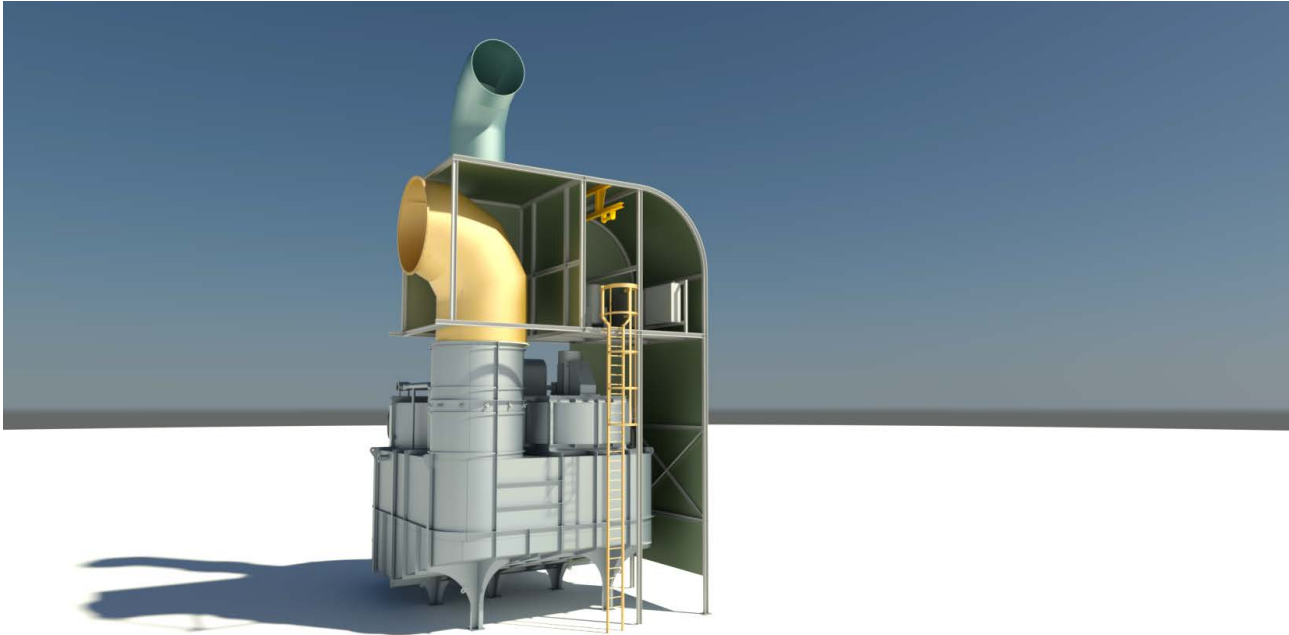


# OPEN DECK INSTALLATION



## Cut installation cost and time with an open deck scrubber installation

The newly developed "naked scrubber" reduces total installed weight of infrastructure by more than two thirds, which means significant CAPEX savings on the scrubber itself and no need to strengthen the ship structure prior to installation.

The simplified scrubber also reduces installation time from 4-5 weeks to 3 weeks, thereby cutting docking costs significantly too. A pre-fabricated electric room is one of the solutions that enable significantly shorter installation time. All critical components on the open deck scrubber are protected from harsh sea conditions.

The Compact "naked" hybrid scrubber can run with both open and closed loop, thereby avoiding conflict with ports that have prohibited the use of open loop scrubbers. It can easily be inspected and maintained by the vessel crew in order to maximize operational uptime.

The scrubber is made of high-grade stainless-steel material and is easily incorporated with the ship's boilers. It comes with a proven zero back pressure construction that has already had more than 10,000 hours of operation with boilers the past few years. Favorable placement of electronics and simplified cable connections make it easy to install and maintain. Which is often a time-consuming process during the installation.

## Key features

### Reduced installation cost:

- Installation time reduced from 4-5 weeks to 3 weeks
- Prefabricated electrical room with cabinets installed
- Installation weight reduced by two thirds

### Closed loop/open loop operation:

- Open loop cleaning to 0,5% Sulphur equivalence with seawater only
- Open loop cleaning to 0,1% Sulphur equivalence with seawater + NaOH - No alkalinity restrictions
- Closed loop - seawater + NaOH dosing where zero discharge is called for

### pH:

- Open loop 0,5% Sulphur – seawater only (pH 6,5 at 4m)
- Open loop 0,1% Sulphur – seawater +NaOH (pH 6,5 at 4m or pH 6 at shipside in VGP)

## Benefits

One Fuel, All sources, All waters, All time

