



Alfa Laval PureScrub H2O

Water cleaning system for SOx scrubbers



PureScrub H2O uses high-speed centrifugal separation to clean scrubber wash water in compliance with IMO legislation. It is the advanced water cleaning unit (WCU) used in closed-loop or hybrid configurations of the Alfa Laval PureSOx exhaust gas cleaning system, but it is also sold as a standalone product for use in wet scrubbers not designed by Alfa Laval.

Compact and easy to operate, PureScrub H2O is available in different sizes to suit a variety of flow rates. All equipment comes installed and tested on a common frame, which is divided into three modular skids to simplify retrofit installations.

Applications

A closed-loop scrubber or a hybrid scrubber operating in closed-loop mode requires water cleaning as the recirculated water becomes dirty with soot. When wash water is bled off from the scrubber system, its solids content must be reduced to 25 FTU or below before it can be discharged overboard.

PureScrub H2O is proven under real-life operating conditions and is unaffected by varying engine conditions or rough weather. It provides:

- Reliable reduction of solids content in the wash water – generally to well below the required 25 FTU

- Measurement, control and logging of MARPOL Annex VI wash water criteria
- Continuous operation with instant bleed-off and automatic chemical dosing only when necessary

Benefits

PureScrub H2O uses high-speed separation technology, which means continuous and highly reliable operation. It reduces the solids content of scrubber water to well below the required 25 FTU – even when subjected to varying engine conditions and rough weather. Dangerous particulate matter is cleaned from the scrubber system, while the waste volumes for disposal are kept to a minimum.

- Proven technology endorsed by more than 120 references for scrubber water cleaning
- Continuous and reliable operation
- Flexible, modular design to meet the requirements of most vessels
- Competitive operating costs – low maintenance and waste volumes
- Safe, easy operation with automated control and monitoring
- Password switch for overboard discharge only by authorized personnel

Design

PureScrub H2O comprises the following equipment, delivered as a modular unit assembled from three skids:

- SWPX separator with ancillary equipment
- Scrubber water feed pump
- Chemical dosing pump with retention tanks
- Control cabinet

Working principle

The PureScrub H2O water cleaning unit (WCU) is a standalone system equipped with its own control and monitoring unit. It is intended for cleaning the wash water of SOx scrubbers during closed-loop (freshwater) operation.

PureScrub H2O is designed to operate as subsystem to a superior scrubber system. It does not provide monitoring and control of the main process water (scrubber water), although signals from the turbidity sensor can be used by the superior control system.

In normal operation, the WCU is enabled/disabled through the superior control system (scrubber system) via a few hardwired signals or Modbus commands: Start, Standby, Production and Bleed off.

The WCU operator panel has a separate button for putting the system under remote control from the superior control system. When remote control is activated, all input commands from the WCU panel are disabled and it is not possible to change parameters from the panel. However, it is still possible to navigate in the menus and to view process information or acknowledge alarms.

The WCU control unit signal interface is prepared for communication with up to two superior control systems (two scrubber systems). If both scrubbers are giving commands to the WCU simultaneously, the highest-level command is executed.

Operational data recorded

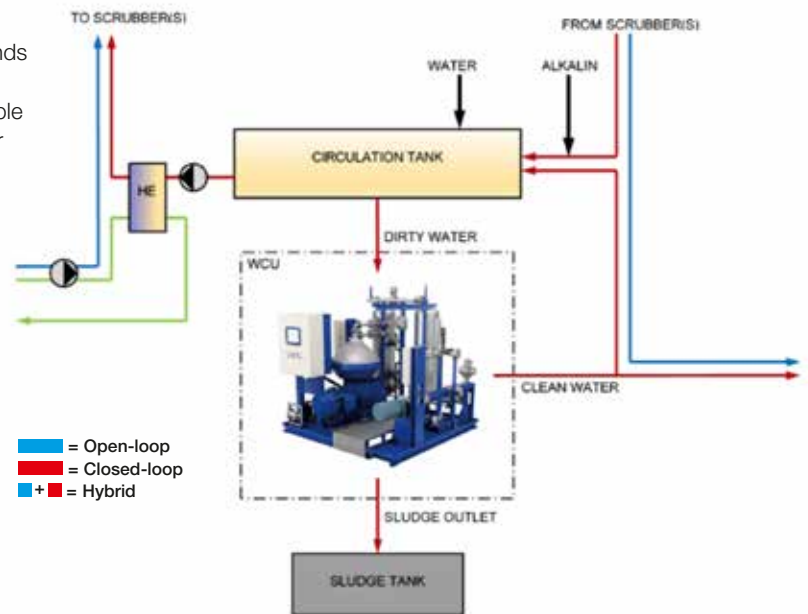
- Total water volume discharged overboard
- Current flow rate
- Overboard valve position
- GPS position of vessel
- Date and time
- Oil-in-water content (ppm)
- Active alarms
- Cover switch (open/closed)

Technical data

Media for treatment:

- Scrubber water containing mainly soot
- Seawater-resistant design

Module dimension (W x D x H)	2560 x 2500 x 2500 mm
Pump skid	2560 x 500 mm
Separator skid	2282 x 2000 mm
Dosing pump skid	443 x 600



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How to contact Alfa Laval

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