

Model CGP7163

Pump Compressor



Updated 12/20

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OPERATION INSTRUCTIONS

Operation and Maintenance

Oil: Use only 6.0 litres of SAE 0 W 40 synthetic Motor oil (Giant's part number 01157-2.5). Initial change after 50 operating hours, and then every 1000 operating hours, or 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.

IMPORTANT! A safety valve must be installed and correspondingly adjusted to ensure that the discharge 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.

Unit Set-Up

The suction line running to the pump compressor is to be as wide as possible. The suction lines must be laid to allow for optimal flow movement (no sharp bends or elbows).

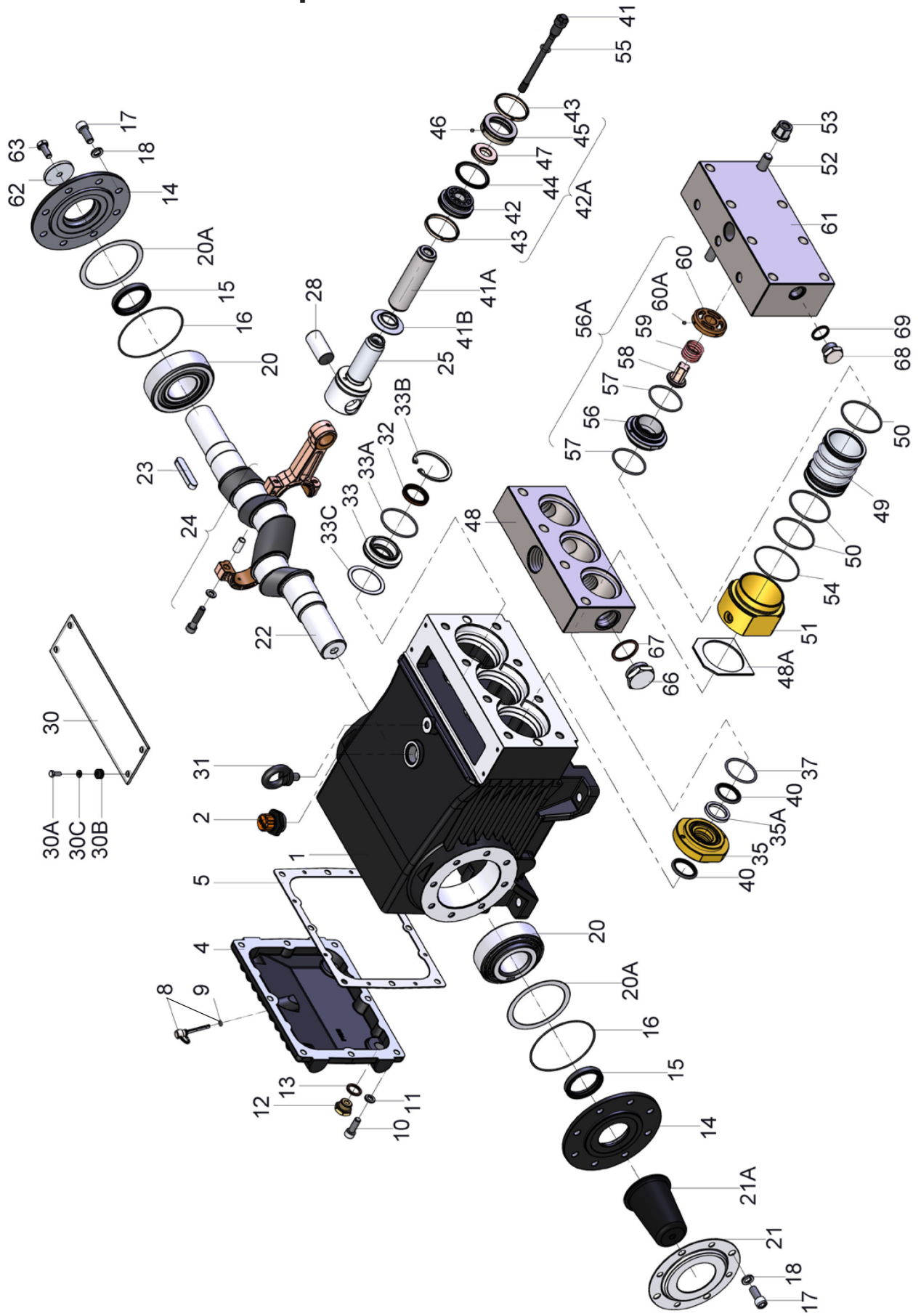
To cool the cylinders during the compression of the CO₂ there are 3/8" BSP connections on the discharge casing and 1/4" BSP connections on the back end of the cylinders for cooling water. The water is fed in through the ports on the back of the cylinders and exits through the connections on the discharge casing.

Specifications

Model CGP7163

	U.S.	Metric
Volume.....	61.8 GPM.....	233.8 LPM
Maximum Inlet Pressure.....	870 PSI.....	60 bar
Maximum Discharge Pressure.....	1160 PSI.....	80 bar
Maximum Speed.....		500 RPM
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 Port.....		1-1/2" BSP
Discharge Port.....		1" BSP
Crankcase Oil Capacity.....	1.6 Gal.	6.0 liters

Exploded View - CGP7163



PARTS LIST - CGP7163

<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	CP04674	Crankcase	1	33C	CP04676	Fitting Disc	3
2	CP06893	Oil Filler Plug Assembly	1	35	CP03151	Centering Ring	3
4	CP07601	Crankcase Cover	1	35A	CP03142	Packing Ring	3
5	CP05798	Gasket, Crankcase Cover	1	37	CP03143*	O-Ring	3
8	CP07105	Oil Dip Stick Assembly	1	40	CP03144	Two-Part Rod Seal	6
9	CP01009	O-Ring, Dip Stick	1	41	CP03169	Piston Retainer	3
10	CP22706	Hexagon Socket Screw	8	41A	CP03170	Plunger	3
11	CP06725	Spring Washer	8	41B	CP03171	Plunger Catch Disc	3
12	CP07109	Drain Plug	2	42	CP03152	Piston Body	3
13	CP07182	Gasket, Drain Plug	2	42A	CP03145	Piston Assembly (42-47)	3
14	CP04675	Bearing Cover	2	48	CP03156	Suction Valve Casing	1
15	CP07608	Radial Shaft Seal	2	48A	CP03157	Molded Plate	3
16	CP07184	O-Ring	2	49	CP03158	Cylinder Assembly	3
17	CP05642	Hexagon Socket Screw	8	50	CP03148*	O-Ring	9
18	CP05039	Lock Washer	8	51	CP03159	Cooling Jacket	3
20	CP07610	Taper Roller Bearing	2	52	CP06675	Stud Bolt	8
20A	CP07611	Fitting Disc (Shim)	1-5	53	CP13160	Hexagon Nut	8
21	CP05645	Holder for Shaft Protector	1	54	CP03149*	O-Ring	3
21A	CP05646	Shaft Protector	1	55	CP06817*	O-Ring	3
22	CP13405	Crankshaft	1	56	CP03160	Valve Seat	3
23	CP07614	Key	1	56A	CP03150	Discharge Valve Assembly (56-60A)	3
24	CP13182	Connecting Rod Assembly	3	61	CP03164	Discharge Casing	1
25	CP13183	Crosshead Assembly	3	62	CP13362	Disc For Crankshaft	1
28	CP13184	Crosshead Pin	3	63	CP13358	Hexagon Screw	1
30	CP06661	Cover Plate	1	66	CP13151	Plug, 1-1/4" BSP	2
30A	CP07225-0100	Hexagon Screw	4	67	CP03165	Copper Gasket	2
30B	CP13136	Grommet	4	68	CP13150-0100	Plug, 3/4" BSP	2
30C	CP05053	Disc	4	69	CP07704	Copper Gasket	2
31	CP07623	Eye Bolt	1	+	CP09612	Oil Seal Kit	
32+	CP07624	Radial Shaft Seal	3				
33	CP06662	Seal Retainer	3				
33A+	CP13286	O-Ring	3				
33B	CP05719	Circlip	3				

* These EPDM (BUNA) o-rings must not come into contact with mineral oil or mineral grease. Use silicone only.

TORQUE SPECIFICATIONS - CGP7163				
Item	Part No.	Description	Thread	Torque Specifications
10	CP22706	Hexagon Socket Screw	M10	29.5 ft.-lbs. (40 Nm)
12	CP07109	Drain Plug	1/2" BSP	59 ft.-lbs. (80 Nm)
17	CP05642	Hexagon Socket Screw	M12	33 ft.-lbs. (45 Nm)
24	CP13182	Connecting Rod Assembly	M10	29.5 ft.-lbs. (40 Nm)
41	CP03169	Piston Retainer	M12	66.4 ft.-lbs. (90 Nm)
53	CP13160	Hexagon Nut	M16	132.8 ft.-lbs. (180 Nm)

CGP7163 REPAIR INSTRUCTIONS

Disassembly and maintenance of discharge valves, pistons, cylinders and seals

Unscrew hexagon nuts (53) and remove discharge casing (61) to the front, eventually tapping slightly with a plastic hammer to the rear side of the casing.

Cylinder complete: When remove the discharge casing (61), the cylinders may either remain in the discharge (61) or suction casing (48). By slightly tapping and tilting on the cooling jacket (51) the complete cylinder is removed from the casings.

Discharge Valve: The discharge valve (56A) is removed from the discharge casing using 2x M5 screws which are screwed into the valve seat, thus pushing out the valve to the front. For service, renew the complete valve.

Suction Valve/Piston complete: Suction valve and piston are a complete unit. Unscrew piston retainer (41) and push the suction valve/piston out of the cylinder. The complete unit is changed for service.*

Check cylinder surface for damages and renew if necessary. Remove suction casing (48) same way as discharge casing.

Remove centring ring from crankcase by using 2 x M8 screws to push it off from the fitting in the crankcase. Check seal (40) and O-ring (37) and renew if necessary.

IMPORTANT! There are two seal versions possible in the centring ring:

- A) one Teflon-grooved seal with flat spring and one Teflon-step seal with O-Ring.
- B) two Teflon-step seals with O-ring

IMPORTANT! watch the position of the seal lip when installing, see detail.

Reassemble in reverse matter. Tighten nuts (53) crosswise to 133 ft.-lbs. (180 Nm) torque.

To Dismantle Gear

Remove discharge casing, cylinders and suction casing as described above. Drain oil. Remove crankcase cover (4). Remove clipping (33B). Pry out seal retainer (33) using two screwdrivers. Check radial shaft seal (32) and leakage seal (33D).

Loosen fitting screws on connecting rods (24) and push connecting rod halves as far into the crosshead guides as possible.

Remove bearing cover (14) on one side and push out crankshaft taking care not to bend the connecting rods.

IMPORTANT! Connecting rods are marked for identification. Do not twist connecting rod halves. When reassembling, connecting rods have to be installed in the same position on the shaft journals.

Check surfaces on connecting rods and crankshaft. Carefully take out crossheads with plungers (25) from crankcase (1).

Check plunger surfaces and renew if necessary.

To Reassemble

Slip the crossheads with plungers and front part of connecting rods carefully and slightly lubricated into the crosshead guides.

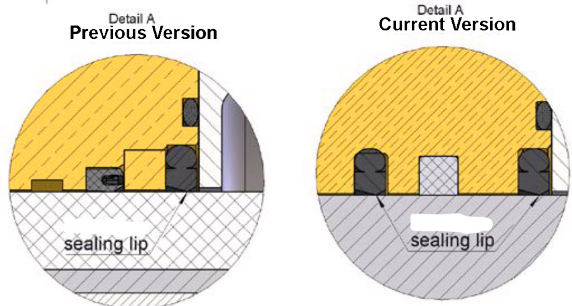
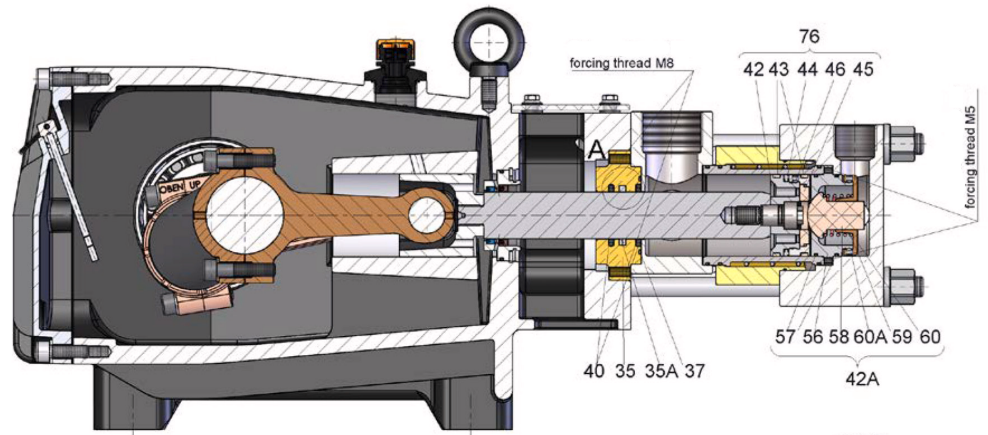
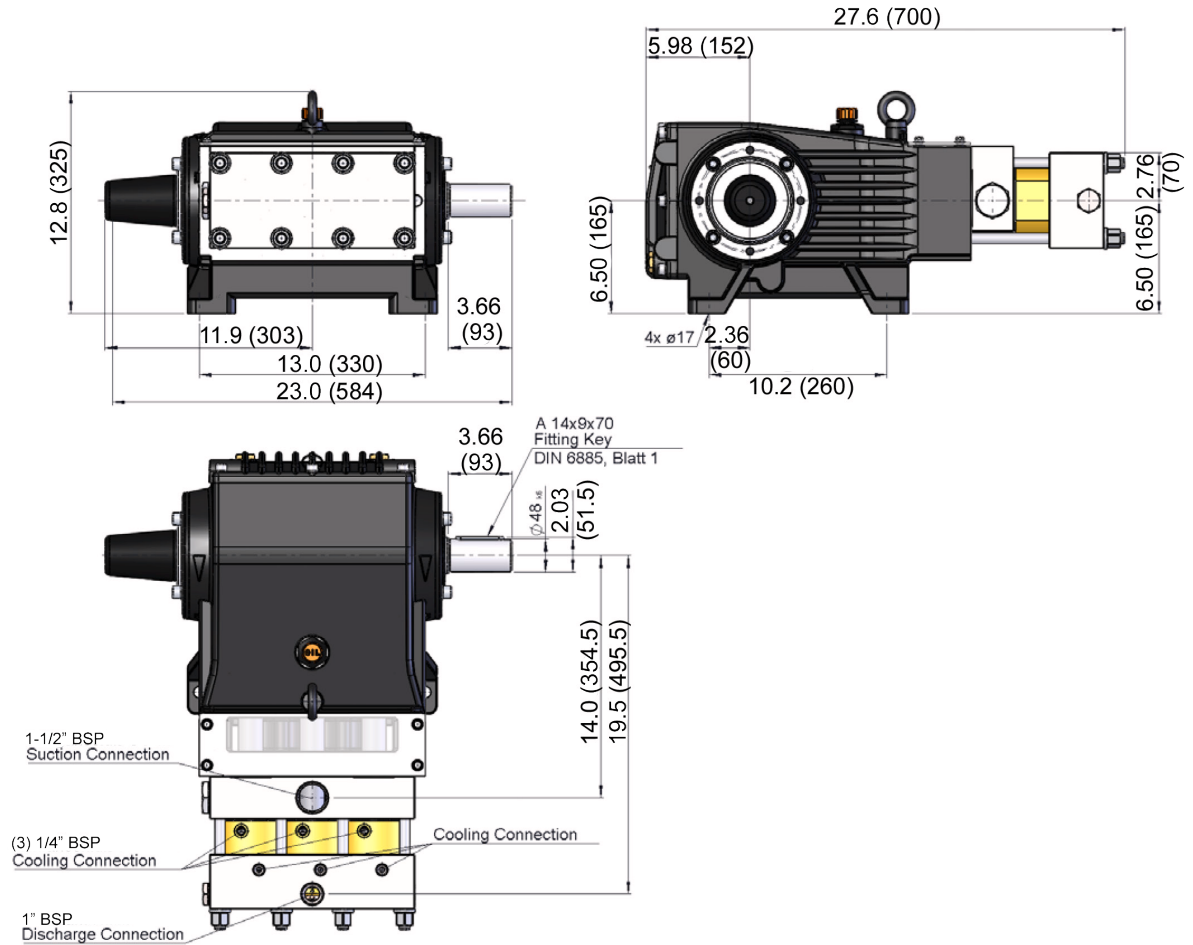
Take one bearing outer ring and press in on one side of the bearing bore till it is even with the casing. Screw on the bearing cover with O-ring and shaft seal until it fully touches the flange surface on the crankcase. Slip crankcase from the opposite side in the casing. Press in second outer bearing ring until it contacts the taper rollers, while slowly turning the crankshaft. Fit second bearing cover. Using a copper hammer, hit on both end sides of the crankshaft.

Turn crankshaft by hand. Crankshaft should turn easily without any axial play. If necessary add fitting discs (20A) to reduce axial play.

Tighten fitting screws for connecting rods to 30 ft.-lbs. (40 Nm). Check if connecting rods do not squeeze on the journals and have some axial clearance.

*Special tools are required. Contact EcoBlast.

CGP7163 SERIES DIMENSIONS - INCHES (mm)



LIMITED WARRANTY

Eco₂Blast 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 Eco₂Blast 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 Eco₂Blast 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 Eco₂Blast.
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 Eco₂Blast.

Liability under this warranty is on all non-wear parts and limited to the replacement or repair of those products returned freight prepaid to Eco₂Blast 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 Eco₂Blast 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



SOLD EXCLUSIVELY THROUGH AQUA BLAST

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