



Alfa Laval AlfaPure S3

High speed centrifugal separation system for cleaning coolants, wash liquids

Application

The Alfa Laval AlfaPure S3 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 S3 is available in concentrator version. 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.

Design

The AlfaPure S3 is a complete, ready for connection system that consists of a separator, a feed pump, a sludge pump and an EPC-60 control system and on a 1800 x 900 (frame size) mm frame is mounted. Optionally, the frame can be provided with wheels, so that the installation and maintenance are simplified and the module can be moved from tank to tank. The wetted by process fluids parts are made of stainless steel to ensure maximum compatibility with coolants and wash liquids.

Operating principle

In the separator during the separation process, all heavy particles which are present in the working fluid, compressed by the centrifugal force outwards against the wall of the separator and automatically removed from the drum in the slurry tank. Density differences, which occur when two liquid phases are present (such as coolant and tramp oil or mineral oil and water), lead to a separation of the two phases. The light liquid phase and the heavy liquid phase can be separately derived 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 S3 module version.



Easy to operate

AlfaPure S3 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) allows a continuous adjustment for smooth feed, also making it possible to optimize the separation performance. The 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 S3 operates continuously without interrupting machinery operations. This also means that there is no need for any type of plant re-design.

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 1.7 m² offloor space and can handle tanks with a volume of up to 200 m³.
- Easy to install with all connections on the same side for a quick and easy installation.
- Easy to service with good access to the separator, tanks and the 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 deposits and reduces the need of cleaning.
- The VFD-controlled pump allows continuous adjustment for uniform inflow and makes it possible to optimize the separation performance.
- The sludge is automatically pumped from the sludge tank into any suitable disposal container.
- Service liquid wetted parts can be in complete stainless steel.

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 6-14)

Technical data

Capacity

Coolants and wash liquids	600-3000 l/h
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Operating requirements

Separation temperature	0-80°C
pH	6-14
Operating water pressure	200-600 kPa
Instrument air pressure	400-800 kPa

Installed power

Unit for water-based fluids	4 kW
Ambient temperature	5-50°C

Dimensions

Stationary module (l x w x h)	1800 x 900 x 1310 mm
Mobile version (l x w x h)	2070 x 900 x 1555 mm
Weight	with bowl 616 kg, without bowl 579 kg
Power supply	3x400 V (380/440/460/480 V optional) 50 Hz (60 Hz optional)



The Alfa Laval AlfaPure S3 module requires less than 1.7 m² of floor space. It is easy to install and operate. AlfaPure S3 provides easy access to the separator, valves and pumps. The basic and smart design simplifies disassembly 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