

DATA SHEET

DIRECT DRIVE PLUNGER PUMPS



Brass Models: **3CP1110CS, 3CP1120, 3CP1130, 3CP1140**

Brass Gearbox Model: **3CP1120G**



Model 3CP1120 Shown
(Rails and shaft protector sold separately)

FEATURES

- Triplex plunger design ensures high efficiency and low pulsation.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Press-in style seal cases and interchangeable valve assemblies for easy servicing.
- Belt-driven option provides precision 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
Inlet Pressure Range	Flooded to 70 psi	Flooded to 4.8 bar
Bore	0.709"	18 mm
Crankcase Capacity	12 oz	0.35 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)
Pulley Mounting	Either Side	Either Side
Shaft Diameter	0.650"	16.5 mm
Weight	14.84 lbs	6.7 kg
Dimensions	9.13 x 8.78 x 5.71"	231 x 223 x 145 mm

SPECIFICATIONS

U.S. Measure

Metric Measure

3CP1110CS Direct Drive

Flow	5.0 gpm	18.91 lpm
Pressure Range	100–1700 psi	6.9–117 bar
Pump RPM*	1750 rpm	1750 rpm
Stroke	0.590"	15 mm

3CP1120, 3CP1120CS Direct Drive

Flow	4.2 gpm	16 lpm
Pressure Range	100–2200 psi	6.9–152 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.500"	12.7 mm

3CP1130 Direct Drive

Flow	2.4 gpm	9.1 lpm
Pressure Range	100–2200 psi	6.9–152 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.287"	7.3 mm

3CP1140, 3CP1140CS Direct Drive

Flow	3.6 gpm	13.6 lpm
Pressure Range	100–2200 psi	6.9–152 bar
Pump RPM*	1725 rpm	1725 rpm
Stroke	0.433"	11 mm

3CP1120G Gearbox

Flow	3.5 gpm	13.2 lpm
Pressure Range	100–2200 psi	6.9–152 bar
Engine RPM	3600 rpm	3600 rpm
Stroke	0.500"	12.7 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)
STHT	.3410	190° F (88° C)

See **Tech Bulletin 002** for inlet conditions and RPM at high temperature.

DETERMINING THE PUMP RPM	Rated gpm	=	Desired gpm
	Rated rpm	=	Desired rpm
DETERMINING THE REQUIRED HP	hp (Electric Brake)	=	gpm x psi 1460
DETERMINING MOTOR PULLEY SIZE	Motor Pulley OD Pump rpm	=	Pump Pulley OD Motor rpm

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

PARTS LIST

ITEM	PART NUMBER	MATL	DESCRIPTION	QTY
5	125824	STCP R	Screw, HHC Sems (M6 x 16) (See Tech Bulletin 074)	8
8	46901	AL	Cover, Bearing	2-1
	48259	AL	Cover, Blind – 3CP1110CS, 3CP1120CS, 3CP1120G, 3CP1140CS	1
10	14028	NBR	O-Ring, Bearing Cover–70D	2
11	43222	NBR	Seal, Oil, Crankshaft–70D	0-1-2
15	14480	STL	Bearing, Ball	2
20	48730	TNM	Rod, Connecting, Assembly [5/01] (See Tech Bulletin 074)	3
25	48805	FCM	Crankshaft, Single End – 3CP1110CS (M15)	1
	46927	FCM	Crankshaft, Dual End – 3CP1120 (M12.7)	1
	46994	FCM	Crankshaft, Dual End – 3CP1130 (M7.3)	1
	46991	FCM	Crankshaft, Dual End – 3CP1140 (M11)	1
	48484	FCM	Crankshaft, Single End – 3CP1140CS (M11)	1
	48257	FCM	Crankshaft, Single End – 3CP1120G, 3CP1120CS (M12.7)	1
32	46798	—	Cap, Oil Filler	1
33	14179	NBR	O-Ring, Oil Filler Cap–70D	1
37	92241	PC	Gauge, Oil, Bubble with Gasket	1
38	44428	NBR	Gasket, Flat, Oil Gauge–80D	1
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	46939	AL	Cover, Rear	1
51	14041	NBR	O-Ring, Rear Cover–70D	1
53	48644	AL	Crankcase	1
64	46615	CM	Pin, Crosshead	3
65	48459	BBNP	Rod, Plunger	3
70	46839	NBR	Seal, Oil, Crankcase	3
75	43900	S	Slinger, Barrier	3
88	45697	S	Washer, Keyhole (M18 x 10)	3
90	46976	CC	Plunger (M18 x 43)	3
98	46730	NBR	Washer, Seal–90D	3
99	† 48201	SS	Retainer, Plunger with Stud (M6) (See Tech Bulletin 074)	3
100	46541	PVDF	Retainer, Seal	3
106	43243	NBR	Seal, LPS with S-Spring	3
120	46625	BB	Case, Seal (See Tech Bulletin 110)	3
121	13976	NBR	O-Ring, Seal Case–70D	3
125	43245	SNG	Seal, HPS with S	3
139	43448	BB	Plug, Inlet [½" NPT(F)]	1
163	17547	NBR	O-Ring, Seat–85D	6
164	45790	S	Seat	6
166	43723	S	Valve	6
167	43750	S	Spring	6
168	44565	PVDF	Retainer, Spring	6
172	17615	NBR	O-Ring, Valve Plug–75D	6
174	46756	BB	Plug, Valve (See Tech Bulletin 074)	6
185	46616	FBB	Manifold, Head	1
188	126512	STCP R	Screw, HSH (M8 x 65) (See Tech Bulletin 074)	8
196	22187	BBCP	Plug, Discharge [⅜" NPT(M)]	1
500	8075	—	Gearbox ¾" Shaft (See Individual Data Sheet)	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. † Production parts are different than repair parts. R Components comply with RoHS Directive.

For additional technical information see www.catpumps.com/literature/tech-bulletins. For motorized versions see BD motor data sheet. For Gearbox version see 8075 data sheet.

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

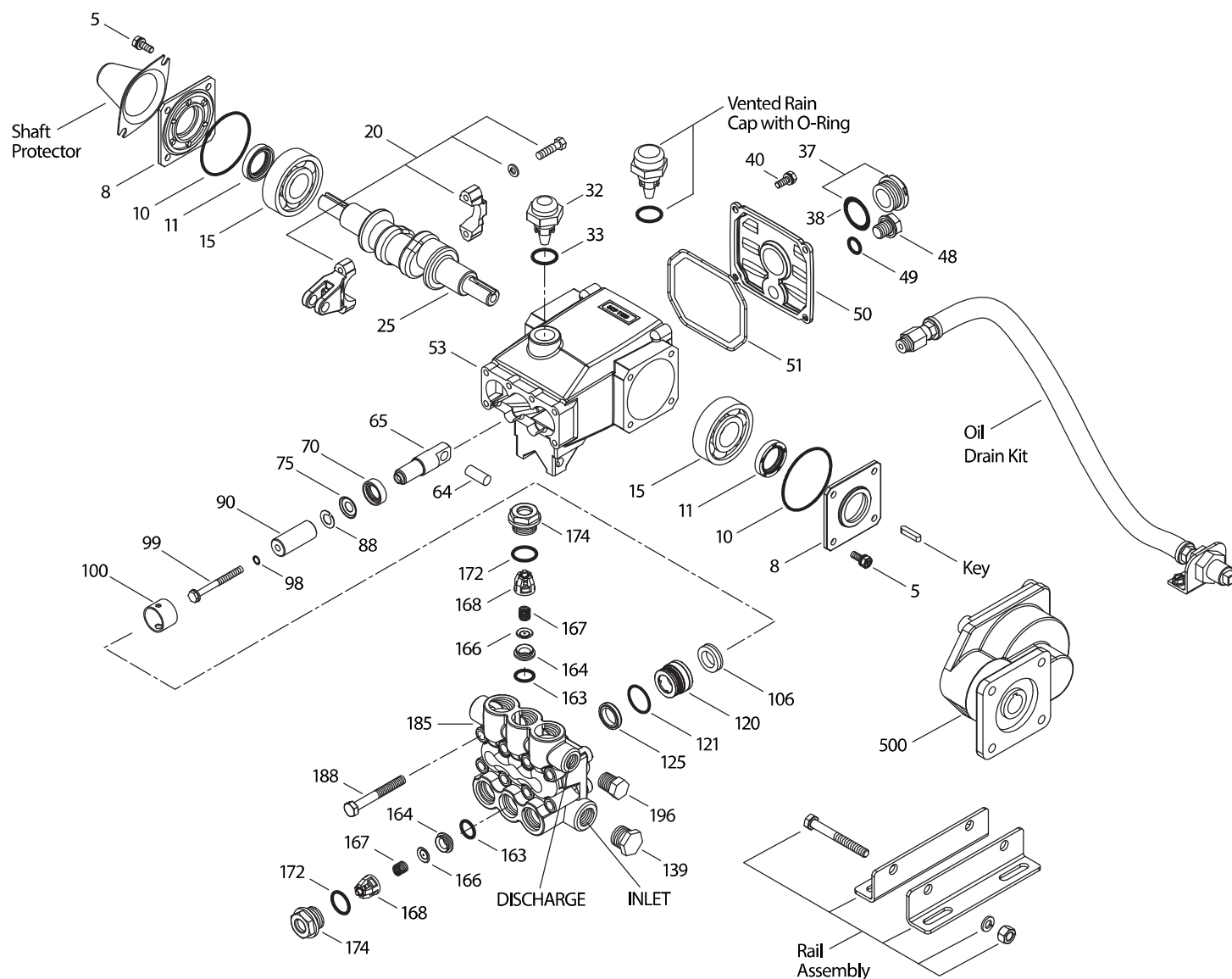
EPDM=Ethylene Propylene Diene Monomer FBB=Forged Brass FCM=Forged Chrome-Moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative)

NBR=Medium Nitrile (Buna-N) PC=Poly Carbonate PVDF=Polyvinylidene Fluoride S=304SS SNG=Special Blend (Buna) SS=316SS

ST2=Special PTFE 2 STHT=Special PTFE High Temp STL=Steel STCP=Steel/Chrome Plated

STZP=Steel/Zinc Plated TNM=Special High Strength

EXPLODED VIEW



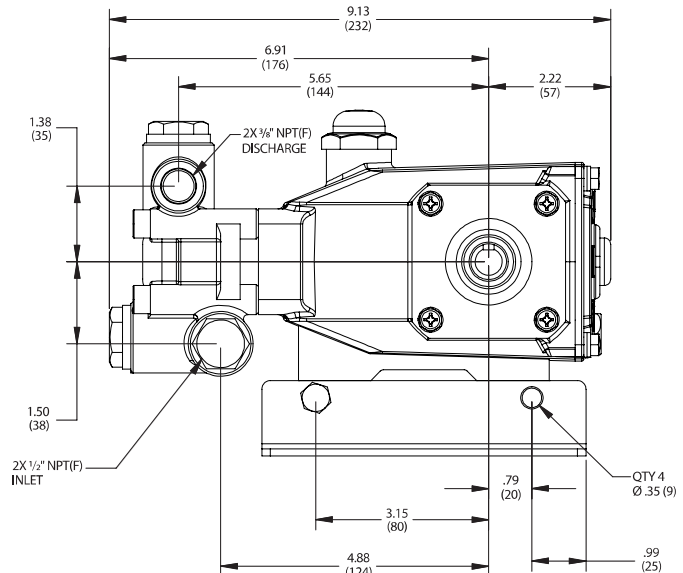
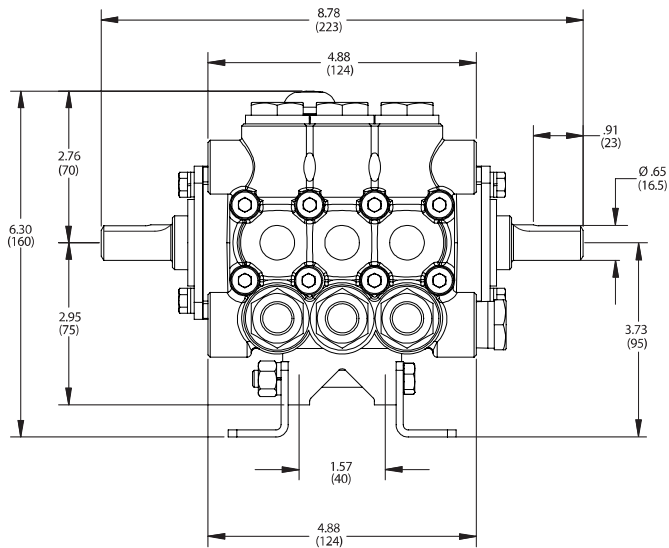
MODELS
3CP1110CS,
3CP1120, 3CP1120G
3CP1130, 3CP1140
May 2021

OPTIONAL PARTS AND ACCESSORIES

PART	DESCRIPTION	QTY
30047	Key (M5 x 5 x 24)	1
30612	Assembly, Rail	1
30641	Assembly, Mount	1
30243	Mount, Direct	1
30943	Assembly, Hub and Key	1
30246	Assembly, Pulley and Key	1
127409	Cap, Vented with O-Ring (Rain Cap)	1
118672	Protector, Shaft	1
34334	Kit, Oil Drain	1
30696	Plier, Reverse	1

SERVICE PARTS

PART	DESCRIPTION	QTY
33983	Kit, Seal – Standard NBR	1
33062	Kit, Valve – Standard NBR	2
6107	Oil, Bottle (21 oz) ISO 68 Hydraulic (Fill to Specified Crankcase Capacity Prior to Start-up)	2
6124	Gasket, Liquid (3 oz)	2
814841	Head, Complete with NBR Seals and O-Rings	1



Models 3CP1120, 3CP1130, 3CP1140

SEAL KITS One (1) seal kit required per pump

PUMP MODELS	NBR (STD)	FPM (.0110)	EPDM (.0220) ♦	HT (.3000)	STHT (.3400)	STHT (.3400)	STHT (.3410)
3CP1110CS, 3CP1120, 3CP1130 3CP1140, 3CP1120G	33983	33257	76924	31983	76526 Prior to 4/10	76983 After to 4/10	32096

ITEM (Included in Seal Kits)								DESCRIPTION	QTY
98	46730	48394	48432	46730	46730	46730	48394	Washer, Seal, Plunger Retainer	3
106	43243	44926	46651	43243	76243	76243	76243	Seal, LPS with SS-Spring	3
120					46625			Case, Seal	3
121	13976	48522	48905	13976	13976	13976	48522	O-Ring, Seal Case	3
125	43245	44925	46652	46652	46652	46652	46652	Seal, High-Pressure	3

♦ 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)	STHT (.3410)
3CP1110CS, 3CP1120, 3CP1130 3CP1140, 3CP1120G	33062	33258	76882	33062	33062	33258

ITEM (Included in Valve Kits)							DESCRIPTION	QTY
163	17547	11685	46648	17547	17547	11685	O-Ring, Seat	3
164	45790	45790	45790	45790	45790	45790	Seat	3
166	43723	43723	43723	43723	43723	43723	Valve	3
167	43750	43750	43750	43750	43750	43750	Spring	3
168	44565	44565	44565	44565	44565	44565	Retainer, Spring	3
172	17615	15855	48431	17615	17615	15855	O-Ring, Valve Plug	3

♦ Silicone oil/grease required

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

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/literature/cat-pumps-limited-warranty

CAT PUMPS 1681 94th Lane N.E., Minneapolis, MN 55449-4324 P: (763) 780-5440 F: (763) 780-2958 E: techsupport@catpumps.com www.catpumps.com

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