

DATA SHEET

7CP PLUNGER PUMPS



Stainless Steel Models

7CP6111, 7CP6171

Stainless Steel Flushed Models

7CP6111C, 7CP6171C

Gearbox Model

7CP6111G1



Model 7CP6171 Shown
(Rails sold separately)

FEATURES

- 316SS Stainless Steel manifold head.
- Flexible coupling/bell housing, gearbox and belt drive options provide flexibility with a compact footprint.
- Special flushed "C" manifold with 7CP6111C and 7CP6171C permits external flush for added cooling with high temperature liquids and lubrication with low lubricity liquids.
- Standard NBR seals with alternative options for temperature and chemical compatibility.
 - FPM – .0110
 - EPDM – .0220
 - High Temp, 200° F – .3400 (Intermittent Run-Dry)

COMMON

| SPECIFICATIONS | U.S. | Metric |
|--|-----------------------|--------------------|
| Inlet Pressure Range | Flooded to 70 psi | Flooded to 4.9 bar |
| Max. Liquid Temperature | 140° F | 60° C |
| Above 130°F call Cat Pumps for inlet conditions and elastomer recommendations. | | |
| Bore | 0.866" | 22 mm |
| Crankcase Capacity | 38 oz. | 1.15 l |
| Inlet Ports (2) | 3/4" NPT(F) | 3/4" NPT(F) |
| Discharge Ports (2) | 1/2" NPT(F) | 1/2" NPT(F) |
| Flushing Ports (2) (7CP6111C, 7CP6171C) | 1/8" NPT(F) | 1/8" NPT(F) |
| Shaft Diameter | 0.945" | 24 mm |
| Weight (7CP6111, 7CP6171) | 29.1 lbs. | 13.2 kg |
| Weight (7CP6111G1) | 38.6 lbs. | 17.5 kg |
| Dimensions | 13.45 x 9.26 x 6.89" | 342 x 235 x 175 mm |
| Dimensions w/Gearbox | 13.45 x 12.25 x 6.97" | 342 x 311 x 177 mm |

SPECIFICATIONS

| | U.S. Measure | Metric Measure |
|--------------------------|-----------------|----------------|
| 7CP6111, 7CP6111C | | |
| Flow | 10.5 gpm | 40 lpm |
| Pressure Range | 100 to 2000 psi | 6.9 to 138 bar |
| Pump RPM* | 1750 rpm | 1750 rpm |
| Stroke | 0.854" | 21.7 mm |
| 7CP6171, 7CP6171C | | |
| Flow | 10.5 gpm | 40 lpm |
| Pressure Range | 100 to 2000 psi | 6.9 to 138 bar |
| Pump RPM* | 1450 rpm | 1450 rpm |
| Stroke | 1.024" | 26 mm |
| 7CP6111G1 | | |
| Flow | 10.0 gpm | 38 lpm |
| Pressure Range | 100 to 2000 psi | 6.9 to 138 bar |
| Pump RPM | 1667 rpm | 1667 rpm |
| Engine RPM | 3400 rpm | 3400 rpm |
| Stroke | 0.854" | 21.7 mm |

*Pump is minimum 100 RPM

Mounting Flange: SAEJ609, Flange B, Extension 4 (1"Ø), Shaft Length = 3-1/4", Pilot Ø = 5-3/4", B.C. Ø = 6-1/2", Thread = 3/8"-16 UNC TAP

ELECTRIC HORSEPOWER REQUIREMENTS

| MODELS | FLOW | | PRESSURE | | | RPM |
|-----------------------------------|-------------|------|-----------------------------|-------------|-------------|------|
| | | | psi 1500 | psi 1800 | psi 2000 | |
| | U.S. gpm | lpm | bar 103 | bar 124 | bar 138 | |
| 7CP6111 7CP6111C | 10.5 | 40.0 | 10.8 | 12.9 | 14.4 | 1750 |
| 7CP6171 7CP6171C | 10.5 | 40.0 | 10.8 | 12.9 | 14.4 | 1450 |
| 7CP6111G1 | 10.0 | 38.0 | Consult Engine Manufacturer | | | 1667 |

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.

$$\text{Hp (Electric Brake)} = \frac{\text{gpm} \times \text{psi}}{1460}$$

DETERMINING MOTOR PULLEY SIZE

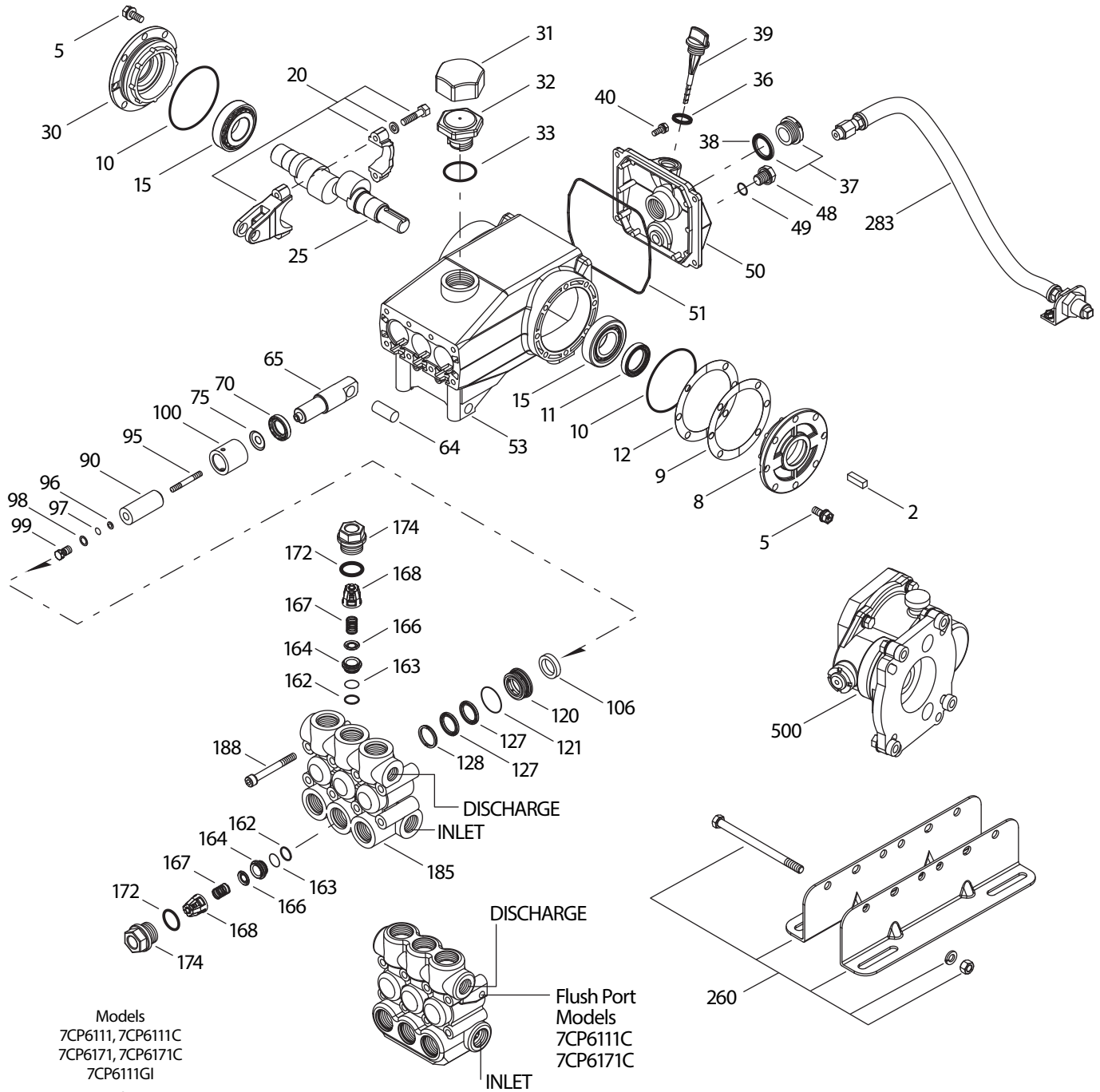
$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

See complete Drive Packages [Includes: 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 | 30067 | STL | Key (M8x7.5x25) | 1 |
| 5 | 49651 | S | Screw, HHC Sems (M8x20) | 8 |
| 8 | 49501 | AL | Cover, Bearing | 1 |
| 9 | 49503 | FBR | Shim, Split, 2-Pc, Outer | 0-2 |
| 10 | 12393 | NBR | O-Ring, Bearing Cover - 70D | 2 |
| 11 | 49190 | NBR | Seal, Oil Crankshaft - 70D | 1/2 |
| 12 | 49504 | S | Shim, Split, 2-Pc, Inner | 0-2 |
| 15 | 63479 | STL | Bearing, Roller | 2 |
| 20 | 48727 | TNM | Rod, Connecting Assy [2/03] | 3 |
| 25 | 49498 | FCM | Crankshaft, Single-End (M21.7) (7CP6111, 7CP6111C, 7CP6111G1) | 1 |
| | 49649 | FCM | Crankshaft, Single-End (M26) (7CP6171, 7CP6171C) | 1 |
| 30 | 48527 | AL | Cover, Blind Bearing | 1 |
| 31 | 828710 | PE | Protector, Oil Cap w/Foam Gasket | 1 |
| 32 | 43211 | ABS | Cap, Oil Filler | 1 |
| 33 | 14177 | NBR | O-Ring, Oil Filler Cap - 70D | 1 |
| 36 | 129343 | RBR | Gasket, Flat | 1 |
| 37 | 92241 | — | Gauge, Oil, Bubble w/Gasket - 80D | 1 |
| 38 | 44428 | NBR | Gasket, Flat, Oil Gauge - 80D | 1 |
| 39 | 49948 | ABS | Stick, Dip (See Reference Bulletin 005) | 1 |
| 40 | 92538 | S | Screw, HHC Sems (M6x16) | 4 |
| 48 | 25625 | STCP | Plug, Drain (1/4"x19BSP) | 1 |
| 49 | 23170 | NBR | O-Ring, Drain Plug - 70D | 1 |
| 50 | 46959 | AL | Cover, Rear | 1 |
| 51 | 14030 | NBR | O-Ring, Rear Cover - 70D | 1 |
| 53 | 48577 | AL | Crankcase | 1 |
| 64 | 46969 | CM | Pin, Crosshead | 3 |
| 65 | 49637 | SS | Rod, Plunger | 3 |
| 70 | 48281 | NBR | Seal, Oil Crankcase - 70D | 3 |
| 75 | 43328 | S | Slinger, Barrier | 3 |
| 90 | 48559 | CC | Plunger, Ceramic (M22x55) | 3 |
| 95 | 49639 | SS | Stud, Plunger Retainer (M6x50) | 3 |
| 96 | 43235 | PTFE | Back-up-Ring, Plunger Retainer | 3 |
| 97 | 17399 | NBR | O-Ring, Plunger Retainer - 80D | 3 |
| | 14160 | FPM | O-Ring, Plunger Retainer - 80D | 3 |
| | ◆ 46204 | EPDM | O-Ring, Plunger Retainer - 70D | 3 |
| 98 | 44041 | SS | Gasket | 3 |
| 99 | 44031 | SS | Retainer, Plunger (M6) | 3 |
| 100 | 46964 | NY | Retainer, Seal | 3 |
| 106 | 49644 | NBR | Seal, LPS w/SS-Spg | 3 |
| | 49704 | FPM | Seal, LPS w/SS-Spg | 3 |
| | ◆ 48650 | EPDM | Seal, LPS w/SS-Spg | 3 |
| | 76704 | ST | Seal, LPS w/S-Spg | 3 |
| 120 | 49643 | SS | Case, Seal | 3 |
| 121 | 13984 | NBR | O-Ring, Seal Case - 70D | 3 |
| | 14333 | FPM | O-Ring, Seal Case | 3 |
| | ◆ 48649 | EPDM | O-Ring, Seal Case | 3 |
| 127 | 48278 | STG | V-Packing | 6 |
| 128 | 49646 | SS | Adapter, Male | 6 |
| 162 | 43248 | PTFE | Back-up-Ring, Seat | 6 |
| 163 | 43249 | NBR | O-Ring, Seat - 80D | 6 |
| | 44383 | FPM | O-Ring, Seat - 70D | 3 |
| | ◆ 46206 | EPDM | O-Ring, Seat - 70D | 6 |
| 164 | 44037 | SS | Seat | 6 |
| 166 | 44038 | SS | Valve | 6 |
| 167 | 44039 | SS | Spring | 6 |
| 168 | 44564 | PVDF | Retainer, Spring | 6 |
| 172 | 17617 | NBR | O-Ring, Valve Plug - 90D | 6 |
| | 11691 | FPM | O-Ring, Valve Plug - 90D | 6 |
| | ◆ 46207 | EPDM | O-Ring, Valve Plug - 70D | 6 |
| 174 | 49293 | SS | Plug, Valve | 6 |
| 185 | 49641 | SS | Head, Manifold | 1 |
| | 49972 | SS | Head, Manifold Flushed (1/8" Flushed Port) | 1 |
| 188 | 49647 | S | Screw, HSH (M8x70) | 8 |
| 260 | 30613 | STZPR | Mount, Rail, Assy | 1 |
| | 76513 | STZPR | Mount, Rail Assy | 1 |
| 283 | 34334 | — | Kit, Oil Drain (3/8"x 24) (See Individual Data Sheet) | 1 |
| 299 | 818456** | SS | Head, Complete w/NBR O-Rings and Seals (Models: 7CP6111, 7CP6111G1, 7CP6171, 7CP6171G1) | 1 |
| 300 | 76933 | NBR | Kit, Seal (Incls: 97, 106, 121, 127) Standard | 1 |
| | 76950 | FPM | Kit, Seal (Incls: 97, 106, 121, 127) .0110 | 1 |
| | ◆ 31936 | EPDM* | Kit, Seal (Incls: 97, 106, 121, 127) .0220 | 1 |
| | 76068 | STHT | Kit, Seal (Incls: 97, 106, 121, 127) .3400 | 1 |

EXPLODED VIEW



| ITEM | P/N | MATL | DESCRIPTION | QTY |
|------|---------|------|--|-----|
| 310 | 76387 | NBR | Kit, Valve Pre-Assembled (Incls: 162, 163, 164, 166, 167, 168, 172) Standard, .3400 | 2 |
| | 76940 | FPM | Kit, Valve Pre-Assembled (Incls: 162, 163, 164, 166, 167, 168, 172) .0110 | 2 |
| | ◆ 76258 | EPDM | Kit, Valve Pre-Assembled (Incls: 162, 163, 164, 166, 167, 168, 172) .0220 | 2 |
| 500 | 8081 | — | Gearbox (See Individual Data Sheet) | 1 |
| — | 6119 | — | Lubricant, Antiseize (2 oz.) [See Tech Bulletin 095] | 1 |
| — | 6107 | — | Oil, Bottle (21 oz.) ISO 68 Hydraulic (Fill to specified crankcase capacity prior to start-up) | 1-2 |

Bold print part numbers are unique to a particular pump model. *Italics are optional items.* [] Date of latest production change. ◆ Silicone oil/grease required.

R Components comply with RoHS Directive. *Review individual parts in each kit for material code identification.

**Complete head for models 7CP6111, 7CP6111GI, 7CP6171, 7CP6171GI only)

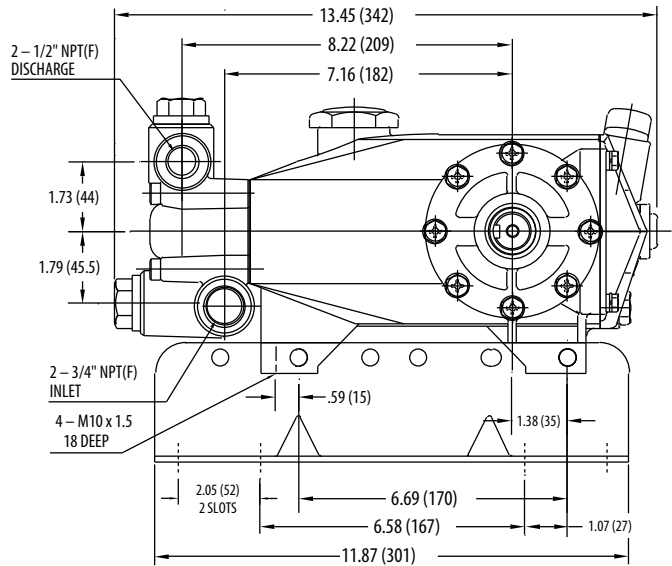
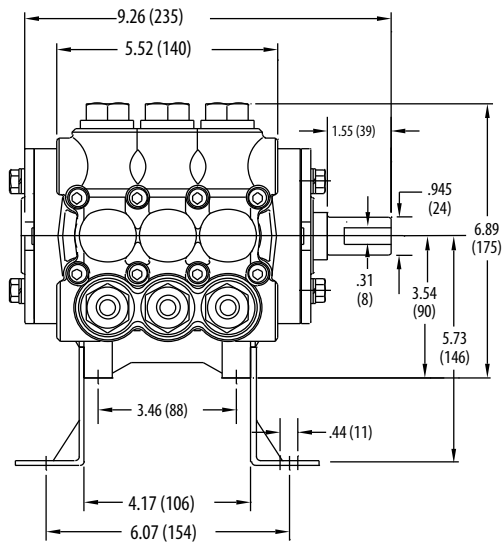
View Tech Bulletins 002, 003, 024, 036, 043, 053, 064, 074, 083 and 095 for additional information. View Reference Bulletin 005.

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum CC=Ceramic CM=Chrome-moly

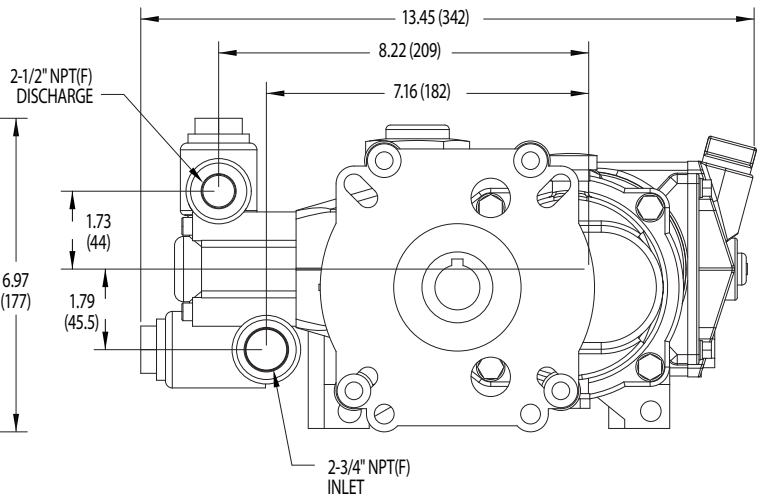
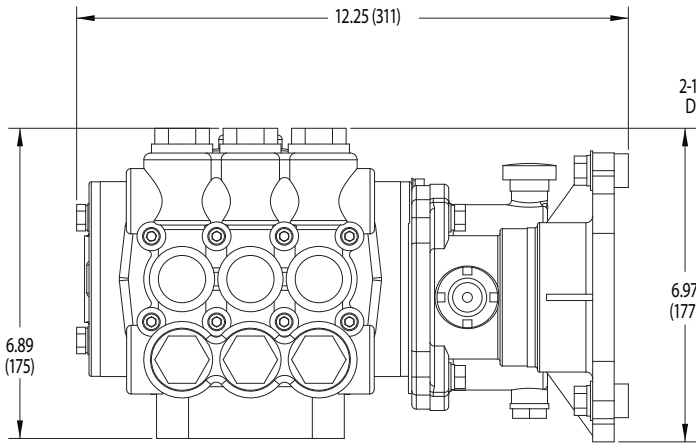
EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBR=Fiber FCM=Forged Chrome-moly FPM=Fluorocarbon NBR=Medium Nitrile (Buna-N) NY=Nylon PE=Polyethylene

PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride RBR=Rubber S=304SS SS=316SS STG=Special Blend PTFE White STHT=Special PTFE High Temp STL=Steel

STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength



Models 7CP6111 and 7CP6171



Model 7CP6111G1

⚠ 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 or can be requested directly from Cat Pumps.

WARRANTY

View the Limited Warranty on-line at www.catpumps.com/warranty.



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