

## 3CP O.E.M. Stainless Steel Plunger Pump

**Models**      **3CP1121**  
                          **3CP1131**  
                          **3CP1141**

### 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 offers perfect alignment and maximizes seal life.

#### Quality Materials

- All 316 stainless steel valves are heat treated and seats are roller burnished for a positive seal and extended valve life.
- 316 stainless steel manifold is strong and corrosion resistant.
- Special concentric, high density, polished, graphite impregnated, soid ceramic plungers are abrasion resistant and result in extended seal life.
- Optional FPM [Viton®] and EPDM elastomers for fluid compatibility.
- 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.
- 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 3CP1121</b>		
Flow .....	4.2 GPM	(16 L/M)
Pressure Range .....	100 to 2200 PSI	(7 to 55 BAR)
RPM .....	1725 RPM	(1725 RPM)
Stroke .....	0.500"	(12.7 mm)

<b>MODEL 3CP1131 Direct Drive</b>		
Flow .....	2.3 GPM	(8.7 L/M)
Pressure Range .....	100 to 2200 PSI	(7 to 55 BAR)
RPM .....	1725 RPM	(1725 RPM)
Stroke .....	0.276"	(7 mm)

<b>MODEL 3CP1141 Direct Drive</b>		
Flow .....	3.6 GPM	(13.6 L/M)
Pressure Range .....	100 to 2200 PSI	(7 to 55 BAR)
RPM .....	1725 RPM	(1725 RPM)
Stroke .....	0.433"	(11 mm)

#### COMMON SPECIFICATIONS

Maximum Inlet Pressure .....	Flooded to 70 PSI	(Flooded to 4.9 BAR)
Bore .....	0.709"	(18 mm)
Crankcase Capacity .....	10 oz.	(0.3 L)
Maximum Fluid Temperature .....	160°F	(71°C)
Inlet Ports (2) .....	1/2" NPT	(1/2" NPT)
Discharge 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 .....	9.64" x 8.78" x 5.35"	(245 x 223 x 136 mm)

### HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE				MOTOR PULLEY SIZE	
	U.S. GPM	L/M	PSI 1200 BAR 85	PSI 1500 BAR 105	PSI 2000 BAR 140	PSI 2200 BAR 155	RPM	Pulley O.D.
3CP1121	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
3CP1131	2.3	8.7	1.9	2.4	3.2	3.5	1725	Direct Drive
3CP1141	3.6	13.6	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
	<b>3CP MATL</b>		
● 2	30047 STL	Key (M5x5x24)	1 ●
5	92538 S	Screw, Sems HHC (M6x16)	8
8	46901 AL	Cover, Bearing	2
10	14028 NBR	O-Ring, Cover, Bearing	2
11	43222 NBR	Seal, Oil, Crankshaft	2
15	14480 STL	Bearing, Ball	2
20	46829 ZZ	Rod Assembly, Connecting	3
25	46927 FCM	Crankshaft, Dual End - 3CP1121	1
	46994 FCM	Crankshaft, Dual End - 3CP1131	1
	46991 FCM	Crankshaft, Dual End - 3CP1141	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	92538 S	Screw, Sems HHC (M6x16)	4
48	25625 STCP	Plug, Drain (1/4"x11)	1
49	23170 NBR	O-Ring, Drain Plug	1
50	46939 AL	Cover, Rear	1
51	14041 NBR	O-Ring, Cover	1
● 53	46534 AL	Crankcase	1 ●
64	46615 S	Pin, Rist	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)	3
90	46976 CC	Plunger (M43)	3
98	46730 NBR	Washer, Seal	3
	48394 FPM	Washer, Seal	3
	◆ 48432 EPDM	Washer, Seal	3
99	48201 SS	Retainer, Plunger	3
100	46541 PVDF	Retainer, Seal	3
106	44053 NBR	Seal, LPS w/SS-Spg	3
	44926 FPM	Seal, LPS w/S-Spg	3
	◆ 46651 EPDM	Seal, LPS w/S-Spg	3
● 110	46997 SSL	Manifold, Inlet	1 ●
117	119034 S	Screw, HSH (M8x35)	4
125	44652 SNG	Seal, HPS w/SS	3
	44925 FPM	Seal, HPS w/SS	3
	◆ 46652 EPDM	Seal, HPS w/SS	3
	46652 HT	Seal, HPS w/SS	3
139	45156 SS	Plug, Inlet, (1/2"-14 NPT)	1
143	17547 NBR	O-Ring, Adapter, Inner	3
	11685 FPM	O-Ring, Adapter, Inner	3
	◆ 46648 EPDM	O-Ring, Adapter, Inner	3
150	44060 SS	Adapter, Inlet Valve	3
154	43893 NBR	O-Ring, Adapter, Outer	3
	44927 FPM	O-Ring, Adapter, Outer	3
	◆ 46647 EPDM	O-Ring, Adapter, Outer	3
155	26089 NBR	O-Ring, Spacer	3
	11377 FPM	O-Ring, Spacer	3
	◆ 46649 EPDM	O-Ring, Spacer	3
157	44059 SS	Spacer, Discharge Valve	3
159	26089 NBR	O-Ring, Spacer	3
	11377 FPM	O-Ring, Spacer	3
	◆ 46649 EPDM	O-Ring, Spacer	3
164	44058 SS	Seat	6
165	44001 NBR	O-Ring, Seat	6
	44928 FPM	O-Ring, Seat	6
	◆ 46650 EPDM	O-Ring, Seat	6
166	44057 SS	Valve	6
167	44056 SS	Spring	6
168	44055 SS	Retainer, Spring	6
● 185	46998 SSL	Manifold, Discharge	1 ●
186	15847 S	Lockwasher, Split (M10)	4
188	87952 S	Screw, HSH (M10x55)	4
250	118672 STCP	Protector, Shaft	1
260	30612 STZP	Rail Assy, Angle (Incls: 26246, 30901, 30910, 30920)	1
270	30246 STL	Pulley & Key Assy (Incls: 30032, 30047) <b>[See Drive Packages, Tech Bulletin 03]</b>	1
277	34422 AL	Bell Housing Assy (56C-145FR, 2 Hp)	1
	34423 AL	Bell Housing Assy (182TC-184TC, 7.5 Hp)	1
278	34394 AL	Flexible Coupling Assy (M16.5 to 5/8")	1
	34395 AL	Flexible Coupling Assy (M16.5 to 1-1/8")	1
280	—	BD Motors <b>[See Individual Data Sheet]</b>	1
● 283	34334	Kit, Oil Drain	1 ●
● 299	—	Head, Complete	1 ●
300	33985 NBR	Kit, Seal (Incls: 98,106,125,143,154,155,159)	1
	33309 FPM	Kit, Seal (Incls: 98,106,125,143,154,155,159)	1
	◆ 33944 EPDM	Kit, Seal (Incls: 98,106,125,143,154,155,159)	1
310	30982 NBR	Kit, Valve (Incls: 143,154,159,164,165,166,167,168)	1
	31216 FPM	Kit, Valve (Incls: 143,154,159,164,165,166,167,168)	1
	◆ 31217 EPDM	Kit, Valve (Incls: 143,154,159,164,165,166,167,168)	1
350	30696 STZP	Tool, Valve Seat Removal	1

● Industrial discount. *Italics are optional items.* ◆ Silicone oil/grease required. **C. A.T. highly recommended for pressurized inlet, R.O. and Industrial applications.**

See Tech Bulletins 03, 43, 74 and 77 for additional information.

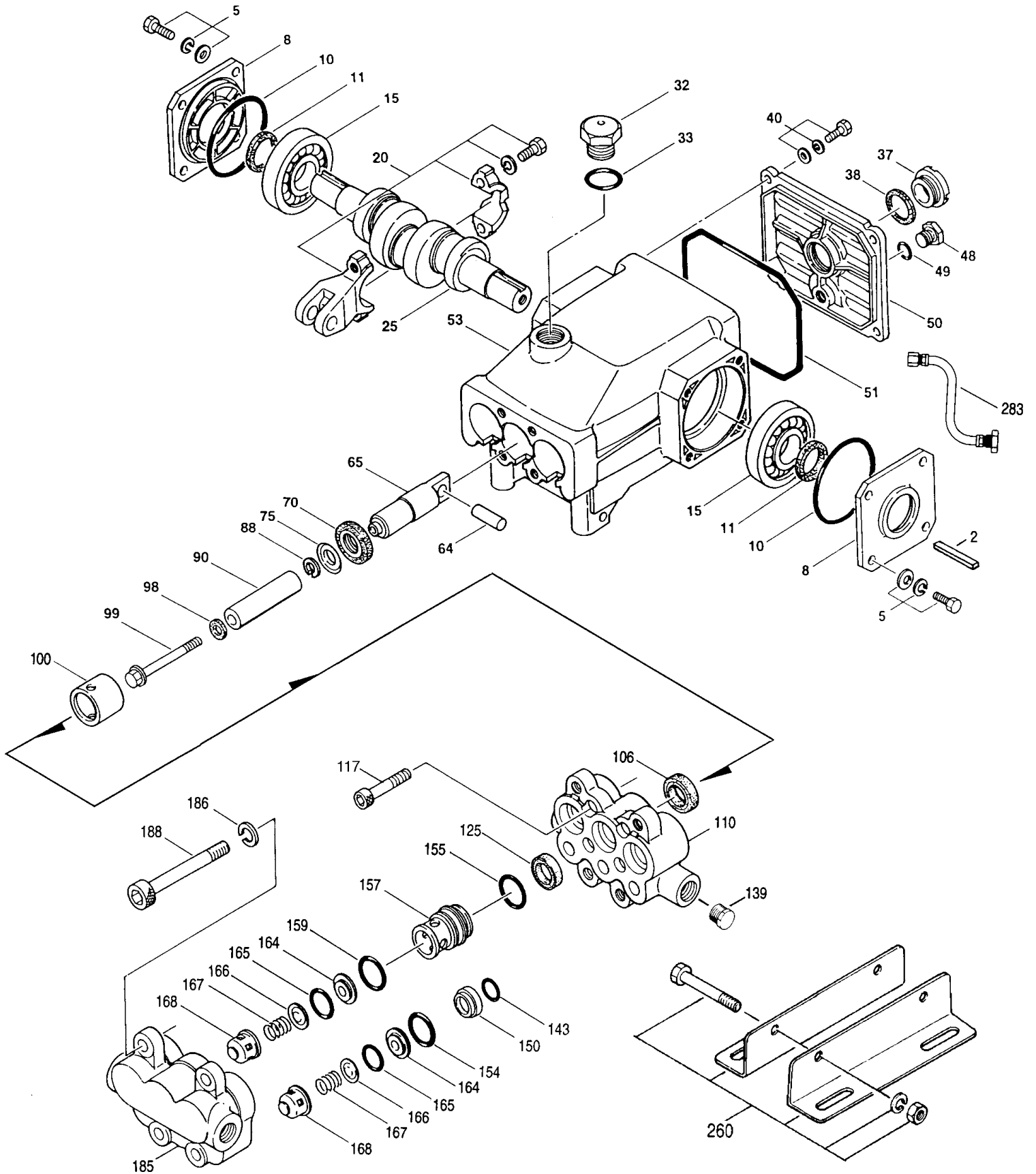
MATERIAL CODES (Not Part of Part Number): AL=Aluminum CC=Ceramic EPDM=Ethylene Propylene Diene Monomer FPM=Fluorocarbon (Viton®)

HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N) PVDF=Fluoroplastic (High Strength) RTP=Reinforced Composite S=304SS SNG=Special Blend (Buna)

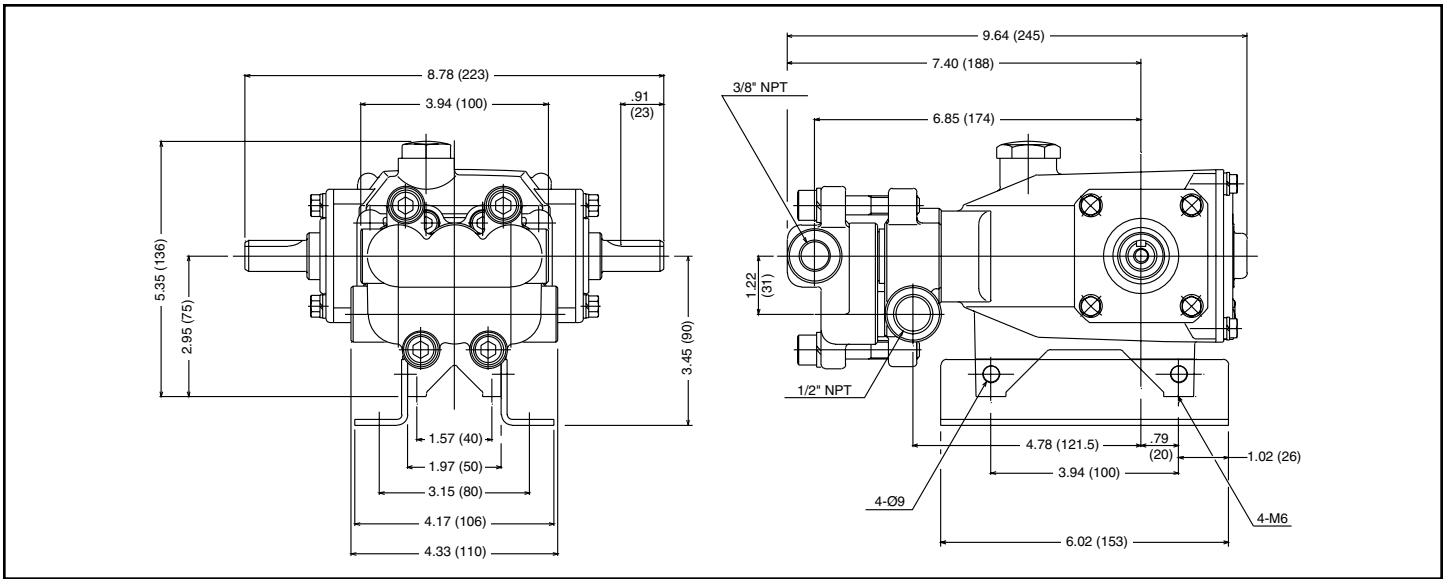
SS=316SS SSL=316SS/Low Carbon STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated ZZ=Zamak

ORDER CODES: Add .3 to model number for HT, .0110 for FPM (Viton®), .0220 for EPDM. Consult factory for pricing.

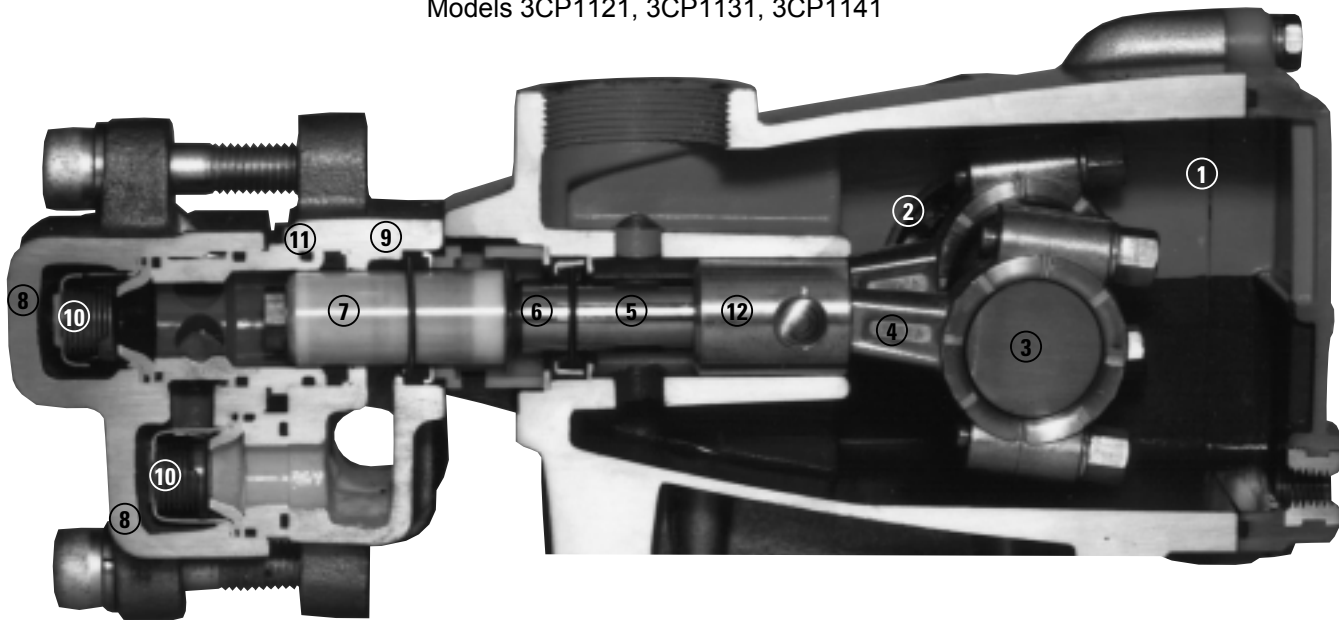
# EXPLODED VIEW



Models  
3CP1121, 3CP1131, 3CP1141  
July 1999



Models 3CP1121, 3CP1131, 3CP1141



- 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, soid ceramic **plungers** are abrasion resistant and result in extended seal life.
- 8 **Manifolds** are high tensile strength 316 stainless steel for fluid compatibility and long term, continuous duty.
- 9 100% wet **seal** design adds to service life by allowing pumped fluids to cool and lubricate on both sides.
- 10 316 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.

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