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# OXYPHEN HEADLAMP VENTS

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Prevent headlamp fogging for high-quality appearance and long-lasting performance

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Headlamp assembly systems require a specific airflow in order to cool the system and to prevent condensation of moisture inside the system. If the outer lens of the headlamp cools down faster than the air inside the headlamp system, condensation can form. This can create fog in the headlamp early in the morning after parking a car overnight. In order to manage the difference in pressure causing the fogging, most headlamp systems have vents at the bottom and top to provide even vapor transmission. However, if humidity penetrates the headlamp system, impairment to the distribution or output of the light can occur, which can cause corrosion of the lighting components and ultimately light failure. In larger vehicles such as motor homes, humidity penetration can go beyond the lighting system and impact the insulation of the bodywork, which results in the formation of mold.

Oxyphen's ultra-hydrophobic fiber-based membrane vents provide a high airflow while also preventing liquid, fine dust and particles, and humidity from entering the headlamp system. These high-quality vents enable luxury vehicle manufacturers to ensure a high-end headlamp appearance with long-lasting performance that reduces service down-time and increases driver safety.



OxyPad® self-adhesive membrane pads

## Key Benefits

### Provides quality appearance and performance

- Maintains clear crisp headlamp appearance expected with high-end vehicles
- Extremely high airflow equalizes internal system pressure preventing headlamp condensation
- Prohibits condensation with effective moisture vapor transmission

### Increases driver and vehicle safety

- Provides effective barrier against dust, debris, and splash water ingress, maintaining headlight clarity
- Reliable performance even in challenging environmental conditions

### Extends headlight lifespan

- Reliable hydrophobic protection
- Maintains watertight seal
- Equalizes airflow that reduces housing pressure and temperature

### Reduces assembly process with improved performance

- Customizable adhesive seal designed for easy integration
- Promotes vent application in non-typical areas, instead of high-water exposure areas
- Universal application for all lamp types (Halogen, LED, Xenon), colors and housing materials

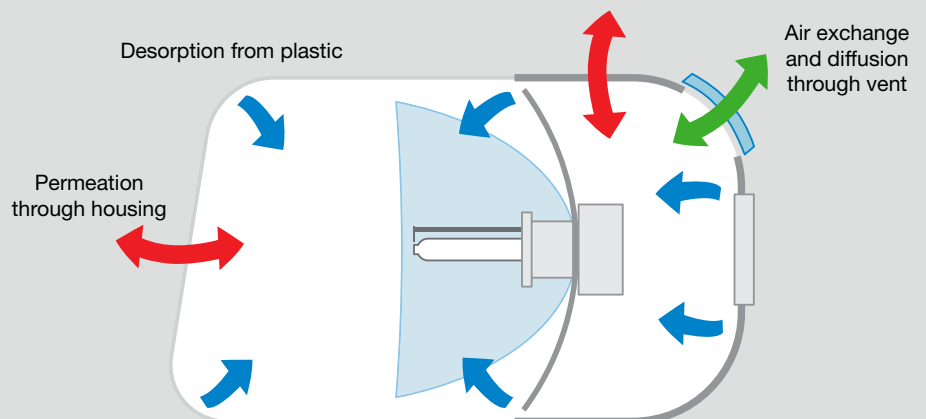
### PFOA free materials

- Compliant with (EC) 1907/2006 REACH / Regulation (EU) 2019/1021 POP

## COMMON CAUSES OF MOISTURE IN HEADLAMPS

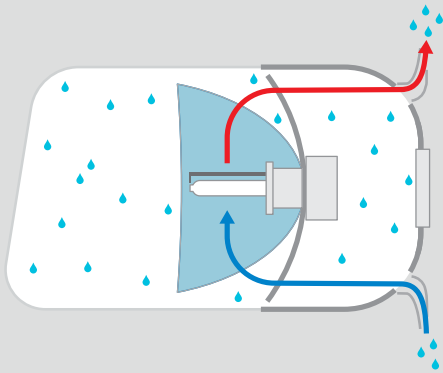


Fogged headlamps can impact overall quality appearance and performance of vehicle

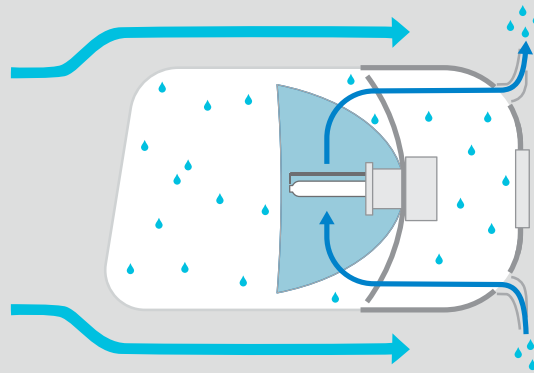


## TWO CAUSES OF PRESSURE DIFFERENTIAL

Pressure differential caused by temperature change



Pressure differential caused by vehicle motion



The membrane pad should be placed in a high-pressure spot during driving, with the other opening being in a low-pressure spot. This causes the air to be sucked through the headlight, leading to the fastest and most effective air exchange possible

## Technical Specifications

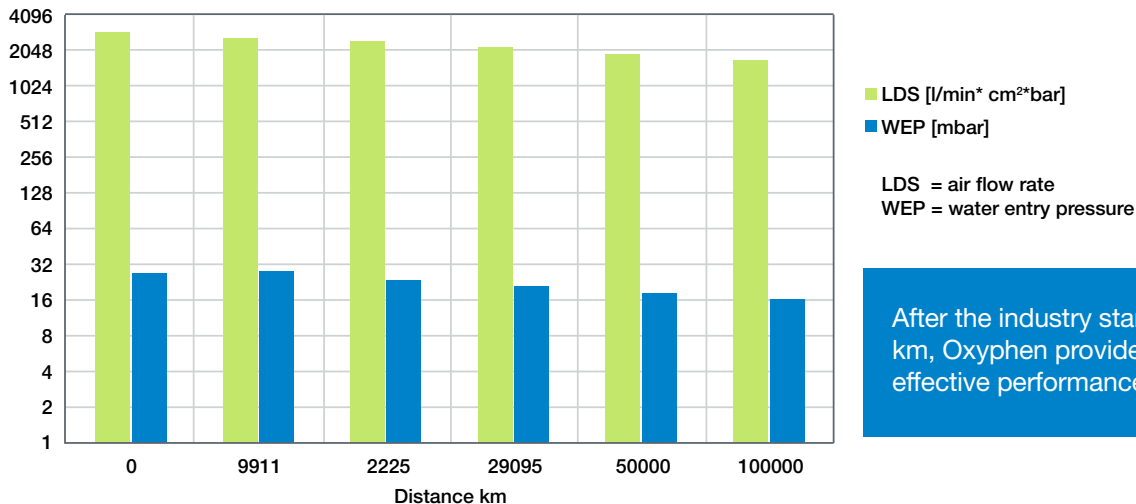
Available Options	
<b>Airflow</b>	Up to 3,000 l / (bar cm <sup>2</sup> min)
<b>Water Entry Pressure (WEP)</b>	Splash water protection up to 30 mbar
<b>Applicable Temperature Range</b>	-40 to + 150 °C <sup>1</sup>
<b>Dimensions</b>	Rectangular or round disc currently up to 55mm
<b>Products</b>	OxyDisc membrane discs OxyPad self-adhesive membrane pads

<sup>1</sup> Actual high temperature range dependent on adhesives, welding, and material used. For more customized solutions, we offer fiber-based membranes that can be used up to 180 °C

Material Options
RoTrac® PET fiber-based membranes
RoTrac® PP fiber-based membranes

Certifications
UL-94 V-0 rating @ 0.1 mm
LV124 / ISO 16750-5
IATF 16949

## The Impact of High Airflow on Performance Life



After the industry standard of 100,000 km, Oxyphen provides an additional 66% effective performance life



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