FILTER SYSTEMS FOR THE INDUSTRIAL SEGMENT

GREENOIL
STANDARD®

PERFORMANCE TO RELY ON

Hydraulics, gearboxes, engines, and other oil systems rely on clean and dry oil for optimal performance. Contamination from water or particles can lead to frequent oil changes, corrosion, and machinery breakdowns, making high-quality oil filtration essential.
The GreenOil solution tackles these challenges with efficient particle filtration and water separation, significantly enhancing oil and fuel quality. This ensures optimal cleanliness levels, safeguarding machinery and enabling reliable operations.
GreenOil systems provide clean and dry oil for various machinery types, improving operational reliability and durability while reducing lifecycle costs. With low investment costs, these systems keep machinery running smoothly and are compatible with Environmentally Acceptable Lubricants (EAL). The offline oil filtration systems are easy to maintain, allowing manpower to focus on other tasks.
In addition to meeting OEM specifications, GreenOil offers eco-friendly benefits, such as low power consumption and no oil spills during filter changes. The C-series systems can be installed offline to recirculate oil and fuel, featuring a pump, motor unit, GreenOil filter, and built-in water separator. This ensures your oil is always clean and ready for use, with an average payback time of less than a year.

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OUR FILTER MATERIAL MAKES ALL THE DIFFERENCE

The secret to high-quality oil filtration lies in sheep wool. This natural material is compressed into wheels of varying densities, which are then placed into a filter canister. As oil is pressed through these wool wheels, it undergoes effective filtration, ensuring that your oil is always clean and dry. GreenOil filters utilize surplus wool, providing a sustainable option for your filtration needs. This eco-friendly approach not only helps reduce waste but also offers a cost-effective solution due to low energy consumption. With GreenOil, you get the best of both worlds: superior oil filtration and a commitment to sustainability.

Key Benefits of Our Filtration System

Extended Oil Lifetime:
Our filtration system significantly prolongs the life of your oil, reducing the frequency of oil changes.

Prolonged Component Lifespan:
Enjoy a remarkable increase in component longevity, with lifetimes extended by 5 to 10 times compared to standard filtration methods.

Superior Cleanliness:
Achieve cleanliness levels down to NAS code 02, ensuring optimal performance and protection for your machinery.

Effective Water Removal:
Water contamination is minimized to as low as 30 ppm, safeguarding your equipment from corrosion and damage.

Enhanced Oil Quality:
Experience improved oil quality, leading to better performance and reliability in your operations.

With these benefits, our filtration solution not only enhances equipment efficiency but also contributes to lower operational costs.

Advantages

- Extended lifetime of the oil
- Components lifetime prolonged by 5-10 times
- Cleanliness down to NAS 2
- Water cleaned down to 30 ppm
- Improved oil quality

THE IMPORTANCE OF CLEAN OIL

The demand for optimized production is rising, necessitating greater precision, speed, reliability, longevity, and reduced resource consumption. Increasing flow and pressure helps achieve these goals, while improved system design aims to cut production costs and create lighter products. This increases the need for cleanliness and maintenance of oil, as both components and oil face more strain. Maintaining clean oil in hydraulic systems primarily protects machine components and ensures reliable operation, preventing costly breakdowns. For instance, a minor valve defect can halt an entire production plant. A secondary benefit is reduced operating costs through extended component and oil life, enhancing overall system performance.

Particle sizes in oil are measured in micrometers (µm), with most being below 10 µm and invisible to the naked eye.

Here's a concise summary of the particle sizes:

70 µm: Human hair
40 µm: Smallest particle visible to the naked eye
5 µm: Flour particles
3 µm: Bacteria
1 µm: Particles in tobacco smoke

Silt-sized particles (2-7 µm) pose significant risks as they can infiltrate small gaps in components, such as between the valve body and slider in servo valves or between the piston and cylinder wall in pumps. This intrusion can lead to abrasive wear, resulting in unexpectedly high wear rates.
The purity of oil is crucial for extending the lifespan of both the oil and machine components. Reducing the number of particles, particularly those near clearance size, can dramatically increase operational hours; for example, a main pump's life can extend from 15,000 to 45,000 hours with a 3 µm offline filter. Clean oil also enhances oil longevity, as contaminants like wear particles and water accelerate oxidation and degradation. In optimal conditions, pure oil can last many years; some hydraulic systems, such as hydraulic presses and plastic molding machines, have operated for 15-20 years without needing an oil change.

Before filtration with GreenOil System.

After 8 hours cleaning with GreenOil System.

CIRCULATED PARTICLES IN A HYDRAULIC SYSTEM

Maintaining absolutely clean oil is recognized as best practice, significantly reducing downtimes and repairs—by 5-10 times for hydraulic systems and 4-8 times for lubrication systems. Furthermore, the lifespan of components can be extended by 4-8 times. Improved filtration is essential to minimize costs, repairs, and downtimes, while also considering the equipment's longevity.

A hydraulic plant with a pump that circulates 200 l/min operates as follows:

Operating 8 hours pr. day, 250 days pr. year.

$$\textit{Circulated flow pr. year} = \frac{Q \times mins \times hours \times days}{1000} = \frac{200 \times 60 \times 8 \times 250}{1000} = 24{,}000\ m^3 / year$$

The cleanliness level of oil ***with*** GreenOil filter system, specified as **ISO 4406 12/9/4**

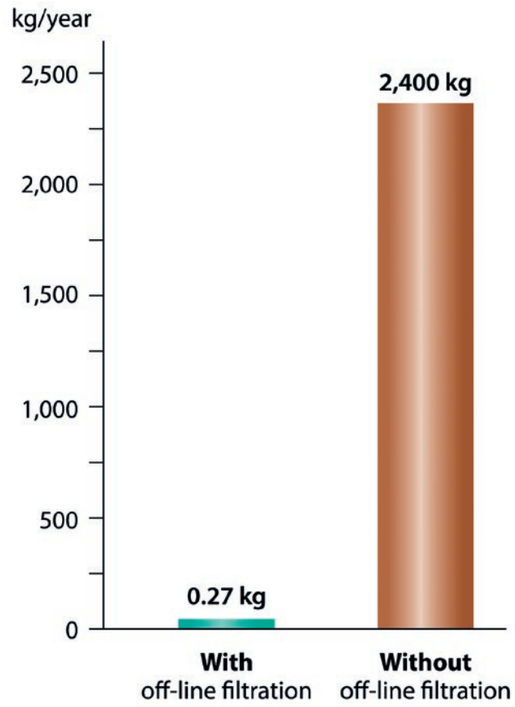
12 = 0.01 mg/l
9 = 0.001 mg/l Total: 0.011 mg/l = 0.000011 g/l
4 = 0 mg/l

$$\textit{Circulated flow pr. year} = \frac{24{,}000 \times 1000 \times 8 \times 0{,}000011}{1000} = \textbf{0,264 kg/year}$$

The cleanliness level of oil ***without*** GreenOil filter system, specified as **ISO 4406 23/21/15**

23 = 80 mg/l
21 = 20 mg/l Total: 100.2 mg/l = 0.1002 g/l
15 = 0.2 mg/l

$$\textit{Circulated flow pr. year} = \frac{24{,}000 \times 1000 \times 8 \times 0{,}1002}{1000} = \textbf{2,408 kg/year}$$



TECHNICAL DATA FOR HYDRAULICS, LUBRICATION AND GEAR SYSTEMS PARTICLE AND WATER SEPARATION

Technical Data	WP2-A4-40	WP2-A4-100	WP2-H4-40	WP2-H4-100
Filtered Oil Flow [l/h]	40-60	100-120	40-60	100-120
Oil Pressure In, max. [Bar]	1	1	1	1
Oil Suction Height [m]	3-4	3-4	3-4	3-4
Viscosity [cSt]	0-460	0-460	0-460	0-460
Power Supply [VAC - Hz]	110/230-50/60 and 3x400/440-50/60 Hz	110/230-50/60 and 3x400/440-50/60 Hz	1x230-50/60, 3x400/440-50/60 Hz	1x230-50/60 and 3x400/440-50/60 Hz
Power Consumption [W]	340	370	340 + 1600	370 + 1600
Connections ["RG] (BSP)	1/2	1/2	1/2	1/2
Dimensions H x W x D [mm]	775 x 635 x 435	775 x 635 x 435	775 x 635 x 435	775 x 635 x 435
Weight [kg]	54	54	70	70
Materials	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless
Filter canister [liter]	1 x 8	1 x 8	1 x 8	1 x 8
Preheater	Option	Option	Standard 1600 W mounted on system	Standard 1600 W mounted on system
Alarm	Option	Option	Option	Option
Local Start/stop panel	Standard	Standard	Standard	Standard

Technical Data	WP2-A3-40 Mobile	WP2-A3-100 Mobile	WP2-H3-40 Mobile	WP2-H3-100 Mobile
Filtered Oil Flow [l/h]	40-60	100-120	40-60	100-120
Oil Pressure In, max. [Bar]	1	1	1	1
Oil Suction Height [m]	3-4	3-4	3-4	3-4
Viscosity [cSt]	0-460	0-460	0-460	0-460
Power Supply [VAC - Hz]	1x110 or 1x230-50/60	1x110 or 1x230-50/60	1x230-50/60	1x230-50/60
Max Power Consumption [W]	340	370	340 + 1600	370 x 1600
Connections ["RG] (BSP)	1/2	1/2	1/2	1/2
Dimensions H x W x D [mm]	1100 x 600 x 660	1100 x 600 x 660	1100 x 600 x 660	1100 x 600 x 660
Weight [kg]	57	57	63	63
Materials	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless
Filter canister [liter]	1 x 8	1 x 8	1 x 8	1 x 8
Preheater	Option	Option	Standard	Standard
Local/remote Start/stop panel	Standard	Standard	Standard	Standard
Hydraulic hoses	2 x 5 m 1/2"	2 x 5 m 1/2"	2 x 5 m 1/2"	2 x 5 m 1/2"

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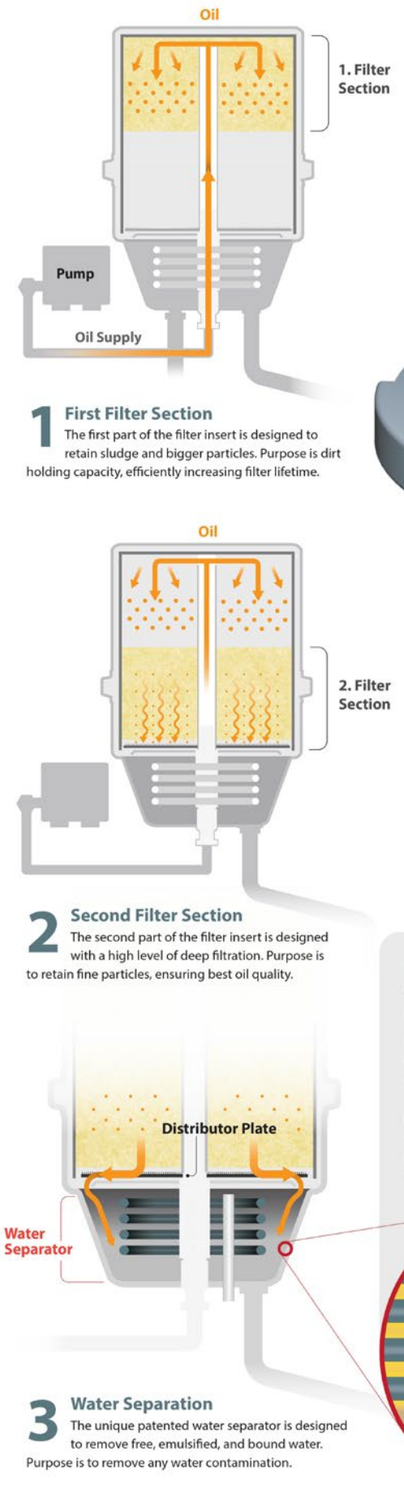
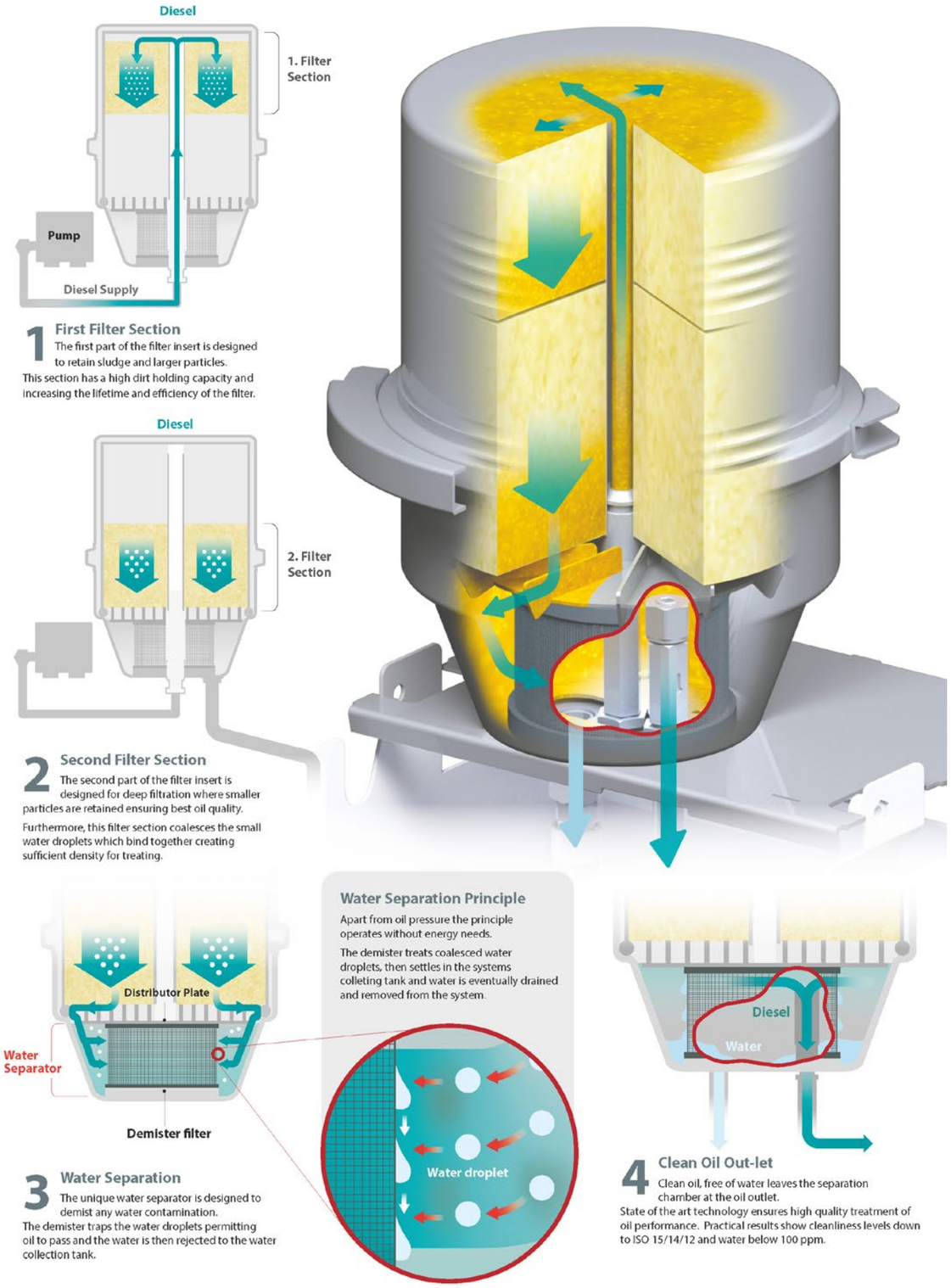


TECHNICAL DATA FOR DIESEL AND GAS OIL SYSTEMS PARTICLE AND WATER SEPARATION

Technical Data	WP1-C1-125	WP1-C1-250	WP1-C4-500
Filtered Oil Flow [l/h]	125-150	250-300	550-670
Oil Pressure In, max. [Bar]	1	1	1
Oil Suction Height [m]	3-4	3-4	3-4
Viscosity [cSt]	2-25	2-25	2-25
Power Supply [VAC - Hz]	1x230, 3x400/440 or 3x440-50/60	1x230, 3x400/440 or 3x440-50/60	1x230,3x400/440 or 3x690-50/60
Max Power Consumption [W]	250	250	370
Connections ["RG] (BSP)	1/2	1/2	3/4
Dimensions H x W x D [mm]	440 x 425 x 280	440 x 425 x 280	775 x 635 x 435
Weight [kg]	26	26	47
Materials	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless
Filter canister [liter]	1 x 8	1 x 8	1 x 8
Water drain tank	N/A	N/A	Standard
Local Start/stop Panel	Option	Option	Standard
Pressure and water alarm	Option	Option	Option
Water alarm			Standard

Technical Data	WP1-C4-1000	WP1-C4-1500	WP1-C4-2000
Filtered Oil Flow [l/h]	1000-1200	1500-1800	2000-2400
Oil Pressure In, max. [Bar]	1	1	1
Oil Suction Height [m]	3-4	3-4	3-4
Viscosity [cSt]	2-25	2-25	2-25
Power Supply [VAC - Hz]	1x230,3x400/440 or 3x690-50/60	3x400/440 or 3x690-50/60	3x400/440 or 3x690-50/60
Max Power Consumption [W]	370	750	750
Connections ["RG] (BSP)	3/4	1	1
Dimensions H x W x D [mm]	775 x 820 x 435	775 x 1105 x 435	605 x 1090 x 640
Weight [kg]	73	85	92
Materials	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless
Filter canister [liter]	2 x 8	3 x 8	4 x 8
Water drain tank	Standard	Standard	Standard
Local Start/stop Panel	Standard	Standard	Standard
Pressure and water alarm	Option	Option	Option
Water alarm	Standard	Standard	Standard



TECHNICAL DATA FOR HYDRAULICS AND GEAR SYSTEMS PARTICLE FILTRATION

Technical Data	WP1-P2-30	WP1-P1-60	WP1-P1-100
Filtered Oil Flow [l/h]	30-50	40-60	100-120
Oil Pressure In, max. [Bar]	1	1	1
Oil Suction Height [m]	3-4	3-4	3-4
Viscosity [cSt]	0-220	0-220	0-220
Power Supply [VAC - Hz]	1x110 or 1x230-50/60	1x 230 or 3x440-50/60	1x 230 or 3x440-50/60
Max Power Consumption [W]	110	125	125
Connections ["RG] (BSP)	3/8	1/2	1/2
Dimensions H x W x D [mm]	457 x 183 x 294	423 x 426 x 280	423 x 426 x 280
Weight [kg]	13	26	26
Materials	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless
Filter canister [liter]	1 x 3	1 x 8	1 x 8
Alarm	Option	Option	Option
Local/remote Start/stop panel	Option	Option	Option

Technical Data	WP1-P2-200	WP1-P2-400	WP1-P3-750
Filtered Oil Flow [l/h]	200-240	400-480	1230-1475
Oil Pressure In, max. [Bar]	1	1	1
Oil Suction Height [m]	3-4	3-4	3-4
Viscosity [cSt]	0-220	0-220	0-220
Power Supply [VAC - Hz]	1x230, 3x400/440 or 3x690-50/60	1x230, 3x400/440 or 3x690-50/60	3x440-50/60
Max Power Consumption [W]	225	550	750
Connections ["RG] (BSP)	1/2	3/4	3/4"-1"
Dimensions H x W x D [mm]	440 x 525 x 281	510 x 290 x 281	660 x 1150 x 441
Weight [kg]	26	36	91
Materials	AISI 304 Stainless	AISI 304 Stainless	AISI 304 Stainless
Filter canister [liter]	1 x 8	2 x 8	4 x 8
Alarm	Option	Option	Option
Local/remote Start/stop panel	Option	Option	Option

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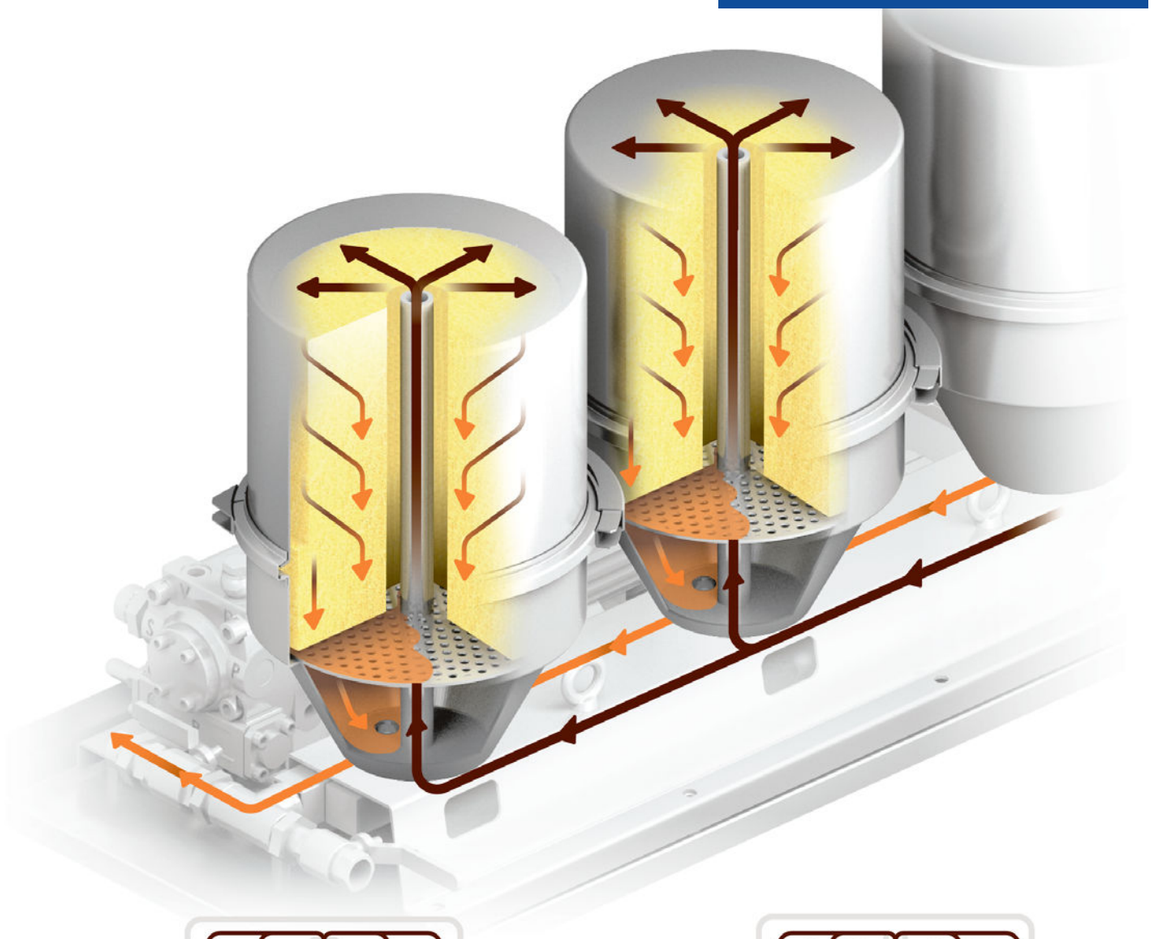
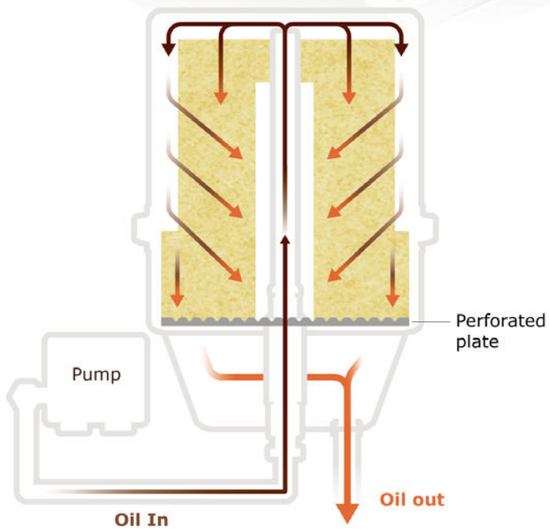
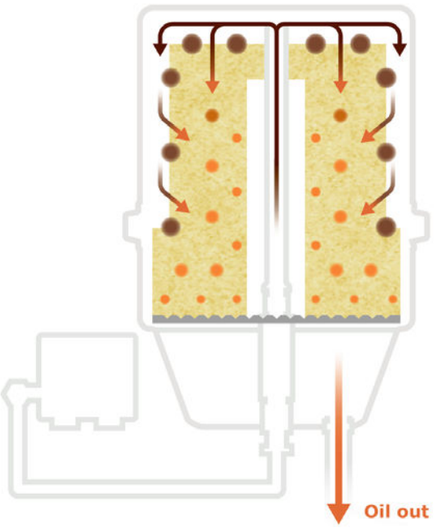




1 Filter Section

The filter insert is designed with a high level of deep filtration. Purpose to have large surface and deep fine filtration for high dirt holding capacity, efficiently increasing filter lifetime.



2 Particle reduction

The filter insert is designed to retain sludge, particles, combustion residues, varnish, oxidation and water from any engine application.

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