

DATA SHEET

150 FRAME R-SERIES PLUNGER PUMP

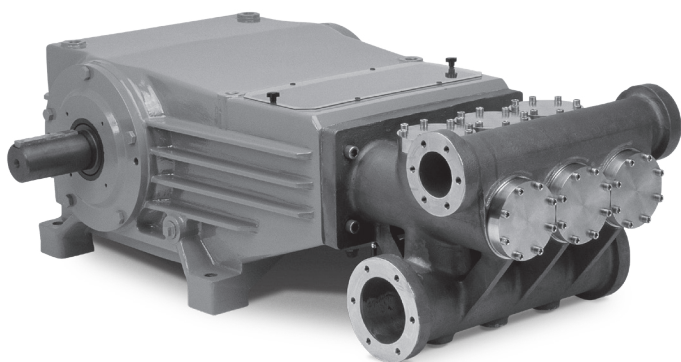


Duplex Stainless Steel Models:

152R061, 152R081

Flushed Models:

152R061C, 152R081C



FEATURES

- Triplex design delivers high efficiency and low pulsation.
- Durable dual V-Packings are lubricated and cooled by pumped liquid.
- Pre-Set Lo-Pressure Seals provide secondary protection against external leaks and require no packing adjustment.
- Special high density, polished, concentric plungers provide a true wear surface and extended seal life.
- Specially formulated Seals and V-Packings offer unmatched performance and extended seal life.
- Ceramic plungers, Seals and V-Packings are serviceable from the top of the crankcase permitting easy in-field servicing.

COMMON

SPECIFICATIONS

	U.S.	Metric
Inlet Pressure Range	Flooded to 50 psi	Flooded to 3.5 bar
Max. Liquid Temperature	160° F	71° C
Stroke	5.91"	150 mm
Crankcase Capacity	22.4 gal	85 l
Lubrication	Splash	Splash
Inlet Ports (2) (Flange Required)	6.0"	150 mm
Discharge Ports (2) (Flange Required)	4.0"	100 mm
Shaft Diameter	3.937"	100 mm
Weight	3087 lbs.	1400 kg
Dimensions	68.11 x 42.13 x 22.05"	1730 x 1070 x 560 mm

SPECIFICATIONS

U.S. Measure

Metric Measure

152R061/152R061C

Flow	115 gpm	435 lpm
Pressure Range*	100 to 2000 psi	6.9 to 138 bar
Pump RPM	360 rpm	360 rpm
Bore	2.375"	60.3 mm

152R081/152R081C

Flow	200 gpm	757 lpm
Pressure Range*	100 to 1560 psi	6.9 to 108 bar
Pump RPM**	355 rpm	355 rpm
Bore	3.15"	80 mm

152R061 API

Flow	86 gpm	326 lpm
Barrels per Day (U.S. Petrol)	2948 bbl/d	—
Pressure Range*	100 to 2000 psi	6.9 to 138 bar
Pump RPM**	270 rpm	270 rpm
Bore	2.375"	60.3 mm

152R081 API

Flow	152 gpm	576 lpm
Barrels per Day (U.S. Petrol)	5211 bbl/d	—
Pressure Range*	100 to 1560 psi	6.9 to 108 bar
Pump RPM**	270 rpm	270 rpm
Bore	3.15"	80 mm

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

**Pump minimum 75 RPM

ELECTRIC HORSEPOWER REQUIREMENTS

MODELS	FLOW		PRESSURE			RPM
			psi 1000	psi 1560	psi 2000	
	U.S. gpm	lpm	bar 69	bar 108	bar 138	
152R061/C	115	378	79	123	157	360
152R061 API	86	326	59	93	118	270
152R081/C	200	757	137	214	N/A	355
152R081 API	152	575	104	163	N/A	270

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.

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

DETERMINING MOTOR PULLEY SIZE

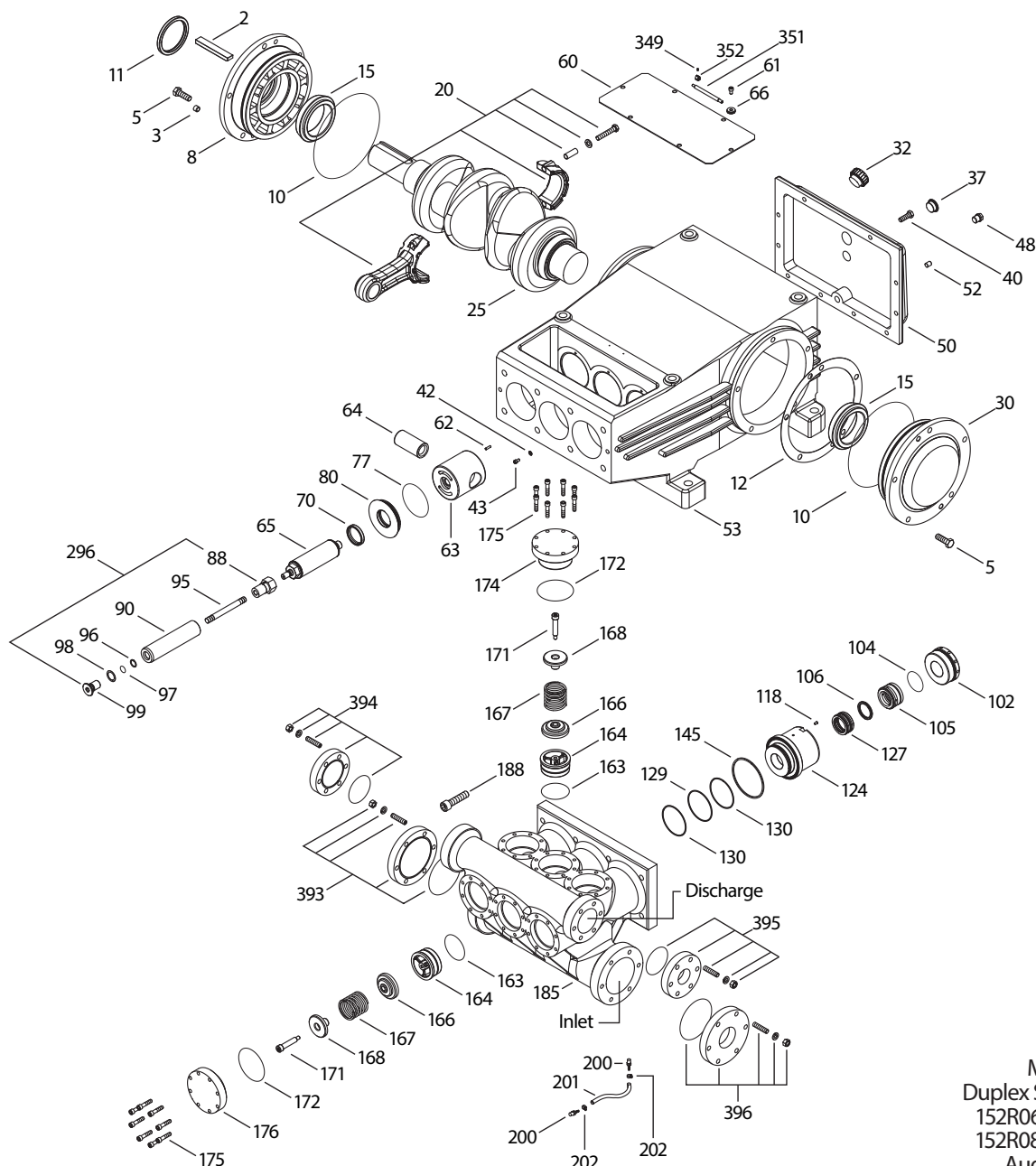
$$\frac{\text{Motor Pulley O.D.}}{\text{Pump rpm}} = \frac{\text{Pump Pulley O.D.}}{\text{Motor rpm}}$$

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

PARTS LIST

ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
	152R061/C		152R081/C			
2	890602	STL	890602	STL	Key (M28x16x170)	1
3	891238	STL	891238	STL	Screw, Grub (M20x20)	4
4	891275	SS	891275	SS	Plate, Serial No. (Not Shown)	1
5	891228	STL	891228	STL	Screw, HH (M20x60)	10
8	891235	F	891235	F	Cover, Bearing	1
10	890215	FPM	890215	FPM	O-Ring, Bearing Cover - 70D	2
11	890270	NBR	890270	NBR	Seal, Oil	1
12	890230	POP	890230	POP	Shim Set	1
15	891240	STL	891240	STL	Bearing, Roller	2
20	891360	MZ	891360	MZ	Rod, Connecting (Incls: 2-Sleeves, 2-Washers, 2-Screws) [03/09]	3
25	891361	CM	891361	CM	Crankshaft, Single End [03/09]	1
30	891230	F	891230	F	Cover, Bearing, Blind	1
32	891234	NY	891234	NY	Cap, Filler w/Gasket	1
35	891226	SS	891226	SS	Rivet (M2.9x6.5) (Not Shown)	6
36	891202	SS	891202	SS	Nameplate (Not Shown)	1
37	891233	—	891233	—	Gauge, Oil Bubble w/Gasket	1
40	890295	STL	890295	STL	Screw, HH (M16x50)	10
42	891237	SS	891237	SS	Washer, Flat (M8)	6
43	891225	SS	891225	SS	Screw, HSH (M8x15)	6
48	891232	AL	891232	AL	Plug, HH Drain	1
50	891250	F	891250	F	Cover, Rear	1
52	891244	STL	891244	STL	Screw, Grub (M16)	2
53	891200	F	891200	F	Crankcase	1
60	891201	PC	891201	PC	Cover, Rod Box	1
61	891224	SS	891224	SS	Screw, HSH (M10x15)	2
62	891282	STL	891282	STL	Pin, Roll (M6x25)	3
63	891280	F	891280	F	Crosshead	3
64	891281	STL	891281	STL	Pin, Crosshead	3
65	891261	SS	891261	SS	Rod, Plunger	3
66	891236	RBR	891236	RBR	Grommet, Cover	6
70	890275	PTFE	890275	PTFE	Seal, Oil - 70D [07/05]	3
77	890216	FPM	890216	FPM	O-Ring, Carrier	3
80	891255	SS	891255	SS	Carrier, Oil Seal [07/05]	3
88	890347	SS	890347	SS	Insert, Plunger	3
90	890415	CC	—	—	Plunger (M60.3x262) (See Tech Bulletin 115)	3
—	—	—	890416	CC	Plunger (M80x262) (See Tech Bulletin 115)	3
95	890368	SS	890368	SS	Stud, [M20 x 200]	3
96	890336	PTFE	890336	PTFE	Back-Up Ring	3
97	890335	NBR	890335	NBR	O-Ring, 70D	3
98	890348	SSD	890348	SSD	Gasket, Plunger Retainer	3
99	890312	SSD	890312	SSD	Retainer, Plunger	3
102	890372	NAB	890371	NAB	Adjuster, Packing	3
104	890203	NBR	890204	NBR	O-Ring, Spacer - 70D	3
—	890227	FPM	890314	FPM	<i>O-Ring, Spacer - 70D</i>	3
105	890580	SSD	890332	SSD	Case, Seal [01/11]	3
106	890565	NBR	890566	NBR	Seal, LPS	3
—	890561	FPM	890563	FPM	<i>Seal, LPS</i>	3
118	890389	SSD	890389	SSD	Plug, [1/16" NPT(M)]	3
124	890352	SSD	890351	SSD	Housing, Seal	3
127	890520	SFTK	890521	SFTK	V-Packing, Set	3
129	890202	NBR	890202	NBR	O-Ring, Housing - 70D	3
—	890228	FPM	890228	FPM	<i>O-Ring, Housing - 70D</i>	3
130	890591	PTFE	890591	PTFE	Back-up-Ring, Housing	6
145	890589	D	890589	D	Ring, Sealing	3
163	890201	NBR	890201	NBR	O-Ring, Seat - 70D	6
—	890229	FPM	890229	FPM	<i>O-Ring, Seat - 70D</i>	6
164	890260	SSD	890260	SSD	Seat, FV	6
166	890279	SSD	890279	SSD	Valve, FV	6
167	890428	SS	890428	SS	Spring [07/12]	6
168	890429	D	890429	D	Retainer, Spring	6
171	890280	SSD	890280	SSD	Stud, Valve Guide	6
172	890217	NBR	890217	NBR	O-Ring, Plug - 70D	6
—	890245	FPM	890245	FPM	<i>O-Ring, Plug - 70D</i>	6
174	890290	SSD	890290	SSD	Plug, Valve Inlet	3
175	890222	STTC	891222	STTC	Screw, HSH (M12x55)	48
176	891290	SSD	891290	SSD	Plug, Valve Discharge	3
185	892012	SSD	892012	SSD	Head, Manifold	1
188	890221	STTC	890221	STTC	Screw, HSH (M20x80)	8
200	892016	POP	892016	POP	Barb, 1/4" NPT x 1/4" Barb	6
201	892018	RBR	892018	RBR	Hose, 9"x1/4" LOP	3
202	892019	SS	892019	SS	Clamp, 1/4" Hose	6
290	890999	—	890999	—	Loctite® 641, 10ML	1
295	891102	—	891102	—	<i>Drive-end w/o Plungers (Incls: Items 2 thru 80, 349, 351, 352) [07/05]</i>	1
296	890395	SSD	890396	SSD	<i>Assembly, Plunger (Incls: Items 88, 90, 95, 96, 97, 98, 99) (See Tech Bulletin 115)</i>	3
297	891112	SSD	891112	SSD	<i>Assembly, Head (Incls: Items 163 thru 202) [07/05]</i>	1
299	892111	SSD	892112	SSD	<i>Head, Complete (Incls: Items 102 thru 145, 297) [07/05]</i>	1
300	890036	NBR*	890037	NBR*	<i>Kit, Seal (Incls: 70, 77, 96, 97, 104, 106, 127) [07/05]</i>	1

EXPLODED VIEW



Models
Duplex Stainless Steel
152R061, 152R061C
152R081, 152R081C
August 2016

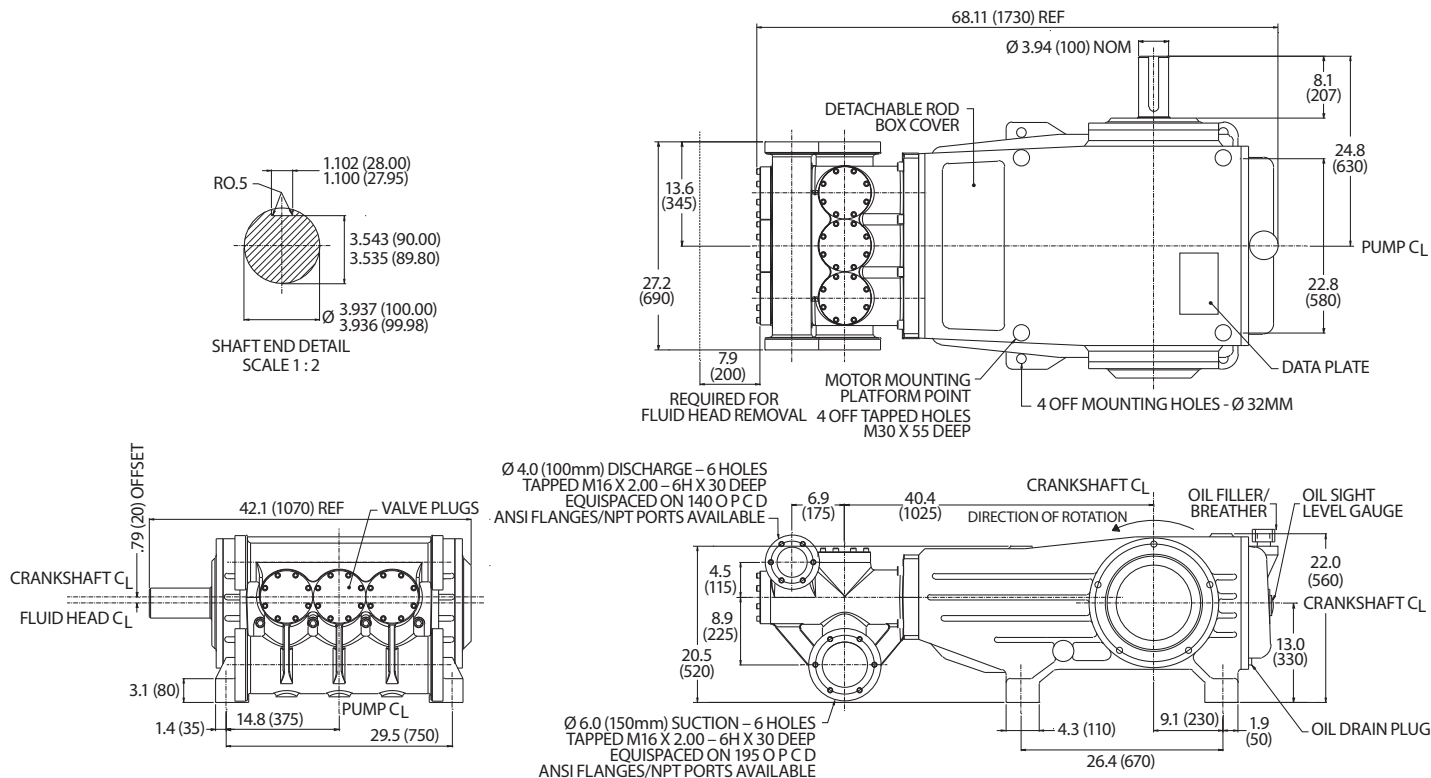
ITEM	PART NUMBER	MATL	PART NUMBER	MATL	DESCRIPTION	QTY
—	—	—	891037	FPM	Kit, Seal (Incls: 70, 77, 96, 97, 104, 106, 127) [07/05]	1
310	893025	NBR	893025	NBR	Kit, Valve (Incls: 163, 164, 166, 167, 168, 171, 172, 290)	2
—	893026	NBR	893026	NBR	Kit, Valve w/o Seat (Incls: 166, 167, 168, 171, 172)	2
349	891231	SS	891231	SS	Screw, HSH (M3x5)	2
351	890990	SS	890990	SS	Tool, Packing Adjuster	1
352	890998	STZP	890998	STZP	Clip, Tool	2
370	998605	—	998605	—	Flushing Assembly, 5 GPM, 10 PSI (152R061C, 152R081C)	1
390	719500	SS	719500	SS	C.A.T. (Inlet pressure stabilizer for RO and boosted inlet applications)	1
—	890700	SS	890702	SS	Valve, Relief 2"	1
—	701557	SS	701557	SS	Dampener, Pulsation (NBR Bladder)	1
393	892092	SS	892092	SS	Flange, Blank, Inlet (Specify Flange Type When Ordering)	1
394	892093	SS	892093	SS	Flange, Blank, Discharge (Specify Flange Type When Ordering)	1
395	892096	SS	892096	SS	Flange, Discharge 2" NPT (Specify Flange Type When Ordering)	1
396	892088	SS	892088	SS	Flange, Inlet 3" NPT (Specify Flange Type When Ordering)	1
—	6119	—	6119	—	Lubricant, Antiseize (2 oz.) (See Tech Bulletin 095)	1
—	6116	—	6116	—	Oil, Drum (16 gal.) ISO 100 Multi-viscosity Hydraulic (Fill to specified crankcase capacity prior to start-up)	1-2

Loctite is a registered trademark of the Henkel Corporation.

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

View Tech Bulletins 002, 043, 115. *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 MZ=Mazak
NAB=Nickel Aluminum Bronze NBR=Medium Nitrile (Buna-N) NY=Nylon PC=Polycarbonate POP=Polypropylene PTFE=Pure Polytetrafluoroethylene RBR=Rubber
SFTK=Polytetrafluoroethylene/Aramid Fiber Blend SS=316SS SSD=Duplex Stainless STL=Steel STTC=Steel PTFE Coated STZP=Steel/Zinc Plated



⚠ 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.



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