

DATA SHEET

5CP PLUNGER PUMPS

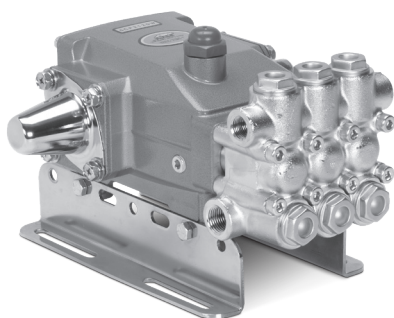


**Brass
Models:**

5CP2120W, 5CP2140WCS, 5CP2150W

**Special Brass
Models:**

5CP2120B, 5CP2140BCS, 5CP2150B



Model 5CP2120W Shown
(Mounting rails and shaft protector sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Direct-drive option offers a compact footprint for direct-drive motors with a NEMA or IEC frame, or SAE hydraulic motors with a bell housing/flexible coupler assembly.
- Belt-driven option provides precision flow setting.
- 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 (950 rpm)	-5–60 psi	-0.35–4.1 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 higher temperatures up to 190° F

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	10.31 x 10.00 x 5.79"	262 x 254 x 147

SPECIFICATIONS

U.S. Measure

Metric Measure

5CP2120W, 5CP2120B

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

5CP2140WCS, 5CP2140BCS

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

5CP2150W, 5CP2150B

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 **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 NUMBER	MATL	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	5CP2120W 5CP2120B		5CP2140WCS 5CP2140BCS		5CP2150W 5CP2150B			
5	126542	STCP R	126542	STCP R	126542	STCP R	Screw, Sems HHC (M8 x 16) (See Tech Bulletin 074)	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	2/1/2
15	14480	STL	14480	STL	14480	STL	Bearing, Ball	2
20	48742	TNM	48742	TNM	48742	TNM	Rod, Connecting Assembly (See Tech Bulletin 074)	3
25	46928	FCM	—	—	46982	FCM	Crankshaft, Dual-End	1
	—	—	48203	FCM	—	—	Crankshaft, Single-End (M10)	1
30	—	—	48224	AL	—	—	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	PC	92241	PC	92241	PC	Gauge, Oil, Bubble with 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 (M6 x 16) (See Tech Bulletin 074)	4
48	25625	STCP	25625	STCP	25625	STCP	Plug, Drain (¼" x 19 BSP)	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	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 (M20 x 50)	3
98	46730	NBR	46730	NBR	46730	NBR	Washer, Seal–90D	3
99	† 48201	SS	† 48201	SS	† 48201	SS	Retainer, Plunger with Stud (M6)	3
100	46749	PVDF	46749	PVDF	46749	PVDF	Retainer, Seal	3
106	43305	NBR	43305	NBR	43305	NBR	Seal, Low-Pressure with S-Spring	3
120	46843	BB	46843	BB	46843	BB	Case, Seal (Press-in-Style)	3
121	13978	NBR	13978	NBR	13978	NBR	O-Ring, Seal Case–70D	3
125	43307	SNG	43307	SNG	43307	SNG	Seal, High-Pressure with S-Support	3
162	48361	D	48361	D	48361	D	Backup Ring, Seat	6
163	43358	NBR	43358	NBR	43358	NBR	O-Ring, Seat–70D	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
174	43849	BBCP	43849	BBCP	43849	BBCP	Plug, Valve (See Tech Bulletin 074)	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 (M8 x 70) (See Tech Bulletin 074)	8

Bold print part numbers are unique to a particular pump model. *Italics are optional items.* † Production parts are different than repair parts.

R Components comply with RoHS Directive. W770 effective with 97 production. 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

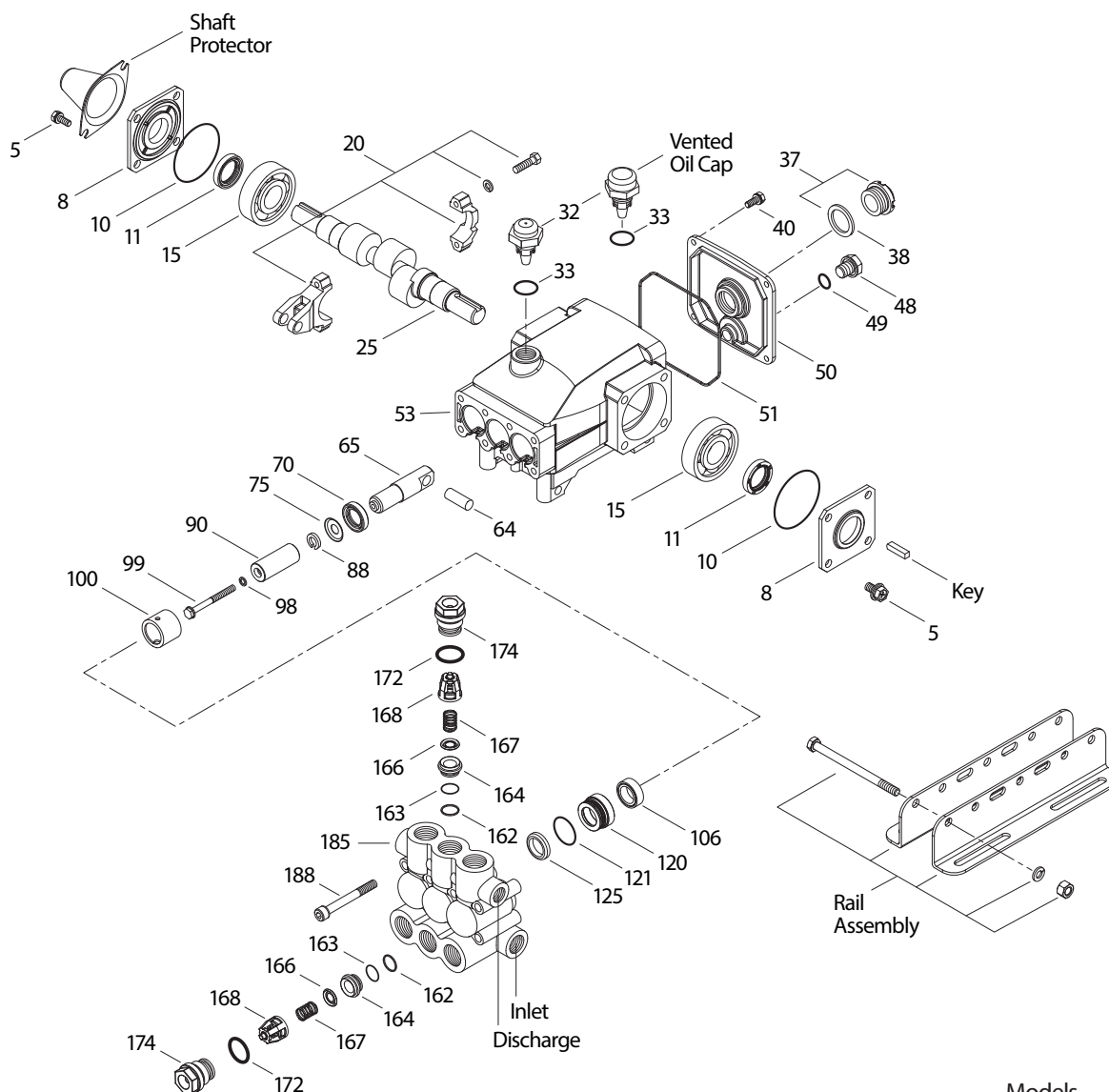
D=Acetal EPDM=Ethylene Propylene Diene Monomer FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative)

NBR=Medium Nitrile (Buna-N) PC=Poly Carbonate PVDF=Polyvinylidene Fluoride S=304SS SBCP=Special Brass/Chrome Plated SS=316SS

SNG=Special Blend (Buna) STL=Steel STHT=Special PTFE High Temp STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated

TNM=Special High Strength W770=Special Alloy

EXPLODED VIEW



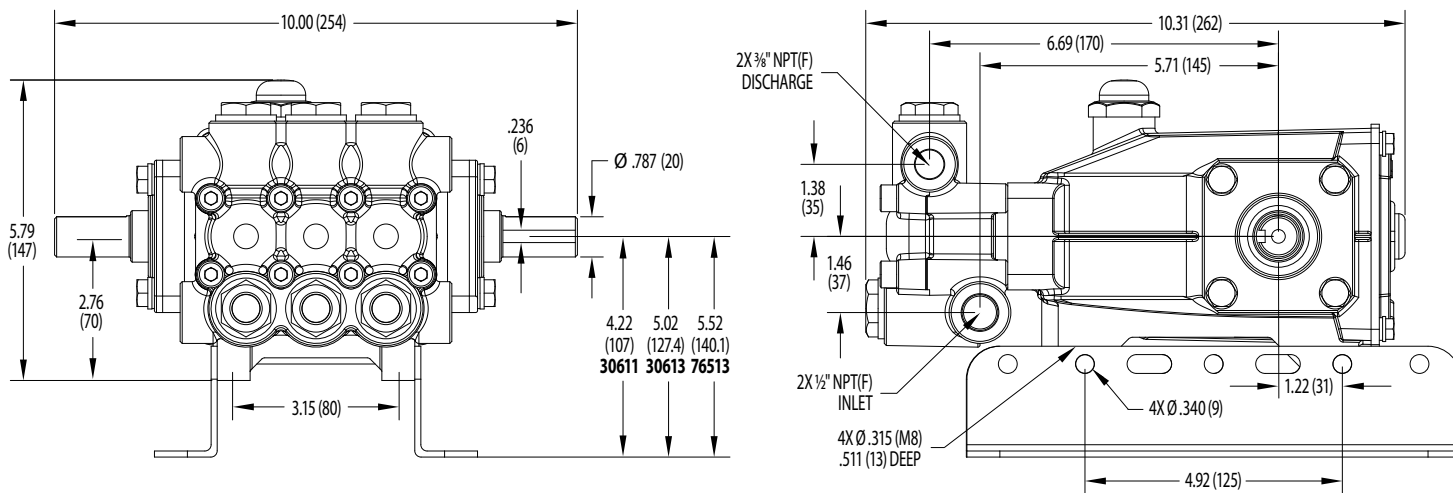
Models
5CP2120W, 5CP2120B
5CP2140WCS, 5CP2140BCS
5CP2150W, 5CP2150B
November 2023

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30057	Key (M6 x 6 x 25)	1
30659	Kit, Complete Mounting	1
30611	Mount, Rail Assembly (4.22" – See Dimensional Drawing)	1
30613	Mount, Rail Assembly (5.02" – See Dimensional Drawing)	1
76513	Mount, Rail Assembly (5.52" – See Dimensional Drawing)	1
30637	Mount, Rail Assembly (Retro-Fit) (See Tech Bulletin 078)	1
30243	Mount, Direct (Belt Drive Only)	1
118672	Protector, Shaft	1
127409	Cap, Vented with O-Ring	1
30633	Assembly, Pulley & Key (Not Shown)	1
30944	Assembly, Hub & Key (Not Shown)	1
34334	Kit, Oil Drain (3/8" x 24") (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33628	Kit, Seal – Standard NBR	1
30821	Kit, Valve – Standard NBR	2
6107	Oil, Bottle (21 oz) (Fill to Specified Crankcase Capacity Prior to Start-up)	1
30696	Reverse Pliers (Not Shown)	1
816650	Head, Complete with NBR Seals & O-Rings (Models 5CP2120W, 2140WCS, 2150W)	1
818472	Head, Complete with NBR Seals & O-Rings (Models 5CP2120B, 2140BCS, 2150B)	1



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

SEAL KITS

One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	HT (.3000)	STHT (.3400)
5CP2120W, 5CP2140WCS, 5CP2150W 5CP2120B, 5CP2140BCS, 5CP2510B	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	—	—	—	—	Seal, High-Pressure with S-Support	3
	—	44936	—	—	—	Seal, High-Pressure with SS Support	3
	—	—	46667	46667	46667	Seal, High-Pressure with 2-Piece S – Support	3

♦ Silicone oil/grease required

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

VALVE KITS

Two (2) valve kits required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	HT (.3000)	STHT (.3400)
5CP2120W, 5CP2140WCS, 5CP2150W 5CP2120B, 5CP2140BCS, 5CP2510B	30821	31821	31162	30821	30821

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
162	48361	48361	48361	48361	48361	Backup Ring, Seat	3
163	43358	44938	48908	43358	43358	O-Ring, Seat	3
164	43725	43725	43725	43725	43725	Seat	3
166	43723	43723	43723	43723	43723	Valve	3
167	43750	43750	43750	43750	43750	Spring	3
168	44565	44565	44565	44565	44565	Retainer, Spring	3
172	17615	15855	48431	17615	17615	O-Ring, Valve Plug	3

♦ Silicone oil/grease required

⚠ CAUTIONS AND WARNINGS

All high-pressure systems require a primary pressure regulating device (e.g. regulator, unloader) and a secondary pressure relief device (e.g. 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