

150 Frame R-Series Duplex Stainless Steel Reciprocating Process Pump

Model **157R060**

FEATURES

Superior Design

- Triplex plunger design provides smooth low-pulsation liquid flow.
- Interchangeable inlet and discharge valve assemblies accessible without removing the head for easy servicing.
- Standard oil bath crankcase lubrication eliminates external lubrication.
- Packing design offers strength under pressure and requires no packing adjustment.

Quality Materials

- Duplex stainless steel seats, springs and valves offer corrosion resistance and extended life.
- Duplex stainless steel manifold head offers strength and corrosion resistance.
- Special concentric, high density, solid ceramic plungers provide a true wear surface and extended seal life.
- Special PTFE blend V-Packings offer unmatched seal life.
- Spheroid graphite cast iron crankcase provides strength, vibration dampening and flame and spark resistance.
- Chrome-moly, nitrated crankshaft offers high-strength and greater surface hardness.
- High strength connecting rods provide exceptional bearing quality and long life.

Easy Maintenance

- Ceramic plungers, seals and V-Packings are serviceable from the top of the crankcase permitting easy in-field servicing.
- V-Packings require no adjustment reducing maintenance time.

SPECIFICATIONS

U.S. Measure

Metric Measure

STANDARD

Flow.....	100 GPM	(378 l/m)
System Pressure*.....	2700 PSI	(185 bar)
Maximum RPM.....	310 RPM	(310 min ⁻¹)

API

Flow.....	.86 GPM	(326 l/m)
Barrels Per Day (U.S., Petroleum).....	2948 B/D	(2864 b/d)
System Pressure*.....	2700 PSI	(185 bar)
Maximum RPM.....	270 RPM	(270 min ⁻¹)

* Relief pressure should be set at maximum 10% over system pressure.

COMMON SPECIFICATIONS

Inlet Pressure Range.....	Flooded to 50 PSI	(Flooded to 3.5 bar)
Minimum RPM.....	75 RPM	(75 min ⁻¹)
Bore.....	2.36"	(60 mm)
Stroke.....	5.91"	(150 mm)
Crankcase Capacity.....	22.4 Gals	(85 l)
Lubrication.....	Splash	(splash)
Maximum Temperature.....	120°F	(50°C)
Inlet Ports (2) (Flange Required).....	6.0"	(150 mm)
Discharge Ports (2) (Flange Required).....	4.0"	(100 mm)
Shaft Diameter.....	3.397"	(100 mm)
Shaft Length.....	8.150"	(207 mm)
Weight.....	3087 Lbs	(1400 kg)
Dimensions.....	68.9 x 42.1 x 22"	(1750 x 1069 x 560 mm)

ELECTRIC HORSEPOWER REQUIREMENTS

MODEL	FLOW		PRESSURE					RPM
			PSI 1000	PSI 1500	PSI 2000	PSI 2500	PSI 2700	
	U.S. GPM	l/m	bar 70	bar 105	bar 140	bar 175	bar 185	
157R060	100	378	69	103	137	172	185	310
	90	340	62	93	124	155	166	279
157R060 API	86	326	59	89	118	148	159	270

⚠ WARNING

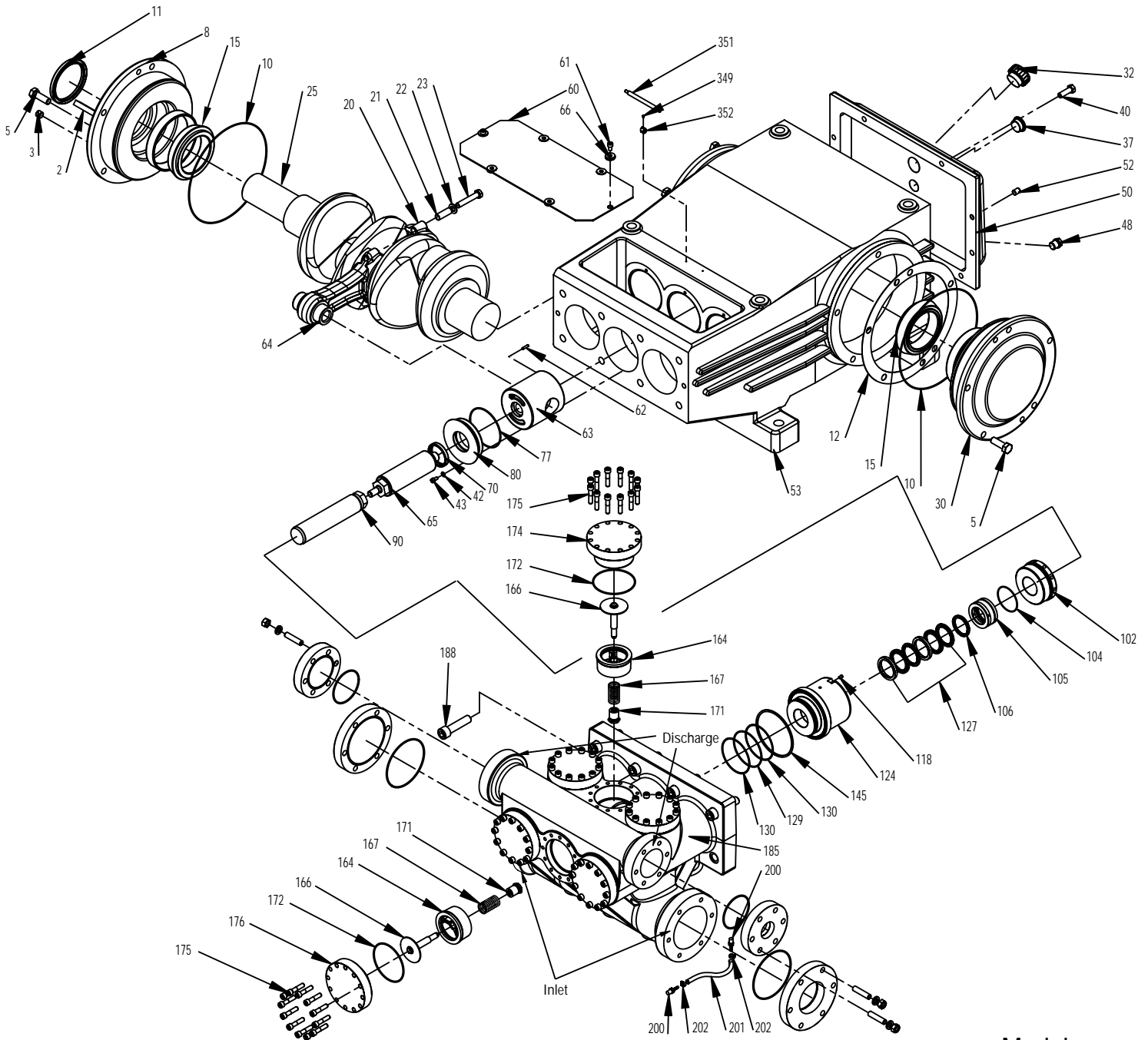
All systems require both a primary pressure regulating device (i.e., regulator, unloader) and a secondary pressure safety relief device (i.e., pop-off valve, safety valve). Failure to install such relief devices could result in personal injury or damage to the pump or to system components. CAT PUMPS does not assume any liability or responsibility for the operation of a customer's high pressure system.

“Customer confidence is our greatest asset”

PARTS LIST

ITEM	PART NUMBER	DESCRIPTION	QTY
2	890602	STL Key (M28x16x170)	1
3	891238	STL Screw, Grub (M20x20)	4
4	891275	SS Plate, Serial No. (Not Shown)	1
5	891228	STL Screw, HH (M20x60)	10
8	891235	F Cover, Bearing	1
10	890215	FPM O-Ring, Bearing Cover - 70D	2
11	890270	NBR Seal, Oil	1
12	890230	POP Shim Set	1
15	891240	STL Bearing, Roller	2
20	891220	HS Rod, Connecting Assy (Incls: 21, 22, 23)	3
21	—	STL Sleeve, Alignment	6
22	—	STL Washer, Flat (M16)	6
23	—	STL Screw, Lock (M16x90)	6
25	891210	CM Crankshaft, Single End	1
30	891230	F Cover, Bearing, Blind	1
32	891234	NY Cap, Filler w/Gasket	1
35	891226	SS Rivet, (M2.9x6.5) (Not Shown)	6
36	891202	SS Nameplate (Not Shown)	1
37	891233	— Gauge, Oil Bubble w/Gasket	1
40	890295	STL Screw, HH (M16x50)	10
42	891237	SS Washer, Flat (M8)	6
43	891225	SS Screw, HSH (M8x15)	6
45	891243	SS Screw, Grub (M10x20) (Not Shown)	4
48	891232	AL Plug, HH Drain	1
50	891250	F Cover, Rear	1
52	891244	STL Screw, Grub (M16)	2
53	891272	F Crankcase	1
55	891203	SS Pin, Guide (M16x50) (Not Shown)	2
60	891201	— Cover, Rod Box	1
61	891224	SS Screw, HSH (M10x15)	2
62	891282	STL Pin, Roll (M6x25)	3
63	891280	F Crosshead	3
64	891281	STL Pin, Crosshead	3
65	891261	SS Rod, Plunger	3
66	891236	RBR Grommet, Cover	6
70	890275	PTFE Seal, Oil - 70D	3
77	890216	FPM O-Ring, Carrier	3
80	891255	SS Carrier, Oil Seal	3
90	890401	CC Plunger (M60.3x262)	3
102	890372	NAB Adjuster, Packing	3
104	890203	NBR O-Ring, Spacer - 70D	3
105	890580	SSD Spacer, V-Packing	3
106	890565	NBR Seal, LPS	3
118	890389	SSD Plug, 1/16"NPT	3
124	890352	SSD Housing, Seal	3
127	890520	SFTK V-Packing, Set	3
129	890202	NBR O-Ring, Housing - 70D	3
130	890591	PTFE Back-up-Ring, Housing	6
145	890589	D Ring, Sealing	3
164	890259	SS Seat, QV	6
166	890250	SSSS Valve, QV	6
167	890319	SS Spring	6
171	890300	SS Nut, QV	6
172	890225	NBR O-Ring, Plug - 90D	6
174	890292	SSD Plug, Valve, Inlet	3
175	890222	STTC Screw, HSH (M12x55)	72
176	891294	SSD Plug, Valve, Discharge	3
185	892009	SSD Head, Manifold	1
188	891273	STTC Screw, HSH (M24x100)	8
200	892016	POP Barb, 1/4" NPT x 1/4" Barb	6
201	892018	RBR Hose, 9"x1/4" LOP	3
202	892019	SS Clamp, 1/4" Hose	6
290	890999	— Loctite® 641, 10ML (Not Shown)	1
	890997	— Loctite® 243, 10ML (Not Shown)	1
299	891151	SSD Assembly, Head (Incls: 164,166,167,171,172,174-176,185,188,200-202)	1
300	890036	NBR* Kit, Seal (Incls: 70,77,104,106,127)	1
310	890018	NBR Kit, Valve w/o Seat (Incls: 166,167,171,172,290)	2
	890019	NBR Kit, Valve (Incls: 164,166,167,171,172,290)	2
349	891231	SS Screw, HSH (M3x5)	2
351	890990	SS Tool, Packing Adjuster	1
352	890998	STZP Clip, Tool	2
—	891122	SSD Assy, Plunger, Conversion (Incls: 90,102,104,105,106,118,124,127,129,130,145)	1
—	719500	SS C.A.T. (Inlet pressure stabilizer for RO and boosted inlet applications)	1
—	890700	SS Valve, Relief 2"	1
—	701550	SS Dampener, Pulsation (NBR Bladder)	1

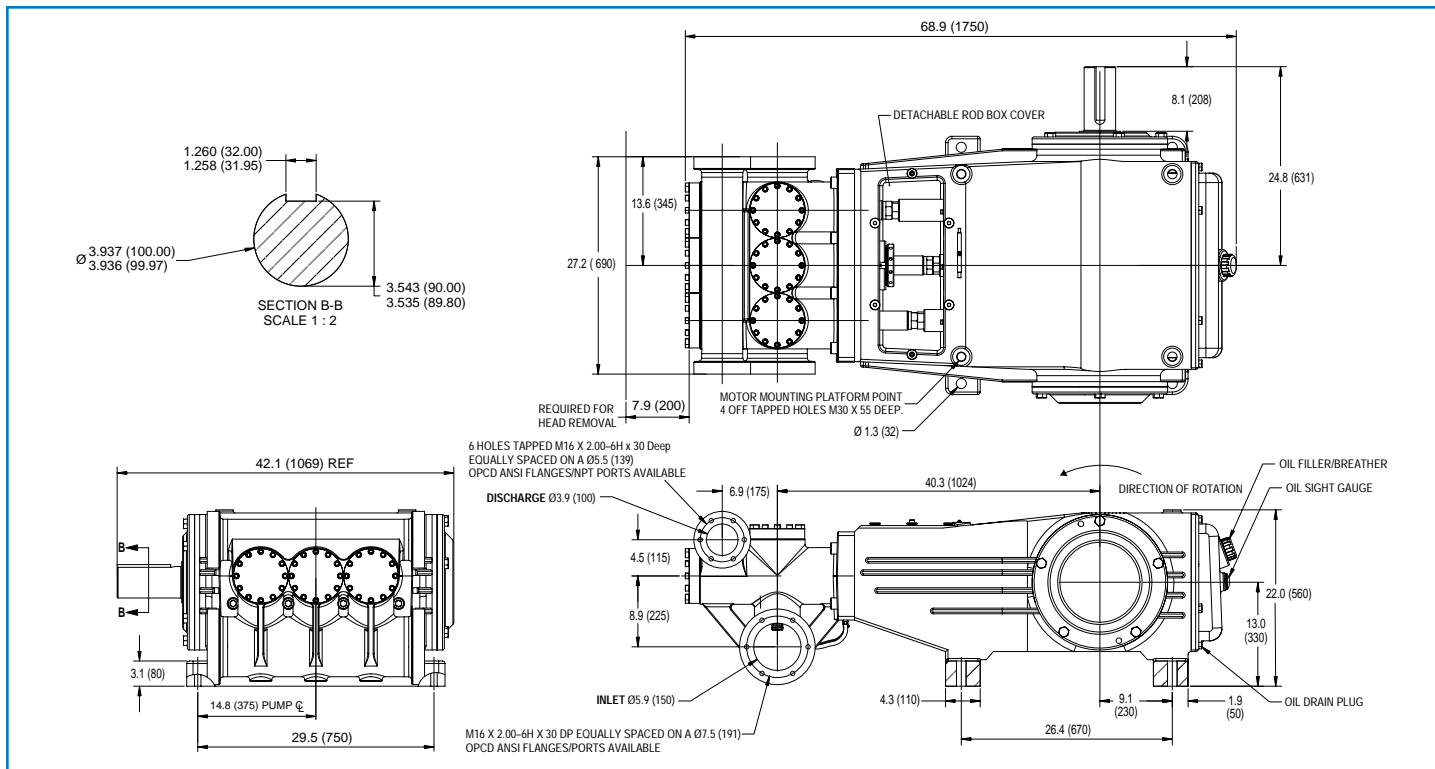
EXPLODED VIEW



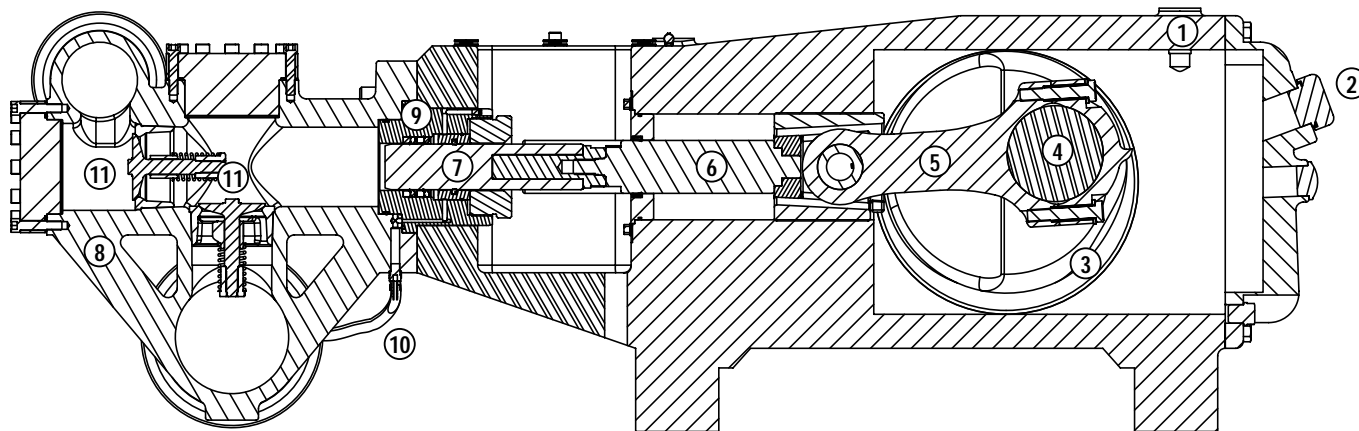
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ITEM	PART NUMBER	DESCRIPTION	QTY
—	892092 SS	Flange, Blank, Inlet (Specify Flange Type When Ordering)	1
—	892093 SS	Flange, Blank, Discharge ((Specify Flange Type When Ordering)	1
—	892096 SS	Flange, Discharge 2" NPT ((Specify Flange Type When Ordering)	1
—	998605 —	Flushing Assembly, 5 GPH, 10 PSI	1
—	6119 —	Lubricant, Antiseize (1oz.)	1
—	6116 —	Oil, Drum (16 gal.) ISO 100 Multiviscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1-2

Italics are optional items. Loctite is a registered trademark of Henkel Corporation. *Review material codes for individual items (SFTK generally may be used as alternate).
MATERIAL CODES (Not Part of Part Number): AL=Aluminum CC=Ceramic CM=Chrome-Moly D=Acetal F=Cast Iron FPM=Fluorocarbon HS=High Strength
NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NY=Nylon POP=Polypropylene PTFE=Pure Polytetrafluoroethylene RBR=Rubber
SFTK=Polytetrafluoroethylene/Aramid Fiber Blend SS=316SS SSSS=404SS SSD=Duplex Stainless STL=Steel STTC=Steel PTFE Coated STZP=Steel/Zinc Plated



Model 157R060



- 1 Spheroid graphite cast iron **crankcase** provides strength, vibration dampening and flame and spark resistance.
- 2 Convenient top rear access for **oil filler cap** permits easy access to oil level check.
- 3 Heavy-duty tapered roller crankshaft **bearings** for long life and secure alignment.
- 4 Chrome-moly, nitrided **crankshaft** provides unmatched strength and surface hardness for long life.
- 5 Matched oversized, **connecting rods** noted for superior tensile strength and bearing quality.
- 6 Special 316SS **plunger rods** with high-strength crossheads for longevity and corrosion resistance.
- 7 Special concentric, hardened, polished solid ceramic **plungers** offer resistance to corrosion and a true sealing surface for extended seal life. Plungers are conveniently serviceable from the top of the pump.
- 8 **Manifolds** are a high-strength, corrosion resistant Duplex stainless steel alloy for compatibility and long life.
- 9 High integrity **V-Packings** of PTFE/Aramid Fiber Blend require no-adjustment and provide long life with harsh liquids.
- 10 High pressure V-Packing bleed (weep) **hose** captures leaks as V-Packings begin to wear preventing external leaks.
- 11 316 stainless steel **seats, valves and springs** for corrosion resistance and extended life.

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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