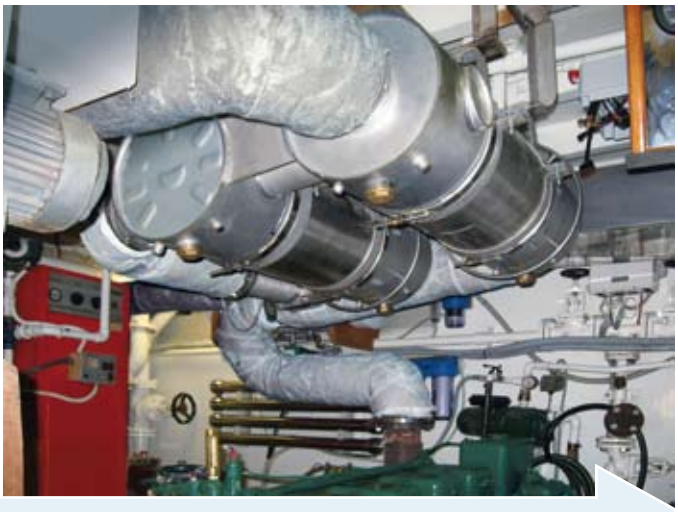
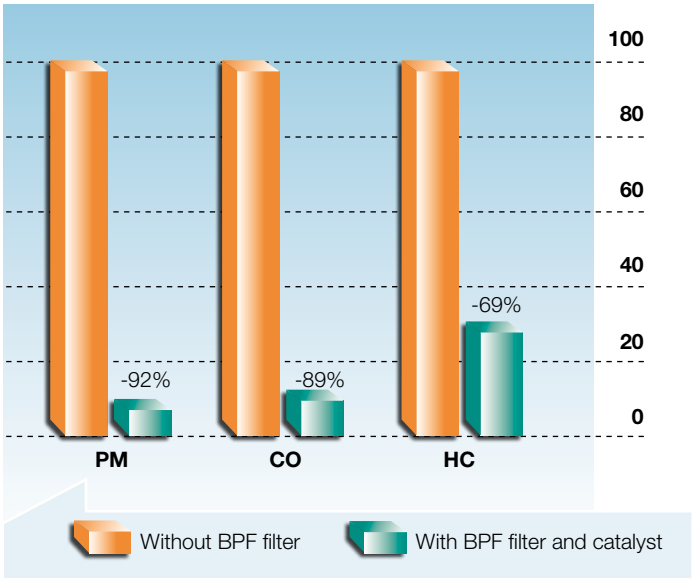


Application on a boat

With over 30 years experience in the design and production of exhaust purification systems, Bersy now offer the new BPF filter, capable of reducing carbon particles from the exhaust of a diesel engine by up to 90%.
The BPF system is based on a Silicon Carbide filter which is able to retain very fine un-burnt carbon particles.
The Silicon Carbide Filter continuously regenerates during use, with the assistance of a fuel additive.
An oxidising catalyst is applied at the lower part of the filter in order to ensure a substantial reduction of CO and HC exhaust emissions.

Generator application

Due to the increasingly stringent environmental regulations and the necessity to provide quality working conditions, Bersy are constantly developing new technologies to reduce pollution from the exhaust emissions of diesel engines.
Fine dust or particulate matter (PM 10) is classed as very dangerous, not only to the environment but also the human health.
The micro particles in the particulate can be inhaled and cause serious respiratory tract diseases.
The need to respect and safeguard the marine environment is promoting the application of particulate filters for gen sets used on board.



It is possible to apply the BPF filter system to all diesel engines, including retrofit applications.

The BPF filter system produced by Bersy is certified by VERT in Switzerland.

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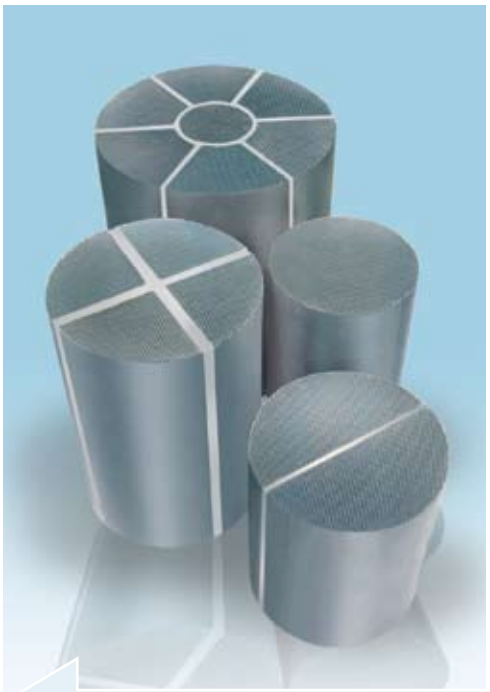
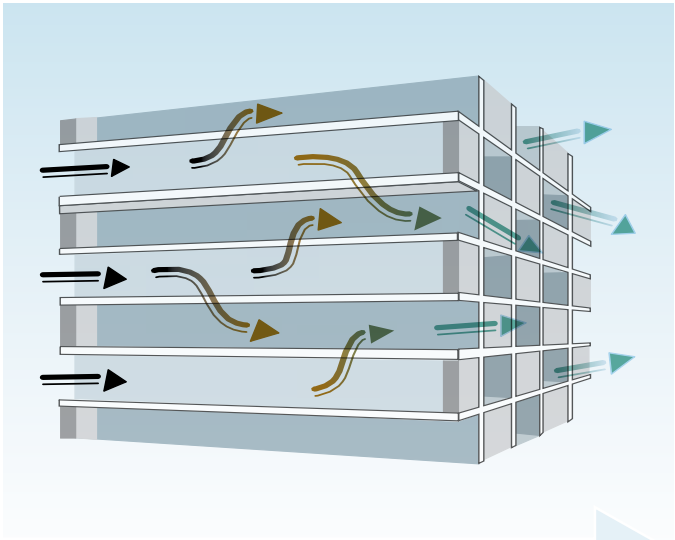
OPERATING PRINCIPLE

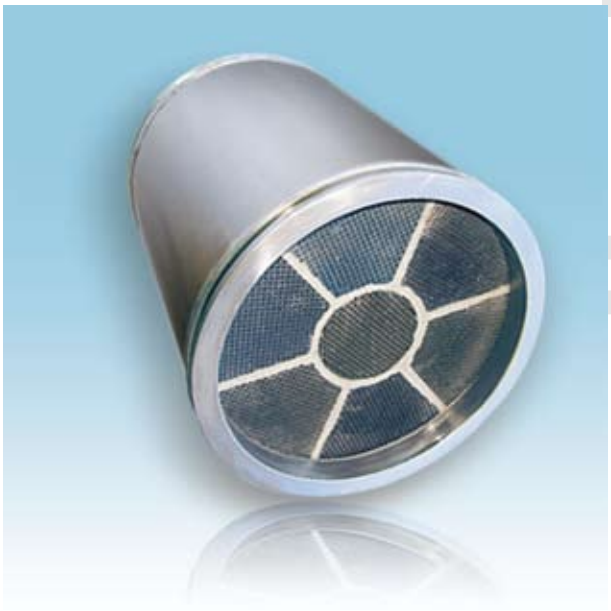
The BPF filter system is based on a Silicon Carbide filter, offering maximum heat resistance and structural stability at high temperature.
The Silicon Carbide filter is manufacture as an extruded honeycomb structure to ensure the highest level of filtration through the filter channel walls.
The specific configuration and geometry of the filter channels allows the retention of up to 90% of all particulate matter (PM), including very fine un-burnt carbon particles.
Unlike other filters, the BPF system is not limited to use with low-sulphur content fuel.



Filters

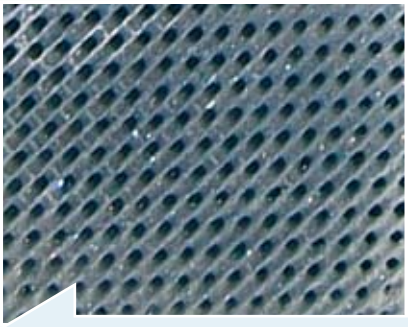


Schematic



FILTER LIFE

The BPF Silicon Carbide filter is highly wear resistant, and can be operated continuously without affecting the performance of the filter.
An oxidising catalyst is included in the BPF system after the Silicon Carbide filter.
This catalyst has an average life of 10,000 working hours, after which it must be replaced.



Detail of filter

particulate filters

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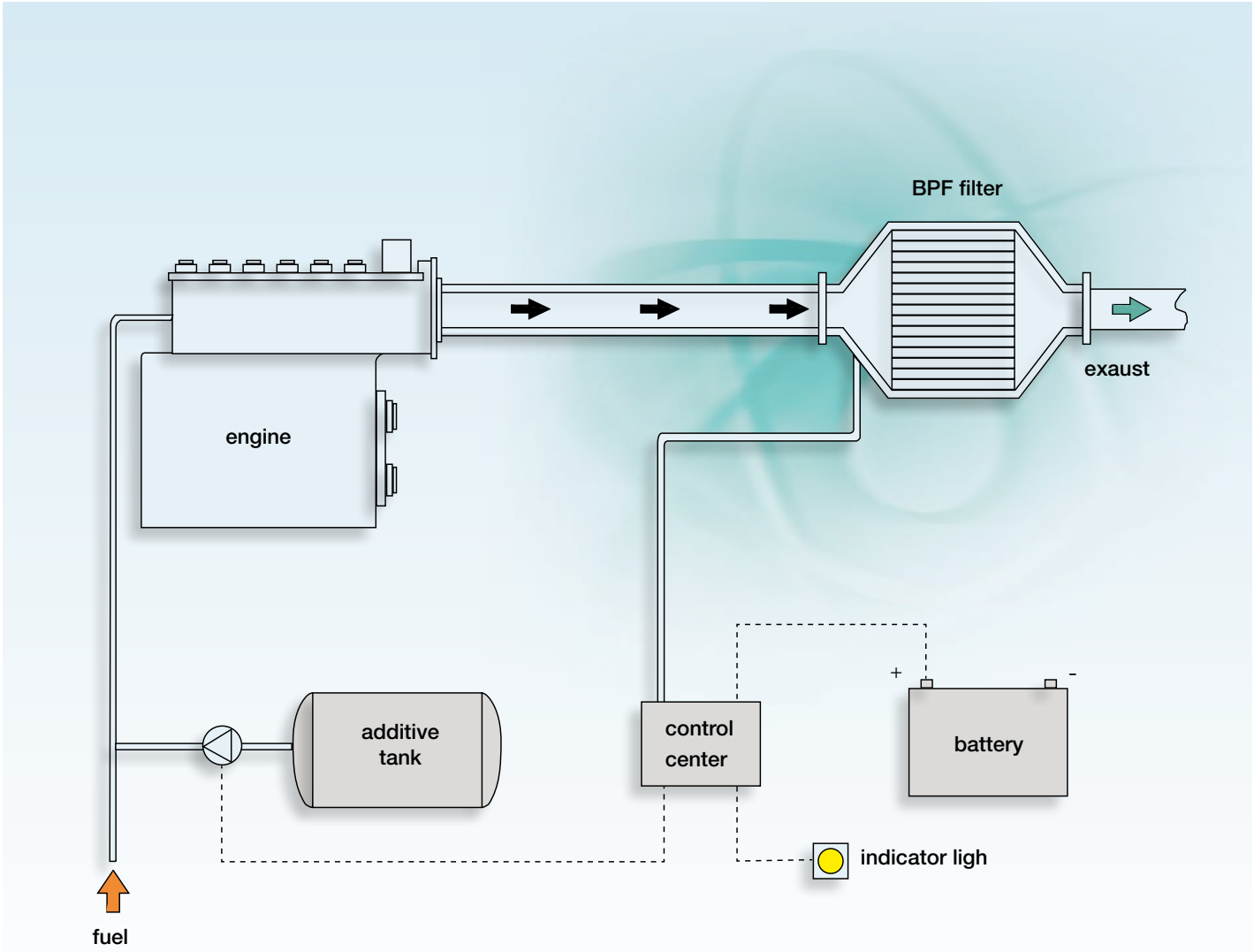
REGENERATION AND ADDITIVE

Regeneration is the process in which the un-burnt carbon particles, retained within the filter, are combusted.
To achieve complete combustion of the particulate matter, temperatures in excess of 650 °C are normally required, which cannot be reached by common endothermic engines.
Various technologies are available for reducing the combustion temperatures necessary for triggering regeneration.
To solve this problem the Bersy BPF filter system includes a fuel borne catalyst (FBC) additive to assist the process of regeneration.

The FBC additive is dissolved in the fuel, reducing the temperature of regeneration to 280-300°C; combustion temperatures typically experienced with vehicle exhaust gases.
The FBC additive is an extremely soluble, organic metallic compound, which is measured directly into the gas oil tank.
An additional tank is installed inside the vehicle and the dosing can be either a manual or electronically automated system.
The intrinsic chemical and physical features, as well as very low additive concentration (appox. 1000 ppm) ensures the FBC additive complies with EN590 rules.



Schematic

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FITTING INSTRUCTIONS

The BPF filter make use of the high temperature of the exhaust gases to improve the efficiency of the oxidising catalyst, and allow complete regeneration to take place.
The best performance is achieved when the BPF filter system is installed as close as possible to the engine, and the connecting pipes and filter are insulated.
It is necessary to install the BPF filter to the exhisting exhaust with flexible piping, in order to avoid breakages due to vibration.
To simplify assembling, the BPF filter is supplied with counter flanges, gaskets, bolts and fixing brackets.

Pressure line

Application on a boat

MAINTENANCE

The BPF filter does not require any periodical maintenance, as the filter remains clean due to the elimination of carbon particles and organic residues during filter regeneration.
The only inorganic compound not eliminated by filter regeneration is the ash produced by the combustion of lubricating oil.
This ash must be removed by heat treatment (>600°C) in a furnace after approximately every 2000 working hours, depending on the operating conditions and maintenances of the engine.
This service is offered by Bersy and our authorised dealers.
Due to its specialised application, the oxidising catalyst (located in the lower part of the filter) dos not required planned maintenance. However, we recommend cleaning the catalyst every 2000 working hours.
The cleaning process consists of washing the catalyst with warm water and neutral detergent, in order to remove any un-burnt carbon particles that may have been deposited on the surface of the catalyst.

Additive tank

Electonic control centre

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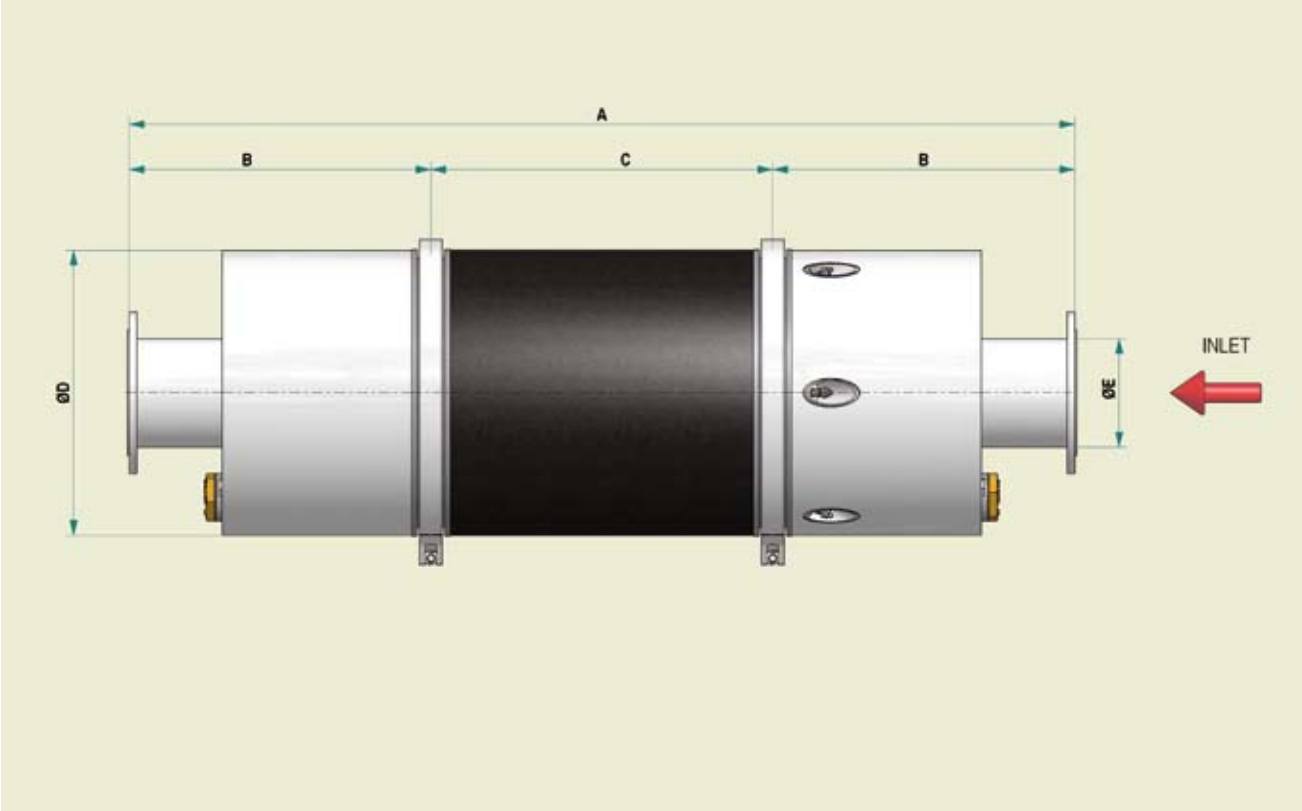
particulate filters



MOD.	DISPLACEMENT	A	B	C	Ø D	Ø E
D 50	0 - 1700	950	340	270	160	50
D 80	1700 - 2900	935	350	235	200	60
D 110	2900 - 3900	1010	350	310	200	60
D 150	3900 - 5000	1125	370	385	200	80
D 200	5000 - 6400	1050	370	310	270	80
D 250	6400 - 7700	1140	390	360	270	102
D 300	7700 - 9800	1140	390	360	302	102
D 400	9800 - 11400	1190	390	410	302	114
D 450	11400 - 12200	1215	390	435	302	114
D 500	12200 - 13900	1215	390	435	320	114

all dimensions in mm

IN ORDER TO CHOOSE THE CORRECT BPF MODEL,
READ THE APPROPRIATE DISPLACEMENT DIRECTLY FROM THE TABLE

The dimensions shown in the table are approximate.
The BPF filter is supplied with counter-flanges, gaskets, bolts and fixing brackets.

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