

Models P57 & P57-0011

Triplex Ceramic
Plunger Pump
Operating Instructions/
Repair and Service
Manual



Updated 05/25

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P57 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)
P57	6.3 (4.7)	5000 (350) 6500 (450)*	1420	1.3 (5.1)	160 (70)	0.47 (12)	0.56 (14.1)	17.6 (8)	27.9 (8.5)

*Intermittent Duty - Maximum pressures of 6500 PSI (450 bar) only apply for very frequent intermittent operation such as when testing tanks and pipelines whereby the maximum operating pressure is only attained for a very short period of time (a few minutes).

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.

Maximum inlet pressure: 29 PSI (2 bar)

Level of noise emission

Emission sound pressure level: ≤ 78 dB(A)

Fields of application

The pump types specified in this data sheet are designed for the following applications:

- testing and pressing pipes and vessels
- process engineering
- high pressure injection-pump

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

Ambient conditions

Ambient temperature: 41 °F < $T_{Amb.}$ < 86 °F

Ambient temperature: 5 °C < $T_{Amb.}$ < 30 °C

Oil filling

Filling quantity: 15.2 fl. oz. (0,45 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**.

Installation/ Putting into Operation

Shaft protector

When the pump is in operation, the open shaft end must be covered up by shaft protector (17), the driven shaft side and coupling by a contact-protector.

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.

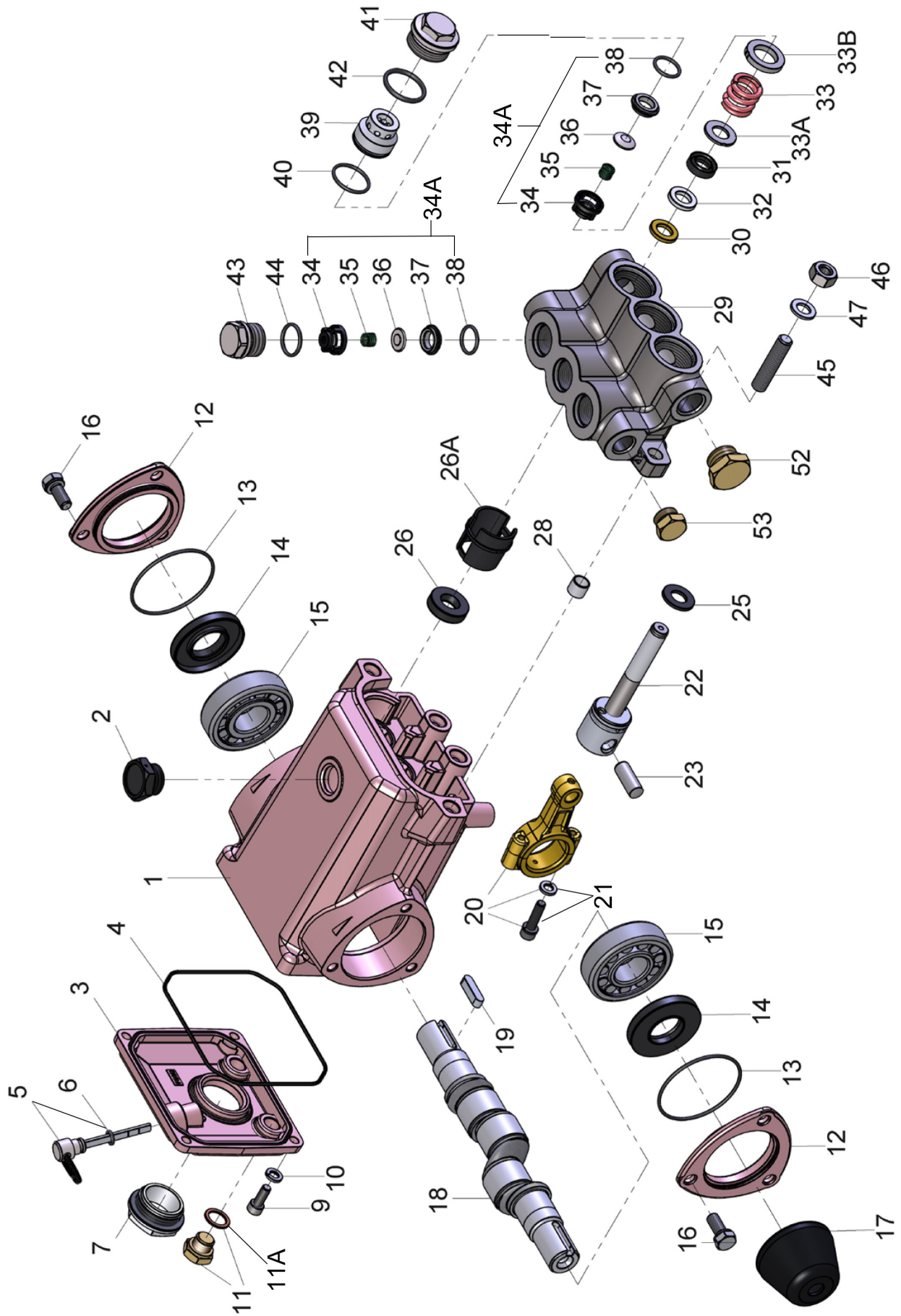
Operation

For informations, see assembly instructions Giant Industries

P57 HORSEPOWER REQUIREMENTS					
RPM	GPM	3000 PSI	4000 PSI	5000 PSI	6500 PSI*
500	0.5	1.0	1.4	1.7	2.3
750	0.7	1.4	1.9	2.4	3.2
1000	0.9	1.9	2.5	3.1	4.1
1250	1.1	2.3	3.0	3.8	5.0
1420	1.3	2.7	3.6	4.5	5.8

*Intermittent duty

Exploded View - P57 & P57-0011



P57 & P57-0011 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	07180	Crankcase	1	30	12130	Pressure Ring	3
2	07181	Oil Fill Plug Assembly	1	31	08354	Grooved Seal (P57)	3
2A	07182	Gasket (not shown)	1	31	07391-0010	Grooved Seal, Viton (P57-0011)	3
3	07183	Cover, Crankcase	1	32	07941	Support Ring	3
4	07184	O-Ring, Crankcase Cover	1	33	12132	Pressure Spring	3
5	07185	Oil Dip Stick Assembly	1	33A	12133	Support Disc I	3
6	01009	O-Ring, Dip Stick	1	33B	12134	Support Disc II	3
7	07186	Oil Sight Glass Assembly	1	34	07907	Spring Tension Disc	6
9	07188	Screw, Crankcase Cover	4	34A	03753	Valve Assembly (34-38)	6
10	07223-0100	Spring Washer	4	35	07906-0100	Valve Spring	6
11	07190	Oil Drain Plug Assembly	1	36	07491	Valve Plate	6
11A	13262	Gasket	1	37	03754	Valve Seat	6
12	13402	Bearing Cover	2	38	07853	O-Ring (P57)	6
13	07193	O-Ring, Bearing Cover	2	38	07853-0001	O-Ring, Viton (P57-0011)	6
14	01166	Radial Shaft Seal	2	39	07940	Suction Valve Retainer	3
15	01086	Bearing	2	40	07212	O-Ring (P57)	3
16	07114	Hex Screw with Washer	6	40	07212-0001	O-Ring, Viton (P57-0011)	3
17	05023	Shaft Protector	1	41	12135	Plug, Inlet	3
18	12128	Crankshaft	1	42	07214	O-Ring (P57)	3
19	03385	Fitting Key	1	42	07214-0001	O-Ring, Viton (P57-0011)	3
20	07199	Connecting Rod Assembly	3	43	12136	Plug, Outlet	3
21	01027	Screw with Washer	6	44	07913	O-Ring (P57)	3
22	07396	Plunger Assembly	3	44	07913-0001	O-Ring, Viton (P57-0001)	3
23	01031	Crosshead Pin	3	45	07215	Stud Bolt	4
25	13403	Flinger	3	46	08040	Hex Nut	4
26	08026	Radial Shaft Seal	3	47	08041	Spring Ring	4
26A	13346	Spacer Sleeve	3	52	12250	Plug, 1/2" BSP, S.S.	1
28	07207	Centering Sleeve	2	53	12138	Plug, 3/8" BSP, S.S.	1
29	12226	Manifold	1				

P57 & P57-0011 REPAIR KITS

Plunger Packing Kit #09313 (P57)

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
31	08354	Grooved Seal	3
32	07941	Support Ring	3
40	07212	O-Ring	3
42	07214	O-Ring	3

Valve Assembly Kit #09315 (P57)

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
34A	03753	Valve Assembly	6
40	07212	O-Ring	3
42	07214	O-Ring	3
44	07913	O-Ring	3

Plunger Packing Kit #09313-0011 (P57-0011)

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
31	07391-0010	Grooved Seal Assy.	3
32	07941	Support Ring	3
40	07212-0001	O-Ring, Viton	3
42	07214-0001	O-Ring, Viton	3

Oil Seal Kit #09314 (P57 & P57-0011)

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
25	13403	Flinger	3
26	08026	Radial Shaft Seal	3

REPAIR INSTRUCTIONS - P57 & P57-0011

Maintenance and Servicing

For the type of thread locker used and the required tightening torques, observe the table below.

Special tools required

The following special tools are required for assembly:

- Pull-out tool Ø12

Suction and Discharge Valves

Suction Valve:

Remove plugs (41).

Take out suction valve adaptor (39) together with suction valve assembly (34-38).

Push valve parts out of suction valve adaptor using a soft tool. Check and replace worn parts.

Check O-rings (38,40,41 & 42) and replace as necessary.

Discharge Valve:

Remove plugs (43).

Remove spring tension cap (34), valve spring (35) and valve plate (36) underneath.

Take out valve seat (37) with a Ø12 mm pull-out device.

Check and replace worn parts.

Check O-rings (38,44) and replace as necessary.

Tighten plugs (41, 43) to the required torque.

Take care to reassemble in correct sequence.

Seals and Plunger

Remove plugs (41).

Loosen nuts (46) and remove valve casing (29) from plungers (22), pulling it out to the front.

Take out suction valve adaptor (39), tension spring (33), support disc (33A) and seal-unit (30, 31, 32).

Check surfaces of plunger pipes as damaged surfaces cause fast wear to the seals.

Check O-rings (40, 42) and grooved seal (31), replace as necessary.

When replacing, wet new seals and O-rings thinly with silicone grease or mineral oil and insert carefully.

Pay attention to the installation position of the seals.

Check surfaces on the plunger (22).

Damaged surfaces cause accelerated seal wear.

Deposits of all kinds must be removed from the plungers.



The plunger surfaces are not to be damaged.

If the plunger (22) is worn, the complete plunger must be changed.

The ceramic pipe alone cannot be changed due to reasons of precision.

For replacement please contact manufacturer.

Install support disc (33A), tension spring (33) and suction valve adaptor (39), then tighten plug (41) to the required torque.

Fix valve casing (29) by tightening nuts (46) 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: AISI 316L

Plunger: Hard metal-coated stainless steel

Valves: High-Grade Stainless Steel

Seals: Nitrile with fabric reinforcing

O-Rings: Nitrile

Paint

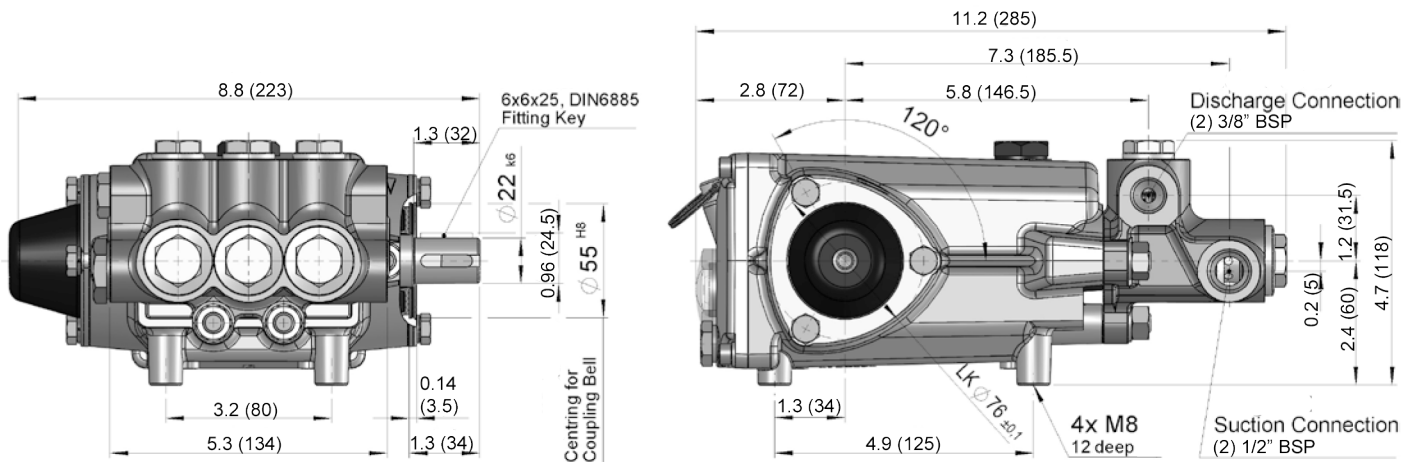
The pump drive is painted in RAL 3001 as standard.

P57 & P57-0011 TORQUE SPECIFICATIONS

Position	Thread	Lubrication Info.	Torque Amount
7	1" BSP	Loctite 5910	106 in.-lbs. (12 Nm)
9	M6		88 in.-lbs. (10 Nm)
11	1/4" BSP		22 ft. lbs. (30 Nm)
16	M8		132 in.-lbs (15 Nm)
20	M6		106 in.-lbs. (12 Nm)
41	M30 x 1.5		52 ft.-lbs. (70 Nm)
43	M22 x 1.5	Loctite 243	52 ft.-lbs. (70 Nm)
46	M10		35 ft.-lbs. (47.5 Nm)

NOTE: Contact Giant Industries for Service School Information. Phone: (419)-531-4600

P57 & P57-0011 PUMP DIMENSIONS - mm (inches)



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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Performance Under Pressure

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