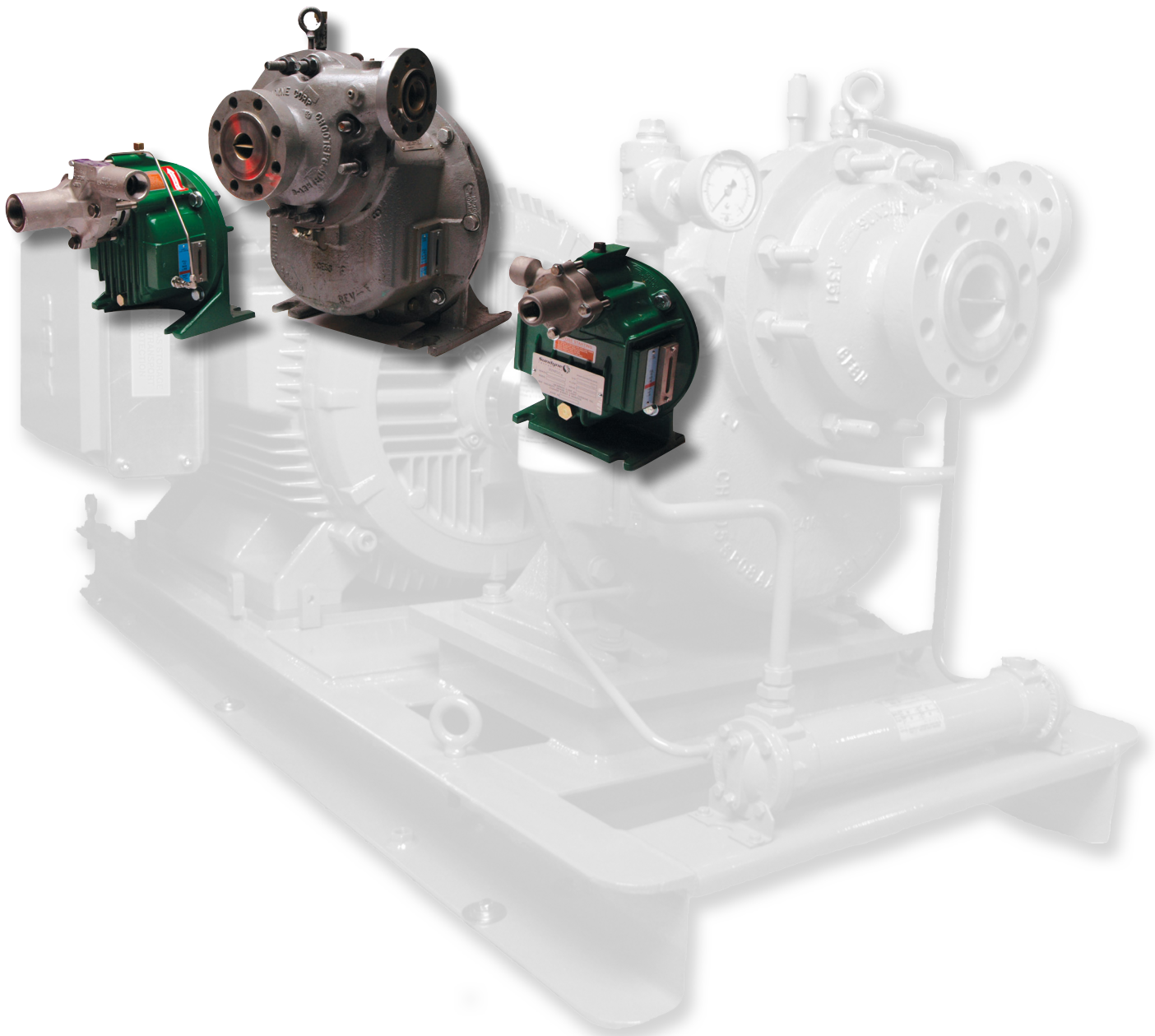




Sundyne *SUNFLO*
High-Pressure
Centrifugal Pumps

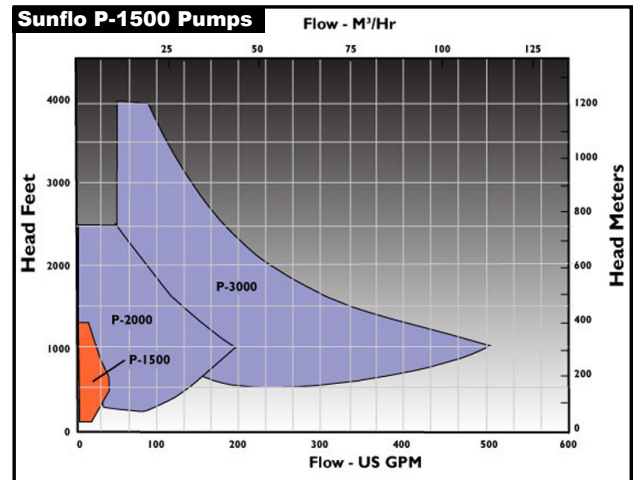


Sundyne Sunflo - Flexible Efficiency

The Sundyne Sunflo family of high head, low flow medium duty pumps has been an industry leading choice for fluid handling professionals around the world since their introduction in 1971. Available in three sizes, these ultra-reliable pumps are widely used in power plants and food processing applications, efficiently delivering high pressure boiler injection feed and wash water.

With their simplified design – which boasts a compact footprint and a modularized spares system – Sundyne medium duty pumps are cost effective, simple to maintain and can integrate easily in virtually any environment. Backed by our global network of Authorized Service Centers and Sundyne manufacturing sites, custom pumps and parts are easy to order and quick to deliver, keeping customers up and running.

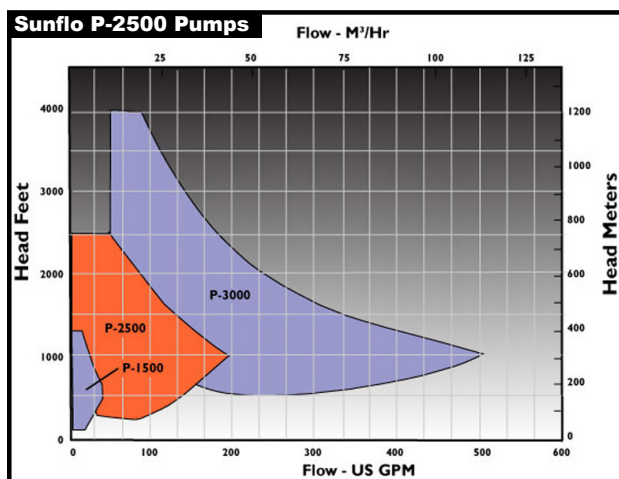
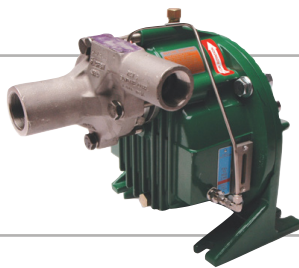
P-1500



Reliable, Non-API Performance

► Access and download
MORE INFORMATION at:
www.sundyne.com

P-2500



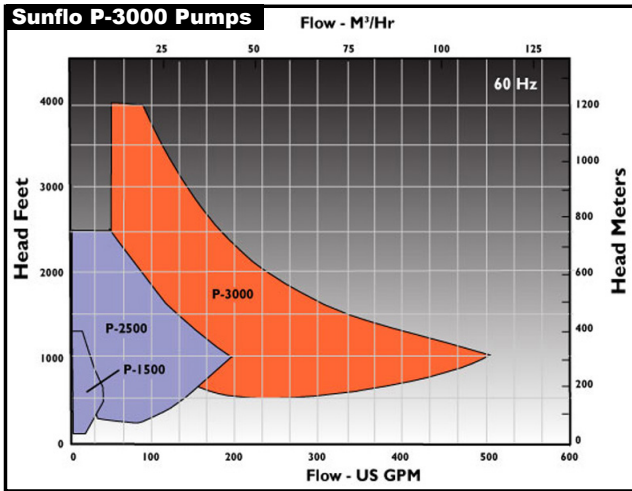
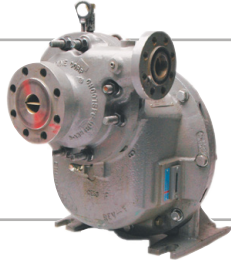
High Power P-2500 Single Seal Configuration

Sundyne innovative engineering has developed a pumping system with a variety of Seal Plan configurations to meet your rigorous application requirements.

The results are field-proven and include:

- Unprecedented reliability
- 25,000 hr MTBM
- Ease of maintenance
- Interchangeable shaft assembly
- Prevention of lubrication contamination resulting in longer bearing life
- ...and more

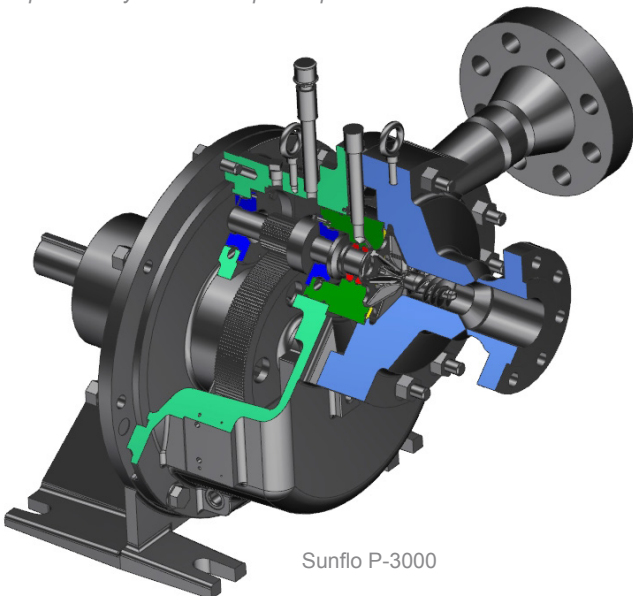
P-3000



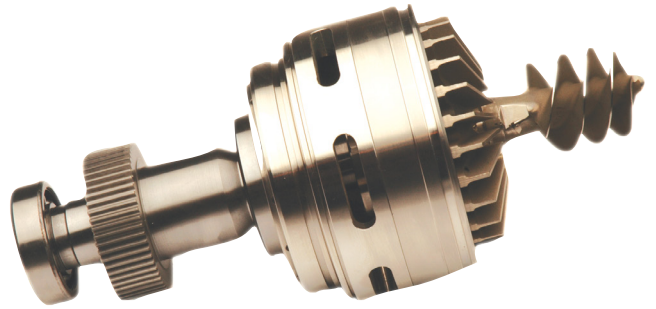
Standard Materials of Construction

Pump Casing	316 S.S.
Seal Housing	316 S.S.
Seal Parts	316 S.S.
Impeller/Inducer	316 S.S.
Shaft Sleeve	316 S.S.
Diffuser Plate	316 S.S.
Shaft	AISI 4140/8620/9310
Drive and Pinon Gear	AISI 4140/8620/9310
Gearbox Housing/ Mounting Frame	Aluminum or Cast Steel

**Special alloys available upon request.*



Sunflo P-3000



Exchange Your Shaft Assembly TODAY!

Convert your P-2000 to a P-2500 and take advantage of the many feature enhancements now available – at a fraction of the cost of a new pump. Realize significant gains in performance, reliability and longer life.

Sundyne offers a factory exchange program for its high-speed shaft assembly replacements. This convenient program allows you to send in your old shaft assembly and receive a return credit, providing significant cost savings. Best of all, rebuilt units have the same quality construction, testing and factory warranty as new shaft assemblies.

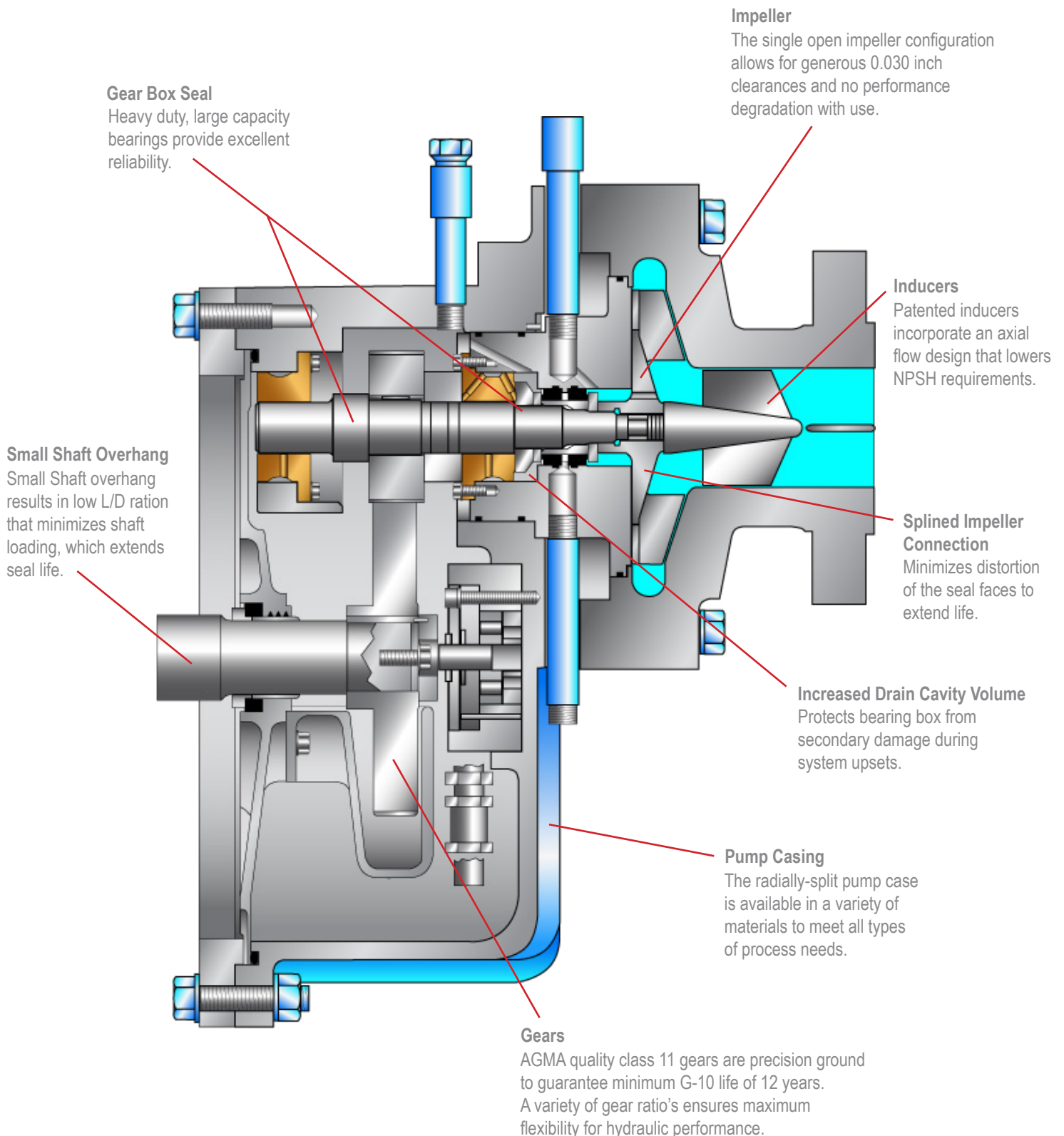
The shaft assembly comes complete with all the rotating parts, seals and bearings you need, making an in-place overhaul fast and trouble-free. Sundyne remains committed to making it easier for you to do business with us.

Contact Sundyne or your local distributor to receive this limited time upgrade and exchange offer!

A Variety of Seal Plan Configurations Are Available Today!

Contact us at:
1-866-SUNDYNE

P-3000



Applications Include:

- ▶ Pollution Control
- ▶ Chemical and Petroleum
- ▶ Power Systems
- ▶ General Industrial
- ▶ Pulp and Paper
- ▶ Vehicle Manufacturing
- ▶ Mining
- ▶ Food and Beverage
- ▶ Oil production



	P-1500	P-2500	P-3000
Heads To	100 to 1,300 ft (22 to 277m)	250 to 2,600 ft (53 to 554m)	500 to 4,200 ft (106 to 896m)
Flows To	10 to 33 gpm (1 to 6m ³ /hr)	20 to 180 gpm (3 to 40m ³ /hr)	50 to 500 gpm (9 to 91m ³ /hr)
Max Power	10 hp (7 kw)	75 hp (55 kw)	250 hp (186 kw)
Temp Range	-50 to 300°F (-46 to 149°C)	-50 to 300°F (-46 to 149°C)	-50 to 350°F (-46 to 177°C)
Number of Stages	1.0	1.0	1.0
Max Case Working Pressure	1,000 psi (70 kg/cm ²)	1,440 psi (105 kg/cm ²)	2,160 psi (152 kg/cm ²)
Max Suction Pressure	200 psi (14Kg/cm ²)	250 psi (18 Kg/cm ²)	350 psi (25kg/cm ²)

Scrubber Pump Application

Caustics are frequently used to neutralize acidic gases. Such systems are found in a diverse range of environments, ranging from gas and chemical processing plants to pharmaceutical manufacturing, sewage treatment and industrial waste neutralization facilities.

Process Overview

Sunflo pumps are used to recirculate caustic from the bottom of a scrubber to the top, where the liquid is injected through a series of spray nozzles (see diagram). The gases to be neutralized enter the scrubber and rise to the top. As they pass through the caustic-saturated packing, the gas reacts chemically and is neutralized. The neutralized gas is then discharged through the top of the scrubber. After the chemical reaction has taken place, the caustic fluid is depleted and needs to be replenished on a regular basis to remain effective.

Service Conditions

The conditions of service are usually ideal for a Sunflo P-2500 pump. Flows typically vary from 1 to 150 GPM, with differential pressure ranging from 50 to 150 PSI.

Careful attention should be paid to the seal environment. If air comes in contact with the caustic, it will crystallize. When the pump is shut down and air travels across the process seal, the crystallized caustic can bind the stationary seal face to the mating ring causing excessive seal leakage and reduced seal life. Single mechanical seals may be acceptable if the pumps are operating in a continuous 24-hour service, because air will not come in direct contact with the caustic in the seal chamber.

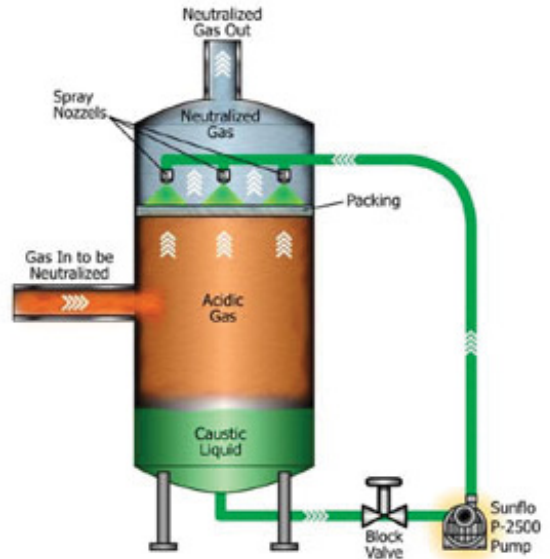


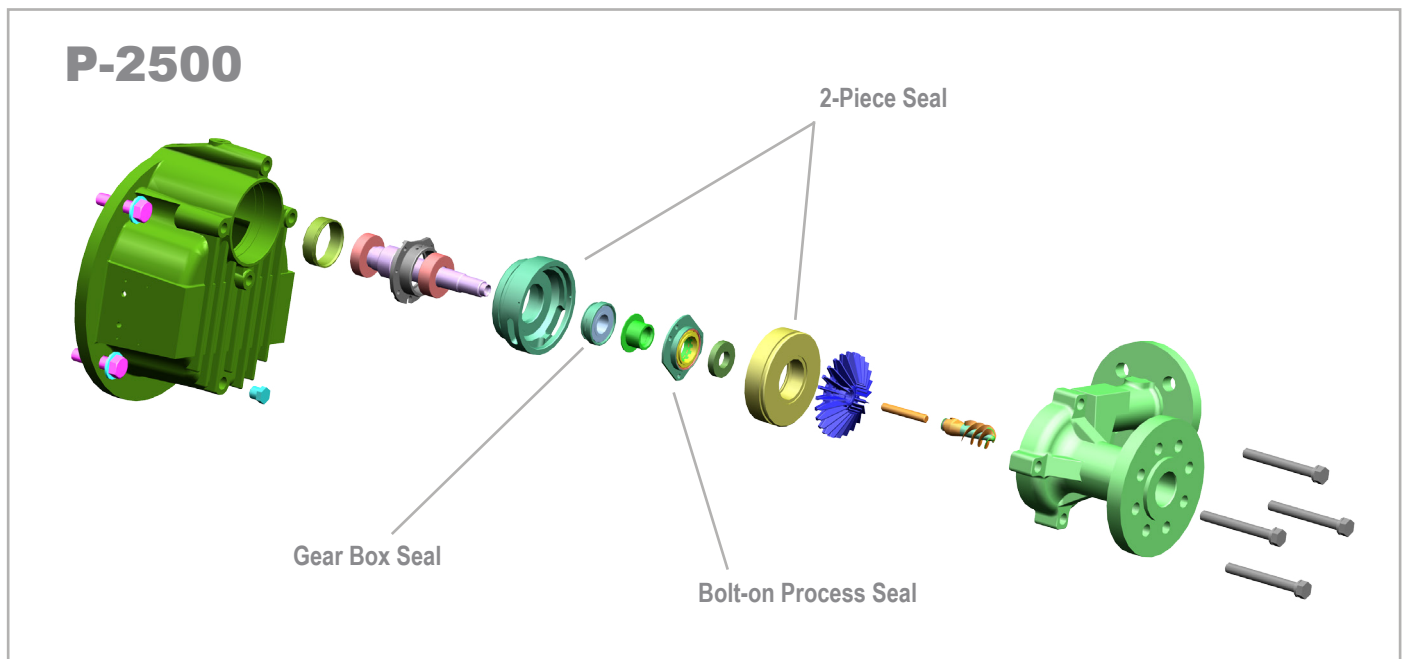
Figure 1. Typical Gas Scrubber

When the pumps will be operating in an intermittent service, double seals are needed in order to keep the seal area isolated.

The control system for this application is very simple. The "flooded" suction, with a constant level of caustic, eliminates the requirement for recirculation or bypassing. The spray nozzles act as a discharge valve. If the user wishes to have some flow flexibility, however, a discharge throttling valve can be installed.

Materials of Construction

The recommended materials of construction for this service are 316 stainless steel. Even though caustic is a basic solution, some acid is normally present (depending upon the gas being neutralized). While Viton O-rings are acceptable for 20-30% caustic solutions, ethylene propylene O-rings should be used for higher concentrations. A carbon steel mounting frame and/or gearbox housing should also be specified.



Specifications



P-1500



P-2500



P-3000

Heads To	100 to 1,300 ft (22 to 277m)	250 to 2,600 ft (53 to 554m)	500 to 4,200 ft (106 to 896m)
Flows To	10 to 33 gpm (1 to 6m ³ /hr)	20 to 180 gpm (3 to 40m ³ /hr)	50 to 500 gpm (9 to 91m ³ /hr)
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Max Case Working Pressure	1,000 psi (70 kg/cm ²)	1,440 psi (105 kg/cm ²)	2,160 psi (152 kg/cm ²)
Max Suction Pressure	200 psi (14Kg/cm ²)	250 psi (18 Kg/cm ²)	350 psi (25kg/cm ²)
Standard Delivery	2 Weeks	3 Weeks	5 Weeks
Speed Range	13,000 to 32,000rpm - 60Hz	5,987 to 14,707rpm - 60Hz	6,756 to 17,750rpm - 60Hz
Bearing Materials Available	Ball Bearings, Riveted Steel, Phenolic, Grease Packed	Ball Bearings, Riveted Steel, Phenolic, Grease Packed	Ball Bearings, Journal Bearings, Riveted Steel, Phenolic, Grease Packed
Hydrotest Pressure	1,080 psig (75 kg/cm ² g)	2,160 psig (151 kg/cm ² g)	2,160 psig (151 kg/cm ² g)
Max Viscosity	10 cp	10 cp	10 cp
Solids Range	0.015" (0.381mm), 400 microns	0.015" (0.381mm), 400 microns	0.015" (0.381mm), 400 microns
Number of Available Hydraulics...	36.0	147.0	244.0
Seal Configurations Available	Single, Double	Single, Double	Single, Double
Available Inducer	yes	yes	Yes
Available Flanges	300# RF	300# RF, 600# RF	900# RF
Suction and Discharge Size	1" X 1"	2" X 1.5"	4" X 3", 3" X 2"
Seal Plans for Sunflo Pumps	11, 12, 13, 21, 31, 41, 52, 53	11, 12, 13, 21, 31, 41, 52, 53	11, 12, 13, 21, 31, 41, 52, 53
Pump Case Corrosion Allowance	Generous Clearances, No Performance Degradation	Generous Clearances, No Performance Degradation	1/8" (3.2 mm)
Materials of Construction	316 Stainless Steel (Duplex Stainless Steel Optional), AISI 4140 / 8620 / 9310 Steel, Aluminum or Cast Steel	316 Stainless Steel, AISI 4140 / 8620 / 9310 Steel, Aluminum or Cast Steel	316 Stainless Steel AISI 4140 / 8620 / 9310 Steel, Aluminum or Cast Steel
Mounting Configurations	Horizontal Right and Left, Vertical Up & Down (viewed from suction)	Horizontal Right and Left, Vertical Up & Down (viewed from suction)	Horizontal Right, Vertical Up (viewed from suction)



Sunflo



Simple By Design



Ease of Maintenance



Elapsed Time - 30 min



COMPRESSORS

PUMPS

GENUINE PARTS

SERVICE

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Sunflo High-Pressure Centrifugal
Pumps Brochure
082213: A4 (v.2) POD

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