

DATA SHEET

5CP PLUNGER PUMPS



The Pumps with Nine Lives

Brass Models: 5CP6120, 5CP6120CS

Gearbox Model: 5CP6120CSSG1



Model 5CP6120 Shown
(Rails and shaft protector sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Direct-drive option offers a compact footprint for electric motors with a NEMA or IEC frame, or SAE hydraulic motors with a bell housing/flexible coupler assembly.
- Gearbox model available with 1" and 1½" hollow shaft to fit a wide variety of engines.
- Belt-drive option provides precision flow setting.
- Press-in seal cases and interchangeable valve assemblies ensure easy servicing.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

COMMON

SPECIFICATIONS	U.S.	Metric
Inlet Pressure Range	Flooded to 60 psi	Flooded to 4.1 bar
Maximum Liquid Temp. (NBR)	160° F	71° C
Alternative seals available for higher temperatures up to 190° F		
Crankcase Capacity	17 oz	0.50 l
Inlet Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	¾" NPT(F)	¾" NPT(F)
Shaft Diameter	0.787"	20 mm
Dimensions (Pump Only)	10.98 x 10.00 x 5.79"	279 x 254 x 147 mm
Dimensions (with Gearbox)	10.98 x 12.40 x 6.38"	279 x 315 x 162 mm

SPECIFICATIONS

U.S. Measure

Metric Measure

5CP6120, 5CP6120CS

Flow	7.4 gpm	28 lpm
Pressure Range	100–1500 psi	6.9–103 bar
Pump RPM*	1725 rpm	1725 rpm
Bore	0.787"	20 mm
Stroke	0.709"	18 mm
Weight	19.9 lbs	9 kg

5CP6120CSSG1

Flow	7.2 gpm	27 lpm
Pressure Range	100–1500 psi	6.9–103 bar
Engine RPM	3450 rpm	3450 rpm
Weight	26.5 lbs	12 kg

*Pump minimum is 100 RPM

ALTERNATIVE SEAL CONFIGURATION

MATERIAL	SUFFIX CODE	MAXIMUM TEMPERATURE	
NBR	—	160° F	(71° C)
FPM	.0110	180° F	(82° C)
EPDM	.0220	160° F	(71° C)
HT	.3000	180° F	(82° C)
STHT	.3400	190° F	(88° C)

See **Tech Bulletin 002** for inlet conditions and RPM at high temperature.

DETERMINING THE PUMP RPM

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{Desired gpm}}{\text{Desired rpm}}$$

DETERMINING THE REQUIRED HP

$$\frac{\text{hp (Electric Brake)}}{1460} = \frac{\text{gpm} \times \text{psi}}{1460}$$

DETERMINING MOTOR PULLEY SIZE

$$\frac{\text{Motor Pulley OD}}{\text{Pump rpm}} = \frac{\text{Pump Pulley OD}}{\text{Motor rpm}}$$

Refer to pump **Service Manual** for repair procedure and additional technical information.

PARTS LIST

ITEM	PART NUMBERS		DESCRIPTION	QTY
	5CP6120, 5CP6120CS, 5CP6120CSSG1	MATL		
5	126542	STCP R	Screw, HHC, Sems (M8 x 16) (See Tech Bulletin 074)	8-4
8	46910	AL	Cover, Bearing	2-1-0
10	14028	NBR	O-ring, Bearing Cover-70D	2-1
11	43222	NBR	Seal, Oil, Crankshaft	2-1
15	14480	STL	Bearing, Ball	2
20	48742	TNM	Rod, Connecting Assembly (See Tech Bulletin 074)	3
25	46928	FCM	Crankshaft, Dual End M18 - 5CP6120	1
	48233	FCM	Crankshaft, Single End M18 - 5CP6120CS, 5CP6120CSSG1	1
30	48224	AL	Cover, Bearing, Blind - 5CP6120CS	1
	49776	AL	Cover, Bearing - 5CP6120CSSG1	1
32	46798	—	Cap, Oil Filler, Domed	1
33	14179	NBR	O-ring, Oil Filler Cap-70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket-80D (See Tech Bulletin 074)	1-1-2
38	44428	NBR	Gasket, Flat, Oil Gauge-80D	1-1-2
40	125824	STCP R	Screw, HHC, Sems (M6 x 16) (See Tech Bulletin 074)	4
48	25625	STCP	Plug, Drain (1/4" x 19 BSP)	1
49	23170	NBR	O-ring, Drain Plug-70D	1
50	46940	AL	Cover, Rear	1
51	14044	NBR	O-ring, Rear Cover	1
53	48617	AL	Crankcase	1
64	46746	CM	Pin, Crosshead	3
65	48458	BBNP	Rod, Plunger	3
70	46838	NBR	Seal, Oil, Crankcase	3
75	43328	S	Slinger, Barrier	3
88	45697	S	Washer, Keyhole (M18 x 10)	3
90	46841	CC	Plunger (M20 x 50)	3
98	46730	NBR	Washer, Seal-90D	3
99	† 48201	SS	Retainer, Plunger with Stud (M6) (See Tech Bulletin 074)	3
100	46749	PVDF	Retainer, Seal	3
106	43305	NBR	Seal, Low-Pressure with S-Spring	3
120	46843	BB	Case, Seal	3
121	13978	NBR	O-ring, Seal Case-70D	3
125	43307	SNG	Seal, High-Pressure with S-Support	3
162	43248	PTFE	Backup Ring, Seat	6
163	43249	NBR	O-ring, Seat-80D	6
164	43722	S	Seat	6
166	43721	S	Valve	6
167	43751	S	Spring	6
168	44564	PVDF	Retainer, Spring	6
172	17617	NBR	O-ring, Valve Plug-90D	6
174	125214	BBCP	Plug, Valve (See Tech Bulletin 074)	6
185	49761	BBCP	Manifold, Head	1
188	126513	STCP R	Screw, HSH (M8 x 70) (See Tech Bulletin 074)	8
500	8076	—	Gearbox 1" Shaft (See Individual Data Sheet)	1

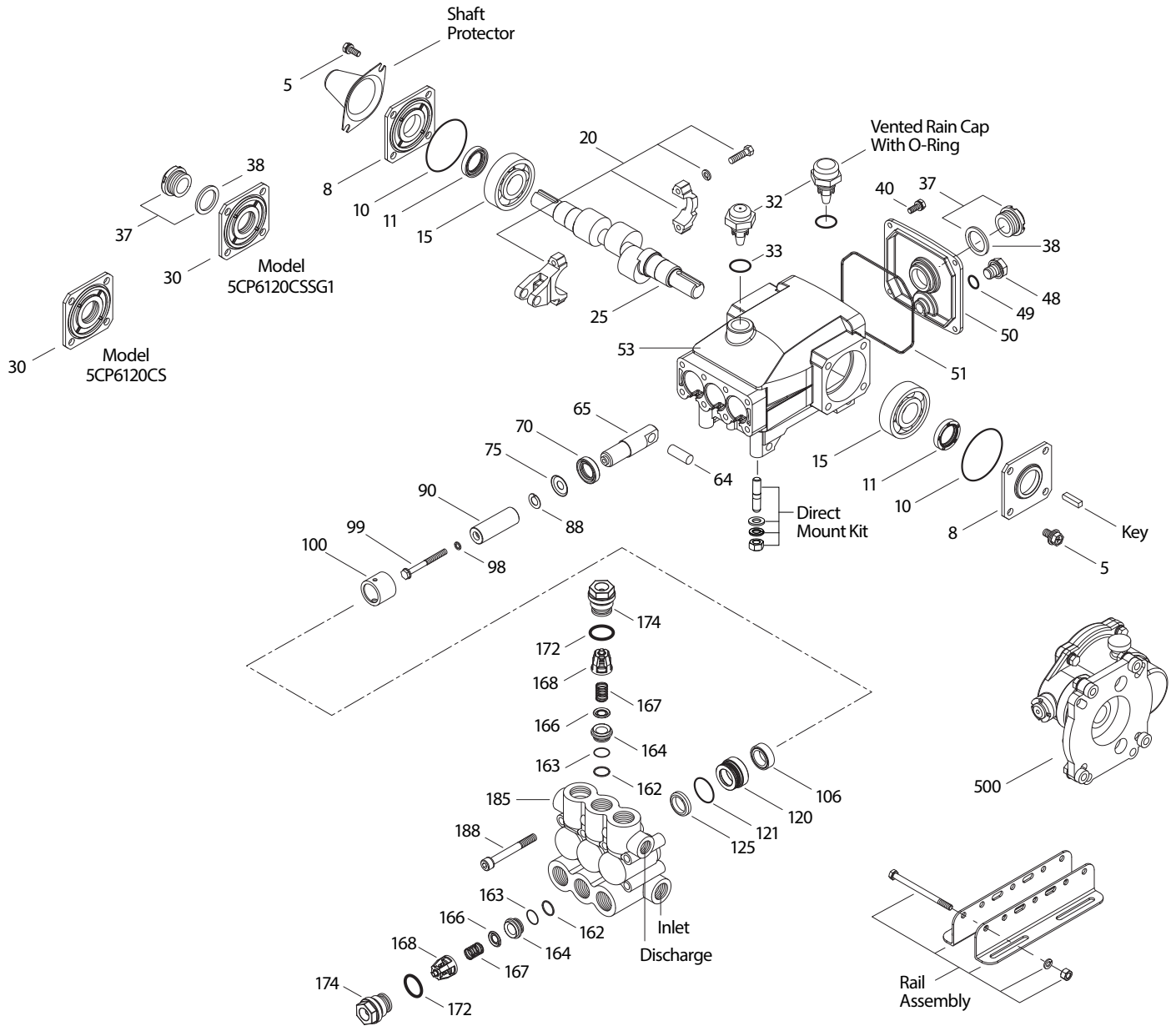
Bold print part numbers are unique to a particular pump model.

Italics are optional items. ♦ Silicone oil/grease required. † Production parts are different than repair parts.

R Components comply with RoHS Directive. For additional technical information see www.catpumps.com/literature/tech-bulletins.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N) PC=Polycarbonate PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SNG=Special Blend (Buna) ST2=Special Blend PTFE STHT=Special PTFE High Temp. STL=Steel STCP=Steel/Chrome Plated TNM=Special High Strength

EXPLODED VIEW



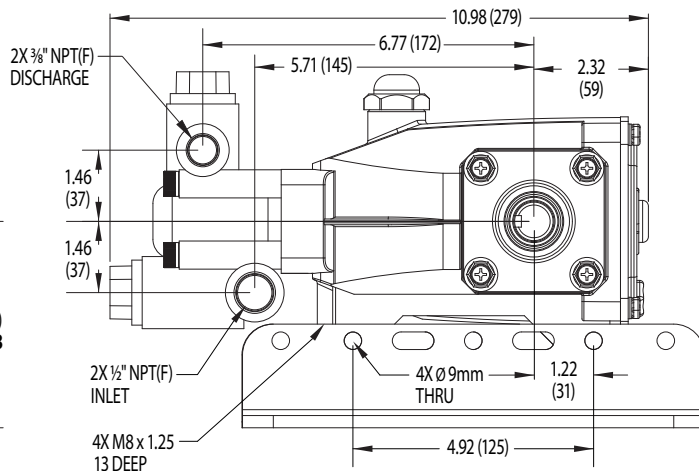
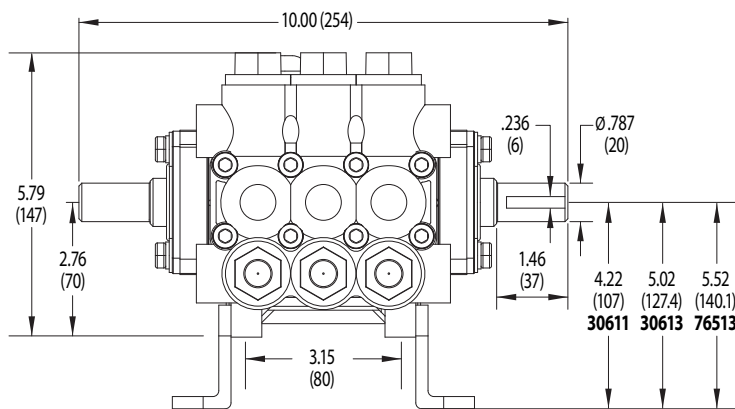
Models
5CP6120, 5CP6120CS
5CP6120CSSG1
May 2022

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30057	Key (M6 x 6 x 25)	1
30611	Assembly, Rail	1
30637	Assembly, Rail (Retrofit - See Tech Bulletin 078)	1
30243	Mount, Direct	1
127409	Cap, Vented with O-ring (Rain Cap)	1
118672	Protector, Shaft (5CP6120)	1
34334	Kit, Oil Drain (3/8" x 24") (Not Shown)	1
30696	Pliers, Reverse (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33628	Kit, Seal – Standard NBR	1
30820	Kit, Valve – Standard NBR	2
6107	Oil, Bottle (21 oz) ISO 68 Hydraulic (Fill to Specified Crankcase Capacity Prior to Start-up)	1
6124	Gasket, Liquid (3 oz)	1
816666	Head, Complete with NBR Seals & O-rings	1



Model 5CP6120

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ◆	HT (.3000)	STHT (.3400)
5CP6120, 5CP6120CS	33628	31628	31648 *	31638	76536

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
98	46730	48394	48432	46730	46730	O-Ring, Plunger Retainer	3
106	43305	—	—	43305	76305	Seal, Low-Pressure with S-Spring	3
	—	45153	48429	—	—	Seal, Low-Pressure with SS-Spring	3
120	—	—	—	—	49436	Case, Seal	3
121	13978	14329	48904	13978	13978	O-Ring, Seal Case	3
125	43307	44936	46667	46667	46667	Seal, High-Pressure with S-Support	3

* Review material codes for individual items (HT generally may be used as an alternative)

◆ Silicone oil/grease required

VALVE KITS Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ◆	HT (.3000)	STHT (.3400)
5CP6120, 5CP6120CSSG1	30820	31263	31259	30820	30820

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
162	43248	43248	43248	43248	43248	Backup Ring, Seat	3
163	43249	44383	46206	43249	43249	O-Ring, Seat	3
164	43722	43722	43722	43722	43722	Seat	3
166	43721	43721	43721	43721	43721	Valve	3
167	43751	43751	43751	43751	43751	Spring	3
168	44564	44564	44564	44564	44564	Retainer, Spring	3
172	17617	11691	46207	17617	17617	O-Ring, Valve Plug	3

◆ Silicone oil/grease required

CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices could result in personal injury or damage to pump or property. Cat Pumps does not assume any liability or responsibility for the operation of a customer's high-pressure system. Read all CAUTIONS and WARNINGS before commencing service or operation of any high-pressure system. The CAUTIONS and WARNINGS are included in each Service Manual and with each Accessory Data sheet. CAUTIONS and WARNINGS can also be viewed online at www.catpumps.com/dynamic-literature/cautions-and-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty online at www.catpumps.com/literature/cat-pumps-limited-warranty