

## 3CP Plunger Pump

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

### FEATURES

#### Superior Design

- Triplex plunger design gives smoother fluid flow.
- Hi-Pressure Seals are completely lubricated and cooled by the fluid 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 manifold is strong and corrosion resistant.
- 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.

**DETERMINING THE PUMP R.P.M.**       $\frac{\text{Rated G.P.M.}}{\text{Rated R.P.M.}} = \frac{\text{"Desired" G.P.M.}}{\text{"Desired" R.P.M.}}$

**DETERMINING THE REQUIRED H.P.**       $\frac{\text{GPM} \times \text{PSI}}{1460} = \text{Electric Brake H. P. Required}$

**DETERMINING MOTOR PULLEY SIZE**       $\frac{\text{Motor Pulley O.D.}}{\text{Pump R.P.M.}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor R.P.M.}}$

Note: Consult engine manufacturer when using gas or diesel engine. Refer to pump Service Manual for important Inlet Condition Check-List, Start-up Procedure, Tech Bulletins and Pump Maintenance information.

### SPECIFICATIONS

	U.S. Measure	Metric Measure
<b>MODEL 3CP1120</b>		
Flow .....	4.2 GPM	(16 L/M)
Discharge Pressure .....	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 L/M)
Discharge Pressure .....	1500 PSI	(105 BAR)
RPM .....	1420 RPM	(1420 RPM)
Stroke .....	0.512"	(13 mm)
<b>MODEL 3CP1130</b>		
Flow .....	2.4 GPM	(9 L/M)
Discharge Pressure .....	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 L/M)
Discharge Pressure .....	100 to 2200 PSI	(7 to 155 BAR)
RPM .....	1725 RPM	(1725 RPM)
Stroke .....	0.433"	(11 mm)

### COMMON SPECIFICATIONS

Inlet Pressure .....	Flooded to 70 PSI	(Flooded to 4.9 BAR)
Bore .....	0.709"	(18 mm)
Crankcase Capacity .....	11.8 oz.	(0.35 L)
Maximum Fluid Temperature .....	160°F	(71°C)
Inlet Ports (2) .....	1/2" NPT	(1/2" NPT)
Outlet Ports (2) .....	3/8" NPT	(3/8" NPT)
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	
			PSI 1200	PSI 1500	PSI 2000	PSI 2200	Using 1750 RPM Motor 5.0" Pump Pulley O.D.	
	U.S. GPM	L/M	BAR 85	BAR 105	BAR 140	BAR 155	RPM	Pulley O.D.
<b>3CP1120</b>	4.2	16	3.5	4.3	5.8	6.3	1725	5.0
	3.5	13	2.9	3.6	4.8	5.3	1531	4.4
	3.0	11	2.5	3.1	4.2	4.5	1313	3.8
<b>3CP1130</b>	2.4	9	1.9	2.4	3.2	3.6	1725	Direct Drive
<b>3CP1140</b>	3.6	13	3.0	3.7	5.0	5.4	1725	Direct Drive

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 03.

*"Customer confidence is our greatest asset"*

# PARTS LIST

ITEM	PART NUMBER		DESCRIPTION	QTY
	P/N	MATL		
2	30047	STL	Key (M5)	1
5	92519	STZP	Screw, Sems HHC, Bearing Cover (M6x16)	8
8	46901	AL	Cover, Bearing	2
	48259	AL	Cover, Blind - 3CP1120G	1
10	14028	NBR	O-Ring, Bearing Cover	2
11	43222	NBR	Seal, Oil, Crankshaft	1/2
15	14480	STL	Bearing	2
20	46829	ZZ	Rod, Connecting, Assembly	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
31	828710		Protector, Oil Cap	1
32	45690	RTP	Cap, Oil Filler	1
33	14179	NBR	O-Ring, Oil Filler Cap	1
37	43987		Gauge, Oil, Bubble	1
38	44428	NBR	Gasket, Flat, Oil Gauge	1
40	92519	STZP	Screw, Sems HHC, Crankcase Cover (M6x16)	4
48	25625	BBCP	Plug, Drain (1/4"x11)	1
49	23170	NBR	O-Ring, Drain Plug	1
50	46939	AL	Cover, Crankcase	1
51	14041	NBR	O-Ring, Crankcase Cover	1
53	46534	AL	Crankcase	1
64	46615	S	Pin, Plunger Rod	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 (M43)	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/Spring	3
	44926	FPM	Seal, LPS w/Spring	3
	46651	EPDM	Seal, LPS w/Spring	3
120	46625	BB	Case, Seal	3
121	13976	NBR	O-Ring, Seal Case	3
	48522	FPM	O-Ring, Seal Case	3
125	43245	NBR	Seal, HPS	3
	44925	FPM	Seal, HPS	3
	46652	HT	Seal, HPS	3
139	22179	BBCP	Plug, Inlet (1/2")	1
163	17547	NBR	O-Ring, Seat - 85	6
	11685	FPM	O-Ring, Seat - 80	6
	46648	EPDM	O-Ring, Seat - 70	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 - 75	6
	15855	FPM	O-Ring, Valve Plug	6
174	46756	BB	Plug, Valve	6
185	46616	FBB	Manifold, Head	1
193	87870	STZP	Bolt, HSH, Manifold Head (M8x65)	8
196	22187	BBCP	Plug, Discharge (3/8")	1
250	118672	STCP	Shaft Protector	1
260	30612	STZP	Assy, Angle Rail (Incls: 26246, 30901, 30910, 30920)	1
265	30651		Kit, Complete Mounting (30612, 30032, 30047, 25130)	1
270	30246	STL	Assy, Pulley & Key (Incls: 30032, 30047)	1
			<b>[See complete Drive Packages, Tech Bulletin 03]</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
310	33062	NBR	Kit, Valve (Incls: 163, 164, 166, 167, 168, 172)	1
	33258	FPM	Kit, Valve (Incls: 163, 164, 166, 167, 168, 172)	1
350	30696	STZP	Tool, Valve Seat Removal	1
500	8075		Gearbox (See Individual Data Sheet)	1

*Italics are optional items.*

See Tech Bulletins 2, 3, 24, 36, 64, 74 and 77 for additional information.

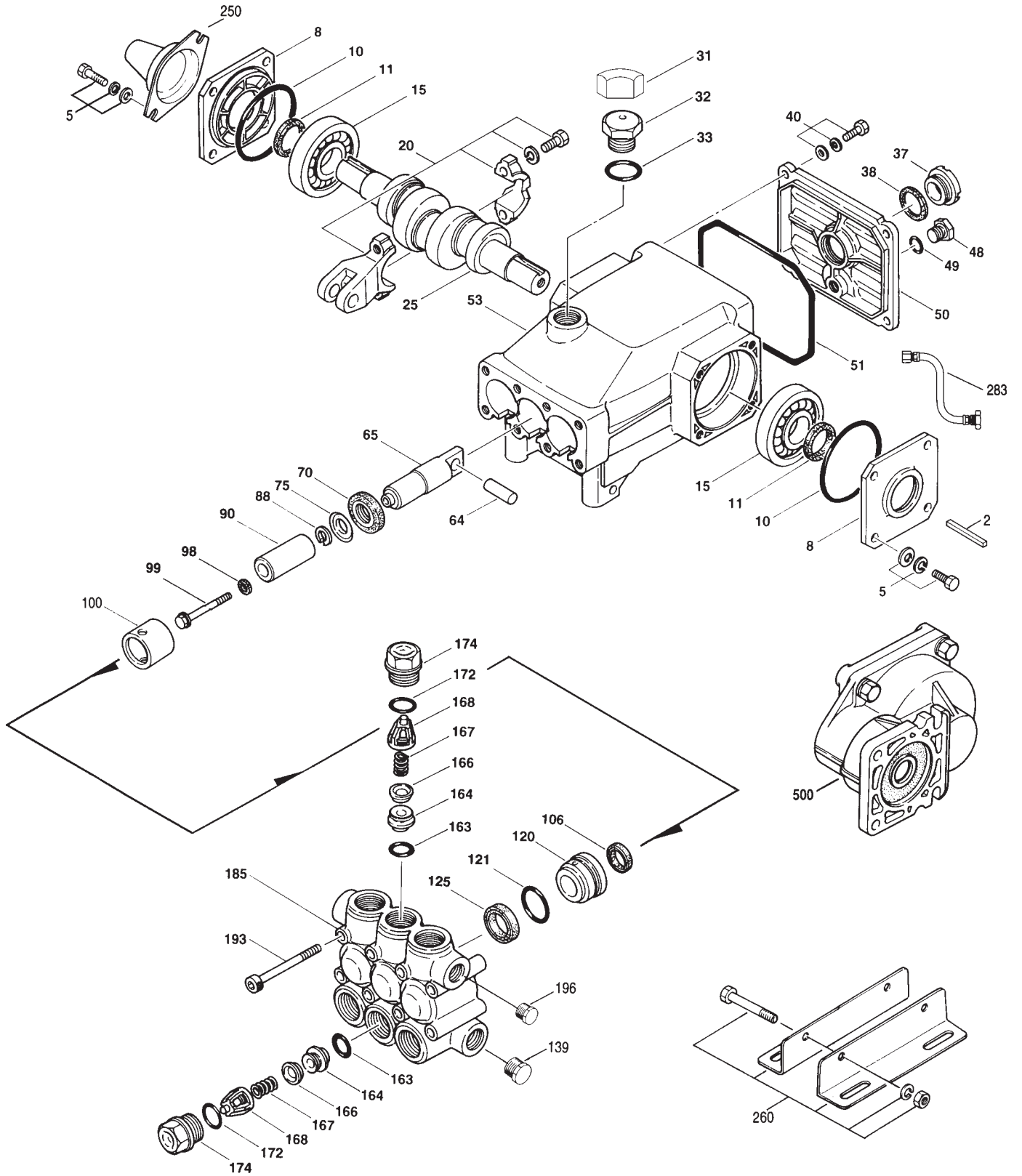
For motorized versions see BD motor data sheet. For Gearbox version see 8075 data sheet. Add .3 for 190°F Hi-Temp model.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass CC=Ceramic CP=Chromeplated EPDM=Ethylene Propylene Diene Monomer

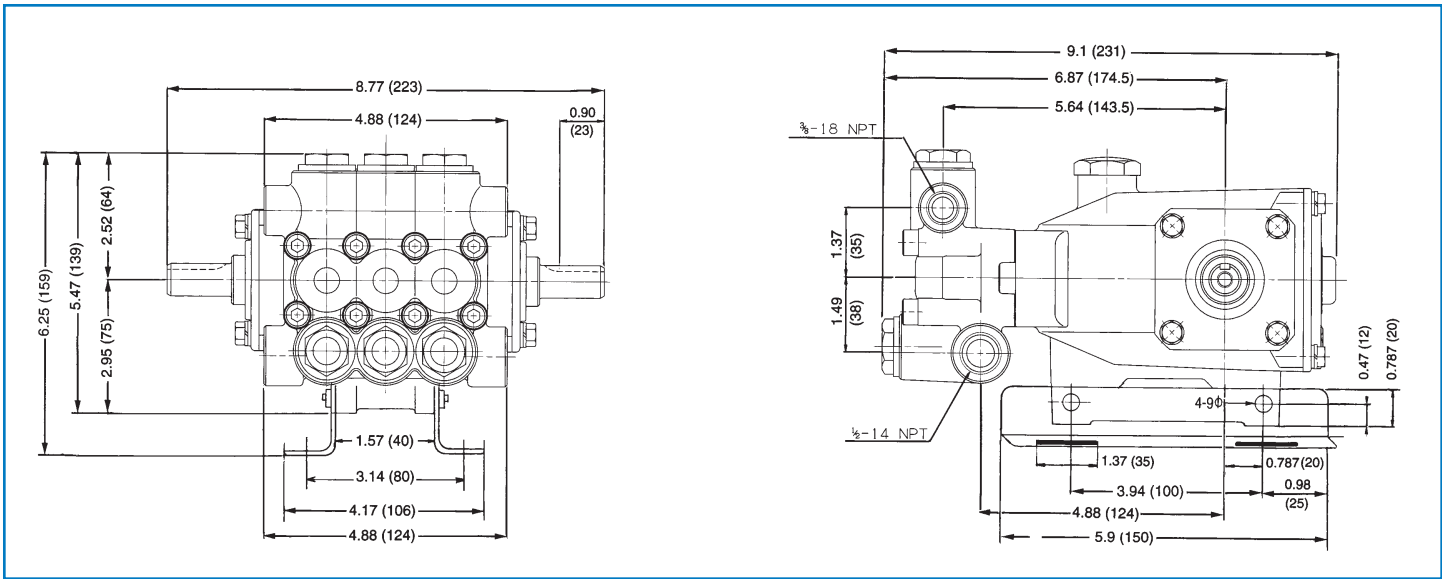
FBB=Forged Brass FCM=Forged Chrome-Moly FPM=Fluorocarbon (Viton®) HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N)

NPBB=Nickel Plated Brass PVDF=Fluoroplastic (High Strength) RTP=Reinforced Composite S=304SS SS=316SS STL=Steel ZP=Zinc Plated ZZ=Zamack

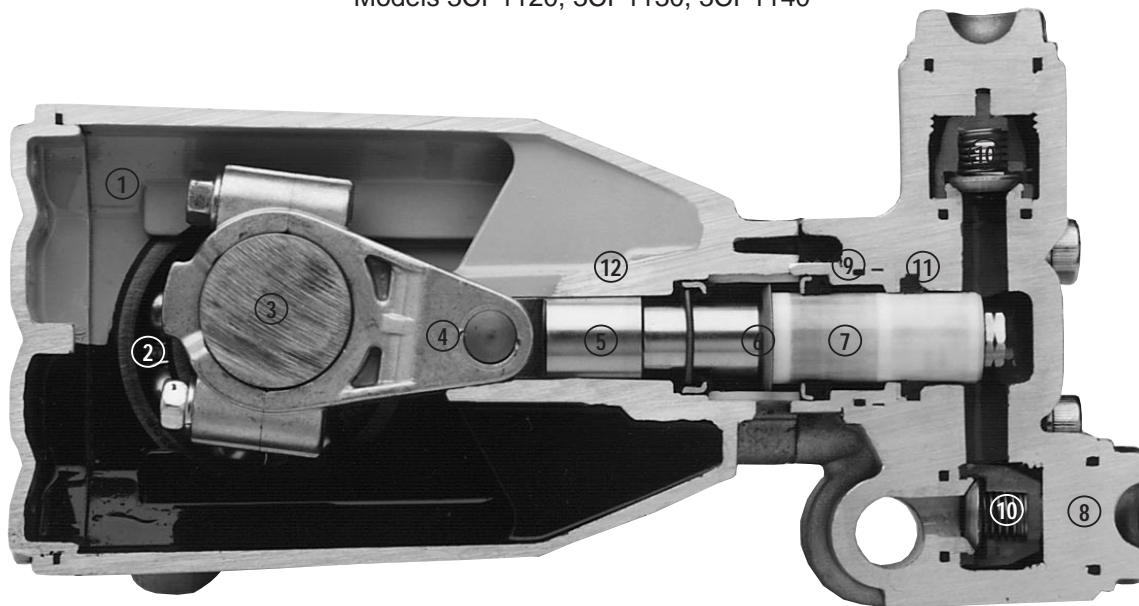
# EXPLODED VIEW



Models  
3CP1120, 3CP1130, 3CP1140  
October 1998



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 fluids 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 fluids to cool and lubricate on both sides.
- 10 Stainless steel **valves, seats and springs** provide corrosion-resistance, positive seating and long life.
- 11 Specially formulated, **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

Oct 1998 10811

### World Headquarters

CAT PUMPS

1681 - 94th Lane N.E. Minneapolis, MN 55449-4324

Phone (612) 780-5440 — FAX (612) 780-2958

e-mail: sales@catpumps.com

www.catpumps.com

### International Inquiries

FAX (612) 785-4443

e-mail: intlsales@catpumps.com



The Pump with "Nine Lives"

### CAT PUMPS (U.K.) LTD.

1 Fleet Business Park, Sandy Lane, Church Crookham, Fleet

Hampshire GU13 0BF, England

Phone Fleet 44 1252-622031 — Fax 44 1252-626655

### N.V. CAT PUMPS INTERNATIONAL S.A.

Heiveldekens 6A, 2550 Kontich, Belgium

Phone 32-3-450.71.50 — Fax 32-3-450.71.51

e-mail: cpi@catpumps.be

### CAT PUMPS DEUTSCHLAND GmbH

Buchwiese 2, D-65510 Idstein, Germany

Phone 49 6126-93030 — Fax 49 6126-930333

e-mail: catpumps@t-online.de