CAT PUMPS®

The Pumps with Nine Lives

Pump Catalog

Product Quality, Reliability and Support You Expect

www.catpumps.com

World Leader in Triplex Reciprocating High-Pressure Pumps

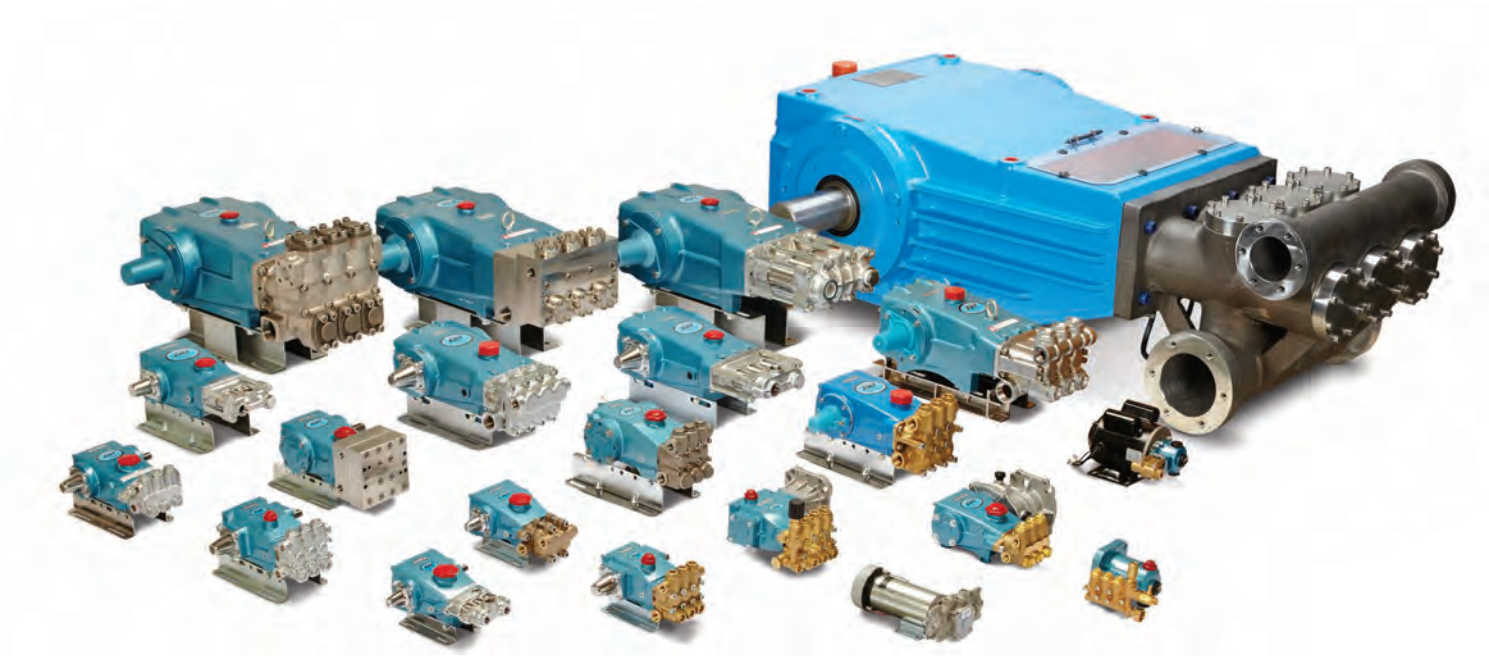
Cat Pumps designs and builds products to the highest quality level for one major reason: our customers depend on our products to keep their equipment running. Every design detail is optimized for long product life and reliable performance.

Cat Pumps embraces a zero defect manufacturing philosophy. Stringent process controls result in highly repeatable processes, yielding the highest level of product reliability. Cat Pumps commitment to quality is legendary within the industry, earning the trust from customers worldwide. When it needs to run, make it Cat Pumps.

Product Performance Range

A wide range of pump options are available, including a variety of products that meet various industry certifications and directives.

- Flow: 0.13 to 240 gpm (0.49 to 908 lpm)
- Pressure: 100 to 10,000 psi (6.9 to 689 bar)
- RPM: 100 to 3450
- Liquid Temperature: -10° to 240°F (-23° to 115°C)
- Manifold Materials: Brass, Nickel Aluminum Bronze, 304 and 316 Stainless Steel, Duplex Stainless Steel
- Drives: Electric, Engine, Hydraulic, Pneumatic



Product Ordering

Using This Catalog

The pump sections of this catalog are organized by drive type/flow rate/manifold materials: brass, 316 stainless steel, duplex stainless steel and nickel aluminum bronze. The model numbers listed represent standard pumps equipped with Buna-N seals and O-rings, except for specialty pumps, such as CO_2, TEG and portable extractor, which are fitted with unique seals for the application.

Standard Buna-N pump seals and/or O-rings can be changed by adding a suffix to the standard model number that represents the desired new seal material.

Optional Seal and O-Ring Configurations

MATERIAL CODE	DESCRIPTION	MAX. TEMPERATURE *	PUMP MODEL SUFFIX
FPM	Fluorocarbon (Viton®) seals and O-Rings, chemical resistance	180°F (82°C)	0.0110
EPDM	Ethylene Propylene Diene Monomer seals and O-Rings	160°F (71°C)	0.0220
HT	High-temperature high pressure seals	180°F (82°C)	0.3000
STHT	Special Teflon® high temperature low and high pressure seals, NBR O-Rings	200°F (93°C)	0.3400
	Special Teflon® high temperature low and high pressure seals, FPM O-Rings	200°F (93°C)	0.3410
PTFE	Pure Polytetrafluoroethylene (Teflon®) Seals and Buna-N O-Rings	200°F (93°C)	0.0700
	Pure Polytetrafluoroethylene (Teflon®) Seals and FPM O-Rings	200°F (93°C)	0.0710
IPFE	I-Perfluoroelastomer (Teflon®) Seals and Isolast O-Rings	200°F (93°C)	0.0770
ST4	Special blend PTFE high and low pressure seals, Buna-N O-Rings	200°F (93°C)	0.4400
	Special blend PTFE high and low pressure seals, FPM O-Rings	200°F (93°C)	0.4410
NBRS	Buna-N silicone free seals and O-Rings	160°F (71°C)	0.6000

FPM = Fluorocarbon, EPDM = Ethylene Propylene Diene Monomer, HT = High Temp (EPDM Alternative), STHT = Special PTFE High Temperature

PTFE = Pure Polytetrafluoroethylene, IPFE = I-Perfluoroelastomer, ST4 = Speical PTFE 4, NBRS = Buna-N silicon free seals and O-Rings

* See individual data sheet for each pump to verify actual maximum temperature allowed.

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Example

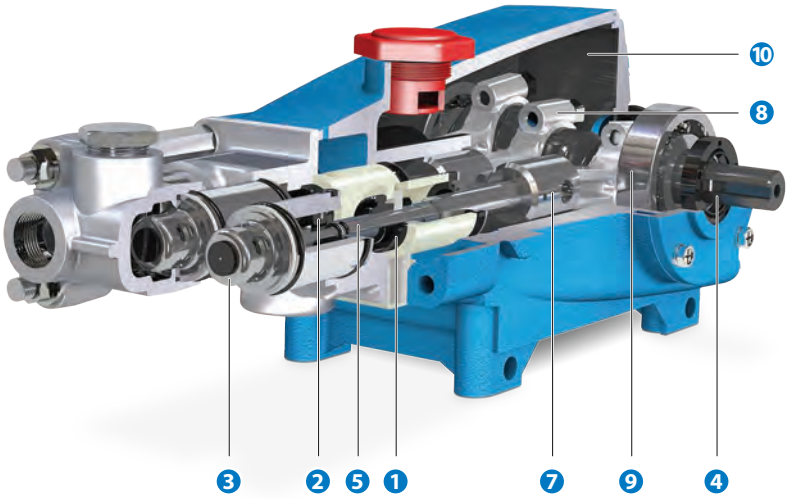
Pump model 3535 can be changed from Buna-N to FPM. To convert pump model 3535 from Buna-N seals and O-rings to FPM (Viton®), add the suffix (.0110) to the standard pump model number (3535.0110). Use this new number when ordering the pump.

Cat Pumps configures a number of pumps for special applications and certifications such as ATEX, CO_2, TEG, Flushed, High-Temp and others. Please contact Cat Pumps directly at (763) 780-5440 for more information.

Table of Contents

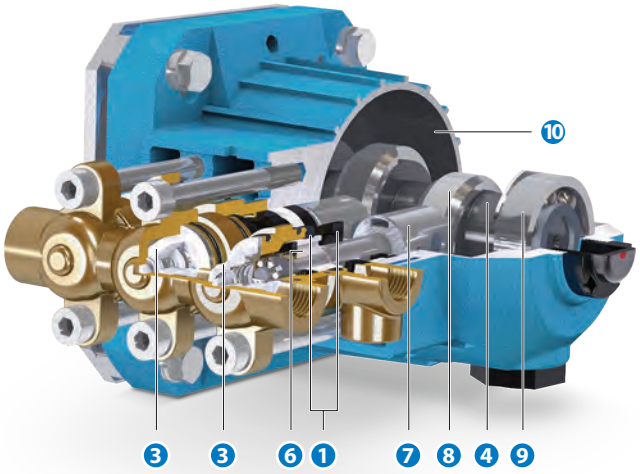
Piston Pumps (3.0 – 60 gpm, 100 – 1,500 psi)

The design of the piston pump is for the fluid to move continually in one, smooth forward direction. This design allows greater suction capabilities and reduces the risk of cavitation provided the pump is properly primed. At the beginning of the stroke, the mechanically actuated inlet valve (and piston) will close. As the piston rod moves forward, the liquid is forced out through the discharge valves. Simultaneously, the liquid enters the pump inlet and flows in behind the inlet valve. As the piston rod begins the backward stroke, the inlet valve mechanically opens, permitting the liquid to continue its flow forward through the piston into the discharge chamber.



SF Series Pumps (0.5 – 5 gpm, 100 – 3,500 psi)

In SF series pumps, both the inlet and discharge valves are spring-loaded closed and hydraulically opened, similar to plunger pumps, however, they have a flow- through ceramic plunger design. The continuous forward flow characteristic of piston pumps is utilized in conjunction with the packing design of the plunger pumps. These features give SF pumps both strong suction capabilities and higher pressure performances.



7. The high strength stainless steel plunger rods have a 360° supported crosshead providing uncompromising plunger rod alignment.
8. Matched oversized connecting rods are made of high strength material with exceptional bearing quality.
9. Oversized ball bearings or tapered roller bearings provide extended bearing life.
10. High Strength, light weight die cast aluminum crankcase with splash oil design allows operation at speeds as low as 100 RPM.
11. Patented greaseless design uses water from inlet as lubrication, eliminating the maintenance and mess of grease or oil.

Piston Pumps

Model 280

Model 820

Model 2520

Model 6020

PISTON PUMPS, SOLID SHAFT, BRASS MANIFOLD
Belt Drive

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	gpm	lpm	psi	bar		
280	3.0	11.4	1000	69	1330	16.5 mm
290	3.5	13.3	1200	83	1200	16.5 mm
333	4.0	15.2	1200	83	1070	16.5 mm
430	5.0	19.0	1000	69	1040	16.5 mm
323	5.0	19.0	1500	103	1000	20 mm
623	6.0	22.8	1200	83	850	25 mm
820	10.0	38.0	1000	69	940	25 mm
390	12.0	45.4	600	41	1200	20 mm
1010	13.0	49.4	700	48	900	25 mm
2520*	25.0	95.0	800	55	772	30 mm
6040	40.0	152.0	1500	103	500	45 mm
6020	60.0	228.0	1000	69	500	45 mm

*Available as a model 2520C with flushed inlet manifold

$$\text{Electric Brake Hp} = \frac{\text{gpm x psi}}{1460}$$

PISTON PUMPS, SOLID SHAFT, 316 STAINLESS STEEL MANIFOLD
Belt Drive

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	gpm	lpm	psi	bar		
281	3.0	11.4	1000	69	1330	16.5 mm
291	3.5	13.3	1200	83	1200	16.5 mm
331	4.0	15.2	1200	83	1070	16.5 mm
431	5.0	19.0	1000	69	1040	16.5 mm
621	6.0	22.8	1200	83	850	25 mm
821	10.0	38.0	1000	69	940	25 mm
1011	13.0	49.4	700	48	900	25 mm
6041	40.0	152.0	1500	103	500	45 mm
6021	60.0	228.0	1000	69	500	45 mm

$$\text{Electric Brake Hp} = \frac{\text{gpm x psi}}{1460}$$

TECH TIP

Pump Rotation

Forward rotation (towards the manifold) is recommended to allow optimum lubrication of the crosshead area. If your installation does not allow for forward rotation, reverse rotation is acceptable if the crankcase oil is above the red dot in the oil gauge. This indicates adequate lubrication.

Forward Rotation

Reverse Rotation