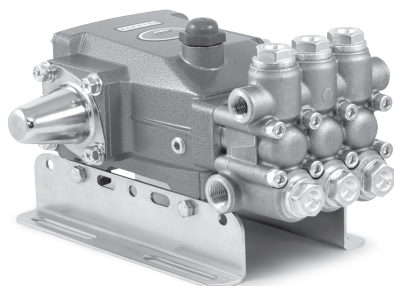


DATA SHEET

5CP PLUNGER PUMPS



Brass Models: **5CP5120, 5CP5120CSS**



Model 5CP5120 Shown
(Shaft protector and mounting rails sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Belt-driven option provides precise flow setting.
- Direct-drive option offers a compact footprint for electric motors with a NEMA or IEC frame, or SAE hydraulic motor with a bell housing/flexible coupler assembly.
- Pump comes standard with NBR seals. Alternative seal materials are available for higher temperature or chemical compatibility.

COMMON

SPECIFICATIONS	U.S.	Metric
Bore	0.709"	18 mm
Stroke	0.709"	18 mm
Crankcase Capacity	17 oz	0.51 l
Max. Liquid Temperature	160° F	71° C

Alternative seals available for higher temperatures up to 190° F

Inlet Ports (2)	½" NPT(F)	½" NPT(F)
Discharge Ports (2)	¾" NPT(F)	¾" NPT(F)
Shaft Diameter	0.787"	20 mm
Weight	19.9 lbs	9 kg
Dimensions	10.90 x 10.0 x 5.79"	277 x 254 x 147 mm

SPECIFICATIONS

U.S. Measure

Metric Measure

5CP5120, 5CP5120CSS

Flow	5.0 gpm	19 lpm
Pressure Range	100–3000 psi	6.9–207 bar
Pump RPM*	1415 rpm	1415 rpm
Inlet Pressure Range	-2.5–60 psi	-0.2–4.1 bar

5CP5120, 5CP5120CSS ALTERNATE SPECIFICATIONS

Flow	6.0 gpm	23 lpm
Pressure Range	100–2500 psi	6.9–172 bar
Pump RPM*	1750 rpm	1750 rpm
Inlet Pressure Range	10–60 psi	0.7–4.1 bar

*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

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

DETERMINING THE REQUIRED HP

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

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		DESCRIPTION	QTY
	5CP5120			
	5CP5120CSS	MATL		
5	126542	STCP R	Screw, HHC, Sems (M8 x 16) (See Tech Bulletin 074)	8
8	46910	AL	Cover, Bearing	2-1
10	14028	NBR	O-Ring, Bearing Cover-70D	2
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) – 5CP5120	1
	48233	FCM	Crankshaft, Single End (M18) – 5CP5120CSS	1
30	49776	AL	Cover, Bearing – 5CP5120CSS	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)	1-2
38	44428	NBR	Gasket, Flat, Oil Gauge-80D	1-2
40	125824	STCP R	Screw, HHC, Sems (M6 x 16) (See Tech Bulletin 074)	4
48	25625	STCP	Plug, Drain (¼" 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	49655	CC	Plunger (M18 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	43243	NBR	Seal, Low-Pressure with S-Spring	3
120	49657	BB	Case, Seal	3
121	13978	NBR	O-Ring, Seal Case-70D	3
127	44549	SNG	V-Packing	6
128	44548	NY	Adapter, Male	3
163	17547	NBR	O-Ring, Seat-85D	6
164	45790	S	Seat	6
166	46429	S	Valve	6
167	43750	S	Spring	6
168	44565	PVDF	Retainer, Spring	6
172	17549	NBR	O-Ring, Valve Plug-70D	6
173	48365	D	Backup Ring, Valve Plug	6
174	45900	BB	Plug, Valve (See Tech Bulletin 074)	6
185	46895	FBB	Manifold, Head	1
188	126513	STCP R	Screw, HSH (M8 x 70) (See Tech Bulletin 074)	8

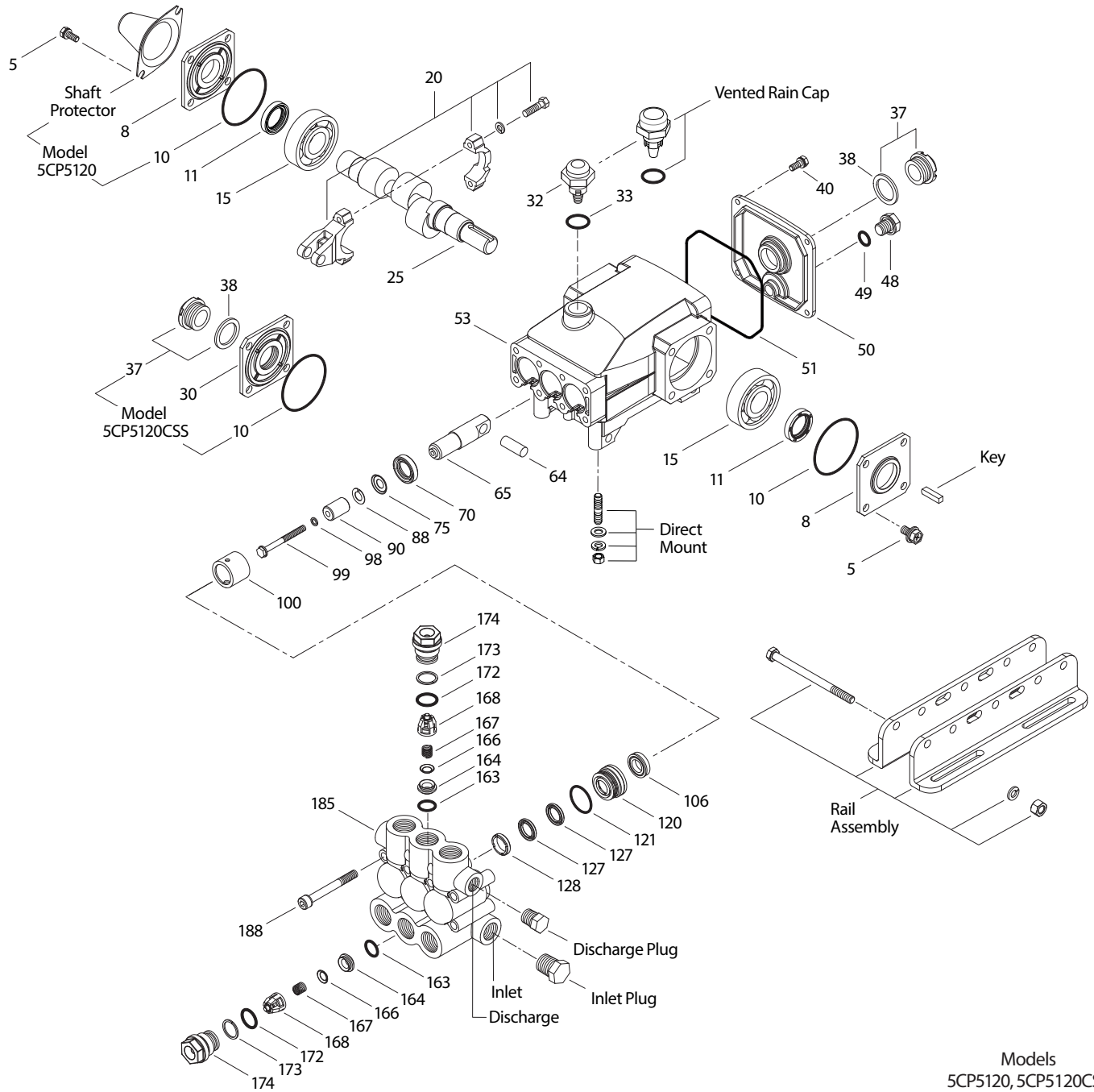
Bold print part numbers are unique to a particular pump model.

Italics are optional items. ♦ Silicone oil/grease required. R Components comply with RoHS Directive.

*Review individual parts in each kit for material code identification. 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 FBB=Forged Brass FCM=Forged Chrome-moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative)
NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Poly Carbonate PVDF=Polyvinylidene Fluoride S=304SS SS=316SS SNG=Special Blend (Buna) SFG=Special Blend (FPM)
STG= Special Blend PTFE White ST2=Special Blend PTFE Grey STL=Steel STCP=Steel/Chrome Plated STHT=Special PTFE High Temp
STZP=Steel/Zinc Plated TNM=Special High Strength

EXPLODED VIEW



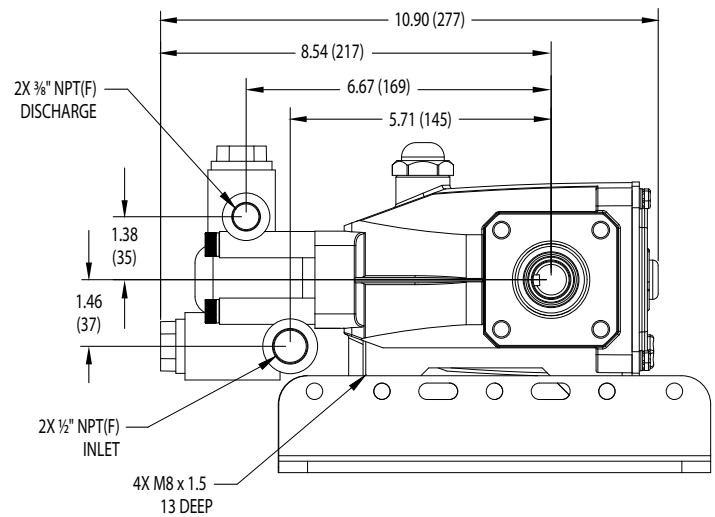
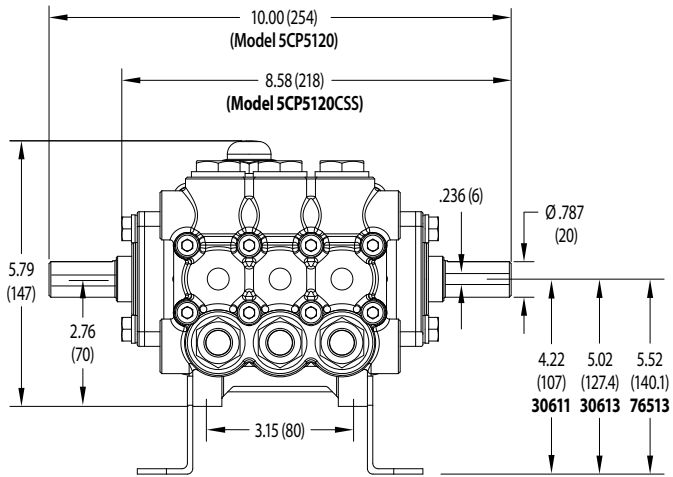
Models
5CP5120, 5CP5120CSS
July 2023

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30057	Key (M6 x 6 x 25)	1
30611	Assembly, Rail (4.22" See Dimensional Drawing)	1
30613	Assembly, Rail (5.02" See Dimensional Drawing)	1
76513	Assembly, Rail (5.52" See Dimensional Drawing)	1
30637	Mount, Rail Assembly (Retro Fit – See Tech Bulletin 078)	1
30243	Mount, Direct	1
118672	Protector, Shaft (Model 5CP5120)	1
127409	Cap, Vented with O-Ring (Rain Cap)	1
22179	Plug, Inlet (1/2" NPT[M])	1
22187	Plug, Discharge (3/8" NPT[M])	1
34334	Kit, Oil Drain (3/8" x 24") (Not Shown)	1
30944	Assembly, Hub and Key (Not Shown)	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33630	Kit, Seal – Standard NBR	1
33060	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
814844	Head, Complete with NBR Seals and O-Rings	1



Model 5CP5120

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220)◆	HT (.3000)	STHT (.3400)
5CP5120, 5CP5120CSS	33630	31350	76630	76645	76960

ITEM (Included in Seal Kits)						DESCRIPTION	QTY
98	46730	48394	48432	46730	46730	O-Ring, Plunger Retainer	3
106	43243	44926	46651	43243	76243	Seal, Low-Pressure with SS-Spring	3
121	13978	14329	48904	13978	13978	O-Ring, Seal Case	3
127	44549	45617	48300	48300	48300	V-Packing	6

◆ 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)
5CP5120, 5CP5120CSS	33060	31345	31735	33060	33060

ITEM (Included in Valve Kits)						DESCRIPTION	QTY
163	17547	11685	46648	17547	17547	O-Ring, Seat	3
164	45790	45790	45790	45790	45790	Seat	3
166	46429	46429	46429	46429	46429	Valve	3
167	43750	43750	43750	43750	43750	Spring	3
168	44565	44565	44565	44565	44565	Retainer, Spring	3
172	17549	26996	49133	17549	17549	O-Ring, Valve Plug	3
173	48365	48365	48365	48365	48365	Backup 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