GORE® Automotive Vents
for snap-fit installation

INCREASE DURABILITY AND PERFORMANCE OF AUTOMOTIVE ELECTRONICS

Today's sophisticated electrical and electronic modules (EEMs) require reliably-sealed enclosures to protect against harsh road conditions. GORE® Automotive Vents improve reliability and extend component life. These durable vents reduce pressure differentials with continuous airflow in and out of the enclosure, while blocking contaminants such as water, automotive fluids, salts, dirt and mud. As a qualified automotive partner, Gore delivers advanced venting technologies in weldable, adhesive and snap-fit constructions, to fit any application.

GORE® Automotive Vents for snap-fit installation

Mechanically-rugged GORE® Vents for snap-fit installation integrate easily and reliably to protect sensitive control units, sensors/actuators, motors and hybrid/electric components. Our engineering team can help you identify the optimal venting solution for your application:

- **Standard Series:** withstands typical automotive fluids and continuous temperatures up to 125 °C, with short-term spikes up to 140 °C.
- **High Temperature Series:** for long-lasting resistance to chemicals and mineral oils even after extended exposure to temperatures up to 150 °C.
- **High Airflow Series:** has 5x the typical airflow of our Standard Series, for very large components/electric motors/batteries for hybrids.
- **Compact Series:** robust protection in a low-profile design, for extremely small components. Scannable Digital Matrix Code (DMC) for 100% airflow check and enhanced traceability.

Sustained protection for electronics, with the attributes you asked for:

- **Worry-free venting solution** with total quality control and integrated design that protects the membrane
- **Easy integration** without additional parts or complicated housing designs in either plastic or metal enclosures
- **Easy installation**, whether for a small series in manual or semi-automated installation or for automated installation of high-volume applications
- **Durable protection** against liquids, dust, dirt, salts and corrosive automotive fluids

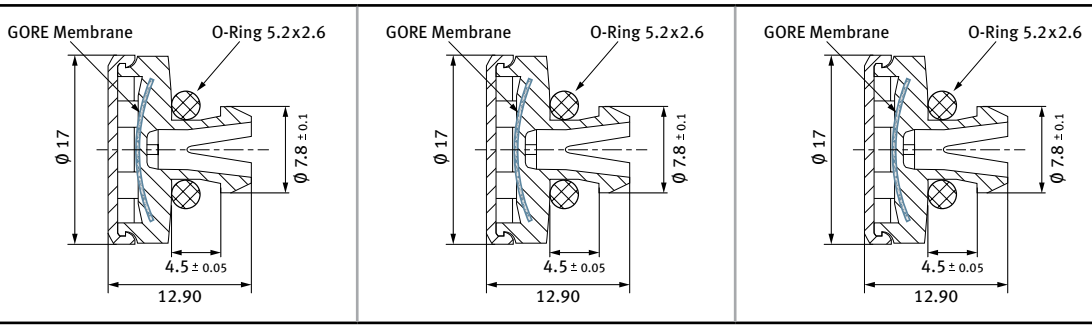
Together, improving life

	PolyVent Standard Series	PolyVent High Temperature Series	PolyVent High Airflow Series
Product Name (order number for samples)	**AVS 14**	**AVS 67**	**AVS 70**
Product Number (order number for series production)	AMF300114	AMF300167	AMF300070
			

Product Performance Characteristics

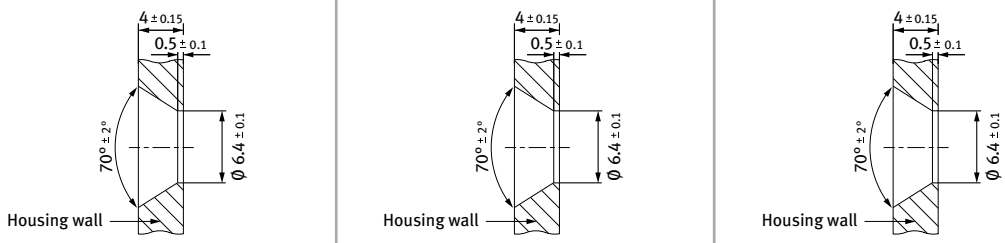
Minimum Water Entry Pressure (WEP) at standard ambient temperature and pressure[1]	> 60 kPa/30 sec	> 60 kPa/30 sec	> 30 kPa/30 sec
Minimum airflow at standard ambient temperature and pressure	> 15 l/h at 7 kPa (≙ > 43 cm^3/min at 1.22 kPa)	> 15 l/h at 7 kPa (≙ > 43 cm^3/min at 1.22 kPa)	> 105 l/h at 7 kPa (≙ > 305 cm^3/min at 1.22 kPa)
Typical airflow at standard ambient temperature and pressure	~28 l/h at 7 kPa (≙ ~ 81 cm^3/min at 1.22 kPa)	~28 l/h at 7 kPa (≙ ~81 cm^3/min at 1.22 kPa)	~140 l/h at 7 kPa (≙ ~407 cm^3/min at 1.22 kPa)
Ingress Protection (IP)	• IP68 (1 m for 1 h) • Depending on housing geometry: IPX6K, IPX9K	• IP68 (1 m for 1 h) • Depending on housing geometry: IPX6K, IPX9K	• IP68 (1 m for 1 h) • Depending on housing geometry: IPX6K
Operating temperatures	T_{min} = -40 °C T_{max} = +125 °C (+140 °C for max 168 hrs)	T_{min} = -40 °C T_{max} = +150 °C	T_{min} = -40 °C T_{max} = +125 °C
Membrane characteristic	Hydrophobic and oleophobic	Hydrophobic and oleophobic	Hydrophobic and oleophobic
Housing material	PBT GF30 hydrostabilized	PBT GF30 hydrostabilized	PBT GF30 hydrostabilized
O-ring material	EPDM 40 IRHD-M	Silicone 50 IRHD-M	EPDM 45 IRHD-M
O-ring color	Black	Red	Black
Laser marking for increased traceability	Yes	Yes	Yes

Design & Dimensions



Recommended Installation

Please contact your Gore representative for more detailed installation drawings.

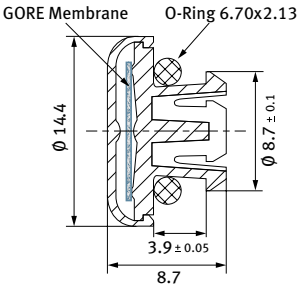


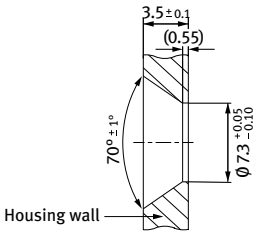
1. WEP (Water Entry Pressure) Resistance: WEP Resistance measures how much pressurized water a membrane can withstand before it leaks.

PolyVent
Compact Series

AVS 200
AMF300200

> 80 kPa/30 sec
Minimum Airflow: > 15 l/h at 7 kPa Maximum Airflow: < 45 l/h at 7 kPa (≙ < 129 cm³/min at 1.22 kPa)
~28 l/h at 7 kPa (≙ ~81 cm³/min at 1.22 kPa)
• IP68 (1 m for 1 h) • Depending on housing geometry: IPX6K, IPX9K
T_{min} = -40 °C T_{max} = +140 °C
Hydrophobic and oleophobic
PBT GF30 hydrostabilized
Silicone 50 IRHD-M
Red
Yes





Environmental Performance

GORE® Automotive Vents for snap-fit installation have been extensively tested according to the following performance standards.
Please contact your Gore representative for more detailed information.

Thermal Shock Resistance Test

Vent durability under changing temperature conditions

METHOD: ISO 16750-4

TEST CONDITIONS:
- cycling temperatures between T_{min} and T_{max} within 30 seconds
- 30 minutes conditioning at each temperature
- minimum 500 cycles

Ice-Water-Shock Resistance Test

(not applicable for AMF300070)

Vent resistance to repeated thermal shock by submersion in ice water

METHOD: ISO 16750-4

TEST CONDITIONS:
- heating to +125 °C for 60 minutes
- rapid submersion in 5% NaCl ice water for 5 minutes
- 20 cycles

Climate Resistance Test

Vent durability in hot, humid environments

METHOD: DIN-EN-60068-2-67

TEST CONDITIONS:
- 85 °C temperature
- 85% relative humidity
- 1,000 hours

Salt Spray Resistance Test

Vent resistance to salt, water and mist over an extended period

METHOD: ISO 16750-4

TEST CONDITIONS:
- according to IEC 60068-2-52
- severity level 5 (equals a four-week test period)

Temperature Resistance Test

Vent durability under high and low temperature conditions

METHOD: ISO 16750-4

TEST CONDITIONS:
- T_{max} for 2,000 hours
- T_{min} for 168 hours

Fluid Resistance Test

Vent protection against typical automotive chemical loads

METHOD: ISO 16750-5

Product performance depends on application method (i.e., cotton cloth, brush, spray, immersion, pouring) and the specific contaminant applied.

Vibration and Mechanical Shock Resistance Test

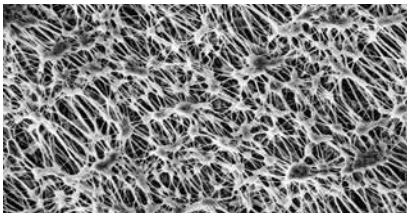
Vent performance after exposure to mechanical shocks at various temperatures

METHOD: ISO 16750-3

Product performance depends on sinusoidal and temperature profile, pulse shape and duration, number of shocks and peak acceleration. Compact Series meets the harshest severity levels.

Why the GORE Membrane matters

Only GORE® Automotive Vents incorporate the performance benefits of the GORE Membrane. Made of expanded polytetrafluoroethylene (ePTFE), it's engineered with billions of pores. These pores are 700X larger than an air molecule, to ensure reliable airflow and pressure equalization. Yet at 20,000X smaller than a drop of water, these pores effectively block entry of liquids, dirt and debris.



The GORE Membrane magnified 40,000 times

The GORE Membrane is:

- chemically inert
- non-shedding
- UV-resistant
- temperature-resistant
- hydrophobic and oleophobic

What GORE® Automotive Vents can offer you

GORE® Automotive Vents deliver innovative technology, backed by decades of research and testing. Our product portfolio has proven itself in the harshest environments: literally billions of our vents have been installed in automotive applications worldwide. Today, virtually every global OEM trusts GORE® Automotive Vents to extend the reliability and longevity of their exterior lighting, electronics and powertrain products and assemblies.

Our vents have been engineered with varied properties to fit in any automotive application. With technical support and testing centers in the US, Germany, Japan, Korea and China, our application engineers are easily accessible — and ready to work in close partnership with your design team, from product concept through manufacturing integration.

Contact Us

To discuss options and solutions for your newest application, call your local Gore representative or send your inquiry from our website: **gore.com/autovents**

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