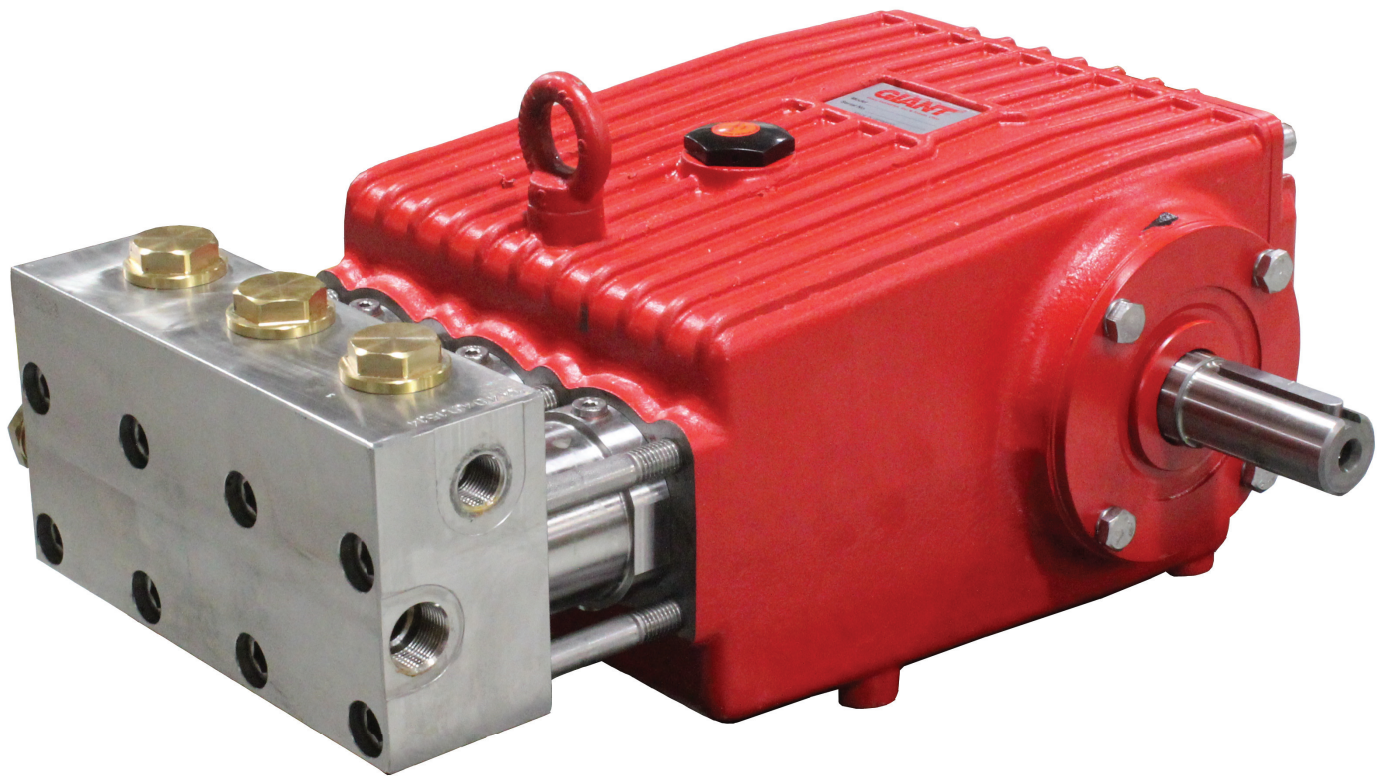


# Models

## GP5120, GP5122 & GP5124

---



updated 07/23

### Contents:

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

# GP5120/GP5122/GP5124 SERIES PUMP SPECIFICATIONS

## 1. Performance

	Max. Flow	Max. Pressure	Max. Speed	Power Req'd.	Max. Temp.	Plunger Diameter	NPSH Required
Model	GPM	PSI	RPM	HP	°F	in	Ft-Head
GP5120	10.5	8700	1000	63.3	140	0.787	27.9
GP5122	11.9	7250	930	59.0	140	0.866	27.9
GP5124	13.2	5800	850	53.8	140	0.945	27.9

	Max. Flow	Max. Pressure	Max. Speed	Power Req'd.	Max. Temp.	Plunger Diameter	NPSH Required
Model	L/min	Bar	RPM	kW	°C	mm	mWs
GP5120	40.0	600	1000	47.2	60	20	8.5
GP5122	45.0	500	930	44.0	60	22	8.5
GP5124	50.0	400	850	40.1	60	24	8.5

### **Common Specifications:**

Inlet Pressure .... -4.35 to 145 PSI (-0.3 to 10 Bar)  
 Max. Temperature ..... 140 °F (60 °C)  
 Crankshaft Diameter..... 1.38" (35mm)  
 Crankcase Oil Capacity ..... 1.2 Gal. (4.4 L)  
 Inlet Ports ..... (2) 3/4" BSP  
 Discharge Ports ..... (2) 1/2" BSP  
 Stroke ..... 1.81" (46mm)  
 Weight ..... 176 lbs (80 kg)  
 Shaft Rotation..... Top of Pulley Toward Fluid End

### **Materials Used:**

Manifold ..... AISI 316 Stainless Steel  
 ..... AISI 303 Stainless Steel (GP5124)  
 Plungers ..... Solid Ceramic  
 Valves ..... High Grade Stainless Steel  
 Seals..... Aramide/Teflon Packing  
 Gear End ..... Spheroidal Cast Iron  
 Crankshaft ..... Drop-forged and case-hardened  
 O-Ring ..... Nitrile

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.

Figures for speed (rpm) and pressure apply for interval operation with cold water. For continuous operation, the speed and the max. operating pressure 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 60 °F (20 °C) at max. permissible pump speed. The inlet pressure on the suction side must not exceed 145 PSI (10 bar). Make sure that suction pulsation is sufficiently dampened – water column resonance must be avoided.

### **Level of noise emission**

Emission sound pressure level: ≤ 90 dB(A)

## 2. Fields of application

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

## 3. Ambient conditions

Ambient temperature: 41 °F < T<sub>Amb.</sub> < 86 °F  
 Ambient temperature: 5 °C < T<sub>Amb.</sub> < 30°C

# GP5120/GP5122/GP5124 Series Pumps

## 4. Oil filling

- Filling quantity: **1.2 gallons (4.4 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**

## 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 with the shaft guard, position the guard directly over the groove in the middle of the bearing cover and gently tap it into the groove using a plastic hammer.

### 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

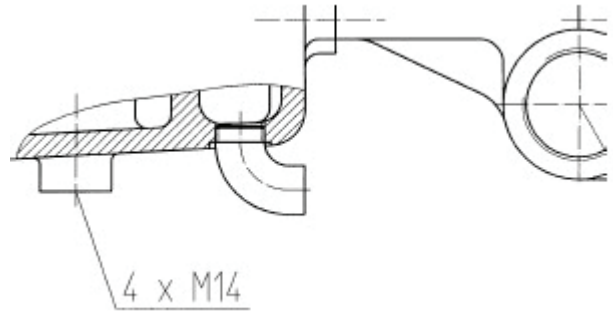
Recommended mesh size 150 µm.

## 5.4 Draining Leakage



The 1/2" BSP connection in the crankcase serves the purpose of draining leakage water.

The connection must not be closed off.



## 5.5 Putting into Operation

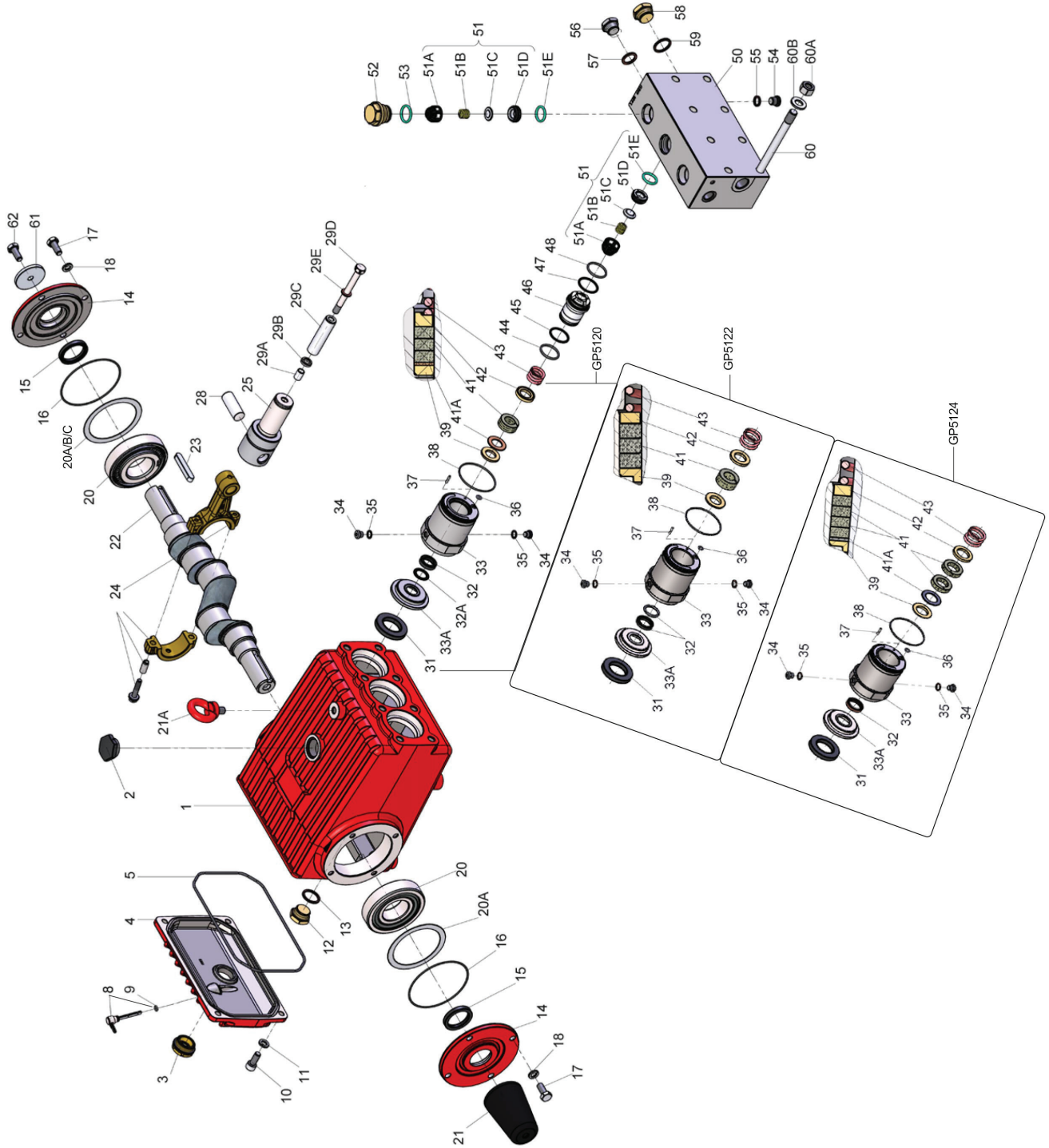


Before putting the pump into operation for the first time, and every time the suction line is emptied, the plugs (34) must be removed and the pump cranked manually or started briefly until water emerges out of the plug bores. This procedure serves to vent the drip-return so that the low-pressure seals (32) do not run dry. Thereafter the plugs (34) must be screwed back on and tightened.

## 6. Operation

For information, see assembly instructions Giant Pumps on page 7.

# EXPLODED VIEW - GP5120, GP5122 & GP5124 PUMPS



## GP5120, GP5122 & GP5124 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	13266	Crankcase	1	37	22764	Notched Pin	3
2	13000	Oil Filler Plug Assembly	1	38	07303	O-Ring	3
3	05943	Oil Sight Glass Assembly	1	39	04492	Guide Ring (GP5120)	3
4	13267	Crankcase Cover	1	39	04503	Guide Ring (GP5122)	3
5	13268	O-Ring	1	39	04381	Guide Ring (GP5124)	3
8	07105	Oil Dip Stick Assembly	1	41	03553	Spiral Ring (GP5120)	3
9	01009	O-Ring, Dip Stick	1	41	04504	Spiral Ring (GP5122)	3
10	07008	Inner Hexagon Screw	4	41	07685	Spiral Ring (GP5124)	6
11	06725	Spring Washer	4	41A	04475	Guide Ring (GP5120)	3
12	07703	Drain Plug, 3/4" BSP	1	41A	07718	Support Ring (GP5124)	3
13	07704	Gasket, Drain Plug	1	42	04476	Support Disc (GP5120)	3
14	13271	Bearing Cover	2	42	04505	Support Disc (GP5122)	3
15	13272	Radial Shaft Seal	2	42	04510	Support Disc (GP5124)	3
16	08182	O-Ring	2	43	07210	Pressure Spring (GP5120)	3
17	13358	Hexagon Screw	8	43	07338	Pressure Spring (GP5122 & GP5124)	3
18	06725	Spring Washer	8				
20	13206	Taper Roller Bearing	2	44	07150	O-Ring (GP5120)	3
20A	13207	Shim, 0.1 mm	1-2	44	12055	O-Ring (GP5122 & GP5124)	3
20B	04723	Shim, 0.15 mm	1-2				
20C	04724	Shim, 0.2 mm	1-2	45	04493	Support Ring (GP5120)	3
21	13273	Shaft Protector	1	45	07693	Support Ring (GP5122 & GP5124)	3
21A	07623	Eye Bolt	1				
22	13274	Crankshaft	1	46	04477	Seal Case (GP5120)	3
23	13275	Fitting Key	1	46	04511	Seal Case (GP5122 & GP5124)	3
24	13276	Connecting Rod Assembly	3				
25	13279	Crosshead Assembly	3	47	06266	Support Ring	3
28	13281	Crosshead Pin	3	48	07150	O-Ring	3
29A	07125	Centering Sleeve	3	50	04494	Valve Casing (GP5120 & GP5122)	1
29B	04489	Pluger Extension (GP5120)	3				
29B	04500	Pluger Extension (GP5122)	3	50	04512	Valve Casing (GP5124)	1
29B	04506	Pluger Extension (GP5124)	3	51	04513	Valve Assembly	6
29C	07126	Plunger Pipe (GP5120)	3	51A	06939	Spring Tension Cap	6
29C	04501	Plunger Pipe (GP5122)	3	51B	06377	Valve Spring	6
29C	07127	Plunger Pipe (GP5124)	3	51C	06938	Valve Plate	6
29D	04507	Tensioning Screw	3	51D	06937	Valve Seat	6
29E	07755	Copper Ring	3	51E	04123	O-Ring	6
31	13284	Radial Shaft Seal	3	52	05971	Plug, M33 x 1.5	3
32	13037	Grooved Ring (GP5120)	3	53	05972	O-Ring	3
32	06249	Grooved Ring Set (GP5122)	3	54	07423	Plug, 1/4" BSP	3
32	13049	Grooved Ring (GP5124)	3	55	07161	Copper Ring, 1/4"	3
32A	08346	Support Ring (GP5120)	3	56	07109-0400	Plug, 1/2" BSP	1
33	04490	Seal Sleeve (GP5120)	3	57	06272	Copper Seal Ring	1
33	04509	Seal Sleeve (GP5122 & GP5124)	3	58	07703	Plug, 3/4" BSP	1
				59	07704	Copper Seal Ring	1
33A	04491	Centring Ring (GP5120)	3	60	03554	Inner Hexagon Screw	8
33A	04502	Centring Ring (GP5122)	3	60A	03555	Hexagon Nut	8
33A	04508	Centring Ring (GP5124)	3	60B	03556	Washer	8
34	06589	Plug, 1/8" BSP	6	61	13362	Disc for Crankshaft	1
35	06709	Seal	6	62	13358	Hexagon Screw	1
36	07023	O-Ring	3				

## GP5120, GP5122 and GP5124 REPAIR KITS

### Plunger Packing Kits

#### GP5120 - #09784

Item	Part#	Description	Qty.
32	13037	Grooved Ring	3
32A	08346	Support Ring	3
36	07023	O-Ring	3
38	07303	O-Ring	3
39	04492	Grooved Ring	3
41	03553	Spiral Ring	3
41A	04475	Guide Ring	3
44	07150	O-Ring	3
45	04493	Support Ring	3
47	06266	Support Ring	3
48	07150	O-Ring	3

#### GP5122 - #09785

Item	Part#	Description	Qty.
32	06249	Grooved Ring Set	3
36	07023	O-Ring	3
38	07303	O-Ring	3
39	04503	Guide Ring	3
41	04504	Spiral Ring	3
44	12055	O-Ring	3
45	07693	Support Ring	3
47	06266	Support Ring	3
48	07150	O-Ring	3

### Plunger Packing Kit

#### GP5124 - #09786

Item	Part#	Description	Qty.
32	13049	Grooved Ring	3
36	07023	O-Ring	3
38	07303	O-Ring	3
39	04381	Guide Ring	3
41	07685	Spiral Ring	6
41A	07718	Support Ring	3
44	12055	O-Ring	3
45	07693	Support Ring	3
47	06266	Support Ring	3
48	07150	O-Ring	3

### Valve Assembly Kit

#### #09787

Item	Part #	Description	Qty.
47	06266	Support Ring	3
48	07150	O-Ring	3
51	04513	Valve Assembly	6
53	05972	O-Ring	3

### Oil Seal Kit

#### #09230

Item	Part #	Description	Qty.
31	13284	Oil Seal	3

GP5120, GP5122 and GP5124 TORQUE SPECIFICATIONS					
Position	Item #	Thread	Description	Lubrication Info	Torque Amount
3	05943	1" BSP	Oil Sight Glass Assembly	Loctite 5910	22 ft.-lbs. (30 Nm)
10	07008	M10	Inner Hexagon Screw		33 ft.-lbs. (45 Nm)
12	07703	3/4" BSP	Drain Plug, 3/4" BSP		74 ft.-lbs. (100 Nm)
15	13272		Radial Shaft Seal	Loctite 403	
17	13358	M10	Hexagon Screw		33 ft.-lbs. (45 Nm)
24	13276	M8	Connecting Rod Assembly		22 ft.-lbs. (30 Nm)
29D	04507	M10	Tensioning Screw	Loctite 243	22 ft.-lbs. (30 Nm)
31	13284		Radial Shaft Screw	Loctite 403	
33	04490/ 04509		Seal Sleeve	Copper Paste Crankcase Side	
33A	04491/04502 /04508		Centring Ring	Copper Paste Crankcase Side	
52	05971	M33x1.5	Plug, M33 x 1.5		107 ft.-lbs. (145 Nm)
56	07109-0400	1/2" BSP	Plug, 1/2" BSP		406 ft.-lbs. (550 Nm)
58	07703	3/4" BSP	Plug, 3/4" BSP		406 ft.-lbs. (550 Nm)
60A	03555	M14	Hexagon Nut		89 ft.-lbs. (120 Nm)

# GP5120, GP5122 and GP5124 REPAIR INSTRUCTIONS

## 8. Maintenance and Servicing

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

### 8.1 Special tools required

The following special tools are required for assembly:

- Pull-out tool size 1 (Ø12-Ø16)

### 8.2 Discharge Valves

Remove valve plugs (52) using a ring spanner.

Using a screwdriver, carefully push the exposed spring tension cap (51A) to the side to remove it from the valve seat.

Take out the spring tension cap, valve spring (51B) and valve plate (51C).

Pull out valve seat (51D) using a size 1 extractor tool (Ø12-Ø16).

To dismantle the complete valve, place a screwdriver through a gap in the spring tension cap, press on the valve plate and lever the valve apart.

Tighten plugs (52) to the required torque.

### Suction Valves

Remove Stud bolt (60) and pull valve casing (50) past the plungers and off to the front.

Continue as described above under Discharge Valves.

Examine valves and replace worn parts.

### 8.3 Seals and Plunger

Unscrew the 8 Hexagon nut (60A).

Pull the valve casing off to the front.

Pull seal sleeves (33) out of the guides in the crankcase. Screw out plugs (34).

Check that the leakage bores are free from deposits of all kinds.

Take seal case (46) out of the seal sleeve (33), if necessary by pushing it out from the rear side of the seal sleeve using a rod.

Take tension spring (43) and seal unit (39-42) out of the seal sleeve.

Examine plunger surfaces and seals.

Replace seals if worn.

Note the sequence of installation – see detailed illustration in Exploded drawing.

After removing centring ring (33A), examine leakage seal (32) (and 31A regarding P55/40) and replace if necessary.

If the plunger surface is worn, remove tension screw (29D), clean the centring hole and the front of the plunger crosshead (25).

Then carefully thread a new plunger pipe through oiled seals into the seal sleeve.

Put centring sleeve (29A) together with plunger extension (29B) on to plunger crosshead (25).

Place the seal sleeves together with the plunger pipe into the drive.

Put a new copper seal ring (29E) onto tension screw (29D).

Lightly coat the threads of the tension screw as well as the seal ring with thread-locker and tighten to the required torque.



Under no circumstances should thread-locker get between the plunger extension (29B), plunger pipe (29B) and the centring sleeve (29A).

Tensioning of the plunger pipe due to eccentric tightening of the tensioning screw or due to dirt or damage to the contact surface can lead to breakage of the plunger pipe.

The seal sleeves must be fitted so that grooved pins (37) are on top.

Put tension spring (43) into seal casing (33) and place the seal case (46) into the valve casing.

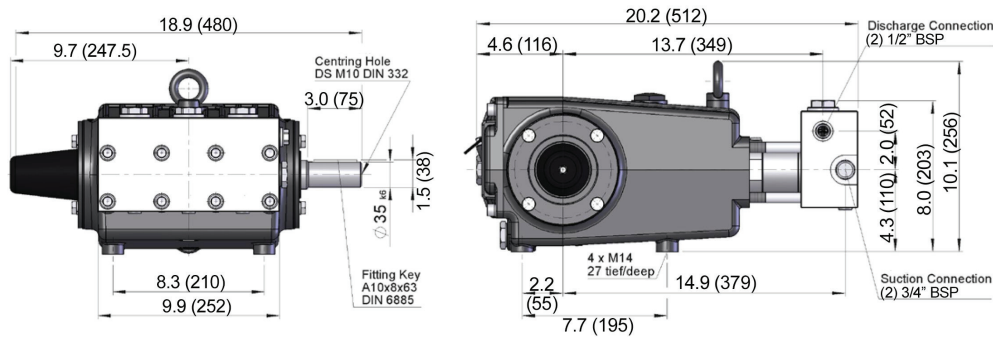
Carefully centre the valve casing with the fitted seal cases onto the seal sleeves and against the crankcase.

Tighten the nuts (60A) for the valve casing evenly to the required torque.

Check torque tension after 3-5 operating hours.

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

## 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)