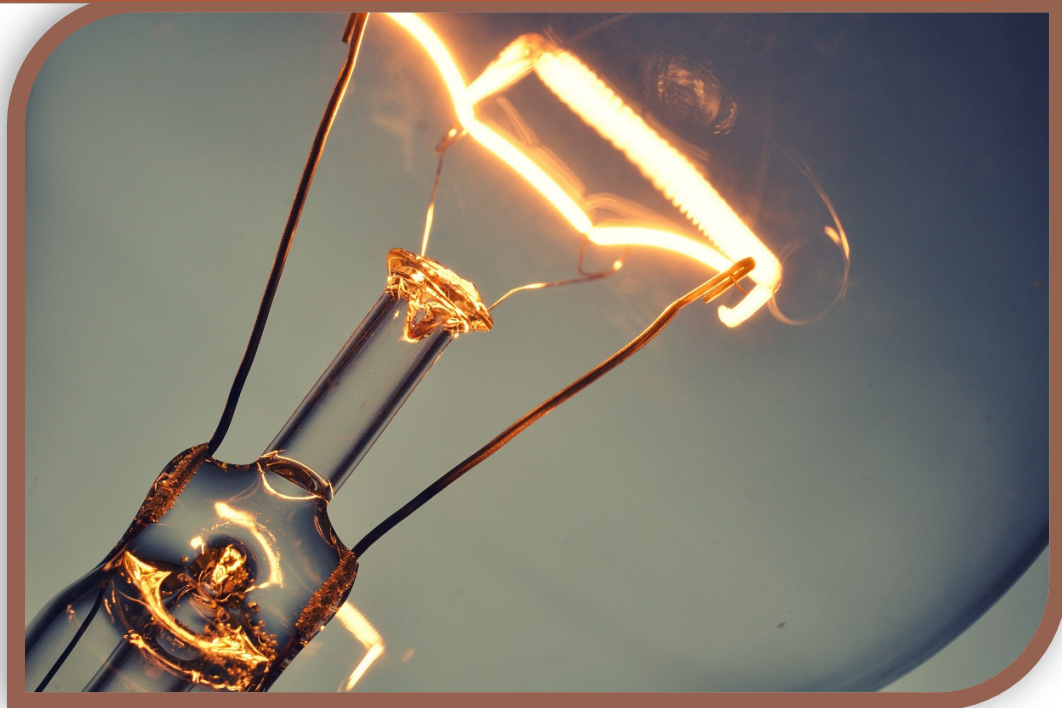


LWC² OIL MIST ELIMINATORS

Side channel blower type flow up to 900 Nm³/h



Copyright © 2015 - All Rights Reserved - FILTERS® S.p.A.
Via della Rimembranza, 1 - 10060 Piscina (TO) ITALIA • Tel (+39) 011 98 66 231 • Fax (+39) 011 98 66 310 • CF/P.IVA
05826680018 service@filters.it – www.filters.it

PURPOSE

Large volumes of lubricating oil are necessary to cool and protect the internal working surfaces of rotating machinery. These conditions can create an oil mist has traditionally been vented to atmosphere.

FILTERS® srl mist Oil Eliminators are designed to capture this mist to help meet increasingly demanding environmental and safety legislation.

FIELD OF APPLICATION

Diesel engines, Crankcase breathers, Gas Turbines, Gland Vents, Lube oil tank vents, Steam turbines, Compressor, gearbox, Power generators

LWC² OME STRENGTHS

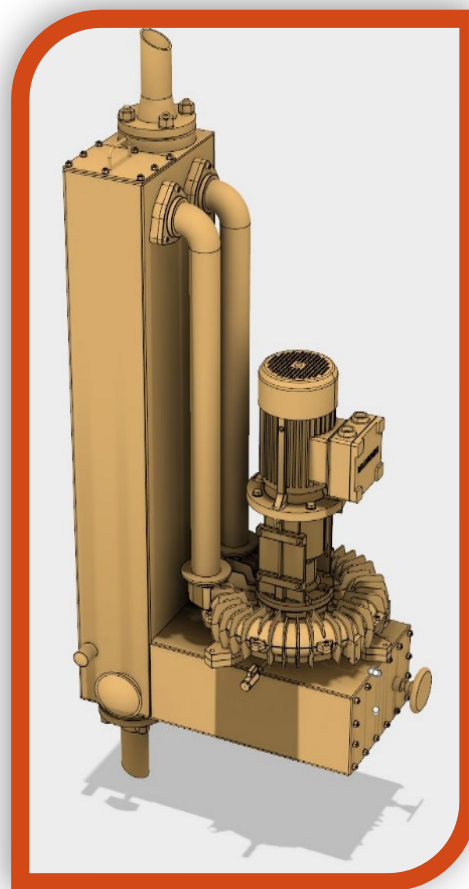
HEALTH AND SAFETY

LWC² OME is designed to comply with the largest Agency in theme of Occupational Safety and Health.

High efficiency coalescent cartridges guarantee NIOSH, ACGIH & OSHA Exposure Limits with efficiency of 99.9% of oil droplets size 0,3 micron and large. Residual oil content at venting line is below threshold of 5ppm (5mg/m³) in the whole flow range.

COST SAVING

LWC² OME is the result of many years of experience of separation systems and knowledge of machinery requirements. LWC² OME combines technology with ease of use with basic essential function to get to the full featured optional outfit.



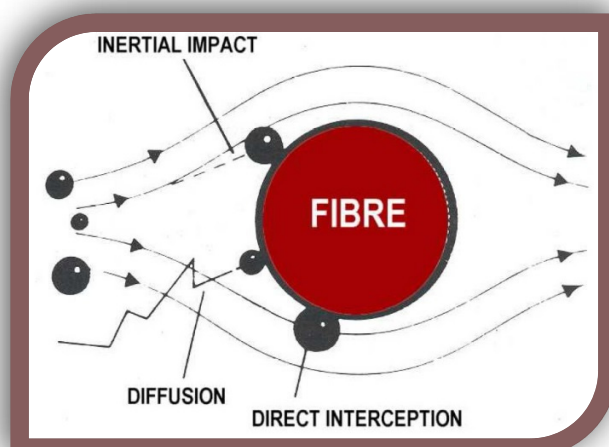
PRESSURE CONTROL

LWC² OME is equipped with self regulating (spring loaded) valve, in order to balance pressure loss variation of the system keeping the same starting value of the vacuum in the tank. Therefore, no extra adjustment is required after startup.



WORKING PROCESS

Oil mist is retained by mean of a special designed coalescing element, using direct interception and diffusion for the smallest droplets. Droplets are captured by the fibers and join together, becoming larger, slide off and drain through the coalescing media.

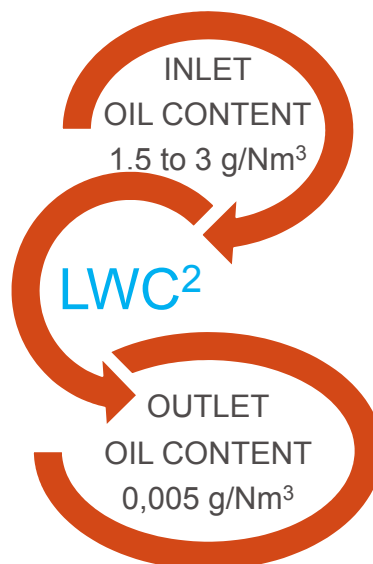


ABOUT MIST FORMING

Lube oil Reservoirs of Rotating machines, such as Gas or Steam Turbines, gearboxes, Compressors, Pumps or Power Generators, emit an air flow that needs to be evacuated to Atmosphere. This air flow is normally generated by the following two factors: the air release in the oil tank, produced by the agitation, compression and expansion of lube oil in the system; the air or N₂ used as buffer gas, which is inserted in the bearing sumps through the sealing system leakages. Such air flow is the carrier of very small oil droplets generated into the oil tank which form the mist (aerosol) that is normally seen at the vent as a white-blue smoke.



TECHNICAL FEATURES



COMPONENTS

LWC² OME are mainly composed with the following equipments, mounted onboard vessel. Supply include design, construction, assembly, test and preparation for shipping. As minimum the supply shall be as per previous Schematic diagram with following components:

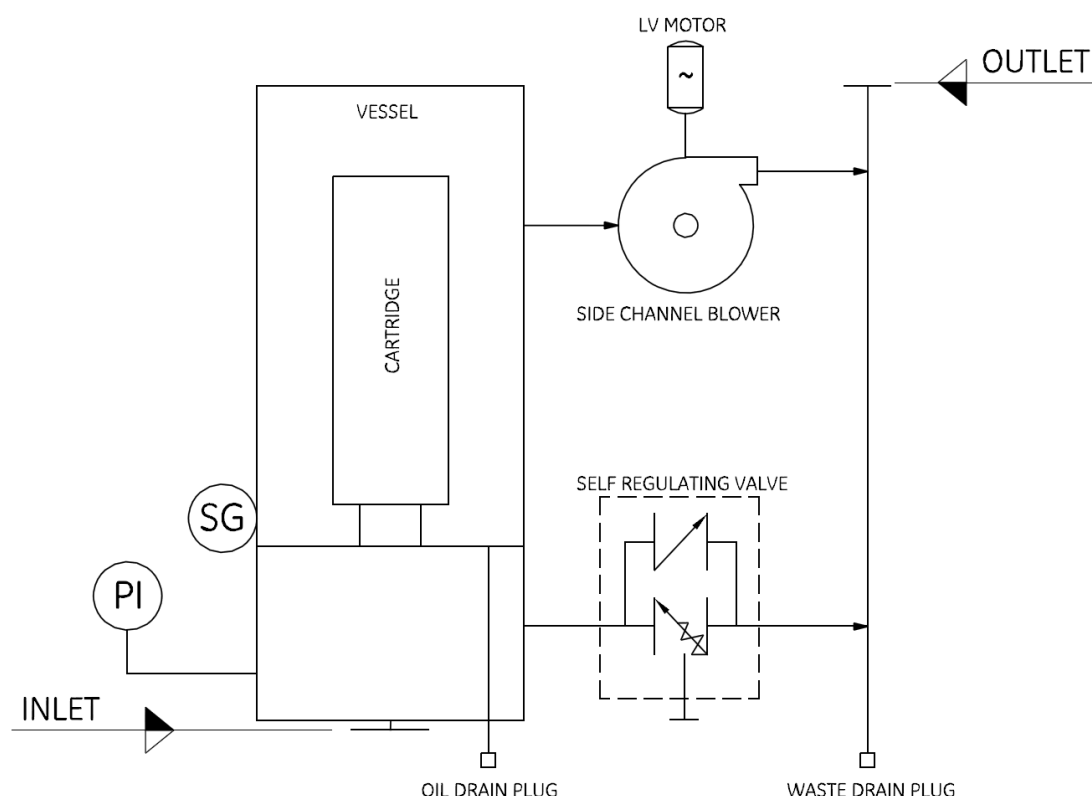
- Three phase electric motor for blower;
- No sparking blower pump;
- Filter separator vessel
- Coalescent cartridge(s) already mounted inside;
- One sight glass (SG) on cartridge(s) chamber;
- One vacuum gauge at inlet chamber for vacuum control monitor;
- Self regulating (recirculating) valve for pressure/flow control with bypass valve integrated (as safety valve) with cracking pressure +2mbar
- Waste drain plug (to be connected to bilge water or locally drained)
- Oil drain plug for recovery oil, to be connected below minimum oil level in the tank;
- Earthing system;
- All bolts, nuts and gasket necessary for components assembly

As option we can add following components and services:

- Flame arrester inline or end of line for vent pipe customer line;
- Start-up and Commissioning assistance program;
- Fluid sampling service;



SCHEMATIC DIAGRAM P&ID

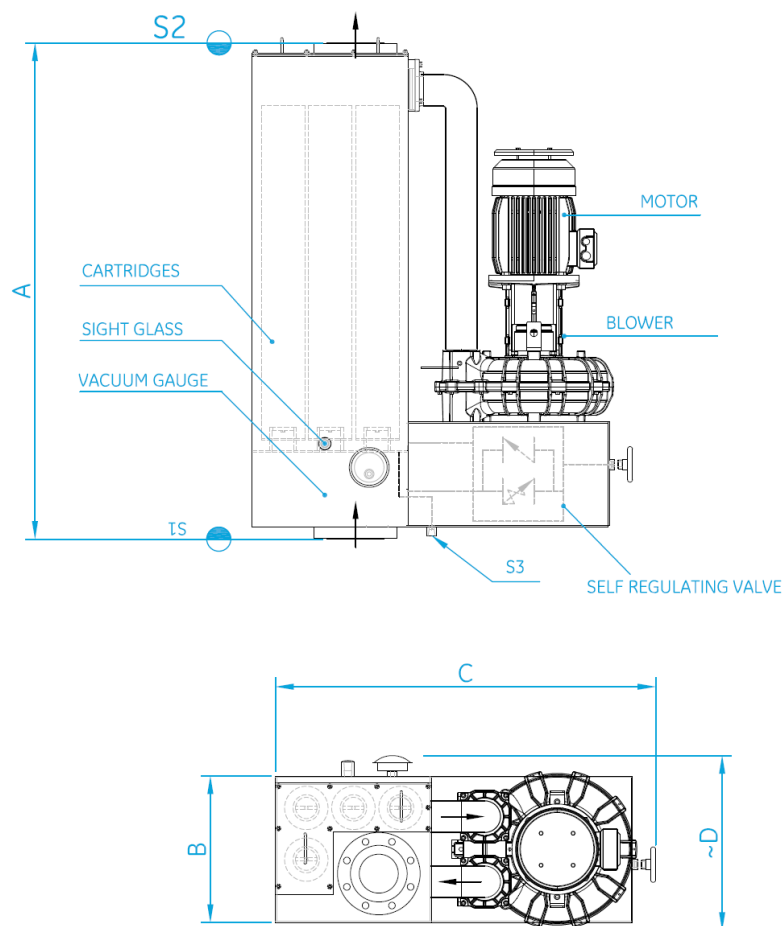


DESCRIPTION:

Fluid (AIR+MIST OIL) passes through inlet pad flange on bottom side of LWC² by means of suction head of side channel blower. Fluid passes through coalescent cartridges and flow toward delivery outlet. Through Coalescent cartridges droplets are captured and drained to the bottom of the housing. Oil drain plug connection shall be piped 100mm below minimum oil level in the tank. -When the coalescing element begin to saturate with coalesced lube oil, the pressure drop will increase (first 48-72 hr); Self regulating (recirculating) valve is made to overcome this problem with manual adjustments setup; If pressure drop of cartridge(s) is too high bypass valve open (+2 mbar) in order to protect downstream equipment and to guarantee time necessary to cartridges replacing activities. Waste drain plug shall be monitored with local valve or direct connected to bilge water line (waste).



OVERALL DIMENSIONS DRAWING



MODEL	S1 inlet size	S2 outlet size	S3 drain size	A	B	C	D	Approx Weight kg
LWC2-100	2" #150 RF	2" #150 RF	3/4" NPTF	1260	300	700	430	170
LWC2-200	3" #150 RF	3" #150 RF	3/4" NPTF	1260	370	920	505	210
LWC2-350	4" #150 RF	4" #150 RF	3/4" NPTF	1380	405	1050	505	315
LWC2-500	6" #150 RF	6" #150 RF	3/4" NPTF	1380	450	1180	505	353
LWC2-900	8" #150 RF	8" #150 RF	3/4" NPTF	1380	550	1300	605	560

NOTES:

- PAD Flange #150 dimensional according to ASME B16.5 RF-R9 smooth finish with threaded holes;
- Dimensions can be different depends on motor driven brand and size.



ORDERING INFORMATION

CUSTOMER PRESELECTION:

LWC2

TABLE
1

FLOW
RANGE

TABLE
2

FREQUENCY

TABLE
3

MATERIAL

TABLE
4

TABLE
5

TABLE 1 – FLOW RANGE

CODE	FLOW RATE
100	0-100 Nm ³ /h
200	100-200 Nm ³ /h
350	200-350 Nm ³ /h
500	350-500 Nm ³ /h
900	500-900 Nm ³ /h

TABLE 2 – FREQUENCY

CODE	FREQUENCY
50	50HZ
60	60HZ

TABLE 3 – MATERIAL

CODE	MATERIALS
SS	STAINLESS STEEL 316L
CS	CARBON STEEL

TABLE 4 – HAZARDOUS AREA

CODE	HAZARDOUS AREA
A	SAFE AREA
B	ATEX 3G IIB T3
C	ATEX 2G IIB T3
D	OTHER

TABLE 5 – OPTIONS

CODE	OPTIONS
A	FLAME ARRESTER INLINE
B	FLAME ARRESTER END OF LINE

FILTERS SpA

HEAD AND ENGINEERING OFFICES

Via della Rimembranza, 1 10060
Piscina (TO) ITALY
T. +39 011 9866231
F. +39 011 9866310
www.filters.it
info@filters.it

REGISTERED OFFICE

Corso Vinzaglio, 12bis
10121 TORINO
C.C.I.A.A. Torino 738618
C.F./P.IVA: 05826680018

PRODUCTION FACILITIES

SHOP & TEST FACILITY

Via della Rimembranza, 1, SITE#2
10060 PISCINA (TO) – ITALY

PRESSURE VESSEL

Via Sen. Avv. G. Agnelli 29-33,
10060 SCALENGHE (TO) – ITALY

CARTRIDGES PRODUCTION

Via della Rimembranza, 1, SITE#1
10060 PISCINA (TO) – ITALY

R&D LABS

10060 SCALENGHE (TO) – ITALY

