

SK Filter

Automatic Back-flush Filter for FCC catalyst



Strong Point

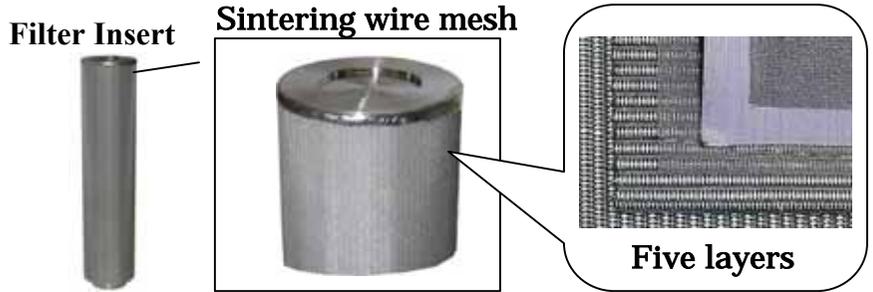
- Nominal 5μ (abs. 15μ) of sintering wire mesh is adopted for filter insert.
- It is multi cylinder type. The element size is small and easy to handle.
- It is no breakdown and a low price by simple structure.
- The restoration rate is almost 100% by back-flushing.



AMEROID

Grounds of abs. 15 μ

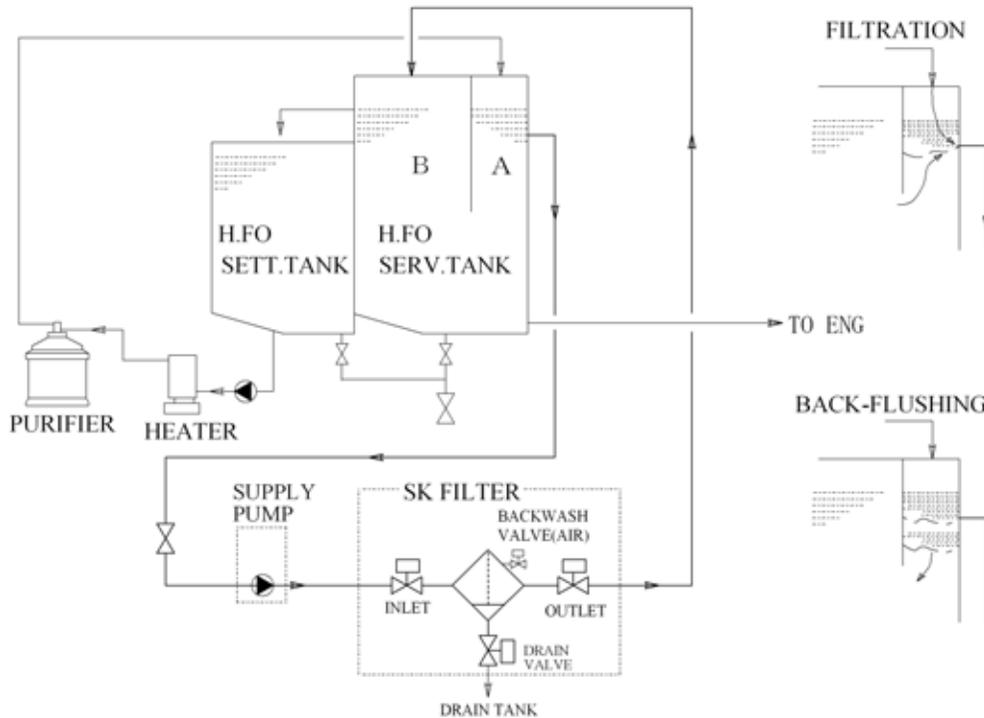
The clearance between plunger and barrel of the fuel injection pump is said 15-18 μ for a low-speed engine. When the FCC catalyst enter to this clearance, it causes abnormal wear-out and the stick. Therefore, when the filterability is absolute 15 μ with reliability, the 15 μ (or more) FCC catalyst is not able to be into this clearance and the **abnormal wear-out can be prevented**.



Particular

- The multi cylinder type can be enlarged the surface area compared with one cylinder type in the same space. That means **a big flow rate in a small space**.
- Also, it is **easy to detach** the filter insert. If the insert is damaged, you only have to change the damaged insert.
- As the function of back-flush is to move oil from the inside to outside of the filter insert by air pressure, **the restoration rate almost 100%** is achieved.
- As the oil in the housing is all drained by back-flushing, the contamination that flake off from the filter is all released.
- The drain oil goes directly to the storage tank or it is received at the drain tank once and transported to the settling tank.
- The operation part is only automatic valve and supply pump so the price for the filter is **low** by such a **simple structure**.
- SK Filter is a "Guard Filter". The contamination is removed outside of the tank by centrifuge.
- SK Filter is normally back-flushed by **timer or differential pressure**. If the back-flush suddenly happens very often by the differential pressure, SK filter warns the signal - it can be considered - that the oil including **large amount** of contamination has come or the **condition of centrifuge** is not good.
- We do **Wash Service** of the filter insert. We will take off the contamination by an ultrasonic wash machine, high-pressure air etc. which cannot be removed by usual back-flushing. It is possible to wash it in the **shipboard**.

Recommended piping



Conditions: SK filter supply pump > Purifier supply pump
Prepare a buffer column in a service tank

Back-flush process

1. Back-flush is started by differential pressure (0.05MPa) or timer (Every eight hours usually) automatically.
2. SK supply pump is stopped and both inlet valve and outlet valve are closed.
3. Air valve is open 10sec. to increase the pressure of the housing. Then, drain valve is open.
4. Air valve and drain valve are closed.
5. Both inlet valve and outlet valve are open and SK supply pump is started.

Flow in the service tank

As the flow rate of SK pump is larger than the purifier, oil flows up from the bottom at A side in the service tank. Therefore, the whole quantity of oil that comes from the purifier is taken to SK filter, and B side in the service tank is always filled with the oil filtered by SK.

While SK is back-flushed, SK supply pump is stopped and oil is not taken to SK. And the level of oil that is passed through only purifier (untreated oil) falls at A side. However, because back-flushing time of SK is less than 3 minutes, if the column has capacity for 3 minutes of fuel consumption, the usual filtration begins before the untreated oil infiltrates into B side.

Merit

1. The number of cleaning circulation by SK filter can be increased.
2. It is possible to shift to the operation that the only purifier works without any valve switching even if SK filter is stopped in this piping.
3. The by-pass filter is unnecessary.

SPECIFICATION

Model		SK5-7-15	SK5-13-15	SK5-19-15	SK5-13W-15	SK5-19W-15
Number of element		7	13	19	26	38
Filterability		5 μ				
Flow rate L/H		2200	4100	6000	8200	12000
Working Pressure		0.1 ~ 0.5MPa				
Temperature		Less than 150				
Differential pressure		0.05MPa				
Connection	Inlet, outlet JIS10K	32A	32A	40A	50A	50A
	Drain JIS10K	25A	32A	32A	40A	40A
	Air	3/8	3/8	3/8	3/8	3/8
Use air for back-flush NL/1time		300	435	584	870	1168
Contained Oil volume L		55	81	110	162	220
Material	Housing	STPG370				
	Element	SUS316L (End cap SUS304)				
Dimension	Length	890	900	950	1350	1515
	Width	895	885	957	1350	1405
	Height	1200	1200	1200	1200	1200
	Overhaul height	1150	1300	1375	1300	1385
Power supply		AC110V-60Hz-1 ϕ				
Air supply		0.4 ~ 0.7MPa				

Equipment goods

Standard: Instrument board, pressure gauge, differential pressure switch, timer, automatic valve (inlet, outlet, drain, and air), counter, electricity trace, raging, control boards.

Option: Filter supply pump

Note

The flow rate for SK Filter is 1.2 times or more the fuel consumption rate.

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