

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

## FEATURES

- Triplex design offers high efficiency and low pulsation.
- Durable high pressure seals are lubricated and cooled by pumped liquid.
- Pre-set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Special high-density, polished, concentric plungers provide a true wear surface and extended seal life.
- Specially formulated seals offer unmatched performance and extended life.
- Optional SHTT, FPM and EPDM elastomers for compatibility with many liquids and temperatures up to 200°F.
- Convenient press in style seal case and interchangeable inlet and discharge valves for easy servicing
- Wet-end easily serviced without entering crankcase.

## COMMON SPECIFICATIONS

|  |   |
|--|---|
| Inlet Pressure Range.....  | Flooded to 70 PSI (Flooded to 4.9 BAR)  |
| Bore .....   | 0.709" (18 mm)                          |
| Crankcase Capacity.....  | 12 oz. (0.35 L)                         |
| Standard Liquid Temperature .....  | 160°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 Mounting .....  | Either Side (Either Side)               |
| Shaft Diameter .....   | 0.650" (16.5 mm)                        |
| Weight.....  | 14.84 lbs. (6.7 kg)                     |
| Dimensions.....  | 9.1 x 8.78 x 5.47" (231 x 223 x 139 mm) |

### ⚠ 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/cautions-warnings](http://www.catpumps.com/cautions-warnings) or can be requested directly from CAT PUMPS.

### WARRANTY

View the Limited Warranty on-line at [www.catpumps.com/warranty](http://www.catpumps.com/warranty).

# 3CP Plunger Pump

Standard Models

**3CP1120, 3CP1130  
3CP1140**

Gearbox Model

**3CP1120G**

## SPECIFICATIONS

U.S. Measure

Metric Measure

### MODEL 3CP1120 DIRECT DRIVE

|                     |                 |                |
|---------------------|-----------------|----------------|
| Flow.....           | 4.2 gpm         | (16 lpm)       |
| Pressure Range..... | 100 to 2200 psi | (7 to 155 bar) |
| RPM.....            | 1725 rpm        | (1725 rpm)     |
| Stroke.....         | 0.500"          | (12.7 mm)      |

### MODEL 3CP1120G GEARBOX (2.55 : 1 RATIO)

|                     |                 |                |
|---------------------|-----------------|----------------|
| Flow.....           | 3.5 gpm         | (13.2 lpm)     |
| Pressure Range..... | 100 to 2200 psi | (7 to 155 bar) |
| Pump RPM .....      | 1420 rpm        | (1420 rpm)     |
| Engine RPM .....    | 3600 rpm        | (3600 rpm)     |
| Stroke.....         | 0.500"          | (12.7 mm)      |

### MODEL 3CP1130 DIRECT DRIVE

|                     |                 |                |
|---------------------|-----------------|----------------|
| Flow.....           | 2.4 gpm         | (9 lpm)        |
| Pressure Range..... | 100 to 2200 psi | (7 to 155 bar) |
| RPM.....            | 1725 rpm        | (1725 rpm)     |
| Stroke.....         | 0.276"          | (7 mm)         |

### MODEL 3CP1140 DIRECT DRIVE

|                     |                 |                |
|---------------------|-----------------|----------------|
| Flow.....           | 3.6 gpm         | (13.6 lpm)     |
| Pressure Range..... | 100 to 2200 psi | (7 to 155 bar) |
| RPM.....            | 1725 rpm        | (1725 rpm)     |
| Stroke.....         | 0.433"          | (11 mm)        |

## ELECTRIC HORSEPOWER REQUIREMENTS

| MODELS          | FLOW |      | PRESSURE    |             |             |             | MOTOR PULLEY SIZE<br>Using 1750 rpm Motor<br>5.0" Pump Pulley O.D. |              |
|-----------------|------|------|-------------|-------------|-------------|-------------|--|--------------|
|                 |      |      | psi<br>1200 | psi<br>1500 | psi<br>2000 | psi<br>2200 |  | rpm          |
|                 | gpm  | lpm  | bar<br>85   | bar<br>105  | bar<br>140  | bar<br>155  | Pulley<br>O.D.   |              |
| <b>3CP1120</b>  | 4.2  | 16   | 3.5         | 4.3         | 5.8         | 6.3         | 1725   | Direct Drive |
|                 | 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          |
| <b>3CP1130</b>  | 2.4  | 9    | 1.9         | 2.4         | 3.2         | 3.6         | 1725   | Direct Drive |
| <b>3CP1140</b>  | 3.6  | 13.6 | 3.0         | 3.7         | 5.0         | 5.4         | 1725   | Direct Drive |
| <b>3CP1120G</b> | 3.5  | 13.2 | 2.9         | 3.6         | 4.8         | 5.3         | 1420   | Gearbox      |

**DETERMINING THE PUMP R.P.M.**

$$\frac{\text{Rated gpm}}{\text{Rated rpm}} = \frac{\text{"Desired" gpm}}{\text{"Desired" rpm}}$$

**DETERMINING THE REQUIRED H.P.**

$$\frac{\text{gpm x psi}}{1460} = \text{Electric Brake H. P. Required}$$

**DETERMINING MOTOR PULLEY SIZE**

$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

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

# 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   |
|      | <b>48259</b> | <b>AL</b>  | Cover, Blind - 3CP1120G   | 1   |
| 10   | 14028        | NBR        | O-Ring, Bearing Cover - 70D   | 2   |
| 11   | 43222        | NBR        | Seal, Oil, Crankshaft - 70D   | 1/2 |
| 15   | 14480        | STL        | Bearing, Ball   | 2   |
| 20   | 48730        | TNM        | Rod, Connecting, Assembly [5/01]  | 3   |
| 25   | <b>46927</b> | <b>FCM</b> | Crankshaft, Dual End - 3CP1120 (M12.7)  | 1   |
|      | <b>46994</b> | <b>FCM</b> | Crankshaft, Dual End - 3CP1130 (M7)   | 1   |
|      | <b>46991</b> | <b>FCM</b> | Crankshaft, Dual End - 3CP1140 (M11)  | 1   |
|      | <b>48484</b> | <b>FCM</b> | Crankshaft, Single End - 3CP1140CS, (M11)   | 1   |
|      | <b>48257</b> | <b>FCM</b> | 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 (M18 x 10)  | 3   |
| 90   | 46976        | CC         | Plunger (M18x43)  | 3   |
| 98   | 46730        | NBR        | Washer, Seal - 90D  | 3   |
|      | 48394        | FPM        | Washer, Seal - 90D  | 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/SS-Spg  | 3   |
|      | 76243        | ST         | Seal, LPS w/S-Spg   | 3   |
| 120  | 46625        | BB         | Case, Seal (See Tech Bulletin #110)   | 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 "Hi-Temp", 2-Pc w/S-Support   | 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  | 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  | 1   |
| 265  | 30641        | —          | Mount, Assy (Incls: 30612, 30032, 30047, 118672)  | 1   |
| 270  | 30246        | STL        | Assy, Pulley & Key (Incls: 30032, 30047) (See Tech Bulletin 003)                                  | 1   |
| 283  | 34334        | —          | Kit, Oil Drain (3/8" x 24") (See individual Data Sheet)   | 1   |
|      | 76334        | —          | Kit, Oil Indicator (3/8" x 24") (See individual Data Sheet)                                       | 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   |
|      | 76526        | STHT       | Kit, Seal (Incls: 98, 106, 120, 121, 125) Prior to 4/10   | 1   |
|      | 76983        | STHT       | Kit, Seal (Incls: 98, 106, 121, 125) After 4/10   | 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 Hydraulic<br>(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.

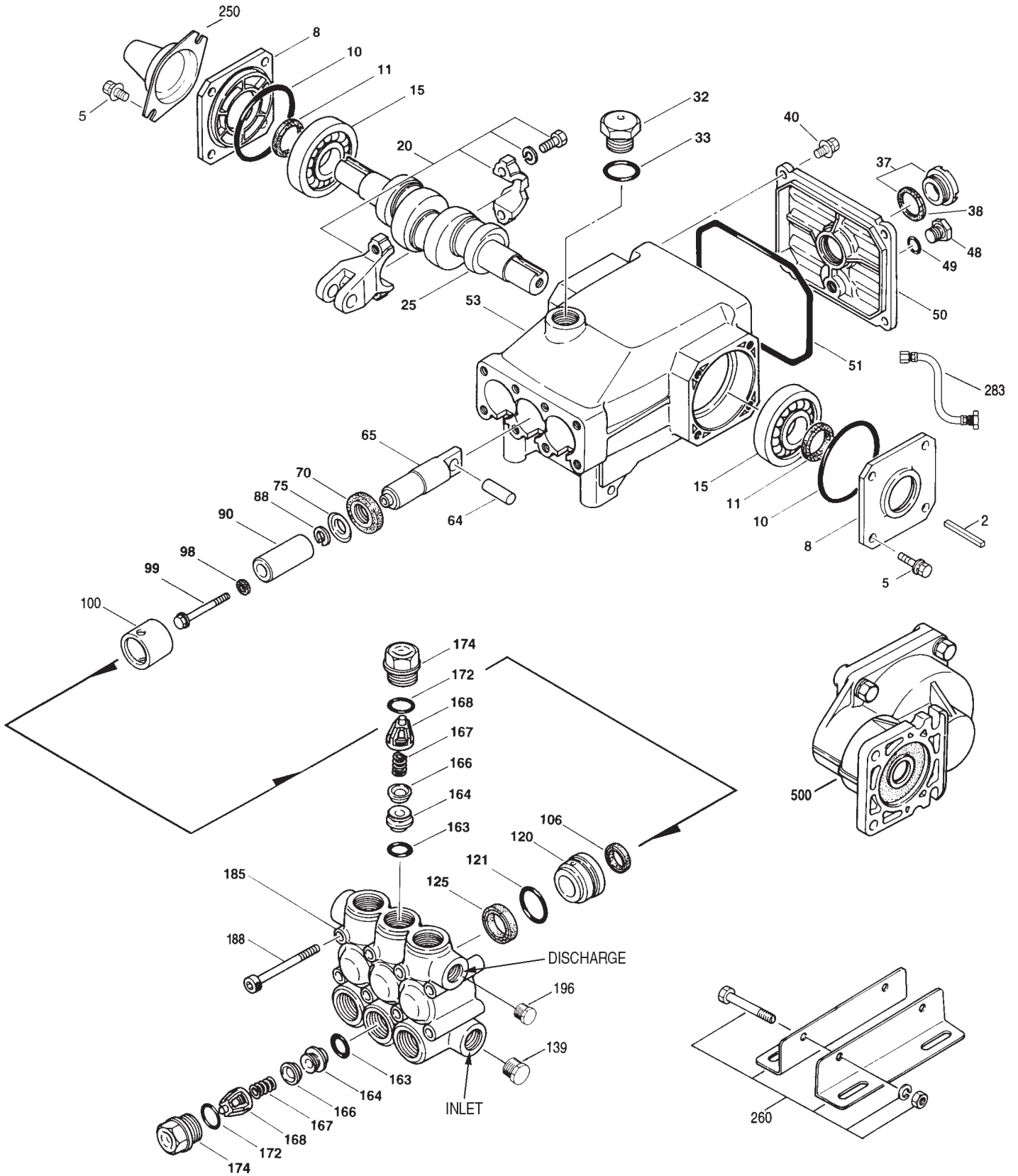
† Production parts are different than repair parts. R Components comply with RoHS Directive.

View Tech Bulletins 002, 003, 024, 036, 064, 073, 074, 077, 083, and 110 for additional information.

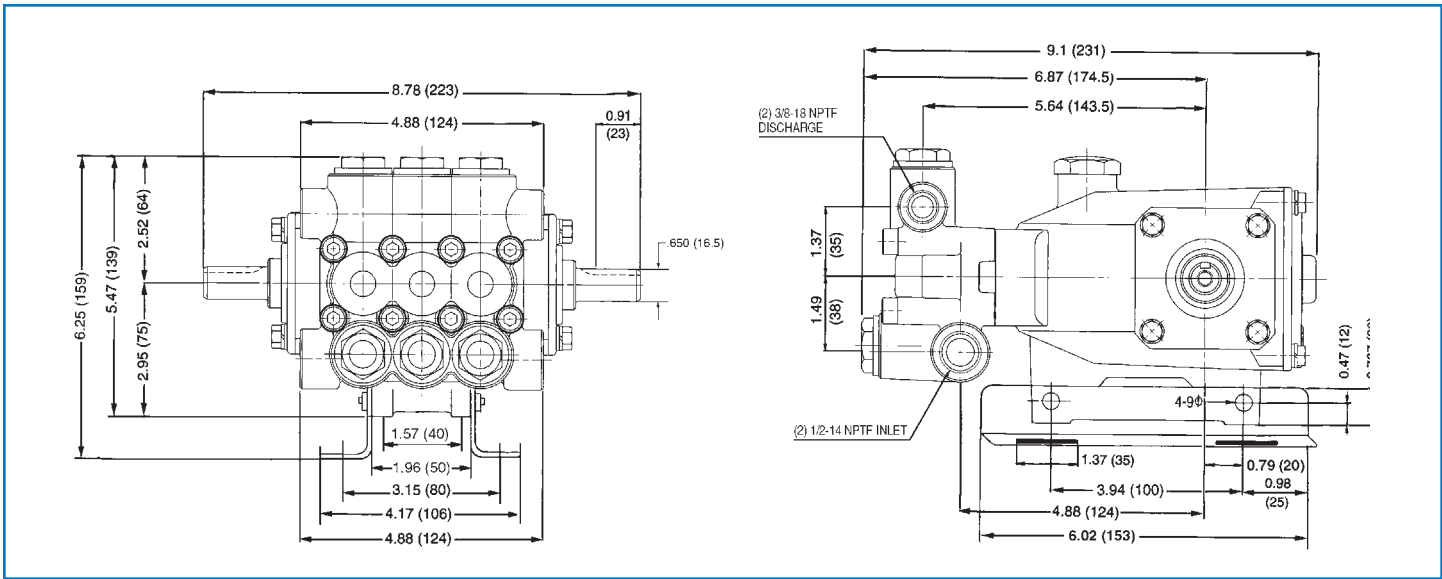
For motorized versions see BD motor data sheet. For Gearbox version see 8075 data sheet.

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) ST=Polyetheretherketon  
 STHT=Special PTFE High Temp STL=Steel STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength

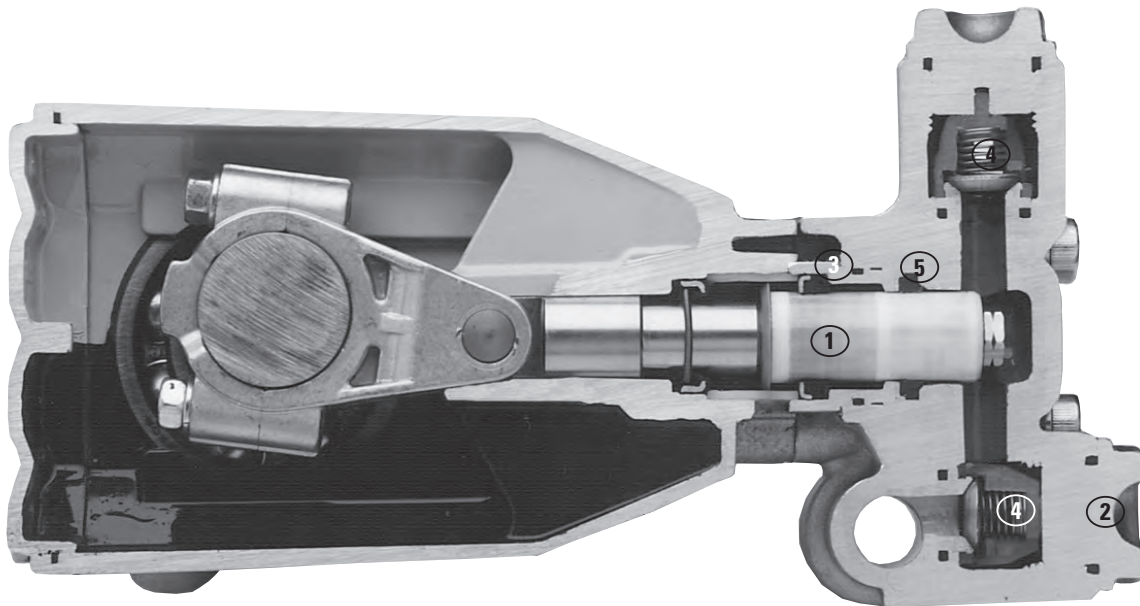
# EXPLODED VIEW



Models  
 3CP1120, 3CP1120G,  
 3CP1130, 3CP1140  
 February 2011



Models 3CP1120, 3CP1120G, 3CP1130, 3CP1140



- 1 Special concentric, high-density, polished, solid ceramic **plungers** provide a true wear surface and extended seal life.
- 2 **Manifolds** are a high tensile strength forged brass for long term, continuous duty.
- 3 100% wet **seal** design adds to service life by allowing pumped liquids to cool and lubricate on both sides of the seals.
- 4 Stainless steel **valves, seats and springs** provide corrosion-resistance, ultimate seating and extended life.
- 5 Specially formulated, Cat Pump exclusive, **Hi-Pressure Seals** offer unmatched performance and seal life.



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