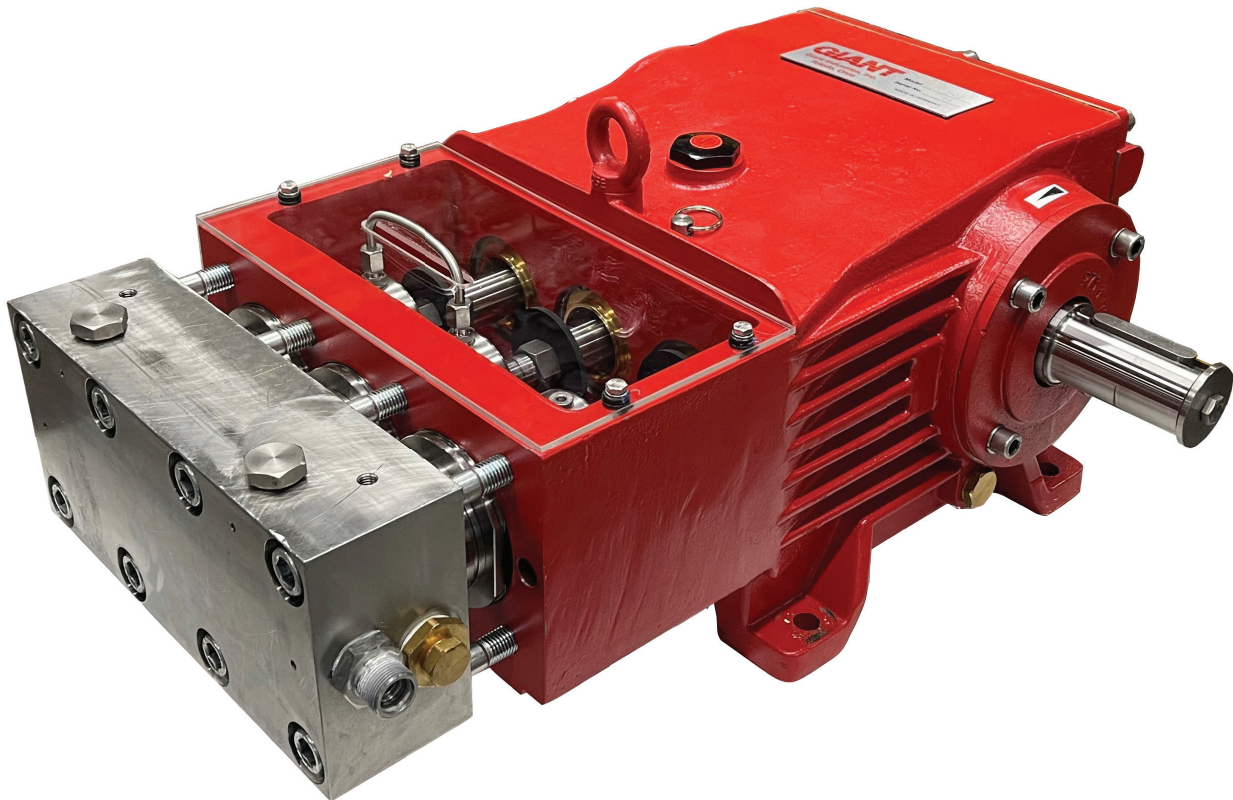


# Model GP7622

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Triplex Ceramic  
Plunger Pump  
Operating Instructions/  
Repair and Service  
Manual



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**GIANT**  
Performance Under Pressure

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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 assembly instructions.

NPSHR / Inlet pressure  
 Required NPSH refers to water (at 68 °F or 20 °C) at maximum permissible pump speed.  
 Maximum inlet pressure: 29 PSI (2.0 bar).

Level of noise emission  
 Emission sound pressure level ≤93 dB(A)

## 2. Fields of application

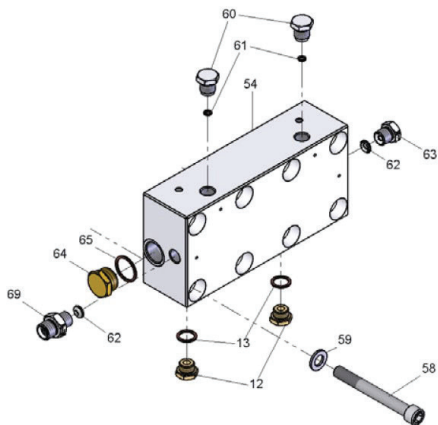
The fields of application of these pump types correspond to the specifications in the assembly instructions of Giant pumps.

## 3. Ambient conditions

Ambient temperature:  $41^{\circ}\text{F} (5^{\circ}\text{C}) < T_{\text{Amb.}} < 86^{\circ}\text{F} (30^{\circ}\text{C})$

## 4. Oil Filling

- Filling quantity: 1.9 gallons (7.2 L)
- Quality: Industrial gear oil **ISO VG 220** or automotive gear oil **SAE 90 GL4** or **Giant's equivalent (p/n 01154)**
- Intervals: first oil change after **50 operating hours** than every **500 operating hours**, but at the latest after **12 months**



## 5. Installation/Putting into Operation

### 5.1 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).

## 5.2 Direction of pump rotation

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

## 5.3 Suction line filter

Recommended mesh size 50 µm.

## 6. Operation

Maximum operation pressure is attainable at 600 - 800 rpm. If the speed is reduced further, the pump pressure must be reduced in the same proportion to ensure sufficient gearbox lubrication.

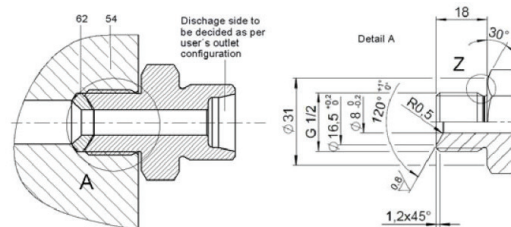
### 6.1 Discharge Line

The pump comes with two special lens seals (62) which have to be inserted in to the discharge ports of the pump. One of the two ports is to be closed with the included plug (63).

The 1/2" BSP high-pressure hose connection for the discharge line must be constructed as per the below drawing to ensure that together with lens seal (62) the discharge line is completely sealed.

We offer the high-pressure connection (05361) with UNF 9/16" female threads for high-pressure fittings.

The two 1/2" BSP connections on the top side of the valve casing are closed off with plug (60) and copper seal ring (61). These two connections are for the optional fitting of a pressure gauge and/or safety valve such as our 23140.



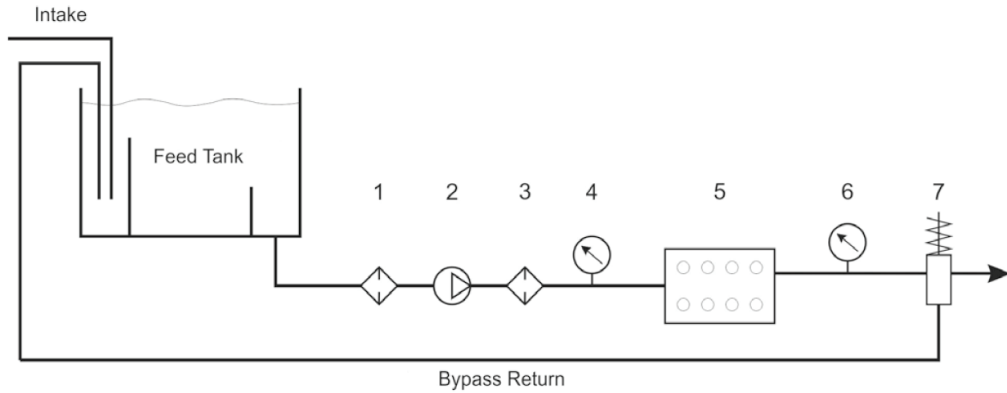
Should a pressure gauge or safety valve be installed, the copper ring (61) must remain in the bore.

Pressure gauges with a 1/2" BSP connection have the appropriate contour so that the copper ring sits properly.

The alignment of the pressure gauge cannot be determined exactly after tightening.

We offer the double nipple (05362) for mounting the 23140 pressure relief valve.

**For further information, see assembly instructions of Giant Pumps**



- 1 = Coarse filter
- 2 = Booster pump
- 3 = Fine-particle filter
- 4 = Gauge to check input pressure

- 5 = High pressure pump
- 6 = High pressure gauge
- 7 = Excess, Safety valves

## 7. Maintenance and Servicing

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

### 7.1 Special tools required

The following special tools are required for assembly:

- Pull-out tool  $\varnothing 24$  mm
- Seal extractor tool  $\varnothing 22.4$  mm

### 7.2 Suction and Discharge Valves

Remove hexagon screw (58) and remove valve casing (54). Pull seal case (38) out of valve casing (54). Pull valve body (52) and seal case (38) apart. Using pliers, pull spring guide (55) out of the valve casing. Remove discharge valve plate (57) together with spring (56) from spring guide (55). Check sealing surfaces of the valve body (52) and discharge valve plate (57). Check discharge valve spring (56) and border seal ring (53) and replace where necessary.



A damaged border seal ring (53) must be replaced before reassembling.

### Suction Valves

Remove suction valve spring (50) with valve plate (51) from seal case (38). Check sealing surfaces of the valve plate (51) and valve body (52). Check O-rings (38/A/B/C) and support ring (38D) before reassembling. Worn parts must be replaced.

### To Check Seals and Plungers

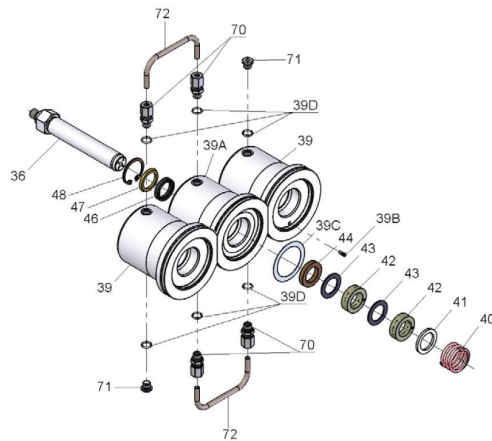
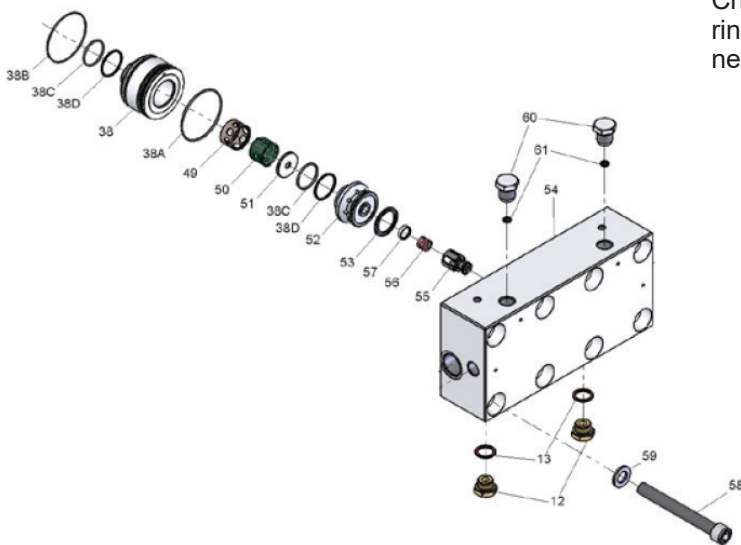
Unscrew hexagon screws (58), and take off valve casing (54). Remove the screw-in joints (70) and take off the elbow pipes (72). Pull seal sleeve (39/39A) out of the crankcase.

Take the seal tension spring (40) out of seal sleeve (39/39A).

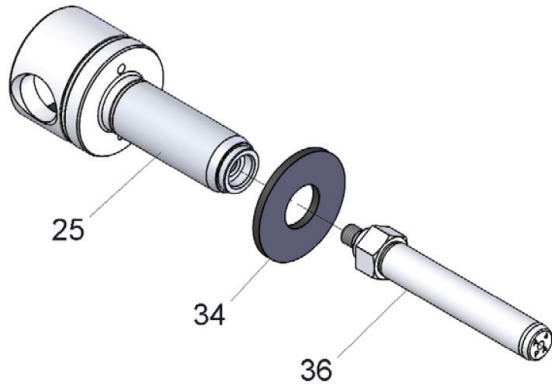
Using a pliers, remove the clip ring (48) situated on the other side of the sleeve; then take out support ring (47) and grooved ring (46) using an extractor tool ( $\varnothing 24$ ).

Using a seal extractor tool ( $\varnothing 22.4$ ), carefully press the seal unit comprising guide ring (44), spiral ring (42) and support ring (41/43) out of the seal sleeve (39/39A) from the side (39/39A) closest to the drive.

Check spiral ring (42), Support ring (43), guide ring (44) and grooved ring (46) and replace where necessary.



Check surface of plunger (36) for damage. A worn plunger (36) must be removed (27 mm wrench) and replaced. Due to reasons of precision, the ceramic plunger alone cannot be exchanged. Coat the threads of the plunger lightly with an appropriate bonding agent and tighten plunger to the required torque.



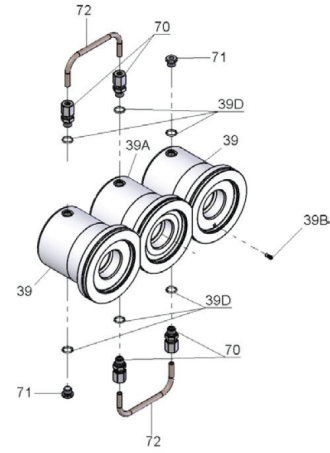
Check the leakage bores  $\varnothing 4\text{mm}$  of the seal sleeves (39/39A) and seal cases (38) for dirt and clean if necessary.

The elbow screw-in joints (70/71) and elbow pipes (72) must also be checked for dirt and cleaned if necessary.



For the right sealing sleeve, the leakage hole  $\varnothing 4\text{ mm}$  must be closed by a nozzle (39B) to improve water circulation from sealing sleeve 1 to sealing sleeve 3.

Fit the drip-return unit (46/47/48), the high-pressure seal unit (41/42/43/44) and tension spring (40) into the seal sleeve.



Then push the assembled seal sleeves (39/39A) carefully on to the plungers and into the drive; thereafter, mount elbow pipes (72) as per the exploded view and tighten the screw-in joints (70/71) carefully.

Push the valve casing (54) with the seal sleeves (38) onto the sealing sleeves (39/39A). Tighten the screws (58) for fastening the valve housing evenly to the specified torque.

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

## 8. Materials Used

Valve Casing: AISI CA-6-NM  
 Plunger: AISI 329 hard metal coated  
 Valves: Duplex-Steel / 1.4460 / 1.4462  
 Seals: Aramid Packing with Teflon  
 O-Rings: Nitrile

## 9. Paint

The pump drive is painted in RAL 3001 as standard.

## GP7622 TORQUE SPECIFICATIONS

Position	Item #	Thread	Description	Lubrication Info	Torque Amount
1	05769		Crankcase	Molycote Cu-Paste	
5	05798		Seal for Crankcase Cover	Loctite 5910	
10	22706	M10	Hexagon Screw		33 ft.-lbs. (45 Nm)
12	07109	1/2" BSP	Drain Plug		30 ft.-lbs. (40 Nm)
15	05771		Radial Shaft Seal	Loctite 403	
17	05642	M12	Hexagon Socket Screw		33 ft.-lbs. (45 Nm)
24	05770	M10	Connecting Rod Assembly		22 ft.-lbs. (30 Nm)
32	07624		Radial Shaft Seal	Loctite 403	
36	06748	27mm	Plunger		33 ft.-lbs. (45 Nm)
38	03452		Seal Sleeve	Copper Paste/ Crankcase outside	
58	03464	M16	Hexagon Socket Screw		173 ft.-lbs. (235 Nm)
60	04061		Plug, 1/2" BSP	Anti Seize 350	
63	05373		Plug, 1/2" BSP	Anti Seize 350	
64	12249		Plug, 1" BSP	Anti Seize 350	
69	03141		Connection Nipple	Anti Seize 350	

# Specifications Model GP7622

	<b>U.S.</b>	<b>Metric</b>
Maximum Volume .....	12.7 GPM .....	48 L/min
Maximum Discharge Pressure .....	15,000 PSI .....	1000 Bar
Speed .....		800 RPM
Power Consumption .....	126.4 HP .....	94.3 kW
Maximum Inlet Pressure .....	29 PSI .....	2 Bar
Plunger Diameter .....	0.87" .....	22mm
Plunger Stroke .....	2.28" .....	58mm
Crankshaft Diameter .....		48mm
Key Width .....		14mm
Crankshaft Mounting .....		Either side
Shaft Rotation .....		Top of pulley towards manifold
Maximum Temperature of Pumped Fluids .....	104 °F .....	40° C
Inlet Ports .....		(2) 1" BSP
Discharge Ports .....		(2) M24 x 1.25
Weight .....	379 lbs. ....	172 kg
Crankcase Oil Capacity .....	1.9 Gal. ....	7.2 L
Fluid End Material .....		Stainless Steel
Level of Noise Emmission .....		≤93 dB(A)
Ambient Conditions .....	23 °F <T <sub>amb</sub> <86 °F .....	5 °C <T <sub>amb</sub> <30 °C

Consult the factory for special requirements that must be met if the pump is to operate beyond one or more of the limits specified above.

<b>GP7622 Horsepower Requirements</b>						
RPM	GPM	5000 PSI	7000 PSI	9000 PSI	10,000 PSI	15,000 PSI
400	6.4	22.1	30.9	39.7	44.1	66.2
550	8.7	30.0	42.0	54.0	60.0	90.0
600	9.5	32.8	45.9	59.0	65.5	98.3
650	10.3	35.5	49.7	63.9	71.0	106.6
700	11.1	38.3	53.6	68.9	76.6	114.8
750	11.9	41.0	57.5	73.9	82.1	123.1
800	12.7	43.8	61.3	78.8	87.6	131.4

**HORSEPOWER RATINGS:**

The rating shown are the power requirements for the pump. Gas engine power outputs must be approximately twice the pump power requirements shown above.

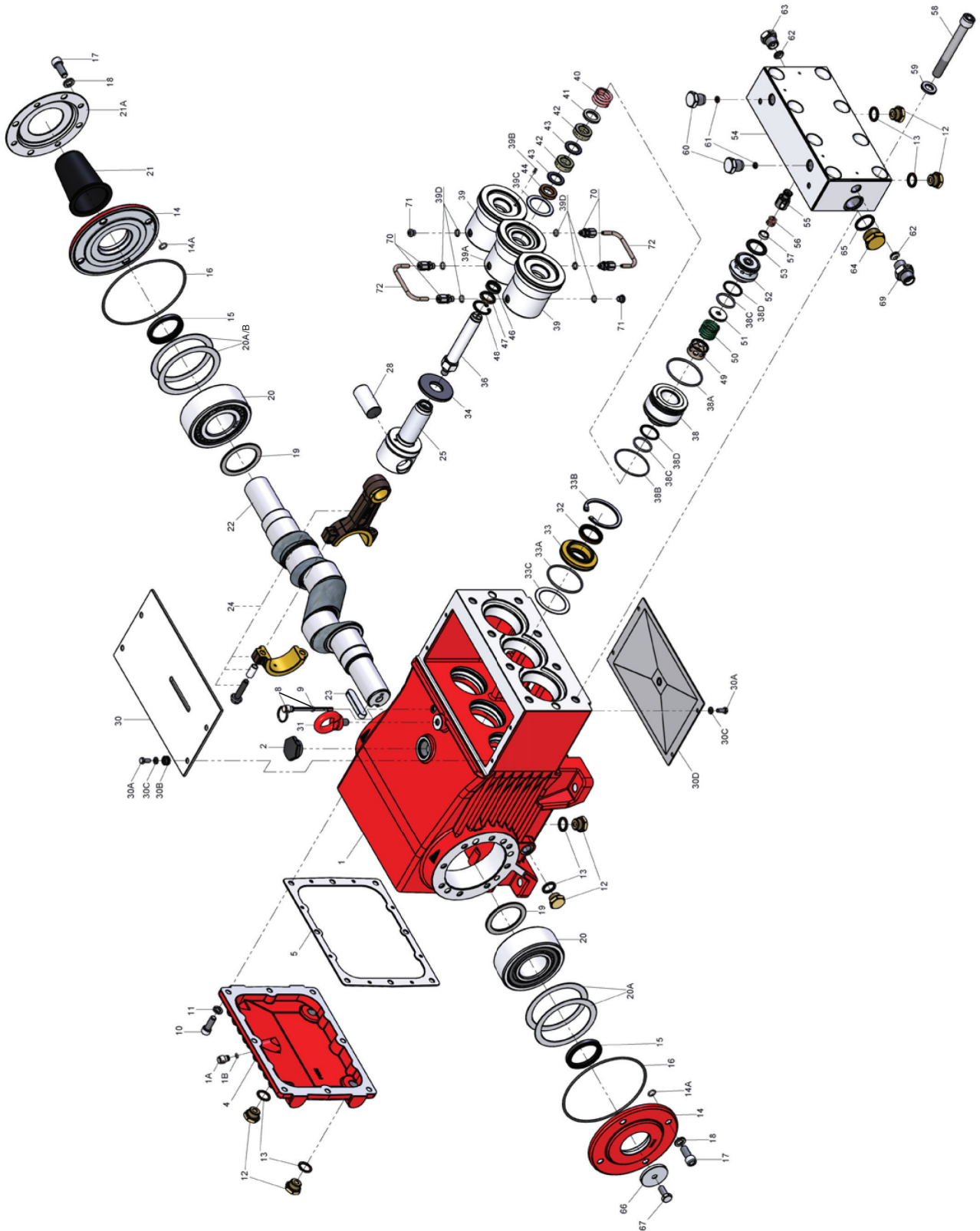
We recommend a 1.15 service factor be specified when selecting an electric motor as the power source.  
To compute specific pump horsepower requirements, use the following formula:

$$\frac{\text{GPM} \times \text{PSI}}{1450} = \text{hp}$$

## Exploded View - GP7622



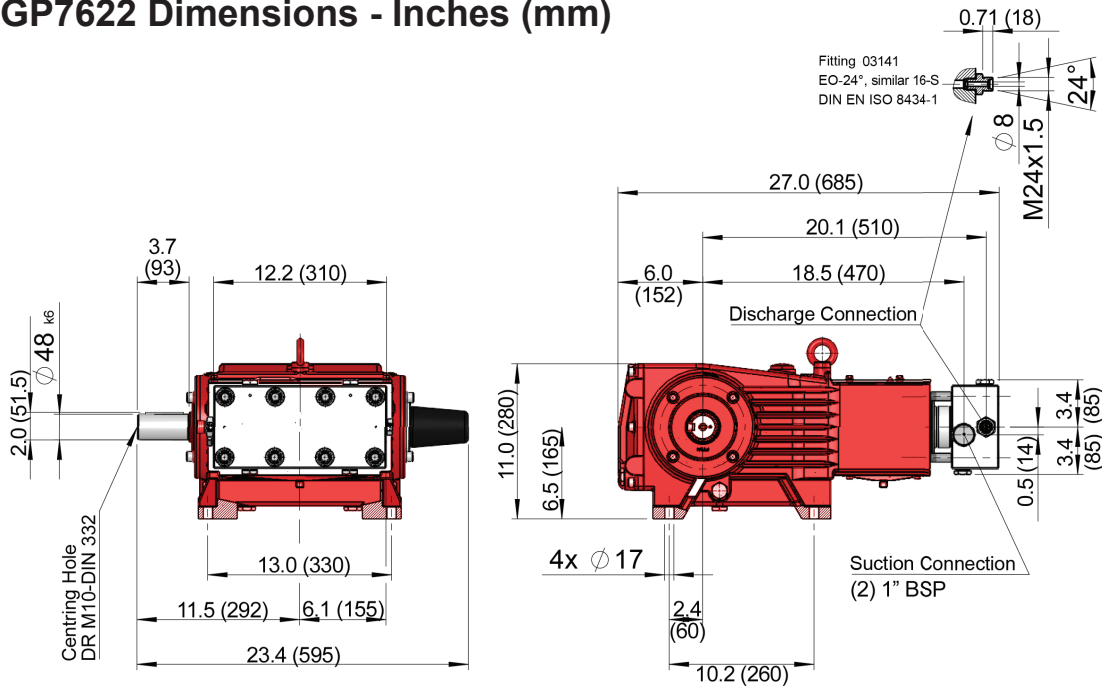
The stainless steel valve plugs (60/63/64 and the high pressure connection 05361) can seize when being screwed out of the casing. To release tension beforehand, strike the plugs 1-2 times with a steel hammer on the top before screwing them out. Coat threads with antiseize (eg. ProPack 350) before reinstalling.



## GP7622 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	05769	Crankcase	1	38A*	13286	O-Ring	3
1A	05525	Head for Oil Dipstick	1	38B*	07303	O-Ring	3
1B	01009	O-Ring	1	38C*	07332	O-Ring	6
2	13000	Oil Filler Plug Assembly	1	38D*	07683	Support Ring	6
4	07601	Crankcase Cover	1	39	03453	Seal Sleeve	2
5	05798	Seal for Crankcase Cover	1	39A	03454	Seal Sleeve, Middle	1
8	07603	Oil Dip Stick Assembly	1	39B	03455	Nozzle, Weep Return	1
9	01009	O-Ring, Dip Stick	1	39C**	03456	Tolerance Disc	1
10	22706	Hexagon Screw	8	39D	07204-0100	Seal Ring, Steel	6
11	06725	Spring Washer	8	40	07338	Tension Spring	3
12	07109	Drain Plug	8	41	06753	Support Disc	3
13	06272	Copper Seal Ring, 1/2"	8	42*	06754	Spiral Ring (Packing)	6
14	05770	Bearing Cover	2	43*	06755	Support Ring	6
14A	12204	O-Ring	8	44*	06756	Guide Ring	3
15	05771	Radial Shaft Seal	2	46*	13390	Seal Ring	3
16	05772	O-Ring for Bearing Cover	2	47	06758	Spacer Disc	3
17	05642	Hexagon Socket Screw	8	48*	05524	Circlip	3
18	05039	Spring Washer	8	49	03457	Stopper	3
19	03448	Spacer Disc	2	50*	05450	Valve Spring	3
20	03449	Taper Roller Bearing	2	51*	03458	Inlet Valve Plate	3
20A	04570	Shim, 0.15 mm	1-2	52	03459	Valve Body	3
20B	05794	Shim, 0.1 mm (may not be present)	1-5	53*	03460	Seal Edge Ring	3
21	05645	Shaft Guard Holder	1	54	03461	Valve Casing	1
21A	05646	Shaft Guard	1	55*	03462	Valve Spring Guide	3
22	03450	Crankshaft	1	56*	06959	Valve Spring, Heavy Duty	3
23	07614	Key	1	57*	03463	Discharge Valve Plate	3
24	05770	Connecting Rod Assembly	3	58	03464	Hexagon Socket Screw	8
25	05778	Crosshead Assembly	3	59	03465	Washer	8
28	05779	Crosshead Pin	3	60	04061	Plug, 1/2" BSP	2
30	03451	Cover Plate	1	61	12332	Copper Seal Ring	2
30A	07225-0100	Hexagon Screw	8	62	03466	Lens Seal	2
30B	13136	Grommet	4	63	05373	Plug, 1/2" BSP	1
30C	08280	Disc	8	64	12249	Plug, 1" BSP	1
30D	13154	Cover	1	65	13372-0300	Seal Ring, Copper	1
31	07623	Eye Bolt	1	66	13362	Disc for Crankshaft	1
32^	07624	Radial Shaft Seal	3	67	13358	Hexagon Screw	1
33	07626	Seal Retainer	3	69	03141	Connection Nipple	1
33A^	07627	O-Ring for Seal Retainer	3	70	06588	Straight Screw Joint	4
33B	07628	Circlip for Seal Retainer	3	71	06589	Hexagon Socket Plug, 1/8"	2
33C	07249	Fitting Disc	3	72	03467	U-Pipe for Rinsing Line	2
34	13137	Oil Scraper (Flinger)	3	*	09853	Seal Repair Kit	
36	06748	Plunger	3	+	09854	Valve Repair Kit	
38	03452	Seal Sleeve	3	^	09221	Oil Seal Kit	

# GP7622 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](http://www.P65Warnings.ca.gov)

**GIANT**  
Performance Under Pressure

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