



3CP Plunger Pump

Models 3CP1120
3CP1130
3CP1140

FEATURES

Superior Design

- Triplex plunger design delivers 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

- Precision design 304 stainless steel valves and seats are hardened and polished for ultimate seating and extended valve life.
- Forged brass manifolds for strength and corrosion resistance.
- Special concentric, high-density, polished, solid ceramic plungers provide a true wear surface and 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

MODEL 3CP1120

Flow4.2 GPM (16 L/M)
Pressure Range100 to 2200 PSI (7 to 155 BAR)
RPM1725 RPM (1725 RPM)
Stroke0.500" (12.7 mm)

MODEL 3CP1120G — GEARBOX (2.55 : 1 RATIO)

Flow3.5 GPM (13.2 L/M)
Pressure Range100 to 2200 PSI (7 to 155 BAR)
Engine RPM3600 RPM (3600 RPM)
Stroke0.512" (12.7 mm)

MODEL 3CP1130

Flow2.4 GPM (9 L/M)
Pressure Range100 to 2200 PSI (7 to 155 BAR)
RPM1725 RPM (1725 RPM)
Stroke0.276" (7 mm)

MODEL 3CP1140

Flow3.6 GPM (13.6 L/M)
Pressure Range100 to 2200 PSI (7 to 155 BAR)
RPM1725 RPM (1725 RPM)
Stroke0.433" (11 mm)

COMMON SPECIFICATIONS

Inlet Pressure RangeFlooded to 70 PSI (Flooded to 4.9 BAR)
Bore0.709" (18 mm)
Crankcase Capacity11.8 oz. (0.35 L)
Maximum Liquid Temperature160°F (71°C)
Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.
Inlet Ports (2)1/2" NPTF (1/2" NPTF)
Discharge Ports (2)3/8" NPTF (3/8" NPTF)
Pulley MountingEither Side (Either Side)
Shaft Diameter0.650" (16.5 mm)
Weight14.84 lbs. (6.7 kg)
Dimensions9.1 x 8.77 x 5.47" (231 x 223 x 139 mm)

ELECTRIC 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 |

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

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

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

See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.
Refer to pump **Service Manual** for repair procedure, additional technical information and **pump warranty**.

"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 |
| | 125824 | STCP R | 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 (M12.7) | 1 |
| | 46994 | FCM | Crankshaft, Dual End - 3CP1130 (M7) | 1 |
| | 46991 | FCM | Crankshaft, Dual End - 3CP1140 (M11) | 1 |
| | 48257 | FCM | Crankshaft, Single End - 3CP1120G (M12.7) | 1 |
| 32 | 46798 | 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 |
| | 125824 | STCP R | 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 - 90D | 3 |
| | 48394 | FPM | Washer, Seal - 90D | 3 |
| 99 | † 48201 | SSL | 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/SS-Spg | 3 |
| 120 | 46625 | BB | Case, Seal | 3 |
| 121 | 13976 | NBR | O-Ring, Seal Case - 70D | 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 | 43448 | BB | Plug, Inlet (1/2"NPT) | 1 |
| 163 | 17547 | NBR | O-Ring, Seat - 85D | 6 |
| | 11685 | FPM | 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 |
| | 15855 | FPM | O-Ring, Valve Plug - 70D | 6 |
| 174 | 46756 | BB | Plug, Valve | 6 |
| 185 | 46616 | FBB | Manifold, Head | 1 |
| 188 | 87870 | STZP | Screw, HSH (M8x65) | 8 |
| | 126512 | STCP R | Screw, HSH (M8x65) | 8 |
| 196 | 22187 | BBCP | Plug, Discharge (3/8"NPT) | 1 |
| 250 | 118672 | STCP | Protector, Shaft | 1 |
| 260 | 30612 | STZP | Mount, Rail Assy (Incls: 26246, 30901, 30910, 30920) | 1 |
| 265 | 30641 | — | Mount, Assy (Incls: 30612, 30032, 30047, 118672) | 1 |
| 270 | 30246 | STL | Assy, Pulley & Key (Incls: 30032, 30047) | 1 |
| | — | — | [See Drive Packages, Tech Bulletin 003] | |
| 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 |
| — | 6107 | — | Oil, Bottle (21 oz.) ISO 68 Multi-viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up) | 1 |

Bold print part numbers are unique to a particular pump model. Italics are optional items. [] Date of latest production change.

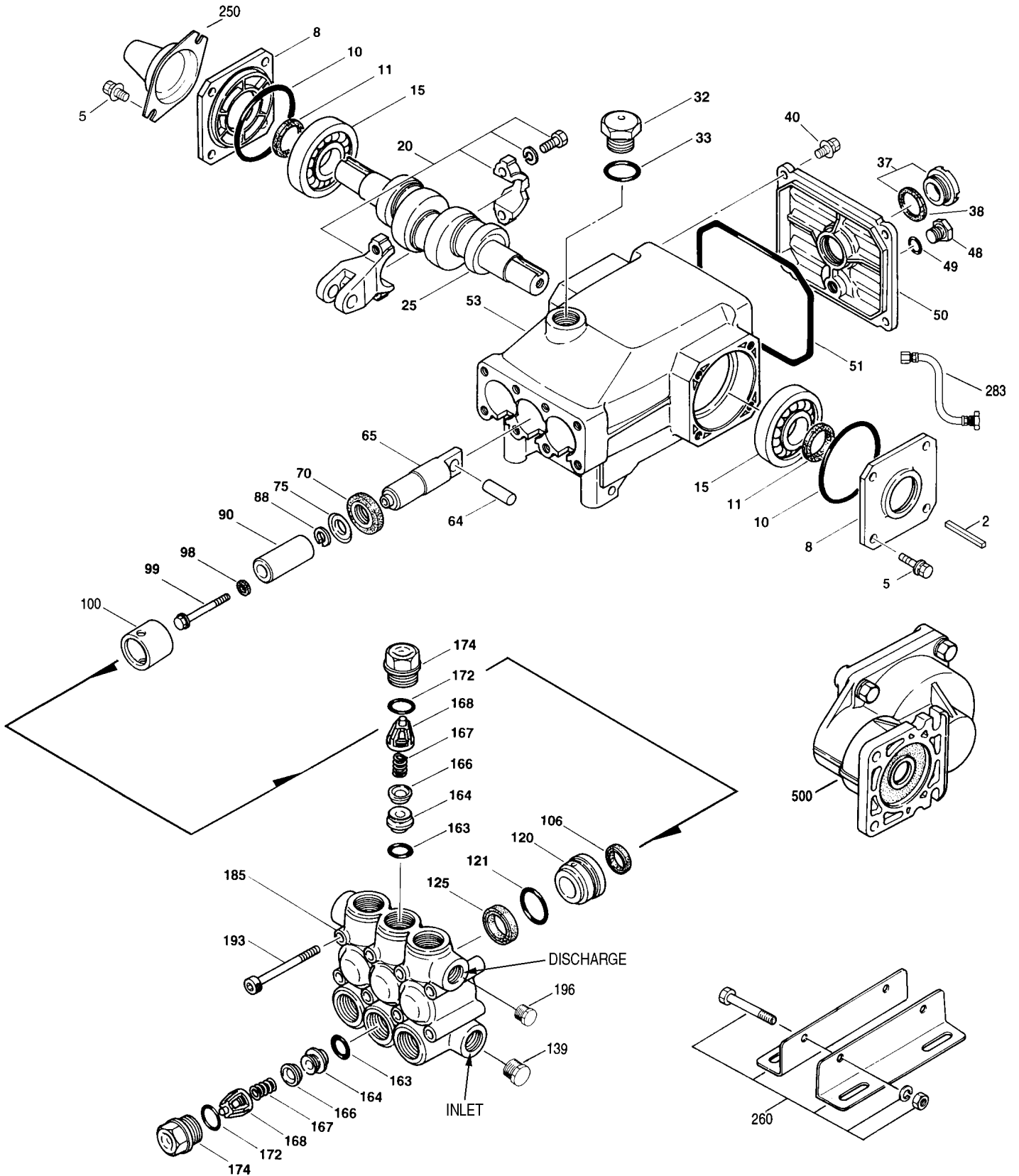
† Production parts are different than repair parts. R Components comply with RoHS Directive.

See Tech Bulletins 002, 003, 024, 036, 064, 073, 074, 077 and 083 for additional information.

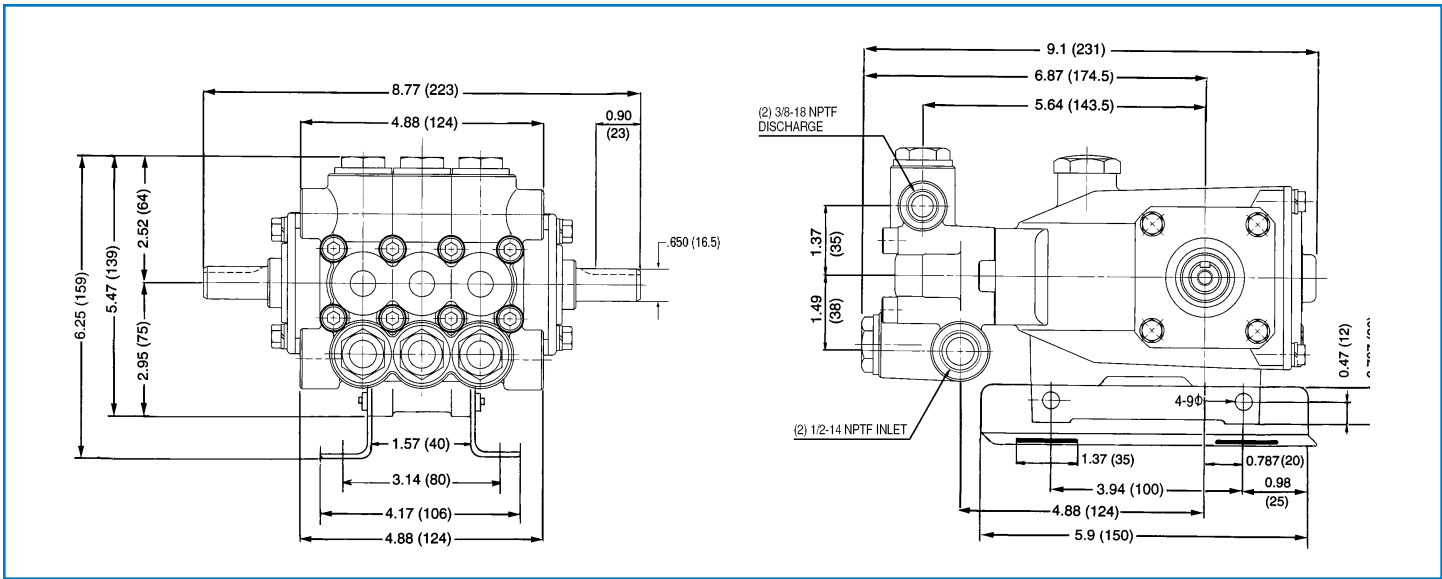
For motorized versions see BD motor data sheet. For Gearbox version see 8075 data sheet.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BB=Brass BBCP=Brass/Chrome Plated BBNP=Brass Nickel Plated CC=Ceramic
 CM=Chrome-moly FBB=Forged Brass FCM=Forged Chrome-Moly FPM=Fluorocarbon HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N)
 PVDF=Polyvinylidene Fluoride RTP=Reinforced Composite S=304SS SNG=Special Blend (Buna) SSL=316SS/Low Carbon STL=Steel
 STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength

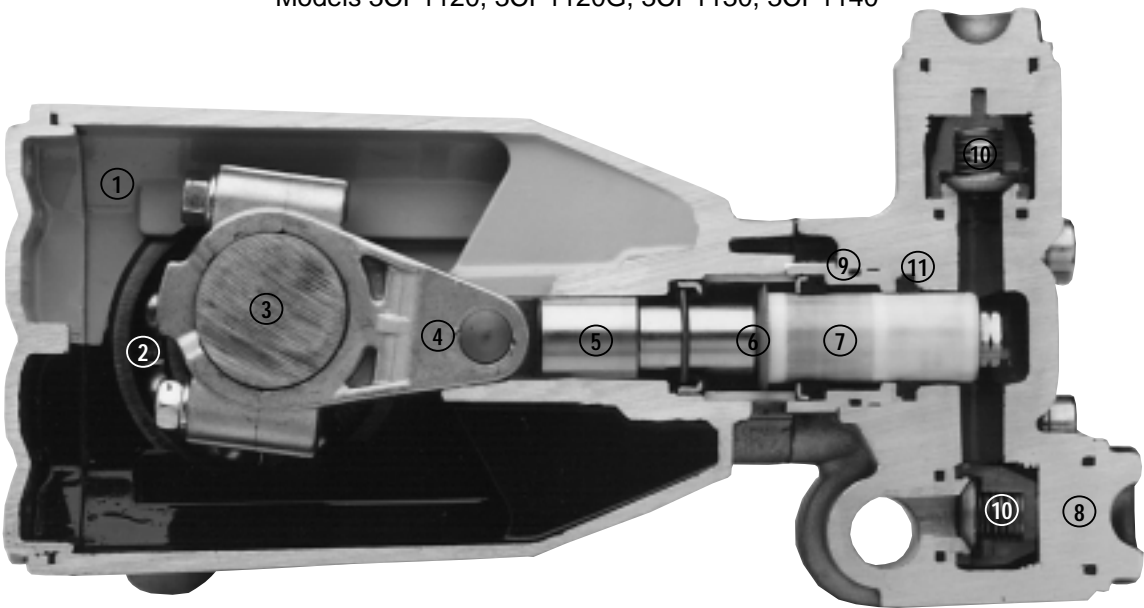
EXPLODED VIEW



Models
 3CP1120, 3CP1120G,
 3CP1130, 3CP1140
 October 2006



Models 3CP1120, 3CP1120G, 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 oversized TNM **connecting rods** noted for superior tensile strength and 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, solid ceramic **plungers** provide a true wear surface and 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, ultimate seating and extended life.
- 11 Specially formulated, CAT PUMP exclusive, **Hi-Pressure Seals** offer unmatched performance and seal life.

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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