

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**

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

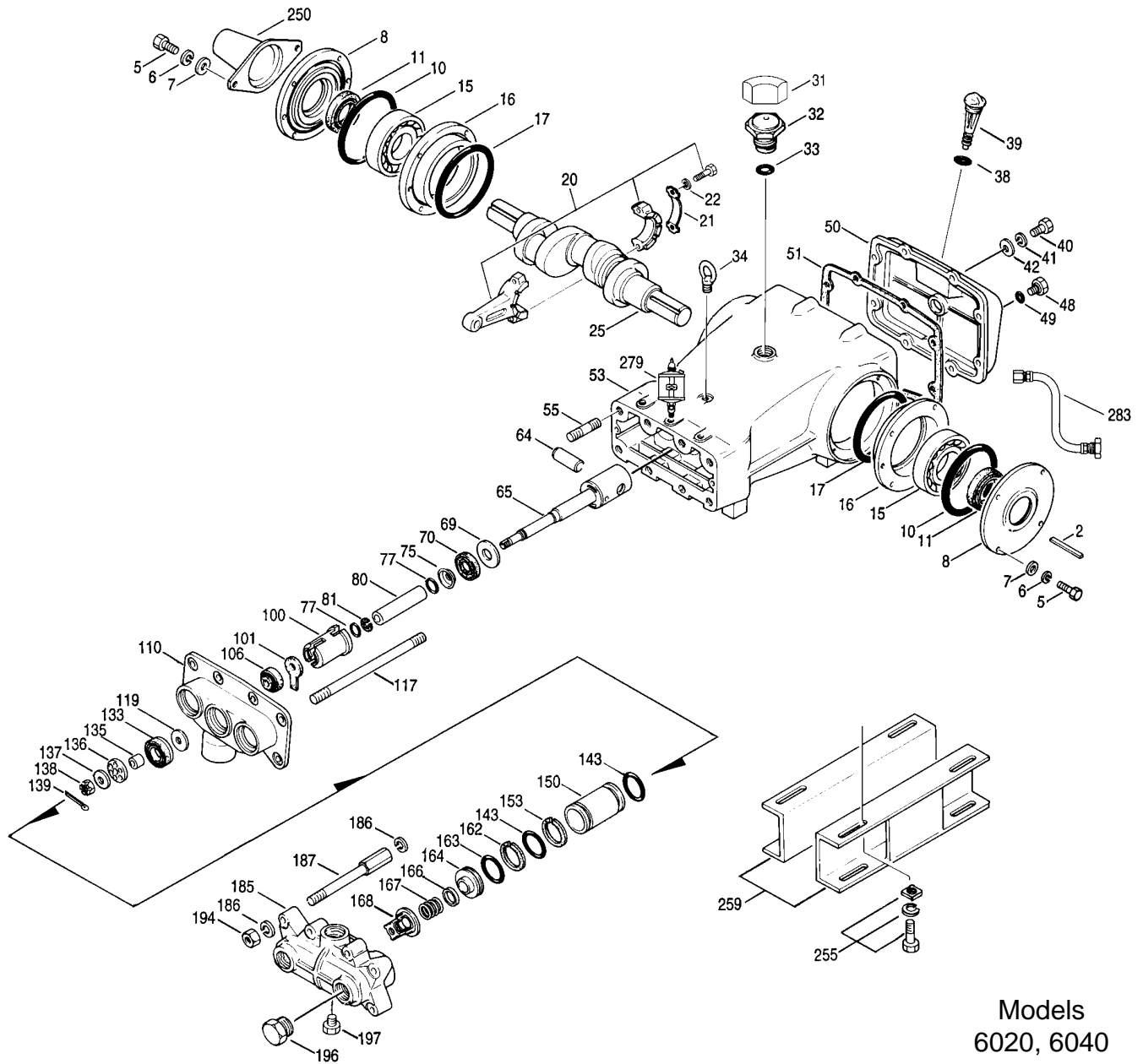
See complete Drive Packages [Incls: Pulleys, Belts, Hubs, Key] Tech Bulletin 003.  
 Refer to pump Service Manual for repair procedure and additional technical information.

*"Customer confidence is our greatest asset"*

# PARTS LIST

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

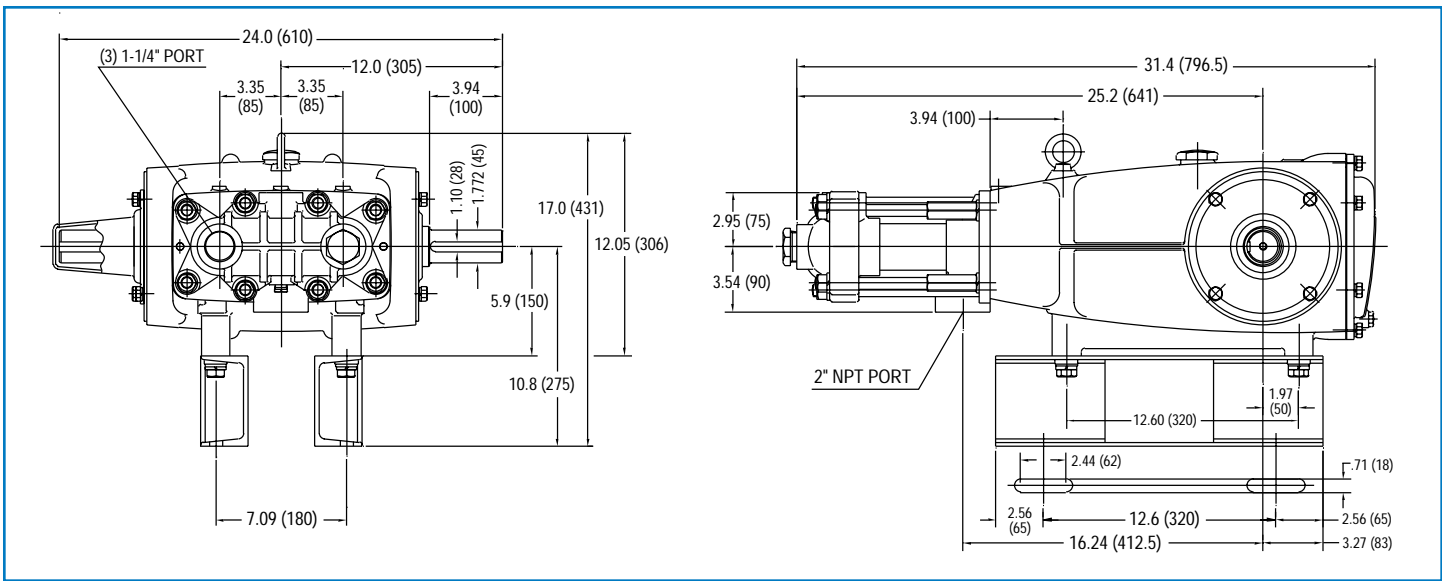
# EXPLODED VIEW



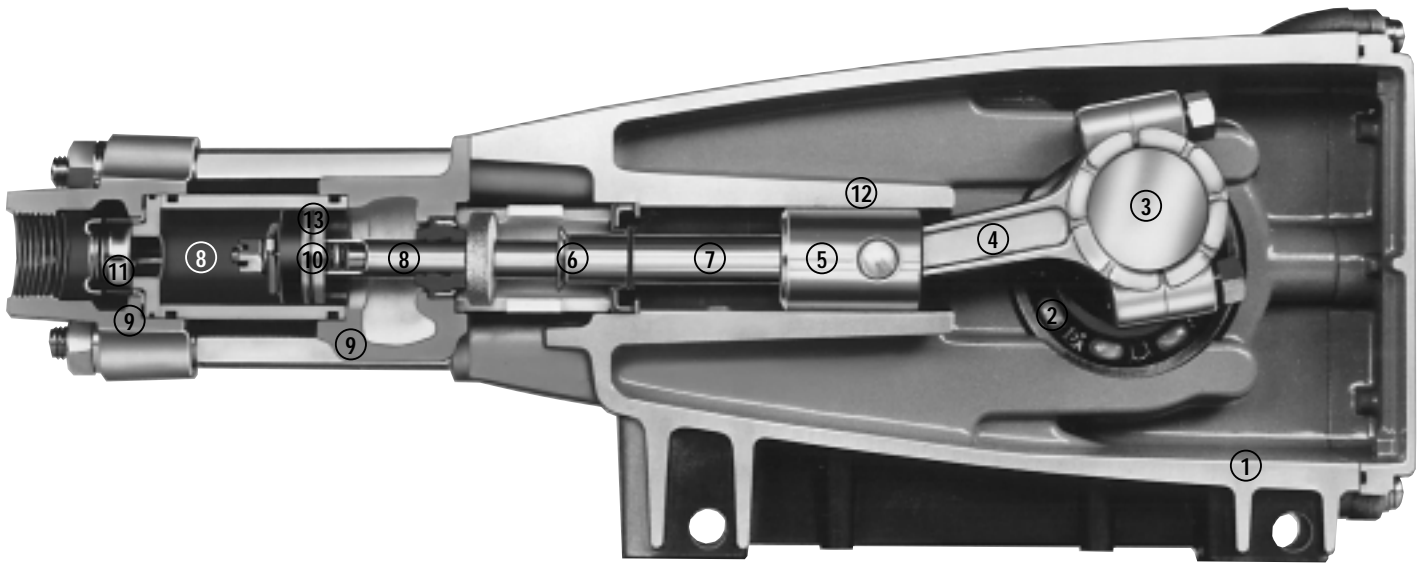
Models  
6020, 6040  
March 2002

	<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 (Viton®) HS=High Strength NBR=Medium Nitrile (Buna-N) PTFE=Pure Teflon® 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=Roulon



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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