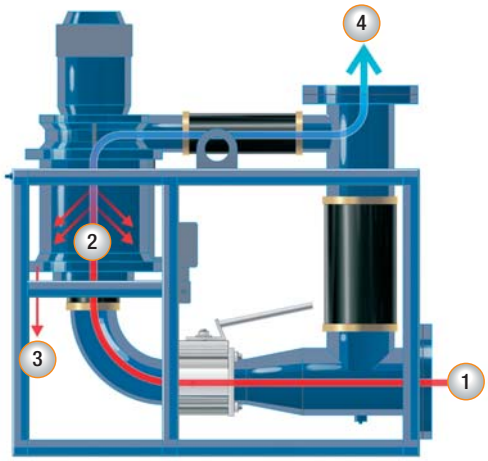
WÄRTSILÄ **Engine services**

OIL MIST SEPARATOR – CLEAN CRANKCASE VENTILATION



Crankcase gas (1) is led to the separator (2) which removes the oil (3). Clean gas (4) to open air.

KEEP THE SUN DECK CLEAN!

The only oil on the sun deck in this picture should be sun tan oil. Unfortunately, this is not always the case. It has happened more than once that oil mist, oil droplets from the crankcase ventilation pipe, has spoilt a cruise holiday.

Having to refund unhappy passengers – not to mention the blot on your (green) image – is not good for business. More stringent environmental legislation regarding crankcase ventilation is also likely to be imposed in the near future, so why not deal with the potential problem now and install the only solution that effectively eliminates the oil mist?

WORKING PRINCIPLE

The Oil Mist Separator removes more than 98% of the oil mist in the crankcase ventilation gas. The system is safe and easy-to-install and enables cruise and passenger vessels to avoid problems with oil mist. The oil mist looks like smoke because the droplets are very small in size, between 0.1 and 2 µm, which is why till now it has been difficult to remove them effectively.

The key component in the module is an electrically driven separator. Engine crankcase ventilation gas is fed to the separator where the oil particles are centrifuged and collected in a small container. The oil is then fed back via a drain pipe to the engine. A frequency converter boosts the speed of the electric motor to improve separation efficiency. The separator unit is regulated by a throttle valve on its inlet pipe to match the gas flow from the engine or engines.

INSTALLATION

The flexible mounted separator, the throttle valves and a safety switch are mounted on a steel frame module. Since the processed gas may be explosive, all components inside the separator are made of spark-proof material.

Regardless of engine type, the installation is a straightforward procedure and there is no impact on the crankcase pressure.

PRODUCT AT A GLANCE

Removal of oil particles from the engine crankcase ventilation gas on diesel and gas engines. The purified gas is released into the open air.

The Oil Mist Separator module can be fitted at installations with the following engine types: Wärtsilä Vasa 32 and 32LN engines; Wärtsilä 20, 32, 32DF, 34SG, 46 and 50DF engines.

See overleaf for technical data

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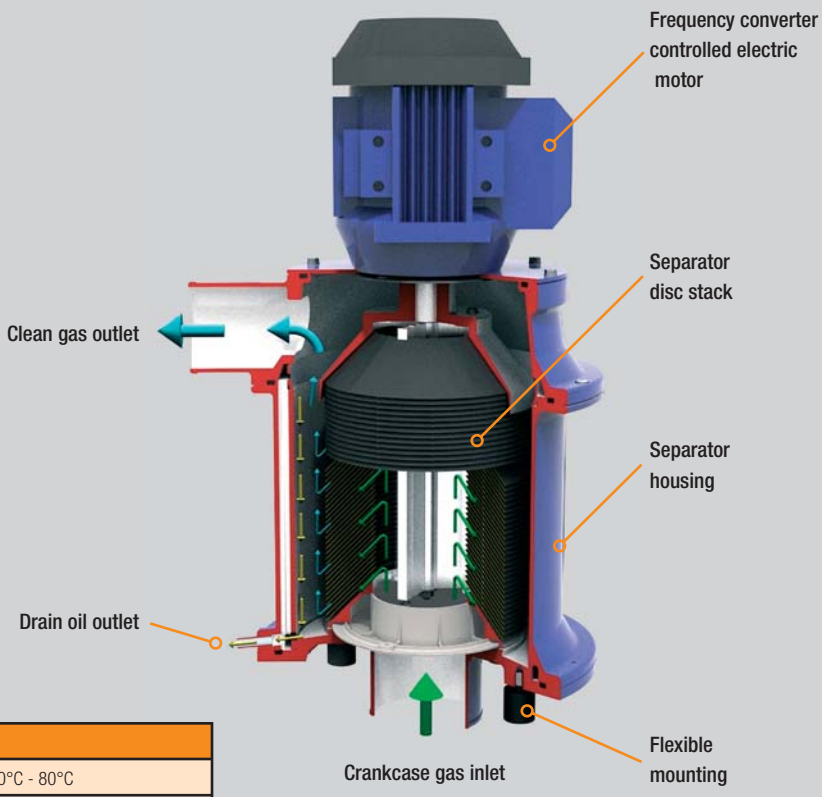
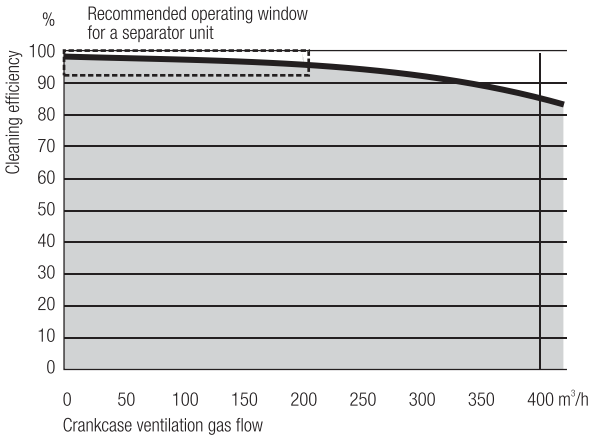
TECHNICAL DATA



Performance			
Capacity:	Up to 400 m3N/h per unit	Inlet gas temperature:	20°C - 80°C
Cleaning efficiency:	abt. 98% at a flow rate of 150 m3N/h (20V34SG)		
	95% at a flow rate of 210 m3N/h (9L46)		
	93% at a flow rate of 322 m3N/h (12V46)		
	83% at a flow rate of 420 m3N/h (18V46)		
Standards and protection classes			
Safety standard:	EN 292, Safety of machinery	Piping standard:	EN 13480
Enclosure class:	IP54 + drip water safe		
Emissions			
Heat dissipation:	About 2 kW	Noise:	Max. 80 dB(A)
Vibration:	Less than 28 mm/s (RMS)		
Site requirements			
Space requirements:	About 2 m total height (i.e. about 0.8 m service space above the module)	Flatness tolerance:	10 mm
Vibration resistance:	Max. 20 mm/s	Temperature:	Separator: 0°C – 65°C Electrical cabinet: 0°C – 30°C
Humidity:	Must not be exposed to water		
Electrical system			
Operating voltage:	Three phase 380 - 480 VAC	Frequency:	50 or 60 Hz
Power consumption:	Max. 1.5 kW	Frequency converter:	ABB ACS 140 2.2 kW
Cabling:	4 wires, L1, L2, L3, PE		
Separator			
Power:	1.5 kW electric motor with heavy duty bearing and bearing housing	Speed:	7200 rpm
Number of discs:	185	Housing:	Aluminum casting

Oil Mist Separator



Cleaning efficiency

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