KUEHNE+NAGEL

2020 Low Sulphur Regulations

Do you know how a scrubber works?

As of 1 January 2020, the IMO (International Maritime Organization) regulations require to limit the output of Sulphur Dioxide. There are basically three ways to comply with the requirements:

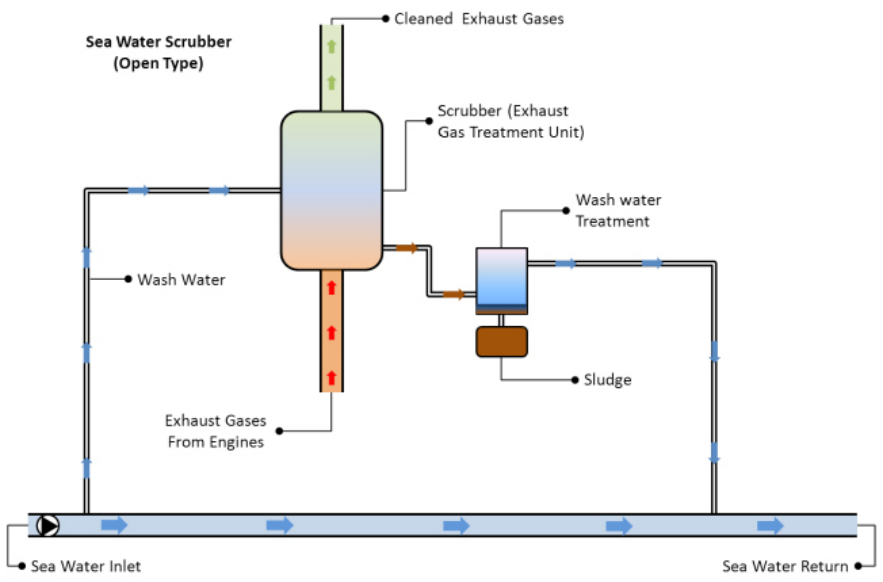
- Burn Low Sulphur Fuel (max 0.5%)
- Use LNG (Liquid Natural Gas)
- Install a scrubber

The first two options are well known in the shipping industry, but what exactly is a scrubber?

Traditionally, the term “scrubber” refers to pollution control devices that use liquid to wash unwanted pollutants from a gas stream. It is a system that is designed to use water to wash the exhaust gases from main, auxiliary and boilers to remove Sulphur Dioxide (SO2). SO2 is a toxic gas that is harmful to human health and the environment.

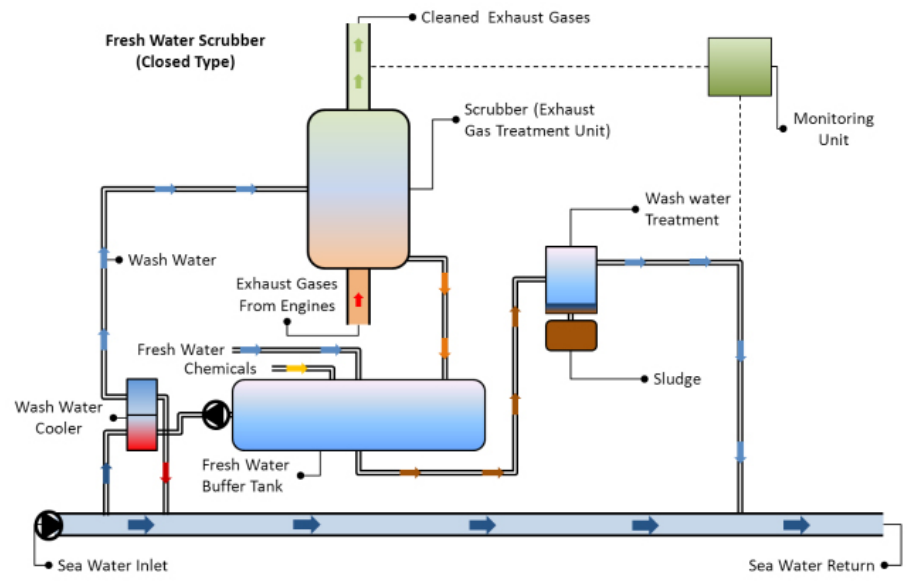
There are different designs in the market today, however they could be divided into two categories, open and closed types. Power consumption of operating a scrubber system is typically between 1-2% of main engine power.

Open type Scrubber



The open type uses sea water to wash the exhaust gases. The wash water is then treated and discharged back to the sea, with the natural chemical composition of the seawater being used to neutralize the results of SO2 removal.

Closed type Scrubber



The closed type uses fresh water in “closed” fresh water circuit that is treated with an alkaline chemical such as caustic soda neutralization and scrubbing. The wash water is re-circulated and the losses is made up with additional freshwater. A small quantity of the wash water is bled off to a treatment plant before discharge to the sea. The system could also be designed with a holding tank for zero discharge for a certain period.

The scrubbers have an estimated cost of approximately USD $7 million, with three weeks of installation time. In the long run, the scrubbers seem to be the most cost efficient method currently available.

What remains is an ethical concern, with regards to the handling of the residue. Disposal of the residue is yet to be confirmed, but the shipping lines are focused on developing solutions that are environmentally friendly.

If you would like to find out how the Low Sulphur Regulations will be applied, please contact your local Kuehne + Nagel representative for further information.