

Exhaust gas cleaning system

SOx Scrubber



Features a compact and lightweight cyclone design with low pressure loss.

Regulations on emissions of sulfur oxide (SOx) and particulate matter (PM) in exhaust gas are being gradually strengthened by the International Maritime Organization (IMO).*

Although ships need to use low sulfur fuel oil to comply with the regulations, operators have been concerned that price differences between conventional high sulfur fuel oil and low sulfur fuel oil will increase their operating costs.

With the recognition of exhaust gas cleaning systems (EGCS) by the IMO, these systems are accepted as equivalent measures for reducing emissions and they enable the continued use of high sulfur fuel oil.

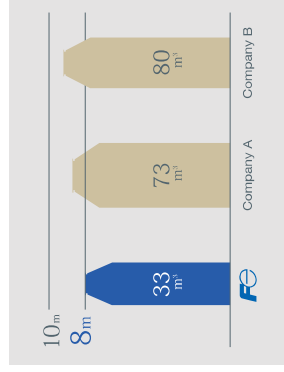
*1: MARPOL 73/78 (International Convention for the Prevention of Pollution from Ships, 1973, 1978), Amended Annex VI: Prevention of Air Pollution from Ships.



Compact design

The world's smallest commercial scrubber.*2
Easy to install on new ship builds as well as for retrofitting of existing ships.

*2: 12 MW class, as of 2018 *According to our research



Excellent
installability



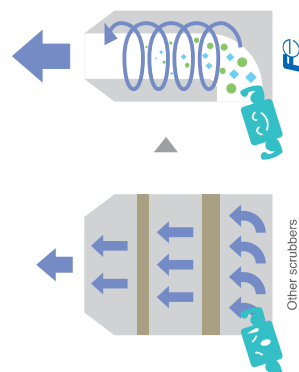
High desulfurization efficiency

The world's first SOx scrubber with a cyclone design. The highly diffused spray of wash water inside the unit increases the area and time of contact between the exhaust gas and water.

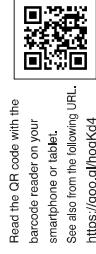


Low Pressure Loss

The cyclone design features a simple structure that uses only spray nozzles inside the SOx scrubber.



SOx Scrubber Product Introduction Movie



Read the QR code with the barcode reader on your smartphone or tablet. See also from the following URL. <https://goo.gl/hocKd4>

Laser gas analyzer (SO₂/CO₂)

Fuji's laser gas analyzer has been developed for marine use with stable performance and high reliability under harsh environment.

In addition, it facilitates low maintenance with superior long term stability without frequent calibration.

■ Features

- Occupying less space gives it a major advantage with easy installability
- Stable performance & longer maintenance cycle
- Long term stability (Zero drift: $\pm 2\%$ FS/6months)

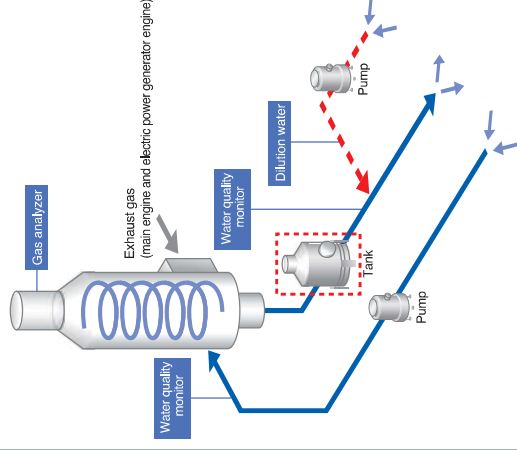
■ Specifications

- Dimensions (WxDxH)mm : Extraction unit (400(W)×300(H)×250(D) mm)
*Depth varies with diameters of the stack.
Detection unit (350(W)×826(H)×235(D) mm)
Interface box (500(W)×397(H)×144(D) mm)
- Weight : Extraction unit (About 15 kg)
Detection unit (About 25 kg)
Interface box (About 20 kg)



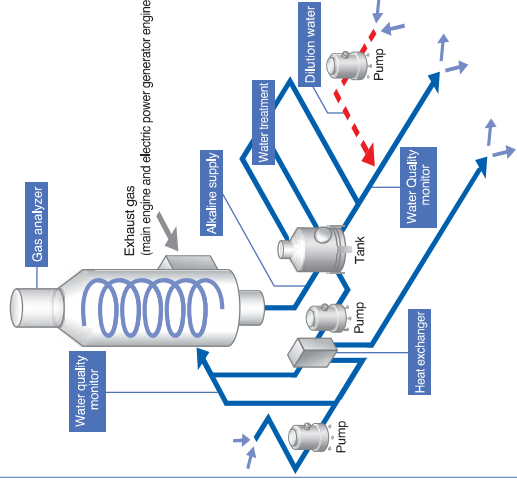
● Open-loop system

While the ship is underway on the ocean, an open-loop system is operated in which seawater is pumped in for use and can be drained back into the sea. An open-loop system uses less auxiliary equipment and helps keep the investment burden smaller.



● Hybrid system (Open-loop and closed-loop switchover)

When the ship is in a drainage-regulated area such as in coastal regions or rivers, the system is operated in closed-loop mode in which the used seawater is treated with a chemical and reused. A hybrid system can operate in either open-loop or closed-loop modes.

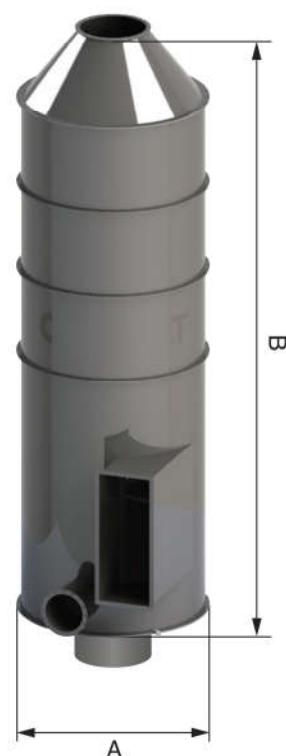


System Design

		Size [$\phi \times H$] (A $\times$ B)	Dry Weight
up to 8 MW	S	2.0 $\times$ 7.0 m	5000 kg
up to 12 MW	M	2.3 $\times$ 8.0 m	6000 kg
up to 16 MW	L	2.7 $\times$ 9.2 m	6500 kg
up to 18 MW	2L	Under preparation	—
up to 24 MW	XL	Under preparation	—

* Sizes may change depending on design conditions.

* Multi-inlet (main engine + auxiliary engine) support is possible.



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