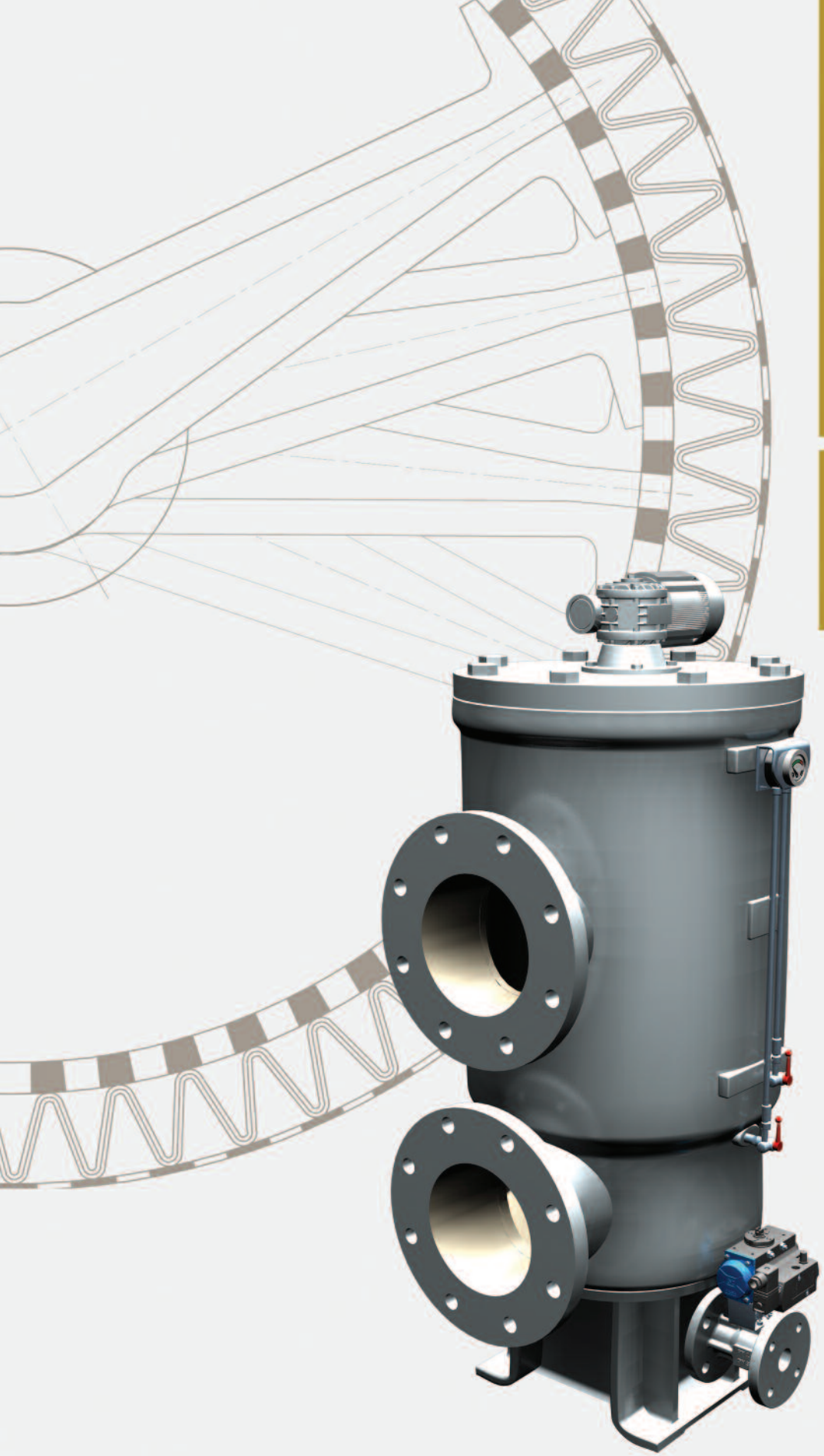
FILTREX®

ACX

Automatic Backwashing Filter



Lube Oil Filters for Diesel Engines

FILTREX **ACX** — The finest filter ever designed

NO COMPETITION

No other filter on the market can match or even come close to the performances of ACX for reliability, life span, easiness in operation and maintenance. Since 1982 thousands of ACX filters have been installed worldwide.

NO NECESSITIES

No external medium for cleaning (like compressed air). No recurring cleaning of the filtering element, and of course no special cleaning tools or liquids.
No maintenance whatsoever.

NO WEAKNESSES

The filter operates continuously, with an accurate filtration degree (from 10 µm absolute). The filtering element is a stainless steel armoured unit capable of withstanding up to 10 bar (145 psi) differential pressure.
The body is manufactured from EN-GJS400-15 cast-iron under a strict quality system, and has been approved by all major Classification Societies and Navies.

NO POLLUTION

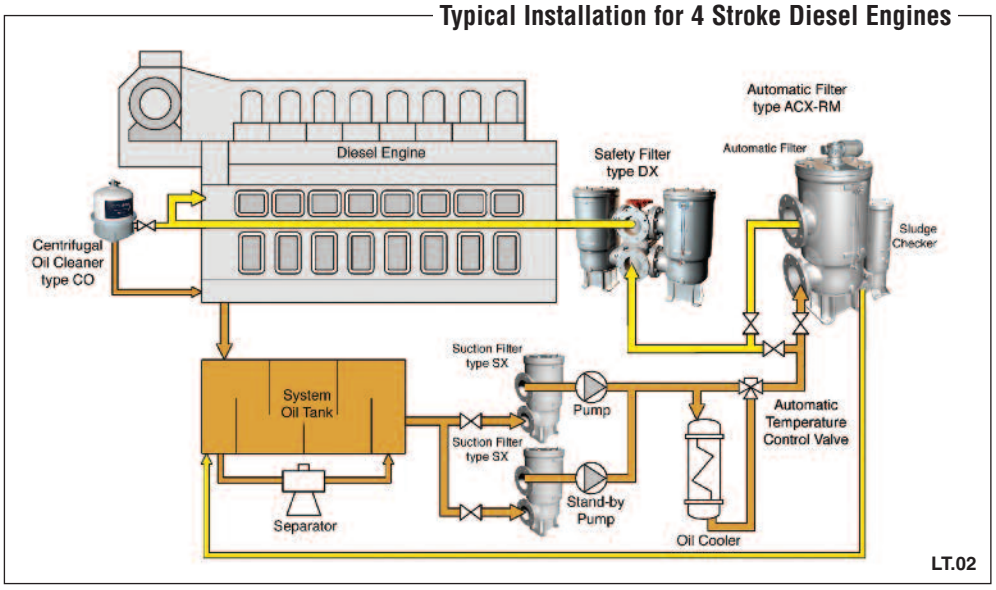
Since it does not use compressed air for backwash, ACX does not produces algaes or muds and It does not pollutes the lube oil with condensate or additives precipitations. No used cartridges to dispose of.

NOT JUST A FILTER

An extraordinary feature of the ACX filter is that it can be used as a **reliable monitor of the engine health** and alert the operator about any mechanical failure in the system.
See below how this unique feature of the ACX works.

FILTREX **ACX** — The Diesel Engine Protector

Typical Installation for 4 Stroke Diesel Engines



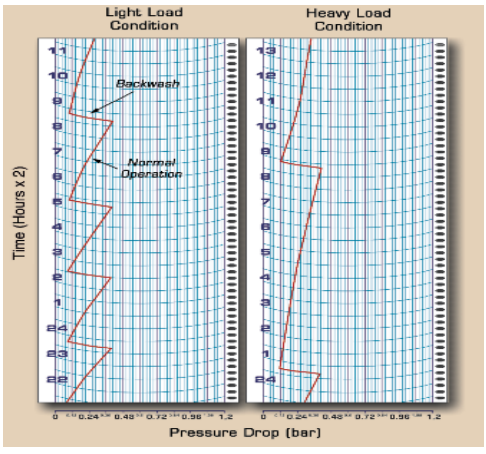
The task of an automatic filter is the trouble-free interception of all the impurities larger than specified for the main lubricating system. This is performed by the ACX filter better than any other equipment.

But only the ACX filter can also supervise the engine behavior.

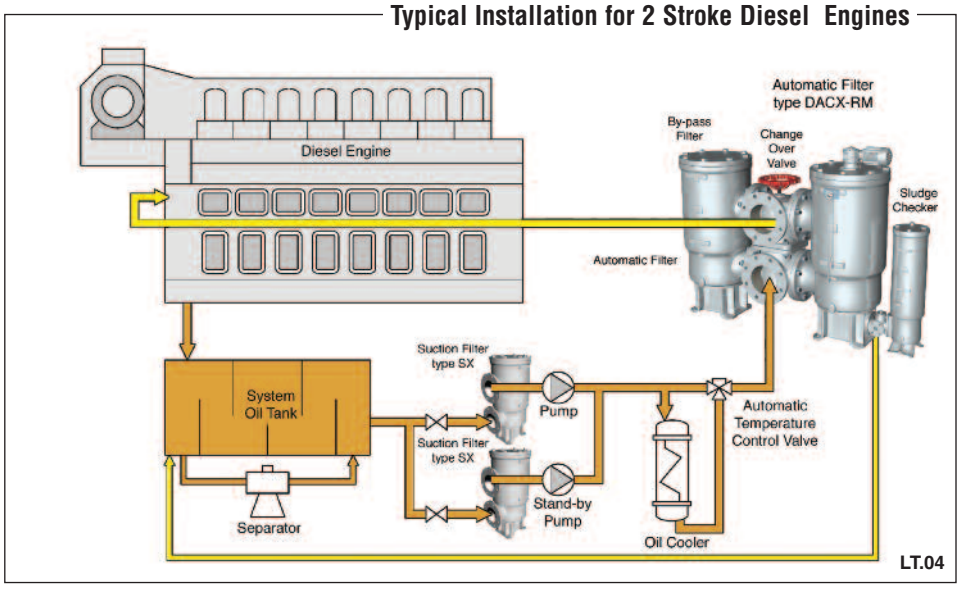
The frequency of the cleaning cycles is directly tied to the concentration of contaminants in the lube oil.

When the engine is working at light loads, the concentration of impurities is higher than when it is heavily loaded, consequently the ACX cleaning cycles are shorter. **Only the ACX filter guarantees cleaning cycles constantly proportional to the workload.**

This unique feature enables the monitoring of the concentration of impurities, any sudden increase of which is a clear indication of impending failure (e.g. of a mechanical component). By an alarm the ACX filter will warn the engineer of hazardous conditions, well in advance of any temperature related signal, allowing for a timely power reduction, possibly avoiding a crankshaft failure.



Typical Installation for 2 Stroke Diesel Engines



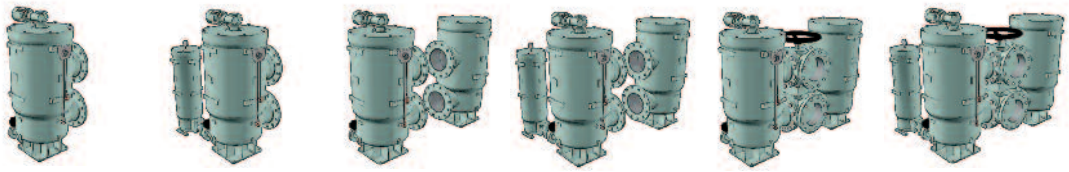
FILTREX **ACX**

Sizing

Size	704	705	708	710	715	735	745	755	785	799	7100	7140
ND	50/65	80	100	125	150	200	200	250	300	350	400	400
Footprint (m x m)	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 0.60	0.71 x 0.75	0.71 x 0.75	1.11 x 1.17
Height (mm)	610	610	710	800	960	950	1160	1180	1200	1500	1660	1700
Weight (kg)	50	53	65	120	145	190	250	380	470	750	800	1950
Volume (lt)	9	9	12	27	30	50	65	135	180	320	325	840
Backwash (lt/cycle)	1	1.4	2.1	2.6	3.8	6.2	8	16.7	20.8	31.2	32	48.6

FILTREX **ACX**

Choice of the Configuration



	Configuration	Self-Cleaning	Self-Cleaning with Sludge Checker	Self-Cleaning with By-Pass Filter	Self-Cleaning with Sludge Checker & By-Pass Filter	Self-Cleaning Duplex	Self-Cleaning Duplex with Sludge Checker
	Model	**ACX**	**ACX-RM**	**ACX-SX**	**ACX-RM-SX**	**DACX**	**DACX-RM**
AVAILABLE COMPONENTS	Sludge checker with 4-Way Valve		✓		✓		✓
	By-Pass Filter			✓	✓	✓	✓
	Change-Over Valve					✓	✓

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

FILTREX **ACX**

Technical information

Application Area	2-stroke and 4-stroke Diesel engines, SAE 30 & 40 lube oil systems
Filter Type	Automatic
Filtration	Continuous
Cleaning Mode	On condition by Pressure Drop and/or Time
Cleaning System	Reversed flow backwashing, sector by sector
Cleaning Fluid	Same filtered fluid
Energy Supply	Electric and Pneumatic
Nominal Pressure	2 to 10 bar(g)
Connections Size Inlet/Outlet	DN 50 to DN 450 DIN NP 16
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
Filtering Element Material	Stainless steel AISI 316L
Absolute Filtration Degree	Up to 10 μm

At work

4-Stroke Diesel Marine Engine WÄRTSILÄ 12V46
Ship "MOBY AKI"
ACX-RM Filter - Filtration 35 µm

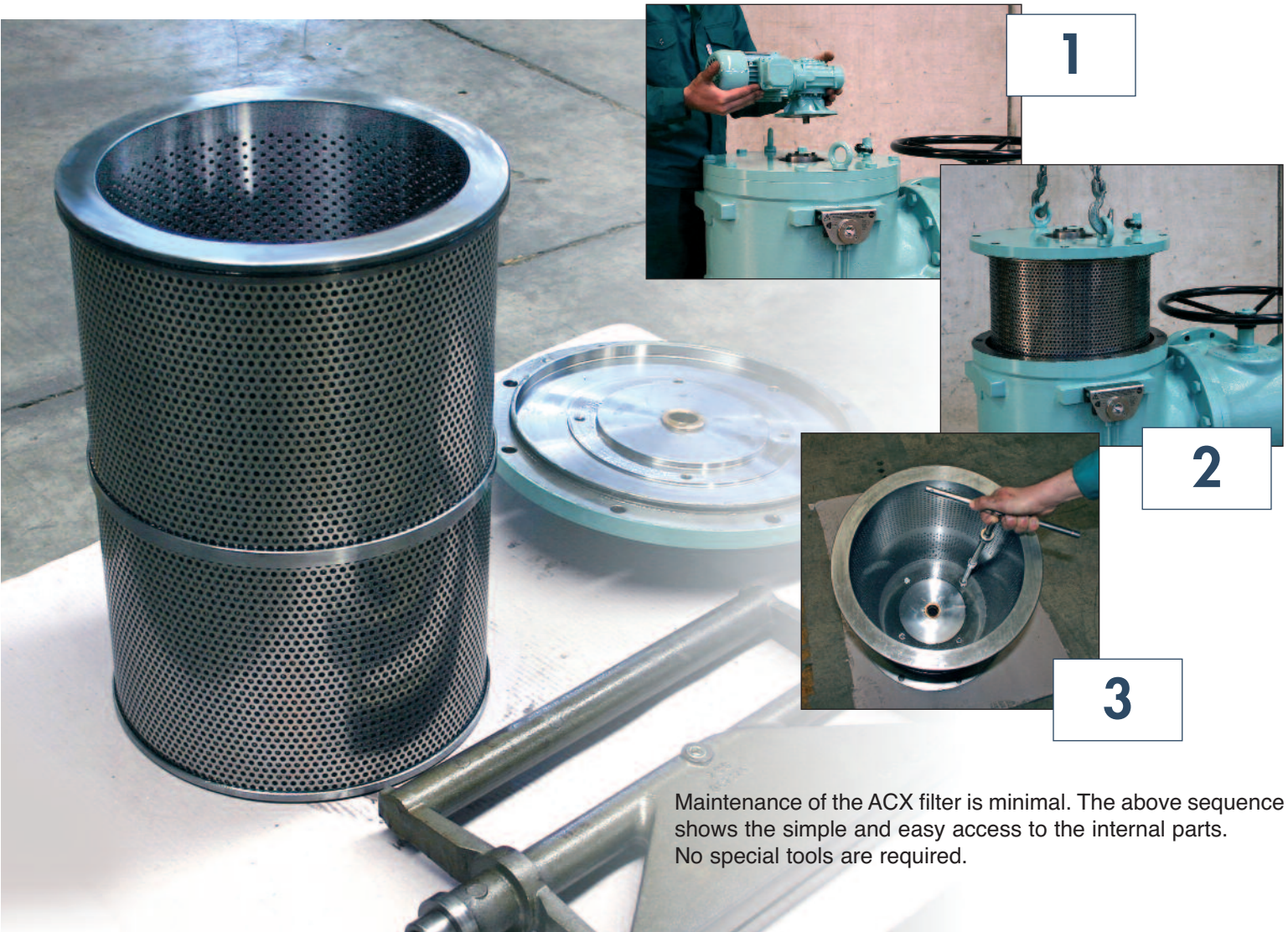
2-Stroke Diesel Marine Engine
MAN B&W 6S35MC
Ship "TRANS EMERALD"
DACX-RM Filter
Filtration 40 µm

Electric Control Panel

2-Stroke Diesel Marine Engine MAN B&W 6S46MC-C
Ship 'SKY PRIDE'
ACX-RM-SX Filter - Filtration 40 µm

ACX filters may have threaded lateral fastenings on three sides for suspended vertical or horizontal installation, allowing a significant space saving and great flexibility.

Easy accessibility



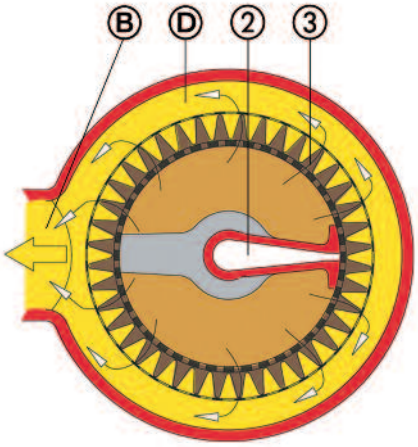
Maintenance of the ACX filter is minimal. The above sequence shows the simple and easy access to the internal parts.
No special tools are required.

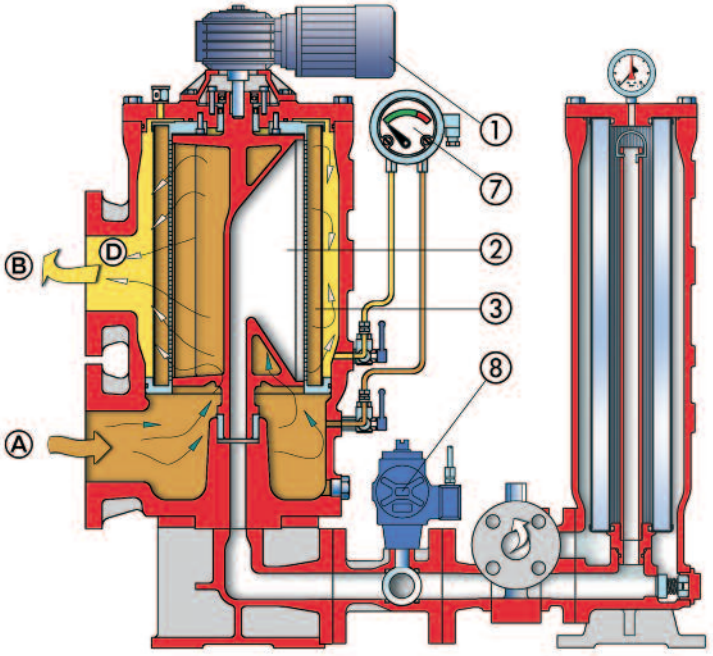
Operation

PHASE 1 - FILTRATION

STATUS:

- Present Δp < Set Point Δp
- Differential pressure indicator ⑦ in clean condition.
- Electric motor ① and nozzle ② are not operating.
- Backwash valve ⑧ is closed.





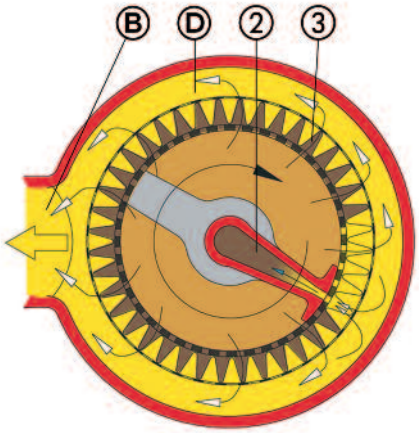
1 - FILTRATION:

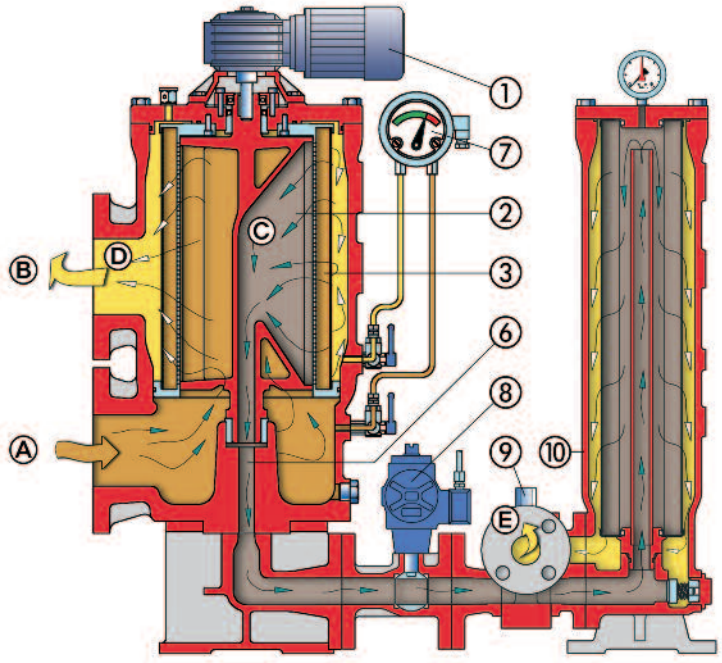
The fluid enters from Ⓐ, and flows through the sectors of the filtering element ③ (inside to outside filtration).
The filtered fluid is collected in chamber Ⓓ and exits from Ⓑ.
During this phase the filter operates as a static filter and the cleaning of the filtering element is not operating.
As more and more impurities build up in the filtering element's sectors, the differential pressure Δp shown on the indicator ⑦ gradually increases with time until it reaches the set-point value starting the Phase 2 (backwash cleaning during filtration).

PHASE 2 - FILTRATION and CLEANING

STATUS:

- Present Δp ≥ Set Point Δp
- Differential pressure indicator ⑦ at set point.
- Electric motor ① and nozzle ② are operating.
- Backwash valve ⑧ is open.





1 - FILTRATION:

Filtration is continuously ensured 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 Ⓓ (outside to inside filtration).
The impurities are carried away by the same backwash fluid Ⓒ, through the duct ⑥ and the open valve ⑧ to the optional sludge checker ⑩, where the impurities are retained, and then to the backwash line Ⓔ. At the end of the backwash set time, the electric motor ① stops and the backwash valve ⑧ closes, thus returning the filter to static Phase 1. The sludge checker ⑩ may be isolated for maintenance by means of the 4-way valve ⑨ without affecting the self-cleaning filter's operation.

FILTREX a worldwide organization

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 Corporate Headquarters - Milano (Italy)

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

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

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Certified Quality:

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