

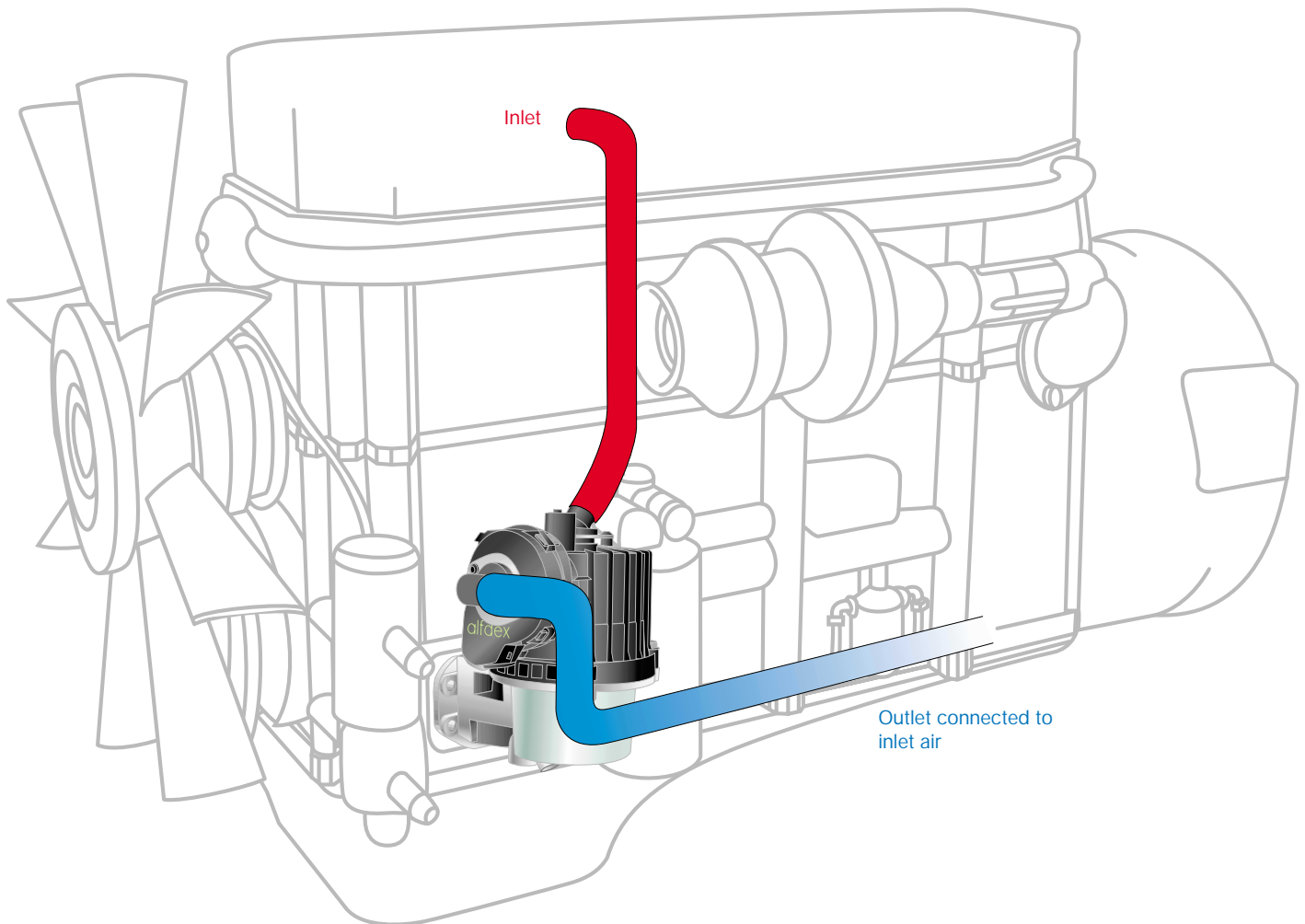


ALFDEX OIL MIST SEPARATOR



The ultimate solution

for Closed Crankcase Ventilation



The ultimate solution for Closed Crankcase Ventilation

The Alfaex' Oil Mist Separator is a unique product solving problems that arise with unclean ventilated exhaust gases being recycled into the inlet of diesel engines. By connecting this unit to the crankcase breathing channel, oil droplets and soot are removed and returned to the oil sump.

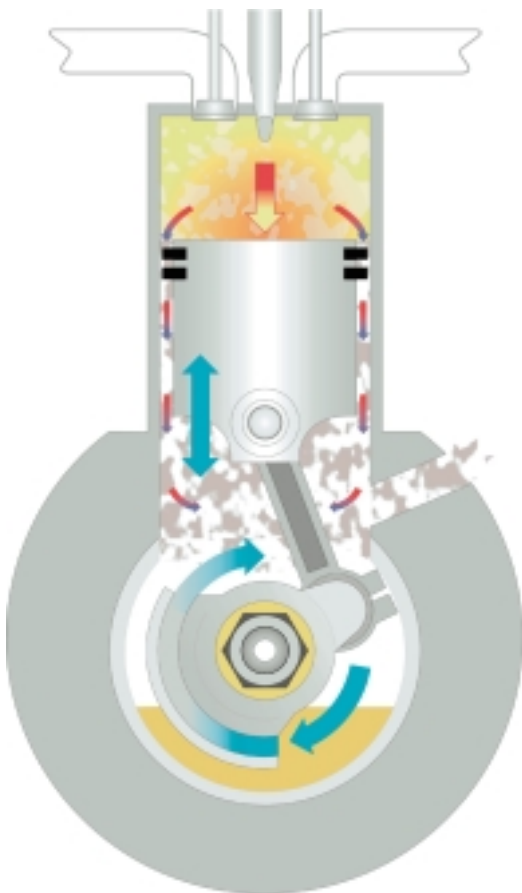
The Alfaex Oil Mist Separator is sealed for life and requires no maintenance or service during the engine's lifetime.

Crankcase gases

The crankcase gas originates from exhaust gases that leak down to the crankcase from the combustion chamber via gaps between the cylinder wall and the piston rings. In order to prevent pressurizing the crankcase, there must be a continuous flow of ventilated gases out of the crankcase.

If this gas is directly connected to the inlet manifold of a diesel engine, so called Closed Crankcase Ventilation - CCV, a number of functions in the engine suffer from these unclean crankcase gases: The efficiency of the turbocharger drops due to coke deposits on the turbocharger turbine. Additionally, the intercooler performance is reduced due to accumulation of oil.

Using centrifugal separation technique, Alfaex Oil Mist Separator removes both oil droplets and soot from the vent gas, and these are via a drain pipe returned to the sump.

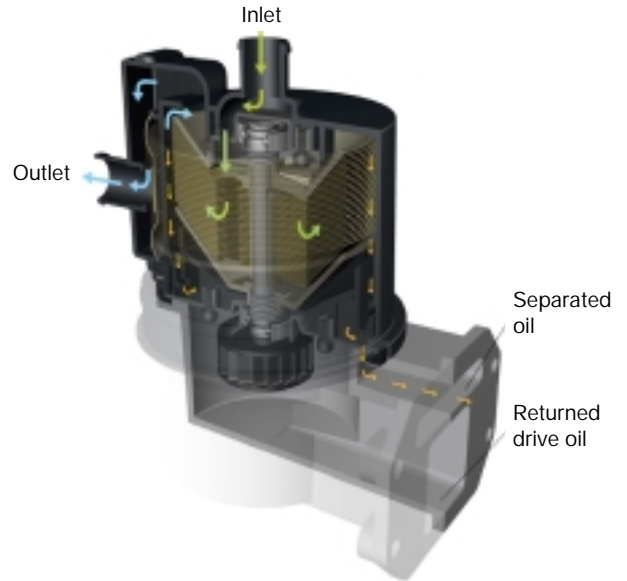


Operating Principle

The working principle of this product originates from Alfa Laval's century old technology for industrial centrifugal separators. This new design is specifically adapted to this application for vehicles.

It is driven by an oil-turbine getting its oil from the surplus of pressure lube oil flow normally available on truck engines. The turbine, fitted in the bottom housing, will drive the centrifugal rotor. There is an oil return drain feeding back to the sump. The centrifugal rotor carries a number of conical discs, stacked on top of each other, forming the separation volume. Oil droplets separate out from the gas onto the discs, due to centrifugal forces, and eventually the collected flow of oil is thrown off the disc edge onto the housing wall. The clean gas is guided to the outlet and the oil flows down the walls to the drain outlet feeding back to the sump.

In addition to being a separator unit, the disc stack works as a fan extracting gas from the crankcase. Therefore, there is no pressure drop across the unit. An internal pressure control ensures the crank case pressure is within a suitable working range, despite potential pressure variations in the inlet manifold.

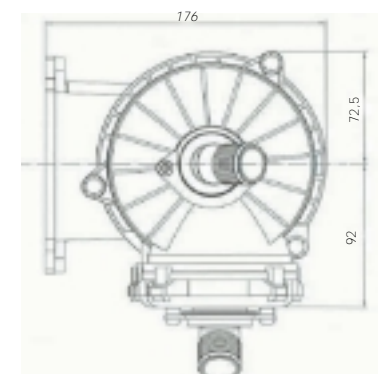
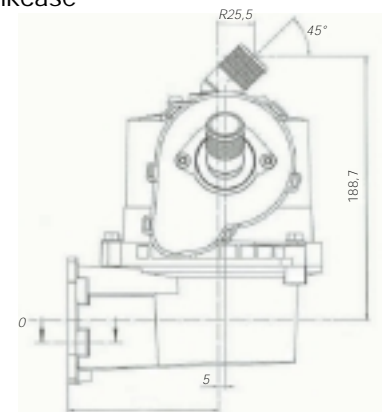


Features & Benefits

- A CCV solution solving problems with deposits of coke on the exhaust turbine and accumulated oil in the intercooler.
- No discharge of oil to the outside of the engine. No oil pools on the ground.
- Fulfills coming legislations related to the crankcase ventilation.
- High efficiency – Cleaning performance > 98 %.
- "Fit & Forget" - No service throughout the engines' life time
- Reduced oil consumption – No oil ventilated to the environment.
- No waste product (filter) needed to be recycled.
- Can be fitted to any diesel engine.
- No internal pressure drop. It extracts gases from the crankcase by a small fan effect. No external fan needed.
- Small power consumption.

Technical Data:

Separation efficiency:	> 98% (average under normal driving conditions)
Power Consumption:	30-70W (depending on the actual driving situation)
Blow-By gas rate:	Nominally 160 lit/min (total range; 0-500 lit/min with varying efficiency)
Temperature range:	-40°C to +125°C, peak + 140°C up to 5% of lifetime.
Internal pressure drop:	None (instead there is small controlled suction extracting gases from the crankcase)
Pressure control:	An internal pressure control valve assures that the crankcase pressure is kept within specified range.
Life Time:	Designed for a lifetime L_{10} of 1 200 000 km or 20 000 hours or 8 years, which ever comes first.
Weight:	2,4kg
Dimensions:	See picture





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PRODUCT RANGE

- Crankcase Oil Mist Separator
- Fuel Transfer Pumps
- Transmission Pumps
- Oil Cooling Units
- Fan Drives
- Rotary Flowdividers
- Hydraulic Power Packs
- Hydraulic Pumps
- Hydraulic Motors
- Pressure Switches



The Haldex group (www.haldex.com), with headquarters in Stockholm, is a provider of proprietary and innovative solutions to the global vehicle industry, with emphasis on products related to vehicle dynamics, safety and environmental issues. Haldex is listed on the Stockholm Stock Exchange and has annual sales of 6.5 billion SEK with 4,000 employees.