

Model 7CP6170 Shown

## FEATURES

### Superior Design

- Triplex plunger design gives smoother liquid flow.
- V-Packings are completely lubricated and cooled by the liquid being pumped.
- Inlet and discharge valve assemblies interchange for easier maintenance.
- Lubricated Lo-Pressure Seals provide double protection against external leakage.
- Oil bath crankcase assures optimum lubrication.
- Convenient dipstick for oil level check.

### Quality Materials

- Precision design 304 stainless steel valves and seats are hardened and polished for ultimate seating and extended valve life.
- Forged Brass manifold 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, V-Packings 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 loading capacity mean longer bearing life.

### Easy Maintenance

- Convenient "press-in" style seal case for ease in servicing.
- 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.

## 7CP Plunger Pump

**Direct-Drive Model**

**7CP6110**

**Standard Model**

**7CP6170**

## SPECIFICATIONS

U.S. Measure

Metric Measure

### MODEL 7CP6110

Flow .....	10 GPM	(38 L/M)
Pressure Range .....	100 to 2000 PSI	(7 to 140 BAR)
RPM .....	1750 RPM	(1750 RPM)
Stroke .....	0.854"	(21.7 mm)

### MODEL 7CP6170

Flow .....	11 GPM	(41.6 L/M)
Pressure Range .....	100 to 2000 PSI	(7 to 140 BAR)
RPM .....	1450 RPM	(1450 RPM)
Stroke .....	1.024"	(26 mm)

### COMMON SPECIFICATIONS

Inlet Pressure Range .....	Flooded to 70 PSI	(Flooded to 4.9 BAR)
Bore .....	0.866"	(22 mm)
Crankcase Capacity .....	38 oz.	(1.15 L)
Maximum Liquid Temperature .....	140°F	(60°C)
Above 130°F call CAT PUMPS for inlet conditions and elastomer recommendations.		
Inlet Ports (2) .....	3/4" NPTF	(3/4" NPTF)
Discharge Ports (2) .....	1/2" NPTF	(1/2" NPTF)
Shaft Diameter .....	0.945"	(24 mm)
Weight .....	40 lbs.	(14 kg)
Dimensions .....	13.47 x 11.14 x 6.85"	(342 x 283 x 174 mm)

## ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE			MOTOR PULLEY SIZE	
	U.S. GPM	L/M	PSI 1500	PSI 1800	PSI 2000	Using 1725 RPM Motor & Std. 9.75" Pump Pulley	
			BAR 105	BAR 125	BAR 140	RPM	Pulley O.D.
7CP6110	10.0	38.0	10.3	12.4	13.7	1750	Direct-Drive
7CP6170	11.0	41.6	11.3	13.6	15.1	1450	8.2
	10.0	38.0	10.3	12.4	13.7	1318	7.5

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

Rated G.P.M. = "Desired" G.P.M.  
Rated R.P.M. = "Desired" R.P.M.

**DETERMINING THE REQUIRED H.P.**

GPM x PSI = Electric Brake  
1460 = H. P. Required

**DETERMINING MOTOR PULLEY SIZE**

Motor Pulley O.D. = Pump Pulley O.D.  
Pump R.P.M. = Motor R.P.M.

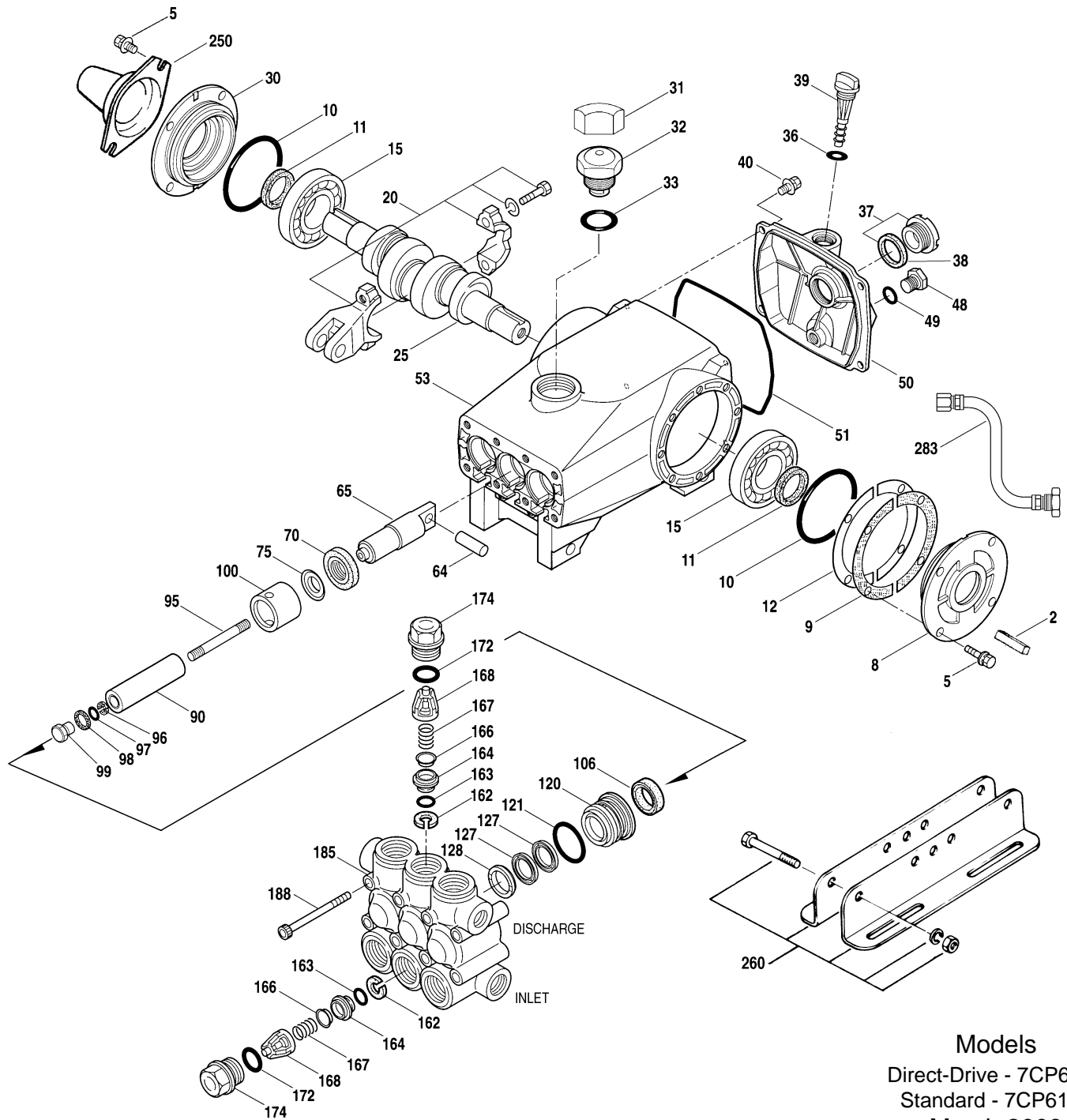
See complete Drive Packages [Inclds: Pulleys, Belts, Hubs, Key] Tech Bulletin 003. Refer to pump **Service Manual** for repair procedure, additional technical information and **pump warranty**.

*"Customer confidence is our greatest asset"*

# PARTS LIST

ITEM	P/N	MATL	DESCRIPTION	QTY
2	30067	STL	Key (M8x7.5x25)	1
5	126540	STCP R	Screw, HHC Sems (M8x20)	8/12
8	<b>49501</b>	<b>AL</b>	Cover, Bearing (7CP6110)	1
	<b>48266</b>	<b>AL</b>	Cover, Bearing (7CP6170)	2
9	811462	FBR	Shim, Split, 2-Pc	0-6
10	12393	NBR	O-Ring, Bearing Cover - 70D	2
11	49190	NBR	Seal, Oil Crankshaft - 70D	1/2
12	811461	FBR	Shim, Split, 2-Pc	0-4
15	63479	STL	Bearing, Roller	2
20	48727	TNM	Rod, Connecting Assy [2/03]	3
25	<b>49498</b>	<b>FCM</b>	Crankshaft, Single-End (M21.7) (7CP6110)	1
25	<b>46963</b>	<b>FCM</b>	Crankshaft, Dual-End (M26)	1
30	<b>48527</b>	<b>AL</b>	Cover, Blind Bearing (7CP6110)	1
31	828710	—	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	11338	NBR	O-Ring, Dip-Stick - 70D	1
37	92241	—	Gauge, Oil, Bubble w/Gasket - 80D	1
38	44428	NBR	Gasket, Flat, Oil Gauge - 80D	1
39	27769	ABS	Stick, Dip	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	46959	AL	Cover, Rear	1
51	14030	NBR	O-Ring, Rear Cover	1
53	48577	AL	Crankcase	1
64	46969	CM	Pin, Crosshead	3
65	46968	BBNP	Rod, Plunger	3
70	48281	NBR	Seal, Oil Crankcase	3
75	43328	S	Slinger, Barrier	3
90	48559	CC	Plunger, Ceramic (M22x53)	3
95	126555	STCP R	Stud, Plunger Retainer (M6x50)	3
96	43235	PTFE	Back-up-Ring, Plunger Retainer	3
97	17399	NBR	O-Ring, Plunger Retainer - 80D	3
	◆ 46204	EPDM	O-Ring, Plunger Retainer - 70D	3
98	45891	CU	Gasket	3
99	46504	S	Retainer, Plunger (M6)	3
100	46964	PVDF	Retainer, Seal	3
106	48276	NBR	Seal, LPS w/S-Spg	3
	◆ 48650	EPDM	Seal, LPS w/S-Spg	3
120	48279	BB	Case, Seal	3
121	13984	NBR	O-Ring, Seal Case - 70D	3
	◆ 48649	EPDM	O-Ring, Seal Case - 70D	3
127	48278	STG*	V-Packing	6
128	48280	BB	Adapter, Male	3
162	43248	PTFE	Back-up-Ring, Seat	6
163	43249	NBR	O-Ring, Seat - 80D	6
	◆ 46206	EPDM	O-Ring, Seat - 70D	6
164	44718	S	Seat	6
166	43721	S	Valve	6
167	43751	S	Spring	6
168	44564	PVDF	Retainer, Spring	6
172	17617	NBR	O-Ring, Valve Plug - 90D	6
	◆ 46207	EPDM	O-Ring, Valve Plug - 70D	6
174	43850	BB	Plug, Valve	6
185	48274	FBB	Head, Manifold	1
188	126513	STCP R	Screw, HSH (M8x70)	8
250	120220	STCP	Protector, Shaft	1
260	30613	STZP	Mount, Rail, Assy	1
269	30206	F	Pulley (10") <b>[See Drive Packages, Tech Bulletin 003]</b>	1
274	33000	STL	Hub, "H", M24 (Keyway M8) <b>[See Drive Packages, Tech Bulletin 003]</b>	1
277	31570	AL	Bell Housing Assy, (184TC, 213-215TC, 20 Hp)	1
278	8370	STL	Flexible Coupling Assy (M24 x 1-1/8")	1
	8375	STL	Flexible Coupling Assy (M24 x 1-3/8")	1
	8380	STL	Flexible Coupling Assy (M24 x 1-5/8")	1

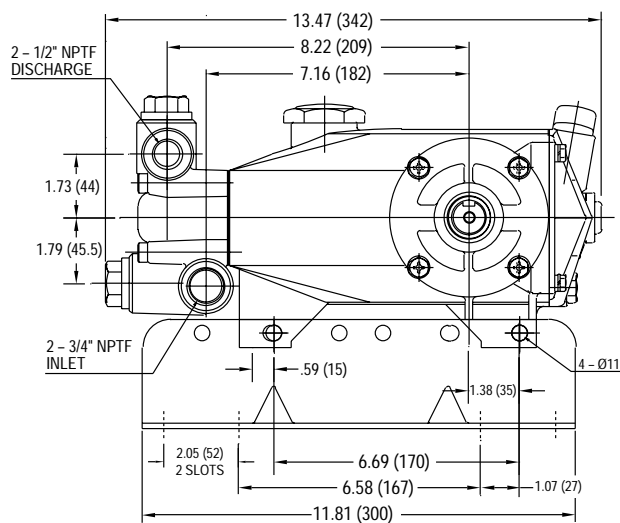
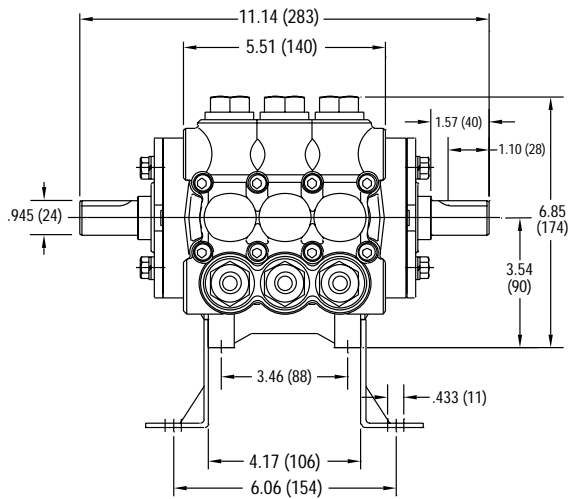
# EXPLODED VIEW



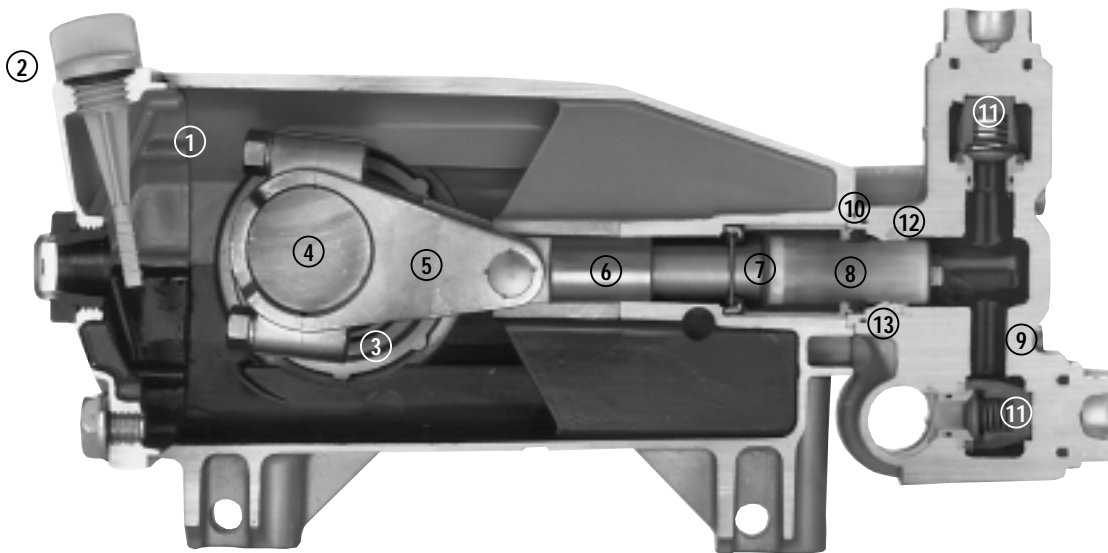
Models  
 Direct-Drive - 7CP6110  
 Standard - 7CP6170  
 March 2008

ITEM	P/N	MATL	DESCRIPTION	QTY
283	34334	—	Kit, Oil Drain	1
299	816764	FBB	Head, Complete	1
300	31933	NBR	Kit, Seal (Incls: 97, 106, 121, 127)	1
	◆ 31936	EPDM*	Kit, Seal (Incls: 97, 106, 121, 127)	1
310	34920	NBR	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
	◆ 31253	EPDM	Kit, Valve (Incls: 162, 163, 164, 166, 167, 168, 172)	2
—	6107	—	Oil, Bottle (21 oz.) ISO 68 Multi-Viscosity 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 material codes for individual items (STG generally may be used as alternate).  
 See Tech Bulletins 002, 003, 024, 036, 043, 053, 064, 074, 077 and 083 for additional information.  
 MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BB=Brass BBNP=Brass/Nickel Plated CC=Ceramic CM=Chrome-moly  
 CU=Copper EPDM=Ethylene Propylene Diene Monomer F=Cast Iron FBB=Forged Brass FBR=Fiber FCM=Forged Chrome-moly NBR=Medium Nitrile (Buna-N)  
 PTFE=Pure Polytetrafluoroethylene PVDF=Polyvinylidene Fluoride S=304SS STG=Special Blend PTFE White STL=Steel  
 STCP=Steel/Chrome Plated STZP=Steel/Zinc Plated TNM=Special High Strength



Models 7CP6110, 7CP6170



- |  |   |   |
|--|---|---|
| <p><b>1</b> Die cast aluminum <b>crankcase</b> provides high strength, lightweight and excellent tolerance control.</p> <p><b>2</b> <b>Dipstick</b> offers optional top access in addition to real bubble oil gauge for easy oil level check.</p> <p><b>3</b> Oversized crankshaft <b>bearings</b> provide extended bearing life and pump performance.</p> <p><b>4</b> Chrome-moly <b>crankshaft</b> provides unmatched strength and surface hardness for long life.</p> <p><b>5</b> Matched oversized high strength <b>connecting rods</b> are noted for superior strength and bearing quality.</p> | <p><b>6</b> The <b>plunger rods</b> with hardened surfaces offer wear resistance and Zamak crossheads for high load capacity.</p> <p><b>7</b> The stainless steel <b>slinger</b> provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.</p> <p><b>8</b> Special concentric, high-density, polished, solid ceramic <b>plungers</b> provide a true wear surface and extended seal life.</p> <p><b>9</b> <b>Manifolds</b> are a high tensile strength forged brass for long term, continuous duty.</p> | <p><b>10</b> 100% wet <b>seal</b> design adds to service life by allowing pumped liquids to cool and lubricate on both sides.</p> <p><b>11</b> Stainless steel <b>valves, seats and springs</b> provide corrosion-resistance, ultimate seating and extended life.</p> <p><b>12</b> Specially formulated, CAT PUMP exclusive, <b>V-Packings</b> offer unmatched performance and seal life.</p> <p><b>13</b> Press-in style <b>seal case</b> offers alignment and support for seals and "no tools" servicing.</p> |
|--|---|---|

Products described hereon are covered by one or more of the following U.S. patents 3558244, 3652188, 3809508, 3920356, 3930756 and 5035580

**World Headquarters**  
**CAT PUMPS**  
 1681 - 94th Lane N.E. Minneapolis, MN 55449-4324  
 Phone (763) 780-5440 — FAX (763) 780-2958  
 e-mail: techsupport@catpumps.com  
 www.catpumps.com

**International Inquiries**  
 FAX (763) 785-4329  
 e-mail: intlsales@catpumps.com



**CAT PUMPS (U.K.) LTD.**  
 1 Fleet Business Park, Sandy Lane, Church Crookham  
 FLEET, Hampshire, GU52 8BF, England  
 Phone Fleet 44 1252-622031 — Fax 44 1252-626655  
 e-mail: sales@catpumps.co.uk

**N.V. CAT PUMPS INTERNATIONAL S.A.**  
 Heiveldekens 6A, B-2550 Kontich, Belgium  
 Phone 32-3-450.71.50 — Fax 32-3-450.71.51  
 e-mail: cpi@catpumps.be www.catpumps.be

**CAT PUMPS DEUTSCHLAND GmbH**  
 Buchwiese 2, D-65510 Idstein, Germany  
 Phone 49 6126-9303 0 — Fax 49 6126-9303 33  
 e-mail: catpumps@t-online.de www.catpumps.de