

PROVEN POWERTRAIN PERFORMANCE, TWO WAYS: DIRECT-FIT OR TUBE-MOUNT VENTS

Choose Gore direct-fit or tube-mount vents: Both provide high performance and durable protection for electrified and traditional powertrain components

Venting for Protection

As packaging constraints push e-drivetrain components closer to the road surface, they are more vulnerable to extremes of weather, water, submersion or road contaminants that can threaten component reliability.

Now, GORE® Automotive Vents for powertrain offers two paths to high-performance venting and ingress protection: Traditional tube-mount vents (Part VE2048) and a new, more compact direct-fit mounting option (Part VE2148). Both can help you overcome the challenges inherent in designing, validating, and protecting electrified and traditional powertrain components.

Typical Applications



Traditional components:

- Transfer Case
- · Power Transfer Unit
- Solid Beam
- Rear/Front Drive Module

- E-Drivetrain: e-Ayles
- · Oil-Cooled e-Motor

Different Mounts, Same Benefits.

- Improve component reliability
 - The vents' GORE Membrane protects oil-cooled e-motors and other e-drivetrain components from damaging contaminants, while Gore's integrated Pre-filter protects the Membrane from internal oil aerosols that would quickly degrade an unprotected membrane.
- Preserve seal integrity

Even in extreme operating conditions, the breathable GORE Membrane rapidly equalizes pressures to avert stress on seals.

Meet global OEM standards

Our vents' performance complies with OEM standards for water wading and fluid containment.

Streamline validation and reduce design cycles

These waterproof vents can eliminate ventrelated wading test "fails" and associated engineering redesign time.

Global support resources

Every GORE® Automotive Vent is backed by our global network, materials technology expertise and application support.



About Gore's Direct-Fit Powertrain Vent (AVS 2148 / VE2148)

- Compact, low-profile construction enables more design options, especially for space-constrained e-drivetrain and e-motor applications.
- Direct-fit (vent mounted directly into component housing) can streamline sourcing, supply and assembly efforts.
- Easy snap-fit integration to housing.

About Gore's Tube-Mount Powertrain Vent (AVS 41/VE2048)

- Tube-mount "distances" vent from potential exposure to high temperatures or lubricants.
- Tube format enables more flexibility in routing, especially for traditional powertrain components.
- Easy integration into existing applications; vent replacement, if required, is easy.

The same proven performance characteristics . . . in two mounting styles





Product name (order number for samples)	AVS 2148 (Direct-Fit)	AVS 41 (Tube-Mount)
Order number (order number for series production)	VE2148	VE2048

Product performance characteristics

Minimum airflow (per part) at 70 mbar (1 psi)	64 l/h	
Water Entry Pressure (assembly)	> 345 mbar (> 5.0 psi) for 60 seconds	
Ingress Protection (IP)	IPX9K [*] , IPX6K, IPX8, IP6X, IPX4	
Operating temperatures	-40 °C to +125 °C	
Membrane characteristic	Hydrophobic and oleophobic	

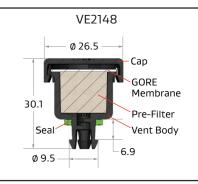
Materials of construction

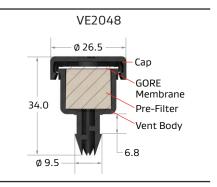
Cap material	PA6.6 Impact modified	
Body material	PA6.6 – GF13	PA6.6 – GF33
Membrane type	GORE Membrane oleophobic ePTFE	
Pre-filter type	Sorbent	
Quad-ring (VE2148 only)	HNBR	N/A

^{*}IPX9K Test Parameters: Pressure = 80 bar, Distance = 150 mm, Temp = 75 °C

Vent design and dimensions

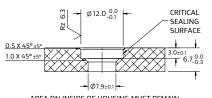
Units are in mm





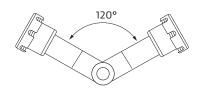
Vent positioning, installation and tolerances

For full details on integrating these vents into your components, ask your representative for the **Design** and Installation Guidelines for Gore Powertrain Vents.



AREA ON INSIDE OF HOUSING MUST REMAIN CLEAR FOR PROPER SNAP LEG DEPLOYMENT

Recommended component interface to maintain ingress protection. (Interface shown above was tested using aluminum housing material.)

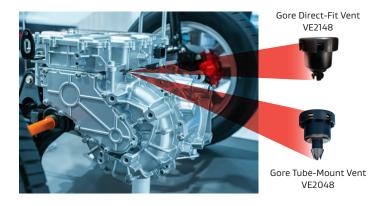


VERTICAL MOUNTING, OR WITHIN ± 60° OF VERTICAL, IS RECOMMENDED.

Suggested tube ID: 6.0–8.0 mm; wall thickness: 3.0 mm. Your tube supplier should recommend materials and dimensions that are optimal for your specific application.

Contact your Gore representative to request the complete

Design and Installation Guidelines for Gore Powertrain Vents



Learn more

Contact your Gore representative or connect with us at <u>GORE®</u> <u>Automotive Vents for Powertrain</u>.



A materials science company dedicated to transforming industries and improving lives

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 more than 13,000 Associates and a strong, team-oriented culture, Gore generates annual revenues of \$4.8 billion.

Learn more at gore.com/autovents

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