

Optional Oilers Shown

## 60 Frame Piston Pump

### Models

# 6020 6040

### FEATURES

#### Superior Design

- Triplex Uniflow design provides continuous forward liquid flow for smooth operation.
- Wetted cups and floating pistons are lubricated and cooled by pumped liquid for long cup life.
- Mechanically actuated inlet valves give strong lift and easy prime.
- 304 stainless steel discharge valves for wear resistance.
- Oil bath crankcase assures optimum lubrication.
- 100% wetted seal design allows pumped liquid to cool and lubricate for longer life.

#### Quality Materials

- Cylinder and sleeve wear surfaces are hard chrome plated 304 stainless steel for maximum durability and abrasion resistance.
- Chrome plated, brass manifolds and optional stainless steel manifolds are strong and corrosion resistant.
- Chrome-moly crankshaft gives unmatched strength and surface hardness.
- Oversized crankshaft bearings with greater loading capacity mean longer bearing life.
- Die cast aluminum crankcase provides high strength, minimum weight and precision tolerance control.

#### Easy Maintenance

- Stepped stainless steel piston rod with chrome-plated, stainless steel sleeve allows easy replacement from front of pump.
- All wet-end wear parts are easily serviced without entering crankcase, requiring less time and effort.
- Wear parts are available in convenient kits.
- Routine lubrication checks are the only maintenance required on this precision built pump.

#### **⚠ 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 6020

Flow .....60 GPM (227 L/M)  
 Pressure Range .....100 to 1000 PSI (7 to 70 BAR)  
 Bore .....2.205" (56 mm)

#### MODEL 6040

Flow .....40 GPM (151 L/M)  
 Pressure Range .....100 to 1500 PSI (7 to 105 BAR)  
 Bore .....1.811" (46 mm)

#### COMMON SPECIFICATIONS

RPM .....500 RPM (500 RPM)  
 Stroke .....2.461" (62.5 mm)  
 Crankcase Capacity .....10 Qts. (9.46 L)  
 Maximum Liquid Temperature .....160°F (71°C)  
 Inlet Pressure Range .....-8.5 to +40 PSI (-0.6 to +2.8 BAR)  
 Inlet Port (1) .....2" NPTF (2" NPTF)  
 Discharge Ports (3) .....1-1/4" NPTF (1-1/4" NPTF)  
 Pulley Mounting .....Either Side (Either Side)  
 Shaft Diameter .....1.772" (45 mm)  
 Weight .....235 lbs. (107 kg)  
 Dimensions .....31.4x24.0x12.05" (796.5x610x306 mm)

### HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE				RPM	DRIVE
	U.S. GPM	L/M	PSI 800	PSI 1000	PSI 1200	PSI 1500		
6020	60	227	32.9	41.1	N/A	N/A	500	Consult CAT PUMPS for Pump & Motor Pulley sizes
	50	189	27.4	34.3	N/A	N/A	417	
	40	151	22.0	27.4	N/A	N/A	333	
6040	40	151	22.0	27.4	32.9	41.1	500	Consult CAT PUMPS for Pump & Motor Pulley sizes
	36	136	19.8	24.7	29.7	37.0	478	
	30	114	16.5	20.6	24.7	30.9	375	

**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**

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

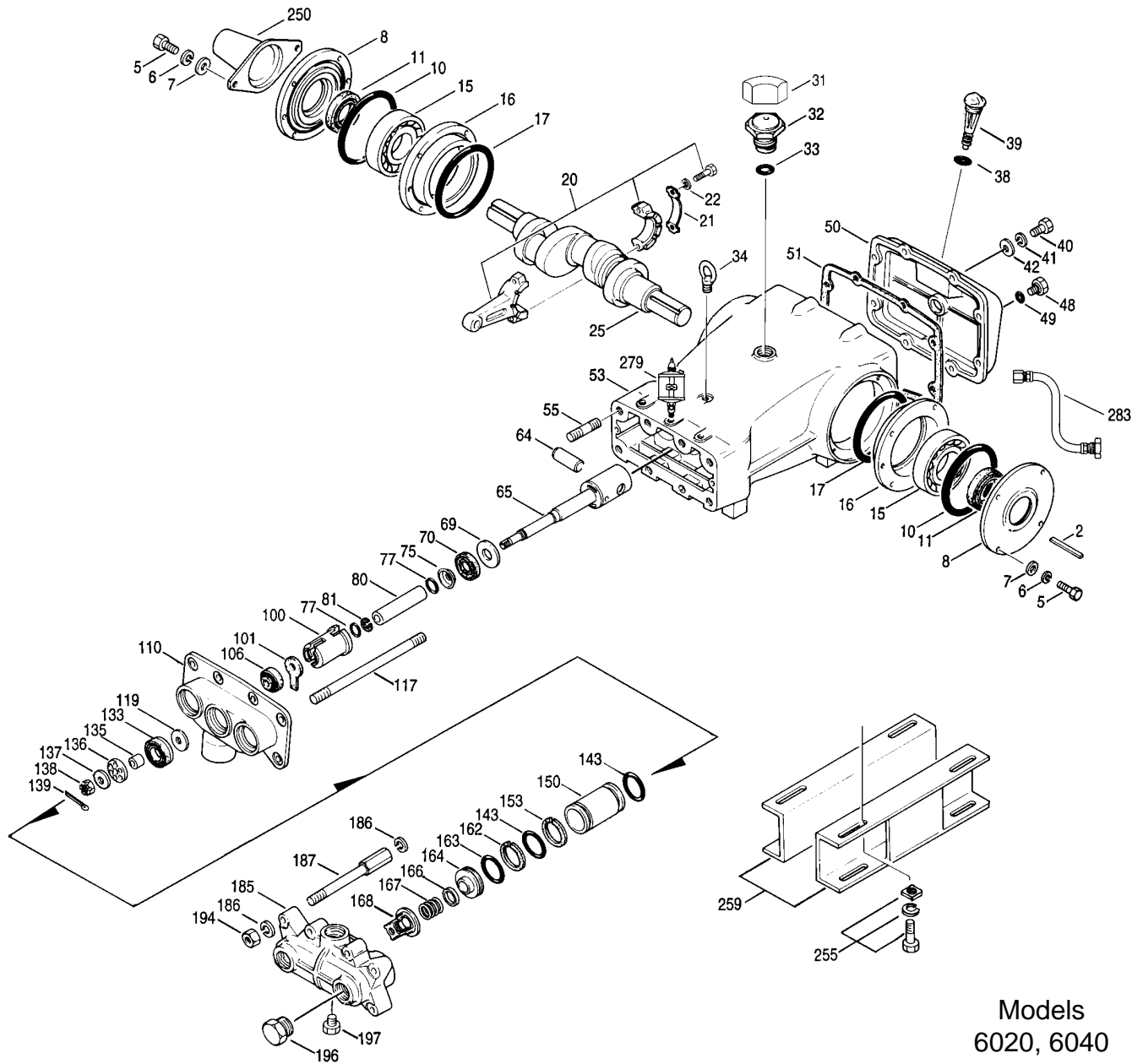
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.  
 Refer to pump Service Manual for repair procedure and additional technical information.

*"Customer confidence is our greatest asset"*

# PARTS LIST

ITEM	PART NUMBER		DESCRIPTION	QTY
	6020 MATL	6040 MATL		
● 2	43048	43048	Key (M14x9x90)	1 ●
5	80296	80296	Screw, HH (M10x40)	8
6	12503	12503	Lockwasher, Split (M10)	8
7	12490	12490	Washer, Flat (M10)	8
8	29443	29443	Case, Bearing, Outer	2
10	29444	29444	O-Ring, Bearing Case	2
11	11443	11443	Oil Seal, Crankshaft - 70D	2
15	29441	29441	Bearing, Roller	2
16	29442	29442	Case, Bearing, Inner	2
17	29444	29444	O-Ring, Bearing Case	2
20	115983	115983	Rod, Connecting Assy (Incls: 21, 22)	3
21	44941	44941	Washer, Locking	3
22	43641	43641	Washer, Shim	6
25	29440	29440	Crankshaft	1
31	828710	828710	Protector, Oil Cap	1
32	43211	43211	Cap, Oil Filler	1
33	14177	14177	O-Ring, Cap - 70D	1
34	44319	44319	Bolt, Eye (M12)	1
38	11338	11338	O-Ring, Dipstick - 70D	1
39	27769	27769	Dipstick	1
40	80288	80288	Screw, HH (M10x30)	8
41	12503	12503	Lockwasher, Split (M10)	8
42	12490	12490	Washer, Flat (M10)	8
48	25625	25625	Plug, Drain (1/4x19BSP)	1
49	23170	23170	O-Ring, Drain Plug - 70D	1
50	29438	29438	Cover, Crankcase	1
51	29439	29439	Gasket, Crankcase Cover	1
● 53	43284	43284	Crankcase [01/00]	1 ●
55	85449	85449	Stud (M16x72)	4
64	29481	29481	Pin, Crosshead	3
65	43809	43809	Rod, Piston	3
69	29453	29453	Washer, Oil Seal	3
70	29454	29454	Oil Seal, Crankcase - 80D	3
75	29340	29340	Slinger, Barrier	3
77	13967	13967	O-Ring, Sleeve	6
	14308	14308	O-Ring, Sleeve	6
80	43129	43129	Sleeve (M25)	3
	43271	43271	Sleeve (M25)	3
81	29455	29455	Back-up-Ring, Sleeve	3
100	29456	29456	Retainer, Seal LPS	3
101	43136	43136	Wick, Oil (M25)	3
106	43130	43130	LPS, Seal (M25)	3
	43132	43132	LPS, Seal (M25)	3
110	43283	43283	Manifold, Inlet	1
● 117	29805	29805	Manifold, Inlet	1 ●
119	88902	88902	Stud (M16x277)	4
133	29460	43200	Valve, Inlet	3
	29461	43201	Cup-Piston Assy w/S-Piston	3
	30609	30837	Cup-Piston Assy w/FPM O-Ring (1000 PSI Max)	3
	30646	—	Cup-Piston Assy w/FPM O-Ring (1000 PSI Max)	3
135	29463	29463	Spacer, Piston	3
136	29464	43203	Retainer, Piston	3
137	44272	44272	Washer, Conical (M14)	3
138	29465	29465	Nut, Slotted (M14)	3
139	29354	29354	Cotterpin (M2.5x25)	3
143	12392	12392	O-Ring, Cylinder - 70D	6
	13279	13279	O-Ring, Cylinder - 70D	6
150	29466	43204	Cylinder	3
	43279	43392	Cylinder	3
153	23116	23116	Back-up-Ring, Cylinder	3
162	43206	43206	Back-up-Ring, Seat	3
163	29471	29471	O-Ring, Seat	3
	29479	29479	O-Ring, Seat	3
164	43205	43205	Seat	3
166	29468	29468	Valve	3
167	29469	29469	Spring	3
168	43143	43143	Retainer, Spring	3
185	29472	29472	Manifold, Discharge	1
● 186	29806	29806	Manifold, Discharge	1 ●
187	12504	12504	Lockwasher (M16)	12
187	29473	29473	Bolt (M16x225)	4
194	88853	88853	Nut, Hex (M16)	8
196	29476	29476	Plug (1-1/4" NPT)	1
197	22187	22187	Plug (3/8" NPT)	1

# EXPLODED VIEW



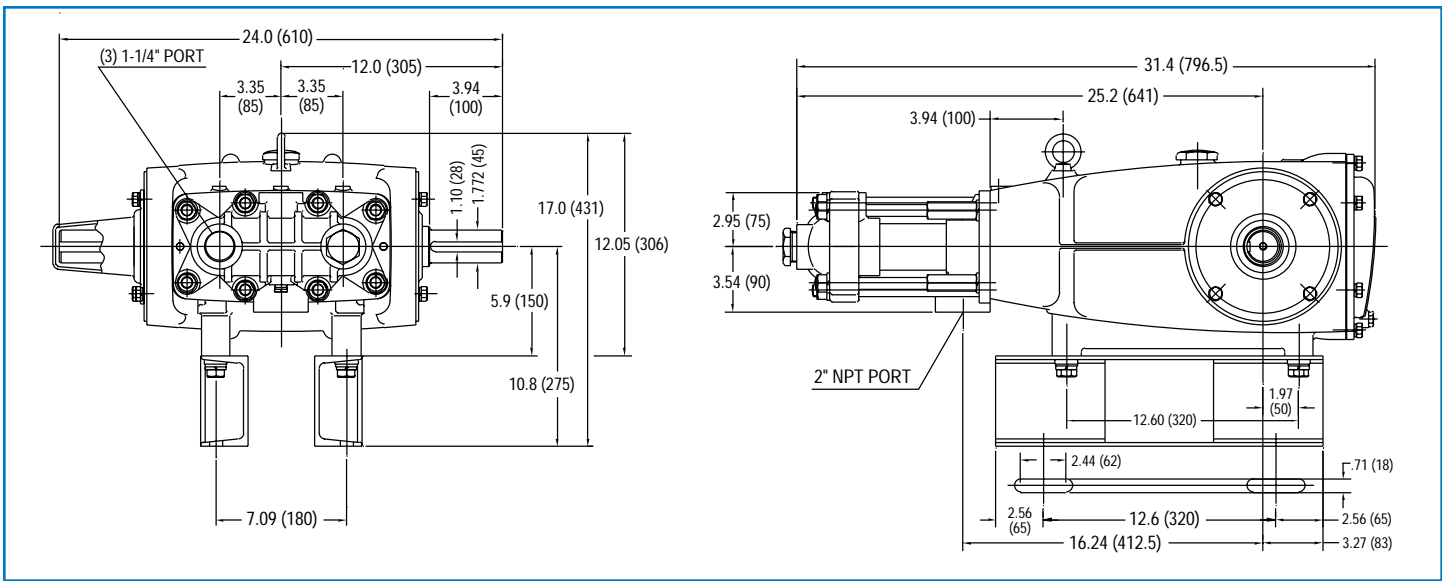
Models  
6020, 6040  
March 2002

	<b>6020</b>	<b>MATL</b>	<b>6040</b>	<b>MATL</b>		
●	250	29445 AL	29445 AL		Protector, Shaft (Included with Pump)	1 ●
●	255	33243 STZP	33243 STZP		Direct Mount (Included with Pump)	1 ●
●	259	29477 STZP	29477 STZP		Rail, Mounting (Included 2 with Pump)	2 ●
●	275	—	—		Hub & Key Assy [See complete Drive Packages, Tech Bulletin 003]	1 ●
●	279	30429 STZP	30429 STZP		Oilers (10 oz.)	3 ●
●	281	30969	30969		Oilers, Glass (10 oz.)	3 ●
●	282	10070 NBR	10070 NBR		Gasket, Oiler (10 oz.)	3 ●
●	283	34334	34334		Kit, Oil Drain	1 ●
●	300	<b>30440 NBR</b>	<b>30433 NBR</b>		Kit, Cup (Incls: 133, 139, 143)	1
●	302	<b>30439 NBR</b>	—		Kit, Piston (Incls: 119, 133, 135, 136, 137, 138, 139, 143)	1
●	305	30485 NBR	30485 NBR		Kit, Sleeve & Seal (Incls: 75, 77, 80, 81, 101, 106, 139)	1
●	306	30484 NBR	30484 NBR		Kit, Seal (Incls: 101, 106, 139)	1
●	310	30441 NBR	30441 NBR		Kit, Valve (Incls: 143, 162, 163, 164, 166, 167, 168)	1
●	—	<b>717500 SS</b>	<b>714500 SS</b>		C.A.T. (Captive Acceleration Tube)	1 ●
●	—	<b>717508 SS</b>	<b>714508 SS</b>		Adapter (2 per C.A.T.) (See Data Sheet for complete selection)	2 ●
●	—	6100	6100		Oil, Case (12-21 oz. Bottles) ISO 68 Multi-Viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1

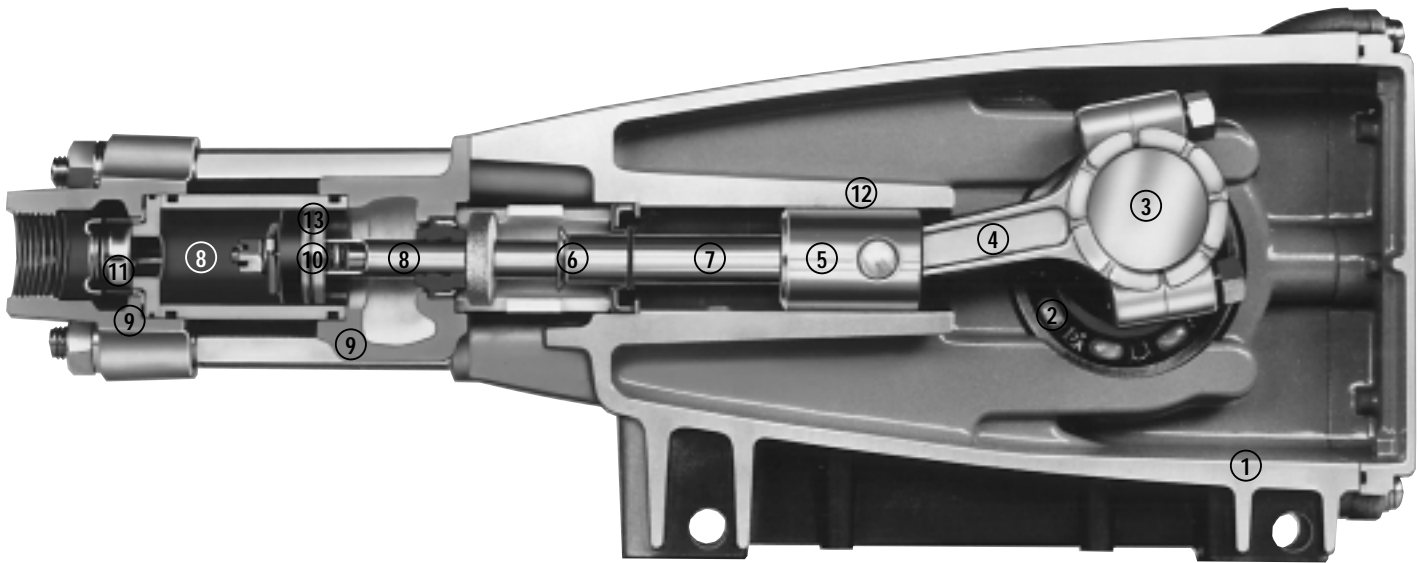
● Industrial discount. **Bold print part numbers are unique to a particular pump model.** *Italics are optional items.* [ ] Date of latest production change.

See Tech Bulletins 002, 003, 024, 036, 064, 074, 077, 083 and 084 for additional information. **C. A.T. highly recommended for pressurized inlet and Industrial applications.**

MATERIAL CODES (Not Part of Part Number): ABS=ABS Plastic AL=Aluminum BCCP=Brass/Chrome Plated CM=Chrome-Moly FCM=Forged Chrome-moly  
FPM=Fluorocarbon HS=High Strength NBR=Medium Nitrile (Buna-N) PTFE=Pure Polytetrafluoroethylene S=304SS SCP=304SS/Chrome Plated SS=316SS  
SSZZ=316SS/Zamak STCP=Steel/Chrome Plated STL=Steel STZP=Steel/Zinc Plated TG=PTFE/Graphite Compound (GIT) TR=PTFE-RLN



Models 6020, 6040



- 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 high strength **connecting rods** are noted for superior strength and bearing quality.
- 5 The **piston rods** are high tensile strength 316 stainless steel with Zamak crossheads.
- 6 The stainless steel barrier **slinger** provides back-up protection for the crankcase seal, keeping pumped liquids out of the crankcase.
- 7 The **patented stepped piston rod** with hard chrome-plated stainless steel **sleeve** provides a durable wear surface and easy wet-end servicing.
- 8 The **cylinder and sleeve** wear surfaces are hard chrome-plated 304 stainless steel for longer service life.
- 9 **Manifolds** are of high tensile strength chrome-plated brass or 316 stainless steel for special corrosion resistance.
- 10 100% wet **cup/seal** design adds to service life by allowing pumped liquids to cool and lubricate the elastomers on both sides.
- 11 304 stainless steel **valves, seats, and springs** provide corrosion-resistance, positive seating and long life.
- 12 **Crossheads** are 360° supported for uncompromising alignment.
- 13 Mechanically actuated **inlet valves** provide strong lift and easy prime.

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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