Alfa Laval AlfaPure S2

High speed centrifugal separation system for cleaning coolants, wash liquids, and mineral oils

Application

The Alfa Laval AlfaPure S2 is designed to clean service fluids in metal- working processes in industries, such as vehicle manufacturing (tier suppliers), and light industries, such as white goods, aerospace, metal components, and can manufacturing. The level of cleaning efficiency achieved using high-speed centrifugal separation greatly extends the lifetime of the service fluids. The result is lower costs due to reduced service fluid consumption, lower costs for disposal of used oil and filters, more plant uptime, and improvements in both product quality and working environment.

The AlfaPure S2 is available in concentrator, clarifier and purifier versions. Configured as a concentrator, the system removes tramp oil, grease and solid particles from water based coolants and wash liquids. The clarifier is a two-phase version where fine solids are removed from water-based coolants or wash liquids. The purifier version of AlfaPure S2 is for cleaning of mineral oils, removing water and fine solids, thus preventing wear, corrosion and breakdowns.

Design

AlfaPure S2 is a complete plug-and-play system comprising separator, feed pump, sludge pump and EPC 60 control system, mounted on a 1,550 x 900 mm frame. As an option, the frame can be fitted with wheels, simplifying installation and service and allowing the module to be wheeled from tank to tank.

Process liquid wetted parts are in stainless steel for optimal compatibility with coolants and wash liquids. The purifier version is equipped as standard with a recirculation valve and pipe, enabling heating and recirculation of the mineral oil, to raise the temperature to an optimal level for highest separation efficiency.

Operating principle

In the separator bowl, during the separation process, the centrifugal force presses any heavy particles present in the service fluid outwards against the walls of the separator, and they will be discharged automatically from the bowl to the sludge tank. Density differences, if two liquid phases are present (such as coolant and tramp oil, or mineral oil and water) will cause the two phases to separate. The light phase and heavy phase will exit separately through different outlets of the separator.

Due to their high speed, disc stack technology, and automatic discharge, Alfa Laval centrifugal separators are an extremely efficient and fast way to remove fine solid particles or liquid contaminants from different kinds of service fluids, using either a two-phase or a three-phase AlfaPure S2 module version.

Easy to operate

AlfaPure S2 is very easy to operate thanks to the EPC 60 control system with simple basic user interface and menus. A robust, well-proven system, designed to Alfa Laval standards and utilizing modern components, the EPC 60 is the standard PLC for Alfa Laval's popular range of separator modules.

The VFD-controlled feed pump (variable flow) has stepless adjustment for smooth feed, also making it possible to optimize separation performance. Sludge is automatically pumped from the intermediate tank to the disposal container. Automatic back pressure control is available as an option, providing extended automation and making operation even easier.

Normally installed in a bypass system, AlfaPure S2 operates continuously without interrupting machinery operations. This also means no plant redesign is needed.

Features and benefits

- Easy to operate thanks to the new EPC 60 control system with simple basic user interface and menus, and large, clear flow and pressure indicators.
- High capacity-to-size ratio. The module requires less than 1.3 m^2 of floor space and can handle tanks with a volume of up to 100 m^3.
- Easy to install, all connections on the same side, making hook-up fast and easy.
- Easy to service, good access to the separator, tanks and pumps.
- Disc-stack design and paring disc give optimal separation efficiency, minimizing oil residues in water and sludge and giving a higher capacity.
- The bowl design prevents bowl fouling and reduces the need for cleaning.
- The VFD-controlled feed pump (variable flow) has stepless adjustment for smooth feed and making it possible to optimize separation performance.
- Sludge is automatically pumped from the intermediate tank to any suitable disposal container.
- Service liquid wetted parts are in stainless steel as standard for the concentrator module version.

Optional equipment

- Surface suction device (water-based applications)
- Mobile execution (wheels)
- Automatic back pressure control
- Pre-filter (particle protection)
- PLC outputs for up to two level sensors
- Stainless steel components (pH 6-13)

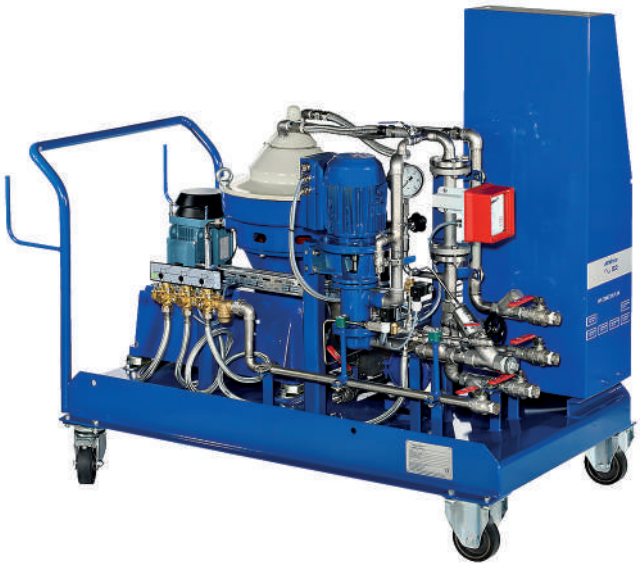
Technical data

Capacity	
Coolants and wash liquids	900-2000 l/h
Lubricating oils	500-1200 l/h at correct viscosity

Operating requirements	
Separation temperature	0-80°C
pH	6-13
Operating water pressure	200-600 kPa
Instrument air pressure	400-800 kPa

Installed power	
Unit for water-based liquids	3 kW
Unit for industrial oils	3 kW
Ambient temperature	5-50°C

Dimensions	
Stationary module (l x w x h)	1550 x 900 x 1265 mm
Mobile version (l x w x h)	1550 x 900 x 1448 mm
Weight	with bowl 500 kg, without bowl 465 kg
Power supply	3x400 V (380/440/460/480 V optional) 50 Hz (60 Hz optional)



The Alfa Laval AlfaPure S2 module has a footprint of less than 1.3 m^2. It is easy to install and simple to operate. AlfaPure S2 provides easy access to the separator, valves and pumps. The basic and smart design simplifies dismantling and maintenance.

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

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