



Client Case Study

AirPol Designs Innovative Horizontal Flow Ship-Board Scrubber for 15 MW Marine Engine Emission Control Requirements

Challenge: Develop a “solution” resulting from changing regulations.

Goals:

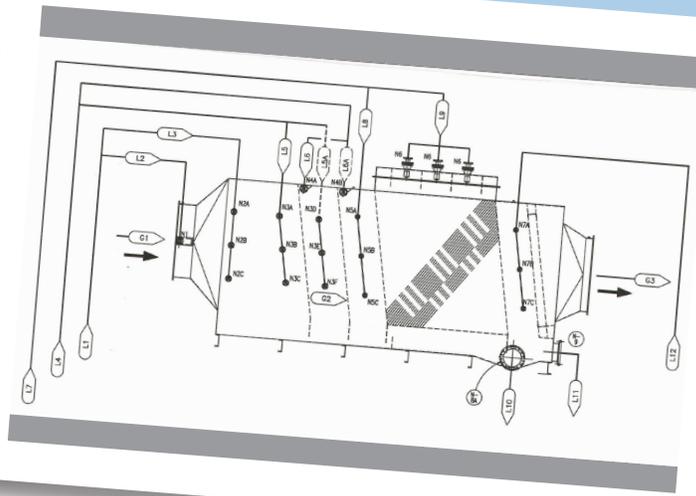
As part of the effort to meet new regulations on ocean-going ship emissions scheduled to go into effect in 2020 the large marine engine exhaust needed add-on control for particulate and SO₂. The scrubber needed to be designed to accommodate the pitch, roll and heave of the ship.

Solution:

AirPol custom designed a combination quench/particulate and acid gas absorption horizontal flow scrubber using seawater as the scrubbing medium. The hot exhaust gas volume was relatively large at 125,000 ACFM at 570°F. The design employed multiple scrubbing techniques employing spray banks, impingement trays and packed media bed in a vessel constructed of SMO254 and 2205 duplex alloys. This approach eliminated the need to have the scrubber penetrate the vessel deck, allowing a very easy retrofit installation with the exhaust diverted and then returned to the existing ship's exhaust stack.

Conclusion:

The scrubber will be fabricated in Singapore and installed when the ship is in port for an extended layover and trial run.



Project at a Glance

Application:
Quench/particulate scrubber

Location:
Singapore

Industry:
Ocean Cargo Transport Company

Year Installed:
2020