

## 5CP Plunger Pump

**Models** 5CP3120  
 5CP3120G1, 5CP3130G1  
 5CP5120, 5CP5150G1  
 5CP6120, 5CP6120G1

### FEATURES

#### Superior Design

- Triplex plunger design gives smoother liquid flow.
- Hi-Pressure Seals or V-Packings are completely lubricated and cooled by the liquid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seals provides double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Close tolerance concentricity of the ceramic plunger maximizes seal life.

#### Quality Materials

- Precision design 304 stainless steel valves and seats are hardened and polished for ultimate seating and extended valve life.
- Forged brass manifolds for strength and corrosion resistance.
- Special concentric, high-density, polished, solid ceramic plungers provide a true wear surface and extended seal life.
- Specially formulated, CAT PUMP exclusive, Hi-Pressure Seals or V-Packings offer unmatched performance and seal life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity mean longer bearing life.

#### Easy Maintenance

- Convenient "press-in" style seal case for ease in servicing.
- Wet-end is easily serviced without entering crankcase, requiring less time and effort.
- Valve assemblies are accessible without disturbing piping, for quick service.
- Preset packings mean no packing gland adjustment is necessary, reducing maintenance costs.

#### **⚠ WARNING**

All systems require both a primary pressure regulating device (i.e., regulator, unloader) and a secondary pressure safety relief device (i.e., pop-off valve, safety valve). Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

### SPECIFICATIONS

	U.S.	Metric	U.S.	Metric
<b>MODEL</b>	<b>5CP3120 and 5CP3120G1</b>		<b>5CP3130G1</b>	
Flow .....	4.5 GPM	(17 L/M)	3.8 GPM	(14.3 L/M)
Pressure Range.....	100-3500 PSI	(7-245 BAR)	100-3500 PSI	(7-245 BAR)
RPM .....	1645 RPM	(1645 RPM)	3200 RPM	(3200 RPM)
Bore.....	<b>0.630"</b>	<b>(16 mm)</b>	<b>0.630"</b>	<b>(16 mm)</b>
Stroke.....	0.709"	(18 mm)	0.650"	(16.5 mm)
Weight.....	20.02 lbs.	(9.1 kg)	20.02 lbs.	(9.1 kg)
<b>MODEL</b>	<b>5CP5120</b>		<b>5CP5150G1</b>	
Flow .....	5.0 GPM	(19 L/M)	5.0 GPM	(19 L/M)
Pressure Range.....	100-3000 PSI	(7-210 BAR)	100-3000 PSI	(7-210 BAR)
RPM .....	1415 RPM	(1415 RPM)	3200 RPM	(3200 RPM)
Bore.....	<b>0.709"</b>	<b>(18 mm)</b>	<b>0.709"</b>	<b>(18 mm)</b>
Stroke.....	0.709"	(18 mm)	.650"	(16.5 mm)
Weight.....	20.02 lbs.	(9.1 kg)	20.02 lbs.	(9.1 kg)
<b>MODEL</b>	<b>5CP6120</b>		<b>5CP6120G1</b>	
Flow .....	6.0 GPM	(23 L/M)	6.7 GPM	(25 L/M)
Pressure Range.....	100-1600 PSI	(7-110 BAR)	100-1600 PSI	(7-110 BAR)
RPM .....	1400 RPM	(1400 RPM)	3200 RPM	(3200 RPM)
Bore.....	<b>0.787"</b>	<b>(20 mm)</b>	<b>0.787"</b>	<b>(20 mm)</b>
Stroke.....	0.709"	(18 mm)	0.709"	(18 mm)
Weight.....	20.02 lbs.	(9.1 kg)	20.02 lbs.	(9.1 kg)

### COMMON SPECIFICATIONS

Inlet Press. Range (3120-5150G1) .....	-2.5 to 60 PSI	(-2 to 4 BAR)
Inlet Press. Range (6120, 6120G1).....	Flooded to 60 PSI	(Flooded to 4 BAR)
Crankcase Capacity .....	17 oz.	(0.51 L)
Max. Liquid Temperature .....	160°F	(71°C)
Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.		
Inlet Ports (2).....	1/2" NPTF	(1/2" NPTF)
Discharge Ports (2) .....	3/8" NPTF	(3/8" NPTF)
Shaft Diameter .....	0.787"	(20 mm)
Dimensions (3120-5150) .....	10.35 x 10.0 x 5.78"	(263 x 254 x 147 mm)
Dimensions (6120).....	10.82 x 10.0 x 5.78"	(275 x 254 x 147 mm)

### ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE					MOTOR PULLEY SIZE		
	U.S. GPM	L/M	PSI 1200	PSI 1600	PSI 2000	PSI 2500	PSI 3000	PSI 3500	RPM	Pulley O.D.
<b>3120</b>	4.5	17	3.7	4.9	6.2	7.7	9.3	10.8	1645	7.5
<b>3120G1</b>	4.5	17	3.7	4.9	6.2	7.7	9.3	10.8	3200	Gearbox
<b>3130G1</b>	3.8	14.3	3.1	4.2	5.2	5.9	7.8	9.1	3200	Gearbox
<b>5120</b>	5.0	19	4.1	5.5	6.9	8.6	10.3	N/A	1415	6.5
<b>5150G1</b>	5.0	19	4.1	5.5	6.9	8.6	10.3	N/A	3200	Gearbox
<b>6120</b>	6.0	23	4.9	6.6	N/A	N/A	N/A	N/A	1400	6.4
<b>6120G1</b>	6.7	25	5.5	7.3	N/A	N/A	N/A	N/A	3200	Gearbox

<b>DETERMINING THE PUMP R.P.M.</b>	Rated G.P.M.	=	"Desired" G.P.M.
<b>DETERMINING THE REQUIRED H.P.</b>	Rated R.P.M.	=	"Desired" R.P.M.
<b>DETERMINING MOTOR PULLEY SIZE</b>	GPM x PSI	=	Electric Brake H. P. Required
	1460	=	H. P. Required
	Motor Pulley O.D.	=	Pump Pulley O.D.
	Pump R.P.M.	=	Motor R.P.M.

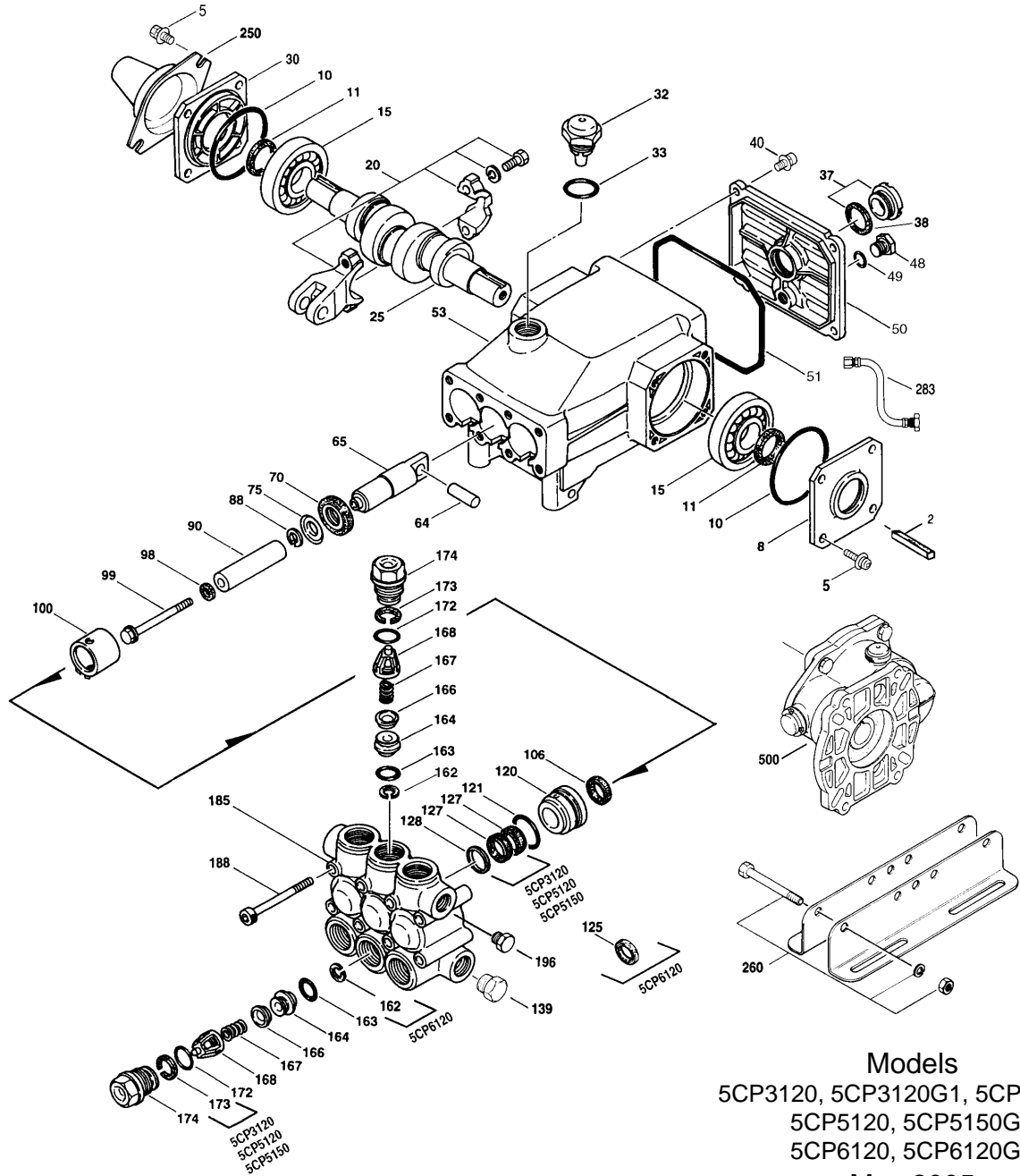
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.  
 Refer to pump **Service Manual** for repair procedure, additional technical information and **pump warranty**.

*"Customer confidence is our greatest asset"*

# PARTS LIST

ITEM	5CP3120		5CP5120		5CP6120		DESCRIPTION	QTY
	5CP3120G1	MATL	5CP5120G1	MATL	5CP6120G1	MATL		
2	30057	STL	30057	STL	30057	STL	Key (M6x6x25)	1
5	96031	STZP	96031	STZP	96031	STZP	Screw, Sems HHC (M8x16)	8
8	46910	AL	46910	AL	46910	AL	Cover, Bearing	2/1
10	14028	NBR	14028	NBR	14028	NBR	O-Ring, Bearing Cover - 70D	2
11	43222	NBR	43222	NBR	43222	NBR	Seal, Oil, Crankshaft	2
15	14480	STL	14480	STL	14480	STL	Bearing, Ball	2
20	48742	TNM	48742	TNM	48742	TNM	Rod, Connecting Assy [10/01]	3
25	46928	FCM	46928	FCM	46928	FCM	Crankshaft, Dual End - 3120, 5120, 6120 6120G1	1
	<b>48233</b>	<b>FCM</b>	—	—	—	—	Crankshaft, Single End - 3120G1	1
	<b>48368</b>	<b>FCM</b>	<b>48368</b>	<b>FCM</b>	—	—	Crankshaft, Single End - 3130G1, 5150G1	1
30	<b>48224</b>	<b>AL</b>	<b>48224</b>	<b>AL</b>	—	—	Cover, Bearing Blind	1
32	46798	—	46798	—	46798	—	Cap, Oil Filler, Domed	1
33	14179	NBR	14179	NBR	14179	NBR	O-Ring, Oil Filler Cap - 70D	1
37	92241	—	92241	—	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	92519	STZP	92519	STZP	92519	STZP	Screw, Sems HHC (M6x16)	4
48	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	46940	AL	46940	AL	46940	AL	Cover, Rear	1
51	14044	NBR	14044	NBR	14044	NBR	O-Ring, Rear Cover	1
53	48617	AL	48617	AL	48617	AL	Crankcase	1
64	46746	CM	46746	CM	46746	CM	Pin, Crosshead	3
65	48458	BBNP	48458	BBNP	48458	BBNP	Rod, Plunger	3
70	46838	NBR	46838	NBR	46838	NBR	Seal, Oil, Crankcase - 70D	3
75	<b>43900</b>	<b>S</b>	<b>43328</b>	<b>S</b>	<b>43328</b>	<b>S</b>	Slinger, Barrier	3
88	45697	S	45697	S	45697	S	Washer, Keyhole (M18)	3
90	<b>46884</b>	<b>CC</b>	—	—	—	—	Plunger (M16x50)	3
	—	—	<b>46893</b>	<b>CC</b>	—	—	Plunger (M18x50)	3
	—	—	—	—	<b>46841</b>	<b>CC</b>	Plunger (M20x50)	3
98	46730	NBR	46730	NBR	46730	NBR	Washer, Seal - 90D	3
	48394	FPM	48394	FPM	48394	FPM	Washer, Seal - 90D	3
	◆ <b>48432</b>	<b>EPDM</b>	—	—	—	—	Washer, Seal	3
99	48201	SSL	48201	SSL	48201	SSL	Retainer, Plunger w/Stud (M6)	3
100	46749	PVDF	46749	PVDF	46749	PVDF	Retainer, Seal	3
106	<b>43316</b>	<b>NBR</b>	<b>43243</b>	<b>NBR</b>	<b>43305</b>	<b>NBR</b>	Seal, LPS w/S-Spg	3
	<b>106660</b>	<b>FPM</b>	—	—	—	—	Seal, LPS w/S-Spg	3
	—	—	<b>44926</b>	<b>FPM</b>	<b>45153</b>	<b>FPM</b>	Seal, LPS w/SS-Spg	3
	◆ <b>49134</b>	<b>EPDM</b>	—	—	—	—	Seal, LPS w/S-Spg	3
120	<b>46888</b>	<b>BB</b>	<b>46896</b>	<b>BB</b>	<b>46843</b>	<b>BB</b>	Case, Seal (Press-in-style)	3
121	13978	NBR	13978	NBR	13978	NBR	O-Ring, Seal Case - 70D	3
	14329	FPM	14329	FPM	14329	FPM	O-Ring, Seal Case	3
	◆ <b>48904</b>	<b>EPDM</b>	—	—	—	—	O-Ring, Seal Case	3
125	—	—	—	—	<b>43307</b>	<b>SNG</b>	Seal, HPS w/S	3
	—	—	—	—	<b>44936</b>	<b>FPM</b>	Seal, HPS w/SS	3
	—	—	—	—	<b>46667</b>	<b>HT</b>	Seal, HPS w/S	3
127	<b>43319</b>	<b>PTFE</b>	<b>44549</b>	<b>SNG</b>	—	—	V-Packing	6
	<b>46287</b>	<b>HT*</b>	<b>45617</b>	<b>SFG</b>	—	—	V-Packing	6
	—	—	<b>48300</b>	<b>STG</b>	—	—	V-Packing	6
128	<b>46618</b>	<b>NY</b>	<b>45618</b>	<b>BB</b>	—	—	Adapter, Male	3
139	22179	BBCP	22179	BBCP	22179	BBCP	Plug, Inlet (1/2"NPT)	1
162	—	—	—	—	<b>43248</b>	<b>PTFE</b>	Back-up-Ring, Seat	6
163	<b>17547</b>	<b>NBR</b>	<b>17547</b>	<b>NBR</b>	<b>43249</b>	<b>NBR</b>	O-Ring, Seat	6
	<b>11685</b>	<b>FPM</b>	<b>11685</b>	<b>FPM</b>	<b>44383</b>	<b>FPM</b>	O-Ring, Seat	6
	◆ <b>46648</b>	<b>EPDM</b>	—	—	—	—	O-Ring, Seat - 70D	6
164	<b>45790</b>	<b>S</b>	<b>45790</b>	<b>S</b>	<b>43722</b>	<b>S</b>	Seat	6
166	<b>46429</b>	<b>S</b>	<b>46429</b>	<b>S</b>	<b>43721</b>	<b>S</b>	Valve	6
167	<b>43750</b>	<b>S</b>	<b>43750</b>	<b>S</b>	<b>43751</b>	<b>S</b>	Spring	6
168	<b>44565</b>	<b>PVDF</b>	<b>44565</b>	<b>PVDF</b>	<b>44564</b>	<b>PVDF</b>	Retainer, Spring	6
172	<b>17549</b>	<b>NBR</b>	<b>17549</b>	<b>NBR</b>	<b>17617</b>	<b>NBR</b>	O-Ring, Valve Plug	6
	<b>26996</b>	<b>FPM</b>	<b>26996</b>	<b>FPM</b>	<b>11691</b>	<b>FPM</b>	O-Ring, Valve Plug	6
	◆ <b>49133</b>	<b>EPDM</b>	—	—	—	—	O-Ring, Valve Plug	6
173	<b>48365</b>	<b>D</b>	<b>48365</b>	<b>D</b>	—	—	Back-up-Ring, Valve Plug	6
174	<b>45900</b>	<b>BB</b>	<b>45900</b>	<b>BB</b>	<b>118676</b>	<b>BBCP</b>	Plug, Valve	6
185	<b>46886</b>	<b>FBB</b>	<b>46895</b>	<b>FBB</b>	<b>48248</b>	<b>FBB</b>	Manifold, Head	1
188	87872	STZP	87872	STZP	87872	STZP	Screw, HSH (M8x70)	8
196	22187	BBCP	22187	BBCP	22187	BBCP	Plug, Discharge (3/8"NPT)	1
250	118672	STCP	118672	STCP	118672	STCP	Protector, Shaft	1
255	30243	STZP	30243	STZP	30243	STZP	Mount, Direct	1
260	30611	STZP	30611	STZP	30611	STZP	Assembly, Angle Rail - B (Incls: 28499, 30900, 30910, 30920) (Belt Drive Only)	1
	30637	STZP	30637	STZP	30637	STZP	Mount, Angle Assy-Retro Fit	1
265	30659	—	30659	—	30659	—	Kit, Complete Mounting (Incls: 30611, 30633, 118672) (Belt Drive Only)	1
275	30944	STL	30944	STL	30944	STL	Hub & Key Assy (M20 w/M6 Keyway) [See Drive Packages, Tech Bulletin 003]	1

# EXPLODED VIEW



Models  
 5CP3120, 5CP3120G1, 5CP3130G1  
 5CP5120, 5CP5150G1  
 5CP6120, 5CP6120G1  
 May 2005

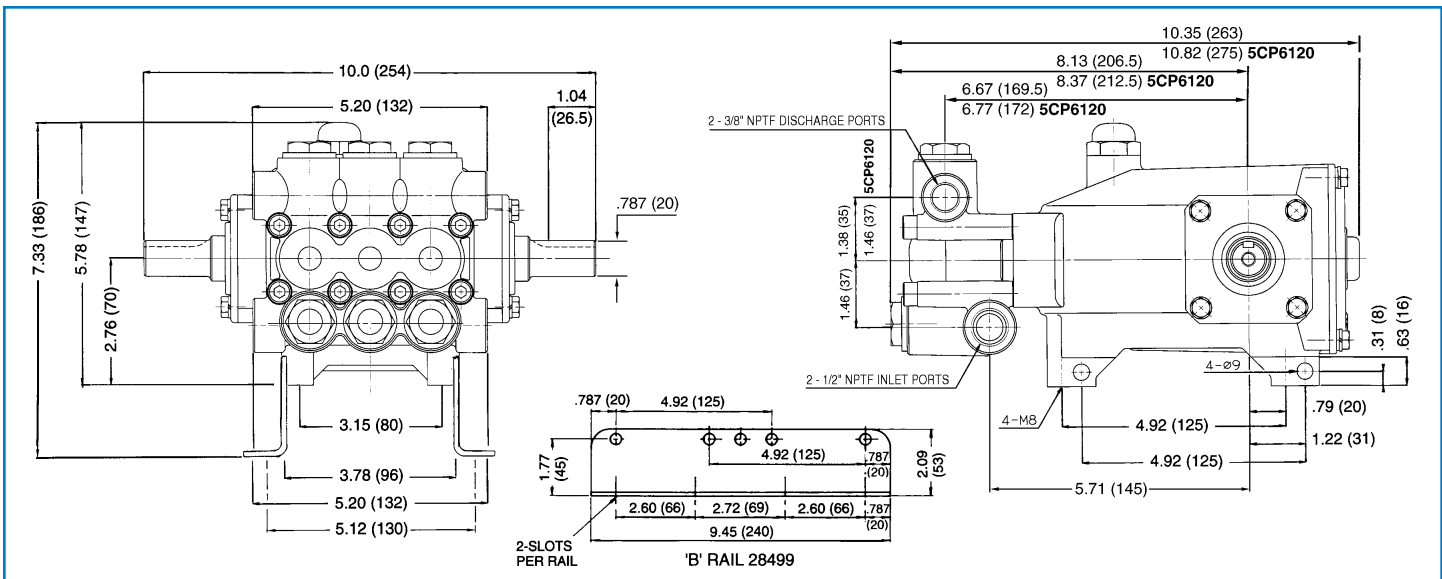
	5CP3120		5CP5120		5CP6120			
	5CP3120G1		5CP5150G1		5CP6120G1			
	5CP3130G1	MATL	5CP5150G1	MATL	5CP6120G1	MATL		
283	34334	—	34334	—	34334	—	Kit, Oil Drain	1
299	<b>814843</b>	<b>FBB</b>	<b>814844</b>	<b>FBB</b>	<b>816666</b>	<b>FBB</b>	Head, Complete	1
300	<b>33629</b>	<b>NBR</b>	<b>33630</b>	<b>NBR</b>	<b>33628</b>	<b>NBR</b>	Kit, Seal (Incls: 98, 106, 121, 125, 127)	1
	<b>31340</b>	<b>FPM*</b>	<b>31350</b>	<b>FPM</b>	<b>31628</b>	<b>FPM</b>	Kit, Seal (Incls: 98, 106, 121, 125, 127)	1
	<b>31665</b>	<b>HT</b>	—	—	<b>31638</b>	<b>HT</b>	Kit, Seal (Incls: 98, 106, 121, 125, 127)	1
	<b>31730</b>	<b>EPDM</b>	—	—	—	—	Kit, Seal (Incls: 98, 106, 121, 127)	1
310	<b>33060</b>	<b>NBR</b>	<b>33060</b>	<b>NBR</b>	<b>30820</b>	<b>NBR</b>	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172, 173)	2
	<b>31345</b>	<b>FPM</b>	<b>31345</b>	<b>FPM</b>	<b>31263</b>	<b>FPM</b>	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172, 173)	2
	<b>31735</b>	<b>EPDM</b>	—	—	—	—	Kit, Valve (Incls: 163, 164, 166, 167, 168, 172, 173)	2
350	30696	STZP	30696	STZP	30696	STZP	Pliers, Reverse	1
400	7665	BB	7665	BB	7665	BB	Modular Unloader (See Individual Data Sheet)	1
500	8076-8077	—	8076-8077	—	8076-8077	—	Gearbox (See Individual Data Sheet)	1
—	6107	—	6107	—	6107	—	Oil, Bottle (21 oz.) ISO 68 Multi-viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

**Bold print part numbers are unique to a particular pump model. Italics are optional items. ♦ Silicone oil/grease required.**

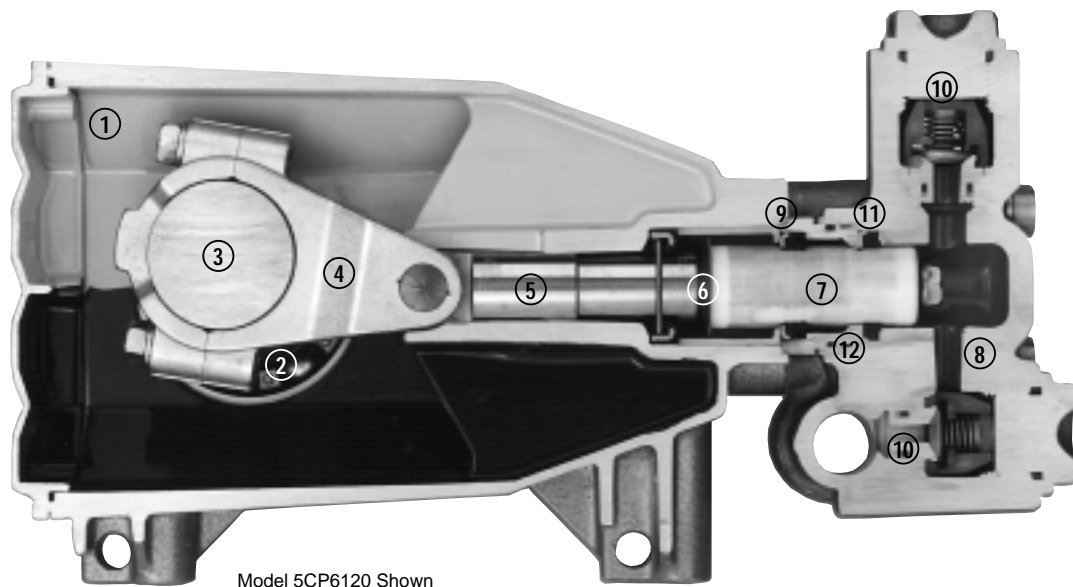
[ ] Date of latest production change. \*Review material codes for individual items (HT generally may be used as alternate).

See Tech Bulletins 002, 003, 024, 036, 043, 053, 060, 061, 064, 073, 074, 077, 078, 083 and 092 for additional information. Add .3 for the Hi-Temp model.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BCBP=Brass/Chrome Plated BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly D=Acetal FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon HS=High Strength HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N) NY=Nylon PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS SFG=Special Blend FPM SNG=Special Blend (Buna) SSL=316SS/Low Carbon STG=Special Blend PTFE White STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength



Models 5CP3120, 5CP5120, 5CP6120



Model 5CP6120 Shown

- 1 Die cast aluminum **crankcase** means high strength, lightweight, and excellent tolerance control.
- 2 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 3 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 4 Matched high strength **connecting rods** noted for strength and superior bearing quality.
- 5 The **plunger rods** with hardened surfaces offer wear resistance and Zamak cross-heads for high load capacity.
- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.
- 7 Special concentric, high density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 8 **Manifolds** are a high tensile strength forged brass for long term, continuous duty.
- 9 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides of the seals.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 11 Specially formulated, CAT PUMP exclusive, **Hi-Pressure Seals or V-Packings** offer unmatched performance and seal life.
- 12 Press-in style **seal case** offers alignment and support for seals and "no tools" servicing.

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

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