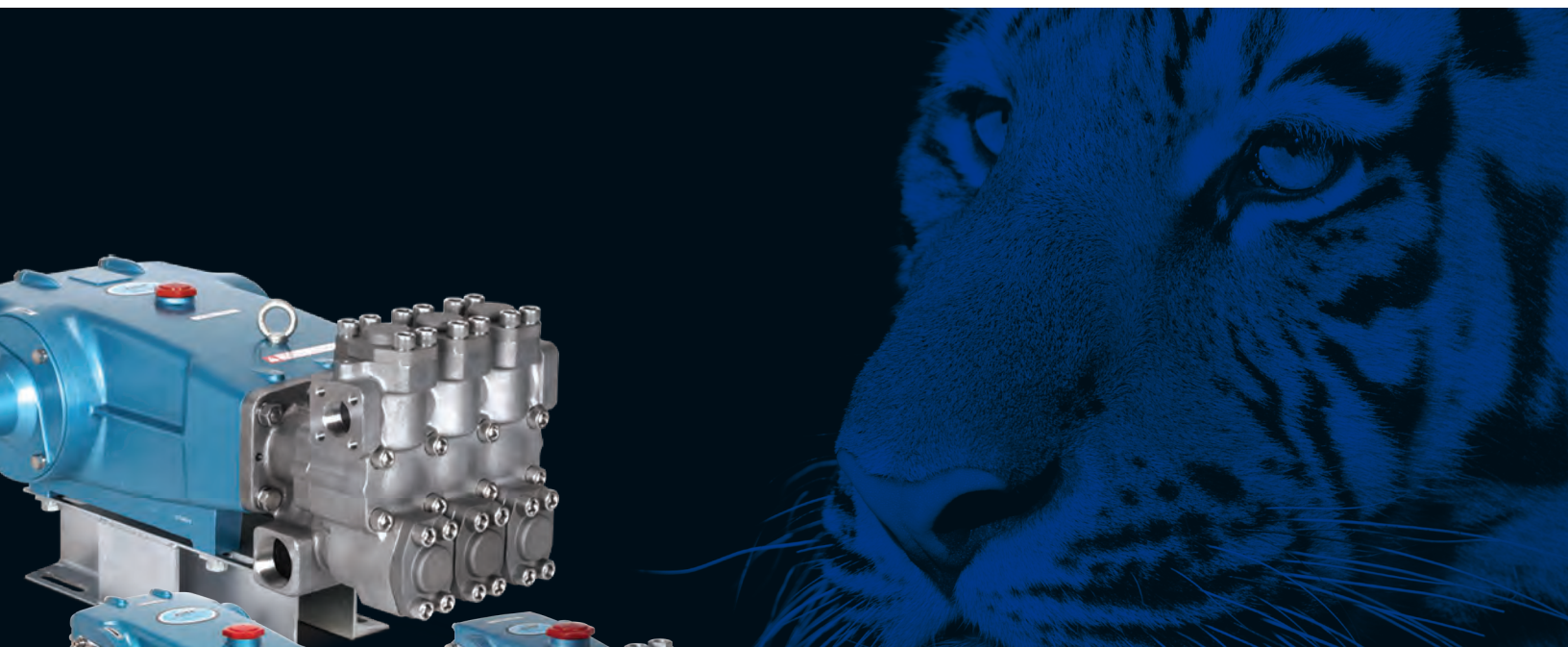




# Pump Catalog



Product Quality, Reliability and Support You Expect

[www.catpumps.com](http://www.catpumps.com)

# World Leader in Triplex Reciprocating High-Pressure Pumps

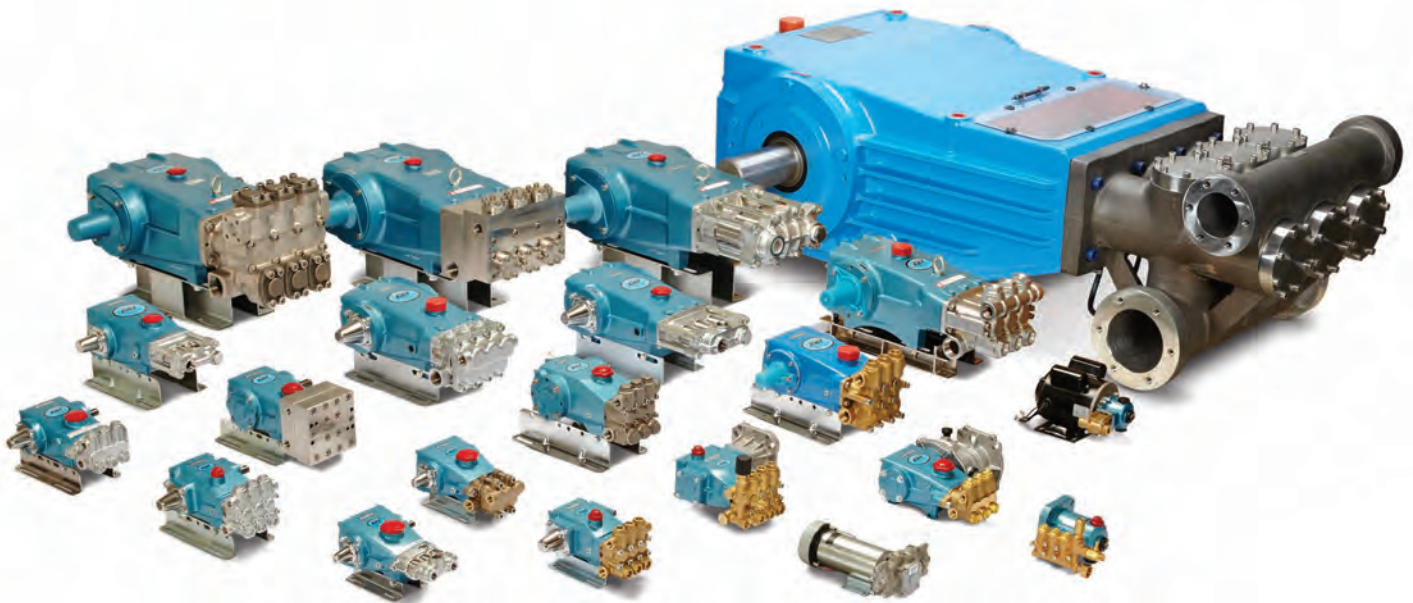
Cat Pumps designs and builds products to the highest quality level for one major reason: our customers depend on our products to keep their equipment running. Every design detail is optimized for long product life and reliable performance.

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<sub>2</sub>, 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 = Special PTFE 4, NBRS = Buna-N silicon free seals and O-Rings

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

Viton® and Teflon® are registered trademarks of DuPont Dow Elastomers.

## 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<sub>2</sub>, TEG, Flushed, High-Temp and others. Please contact Cat Pumps directly at (763) 780-5440 for more information.

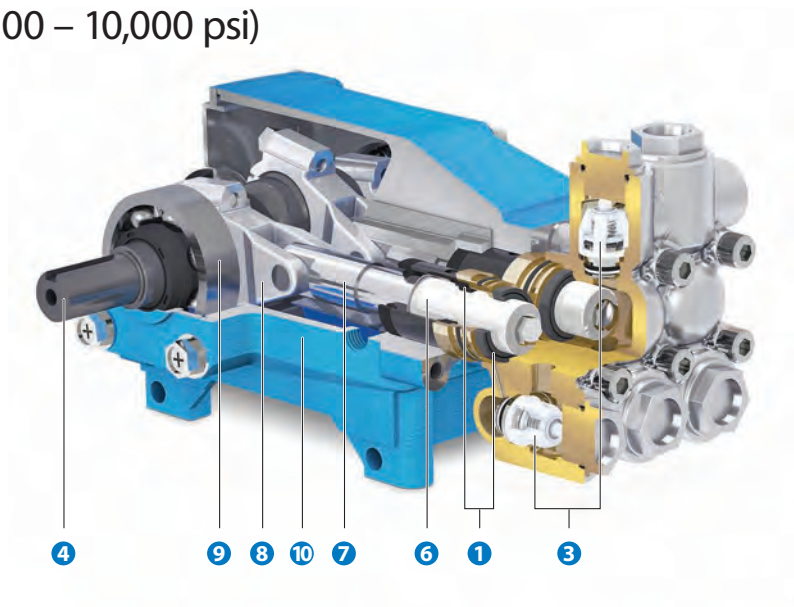
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# Selecting your pump

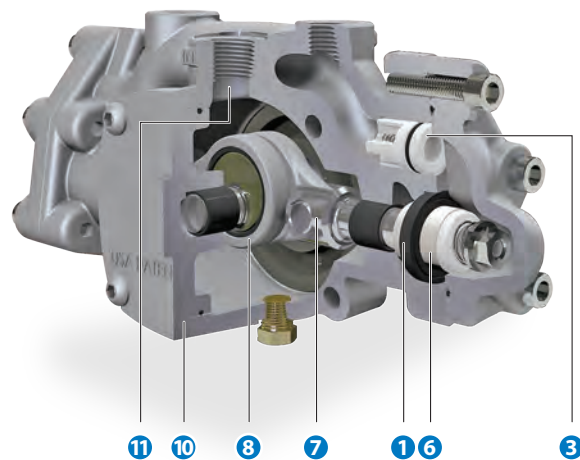
## Plunger Pumps (0.13 – 240 gpm, 100 – 10,000 psi)

Plunger pumps utilize spring-loaded closed and hydraulically opened inlet and discharge valves to direct flow through the pump manifold. At the beginning of the stroke, the plunger displaces the liquid in the manifold chamber, forcing the discharge valve open. When the plunger reaches the end of the stroke, the discharge valve closes. As the plunger rod begins its backward stroke, the inlet valve opens to allow more liquid into the manifold chamber, thereby keeping a smooth forward flow of liquid.



## XP Series Pumps (0.5 – 2 gpm, 100 – 1,000 psi)

In XP series pumps, fluid enters the inlet port and flows through the drive-end, lubricating the connecting rods and plunger rods as it passes to the inlet valves. Both inlet and discharge valves are spring-loaded closed and hydraulically opened, similar to plunger pumps, however, they utilize a flow-through ceramic plunger design. The continuous forward flow characteristics in conjunction with the packing design of plunger pumps result in improved suction capabilities as well as extended seal life.



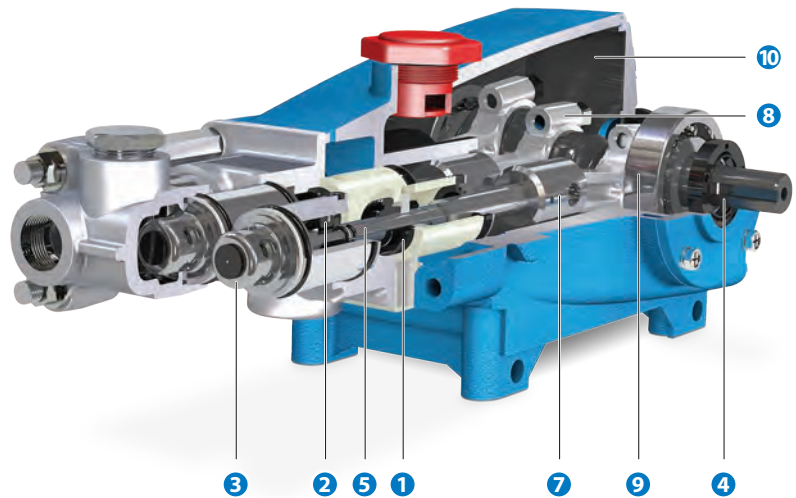
## Features

- ❶ Specially formulated, Cat Pumps exclusive high pressure and low pressure seals offer unmatched performance and seal life.
- ❷ 100% wet cup/seal design adds to service life by allowing pumped fluids to cool and lubricate the elastomers on both sides.
- ❸ Stainless steel valves, seats, and springs provide corrosion-resistance, positive seating, and long life.
- ❹ Chrome-moly crankshaft provides unmatched strength and surface hardness for long life.
- ❺ The patented stepped piston rod with hard chrome-plated sleeve provides a durable wear surface and easy wet end servicing.
- ❻ Precision-polished, solid ceramic plungers provide maximum resistance to corrosion and abrasion, extending seal life.



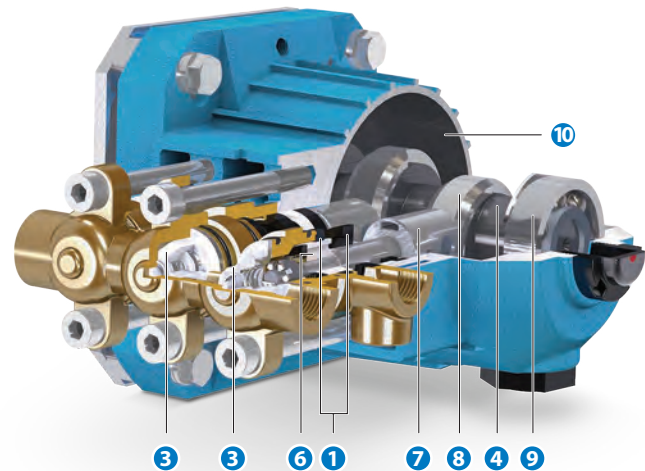
## Piston Pumps (3.0 – 60 gpm, 100 – 1,500 psi)

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.

# Washout Resistant Pumps

## B SERIES, SOLID SHAFT, SPECIAL BRASS MANIFOLD, VEHICLE WASH Belt and Bell Housing Drive

PUMP MODEL	MAXIMUM FLOW		MAXIMUM PRESSURE		RPM	SHAFT
	gpm	lpm	psi	bar		
340B	4.0	15.2	1800	124	1725	20 mm
310B, 310BQ*	4.0	15.2	2200	152	950	20 mm
5CP2120B	4.0	15.2	2500	172	950	20 mm
5CP2140BCS	4.0	15.2	2500	172	1725	20 mm
350B	5.0	19.0	1500	103	1725	20 mm
5CP2150B	5.0	19.0	2000	138	1725	20 mm

\*"Q" Option is designed for applications where a reduced sound level is desirable.

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

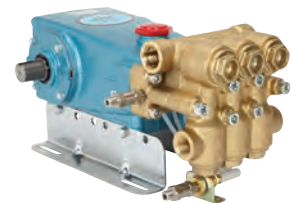


Model 310B

## Liquid CO<sub>2</sub> Pumps

Cat Pumps liquid CO<sub>2</sub> series of pumps feature modifications to accommodate the unique properties of liquid CO<sub>2</sub>. The seals are modified to handle low lubricity and low temperature that liquid CO<sub>2</sub> applications require. Pump manifolds are modified for inlet pressures to 800 psi (55 bar) and discharge pressures up to 5,000 psi (345 bar). Drive-end and manifold combinations are available to cover a wide flow range of flow from 0.68 to 30 gpm (2.6 to 113.6 lpm).

Cat Pumps offers full technical and engineering support to properly select pumps for the specific application. Pumps are available in brass and 316 stainless steel. Cat Pumps has provided liquid CO<sub>2</sub> pumping solutions for over 25 years, working closely with research facilities, universities, equipment manufacturers and site locations to design and provide the best solutions. Please contact Cat Pumps for additional information.



Model 1530RSCM.CO2

## Demand Genuine Cat Pumps Accessories

### MAXIMUM SYSTEM PERFORMANCE

Cat Pumps offers a wide range of high quality accessories adhering to the same exacting standards as our industry-leading pumps. Every accessory is performance tested and designed to match each pump's operating specifications. By demanding genuine Cat Pumps products, you receive the best value and lowest cost of ownership over the life of the system. Protect your pumping system investment with the brand you can trust — Cat Pumps.



Check out our complete line of accessories  
online at [catpumps.com](http://catpumps.com)