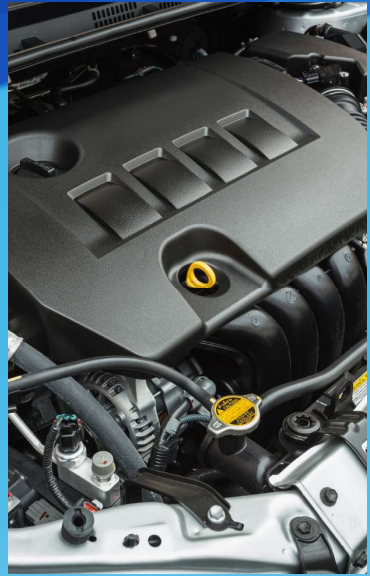
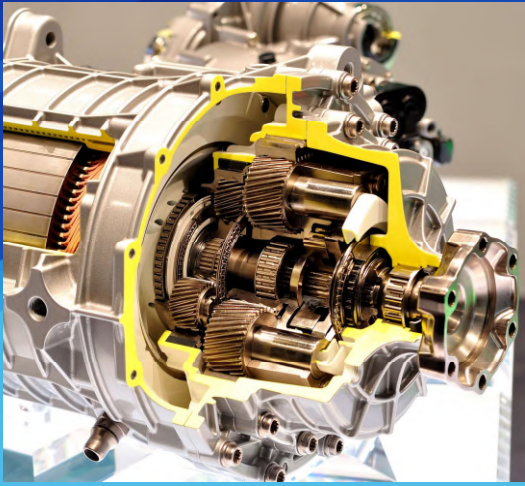
AIRFLOW

High, but inconsistent flow rates due to fragile nature

REPELLENCE

Inert and repellent, but tends to leave residue behind





Delivering innovation
driven solutions to
the world

 **TECHNOLOGY
INTERNATIONAL**

ISO 9001:2015 Certified

 **POREX**
Filtration Group®

**PREFERRED
CONVERTER**

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