

5CP Plunger Pump

Models 5CP2120W
 5CP2140WCS
 5CP2150W

FEATURES

Superior Design

- Triplex plunger design gives smoother liquid flow.
- Hi-Pressure Seals are completely lubricated and cooled by the liquids 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

- All stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- Forged brass manifolds for strength and corrosion resistance.
- Special blend W770 manifold offers washout and freeze protection for car wash applications.
- Special concentric, high density, polished, graphite impregnated, solid ceramic plungers are abrasion resistant and result in extended seal life.
- Specially formulated, CAT PUMP exclusive, Hi-Pressure Seals 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. Measure

Metric Measure

MODEL 5CP2120W

Flow	4.0 GPM	(15 L/M)
Pressure Range.....	100-2500 PSI	(7-175 BAR)
RPM	950 RPM	(950 RPM)
Bore.....	0.787"	(20 mm)
Stroke	0.709"	(18 mm)
Weight	19.14 lbs.	(8.7 kg)

MODEL 5CP2140WCS

Flow	4.0 GPM	(15 L/M)
Pressure Range.....	100-2500 PSI	(7-175 BAR)
RPM	1725 RPM	(1725 RPM)
Bore.....	0.787"	(20 mm)
Stroke	0.394"	(10 mm)
Weight	19.14 lbs.	(8.7 kg)

MODEL 5CP2150W

Flow	5.0 GPM	(19 L/M)
Pressure Range.....	100-2000 PSI	(7-140 BAR)
RPM	1725 RPM	(1725 RPM)
Bore.....	0.787"	(20 mm)
Stroke	0.472"	(12 mm)
Weight	19.14 lbs.	(8.7 kg)

COMMON SPECIFICATIONS

Inlet Pressure Range (950 RPM)	-5 to 60 PSI	(-0.35 to 4 BAR)
Inlet Pressure Range (1725 RPM)	Flooded to 60 PSI	(Flooded to 4 BAR)
Crankcase Capacity	17 oz.	(0.51 L)
Max. Liquid Temperature	160°F	(71°C)
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	10.35 x 10.0 x 5.78"	(263 x 254 x 147 mm)

HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE				MOTOR PULLEY SIZE	
	U.S. GPM	L/M	PSI 1200	PSI 1500	PSI 2000	PSI 2500	Using 1725 RPM Motor & 8" Std. Pump Pulley	RPM
2120W	4.0	15	3.3	4.1	5.5	6.9	950	4.3
	Alternate	5.0	19	4.1	5.1	6.9	N/A	1188
2140WCS	4.0	15	3.3	4.1	5.5	6.9	1725	Direct
2150W	5.0	19	4.1	5.1	6.9	N/A	1725	Direct

DETERMINING THE PUMP R.P.M. $\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}} = \frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$

DETERMINING THE REQUIRED H.P. $\frac{\text{GPM} \times \text{PSI}}{1460} = \text{Electric Brake H. P. Required}$

DETERMINING MOTOR PULLEY SIZE $\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

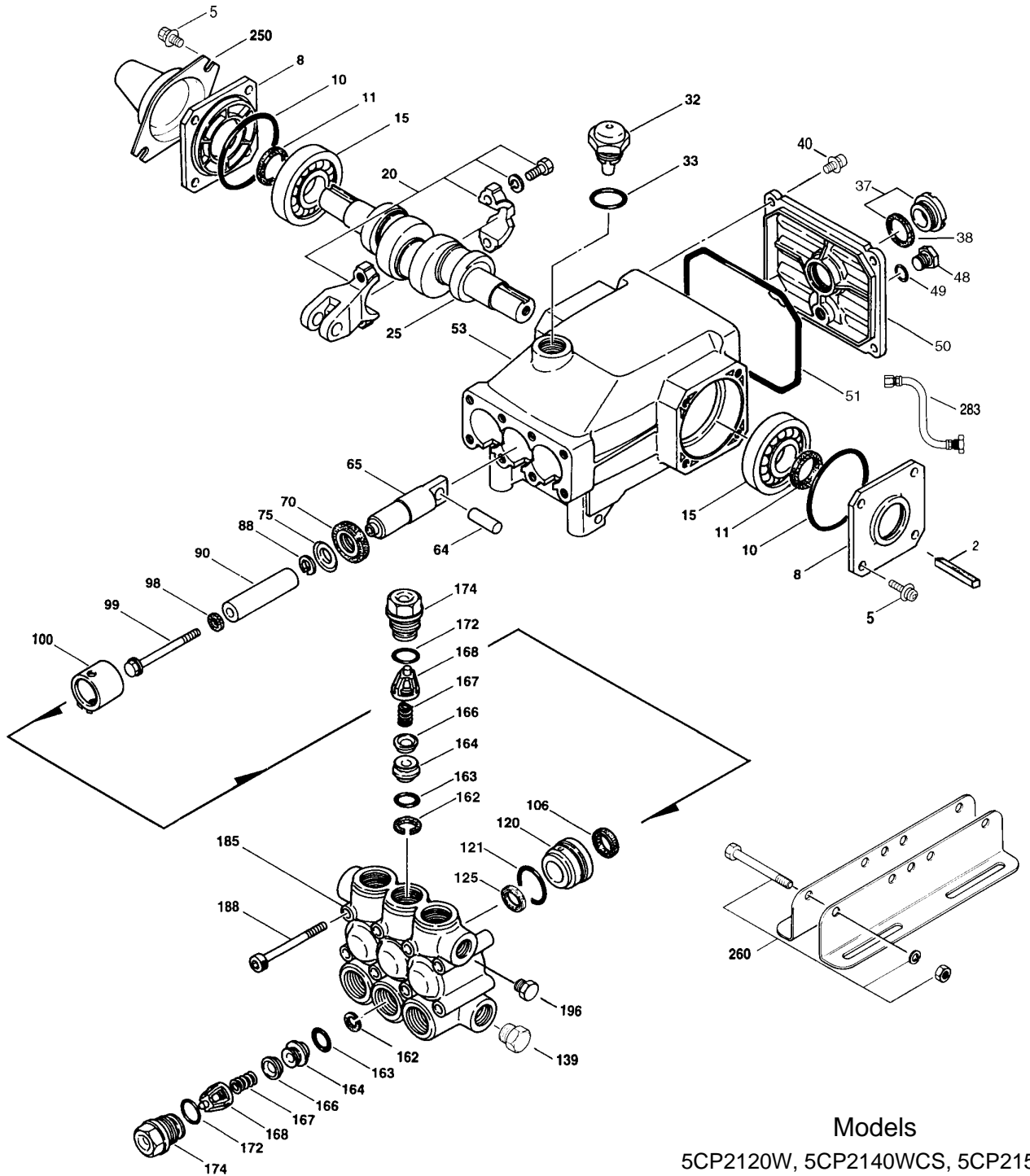
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.
Refer to pump Service Manual for repair procedure and additional technical information.

"Customer confidence is our greatest asset"

PARTS LIST

ITEM	5CP2120W		PART NUMBER		5CP2140WCS		5CP2150W		DESCRIPTION	QTY
	MATL		MATL		MATL					
2	30057	STL	30057	STL	30057	STL	30057	STL	Key (M6x6x25)	1
5	96031	STZP	96031	STZP	96031	STZP	96031	STZP	Screw, Sems HHC (M8x16)	8
8	46910	AL	46910	AL	46910	AL	46910	AL	Cover, Bearing	2/1
10	14028	NBR	14028	NBR	14028	NBR	14028	NBR	O-Ring, Bearing Cover - 70D	2
11	43222	NBR	43222	NBR	43222	NBR	43222	NBR	Seal, Oil, Crankshaft	2
15	14480	STL	14480	STL	14480	STL	14480	STL	Bearing, Ball	2
20	48742	TNM	48742	TNM	48742	TNM	48742	TNM	Rod, Connecting Assy [10/01]	3
25	46928	FCM	—	—	46982	FCM	—	—	Crankshaft, Dual End	1
	—	—	48203	FCM	—	—	—	—	Crankshaft, Single End	1
30	—	—	48224	AL	—	—	—	—	Cover, Bearing Blind	1
32	46798		46798		46798		46798		Cap, Oil Filler, Domed	1
33	14179	NBR	14179	NBR	14179	NBR	14179	NBR	O-Ring, Oil Filler Cap - 70D	1
37	92241		92241		92241		92241		Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	44428	NBR	44428	NBR	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
40	92519	STZP	92519	STZP	92519	STZP	92519	STZP	Screw, Sems HHC (M6x16)	4
48	25625	STCP	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (1/4"x19BSP)	1
49	23170	NBR	23170	NBR	23170	NBR	23170	NBR	O-Ring, Drain Plug - 70D	1
50	46940	AL	46940	AL	46940	AL	46940	AL	Cover, Rear	1
51	14044	NBR	14044	NBR	14044	NBR	14044	NBR	O-Ring, Rear Cover	1
● 53	48617	AL	48617	AL	48617	AL	48617	AL	Crankcase	1 ●
64	46746	CM	46746	CM	46746	CM	46746	CM	Pin, Crosshead	3
65	48458	BBNP	48458	BBNP	48458	BBNP	48458	BBNP	Rod, Plunger	3
70	46838	NBR	46838	NBR	46838	NBR	46838	NBR	Seal, Oil, Crankcase - 70D	3
75	43328	S	43328	S	43328	S	43328	S	Slinger, Barrier	3
88	45697	S	45697	S	45697	S	45697	S	Washer, Keyhole (M18)	3
90	46841	CC	46841	CC	46841	CC	46841	CC	Plunger (M20x50)	3
98	46730	NBR	46730	NBR	46730	NBR	46730	NBR	Washer, Seal	3
	48394	FPM	48394	FPM	48394	FPM	48394	FPM	Washer, Seal	3
	◆ 48432	EPDM	◆ 48432	EPDM	◆ 48432	EPDM	◆ 48432	EPDM	Washer, Seal	3
99	48201	SS	48201	SS	48201	SS	48201	SS	Retainer, Plunger w/Stud (M6)	3
100	46749	PVDF	46749	PVDF	46749	PVDF	46749	PVDF	Retainer, Seal	3
106	43305	NBR	43305	NBR	43305	NBR	43305	NBR	Seal, LPS w/S-Spg	3
	45153	FPM	45153	FPM	45153	FPM	45153	FPM	Seal, LPS w/SS-Spg	3
	◆ 48429	EPDM	◆ 48429	EPDM	◆ 48429	EPDM	◆ 48429	EPDM	Seal, LPS w/SS-Spg	3
120	46843	BB	46843	BB	46843	BB	46843	BB	Case, Seal (Press-in-style)	3
121	13978	NBR	13978	NBR	13978	NBR	13978	NBR	O-Ring, Seal Case - 70D	3
	14329	FPM	14329	FPM	14329	FPM	14329	FPM	O-Ring, Seal Case	3
	◆ 48904	EPDM	◆ 48904	EPDM	◆ 48904	EPDM	◆ 48904	EPDM	O-Ring, Seal Case	3
125	43307	SNG	43307	SNG	43307	SNG	43307	SNG	Seal, HPS w/S	3
	44936	FPM	44936	FPM	44936	FPM	44936	FPM	Seal, HPS w/SS	3
	46667	HT	46667	HT	46667	HT	46667	HT	Seal, HPS w/S	3
139	22179	BBCP	22179	BBCP	22179	BBCP	22179	BBCP	Plug, Inlet (1/2"NPT)	1
162	48361	D	48361	D	48361	D	48361	D	Back-up-Ring, Seat	6
163	43358	NBR	43358	NBR	43358	NBR	43358	NBR	O-Ring, Seat - 70D	6
	44938	FPM	44938	FPM	44938	FPM	44938	FPM	O-Ring, Seat - 70D	6
	◆ 48908	EPDM	◆ 48908	EPDM	◆ 48908	EPDM	◆ 48908	EPDM	O-Ring, Seat	6
164	43725	S	43725	S	43725	S	43725	S	Seat	6
166	43723	S	43723	S	43723	S	43723	S	Valve	6
167	43750	S	43750	S	43750	S	43750	S	Spring	6
168	44565	PVDF	44565	PVDF	44565	PVDF	44565	PVDF	Retainer, Spring	6
172	17615	NBR	17615	NBR	17615	NBR	17615	NBR	O-Ring, Valve Plug - 75D	6
	15855	FPM	15855	FPM	15855	FPM	15855	FPM	O-Ring, Valve Plug - 70D	6
	◆ 48431	EPDM	◆ 48431	EPDM	◆ 48431	EPDM	◆ 48431	EPDM	O-Ring, Valve Plug - 75D	6
174	43849	BBCP	43849	BBCP	43849	BBCP	43849	BBCP	Plug, Valve	6
185	48245	W770	48245	W770	48245	W770	48245	W770	Manifold, Head - W770	1
188	87872	STZP	87872	STZP	87872	STZP	87872	STZP	Screw, HSH (M8x70)	8
196	22187	BBCP	22187	BBCP	22187	BBCP	22187	BBCP	Plug, Discharge (3/8"NPT)	1
250	118672	STCP	118672	STCP	118672	STCP	118672	STCP	Protector, Shaft	1
255	30243	STZP	30243	STZP	30243	STZP	30243	STZP	Mount, Direct	1
260	30611	STZP	30611	STZP	30611	STZP	30611	STZP	Assembly, Angle Rail - B	1
	30637	STZP	30637	STZP	30637	STZP	30637	STZP	(Incls: 28499, 30900, 30910, 30920) (Belt Drive Only)	1
265	30659		30659		30659		30659		Mount, Angle Assy-Retro Fit	1
									Kit, Complete Mounting	1
									(Incls: 30611, 30633, 118672) (Belt Drive Only)	1
● 275	30944	STL	30944	STL	30944	STL	30944	STL	Hub & Key Assy (M20 w/M6 Keyway)	1 ●
									[See Drive Packages, Tech Bulletin 003]	
● 283	34334		34334		34334		34334		Kit, Oil Drain	1 ●
● 298	34970	STZP	34970	STZP	34970	STZP	34970	STZP	Clutch, Assy, Single Groove, 20mm, 12VDC	1 ●
●	34980	STZP	34980	STZP	34980	STZP	34980	STZP	Clutch, Assy, Dual Groove, 20mm, 12VDC	1 ●
● 299	816650	W770	816650	W770	816650	W770	816650	W770	Head, Complete	1 ●
300	33628	NBR	33628	NBR	33628	NBR	33628	NBR	Kit, Seal (Incls: 98, 106, 121, 125)	1
	31628	FPM	31628	FPM	31628	FPM	31628	FPM	Kit, Seal (Incls: 98, 106, 121, 125)	1
	◆ 31648	EPDM*	◆ 31648	EPDM*	◆ 31648	EPDM*	◆ 31648	EPDM*	Kit, Seal (Incls: 98, 106, 121, 125)	1
	31638	HT	31638	HT	31638	HT	31638	HT	Kit, Seal (Incls: 98, 106, 121, 125)	1

EXPLODED VIEW



Models

5CP2120W, 5CP2140WCS, 5CP2150W

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	5CP2120W	MATL	5CP2140WCS	MATL	5CP2150W	MATL		
310	30821	NBR	30821	NBR	30821	NBR	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
	31821	FPM	31821	FPM	31821	FPM	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
	◆ 31162	EPDM	◆ 31162	EPDM	◆ 31162	EPDM	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
350	30696	STZP	30696	STZP	30696	STZP	Plier, Reverse	1
400	7655	BB	7655	BB	7655	BB	Modular Unloader (See Individual Data Sheet)	1
●	—		8026ES-8042ES	—	8026ES-8042ES	—	BD Motors (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

● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.*

◆ Silicone oil/grease required. *Review material codes for individual items (HT generally may be used as alternate).

[] Date of latest production change. See Tech Bulletins 002, 003, 024, 036, 043, 053, 060, 061, 064, 073, 074, 077, 078 and 083 for additional information.

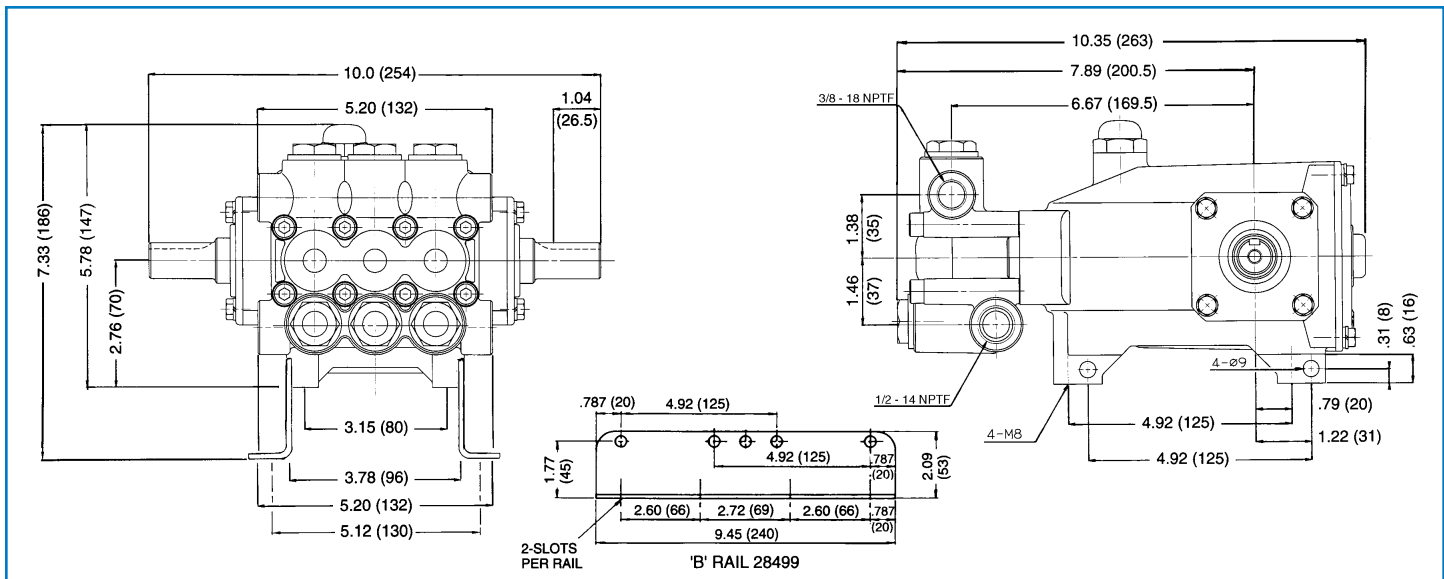
W770 effective with 97 production. Add .3 for the Hi-Temp model.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly D=Delrin®

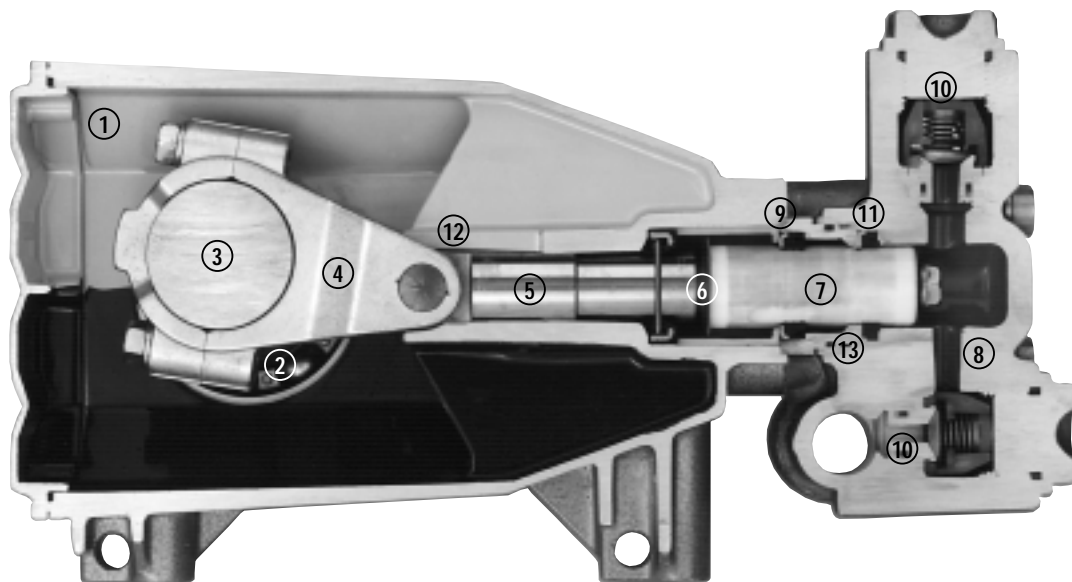
FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon (Viton®) HS=High Strength HT=Hi-Temp (EPDM Alternative)

NBR=Medium Nitrile (Buna-N) PVDF=Fluoroplastic (High Strength) S=304SS SNG=Special Blend (Buna) STL=Steel

W770=Special Alloy STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength



Models 5CP2120W, 5CP2140WCS, 5CP2150W



- | | | |
|--|---|--|
| <p>1 Die cast aluminum crankcase means high strength, lightweight, and excellent tolerance control.</p> <p>2 Oversized crankshaft bearings provide extended bearing life and pump performance.</p> <p>3 Chrome-moly crankshaft provides unmatched strength and surface hardness for long life.</p> <p>4 Matched high strength connecting rods noted for strength and superior bearing quality.</p> <p>5 The plunger rods with hardened surfaces offer wear resistance and Zamak cross-heads for high load capacity.</p> | <p>6 The stainless steel slinger provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.</p> <p>7 Special concentric, high density, polished, graphite impregnated, solid ceramic plungers are abrasion resistant and result in extended seal life.</p> <p>8 Manifolds are a high tensile strength forged brass for long term, continuous duty.</p> <p>9 100% wet seal design adds to service life by allowing pumped liquids to cool and lubricate on both sides.</p> | <p>10 Stainless steel valves, seats and springs provide corrosion-resistance, positive seating and long life.</p> <p>11 Specially formulated, CAT PUMP exclusive, Hi-Pressure Seals offer unmatched performance and seal life.</p> <p>12 Crossheads are 360° supported for uncompromising alignment.</p> <p>13 Press-in style seal case offers alignment and support for seals and “no tools” servicing.</p> |
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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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