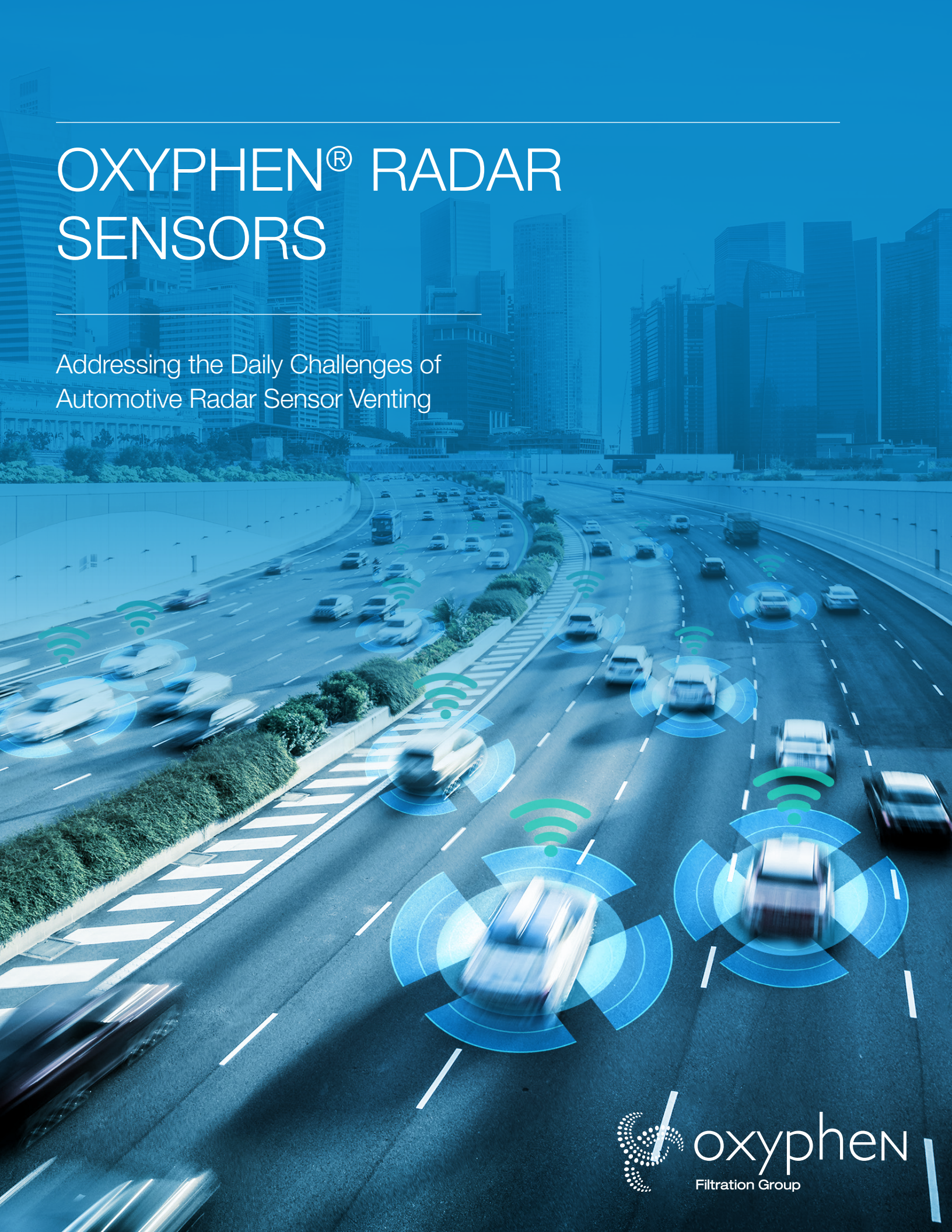
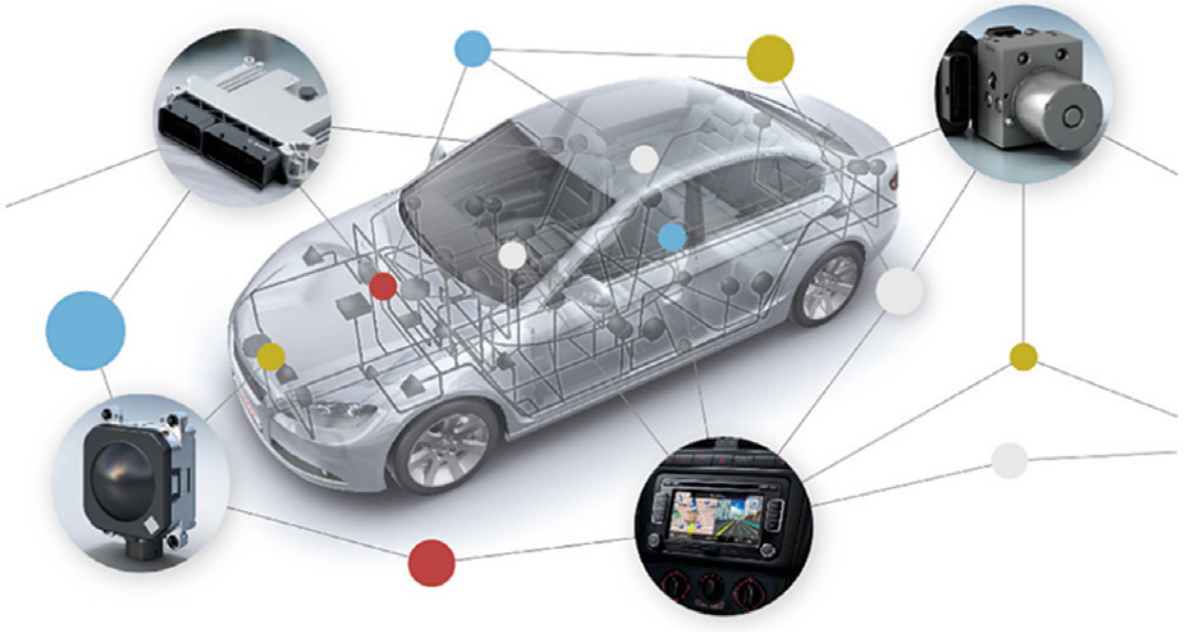
OXYPHEN® RADAR SENSORS

Addressing the Daily Challenges of Automotive Radar Sensor Venting



oxyphen
Filtration Group



Automotive radar sensors are a critical part of autonomous driving assistance systems (ADAS) which are quickly becoming a standard feature of the modern vehicle. These sensors can help drivers avoid collisions with other vehicles, pedestrians, and cyclist as well as collect and use real-time information to improve overall safety and automotive performance.

Because these sensors are highly sensitive, it is critical they have the appropriate level of protection in place to prevent contamination and malfunctioning. Oxyphen's track-etched membranes can serve as a multi-purpose venting solution – providing the adequate pressure compensation, durability, protection, and accuracy needed for reliable sensor accuracy and performance. These 100% PFOA free membranes protect the sensor housing against dust, water, and dirt while at the same time enabling gas exchange for continuous air flow – especially with temperature differences which is common.

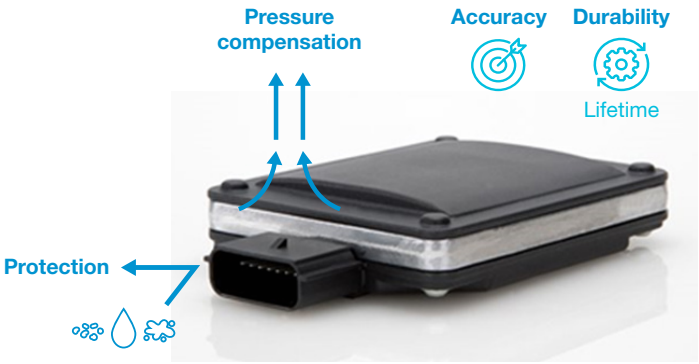
Did you know?

Radar sensors in ADAS use radio waves to detect vehicles and other objects which could pose a potential hazard. During the time it takes for the pulse to return, the computer is able to calculate that object's shape, speed, and direction. Using that information, the vehicle can then enable a visual, haptic, or audible safety alert or, in some case, take temporary control of the actual braking, accelerating, and steering among other functionalities. It is important that these radars work properly in less-than-ideal weather conditions, the dark, and throughout the life of the vehicle to ensure safety is maintained.

Key Benefits

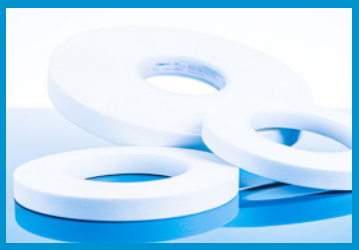
- 100% PFOA free small sized pressure compensation elements
- Small tolerance range for reliable leakage tests for end of line (by air flow)
- Precise membrane characteristics regarding air flow and water entry protection
- Tunable protection level against water entry
- Best chemical resistance performance

How the Product Works



Technical Specifications

Available Membrane Options



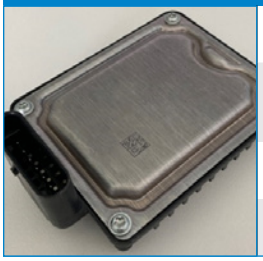
Rollstock Membrane

OxyDisc® Membrane Discs

OxyPad® Self-Adhesive Membrane Pads

OxySeal® Pressure Compensation Units

Rollstock Membrane

Available Options		
	**Material Options**	Polyethylene Terephthalate (PET) and Polycarbonate (PC)
	Available Treatments	Hydrophobic, oleophobic and hydrophilic treatment available
	Individual Rollstock Width	< 300m
	Standard Band Width Sizes	10 / 13 / 14.5 / 20 mm

Characteristics:

- Smooth flat surface (not reinforced) with target specific pore size & density within smallest tolerances
- AFR (Airflow rate) and WEP (water entry pressure) on request
- Chemical resistance: According LV124/ ISO 16750-5 (in progress)

Most Commonly Applied Membrane: Rollstock 14.5 PET Thickness 150 ±50 µm WEP > 3.0 bar

OxyPad® Self-Adhesive Membrane Pads

Available Options		
	**Material Options**	Polypropylene with/without lamination
	Available Treatments	Hydrophobic, oleophobic and hydrophilic treatment available
	Standard Band Width Sizes	13 / 25 / 37 / 47 / 50 mm

Characteristics:

- Easy to assemble
- Easy integration in the automatic processing
- Usable on materials where welding is no option (e.g., metals)
- Space saving mounting

OxyPad® 8/4 WEP > 3.2 bar Pad thickness 0.2-0.4mm

OxyDisc® Membrane Discs

Available Options		
	**Material Options**	Polyethylene Terephthalate (PET) with/without lamination
	Available Treatments	Hydrophobic, oleophobic and hydrophilic treatment available
	Standard Band Width Sizes	13 / 25 / 37 / 47 / 50 mm

Characteristics:

- Excellent welding characteristics
- Various mounting options near welding such as damping and sticking

Most Commonly Applied Membrane: OxyDisc® Ø25 hydrophobic laminated WEP > 3.0 bar

OxySeal® Pressure Compensation Units

Available Options		
	**Standard Sizes (Diameter Ø)**	Outer Diameter (mm): 6.2, 13, 12
		Height (mm): 4.6, 5, 3

Characteristics:

- RoTrac® capillary Pore temperature resistant membrane vents and protects sensor housing from water/dirt - lifetime and overall reliability improved
- Any membrane which requires high gas flow and high protection levels can be combined with TPE sealing body
- Simple assembly (plug in)
- Suitable for automation
- 100% visual control if requested
- Available in different colors

Most Commonly Applied Membrane: OxySeal® Ø6.2 free membrane Ø2.0 black TPE WEP > 3.0 bar

oxyphen Filtration Group

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