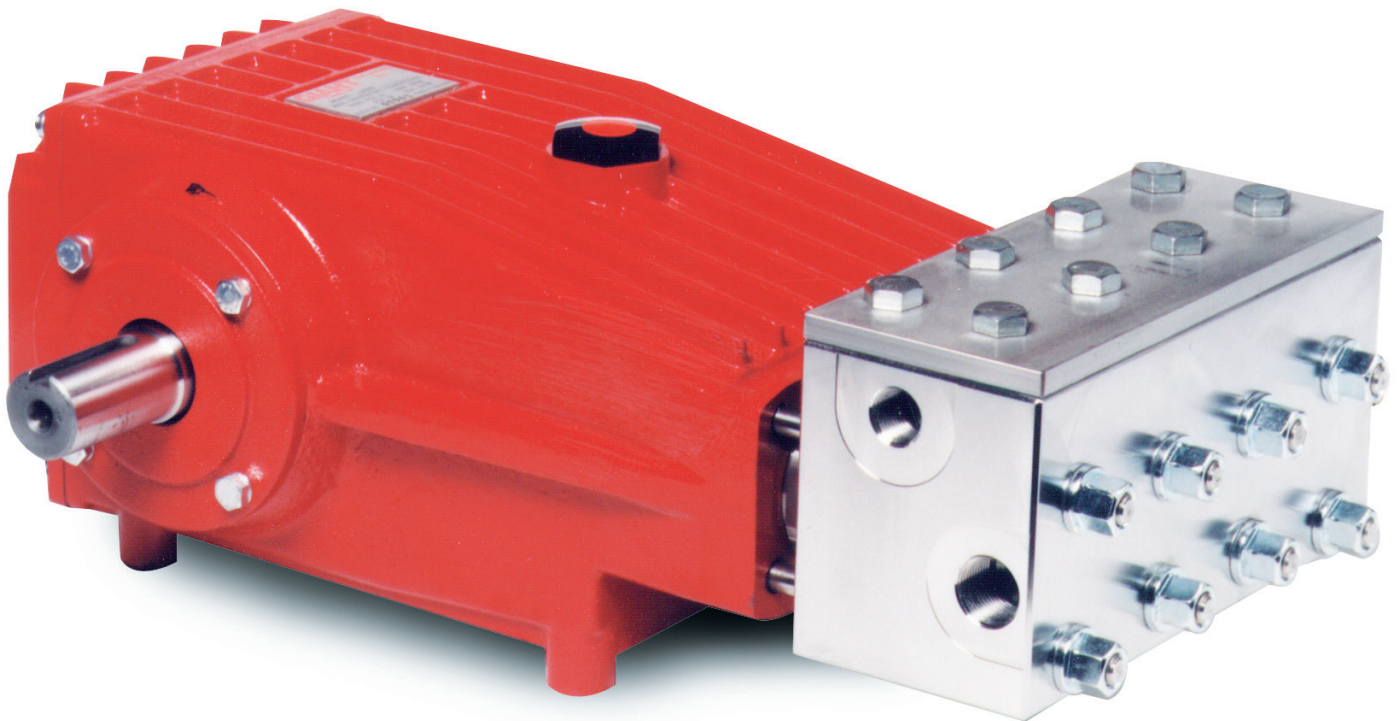


Models LP700-0050 LP700-0051

Triplex Ceramic
Plunger Pump
Operating Instructions/
Repair and Service
Manual



GIANT
Performance Under Pressure

Contents:

Installation Instructions:	page 2
Pump Specifications:	page 3
Torque Information:	page 3
Exploded View:	page 4
Parts and Kits:	page 5
Repair Instructions:	page 6
Dimensions:	page 7
Warranty Information:	back page

Performance

	Power Required	Pressure	Max. Speed	Max. Flow	Max. Temp.	Plunger \varnothing	Plunger Stroke	Weight	NPSHR
Model	BHP (kW)	PSI (bar)	RPM	GPM (l/min)	°F (°C)	in (mm)	in (mm)	lbs. (kg)	ft. of head (mWs)
LP700	39.5 (29.5)	7250 (500)	1000	7.9 (30)	104 (40)	0.7 (18)	1.65 (42)	141 (64)	26.2 (8.0)

Performance data for intermittent operation, data for continuous operation on request.

For information on intermittent operation and calculating of the performance data, see the Giant Industries assembly instructions.

NPSHR / Inlet pressure

Required NPSH refers to water at 68 °F (20 °C) at maximum permissible pump speed.

The inlet pressure on the suction side must not exceed 29 PSI (2 bar).

Make sure that suction pulsation is sufficiently dampened – water column resonance must be avoided.

Level of noise emission

Emission sound pressure level: ≤ 82 dB(A)

Fields of application

The fields of application of these pump types correspond to the specifications in the assembly instructions Giant Industries.

Ambient conditions

Ambient temperature: $41^{\circ}\text{F} < T_{\text{Amb.}} < 86^{\circ}\text{F}$

Ambient temperature: $5^{\circ}\text{C} < T_{\text{Amb.}} < 30^{\circ}\text{C}$

Oil filling

- Filling quantity: **0.79 gal (3.0 l)**
- Quality: Industrial gear oil **ISO VG 220** (e.g. Aral Degol BG220) or automotive gear oil **SAE 90 GL4 (Giant's p/n 01154)**
- Intervals: first oil change after **50 operating hours** then every **1000 operating hours**, but at the latest after **12 months**

LP700 HORSEPOWER CHART					
RPM	GPM	3000 PSI	5000 PSI	6000 PSI	7250 PSI
500	3.9	8.1	13.5	16.3	19.6
600	4.7	9.8	16.3	19.6	23.7
700	5.3	11.0	18.4	22.1	26.7
800	6.3	13.1	21.9	26.3	31.7
900	7.1	14.8	24.7	29.6	35.7
1000	7.9	16.5	27.4	32.9	39.8

Installation/ Putting into Operation

Shaft protector

When the pump is in operation, the open shaft end must be covered up by shaft protector (21), the driven shaft side and coupling by a contact-protector.

To cover the exposed crankshaft end, mount the shaft guard (21) together with the holder (21A) onto the bearing cover (14) and secure with bearing cover screws (17).

Direction of pump rotation

Set the direction of rotation of the drive unit according to the direction of rotation arrow on the crankcase.

Suction line filter

Recommended mesh size 150 μm .

Operation

For informations, see assembly instructions Giant Industries

Maintenance and Servicing

For the type of thread locker used and the required tightening torques, observe the table in the exploded view.

Special tools required

The following special tools are required for assembly:

- snap-ring tongs tool
- Pull-out tool $\varnothing 12$

Suction and Discharge Valves

Discharge Valves:

Discharge Valves: Loosen the screws (54) and remove the cover (51). Remove tension plugs (50). Take the spring tension cap (44A) out of the exposed discharge valve with a flat nose pliers. Remove the valve seat (44D). If necessary, use a dia. 12 pull-out tool to remove valve seat.

If the valve is extracted as a complete unit, position a screwdriver through the recess in the spring tension cap and press down on the valve plate to gently lever the valve apart.

Check parts and replace if worn. Tighten plugs (50) to the required torque

Suction Valves:

Unscrew the 8 nuts (47) and remove the valve casing (45) from seal sleeves (35). Using two screwdrivers, pry the seal case (42) out of the valve casing. Remove the spring tension cap with a flat nose pliers. Remove the valve seat (44D). If necessary, use a dia. 12 pull-out tool to remove valve seat.

Check parts, and replace if worn.



The leakage seal (39) must be positioned with its Ø3mm bore onto the notched pin (35A) so that its cut-outs are placed exactly over the bores of the seal sleeve (35) and the drip-return bores of the valve casing.

Tighten the fixing nuts (47) for the valve casing evenly to the required torque.

Seals and Plunger

Unscrew nut (47); remove valve casing by pulling it out to the front. Remove seal sleeve (35) from crankcase guides.

If necessary, remove seal case (42) from seal sleeve (35). Remove tension spring (38A) and seal parts (36-37) from seal sleeve.

Check plunger surfaces and seals (37). Replace worn parts.

After removing clipring (32) and support ring (33), check leakage seal (33A) and replace if necessary.

If the surface of the plunger is worn, remove the plunger (29) with a size 13 tool.

Clean center and front surface of crosshead with plunger (25).

Thread new plunger carefully through oiled seals in seal sleeve.

Coat thread of new plunger lightly with threadlocker.

Insert the seal sleeve together with the plunger into crankcase guide until the threads of the plunger (29) push against plunger (25).



Push the seal sleeves all the way into the crankcase guides only after the plungers (29) have been screwed in; otherwise, the leakage seal (33A) may be torn off.

Turn the drive until all the plungers have been to the top. Tighten plungers (29) to the required torque using a size 13 torque wrench.

Then press the seal sleeves (35) all the way into the crankcase guides.



The leakage seal (39) must be positioned with its Ø3mm bore onto the notched pin (35A) so that its cut-outs are placed exactly over the bores of the seal sleeve (35) and the drip-return bores of the valve casing.

Tighten the nuts (47) for the valve casing evenly to the required torque.

If required, supplementary assembly instructions can be requested from the manufacturer Giant Industries.

Malfunctions / Remedy

For informations, see assembly instructions Giant Industries.

Materials Used

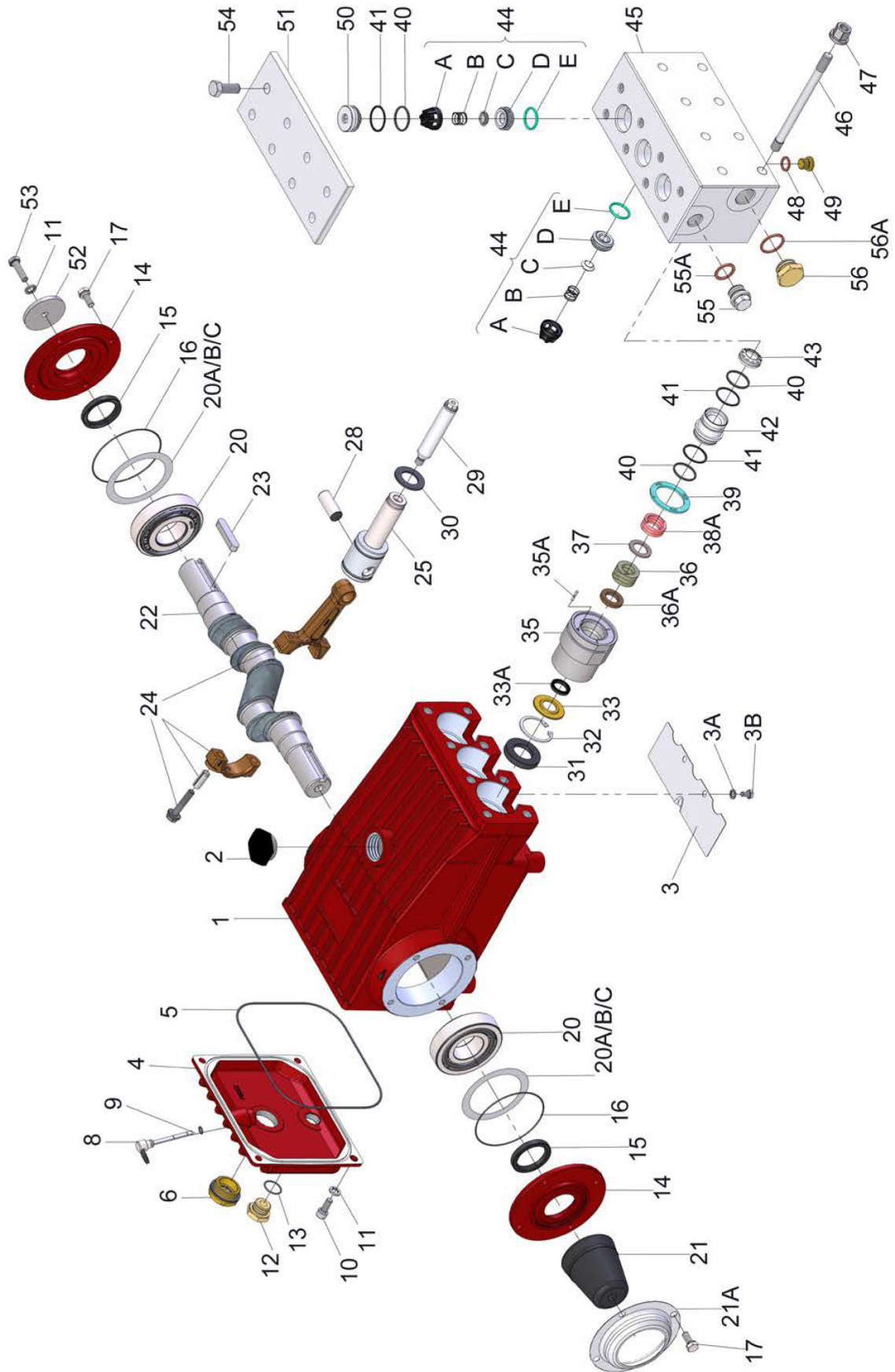
- Valve Casing: Stainless Steel
- Plunger: Hard metal-coated stainless steel
- Valves: High-Grade Stainless Steel
- Seals: Teflon
- O-Rings: Viton/PU.

Paint

The pump drive is painted in RAL 3001 as standard.

LP700 Torque Specifications/Lubrication Information			
Position	Thread	Lubrication	Torque Amount
1		Molycote Cu-Paste	
6	1" BSP	Loctite 5400	29 ft.-lbs. (40 Nm)
10	M8		221 in.-lbs. (25 Nm)
12	1/2" BSP		29 ft.-lbs. (40 Nm)
15		Loctite 403	
17	M8		221 in.-lbs. (25 Nm)
24	M8		22 ft.-lbs. (30 Nm)
29	M10	Loctite 243	22 ft.-lbs. (30 Nm)
31		Loctite 403	
46		Loctite 638 (crankcase side)	
47	M12		59 ft.-lbs. (80 Nm)
54	M12	Molycote Cu-Paste	59 ft.-lbs. (80 Nm)

LP700-0050 and LP700-0051 EXPLODED VIEW



LP700-0050 and LP700-0051 SPARE PARTS LIST

<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>	<u>QTY</u>	<u>ITEM</u>	<u>PART #</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	07759	Crankcase	1	35	13420	Seal Sleeve	3
2	13000	Oil Filler Plug Assembly	1	35A	22764	Lock Pin	3
3	05940	Cover Plate	1	36	08087-0050	Rope Packing	3
3A	07223-0100	Spring Ring	2	36A	13421	Guide Ring	3
3B	05051	Hexagon Screw	2	36B	05263	Support Ring	3
4	06085	Crankcase Cover	1	37	03730	Spacer Ring	3
5	07104	O-Ring	1	38	13422	Sleeve Support Ring	3
6	07186	Oil Sight Glass Assembly	1	38A	13423	Spring	3
8	06086	Oil Dipstick Assembly	1	39	13424	Leakage Seal	3
9	01009	O-Ring	1	40	07214	O-Ring (LP700-0020)	9
10	01010	Cylinder Screw	4	40	07214-0001	O-Ring (LP700-0021)	9
11	01011-0400	Spring Ring	5	41	06361	Support Ring	9
12	07109	Plug, 1/2" BSP	1	42	13425	Seal Case	3
13	06015	O-Ring	1	43	13426	Valve Retainer	3
14	07111	Bearing Cover	2	44	04394	Valve Assembly (44A-44E)	6
15	07112	Radial Shaft Seal	2	44A	04395	Spring Tension Cap	6
16	07113	O-Ring	2	44B	04396	Valve Spring	6
17	07114	Hexagon Screw	8	44C	04147	Valve Plate	6
20	07116	Taper Roller Bearing	2	44D	04121	Valve Seat	6
20A	07117	Fitting Disc	1-3	44E	04123	O-Ring	6
20B	13001	Fitting Disc	1-3	45	13428	Valve Casing	1
20C	04091	Fitting Disc	1-3	46	13429	Stud Bolt	8
21	05376	Shaft Protector	1	47	13430	Hexagon Nut	8
21A	05377	Shaft Guard Holder	1	48	07161	Copper Washer	3
22	13242	Crankshaft	1	49	07423	Plug, 1/4" BSP	3
23	13243	Fitting Key	1	50	13431	Plug	3
24	13340	Connecting Rod Assembly	3	51	13432	Cover for Valve Casing	1
25	13341	Crosshead/Plunger Assembly	3	52	13020	Disc for Crankshaft	1
28	13232	Crosshead Pin	3	53	04561	Hexagon Screw	1
29	06366	Plunger	3	54	13433	Hexagon Screw	8
30	07779	Oil Scraper	3	55	13434	Plug, 1/2" BSP	1
31	07133	Radial Shaft Seal	3	55A	06272	Copper Washer	1
32	06584	Clip Ring	3	56	07703	Plug, 1/2" BSP	1
33	13419	Support Disc	3	56A	07704	Copper Washer	1
33A	08087-0020	Grooved Ring	3		03174	Pumphead Assembly (44, 45, 48-51, 54-56A)	

LP700-0050 and LP700-0051 REPAIR KITS

Plunger Packing Kit

#09736-0050 (LP700-0050)

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
33A	08087-0020	V-Sleeve	3
36	08087-0050	Pressure Ring	3
36A	13421	Guide Ring	3
36B	05263	Support Ring	3
37	03730	Spacer Ring	3
38	13422	Sleeve Support Ring	3
39	13424	Leakage Seal	3
40	07214	O-Ring	6
41	06361	Support Ring	6

#09736-0051 (LP700-0051)

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
33A	08087-0020	V-Sleeve	3
36	08087-0050	Pressure Ring	3
36A	13421	Guide Ring	3
36B	05263	Support Ring	3
37	03730	Spacer Ring	3
38	13422	Sleeve Support Ring	3
39	13424	Leakage Seal	3
40	07214-0001	O-Ring	6
41	06361	Support Ring	6

Valve Assembly Kit

#09491 (LP700-0050)

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
40	07214	O-Ring	9
41	06361	Support Ring	9
44A	04395	Tension Ring	6
44B	04396	Valve Spring	6
44C	04147	Valve Plate	6
44D	04121	Valve Seat	6
44E	04123	O-Ring	6

#09491-0051 (LP700-0051)

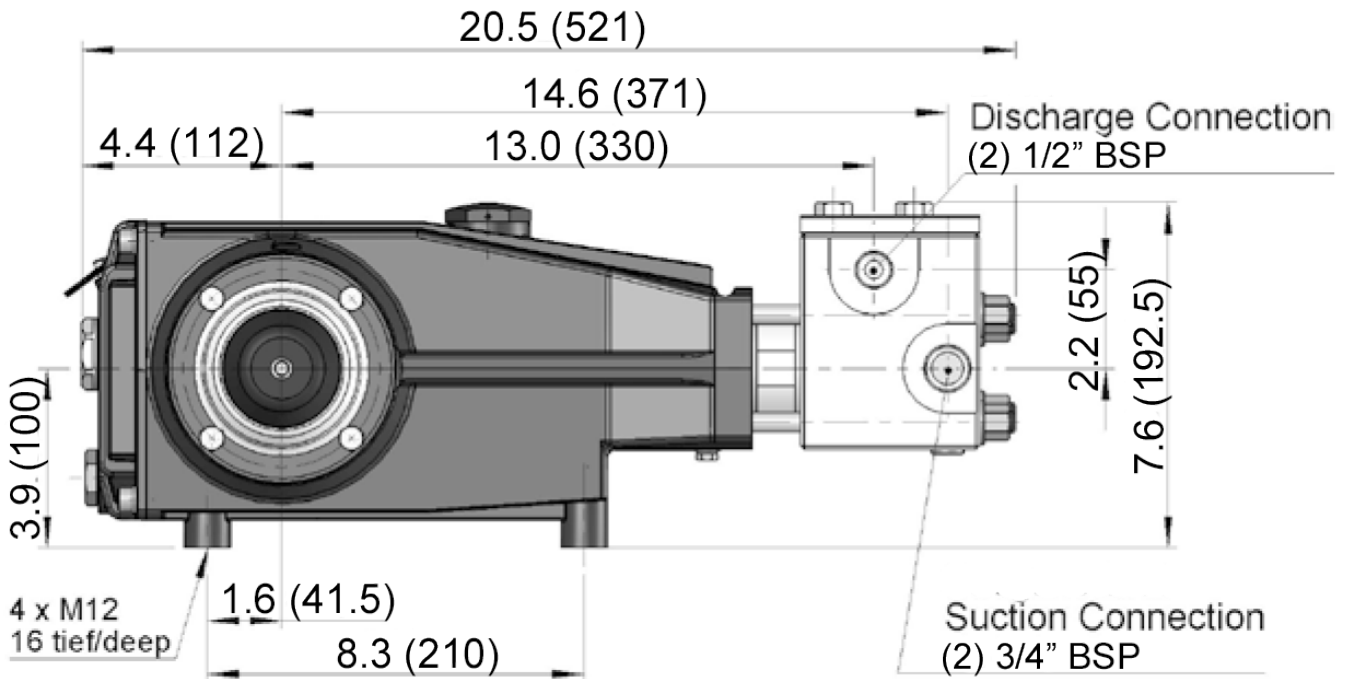
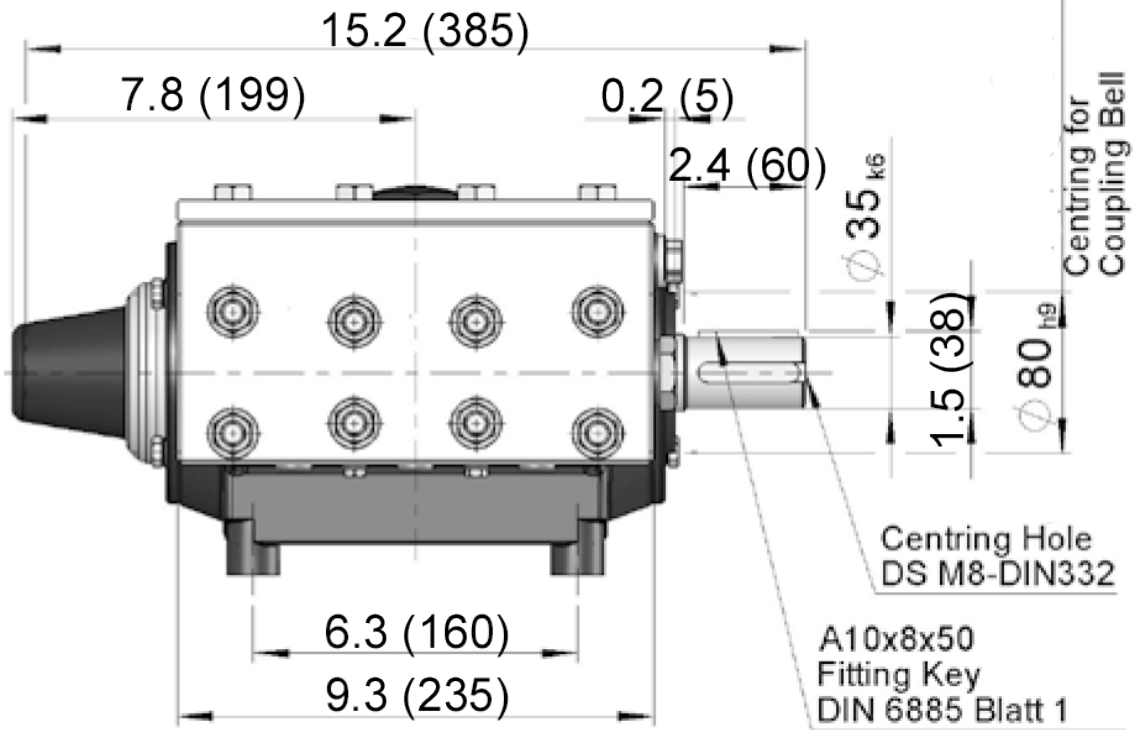
<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
40	07214-0001	O-Ring	9
41	06361	Support Ring	9
44A	04395	Tension Ring	6
44B	04396	Valve Spring	6
44C	04147	Valve Plate	6
44D	04121	Valve Seat	6
44E	04123	O-Ring	6

Oil Seal Kit

#09577

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
31	07133	Radial Shaft Seal	3

LP700-0050 and LP700-0051 DIMENSIONS - inches (mm)



GIANT INDUSTRIES LIMITED WARRANTY

Giant Industries, Inc. pumps and accessories are warranted by the manufacturer to be free from defects in workmanship and material as follows:

1. Five (5) years from the date of shipment for all pumps used in portable pressure washers with NON-SALINE, clean water applications.
2. Two (2) years from the date of shipment for Giant pumps used in car wash applications.
3. One (1) year from the date of shipment for all other Giant industrial and consumer pumps.
4. Six (6) months from the date of shipment for all rebuilt pumps
5. Ninety (90) days from the date of shipment for all Giant accessories.

This warranty is limited to repair or replacement of pumps and accessories of which the manufacturer's evaluation shows were defective at the time of shipment by the manufacturer. The following items are NOT covered or will void the warranty:

1. Defects caused by negligence or fault of the buyer or third party.
2. Normal wear and tear to standard wear parts.
3. Use of repair parts other than those manufactured or authorized by Giant.
4. Improper use of the product as a component part.
5. Changes or modifications made by the customer or third party.
6. The operation of pumps and or accessories exceeding the specifications set forth in the Operations Manuals provided by Giant Industries, Inc.

Liability under this warranty is on all non-wear parts and limited to the replacement or repair of those products returned freight prepaid to Giant Industries which are deemed to be defective due to workmanship or failure of material. A Returned Goods Authorization (R.G.A.) number and completed warranty evaluation form is required prior to the return to Giant Industries of all products under warranty consideration. Call (419)-531-4600 or fax (419)-531-6836 to obtain an R.G.A. number.

Repair or replacement of defective products as provided is the sole and exclusive remedy provided hereunder and the MANUFACTURER SHALL NOT BE LIABLE FOR FURTHER LOSS, DAMAGES, OR EXPENSES, INCLUDING INCIDENTAL AND CONSEQUENTIAL DAMAGES DIRECTLY OR INDIRECTLY ARISING FROM THE SALE OR USE OF THIS PRODUCT.

THE LIMITED WARRANTY SET FORTH HEREIN IS IN LIEU OF ALL OTHER WARRANTIES OR REPRESENTATION, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND ALL SUCH WARRANTIES ARE HEREBY DISCLAIMED AND EXCLUDED BY THE MANUFACTURER.



WARNING: This product might contain a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov



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