



Alfa Laval Centrifugal Pumps – the LKH, C and SP Series – are the models of efficiency for sanitary process industries.

Centrifugal Pumps

Performance and Reliability

The pump is at the heart of a process system. Uptime, efficiency, performance – they're determined by how well the pump works.

Professionals in sanitary process industries who recognize that fact are the very same people who trust Alfa Laval. We deliver quality. Selection. And value-added features that other companies simply don't offer.

Our centrifugal pumps – including Tri-Clover products that remain a key brand within Alfa Laval – have proven reliable time and time again. Inside and out, they are engineered and built for high-performance, low-maintenance and long

service life. Some models are ideal for low-viscosity applications. Some stand-up to tough, abrasive conditions. And others excel in applications that require absolute cleanliness.

If your working conditions demand a customized pump, our centrifugal pumps can be tailored – by you – to match your applications. Choose from different types of frames, rotors, seals, capacities and porting connections to make the ideal pump for your needs.

Today and tomorrow, Alfa Laval continually offers companies what they need to safeguard product quality and maximize process system efficiency. As a leading global provider – and worldwide organization that works closely with customers in almost 100 countries – you can trust Alfa Laval to provide quality, cost-effective solutions for your needs.

LKH Series

Our model of efficiency

As a leading manufacturer and supplier of premium, high-quality centrifugal pumps, Alfa Laval has quite a reputation to live up to. That's why, when you need to move product through a system gently and efficiently, LKH centrifugal pumps from Alfa Laval are your best solution. The enlarged inlets combined with an advanced impeller design result in unobstructed product flow and very low NPSH requirements.

Designed for either CIP or manual cleaning, these quiet pumps are available with capacities up to 1,300 gal/min and/or pressures up to 525 head in feet of water (227 psi). All product contact parts – casing, back plate, impeller and the impeller retaining bolt – are made of AISI 316L Stainless Steel. Polished models are USDA approved and exceed 3A standards so you can be sure you've got the most hygienic centrifugal pump possible.

- LKH – The premium centrifugal pump for most applications
- LKH-Multi-stage – For high outlet pressure at low capacities
- LKHP-High Pressure – For high pressure applications
- LKH-UltraPure – For high purity applications

LKH features and benefits

- Gentle product treatment
- Identical shaft seals for standard range (LKH – 5 to 60)
- Easy conversion from single to flushed shaft seal or double mechanical shaft seal
- Hygienic design can be easily cleaned in place (CIP)
- Easy maintenance at low costs
- Long service intervals
- Simplicity and cost saving in spare parts stock
- Low power consumption
- Low noise level
- Low NPSH requirements means minimum risk of cavitation
- Adjustable legs
- Large range of motor sizes from 1 Hp to 100 Hp
- Authorized to carry the 3A symbol
- Tested in accordance with EHEDG hygienic requirements



LKH Multi-Stage

LKH Multi-Stage

The space-savers

Available in two-, three- and four-stage models, our LKH Multi-Stage pumps can replace up to three booster pumps in a line, saving you space and energy. They're able to withstand system pressures up to 1,340 head (580 psi) and deliver boost pressures up to 554 head (240 psi). Maximum outlet pressure is limited to 1,440 head (624 psi).

These pumps are primarily used in applications with high-pressure and low-capacity requirements (e.g. breweries, reverse osmosis and ultra-filtration).

Designed to meet the 3A standards of the dairy industry, Multi-Stage units ensure long service intervals and easy maintenance.



LKH

LKH Multi-Stage Pump features and benefits

- Gentle product treatment
- Identical shaft seals for all sizes and for LKHP
- Easy conversion from single to flushed shaft seal
- Hygienic design can be easily cleaned in place (CIP)
- High outlet pressure at low capacities
- Long service intervals and easy maintenance
- Low power consumption for high efficiency
- Rigid construction with heavy-walled design
- Modular design
- Low noise level
- Adjustable legs
- Authorized to carry the 3A symbol
- Flow up to 132 gpm
- Head up to 554 feet (240 psi)



LKH UltraPure

LKHP

Built to handle pressure

Along with the standard features found in our LKH models, the LKHP high-pressure pumps feature a reinforced pump casing and back plate high-pressure internal seals, and multiple heavy-duty studs to handle high inlet pressures up to 1,440 head (580 psi).

The internal seal design not only helps maintain product integrity, it also allows for simple seal replacement. Seals are removed by hand in a matter of seconds from the front of the pump – without removal of the back plate. Such pumps are ideal for demanding reverse osmosis mono-filtration and ultra-filtration applications.

LKHP features and benefits

- Gentle product treatment
- Identical shaft seals for all sizes and for LKH Multi-stage
- Easy conversion from single to flushed shaft seal
- Hygienic design for easy CIP (clean-in-place)
- Long service intervals and easy maintenance
- Simplicity and cost-saving in spare parts stock
- Low NPSH requirement means minimum risk of cavitation
- Low noise level
- Stainless steel, AISI 316L
- Adjustable legs
- Authorized to carry the 3A symbol
- Flow up to 1,200 gpm
- Head up to 358 feet (155 psi)



LKHP

LKH UltraPure

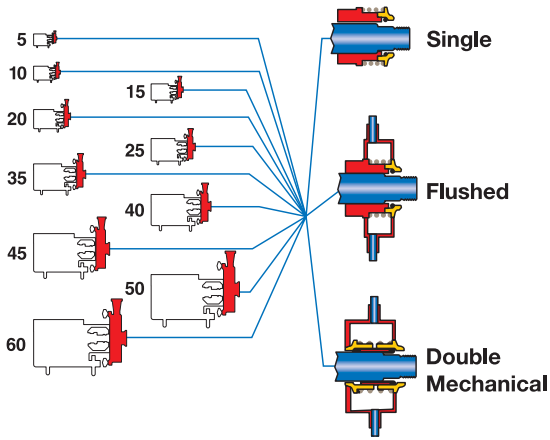
For high-purity demands

Our LKH UltraPure high-purity-water pumps meet specifications for water-for-injection (WFI) and other demanding applications. All surfaces which come into contact with product are AISI 316L stainless steel for corrosion resistance. The pump can be cleaned in place, sterilized in place or cleaned manually. It is also authorized to carry the 3A symbol. All other features of the standard LKH models apply.

Models include 10, 20, 25, 35 and 40. The minimal finish on our UltraPure pumps is 20 Ra (approximately 180 grit). Additional electropolishing is available.

Options include:

- Traceability on all product wetted parts, including spare parts
- Less than one percent ferrite version
- Zero dead leg diaphragm valve
- Fully drainable flush pipework (only single flush pipework system necessary)
- John Crane double 8 shaft seal
- Flowmeter



“Universal” shaft seal for easy maintenance and flexibility

Only one size of shaft seal is required for all LKH models (Series 5 through 60), so keeping the right parts in inventory is simple and inexpensive. Plus, a single mechanical seal can be easily changed to a flushed or a double mechanical seal in minutes with just a few extra components.

Spring-loaded, externally balanced shaft seal

No spring or other complex component comes in contact with the pumped product, making for a more hygienic seal. The external design allows for quick disassembly to simplify seal replacement, and allows for easy visual leakage detection to reduce the risk of contamination. The balanced seal is not susceptible to leakage due to high pressure or pressure shock.



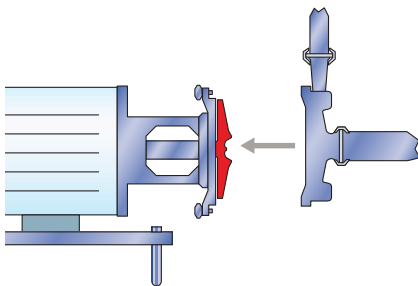
Single



Single Flushed

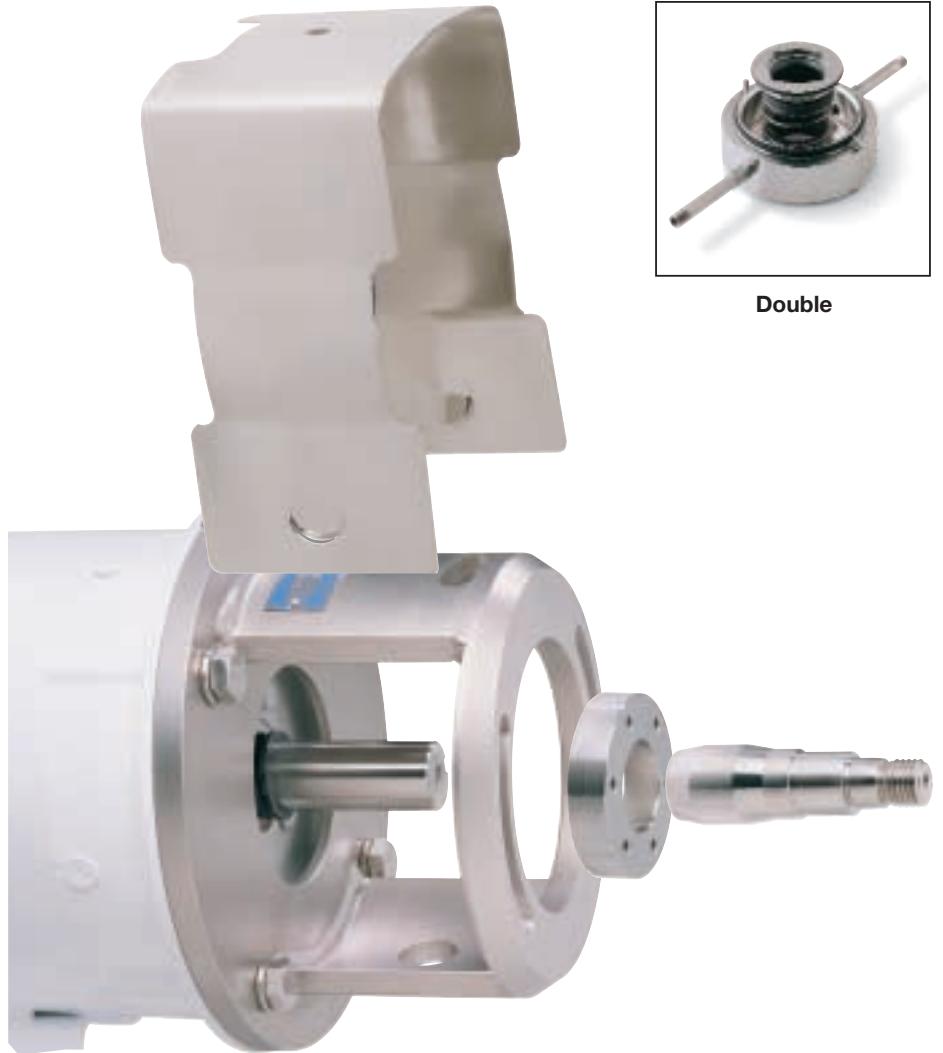


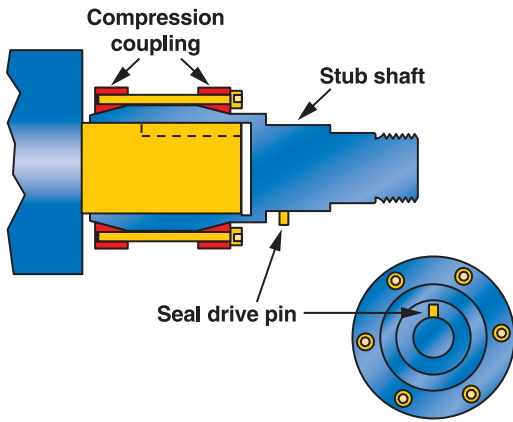
Double



Rugged casing design

Impeller casing wall is heavy stamped steel so there's less risk of material porosity. Close tolerances mean lower internal recirculation and less product damage.





Simple set-up and secure attachment

Self-centering to less than 0.001-inch runout, our unique stub shaft assembly design provides a simple, yet secure method of attachment that reduces vibration and noise and extends seal and motor life (not available with LKH-5). With our modular stainless steel adapter, you can attach our pumps to any C-frame motor. IEC motor attachment also available. No special tools are required.

Ease and performance – built right in

Interchangeable seal options

Three interchangeable seal types are available – single, flushed and double-mechanical.

Easy motor attachment

LKH Series 5 – 60 centrifugal pumps are easily attached to standard, readily available NEMA C motors.

Fast, easy maintenance

With Alfa Laval centrifugal pumps, you can keep the pump head in line when setting the impeller or changing seals, meaning faster, more convenient maintenance.

304 Stainless Steel adapter ring

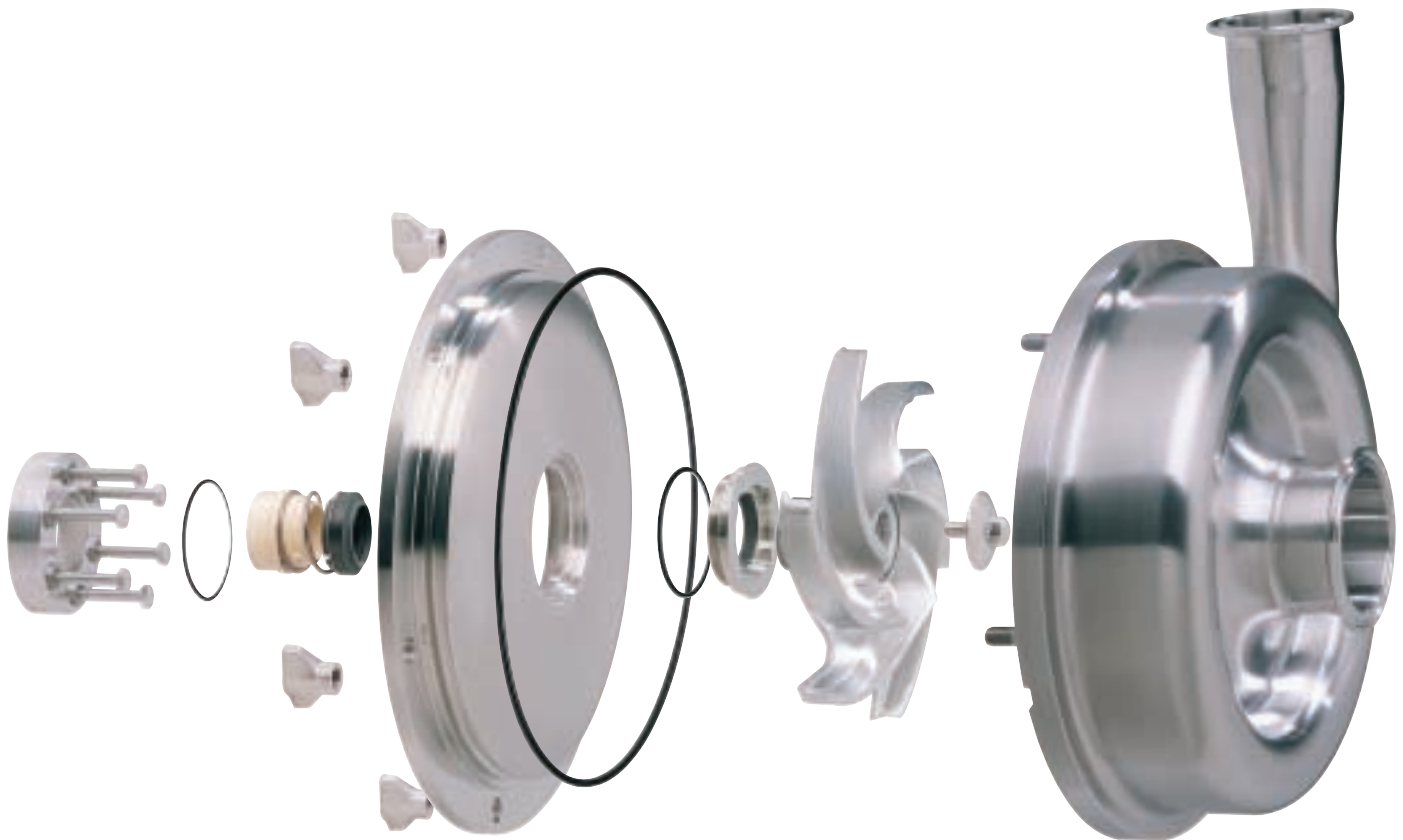
Allows quick and easy motor service/change even after several years of service. Adapter rings are investment cast, providing a smooth, easy-to-clean surface.

Multi-vented impellers

Our impellers are computer designed and hydraulically balanced for optimum performance. The impeller and retaining screw (optional) present a smooth profile so product won't collect and cleaning is efficient.

Optional inducer

Our LKH Inducer further reduces NPSHr and expedites handling of viscous products. The unit can be retrofitted to a standard pump with a simple stub shaft change, and it uses standard front and back plates.



C Series and SP Series

Superior performance and easy cleanability in low-viscosity applications

C Series and SP Series centrifugal pumps are engineered to deliver dependable performance and easy maintenance in virtually any low-viscosity application – like those in the pharmaceutical, biotechnology, fine chemical, food, beverage and dairy processing industries, where full cleanability and corrosion resistance are paramount.

Both the C Series (close-coupled) and SP Series (base-mounted) feature a practical, low maintenance design that delivers superior performance in a wide range of processes. Both handle viscous products at elevated GPM and pressure ratings. And both maintain favorable vacuum characteristics under a variety of pumping conditions.

Features and benefits

The SP Series offers a pedestal mount version of the C Series. In addition to the many benefits the C Series has to offer, the SP Series is able to accept different types of after market seals. SP Series pumps also maintain a divorcement from electrical and wet-end components.

Choice of application-matched seals

- Type D External-Balanced Seal
- Type DG Clamped-In Seal/Seat
- Type F External-Balanced, Water-Cascade Type Seal
- Type E Water-Cooled, Balanced Double Seal

C Series and SP Series pumps also accommodate a wide variety of commercially available seals. Ask your Alfa Laval distributor for complete details.



C Series



SP Pedestal Mount



Tri-Blender

C Series features and benefits

Hydraulically balanced seal reduces pressure at sealing surface. That means less seal wear for longer life and less downtime.

An easy-to-clean, open-type impeller delivers smoother pumping performance.

Pump takedown is fast and easy. No tools are required. Casing is secured with a quick-opening clamp; impeller is secured via a retainer pin.

SP Series features and benefits

The SP Series offers a pedestal mount version of the C Series. In addition to the many benefits the C Series has to offer, the SP Series is able to accept different types of after market seals. SP Series pumps also maintain a divorcement from electrical and wet-end components.

Tri-Blender

The Tri-Blender is specially designed to thoroughly and efficiently blend dry ingredients and liquids, while minimizing the air introduced into the process. That means the lumping, foaming and flooding associated with conventional mixing equipment is almost totally eliminated. The unique tube-within-a-tube design keeps dry ingredients and liquids separated until they are introduced to the mixing chamber. That's key to the Tri-Blender's efficient operation. Other features include:

- Fast, uniform and continuous material absorption – up to 350 pounds (159 kg) per minute
- Choice of automatic or manual feed controls
- Designed for batch blending in some in-line applications

Providing the world with processing solutions.

Alfa Laval is a leading global provider of specialized products and engineering solutions. Our equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes, time and time again. We help them heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuff, starch and pharmaceuticals. Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

Our U.S.-based sanitary group offers Alfa Laval and Tri-Clover fluid handling and heat transfer equipment. Since 1919, Tri-Clover has been the leading supplier of processing equipment to the sanitary flow industry in North America. Part of Alfa Laval since 1986, Tri-Clover's sales and marketing functions were consolidated within the overall Alfa Laval organization in December 2000, creating the undisputed global leader in this industry. Tri-Clover remains a key brand within Alfa Laval.

Alfa Laval

8201 104th Street
P.O. Box 581909
Pleasant Prairie, WI 53158-0909
USA
Tel: 800-558-4060
Fax: 262-947-4728



www.alfalaval.com