

## 3CP Plunger Pump

### Models

**3CP1120**  
**3CP1130**  
**3CP1140**

### FEATURES

#### Superior Design

- Triplex plunger design gives smoother liquid flow.
- Hi-Pressure Seals are completely lubricated and cooled by the liquid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seal 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 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 capacity mean longer bearing life.

#### Easy Maintenance

- 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
<b>MODEL 3CP1120</b>		
Flow .....	4.2 GPM	(16 L/M)
Pressure Range .....	100 to 2200 PSI	(7 to 155 BAR)
RPM .....	1725 RPM	(1725 RPM)
Stroke .....	0.500"	(12.7 mm)
<b>MODEL 3CP1120G — GEARBOX</b>		
Flow .....	3.5 GPM	(13.2 L/M)
Pressure Range .....	2200 PSI	(155 BAR)
RPM .....	1420 RPM	(1420 RPM)
Stroke .....	0.512"	(13 mm)
<b>MODEL 3CP1130</b>		
Flow .....	2.4 GPM	(9 L/M)
Pressure Range .....	100 to 2200 PSI	(7 to 155 BAR)
RPM .....	1725 RPM	(1725 RPM)
Stroke .....	0.276"	(7 mm)
<b>MODEL 3CP1140</b>		
Flow .....	3.6 GPM	(13.6 L/M)
Pressure Range .....	100 to 2200 PSI	(7 to 155 BAR)
RPM .....	1725 RPM	(1725 RPM)
Stroke .....	0.433"	(11 mm)

### COMMON SPECIFICATIONS

Inlet Pressure Range .....	Flooded to 70 PSI	(Flooded to 4.9 BAR)
Bore .....	0.709"	(18 mm)
Crankcase Capacity .....	11.8 oz.	(0.35 L)
Maximum Liquid Temperature .....	160°F	(71°C)
Inlet Ports (2) .....	1/2" NPTF	(1/2" NPTF)
Discharge Ports (2) .....	3/8" NPTF	(3/8" NPTF)
Pulley Mounting .....	Either Side	(Either Side)
Shaft Diameter .....	0.650"	(16.5 mm)
Weight .....	14.84 lbs.	(6.7 kg)
Dimensions .....	9.1 x 8.77 x 5.47"	(231 x 223 x 139 mm)

### HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE				MOTOR PULLEY SIZE	
	U.S. GPM	L/M	PSI 1200	PSI 1500	PSI 2000	PSI 2200	RPM	Pulley O.D.
3CP1120	4.2	16	3.5	4.3	5.8	6.3	1725	5.0
	3.5	13.2	2.9	3.6	4.8	5.3	1531	4.4
	3.0	11.4	2.5	3.1	4.2	4.5	1313	3.8
3CP1130	2.4	9	1.9	2.4	3.2	3.6	1725	Direct Drive
3CP1140	3.6	13.6	3.0	3.7	5.0	5.4	1725	Direct Drive
3CP1120G	3.5	13.2	2.9	3.6	4.8	5.3	1420	Gearbox

<b>DETERMINING THE PUMP R.P.M.</b>	Rated G.P.M.	=	"Desired" G.P.M.
<b>DETERMINING THE REQUIRED H.P.</b>	Rated R.P.M.	=	"Desired" R.P.M.
<b>DETERMINING MOTOR PULLEY SIZE</b>	GPM x PSI	=	Electric Brake H. P. Required
	1460	=	H. P. Required
<b>DETERMINING MOTOR PULLEY SIZE</b>	Motor Pulley O.D.	=	Pump Pulley O.D.
	Pump R.P.M.	=	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

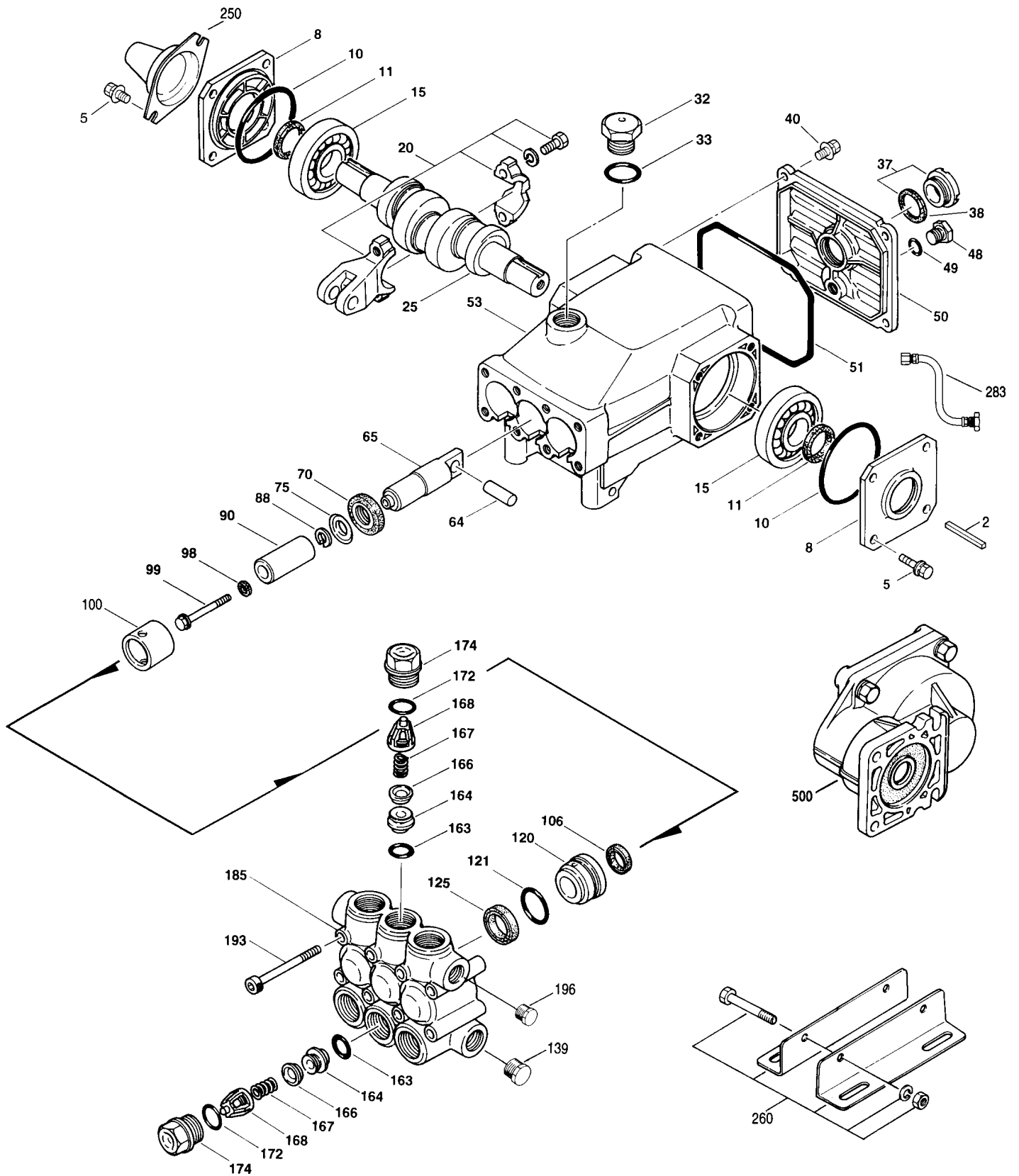
ITEM	P/N	MATL	DESCRIPTION	QTY
	2	30047 STL	Key (M5x5x24)	1
	5	92519 STZP	Screw, HHC Sems (M6x16)	8
	8	46901 AL	Cover, Bearing	2
		48259 AL	Cover, Blind - 3CP1120G	1
	10	14028 NBR	O-Ring, Bearing Cover - 70D	2
	11	43222 NBR	Seal, Oil, Crankshaft	1/2
	15	14480 STL	Bearing, Ball	2
	20	48730 TNM	Rod, Connecting, Assembly [5/01]	3
	25	46927 FCM	Crankshaft, Dual End - 3CP1120	1
		46994 FCM	Crankshaft, Dual End - 3CP1130	1
		46991 FCM	Crankshaft, Dual End - 3CP1140	1
		48257 FCM	Crankshaft, Single End - 3CP1120G	1
	32	45690 RTP	Cap, Oil Filler	1
	33	14179 NBR	O-Ring, Oil Filler Cap - 70D	1
	37	92241	Gauge, Oil, Bubble w/Gasket	1
	38	44428 NBR	Gasket, Flat, Oil Gauge - 80D	1
	40	92519 STZP	Screw, HHC Sems (M6x16)	4
	48	25625 STCP	Plug, Drain (1/4"x19BSP)	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	3
	90	46976 CC	Plunger (M18x43)	3
	98	46730 NBR	Washer, Seal	3
		48394 FPM	Washer, Seal	3
	99	48201 SS	Retainer, Plunger w/Stud (M6)	3
	100	46541 PVDF	Retainer, Seal	3
	106	43243 NBR	Seal, LPS w/S-Spg	3
		44926 FPM	Seal, LPS w/S-Spg	3
	◆	46651 EPDM	Seal, LPS w/S-Spg	3
	120	46625 BB	Case, Seal	3
	121	13976 NBR	O-Ring, Seal Case	3
		48522 FPM	O-Ring, Seal Case	3
	125	43245 SNG	Seal, HPS w/S	3
		44925 FPM	Seal, HPS w/SS	3
		46652 HT	Seal, HPS w/SS	3
	139	22179 BBCP	Plug, Inlet (1/2"NPT)	1
	163	17547 NBR	O-Ring, Seat - 85D	6
		11685 FPM	O-Ring, Seat - 85D	6
	◆	46648 EPDM	O-Ring, Seat - 85D	6
	164	46658 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
		15855 FPM	O-Ring, Valve Plug - 70D	6
	174	46756 BB	Plug, Valve	6
	185	46616 FBB	Manifold, Head	1
	193	87870 STZP	Screw, HSH (M8x65)	8
	196	22187 BBCP	Plug, Discharge (3/8"NPT)	1
	250	118672 STCP	Protector, Shaft	1
	260	30612 STZP	Assy, Angle Rail (Incls: 26246, 30901, 30910, 30920)	1
	265	30641	Kit, Complete Mounting (Incls: 30612, 30032, 30047, 118672)	1
	270	30246 STL	Assy, Pulley & Key (Incls: 30032, 30047)	1
			<b>[See Drive Packages, Tech Bulletin 003]</b>	
●	283	34334	Kit, Oil Drain	1 ●
●	299	814841 FBB	Head, Complete	1 ●
	300	33983 NBR	Kit, Seal (Incls: 98, 106, 121, 125)	1
		33257 FPM	Kit, Seal (Incls: 98, 106, 121, 125)	1
		31983 HT	Kit, Seal (Incls: 98, 106, 121, 125)	1
	310	33062 NBR	Kit, Valve (Incls: 163, 164, 166, 167, 168, 172)	2
		33258 FPM	Kit, Valve (Incls: 163, 164, 166, 167, 168, 172)	2
	350	30696 STZP	Plier, Reverse	1
	500	8075 —	Gearbox (See Individual Data Sheet)	1

● Industrial Discount. *Italics are optional items.* ◆ Silicone oil/grease required. [ ] Date of latest production change.  
See Tech Bulletins 002, 003, 024, 036, 064, 073, 074, 077 and 083 for additional information.

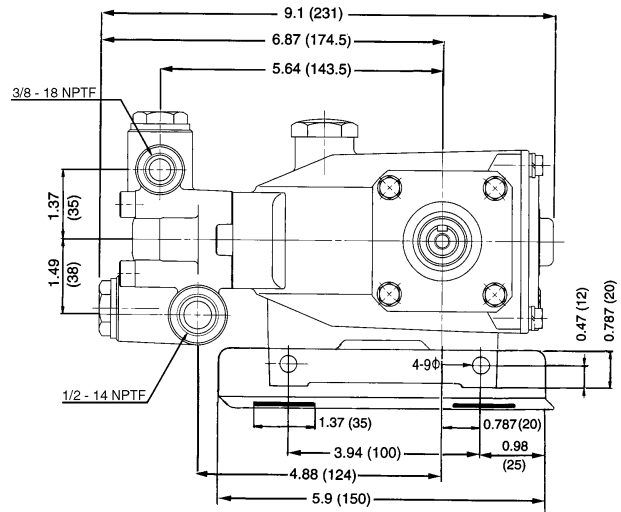
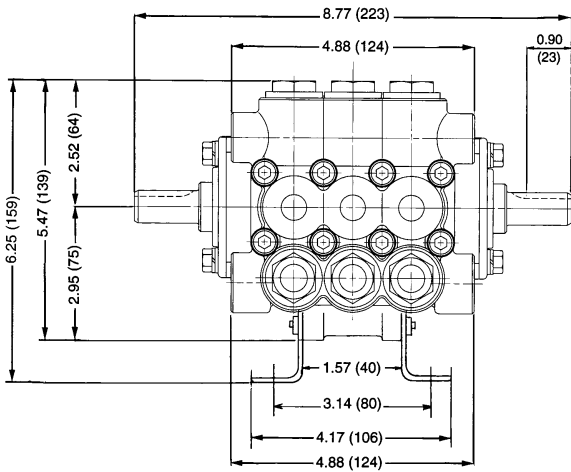
For motorized versions see BD motor data sheet. For Gearbox version see 8075 data sheet. Add .3 for 190°F Hi-Temp model.

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 (Viton®) HT=Hi-Temp (EPDM Alternative)  
NBR=Medium Nitrile (Buna-N) PVDF=Fluoroplastic (High Strength) RTP=Reinforced Composite S=304SS SNG=Special Blend (Buna)  
SS=316SS STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength

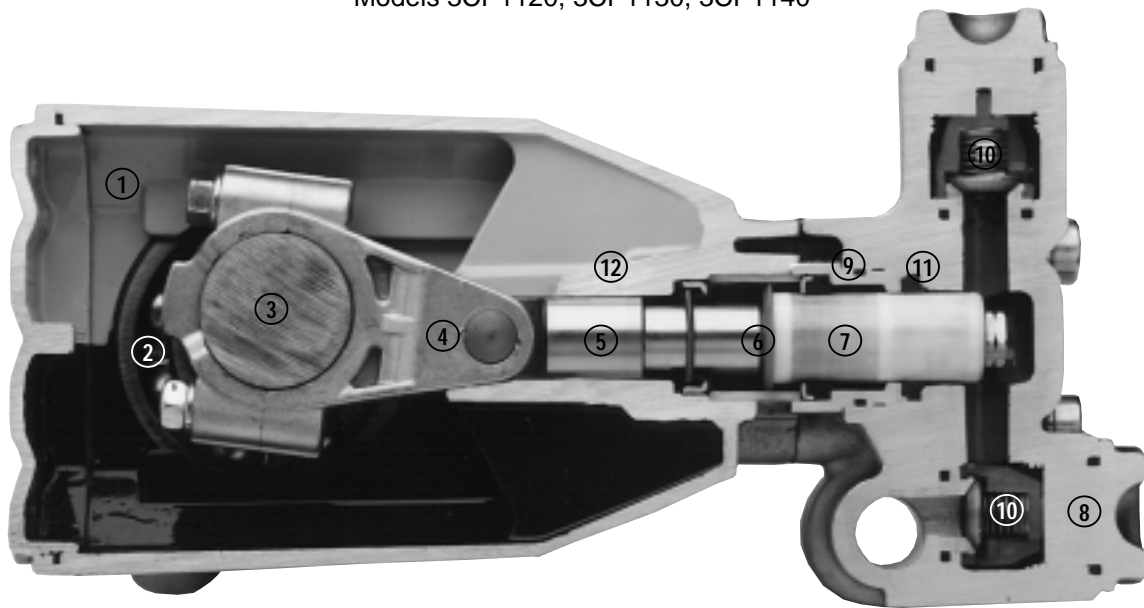
# EXPLODED VIEW



Models  
3CP1120, 3CP1130, 3CP1140  
October 2001



Models 3CP1120, 3CP1130, 3CP1140



- 1 Die cast aluminum **crankcase** means high strength, lightweight, and excellent tolerance control.
- 2 Oversized crankshaft **bearings** provide extended bearing life and pump performance.
- 3 Chrome-moly **crankshaft** provides unmatched strength and surface hardness for long life.
- 4 Matched high strength **connecting rods** noted for strength and superior bearing quality.
- 5 The **plunger rods** are hardened, surface plated for wear resistance, with high load capacity.

- 6 The stainless steel **slinger** provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.
- 7 Special concentric, high density, polished, graphite impregnated, solid ceramic **plungers** are abrasion resistant and result in extended seal life.
- 8 **Manifolds** are a high tensile strength forged brass for long term, continuous duty.
- 9 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides of the seals.

- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 11 Specially formulated, CAT PUMP exclusive, **Hi-Pressure Seals** offer unmatched performance and seal life.
- 12 **Crossheads** are 360° supported for uncompromising alignment.

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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