

DATA SHEET

5CP PLUNGER PUMPS



The Pumps with Nine Lives

Brass Models:

5CP2120W, 5CP2140WCS, 5CP2150W

Special Brass Models:

5CP2120B, 5CP2140BCS, 5CP2150B



Model 5CP2120W Shown
(Rails and shaft protector sold separately)

FEATURES

- Industrial triplex design offers reliability and versatility.
- Belt drive or compact direct-drive mount to motor using bell housing and flexible coupling (NEMA or IEC available).
- Press-in seal cases and interchangeable valve assemblies for easy servicing.
- Standard NBR seals with alternative options for temperature and chemical compatibility.

COMMON

SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range (950 rpm)	-5 to 60 psi	-0.35 to 4.1 bar
Inlet Pressure Range (1725 rpm)	Flooded to 60 psi	Flooded to 4.1 bar
Crankcase Capacity	17 oz.	0.50 l
Standard Liquid Temp. (NBR)	160° F	71° C

Alternative seals available for high temp up to 190° F

	U.S.	Metric
Inlet Ports (2)	1/2" NPT(F)	1/2" NPT(F)
Discharge Ports (2)	3/8" NPT(F)	3/8" NPT(F)
Shaft Diameter	0.787"	20 mm
Weight	19.14 lbs.	8.7 kg
Dimensions	10.35 x 10.00 x 5.78"	263 x 254 x 147

SPECIFICATIONS

U.S. Measure

Metric Measure

Models 5CP2120W and 5CP2120B

	U.S. Measure	Metric Measure
Flow	4.0 gpm	15 lpm
Pressure Range	100 - 2500 psi	6.9 - 172 bar
Pump RPM*	950 rpm	950 rpm
Bore	0.787"	20 mm
Stroke	0.709"	18 mm

Models 5CP2140WCS and 5CP2140BCS

	U.S. Measure	Metric Measure
Flow	4.0 gpm	15 lpm
Pressure Range	100 - 2500 psi	6.9 - 172 bar
Pump RPM*	1725 rpm	1725 rpm
Bore	0.787"	20 mm
Stroke	0.394"	10 mm

Models 5CP2150W and 5CP2150B

	U.S. Measure	Metric Measure
Flow	5.0 gpm	19 lpm
Pressure Range	100 - 2000 psi	6.9 - 138 bar
Pump RPM*	1725 rpm	1725 rpm
Bore	0.787"	20 mm
Stroke	0.472"	12 mm

*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 Reference Document 99REF017 for inlet conditions and RPM at high temperature.

DETERMINING THE PUMP R.P.M.

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

DETERMINING THE REQUIRED H.P.

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

DETERMINING MOTOR PULLEY SIZE

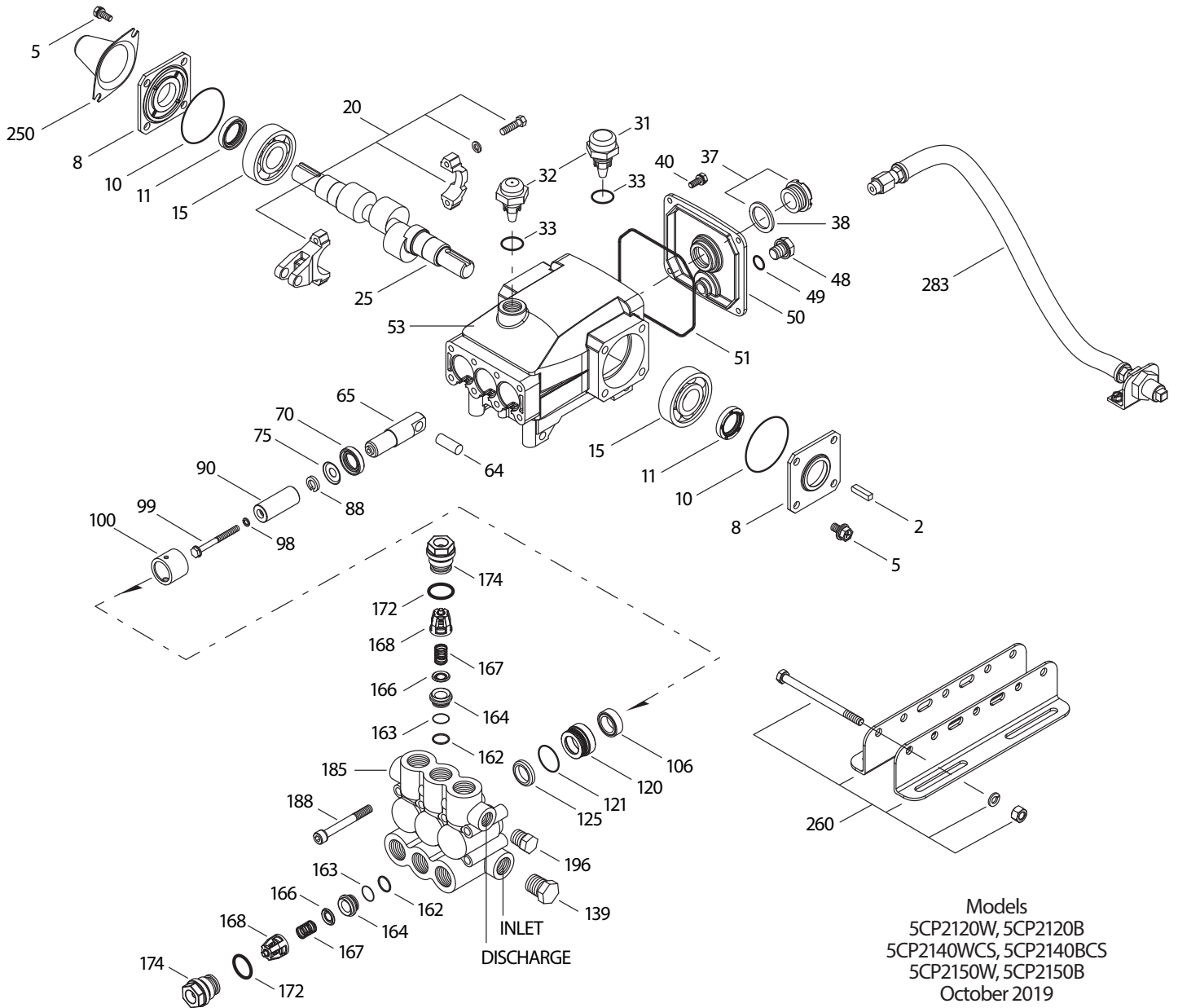
$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

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

PARTS LIST

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	5CP2120W		5CP2140WCS		5CP2150W			
	5CP2120B		5CP2140BCS		5CP2150B			
2	30057	STL	30057	STL	30057	STL	Key (M6x6x25)	1
5	126542	STCP R	126542	STCP R	126542	STCP R	Screw, Sems HHC (M8x16)	8
8	46910	AL	46910	AL	46910	AL	Cover, Bearing	2/1/2
10	14028	NBR	14028	NBR	14028	NBR	O-Ring, Bearing Cover - 70D	2
11	43222	NBR	43222	NBR	43222	NBR	Seal, Oil, Crankshaft - 70D	2/1/2
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	—	—	46982	FCM	Crankshaft, Dual End	1
	—	—	48203	FCM	—	—	Crankshaft, Single End	1
30	—	—	48224	AL	—	—	Cover, Bearing Blind	1
31	127409	—	127409	—	127409	—	Cap, Vented w/O-Ring (Rain Cap)	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	125824	STCP R	125824	STCP R	125824	STCP R	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	43328	S	43328	S	43328	S	Slinger, Barrier	3
88	45697	S	45697	S	45697	S	Washer, Keyhole (M18 x 10)	3
90	46841	CC	46841	CC	46841	CC	Plunger (M20x50)	3
98	46730	NBR	46730	NBR	46730	NBR	Washer, Seal - 90D	3
	48394	FPM	48394	FPM	48394	FPM	Washer, Seal - 90D	3
	◆ 48432	EPDM	◆ 48432	EPDM	◆ 48432	EPDM	Washer, Seal	3
99	† 48201	SS	† 48201	SS	† 48201	SS	Retainer, Plunger w/Stud (M6)	3
100	46749	PVDF	46749	PVDF	46749	PVDF	Retainer, Seal	3
106	43305	NBR	43305	NBR	43305	NBR	Seal, LPS w/S-Spg	3
	45153	FPM	45153	FPM	45153	FPM	Seal, LPS w/SS-Spg	3
	◆ 48429	EPDM	◆ 48429	EPDM	◆ 48429	EPDM	Seal, LPS w/SS-Spg	3
	76305	ST2	76305	ST2	76305	ST2	Seal, LPS w/SS-Spg	3
120	46843	BB	46843	BB	46843	BB	Case, Seal (Press-in-style)	3
	49436	BB	49436	BB	49436	BB	Case, Seal (Use w/76305,13978)	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
	◆ 48904	EPDM	◆ 48904	EPDM	◆ 48904	EPDM	O-Ring, Seal Case	3
125	43307	SNG	43307	SNG	43307	SNG	Seal, HPS w/S	3
	44936	FPM	44936	FPM	44936	FPM	Seal, HPS w/SS	3
	46667	HT	46667	HT	46667	HT	Seal, HPS 2-Pc w/S-Support	3
139	22179	BBCP	22179	BBCP	22179	BBCP	Plug, Inlet [1/2"NPT(M)]	1
162	48361	D	48361	D	48361	D	Back-up-Ring, Seat	6
163	43358	NBR	43358	NBR	43358	NBR	O-Ring, Seat - 70D	6
	44938	FPM	44938	FPM	44938	FPM	O-Ring, Seat - 70D	6
	◆ 48908	EPDM	◆ 48908	EPDM	◆ 48908	EPDM	O-Ring, Seat	6
164	43725	S	43725	S	43725	S	Seat	6
166	43723	S	43723	S	43723	S	Valve	6
167	43750	S	43750	S	43750	S	Spring	6
168	44565	PVDF	44565	PVDF	44565	PVDF	Retainer, Spring	6
172	17615	NBR	17615	NBR	17615	NBR	O-Ring, Valve Plug - 75D	6
	15855	FPM	15855	FPM	15855	FPM	O-Ring, Valve Plug - 70D	6
	◆ 48431	EPDM	◆ 48431	EPDM	◆ 48431	EPDM	O-Ring, Valve Plug - 75D	6
174	43849	BBCP	43849	BBCP	43849	BBCP	Plug, Valve	6
185	48245	W770	48245	W770	48245	W770	Manifold, Head - W770	1
	49716	SBCP	49716	SBCP	49716	SBCP	Manifold, Head - Special Brass	1
188	126513	STCP R	126513	STCP R	126513	STCP R	Screw, HSH (M8x70)	8
196	22187	BBCP	22187	BBCP	22187	BBCP	Plug, Discharge [3/8"NPT(M)]	1
250	118672	STCP	—	—	118672	STCP	Protector, Shaft	1
255	30243	STZP	30243	STZP	30243	STZP	Mount, Direct (Not Shown)	1
260	30611	STZP R	30611	STZP R	30611	STZP R	Mounting, Angle Rail (Belt Drive Only)	1
	30637	STZP	30637	STZP	30637	STZP	Mount, Angle Assy-Retro Fit (See Tech Bulletin 078)	1
265	30659	—	30659	—	30659	—	Mount, Assy (Incls: 30611, 30633, 118672)	1
275	30944	STL	30944	STL	30944	STL	Assy, Hub & Key (Incls: 30057, 30945)	1
283	34334	—	34334	—	34334	—	Kit, Oil Drain (3/8" x 24") (see Individual Data Sht)	1
	76334	—	76334	—	76334	—	Kit, Oil Level Indicator (3/8"x24") (see Individual Data Sht)	1

EXPLODED VIEW



ITEM	PART NUMBER	MATL	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	5CP2120W		5CP2140WCS		5CP2150W			
	5CP2120B		5CP2140BCS		5CP2150B			
299	816650	W770	816650	W770	816650	W770	Head, Complete - W770 w/NBR Seals & O-Rings	1
	818472	SBCP	818472	SBCP	818472	SBCP	Head, Complete - Special Brass w/NBR Seals & O-Rings	1
300	33628	NBR	33628	NBR	33628	NBR	Kit, Seal (Incls: 98, 106, 121, 125) Standard	1
	31628	FPM	31628	FPM	31628	FPM	Kit, Seal (Incls: 98, 106, 121, 125) .0110	1
◆	31648	EPDM*	◆ 31648	EPDM*	◆ 31648	EPDM*	Kit, Seal (Incls: 98, 106, 121, 125) .0220	1
	31638	HT	31638	HT	31638	HT	Kit, Seal (Incls: 98, 106, 121, 125) .3000	1
	76536	STHT	76536	STHT	76536	STHT	Kit, Seal (Incls: 98, 106, 120, 121, 125) .3400	1
310	30821	NBR	30821	NBR	30821	NBR	Kit, Valve, Preassembled (Incls: 162 - 164, 166 - 168, 172) Standard, .3000, .3400	2
	31821	FPM	31821	FPM	31821	FPM	Kit, Valve, Preassembled (Incls: 162 - 164, 166 - 168, 172) .0110	2
◆	31162	EPDM	◆ 31162	EPDM	◆ 31162	EPDM	Kit, Valve, Preassembled (Incls: 162 - 164, 166 - 168, 172) .0220	2
—	6107	—	6107	—	6107	—	Oil, Bottle (21 oz) ISO-68 Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

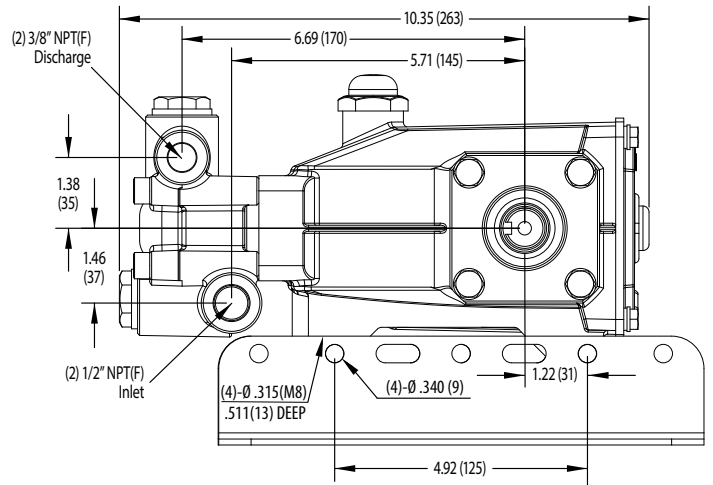
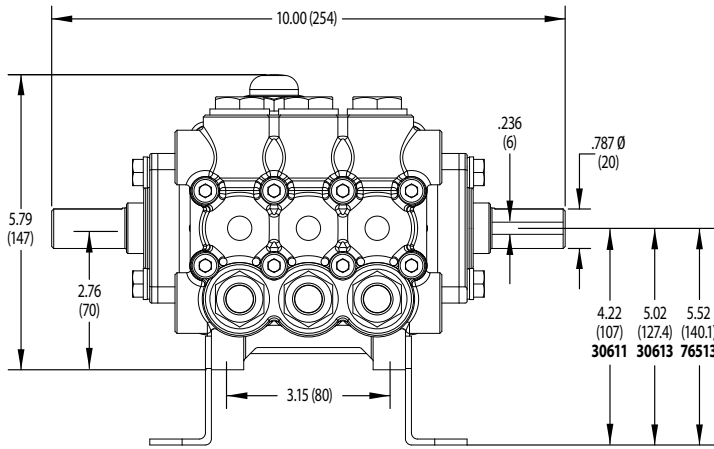
Bold print part numbers are unique to a particular pump model. *Italics are optional items.* ◆ Silicone oil/grease required. † Production parts are different than repair parts. R Components comply with RoHS Directive. [] Date of latest production change. W770 effective with 97 production.

*Review individual parts in each kit for material code identification.

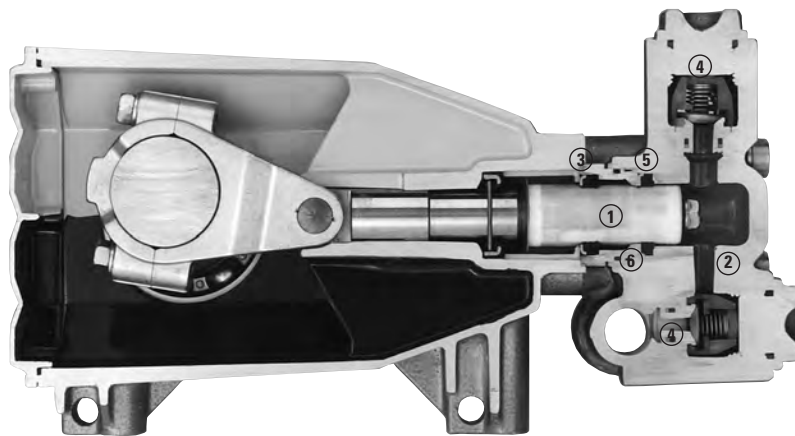
Review Tech Bulletins 024, 036, 043, 053, 060, 061, 064, 073, 074, 078, 083 and 103 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly D=Acetal EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N) PVDF=Polyvinylidene Fluoride S=304SS SBCP=Special Brass/Chrome Plated SS=316SS SNG=Special Blend (Buna) ST 2=Special PTFE 2 STL=Steel STHT=Special PTFE High Temp

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



Models 5CP2120W, 5CP2120B, 5CP2140WCS, 5CP2140BCS, 5CP2150W, 5CP2150B



- 1 Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 2 **Manifolds** are a high tensile strength forged W770 alloy or special brass for long term, continuous duty.
- 3 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides.
- 4 Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 5 Specially formulated, Cat Pumps exclusive, **Lo-Pressure and Hi-Pressure Seals** offer unmatched performance and seal life.
- 6 Press-in style seal case offers alignment and support for seals and “no tools” servicing.

⚠ 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/cautions-warnings or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.