

5CP Stainless Steel Plunger Pump

Models **5CP6121**
 5CP6141
 5CP6151

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, 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.
- 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 |
|------------------------------|-----------------|------------------|
| MODEL 5CP6121 | | |
| Volume | 6.0 GPM | (23 L/M) |
| Discharge Pressure | 100 to 1600 PSI | (7 to 112 BAR) |
| Maximum Inlet Pressure | -5 to 60 PSI | (-0.35 to 4 BAR) |
| RPM | 1450 RPM | (1450 RPM) |
| Stroke..... | 0.709" | (18 mm) |

| | | |
|-----------------------------------|-------------------|--------------------|
| MODEL 5CP6141 Direct Drive | | |
| Volume | 4.0 GPM | (15 L/M) |
| Discharge Pressure | 100 to 1600 PSI | (7 to 112 BAR) |
| Maximum Inlet Pressure..... | Flooded to 60 PSI | (Flooded to 4 BAR) |
| RPM | 1725 RPM | (1725RPM) |
| Stroke..... | 0.394" | (10 mm) |

| | | |
|-----------------------------------|-------------------|--------------------|
| MODEL 5CP6151 Direct Drive | | |
| Volume | 5.0 GPM | (19 L/M) |
| Discharge Pressure | 100 to 1600 PSI | (7 to 112 BAR) |
| Maximum Inlet Pressure..... | Flooded to 60 PSI | (Flooded to 4 BAR) |
| RPM | 1725 RPM | (1725RPM) |
| Stroke..... | 0.472" | (12 mm) |

COMMON SPECIFICATIONS

| | | |
|----------------------------|------------------------|----------------------|
| Bore..... | 0.787" | (20 mm) |
| Crankcase Capacity | 17 oz. | (0.53 L) |
| Max Fluid Temperature..... | 160°F | (71°C) |
| Inlet Ports (2) | 1/2" NPTF | (1/2" NPTF) |
| Discharge Ports (2)..... | 3/8" NPTF | (3/8" NPTF) |
| Shaft Diameter | 0.787" | (20 mm) |
| Weight..... | 20 lbs. | (8 kg) |
| Dimensions | 10.82" x 10.0" x 5.78" | (275 x 254 x 147 mm) |

HORSEPOWER REQUIREMENTS

| MODEL | FLOW | | PRESSURE | | | RPM |
|---------|----------|-----|----------|----------|----------|------|
| | | | PSI 1000 | PSI 1200 | PSI 1600 | |
| | U.S. GPM | L/M | BAR 70 | BAR 85 | BAR 112 | |
| 5CP6121 | 6.0 | 23 | 4.1 | 5.0 | 6.6 | 1450 |
| | 5.0 | 19 | 3.4 | 4.1 | 5.5 | 1208 |
| | 4.0 | 15 | 2.8 | 3.3 | 4.4 | 966 |
| 5CP6141 | 4.0 | 15 | 2.8 | 3.3 | 4.4 | 1725 |
| 5CP6151 | 5.0 | 19 | 3.4 | 4.1 | 5.5 | 1725 |

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

"Customer confidence is our greatest asset"

PARTS LIST

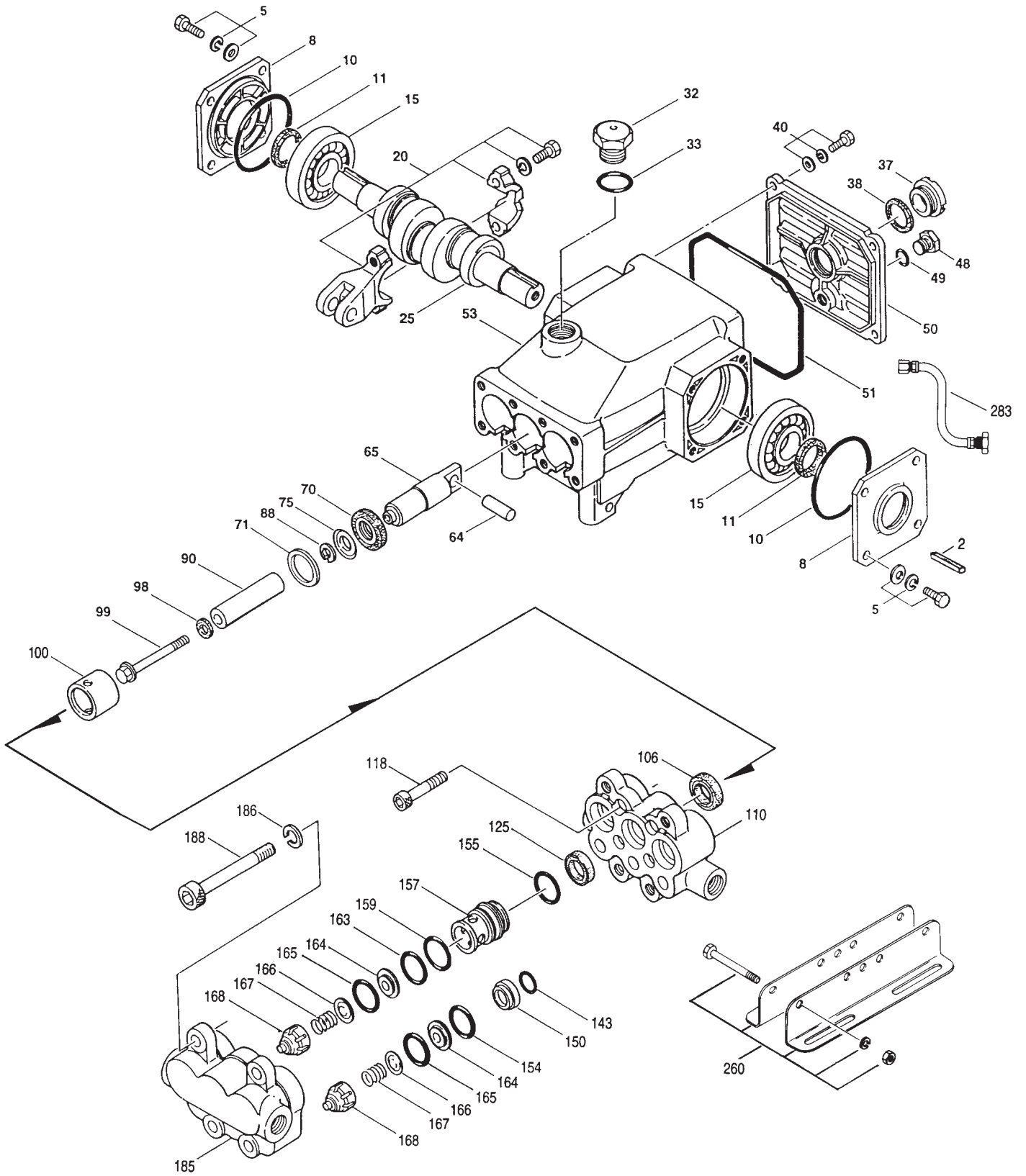
| ITEM | PART NUMBER | | | | DESCRIPTION | QTY | |
|-------|--------------|-------------|--------------|-------------|--------------|----------------------|---|
| | 5CP6121 | MATL | 5CP6141 | MATL | 5CP6151 | MATL | |
| ● 2 | 30057 | STL | 30057 | STL | 30057 | STL | Key (M6x6) 1 ● |
| 5 | 119049 | SS | 119049 | SS | 119049 | SS | Screw, Sems HHC (M8x16) 8 |
| 8 | 46910 | AL | 46910 | AL | 46910 | AL | Cover, Bearing 2 |
| 10 | 14028 | NBR | 14028 | NBR | 14028 | NBR | O-Ring, Cover, Bearing 1/2 |
| 11 | 43222 | NBR | 43222 | NBR | 43222 | NBR | Seal, Oil, Crankshaft 2 |
| 15 | 14480 | STL | 14480 | STL | 14480 | STL | Bearing 2 |
| 20 | 46743 | ZZ | 46743 | ZZ | 46743 | ZZ | Rod Assy, Connecting 3 |
| 25 | 46928 | FCM | — | — | — | — | Crankshaft, Dual End 1 |
| 30 | 48224 | AL | 48203 | FCM | 46982 | FCM | Crankshaft, Single End 1 |
| 32 | 46798 | — | 46798 | AL | 48224 | AL | Cover, Blind Bearing 1 |
| 33 | 14179 | NBR | 14179 | NBR | 46798 | Cap, Oil Filler 1 | |
| 37 | 43987 | — | 43987 | NBR | 14179 | NBR | O-Ring, Oil Filler Cap 1 |
| 38 | 44428 | NBR | 43987 | — | 43987 | Gauge, Oil, Bubble 1 | |
| 40 | 92538 | SS | 44428 | NBR | 44428 | NBR | Gasket, Flat, Oil Gauge 1 |
| 48 | 25625 | STCP | 92538 | SS | 92538 | SS | Screw, Sems HHC (M6x16) 4 |
| 49 | 23170 | NBR | 25625 | STCP | 25625 | STCP | Plug, Drain (1/4X11) 1 |
| 50 | 46940 | AL | 23170 | NBR | 23170 | NBR | O-Ring, Drain Plug 1 |
| 51 | 14044 | NBR | 46940 | AL | 46940 | AL | Cover, Crankcase 1 |
| 53 | 48310 | AL | 14044 | NBR | 14044 | NBR | O-Ring, Cover, Crankcase 1 |
| 64 | 46746 | S | 48310 | AL | 48310 | AL | Crankcase 1 |
| 65 | 46747 | BBCP | 46746 | S | 46746 | S | Pin, Plunger Rod 3 |
| 70 | 46838 | NBR | 46747 | BBCP | 46747 | BBCP | Rod, Plunger 3 |
| 71 | 48208 | S | 46838 | NBR | 46838 | NBR | Seal, Oil, Crankcase 3 |
| 75 | 43328 | S | 48208 | S | 48208 | S | Washer, Oil Seal 3 |
| 88 | 45697 | S | 43328 | S | 43328 | S | Slinger, Barrier 3 |
| 90 | 46841 | CC | 45697 | S | 45697 | S | Washer, Keyhole (M18) 3 |
| 98 | 46730 | NBR | 46841 | CC | 46841 | CC | Plunger 3 |
| | 48394 | FPM | 46730 | NBR | 46730 | NBR | Washer, Seal 3 |
| | 48432 | EPDM | 48394 | FPM | 48394 | FPM | Washer, Seal 3 |
| 99 | 48201 | SS | 48432 | EPDM | 48432 | EPDM | Washer, Seal 3 |
| 100 | 46749 | PVDF | 48201 | SS | 48201 | SS | Retainer, Plunger (M6x30) 3 |
| 106 | 44127 | NBR | 46749 | PVDF | 46749 | PVDF | Retainer, Seal 3 |
| | 45153 | FPM | 44127 | NBR | 44127 | NBR | LPS w/S-Spg 3 |
| | 48429 | EPDM | 45153 | FPM | 45153 | FPM | LPS w/S-Spg 3 |
| | 48210 | SS | 48429 | EPDM | 48429 | EPDM | LPS w/S-Spg 3 |
| ● 110 | 119034 | S | 48210 | SS | 48210 | SS | Manifold, Inlet 1 ● |
| 118 | 44649 | NBR | 119034 | S | 119034 | S | Screw, HSH (M8x35) 4 |
| 125 | 44936 | FPM | 44649 | NBR | 44649 | NBR | HPS w/SS 3 |
| | 46667 | EPDM | 44936 | FPM | 44936 | FPM | HPS w/SS 3 |
| | 46667 | HT | 46667 | EPDM | 46667 | EPDM | HPS w/SS 3 |
| 143 | 17615 | NBR | 46667 | HT | 46667 | HT | HPS w/SS 3 |
| | 15855 | FPM | 17615 | NBR | 17615 | NBR | O-Ring, I.V. Adapter, Rear 3 |
| | 48431 | EPDM | 15855 | FPM | 15855 | FPM | O-Ring, I.V. Adapter, Rear 3 |
| 150 | 48212 | SS | 48431 | EPDM | 48431 | EPDM | O-Ring, I.V. Adapter, Rear 3 |
| 154 | 43781 | NBR | 48212 | SS | 48212 | SS | Adapter, Inlet 3 |
| | 11337 | FPM | 43781 | NBR | 43781 | NBR | O-Ring, I.V. Adapter, Front 3 |
| | 48430 | EPDM | 11337 | FPM | 11337 | FPM | O-Ring, I.V. Adapter, Front 3 |
| 155 | 43781 | NBR | 48430 | EPDM | 48430 | EPDM | O-Ring, I.V. Adapter, Front 3 |
| | 11337 | FPM | 43781 | NBR | 43781 | NBR | O-Ring, D.V. Spacer 3 |
| | 48430 | EPDM | 11337 | FPM | 11337 | FPM | O-Ring, D.V. Spacer 3 |
| 157 | 48211 | SS | 48430 | EPDM | 48430 | EPDM | O-Ring, D.V. Spacer 3 |
| 159 | 43781 | NBR | 48211 | SS | 48211 | SS | Spacer, Discharge Valve 3 |
| | 11337 | FPM | 43781 | NBR | 43781 | NBR | O-Ring, D.V. Spacer 3 |
| | 48430 | EPDM | 11337 | FPM | 11337 | FPM | O-Ring, D.V. Spacer 3 |
| 163 | 43793 | NBR | 48430 | EPDM | 48430 | EPDM | O-Ring, D.V. Spacer 3 |
| | 43791 | FPM | 43793 | NBR | 43793 | NBR | O-Ring, Seat - 90 3 |
| | 48490 | EPDM | 43791 | FPM | 43791 | FPM | O-Ring, Seat - 90 3 |
| 164 | 48216 | SS | 48490 | EPDM | 48490 | EPDM | O-Ring, Seat - 70 3 |
| 165 | 43793 | NBR | 48216 | SS | 48216 | SS | Seat 6 |
| | 43791 | FPM | 43793 | NBR | 43793 | NBR | O-Ring, Seat - 90 6 |
| | 48490 | EPDM | 43791 | FPM | 43791 | FPM | O-Ring, Seat - 90 6 |
| 166 | 44038 | SS | 48490 | EPDM | 48490 | EPDM | O-Ring, Seat - 70 6 |
| 167 | 44039 | SS | 44038 | SS | 44038 | SS | Valve 6 |
| 168 | 44564 | PVDF | 44039 | SS | 44039 | SS | Spring 6 |
| ● 185 | 48214 | SS | 44564 | PVDF | 44564 | PVDF | Retainer, Spring 6 |
| 186 | 19085 | S | 48214 | SS | 48214 | SS | Manifold, Discharge 1 ● |
| 188 | 89575 | S | 19085 | S | 19085 | S | Lockwasher, Split (M12) 4 |
| 250 | 118672 | STCP | 89575 | S | 89575 | S | Screw, HSH (M12x60) 4 |
| 260 | 30611 | STZP | 118672 | STCP | 118672 | STCP | Protector, Shaft 1 |
| 269 | — | — | 30611 | STZP | 30611 | STZP | Rail Assy, Angle (Incls: 27808, 30902, 30930, 30908, 30911) 1 |
| 270 | — | — | — | — | — | — | Pulley [See complete Drive Packages, Tech Bulletin 03] 1 |
| 278 | 30944 | — | — | — | — | — | Hub [See complete Drive Packages, Tech Bulletin 03] 1 |
| 279 | — | 34418 | — | — | 34419 | — | Flex Coupling 1 |
| 280 | — | 34424 | — | — | 34424 | — | Bell Housing 1 |
| ● 283 | 34334 | — | — | — | — | — | BD Direct Drive Motor [See Individual Data Sheet] 1 |
| 290 | 6108 | — | 34334 | — | 34334 | — | Kit, Oil Drain 1 ● |
| ● 299 | — | SS | 6108 | — | 6108 | — | Gasket, Liquid (1.5 oz.) 1 |
| 300 | 34353 | NBR | — | SS | — | SS | Head, Complete 1 ● |
| | 34351 | FPM | 34353 | NBR | 34353 | NBR | Kit, Seal (Incls: 98, 106, 125, 143, 154, 155, 159) 1 |
| | 34352 | EPDM | 34351 | FPM | 34351 | FPM | Kit, Seal (Incls: 98, 106, 125, 143, 154, 155, 159) 1 |
| 310 | 33972 | NBR | 34352 | EPDM | 34352 | EPDM | Kit, Seal (Incls: 98, 106, 125, 143, 154, 155, 159) 1 |
| | 34362 | FPM | 33972 | NBR | 33972 | NBR | Kit, Valve (Incls: 143, 154, 163, 164, 165, 166, 167, 168) 1 |
| | 34363 | EPDM | 34362 | FPM | 34362 | NBR | Kit, Valve (Incls: 143, 154, 163, 164, 165, 166, 167, 168) 1 |
| | — | — | 34363 | EPDM | 34363 | EPDM | Kit, Valve (Incls: 143, 154, 163, 164, 165, 166, 167, 168) 1 |

● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* ◆ Silicone oil/grease required.

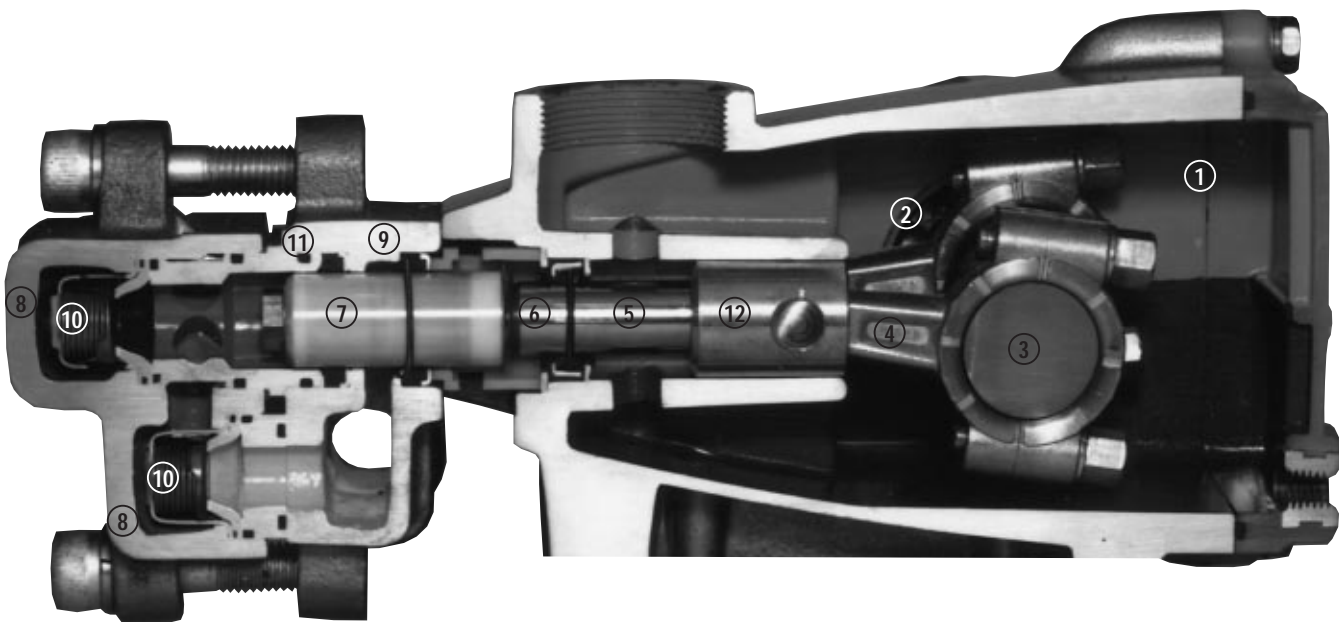
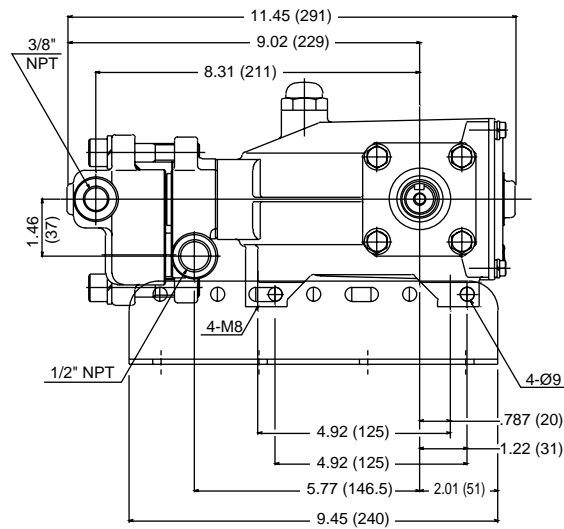
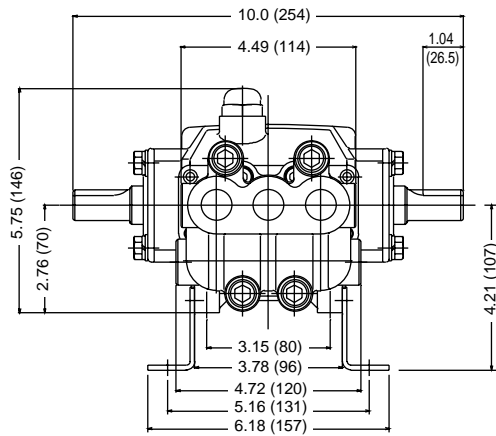
See Tech Bulletins 03, 24, 36, 43, 53, 56, 74, and 77 for additional information.

MATERIAL CODES (Not Part of Part Number): AL=Aluminum BBCP=Brass/Chrome Plated CC=Ceramic EPDM=Ethylene Propylene Diene Monomer
 FCM=Forged Chrome-Moly FPM=Fluorocarbon (Viton®) HT=Hi-Temp (EPDM Alternative) NBR=Medium Nitrile (Buna-N) PVDF=Fluoroplastic (High Strength)
 S=304SS SS=316SS STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated STL=Steel ZZ=Zamak

EXPLODED VIEW



Models
5CP6121, 5CP6141, 5CP6151
April 1998



- 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 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.

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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