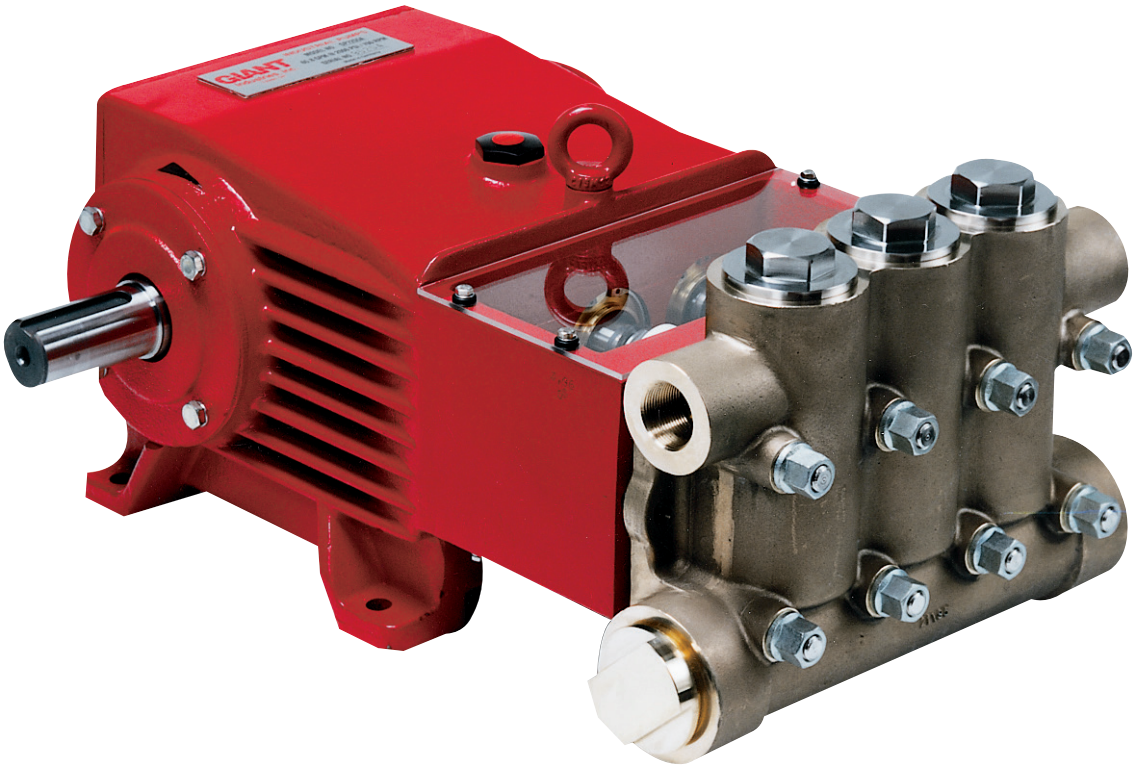
Models

Triplex Ceramic Plunger Pump Operation Manual

GP7142/GP7242

GP7142: Bronze Manifold
GP7242: Nickel-Plated Cast Iron Manifold



GP7142 Shown

GIANT
Performance Under Pressure

Updated 03/25

Contents:

GP7142/GP7242 PUMP SPECIFICATIONS

Performance

	Power Required	Pressure	Max. Speed	Max. Flow	Max. Temp.	Plunger ø	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)**
GP7142 GP7242	72.8 (54.3)	2755 (190)	700	38.4 (145.2)	140 (60)	1.7 (42)	2.0 (52)	392 (178)	28.0 (8.5)

Figures given for maximum pressure and maximum speed (rpm) apply to intermittent operation with cold water.
When the pump is used in continuous operation and/or with water warmer than 104°F (40°C), these values must be reduced by 10%.
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.

Use of both suction connections is imperative in order to ensure cavitation-free operation and optimal suction conditions.
If only one connection is used, a safety margin of one meter has to be added to the required NPSH.

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

Level of noise emission
Emission sound pressure level: ≤ 91 dB(A)

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

Ambient conditions
Ambient temperature: 41°F < $T_{Amb.}$ < 86°F
Ambient temperature: 5°C < $T_{Amb.}$ < 30°C

Oil filling
- Filling quantity: **1.7 gallon (6.5 l)**
- Quality: Industrial gear oil ISO VG 220 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**

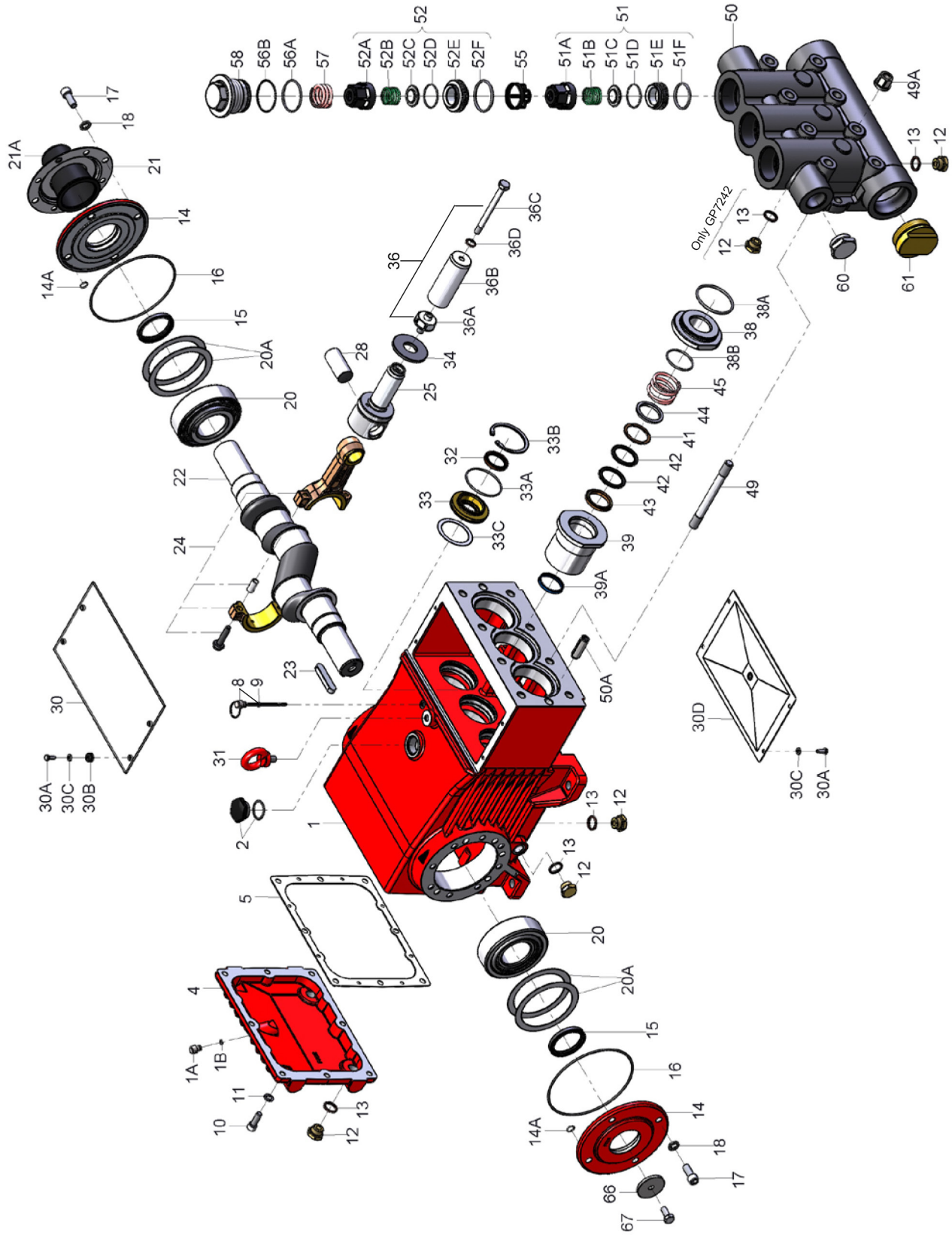
Installation/ Putting into Operation
Shaft protector
When the pump is in operation, the open shaft end must be covered up by shaft protector (21), the driven shaft side and coupling by a contact-protector and the plunger room by cover (30).
Direction of pump rotation
Set the direction of rotation of 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, Inc.**

GP7142/GP7242 HORSEPOWER REQUIREMENTS						
RPM	GPM	800 PSI	1000 PSI	1500 PSI	2000 PSI	2610 PSI
300	16.5	9.1	11.4	17.1	22.8	29.7
400	21.9	12.1	15.1	22.7	30.2	39.4
500	27.4	15.1	18.9	28.3	37.8	49.3
600	32.9	18.2	22.7	34.0	45.4	59.2
700	38.4	21.9	27.4	41.1	54.9	69.1

GP7142/GP7242 EXPLODED VIEW



GP7142/GP7242 PARTS LIST

ITEM	PART	DESCRIPTION	QTY.
1	05769	Crankcase	1
1A	05525	Head of Oil Dipstick	1
1B	01009	O-Ring	1
2	13000	Oil Filler Plug Assembly	1
4	07601	Crankcase Cover	1
5	05798	Gasket, Crankcase Cover	1
8	07603	Oil Dip Stick Assembly	1
9	01009	O-Ring, Dip Stick	1
10	22706	Hexagon Screw	8
11	06725	Spring Washer	8
12	07109	Drain Plug (GP7142)	7
12	07109	Drain Plug (GP7242)	11
13	06272	Copper Seal Ring (GP7142)	7
13	06272	Copper Seal Ring (GP7242)	11
14	05770	Bearing Cover	2
14A	12204	O-Ring	8
15	05771	Radial Shaft Seal	2
16	05772	O-Ring	2
17	05642	Hexagon Socket Screw	8
18	05039	Spring Washer	8
20	05773	Taper Roller Bearing	2
20A	05774	Fitting Disc (Shim)	1-8
21	05645	Shaft Guard Holder	1
21A	05646	Shaft Guard	1
22	05775	Crankshaft	1
23	07614	Key	1
24	05777	Connecting Rod Assembly	3
25	05778	Crosshead Assembly	3
28	05779	Crosshead Pin	3
30	07619	Cover Plate	1
30A	07225-0100	Hexagon Screw	8
30B	13136	Grommet	4
30C	08280	Washer	8
30D	13154	Cover Plate	1
31	07623	Eye Bolt	1
32	07624	Radial Shaft Seal	3
33	07626	Seal Retainer	3
33A	07627	O-Ring	3
33B	07628	Circlip	3
33C	07249	Shim	3
34	13137	Oil Scraper	3
36	04316	Plunger Pipe Assy., (36 A-D)	3
36A	07667	Plunger Connection	3
36B	04317	Plunger Pipe	3
36C	07664	Tension Screw	3
36D	07665	Copper Ring	3
38	04321	Seal Case	3
38A	13156	O-Ring	3
38B	13141	O-Ring	3
39	04322	Seal Sleeve	3
39A	04323	Compact Ring	3
41	07746	Support Ring	3
42	07745	V-Sleeve	6
43	07744	Pressure Ring	3
44	04324	Spacer Ring	3
45	13297	Tension Spring	3
49	13159	Stud Bolt	8
49A	13160	Hex Nut	8
50	07790	Valve Casing (GP7142)	1
50	07791	Valve Casing (GP7242)	1
50A	13162	Cylinder Stud	2
51	05594	Inlet Valve Assembly (51A-51F)	3
51A	05595	Spring Tension Cap	3
51B	05450	Valve Spring	3
51C	05247	Valve Plate	3
51D	05596	O-Ring	3
51E	05597	Inlet Valve Seat	3
51F	05166	O-Ring	3
52	05600	Discharge Valve Assembly (52A-52F)	3
52A	05595	Spring Tension Cap	3
52B	05450	Valve Spring	3
52C	05247	Valve Plate	3
52D	05596	O-Ring	3
52E	05598	Discharge Valve Seat	3
52F	05599	O-Ring	3
55	05647	Valve Retainer	3
56A	07658	O-Ring	3
56B	07635	Support Ring	3
57	13173	Tension Spring	3
58	06682	Plug	3
60	12251	Plug, 1-1/4” NPT	1
61	05170	Plug, 2-1/2” NPT	1
66	13362	Disc For Crankshaft	1
67	13358	Hexagon Screw	1
	07662	Valve Removal Tool (not shown)	1

GP7142/GP7242 REPAIR KITS

Plunger Packing Kit - # 09766

Item	Part#	Description	Qty.
38A	13156	O-Ring	3
38B	13141	O-Ring	3
39A	04323	Compact Ring	3
42	07745	V-Sleeve	6

Oil Seal Kit - # 09221

Item	Part#	Description	Qty.
32	07624	Radial Shaft Seal	3
33A	07627	O-Ring	3

Inlet Valve Kit - # 09659

Item	Part #	Description	Qty.
51	05594	Inlet Valve Assembly	1
56A	07658	O-Ring	1
56B	07635	Support Ring	1

Large Discharge Valve Kit - # 09660

Item	Part #	Description	Qty.
52	05600	Discharge Valve Assembly	1
55	05647	Valve Spacer	1
56A	07658	O-Ring	1
56B	07635	Support Ring	1

Small Discharge Valve Kit - # 09661

Item	Part #	Description	Qty.
51B	05450	Valve Spring	1
51C	05247	Valve Plate	1
51D	05596	O-Ring	1
52F	05599	O-Ring	1
56A	07658	O-Ring	1
56B	07635	Support Ring	1

GP7142/GP7242 REPAIR INSTRUCTIONS

Maintenance and Servicing
For the type of threadlocker used and the required tightening torques, observe the table in the exploded view.

Special tools required
The following special tools are required for assembly:
- Extraction tool (part no. 07662)
- Pull-out tool size 5
- Snap-ring tongs

Suction and Discharge Valves
Screw off plugs (58).
Take out tension spring (57).
Remove the complete valve (51, 52) and valve holder (55) using either a valve tool or an M16 hexagon screw.

To dismantle valves:
Screw valve seat (51E, 52E) out of spring tension cap (51A, 52A).
Check sealing surfaces and replace worn parts.
Check O-rings and support rings.
Tighten plugs (58) to the required torque.


If worn, the discharge valve seat (52E) can be turned 180° round and refitted.

Seals and Plunger
Loosen nuts (49A) and remove pump head.
Separate plunger connection (36A) from crosshead (25) by means of an open-end wrench (size 36).
Pull seal sleeves (39) out of their fittings in the crankcase.
Take seal case (38) out of seal sleeve (39).
Remove tension spring (45).
Examine plunger parts (36A-36D), seals (42,39A) and O-rings. When replacing plunger pipe (36B), tighten tension screws (36C) to the required torque.
Replace worn parts; grease seals with Silicone before installing.


Don't loosen the 3 plunger connections (36A) before the valve casing has been removed. Otherwise the tension screw (36C) could hit against the Spring Tension Cap (51A) when the pump is being turned.

Seal life can be increased if the pretensioning allows for a little leakage.
This assists lubrication and keeps the seals cool.
It is therefore not necessary to replace seals before the leakage becomes too heavy and causes output and operating pressure to drop.
When reassembling, tighten plunger screws (36A) to the required torque.

Mounting Valve Casing:
Check O-rings on seal case (38).
Clean surfaces of seal sleeves in gear box and sealing surfaces of valve casing.
Push valve casing carefully onto O-rings of seal case and centring studs (50A).
Tighten nuts (49A) to the required torque.

Malfunctions / Remedy
For informations, see assembly instructions Giant Industries.

Materials Used

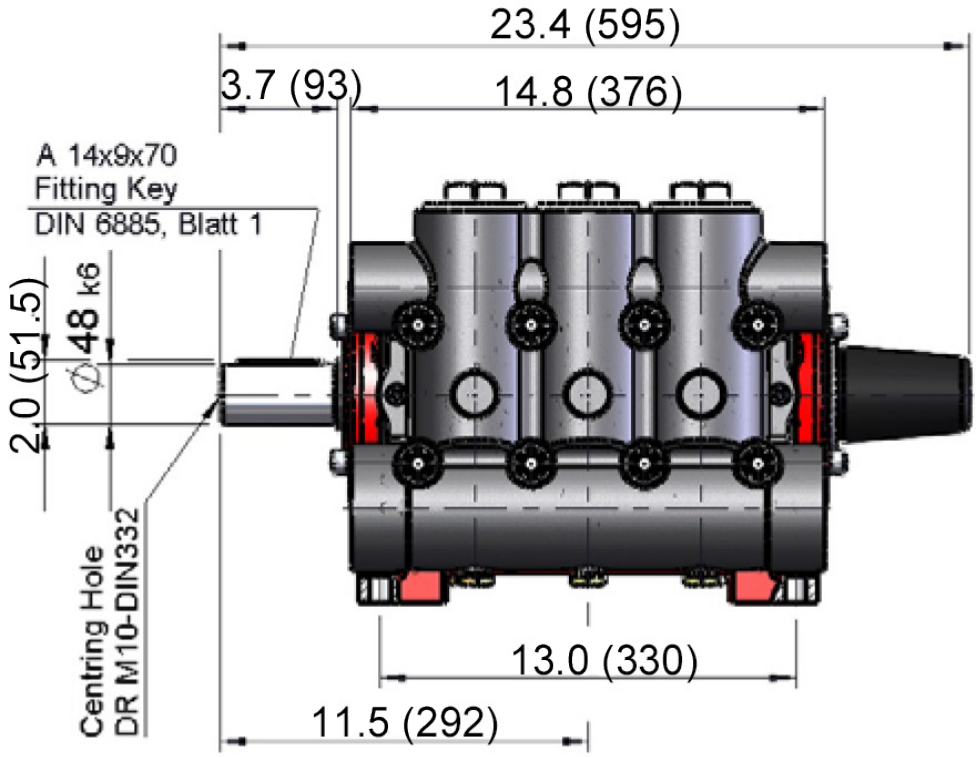
Valve Casing:	Aluminum Bronze (GP7142)
Valve Casing:	Nickel-Plated Cast Iron (GP7242)
G-versions:	Spheroidal Cast Iron
Plunger:	Solid ceramic
Valves:	High-Grade Stainless Steel
Seals:	Nitrile with fabric reinforcing
O-rings:	Nitrile

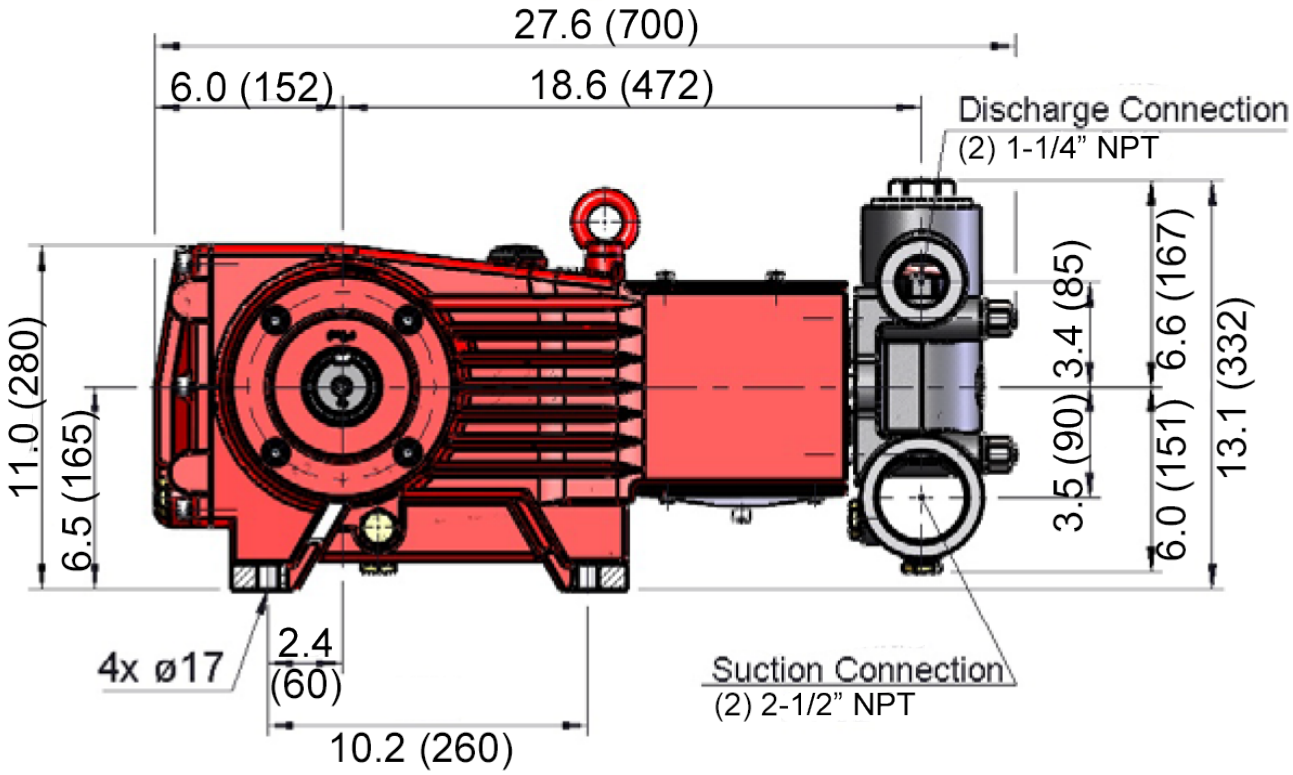
Paint
The pump drive is painted in RAL 3001 as standard.

GP7142/GP7242 TORQUE SPECIFICATIONS

Position	Thread	Lubrication Info	Torque Specifications
1		Molycote/Cu-Paste	
10	M10		33 ft.-lbs. (45 Nm)
12	1/2" BSP		59 ft.-lbs. (80 Nm)
15		Loctite 403	
17	M12		64 ft.-lbs. (87 Nm)
24			30 ft.-lbs. (40 Nm)
30A			89 in.-lbs. (10 Nm)
32		Loctite 403	
36A			33 ft.-lbs. (45 Nm)
36C	M10	Loctite 243	30 ft.-lbs. (40 Nm)
39		Copper Paste - Crankcase Side	
49		Loctite 648 - Crankcase Side	
49A			133 ft.-lbs. (180 Nm)
58			107 ft.-lbs. (145 Nm)

GP7142/GP7242 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

GIANT
Performance Under Pressure

GIANT INDUSTRIES, INC.
900 N. Westwood Ave.
Toledo, Ohio 43607
(419) 531-4600
FAX (419) 531-6836
www.giantpumps.com
© Copyright 2025 Giant Industries, Inc.

04/25 GP7142_GP7242.indd