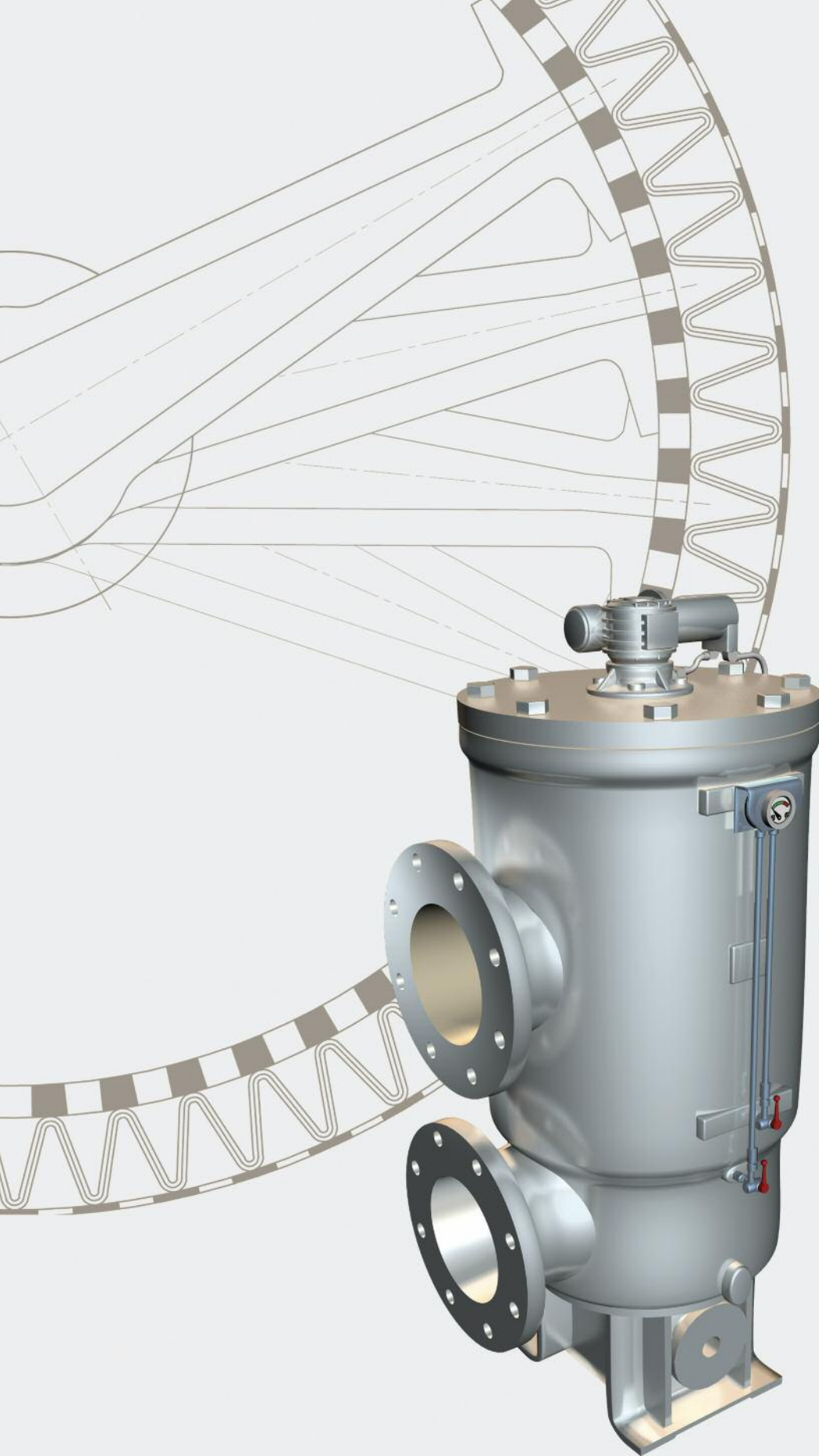




# ACP

*Automatic  
Backwashing Filter*



*Lube Oil Filters for Diesel Engines*

# The best filter ever designed

**NO EXTERNAL ENERGY REQUIRED**

ACP operates using only the Lube Oil's energy. Use of filtered oil driven by a hydraulic motor for the continuous cleaning process eliminates the need for external power supply and compressed air.

**TINY BACKWASH FLOW**

High backwash efficiency with no preferential routes, due to unique design, using small quantities of flushing oil prevents any significant drop in the operating pressure.

**TOTAL PROTECTION**

High quality ductile cast iron body. Stainless steel armoured cartridge capable of withstanding up to 10 bar (145 psi) of differential pressure. No overflow valves or second filter stage are required for the protection of engine parts, extending the life of the engine itself.

**JUST EASY**

ACP is easy to install, easy to maintain since consisting of only one filtering element and few parts, regardless the size of the filter. No special tools or liquids are required. Easy also to retrofit as an upgrade of existing installations.

**NOT JUST A FILTER**

An extraordinary feature of the ACP filter is that it can be used as a very efficient Lube Oil cleaning/regeneration system. In association with a CO oil cleaner it gets rid of 100% of the captured impurities, thus greatly increasing the reliability, health and life of the Diesel engine.

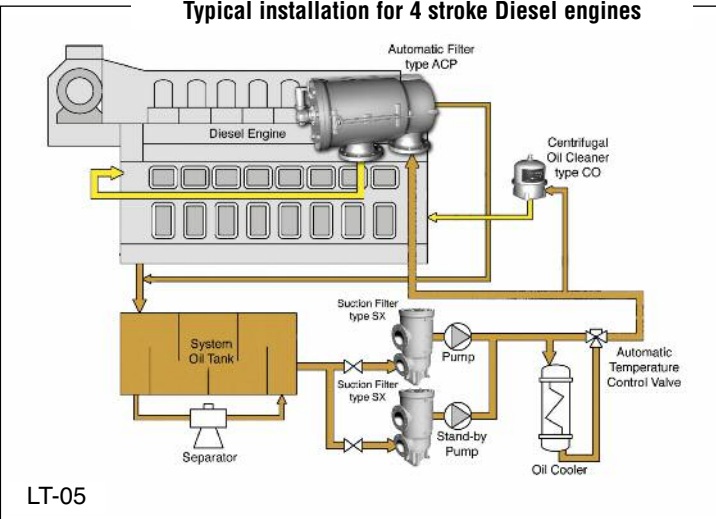
## Installation layouts

The task of an automatic filter is the trouble-free interception of all the impurities larger than specified for the main lubricating system and for the turbo-charger. But only the ACP filter can also control the Lube Oil quality, removing from the system even the finest particles, as the carbon residues with a size of a few microns, thus putting an end to the dangerous concentration of contaminants in the Lube Oil.

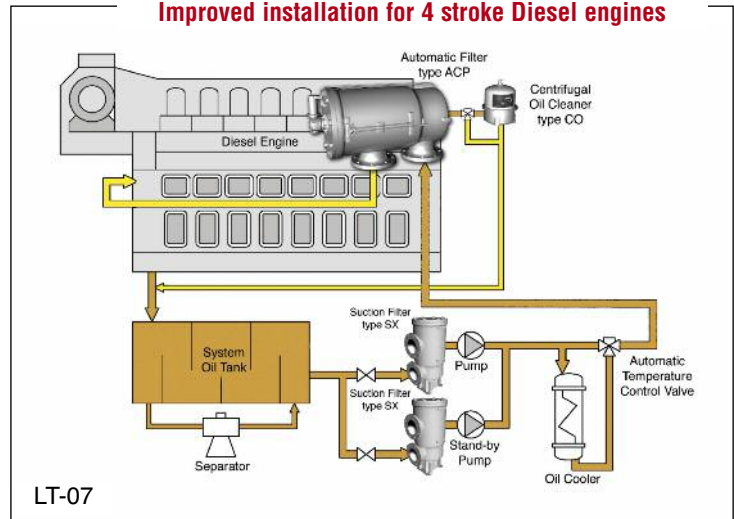
When the engine is operating at a light load, the concentration of impurities is higher and consequently the workload of the ACP filter is heavier.

The unique feature of the ACP filter allows the removal of the smallest impurities using a tiny backwash flowrate.

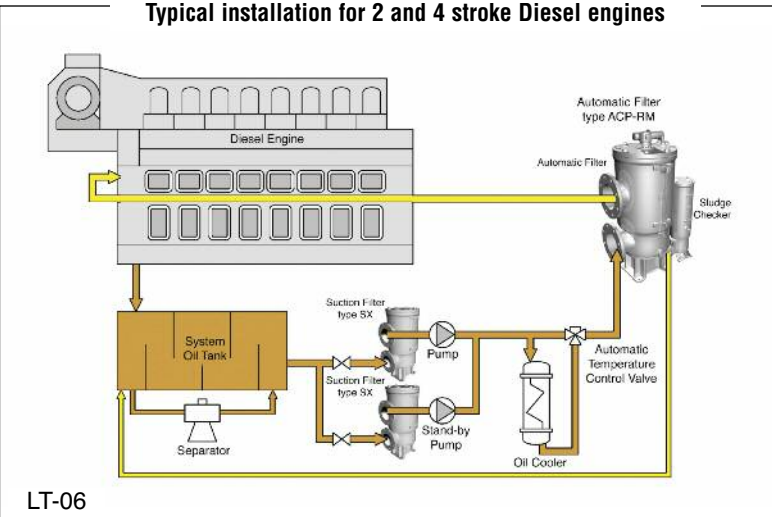
**Typical installation for 4 stroke Diesel engines**



**Improved installation for 4 stroke Diesel engines**

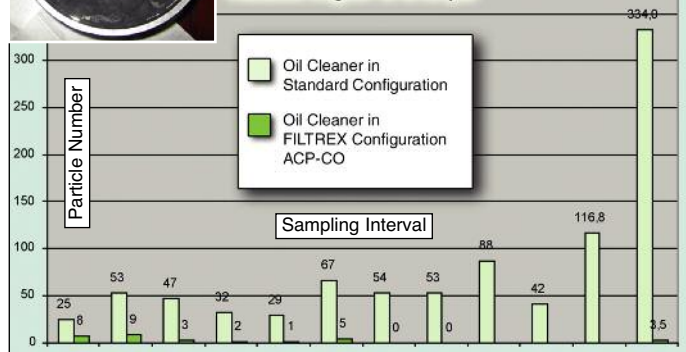


**Typical installation for 2 and 4 stroke Diesel engines**



Diesel engines Lube Oil quality comparison test results after 500 hours. ACP-CO (Layout LT-07) vs. traditional installation (Layout LT-05 & 06).

**Filtration Degree 15 to 25 µm**



Size	702	703	704	705	708	710	715	735	745	755	785	799	7140
ND	32	50	65	80	100	125	150	200	200	250	300	350	400
Footprint (m x m)	0.28 x 0.34	0.28 x 0.34	0.39 x 0.30	0.39 x 0.30	0.40 x 0.35	0.40 x 0.35	0.40 x 0.35	0.44 x 0.47	0.50 x 0.49	0.55 x 0.58	0.67 x 0.70	0.71 x 0.75	1.11 x 1.17
Height (mm)	510	510	610	610	710	800	960	950	1160	1180	1200	1500	1600
Weight (kg)	35	38	50	53	65	120	145	190	250	380	470	750	1950
Volume (lt)	4	4	9	9	12	27	30	50	65	135	180	320	840
Backwash (m <sup>3</sup> /h)	0.6	0.6	0.7	1.0	1.5	1.8	2.6	3.1	3.4	3.5	5.6	7.0	7.5

Filtrex ACP features the lowest backwash flowrate and the highest efficiency in the market

Choice of the Configuration



Configuration (Other configurations available on request.)		Self-Cleaning	Self-Cleaning with Sludge Checker	Self-Cleaning with Oil Cleaner	Self-Cleaning Duplex	Self-Cleaning Duplex with Sludge Checker	Self-Cleaning Duplex with Oil Cleaner
Model		ACP	ACP-RM	ACP-CO	DACP	DACP-RM	DACP-CO
AVAILABLE COMPONENTS	Sludge Checker with 4-Way Valve		✓			✓	
	Oil Cleaner with 3-Way Valve			✓			✓
	By-Pass Filter				✓	✓	✓
	Change-Over Valve				✓	✓	✓

According to the application requirements, ACP may be supplied as a single unit, a full duplex changeover unit and equipped with a backwash oil treatment unit.

Technical information

Application Area	Marine and Stationary Power, high & medium speed Diesel engines, SAE 30 & 40 lube oil systems
Filter Type	Automatic
Filtration	Continuous
Cleaning Mode	Continuous
Cleaning System	Reversed flow backwashing, sector by sector
Cleaning Fluid	Same filtered fluid
Energy Supply	Self-supplied or electric
Nominal Pressure	2 to 10 bar(g)
Connections Size Inlet/Outlet	ND 100 to ND 400 DIN NP 16 (square flanges for size 702 to 708)
Nominal Temperature	100°C max
Housing Material	Ductile cast iron EN-GJS400-15
Construction Tolerances	EN 22768-1 class V
Gaskets Material	Buna N
Filtering Element Type	Cartridge with armoured construction sectors (optional 2nd stage filtration available)
Filtering Element Material	Stainless steel AISI 316L
Filtration Degree	Up to 6 µm

ACP-CO Filter



ACP Filter  
Built-on configuration  
for Diesel engine manufacturers



ACP-RM Filter



DACP-CO Filter



1



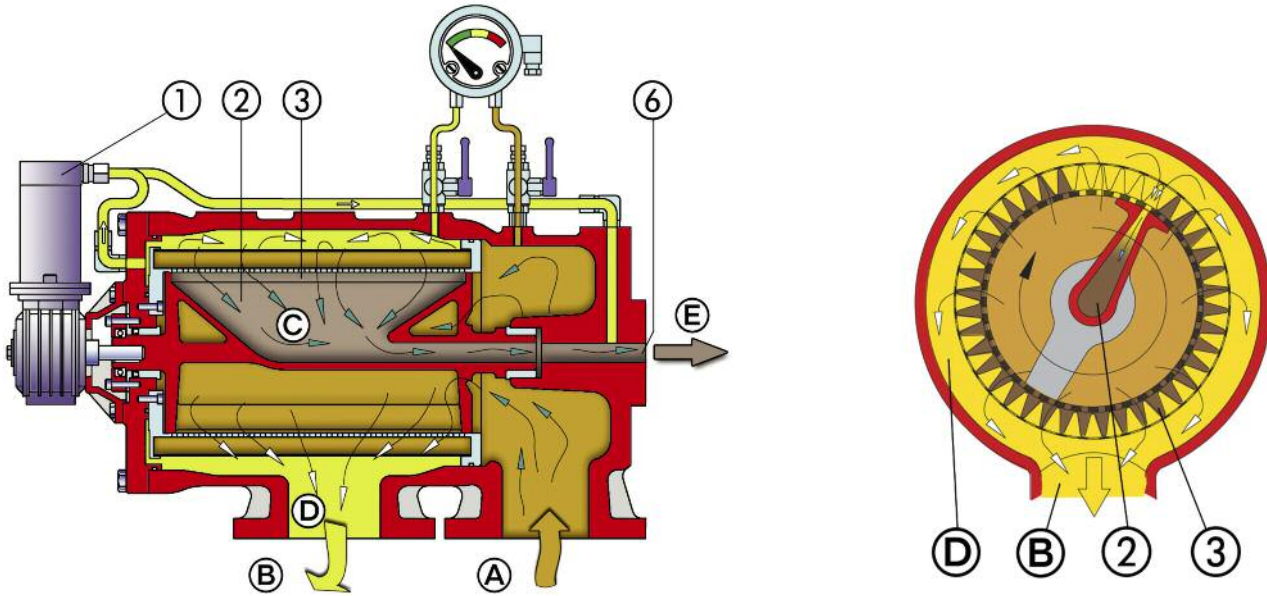
2



3

Maintenance of the ACP filter is minimal. The above sequence shows the simple and easy access to the internal parts. No special tools are required.

ACP - FILTRATION and CLEANING



PHASE 1-2: FILTRATION and CLEANING

The fluid enters from (A), and flows through the sectors of the filtering element (3) (inside to outside filtration).

The filtered fluid is collected in chamber (D) and exits clean from (B).

During this phase the hydraulic motor (1), powered by the clean Lube Oil, rotates continuously the nozzle (2), thus performing at the same time two operations:

• 1 - FILTRATION

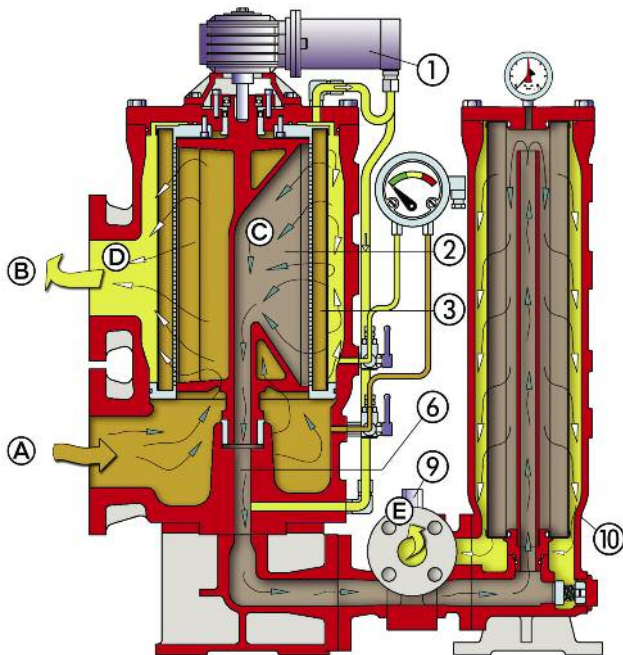
Filtration is accomplished by all sectors except three of the filtering element (3) (inside to outside filtration).

• 2 - CLEANING OF THE FILTERING ELEMENT DURING FILTRATION

While all the sectors except three of the filtering element (3) provide the filtration of the fluid, the sector in front of the nozzle (2) is cleaned by the backwash flow spilled from the filtered fluid in chamber (D) (outside to inside).

The impurities are carried away by the same backwash fluid (C), through the duct (6) and the backwash line (E) to the Diesel Engine's crankcase.

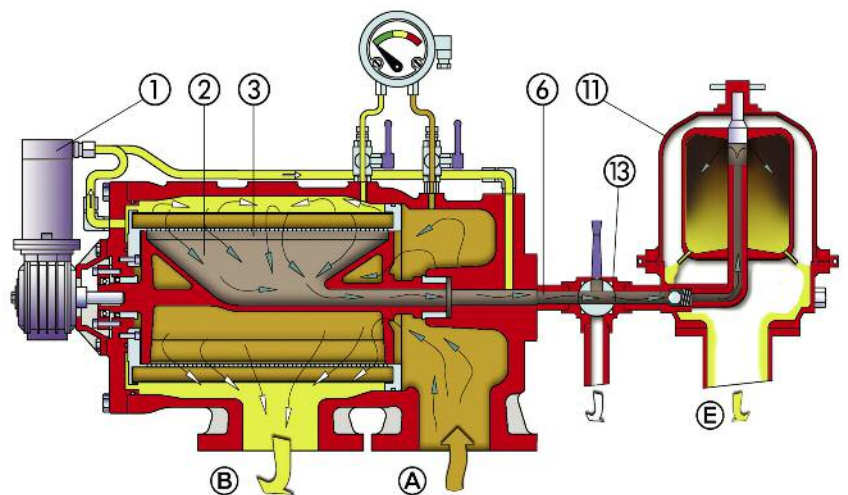
ACP-RM - FILTRATION and CLEANING with Removal of Impurities



The impurities are carried away by the same backwash fluid (C), through the duct (6) to the RM optional sludge checker (10) where 100% of the impurities is removed. The now clean Lube Oil reaches the Diesel Engine's crankcase through the backwash line (E).

The sludge recovery unit (10) may be isolated for maintenance by means of the 4-way valve (9) without affecting the self-cleaning filter's operation.

ACP-CO - FILTRATION and CLEANING with Removal of Impurities and Carbon Residues



The impurities are carried away by the same backwash fluid (C), through the duct (6) to the CO optional oil cleaner (11) where 100% of the impurities is removed, including the finest contaminants as the carbon residues with a size of a few microns, thus putting an end to the dangerous concentration of contaminants in the Lube Oil.

This unique feature makes possible to maintain an excellent quality of the Lube Oil all the time, using a very small backwash flowrate.

The oil cleaner unit (11) may be isolated for maintenance by means of the 3-way valve (13) without affecting the self-cleaning filter's operation.



Filtrex Corporate Headquartes - Milano (Italy)

Filtrex s.r.l. with its headquarters and state of the art manufacturing facilities in Milano, Italy provides filtration solutions and technical services to many industries such as hydrocarbon, chemical, environment protection, power generation, water treatment, Navy and marine transport. Filtrex operates from its headquartes in Italy and through worldwide branches, and has received prestigious certifications for quality and standards of engineering and manufacturing.

Filtrex provides its customers with a comprehensive scope of work, services and supply, preparing the engineering design specifications and P&ID's, purchasing equipment and materials, fabricating and assembling the filters into module(s) in its fabrication shop, furnishing data books and operating manuals, and providing technical services for inspection, installation, commissioning, start up and after start up.



Filtrex Manufacturing Unit #4 - 22,000 covered sqmt - Vignate (Italy)

**ACP is only one of the comprehensive range of filters manufactured by FILTREX.  
Please contact us for details and documentation**

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