



Reliable, gentle pumping action and tough, innovative construction are the defining characteristics of Alfa Laval Positive Displacement Pumps.

## Positive Displacement Pumps

### Pure and Simple

The pump is at the very heart of the process system. That's why companies in the sanitary process industries trust their most critical pumping needs to Alfa Laval. We offer a superior selection of products and value-added features, assuring that your pump meets the exact needs of your application. Few companies even come close to matching the breadth of solutions we offer.

Our positive displacement pumps are ideal for low-, medium- and high-viscosity media. They deliver on all fronts, with efficient, gentle pumping action – and the

added benefits of a robust construction and innovative design for flexibility-of-use and ease-of-maintenance.

Integral to the Alfa Laval policy of setting the highest standards is our investment in research and development. This commitment is highlighted by our rheology laboratory, which supports both sales and development with essential data. Our dedication to the highest quality means the pump you buy will be the right one for your process.

Additionally, our applications specialists are experienced in literally hundreds of different processes. They can help specify the precise type of product required for an application.

## SRU Positive Displacement Pumps

### First in CIP-ability.

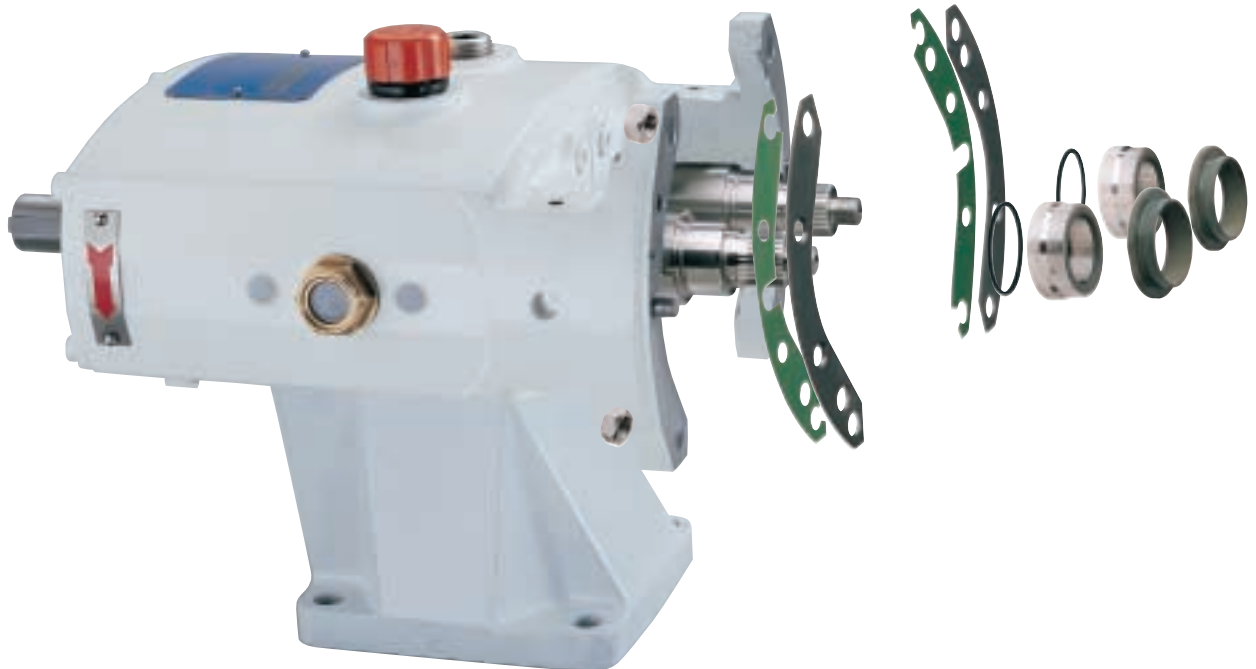
The SRU positive displacement pump combined with the Hyclean™ seal from Alfa Laval is the first pump of its kind to meet today's demanding hygienic standards by offering clean-in-place capabilities. Simplified access to pump components helps speed routine pump maintenance. And parts interchangeability makes it easy to match pump components – that simplifies in-house reassembly and also means reduced in-house parts inventory. As a result, our pumps are authorized to carry the 3A symbol and are USDA approved for both the dairy and egg industries.

These essential sanitary features keep you in peak operating condition for longer time periods and reduce your overall labor and maintenance costs. Of course, if desired, our pumps can be easily cleaned manually as well.

### Big selection. Fewer spare parts. Better performance.

A wide selection lets you tailor pump performance to your application needs. A choice of capacities, frames, rotors, seals and porting connections makes it easy to achieve custom-built pump performance – delivering optimum levels of pumping efficiency and operational economy.

Alfa Laval gives you 12 models to choose from, with capacities ranging up to 466 gallons/minute – you're sure to find the exact pump that suits your needs. And because our SRU line is "modular," you need only pair up each with one of six different gearboxes. That makes spare parts inventory and part replacement much more manageable.



### High-efficiency pumping for high-viscosity applications.

For high-viscosity product applications, including viscous product with high particulate levels, take a close look at the SRU pump family. Wide selection and dozens of innovative design enhancements make these the perfect solution for the daily challenges encountered in viscous-product applications.

### The right seal for your application.

Alfa Laval's advanced, externally mounted Hyclean seal keeps working parts away from the pumped material to ensure product integrity at all times. In addition, the Hyclean's self-setting design means no special tools are required when seal replacement becomes necessary. Available as single, single-flushed and double-flushed arrangements, the Hyclean seal is offered with variable seat and face combinations to provide maximum sealing integrity for the broadest range of applications.

Our SRU pump is also available with the R90 seal. The R90 seal comes in a variety of arrangements including single mechanical, double mechanical and single mechanical with quench.

### SRU rotor options.

Alfa Laval rotary lobe pumps offer a range of stainless steel rotor options that includes tri-lobe and bi-lobe in conventional 316L Stainless Steel and bi-lobe non-galling alloy options. Stainless steel multi-lobe rotors run in close tolerance clearances with the casing. There is no metal-to-metal contact within normal operating conditions and, therefore, reduced risk of system contamination.



SRU

**Drive selection options.**

Various drive options can be supplied to suit your requirements. Our range of drive units includes:

- Fixed speed
- Mechanical variable speed
- Electronic variable speed
- Hydraulic variable speed

Drive units can be mounted on our stainless steel base plates or carts depending on application needs.

**Involute splines**

Involute splines employed for radial rotor location provide maximum power transmission capability compared to square sided spline systems. Involute splines ensure maximum accuracy for rotor interchangeability as well as contributing to longer shaft and rotor life and, therefore, lower maintenance costs.

**Stainless steel construction**

All product wetted components are constructed in stainless steel to AISI 316 Type L.

**Large gearbox-to-pump head divorcement**

The space between the gearbox and pump head helps with seal leakage detection and eliminates the possibility of cross contamination. It also makes it possible to inspect and clean seal exteriors without disassembling the pump.

**Porting**

Vertically ported designs provide full drainability and offer improved suction conditions when placed under a tank. Also available with horizontal porting.

**Interchangeable rotors**

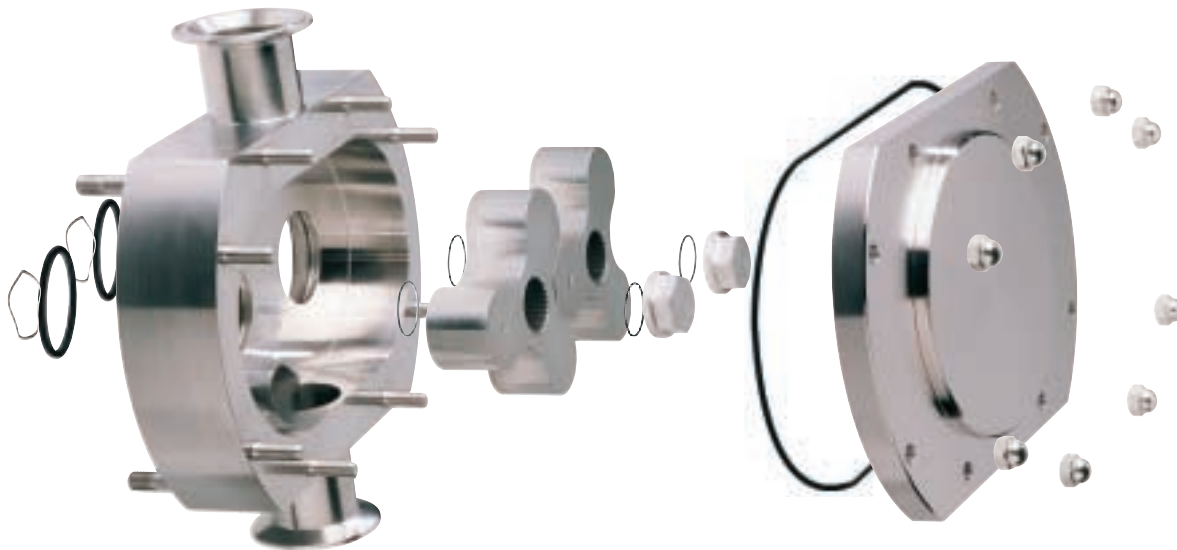
Our precisely manufactured rotors ensure spare part interchangeability within the range. Tri-lobe rotors are standard. Bi-lobe or bi-lobe alloy rotors are optional.

**Self-draining, self-venting**

Unlike other pumps where air, product and CIP fluid can become trapped in the rotor case, the vertically ported option is designed to be self-draining and self-venting.

**Universal gearbox**

Universal mounting is available up to and including model SRU4.



**Heavy-duty construction. Easy maintenance.**

SRU pumps are built tough. They feature a heavy-duty gearbox for severe-duty applications; taper roller bearings that provide maximum axial and radial shaft support; and high-strength stainless steel shafts on all models (duplex on high-pressure models).

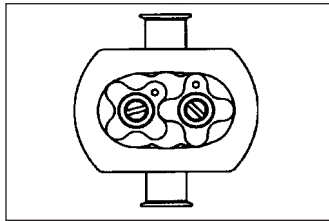
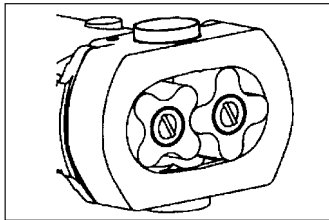
Our simple, modular design helps make set-up and maintenance easier as well. For example, the taper locking system helps you readily adjust and set pump timing; the modular shaft assembly greatly simplifies gearbox maintenance; and the self-adjusting seals make repairs quick and easy.

## SX Positive Displacement Pump

### The top choice when meeting EHEDG standards is critical.

When maintaining the highest levels of cleanliness in a process application – like pharmaceutical – is absolutely essential, no other pump matches the SX.

The SX pump is designed for superior cleanability in order to reduce the risk of media contamination. Add corrosion-resistance and a highly efficient, low-shear pumping action, and the SX is clearly ideal for a broad range of applications in the pharmaceutical, biotechnology, fine chemical and specialty food industries.

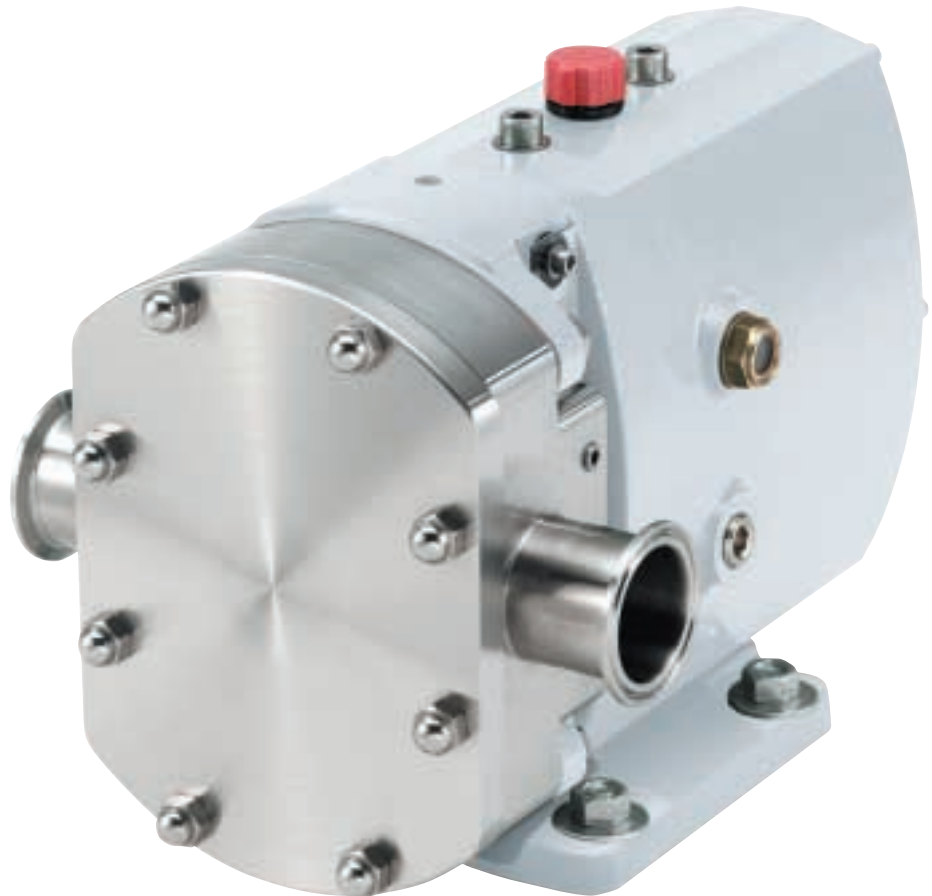


### Unique self-draining and self-venting capability

At the point of entry, SX pumps feature a specially contoured rotor case. This design feature improves product and CIP/SIP drainability and maximizes product recovery. The pump's improved venting ability also prevents any potential build-up of entrained gases.

The SX operates without internal contact of the rotors or rotorcase. This is because the heavy-duty taper roller bearing arrangements provide maximum strength for the main and auxiliary shafts, reducing axial loads and eliminating rotor contact. Also, the low-shear pumping action assures gentle handling of delicate and sensitive products.

Most models maintain a universal mounting capability that allows for mounting in either a vertical or horizontal porting arrangement. Vertical porting and a unique rotorcase internal profile permit self-draining and self-venting of the rotorcase while maintaining optimum volumetric efficiency.



SX pump models 1–4 have the option of Universal Mounting, allowing the unit to be mounted with the suction and discharge ports in either the vertical or horizontal plane.

### Choice of application-matched seals

- Single R00 Mechanical Seal
- Single R00 Mechanical Seal with Quench/Flush
- Double R00 Mechanical Seal with Flush

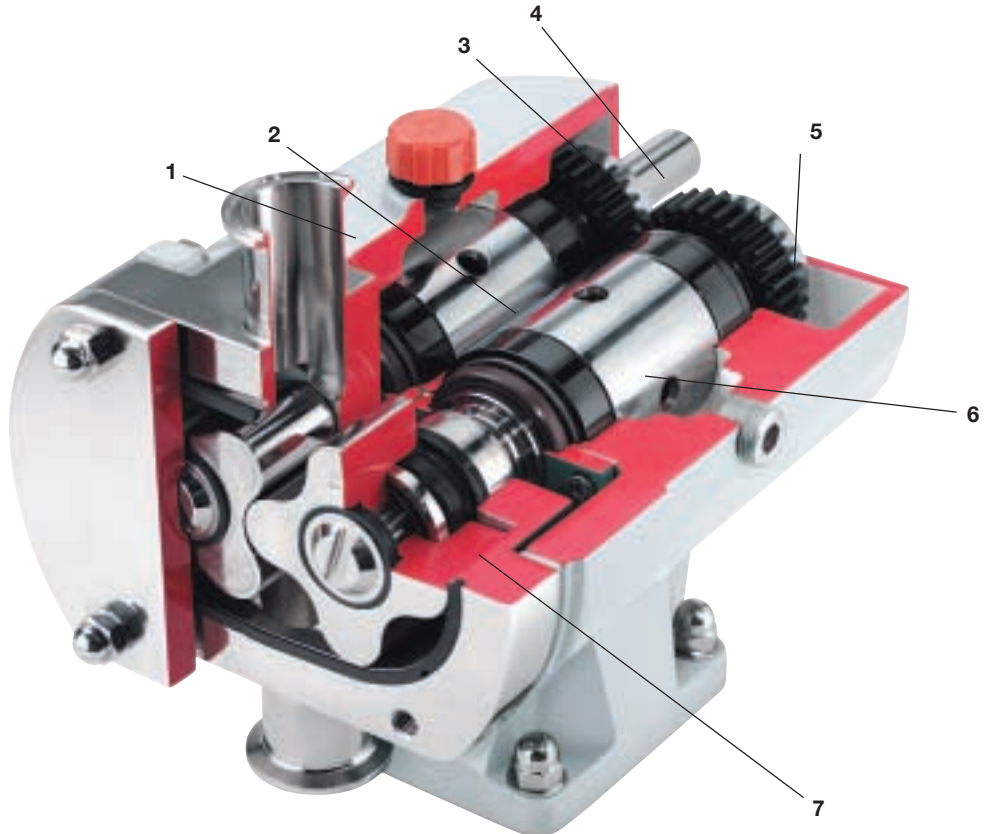
All SX seal options are fully front loading and fully interchangeable without the need for additional housings or pump component changes. Specialized seal setting of the mechanical seal is not required as the seal is dimensionally set on assembly. This feature accommodates fast and efficient field interchangeability.

### Engineered to meet high cleanability standards.

Constructed from AISI 316L stainless steel, the SX conforms to 3A requirements and all wetted parts are FDA compliant. For pumps mounted with ports in the vertical plane, the SX even meets standards established by EHEDG (European Hygienic Equipment Design Group). It is the only pump to meet this standard while also maintaining maintenance-friendly, front-loading seals.



1. Compact cast-iron power frame is designed for durability.
2. Taper roller bearings are optimally positioned for superior shaft support.
3. Spur timing gears are engineered to deliver synchronized rotor motion.
4. Heavy-duty duplex stainless steel shaft for high-discharge pressure capability.
5. Oil lubrication of bearings and timing gears ensures long life. Larger SX models also feature separate chamber for each shaft assembly to ensure thorough and efficient lubrication.
6. Timing gears and shaft assemblies are easy to access. Shaft assemblies are front loaded and can be removed independently.
7. Retained shims are located behind the casing, so rotor-face and back-face clearances can be set without gear case disassembly.



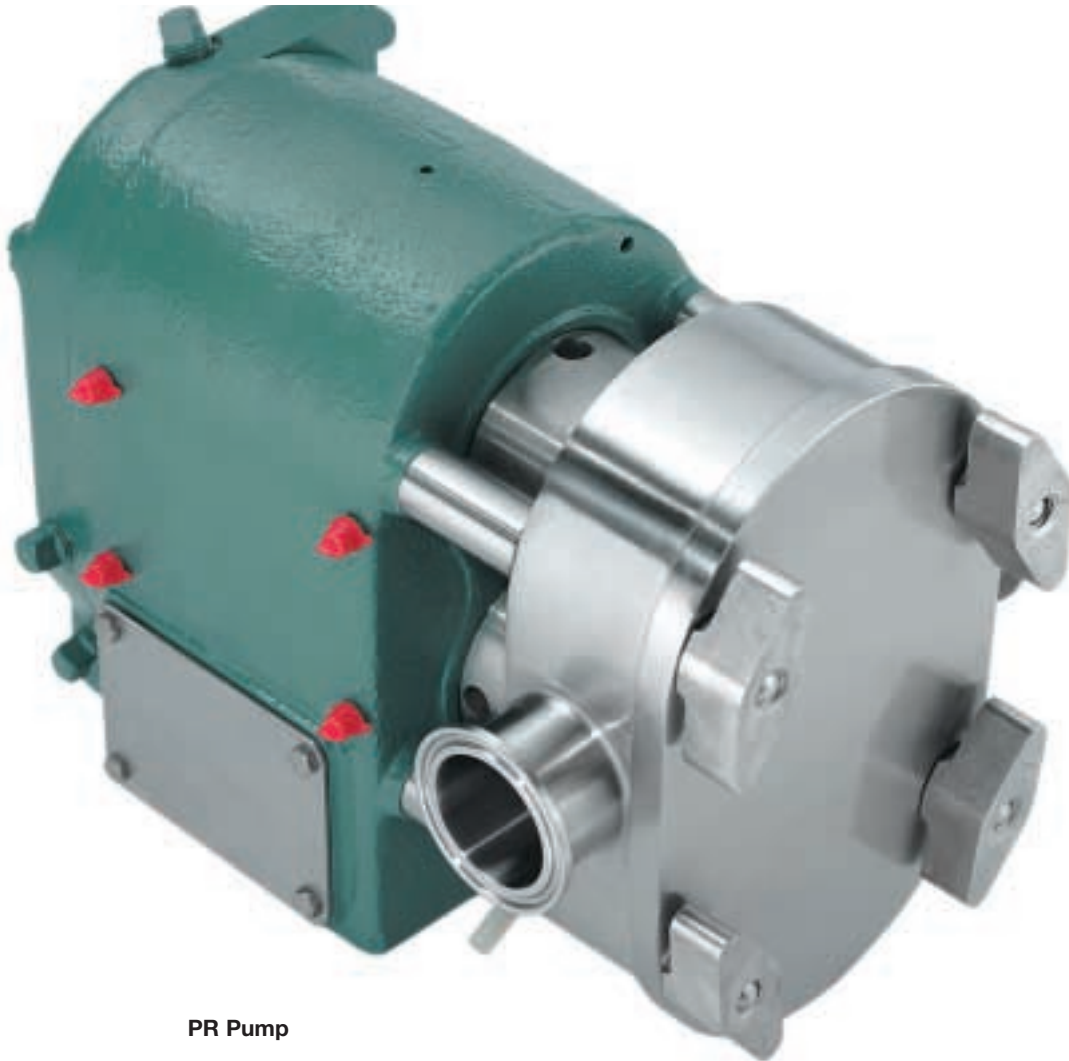
## PR PUMPS

### **Proven performance and reliability plus an easy-takedown design.**

Field-proven PR Series positive displacement pumps are ideal for process applications requiring daily takedown and reassembly – like the fine chemical and food industries where cleanability and corrosion-resistance are extremely important. In fact, they can be disassembled and assembled faster than any other positive displacement pump on the market. That means less downtime on the process line and fewer hours wasted trying to piece together conventional pump components.

The short engagement of ring to casing eliminates cocking, binding and hammering during reassembly. Plus, the wide locating area of the ring permits repeated disassemblies and assemblies without the need to replace rings or realign the pump head.

The pump gearbox is constructed of high-quality cast iron for maximum strength and rigidity. The exterior is protected by a quality, FDA-compliant, epoxy paint system that withstands harsh conditions in corrosive environments. Heavy-duty roller bearing arrangements provide maximum strength for the main and auxiliary shafts, reducing axial loads and ensuring no rotor contact. With a wide range of frames, rotors, seals and porting connections, the PR pump provides a high degree of flexibility that enables you to match a specific pump to a specific application.



**PR Pump**

### Easy interchangeability.

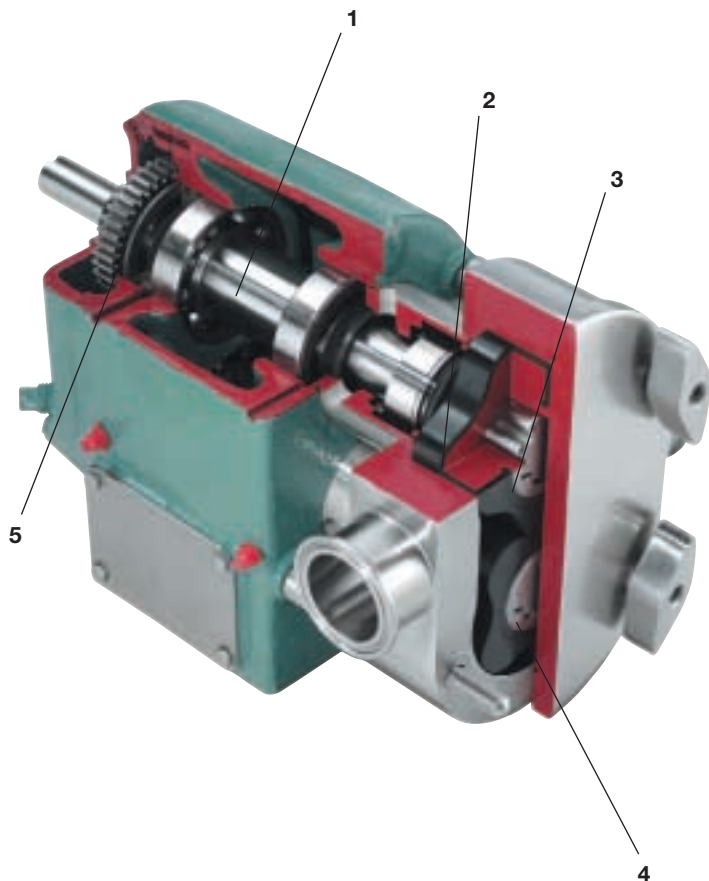
PR Series pumps are designed for easy interchangeability with other U.S. manufactured positive pumps. That makes changeout easy if you're dissatisfied with your current pumps. Common dimensions include mounting holes, ports, shaft heights and shaft diameters, making it simple to replace troublesome pumps with the reliable and easy-to-maintain PR Series.

### Leak-tight sealing action.

A static o-ring sanitary seal maintains contact with all non-rotating surfaces. The reduced friction means wear and leakage are kept to a minimum while seal life is maximized.

### PRE/PRED Series for hot, tacky or high-viscosity applications.

For applications requiring a high degree of leakage detection as required for compliance with 3A standards and leakage safeguard capability, the PR Series is available in single seal and double seal configurations.



### PRE Series – Single Seat

Ideal for applications where visual leak detection is essential.

### PRED Series – Double Seal

For water-flush applications including evaporators, liquid sugar or other tacky products such as corn syrup. The PRED Series also offers additional protection for applications:

- requiring compatible solvent or water-flush
- requiring pressurized seal chamber
- with products that tend to build up between seal faces such as latex, PVA, etc.

1. Design eliminates need for threads or hubs and eliminates hard-to-clean recesses within the product zone.
  - Shaft assembly is easily interchanged in the field. Spline is involuted to provide maximum contact between shaft and rotor profiles.
  - Shaft assembly is positioned to accommodate timing gear and keyways and simplify full rotor interchangeability.
  - Separate oil lubrication for timing gears. Dual compartment gear/bearing housing design ensures contaminants are flushed through bearings and sealed off from timing gear housing.
  - Gears and shafts are factory pre-timed and designed for easy removal and replacement of either gear in the field – without removal of shaft or bearings.
  - Tru-Arc rings simplify the location of complete shaft assemblies and timing gears, and help eliminate shimming.
2. The static o-ring sanitary seal ensures good seal life under either high-pressure or vacuum operations. A water flush attachment is also available when required.
3. Two large teeth facilitate easy rotor location to ensure proper timing and fast assembly.
4. Two- or four-lobe elastomeric composition rotors allow for most product or flow requirements, and are recommended for abrasive-product applications. Six-lobe composition rotors are available on Model PR3 only.
5. Each gear and shaft assembly includes two woodruff keys for rigidity and long service life.

## **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](http://www.alfalaval.com)