



Smith & Loveless Inc.
Protecting Water. Protecting People.™



S&L Non-Clog Pumps



HIGHEST EFFICIENCY.

STAR ONE™ S&L Non-Clog Pumps Add 3-5%

MOST RELIABLE.

Anti-Clog Solutions; Easy to Maintain

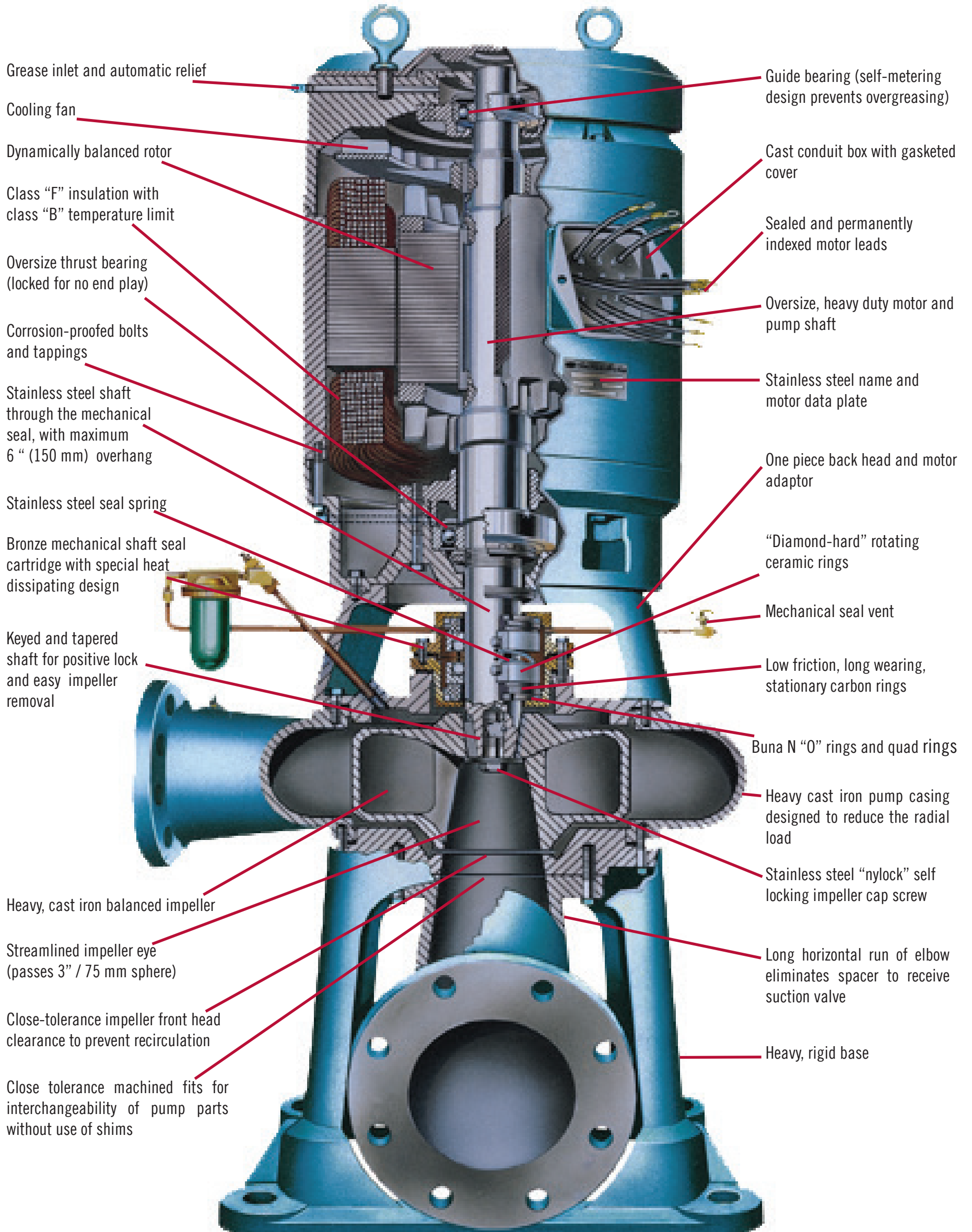
LONGEST LIFE.

Durable Equipment; Decades of Service



Smith & Loveless Flooded-Suction Non-Clog Pump

Our vertical, close-coupled **STAR ONE™** S&L Non-Clog Pump design meets the highest of standards that promote superior efficiency, durability and ease of maintenance, including the 10 States Standard for 3" (76 mm) solids. Its rugged design, featuring exclusive oversized, stainless steel pump shafts and bearings, will typically deliver service for more than 20 years with basic care. The **STAR ONE™** construction streamlines access to the volute, impeller and seal merely by removing four to eight cap screws from the connecting motor adaptor on the station base in just a few minutes without any spillage.



CUTAWAY VIEW



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STAR ONE™ Non-Clog Pump Specifications

Individual Pumps: 4"-12" / 100-300 mm
 Piping: 4"-30" / 100-750 mm
 Power (Ind. Pump): 1.5-300 Hp / 1.1-225 kW
 Max. Ind. Pump Capacity: 5,000 gpm / 350 lps
 Max. Ind. TDH Capacity: 255 ft. / 78 m

- 2, 3 or 4-Pump Designs Parallel or Series Operation
- Multiple Control Options PLCs to Relay Logic

STAR ONE™ Non-Clog Pump Features

Oversized Shaft - The oversized shaft minimizes shaft deflection, thus extending mechanical seal and bearing life.

Oversized Bearings - Because of the oversized shaft, oversized bearings are applied. Typically, bearings in the Smith & Loveless pump have a B10 bearing life of 30 years.

Bottom Thrust Bearing - The locked thrust bearing located at the bottom of the shaft prevents shaft expansion and increased clearances through the wet end of the pump.

Minimum Shaft Overhang - Minimizing the cantilevered portion of the shaft reduces pump height and provides the rigid construction necessary to prevent vibration and deflection from reducing seal life. Measurement from the lower bearing to the top of the impeller hub is less than 6" on all Smith & Loveless pumps.

Seal Lubrication - The Smith & Loveless pump draws cooling and lubrication water from the back head. This low pressure area prevents exposing the seal to pump shutoff pressure during start-up, which can prevent proper lubrication of the seal and cause the seal elements to slip on the shaft.

Impellers Trimmed Inside Shrouds - Impellers are designed for maximum efficiency. By trimming the impellers inside the shrouds, the Smith & Loveless pump leaves the back shroud full diameter to prevent stringy material from winding around the shaft.

Minimum Height - A minimum height pump provides a compact design that reduces vibration, extending seal and bearing life, and the vertical design provides more free floor area for maintenance than horizontal pump alternatives.

Solid Stainless Steel Shaft - Stainless steel shaft through the mechanical seal eliminates abrasive rust particles that can shorten seal life as well as eliminating corrosion that can weaken the shaft.

Close Impeller/Front Head Tolerance - To prevent recirculation of the pumped liquid, minimum clearance between impeller and front head must be maintained. The Smith & Loveless pump has .015" clearance which eliminates the need for shims to maintain minimum clearance between impeller and front head.

Shaft Movement - Shaft endplay is limited to bearing shake. Shaft runout is limited to .003". These close tolerances are in all cases tighter than NEMA specifications and significantly increase both pump efficiency and mechanical seal life.

Bronze Seal Housing - The heavy bronze seal housing provides the best heat dissipation as well as preventing the formation of abrasive rust particles in the seal.

Class "F" Motor Insulation - Although Smith & Loveless limits motor temperature rise to a maximum of 80° C, all motors use Class F insulation which is suitable for a temperature rise of 105° C. This conservative design criteria translates directly into extended motor life.

Tapered Impeller Fit - The shaft and impeller bore are tapered allowing easy removal of the impeller. A nontapered shaft and impeller requires a wheel puller for removal, often resulting in broken impeller shrouds.

One Piece Back Head/Motor Adapter - The one piece back head and motor adapter provides more rigid construction, reduces the number of registered fits required, and minimizes the possibility of unbalancing the motor rotor in relation to the impeller and mechanical seal. By reducing the amount of vibration, the seal and bearing life are increased.

