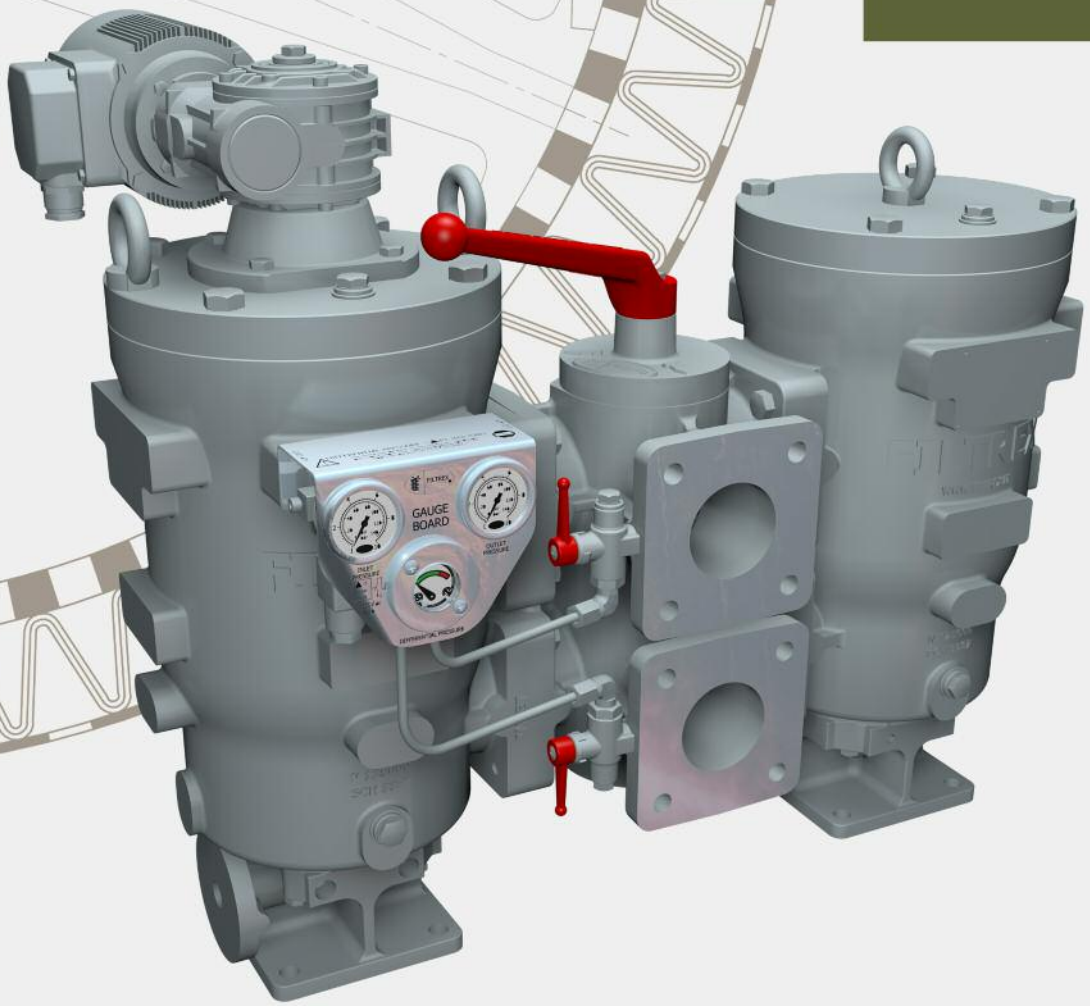
FILTREX®

DACT
DACXT

Automatic Backwashing Filter



Heavy Fuel Oil Filters

FILTREX DACT - DACXT The best filter ever designed

NO COMPETITION No other filter on the market can match or even come close to the performances of DACT and DACXT for reliability, life span, easiness in operation and maintenance. Since 1982 thousands of DACT and DACXT 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.

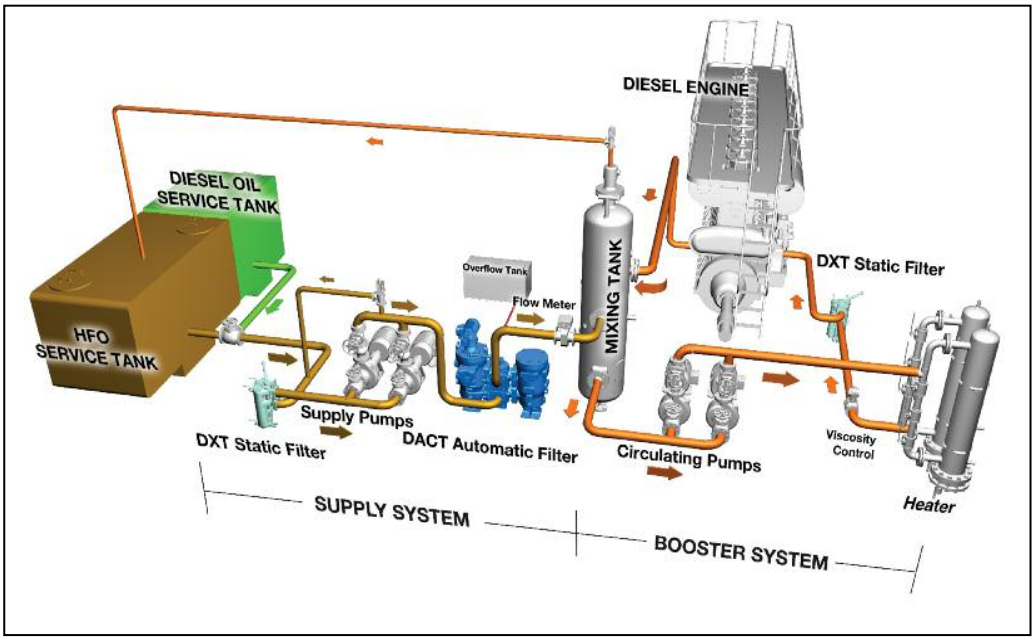
NO WEAKNESSES The filter operates continuously, with an accurate filtration degree (from 10 µm absolute). The filtering element is a stainless steel armoured unit capable of withstanding up to 10 bar (145 psi) differential pressure. The body is manufactured from EN-GJS400-15 cast-iron under a strict quality system, and has been approved by all major Classification Societies and Navies.

NO POLLUTION Since it does not use compressed air for backwash, DACT and DACXT do not produce algaes or muds and do not pollute the oil with condensate or additives precipitations. No used cartridges to dispose of.

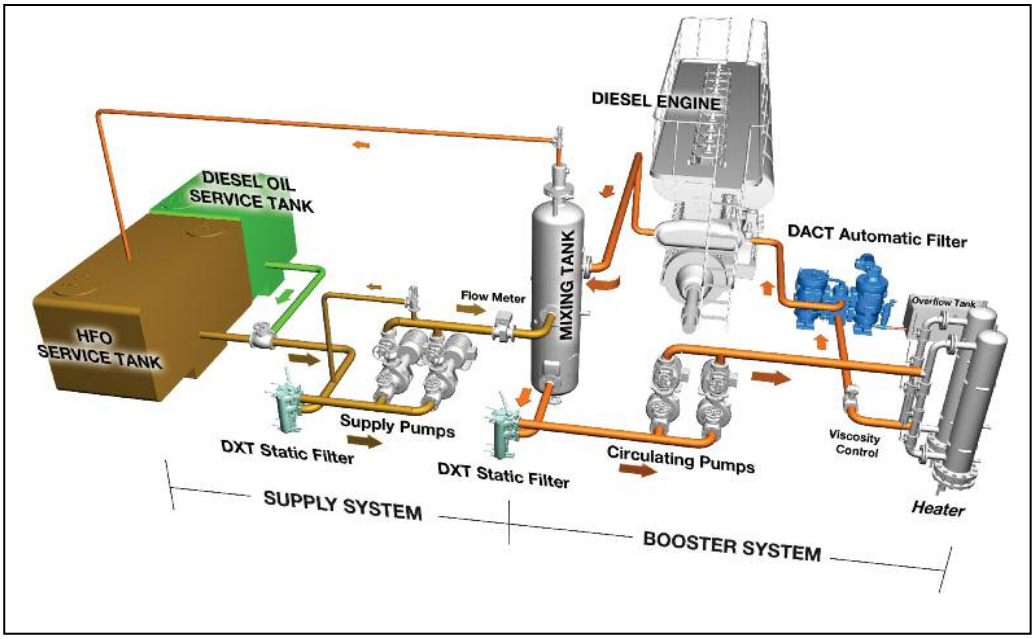
NO FUEL WASTE An extraordinary feature of DACT and DACXT filters is that they use a very small amount of backwash fluid, a lot smaller than the filter's volume, resulting in a huge saving during operation. See below how this unique feature of DACT and DACXT works.

FILTREX DACT - DACXT The Diesel engine feed protector and HFO saver

Typical Installation for Diesel Engines - Supply System



Typical Installation for Diesel Engines - Booster System



DACT/DACXT filters protect Diesel engine's injection pumps, exhaust valves and piston rings better than any other equipment.

Removal of the **damaging particulate from catalytic refining**, that cannot be removed by the centrifugal separator since it has a specific gravity equal or lower than the fluid itself, **requires a filtration degree of 10 µm absolute** that only DACT/DACXT can provide.

An outstanding feature of DACT and DACXT filters is the use of the same filtered fluid for the cleaning cycle, consuming only 5 to 10% of the filter's volume. For any cleaning cycle, there is a real saving of about 90 to 95% of fuel in comparison with filters cleaned by compressed air or static, that require the complete emptying of the filter's body every time.

It may be calculated that a typical Diesel engine with supply flowrate of 0.6 to 6.1 m^3/h and filtering degree of 10 µm absolute, **will save 12,500 to 110,000 liters/year** considering 4 cleaning cycles per day.

DACT and DACXT filters may be installed either on the cold "Supply" side or on the hot "Booster" side, since they don't use external backwashing fluids and the filtering element is made of stainless steel.

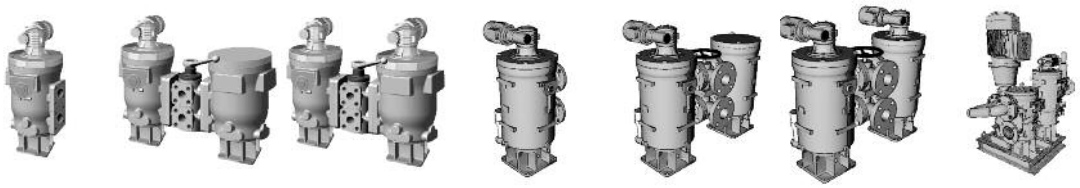
The "Safety" or "Indicator" filter is installed after the automatic filter for protection purposes only. The frequent clogging of this filter indicates an irregular operation of the automatic filter.

FILTREX DACT - DACXT Sizing

Type	DACT					DACXT						
Size	702	703	704	705	708	710	715	735	745	755	780	799
ND	32	50	65	80	100	125	150	150	200	250	300	350
Footprint (m x m)	0.5x0.4	0.6x0.4	0.8x0.4	0.8x0.4	0.8x0.4	1.0x0.4	1.1x0.4	1.1x0.4	1.2x0.4	1.5x0.6	1.8x0.7	1.9x0.7
Height (mm)	510	510	606	606	706	800	940	940	1100	1150	1200	1500
Weight (kg)	78	93	135	138	160	250	370	520	640	940	1150	1900
Volume (lt)	9	10	20	20	28	60	70	120	140	320	480	700
Power 440V 60Hz (kW)	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.14	0.14	0.14	0.14	0.14

Backwash is performed very quickly (about 3 to 9 sec.) and requires very little fluid, considerably less than the volume of the filter. Consequently, there is no need to waste fluid for “refilling”.

FILTREX DACT - DACXT Choice of the Configuration



Configuration		Self-Cleaning	Self-Cleaning Duplex	Self-Cleaning Duplex	Self-Cleaning	Self-Cleaning Duplex	Self-Cleaning Duplex	Self-Cleaning Skid
Model		**ACT**	**DACT**	**DDACT**	**ACXT**	**DACXT**	**DDACXT**	**ACT/SP**
AVAILABLE COMPONENTS	Change-Over Valve		✓	✓		✓	✓	
	By-Pass Filter		✓			✓		✓
	Self-Cleaning By-Pass Filter			✓			✓	
	HFO Filtering Unit							✓

DACT and DACXT is a very flexible filtration system. According to the job requirements it may be supplied as a single unit or as a full duplex changeover unit, coupled to a by-pass filter, either static or self-cleaning.

FILTREX DACT - DACXT Technical information

Application Area	Marine propulsion plants, 2-stroke and 4-stroke Diesel engines, Heavy Fuel Oil Systems, IFO 700
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 16 bar(g)
Connections Size Inlet/Outlet	ND 32 to ND 350 DIN PN 16
Nominal Temperature	180°C max
Housing Material	Ductile cast iron EN-GJS400-15
Construction Tolerances	EN 22768-1 class V
Gaskets Material	Viton
Filtering Element Type	Cartridge with armoured construction sectors
Filtering Element Material	Stainless steel AISI 316L
Absolute Filtration Degree	Up to 10 μm

FILTREX DACT - DACXT At work

Booster System - Gas Turbine GE LM 2500
Ship “JEWEL OF THE SEAS”
DACXT Filter - Filtration 10 µm absolute

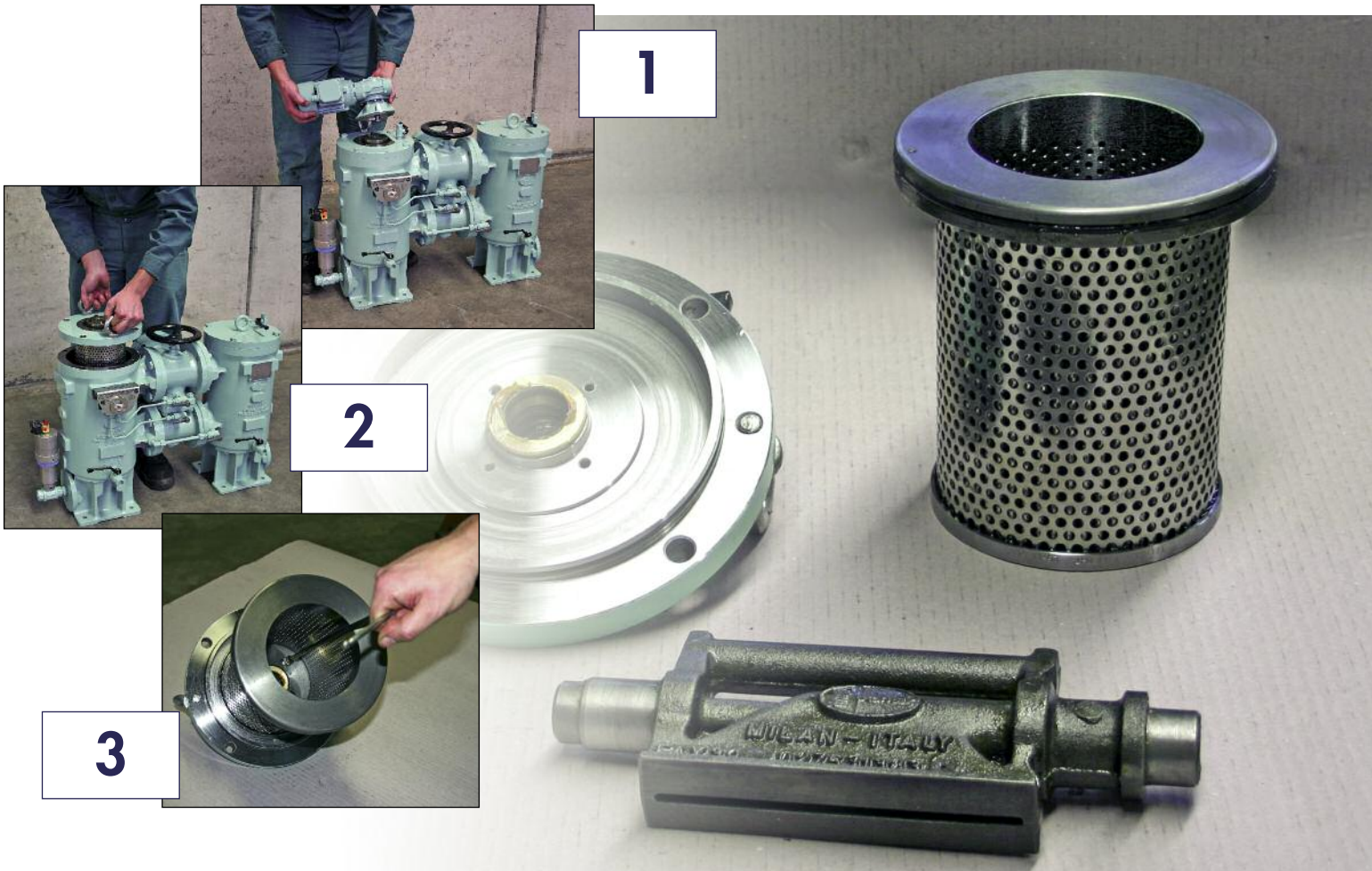
Supply System - Diesel Engine MAN 14 V48/60
Ship “CARNIVAL VISTA”
ACT Filter - Filtration 10 µm absolute

HFO Booster Module
Diesel Engine various
Shipyard STX
DACT Filter - Filtration 35 µm absolute

Booster System
Diesel Engine PIELSTICK 12PC3V480
Ship “M/T DREA”
DACT Filter - Filtration 25 µm absolute

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

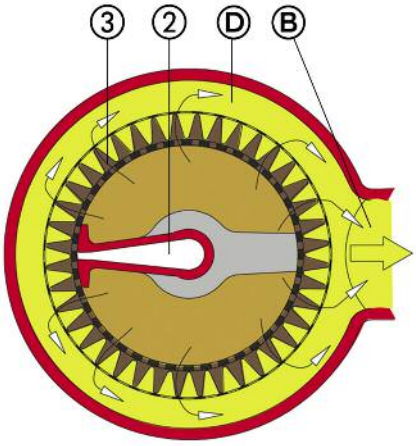
FILTREX DACT - DACXT Easy accessibility

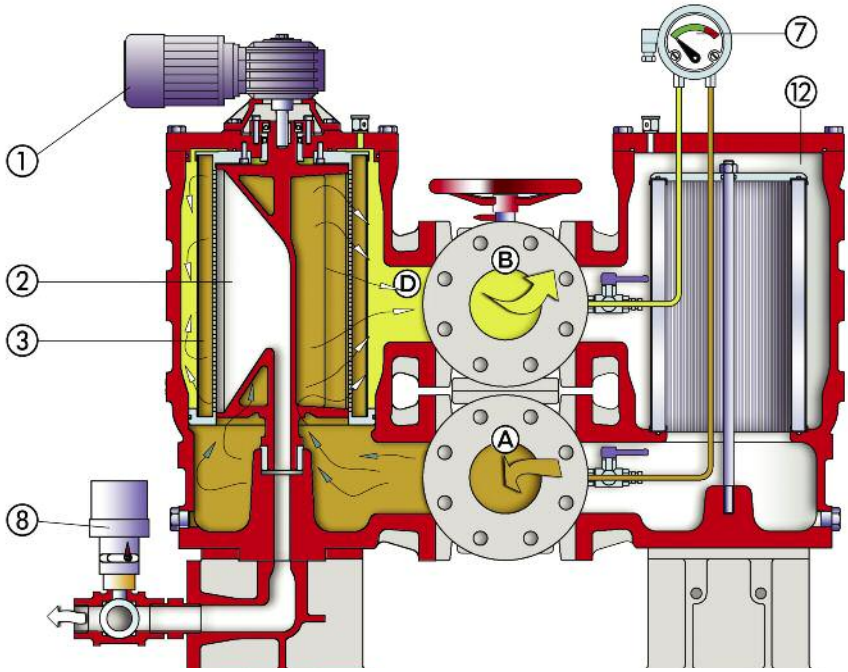


Maintenance of the DACT and DACXT filters is minimal. The above sequence illustrates how simple and easy the access to the internal parts is, should a dismantling be needed for any reason. The filter consists of few modular parts (cartridge, backwashing nozzle and motor) that can be inspected or serviced in a few minutes without any special tool or equipment.

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.

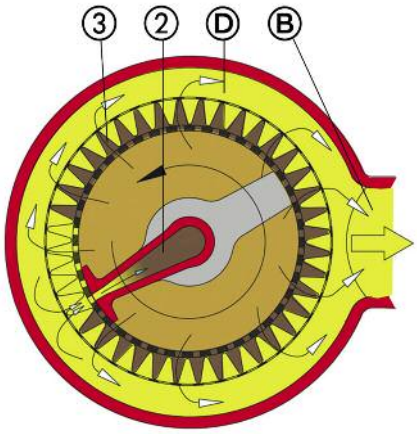


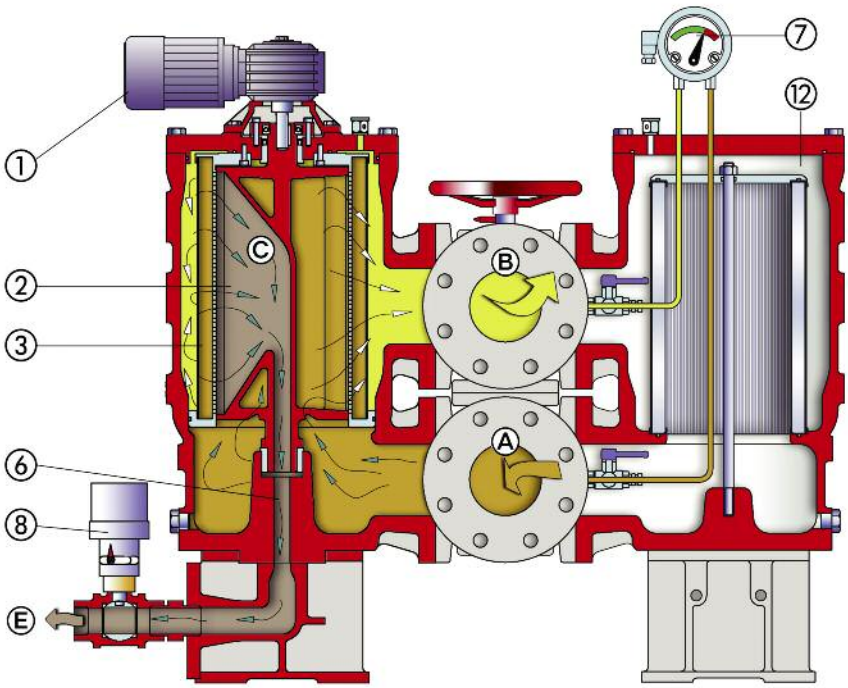


1 - FILTRATION:
The fluid enters from Ⓐ, and flows through the sectors of the filtering element ③ (inside to outside filtration).
The filtered fluid is collected in chamber Ⓓ and exits from Ⓑ.
During this phase the filter operates as a static filter and the cleaning of the filtering element is not operating.
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 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.
NOTE: During maintenance of the automatic filter, filtration may be temporarily performed by the static filter ⑫ . The operation of the change-over valve handwheel will switch service between the automatic and the static filter.

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 Headquartes - Milano (Italy)

Filtrex Manufacturing Unit #4 - Vignate (Italy)

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

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