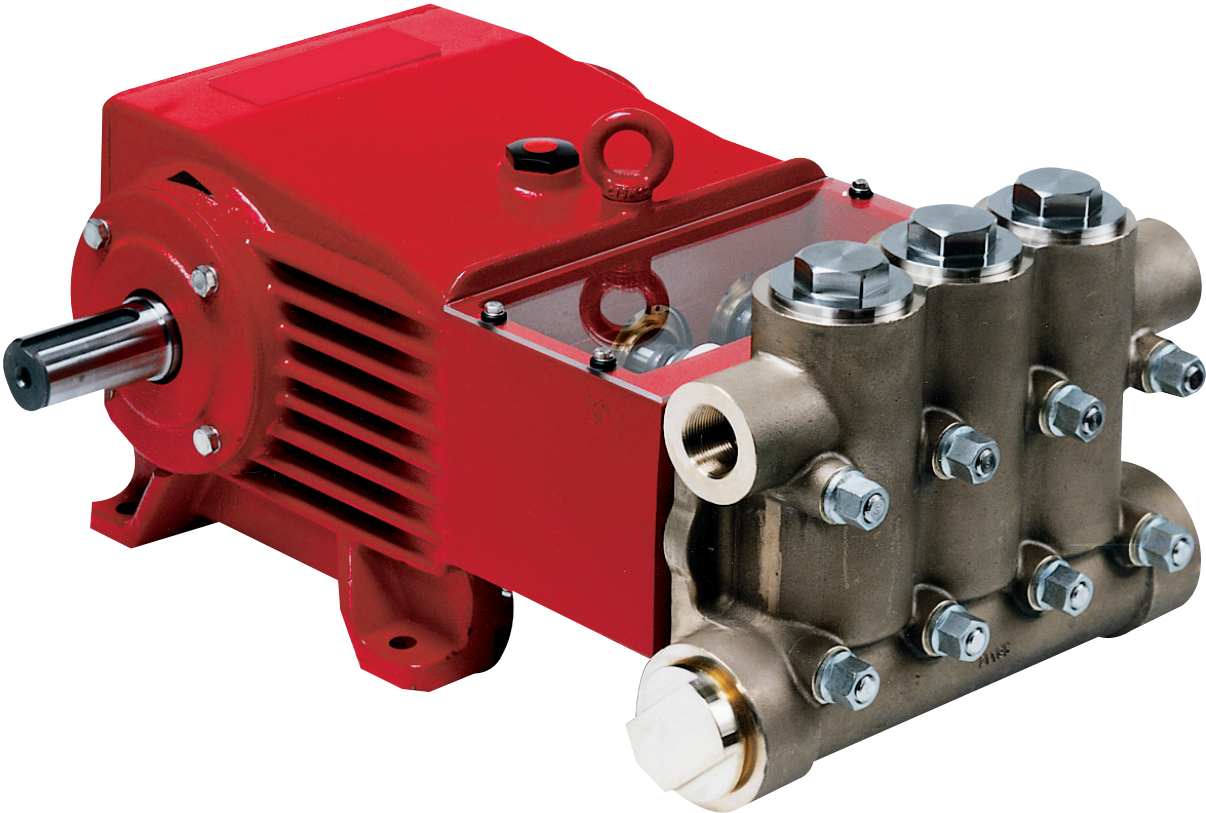


# Model

# CGP7155-1023

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# INSTALLATION INSTRUCTIONS

## Operation

Check oil level prior to starting and ensure trouble-free water supply.

**Important!** The crankcase must be filled with synthetic motor oil of class SAE 0W 40 when pumping CO<sub>2</sub> under 0° C.

Initial oil change after 50 operating hours and then every 500 hours, after 1 year if used less. Caution when operating in damp places or with high temperature fluctuations. Oil must be changed immediately should condensate (frothy oil) occur in the gear box.

### **NPSH values must be observed.**

Maximum input pressure is 508 PSI (35 bar). The maximum suction head is 14.5 PSI (1 bar). Make sure that suction pulsation is sufficiently dampened - water column resonance must be avoided.

**Important!** If the pump is not used for a long period of time, it is possible the seals (39A/43) could become hard or brittle thus causing the pump to leak when put into operation. If this is the case, we recommend these seals be replaced every 4 years.

## Safety Rules

A safety valve is to be installed in accordance with the guidelines for liquid spraying units so that the admissible operating pressure cannot be exceeded by more than 10%. Pump operation without a safety valve as well as any excess in temperature or speed limits automatically voids the warranty.

When the pump is in operation, the drive shaft end and the coupling must be enclosed by a protective cover or a coupling bell.

Pressure in the discharge line and pump must be at zero before any maintenance to the pump takes place. Shut off suction line. Disconnect fuses to ensure that the driving motor does not get switched on accidentally. Make sure that all parts on the pressure side of the unit are vented before starting the pump. In order to prevent air, or an air-water mixture being absorbed and to prevent cavitation occurring, the pump NPSHR (=suction head) and water temperature must be respected.

**Cavitation and/or compression of gases lead to uncontrollable pressure-kicks which can ruin pump and unit parts and also be dangerous to the operator or anyone standing nearby.**

Giant Plunger Pumps are suitable for pumping clean water and other non-aggressive or non-abrasive media with a specific weight similar to water.

**Before pumping other liquids • especially Inflammable, explosive and toxic media - the pump manufacturer must be consulted with regard to the resistance of the pump material. It is the responsibility of the equipment manufacture and/or operator to ensure that all pertinent safety regulations are adhered to.**

# Specifications

## Model CGP7155-1023

	U.S.	Metric
Volume.....	51.5 GPM.....	195 LPM
Discharge Pressure .....	1500 PSI .....	100 bar
Speed .....		550 RPM
Inlet Pressure.....	870 PSI .....	60 bar
Plunger Diameter.....	2.17" .....	55mm
Plunger Stroke .....	2.05" .....	52mm
Crankshaft Diameter.....	1.89" .....	48mm
Key Width .....	0.55" .....	14mm
Crankshaft Mounting.....		Either side
Shaft Rotation .....		Top of pulley towards manifold
Temperature of Pumped Fluids.....	-40 °F to 140 °F ...	-40 °C to 60 °C
Inlet Ports.....		(2) 2-1/2" BSP
Discharge Ports .....		(2) 1-1/4" BSP
Weight.....	374 lbs. ....	170 kg
Crankcase Oil Capacity .....	1.6 Gal. ....	6.0 liters
Fluid End Material.....		Nickle-plated Spherodical Cast Iron

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.

### PULLEY INFORMATION

Pulley selection and pump speed are based on a 1725 RPM motor and "B" section belts. When selecting desired GPM, allow for a ±5% tolerance on pumps output due to variations in pulleys, belts and motors among manufacturers.

1. Select GPM required, then select appropriate motor and pump pulley from the same line.
2. The desired pressure is achieved by selecting the correct nozzle size that corresponds with the pump GPM.

### HORSEPOWER INFORMATION

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

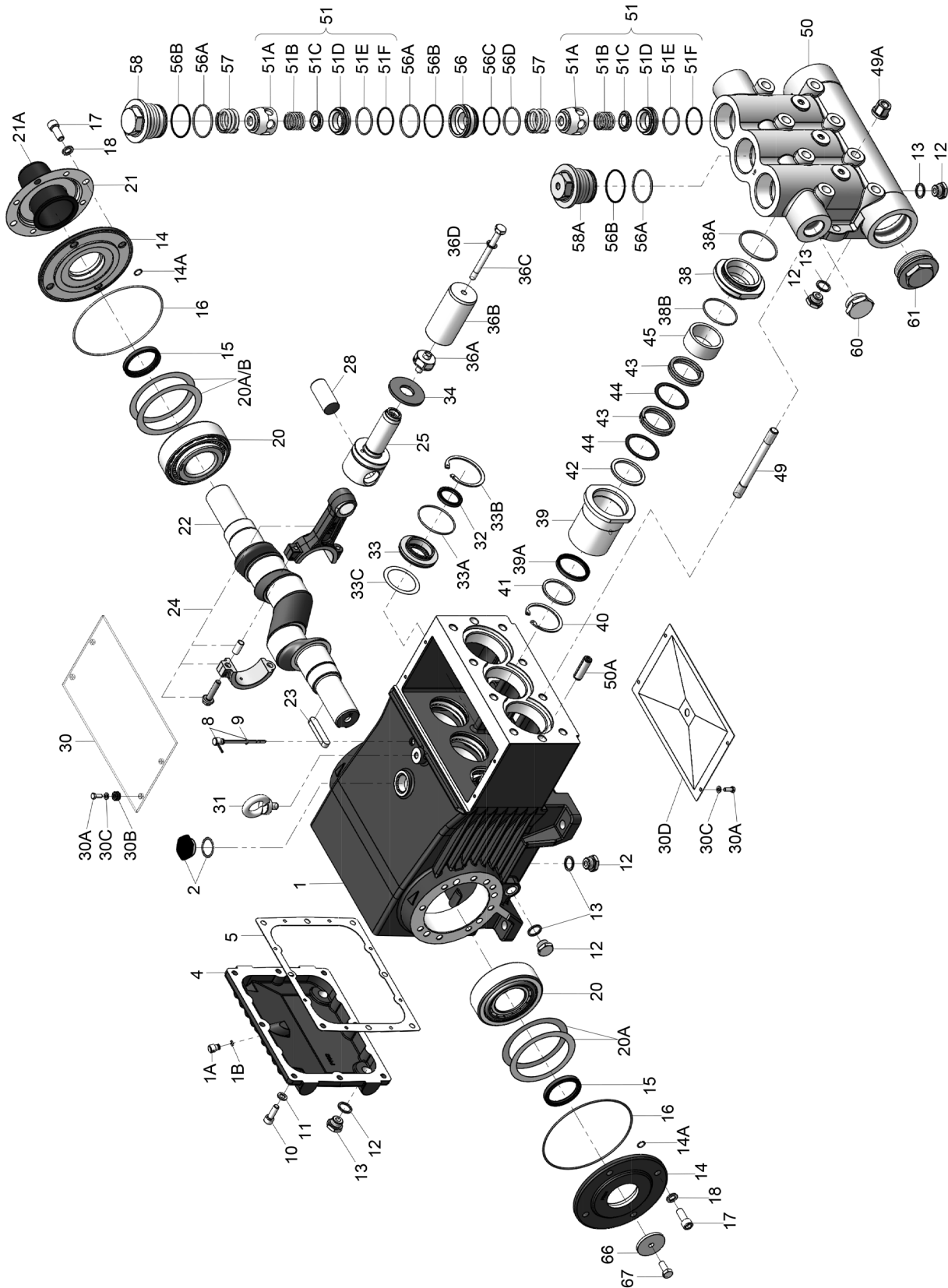
We recommend that a 1.15 service factor be specified when selecting an electric motor as the power source. To compute specific pump horsepower requirements, use the following formula:

$$(GPM \times PSI) / 1450 = HP$$

<b>CGP7155-1023 HORSEPOWER REQUIREMENTS</b>					
RPM	GPM	800 PSI	1000 PSI	1300 PSI	1500 PSI
250	23.4	13.4	16.7	21.7	25.1
350	32.8	18.7	23.4	30.4	35.1
450	42.1	24.1	30.1	39.1	45.1
550	51.5	29.4	36.8	47.8	55.2

# Exploded View - CGP7155-1023

Note: Elastomers should not come into contact with mineral oil or mineral grease.  
Use silicone grease only.



## PARTS LIST - CGP7155-1023

ITEM	PART	DESCRIPTION	QTY.	ITEM	PART	DESCRIPTION	QTY.
1	CP05769	Crankcase	1	34	CP13137	Oil Scraper	3
1A	CP05525	Head of Oil Dipstick	1	36A	CP03552	Plunger Connection	3
1B	CP01009	O-Ring	1	36B	CP07666	Plunger Pipe	3
2	CP13000	Oil Filler Plug Assembly	1	36C	CP07664	Tension Screw	3
4	CP07601	Crankcase Cover	1	36D	CP07665	Copper Ring	3
5	CP05798	Gasket, Crankcase Cover	1	38	CP05715	Seal Case	3
8	CP07603	Oil Dip Stick Assembly	1	38A	CP13156-0003	O-Ring, EPDM	3
9	CP01009	O-Ring, Dip Stick	1	38B	CP07721-0003	O-Ring, EPDM	3
10	CP22706	Hexagon Screw	8	39	CP04768	Seal Sleeve	3
11	CP06725	Spring Washer	8	39A	CP04739	V-Sleeve	3
12	CP06272	Drain Plug	6	40	CP05719	Circlip	3
13	CP07182	Gasket, Drain Plug	6	41	CP04766	Support Ring	3
14	CP05770	Bearing Cover	2	42	CP03548	Guide Ring	3
14A	CP12204	O-Ring	8	43	CP03549	Shaft Seal Ring	6
15	CP05771	Radial Shaft Seal	2	44	CP03550	Support Ring	6
16	CP05772	O-Ring	2	45	CP03551	Spacer Pipe	3
17	CP05642	Inner Hexagon Screw	8	49	CP06958	Stud Bolt	8
18	CP05039	Spring Washer	8	49A	CP13160	Hex Nut	8
20	CP05773	Taper Roller Bearing	2	50	CP05758	Valve Casing	1
20A	CP05774	Fitting Disc, 0.1mm	1-4	50A	CP13162	Cylinder Stud	2
20B	CP04570	Shim, 0.15mm	1-4	51	CP05759	Valve Assembly (51A-F)	6
21	CP05645	Holder for Shaft Protector	1	51A	CP13165A	Spacer Pipe	6
21A	CP05646	Shaft Protector	1	51B	CP07732-0100	Valve Spring	6
22	CP05775	Crankshaft	1	51C	CP05314	Valve Plate	6
23	CP07614	Key	1	51D	CP05136A	Valve Seat	6
24	CP05777	Connecting Rod Assembly	3	51E	CP07653-0003	O-Ring	6
25	CP05778	Crosshead Assembly	3	51F	CP13166	Support Ring	6
28	CP05779	Crosshead Pin	3	56	CP03478	Valve Adaptor	3
30	CP07600	Cover Plate	1	56A	CP07658-0003	O-Ring, EPDM	6
30A	CP07225-0100	Hexagon Screw	8	56B	CP07635	Support Ring	6
30B	CP13136	Grommet	4	56C	CP13166	Support Ring	3
30C	CP05053	Washer	8	56D	CP07653-0003	O-Ring, EPDM	3
30D	CP13154	Cover Plate	1	57	CP13173	Tension Spring	6
31	CP07623	Eye Bolt	1	58	CP13170	Plug, M64 x 2	3
32	CP07624	Radial Shaft Seal	3	60	CP13151	Plug, 1-1/4" BSP	1
33	CP07626	Seal Retainer	3	61	CP13171	Plug, 2-1/2" BSP	1
33A	CP07627	O-Ring	3	66	CP13362	Disc For Crankshaft	1
33B	CP07628	Circlip	3	67	CP13358	Hexagon Screw	1
33C	CP07249	Fitting Disc	3		CP07662	Valve Removal Tool	1

## REPAIR KITS - CGP7155-1023

### Plunger Packing Kit

#### # CP09593B

Item	Part #	Description	Qty.
38A	CP13156-0003	O-Ring, EPDM	3
38B	CP07721-0003	O-Ring, EPDM	3
39A	CP04739	V-Sleeve	3
40	CP05719	Circlip	3
43	CP03549	Shaft Seal Ring	6
44	CP03550	Support Ring	6

### Oil Seal Kit

#### # CP09221

Item	Part #	Description	Qty.
32	CP07624	Radial Shaft Seal	3
32A	CP07625	Shaft Seal	3
33A	CP07627	O-Ring, Oil Seal Housing	3

### Valve Assembly Kit

#### # CP09604A-0003

Item	Part #	Description	Qty.
51B	CP07732-0100	Valve Spring	6
51C	CP05314	Valve Plate	6
51D	CP05136A	Valve Seat	6
51E	CP07653-0003	O-Ring, EPDM	6
51F	CP13166	Support Ring	6
56A	CP07658-0003	O-Ring, EPDM	6
56B	CP07635	Support Ring	6
56C	CP13166	Support Ring	3
56D	CP07653-0003	O-Ring, EPDM	3

# CGP7155-1023 REPAIR INSTRUCTIONS

**Note: Elastomers should not come into contact with mineral oil or mineral grease. Use silicone grease only.**

## TO CHECK VALVES

Loosen plugs (58), take out tension spring (57) and then remove the complete valve assemblies (51) with either a valve tool (07662) or an M16 hexagon screw. Remove valve adapter (56) and tension spring (57) with pull-out tool size 5. To disassemble valve assemblies, hit the top of the valve plate (C) carefully with a bolt and press the valve seat (A) out of the spacer pipe (E). Check sealing surfaces and replace worn parts. Check o-rings (51E, 56A & 56D) and support rings (51F, 56B & 56C). Tighten plugs (58) to 107 ft. lbs.

## TO CHECK SEALS AND PLUNGER PIPE

Loosen nuts (49A) and remove pump head (50). Separate plunger connection (36A) from crosshead (25) by means of two open-end wrenches (size 22 and 27). Pull seal sleeves (39) out of their fittings in the crankcase (1). Take seal case (38) out of seal sleeve (39). Examine plunger parts (36A-36D), seals (43,39A) and o-rings (38A & 38B). When replacing plunger pipe (36B), tighten tension screws (36C) to 30 ft.-lbs. (40 Nm). Replace worn parts; grease seals with Silicone before installing.

**CAUTION:** Don't loosen the 3 plunger connections (36A) before the valve casing has been removed otherwise the tension screw (36C) could hit against the spacer pipe (51E) 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.

## MOUNTING VALVE CASING

Check O-rings (38A/38B) on seal case (38). Clean surfaces of seal sleeves in gear box (1) and sealing surfaces of valve casing (50). Push valve casing carefully on O-rings of seal case and centering studs (50A). Tighten nuts (49A) to 103 ft.-lbs. (180 Nm).

## TO DISASSEMBLE GEAR

Take out plunger and seal sleeves as described above. Drain oil. After removing the circlip ring (33B), lever out seal retainer (33) with a screw driver. Check seals (32, 33A) and surfaces of crosshead. Remove crankcase cover (4). Loosen inner hexagon screws on the connecting rods (24) and push connecting rod halves as far into the crosshead guide as possible.

**Note:** Connecting rods are marked for identification. Do not twist connecting rod halves. Connecting rod is to be reinstalled in the same position on shaft journals. Check surfaces of connecting rod and crankshaft (22) take out bearing cover to one side and push out crankshaft taking particular care that the conrod doesn't get bent.

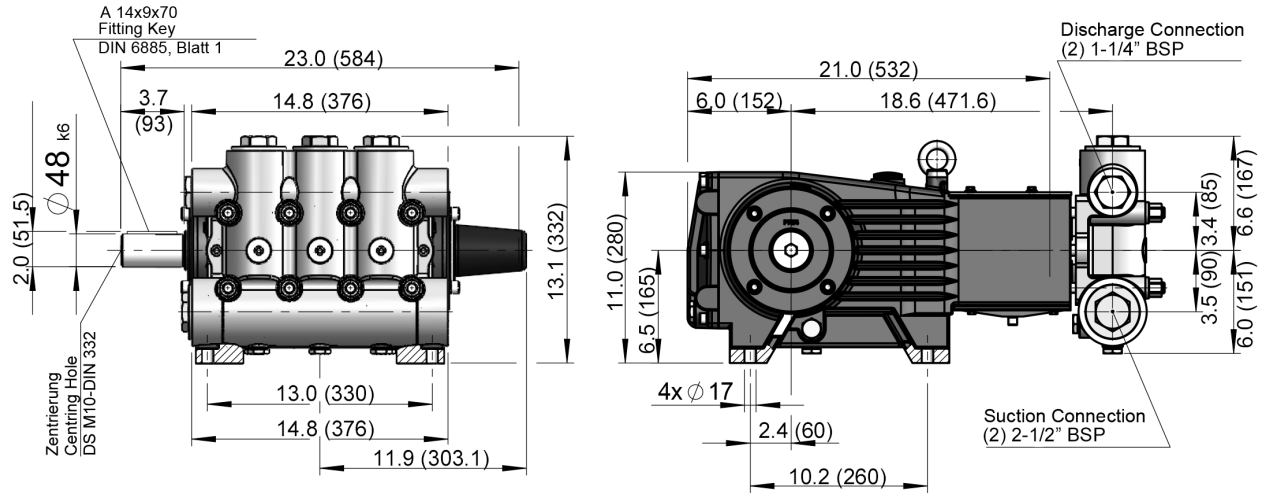
**Note:** Seal (32) must always be installed so that the seal lip on the inside diameter faces the oil.

Reassemble in reverse order: Regulate axial bearing clearance minimum 0.1mm, maximum 0.15-by means of fitting discs (20A). The crankshaft should turn easily with little clearance. Tighten inner hexagon screws (17) to 30 ft.-lbs. (40 Nm).

**Note:** Connecting rod has to be able to be slightly moved sidewise at the stroke journals.

<b>Preventative Maintenance Check-List &amp; Recommended Spare Parts List</b>						
Check	Daily	Weekly	50hrs	Every 500 hrs	Every 1500 hrs	Every 3000 hrs
Oil Level/Quality	X					
Oil Leaks	X					
Water Leaks	X					
Belts, Pulley		X				
Plumbing		X				
<b>Recommended Spare Parts</b>						
Oil Change (1 Quart) p/n 1153			X	X		
Seal Spare Parts (1 kit/pump) (See page 5 for kit list)					X	
Oil Seal Kit (1 kit/pump) (See page 5 for kit list)					X	
Valve Spare Parts (1 kit/pump) (See page 5 for kit list)						X

## CGP7155-1023 SERIES DIMENSIONS - INCHES (mm)



CGP7155-1023 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		33 ft.-lbs. (45 Nm)
24	M10		30 ft.-lbs. (40 Nm)
32		Loctite 403	
36A			33 ft.-lbs. (45 Nm)
36C	M10	Loctite 243	30 ft.-lbs. (40 Nm)
39		CU-Paste Crankcase Side	
49		Loctite 648 Crankcase Side	
49A	M16		133 ft.-lbs. (180 Nm)
58	M64x2		107 ft.-lbs. (145 Nm)

## LIMITED WARRANTY

Eco<sub>2</sub>Blast pumps and accessories are warranted by the manufacturer to be free from defects in workmanship and material as follows:

1. For portable pressure washers and car wash applications, the discharge manifolds will never fail, period. If they ever fail, we will replace them free of charge. Our other pump parts, used in portable pressure washers and in car wash applications, are warranted for five years from the date of shipment for all pumps used in NON-SALINE, clean water applications.
2. One (1) year from the date of shipment for all other Eco<sub>2</sub>Blast industrial and consumer pumps.
3. Six (6) months from the date of shipment for all rebuilt pumps.
4. Ninety (90) days from the date of shipment for all Eco<sub>2</sub>Blast 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 Eco<sub>2</sub>Blast.
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 Eco<sub>2</sub>Blast.

Liability under this warranty is on all non-wear parts and limited to the replacement or repair of those products returned freight prepaid to Eco<sub>2</sub>Blast 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 Eco<sub>2</sub>Blast of all products under warranty consideration. Call (260)728-4433 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)



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