

AIR-OPERATED DIAPHRAGM PUMP

WARNING



For your own safety, be sure to read these procedures carefully before performing maintenance on this product. After reading this document, be sure to keep it handy for future reference.

This maintenance manual covers what you should know about maintenance of the Global Series Diaphragm Pump.

This edition is based on the standards for the March 2016 run. Remember, the specifications are always subject to change; therefore, some of the information in this edition may not apply to new specifications.

Warnings and Cautions

For safe use of this product, be sure to note the following: In this document, warnings and cautions are indicated by symbols. These symbols are for who will operate this product and for those who will be nearby, for safe operation and for prevention of personal injury and property damage. The following warning and caution symbols have the meanings described below. Be sure to remember their meanings.



WARNING

If you ignore the warning described and operate the product in an improper manner, there is danger of serious bodily injury or death.



CAUTION

If you ignore the caution described and operate the product in an improper manner, there is danger of personal injury or property damage.

Furthermore, to indicate the type of danger and damage, the following symbols are also used along with those mentioned above:



This symbol indicates a DON'T, and will be accompanied by an explanation on something you must not do.



This symbol indicates a DO, and will be accompanied by instructions on something you must do in a certain situation.

WARNING



Before starting maintenance work, cut off the feed air and clean the pump. If air pressure or residue remain in the pump, there is danger of explosion, or possible poisoning resulting in serious injury or death if chemicals adhere to the skin or are accidentally swallowed. (For details on cleaning the pump, refer to Chapter 6 of the operation manual.)

When replacing parts, be sure to use the recommended genuine parts or Equivalents. Use of other parts may cause a malfunction of the product. (Refer to Exploded View and Parts List to order correct item on the separate sheets.)

CAUTION



When it is instructed that special tools must be used, be sure to use the specified tools. Otherwise, the pump may be damaged.

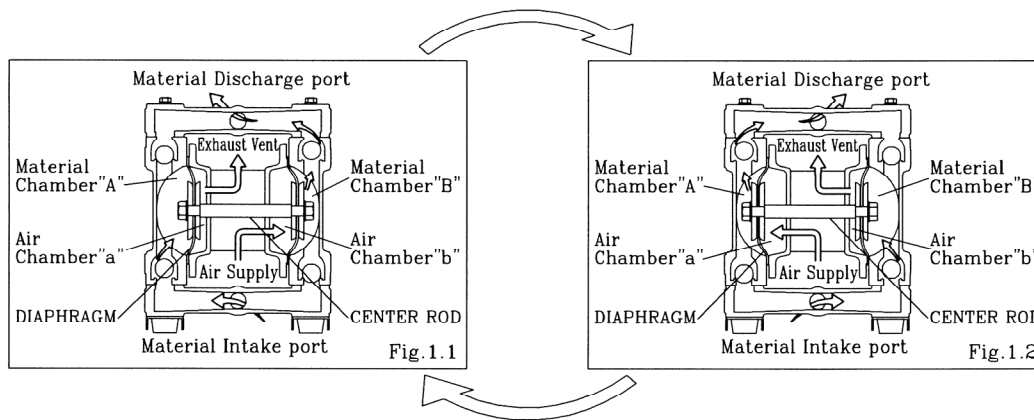
Refer to 10.1 "Specifications" in the Operation Manual. Also, remember that the pump is heavy, and extreme care must be taken when lifting it.

Principles of Operation

There are two diaphragms fixed to the center rod, one at each end. When compressed air is supplied to air chamber B (right side, see Fig. 1.1), the center rod moves to the right, the material in chamber B is pushed out, and at the same time material is sucked into material Chamber A.

When the center rod is moved full-stroke to the right, the air switch valve is switched, compressed air is sent to air chamber A (left side, see Fig. 1.1), and the center rod moves to the left. The material in material chamber A is pushed out, and at the same time material is sucked into material chamber B.

Through repetition of this operation, material is repeatedly taken in and discharge out.



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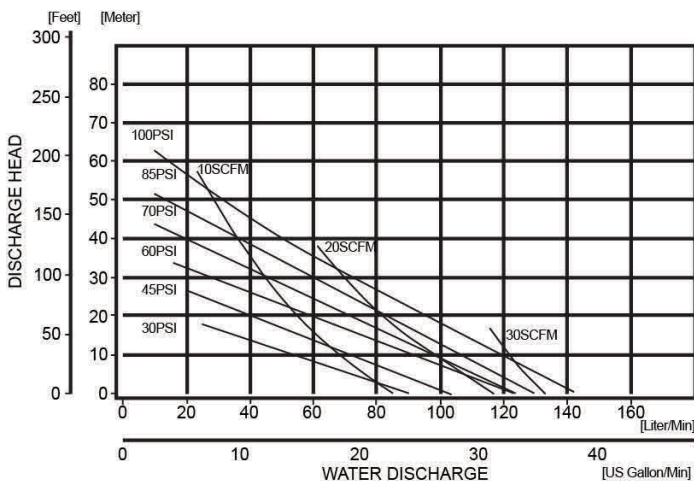


Technical Specifications

Maximum Flow Rate.....	37 GPM
Port Size.....	1" Female NPT
Air Supply Pressure.....	30-100 PSI
Liquid Temperature.....	32-180 F
Maximum Air Consumption.....	30 SCFM
Weight.....	17.4 lbs.
Maximum Size Solid.....	1/8"
NPT Dimensions.....	8.25"L x 8.5"W x 12.4"H
Air Inlet.....	3/8" Female NPT
Body Material.....	Aluminum (ADC-12)
Discharge Volume Per Cycle....	0.158 Gallons
Slurry Limitation.....	3mm or <
Limited Viscosity.....	3Pas
Maximum Operating Noise.....	81dB (pressure level)

Discharge volume (per cycle) varies according to use conditions.

Performance Curve



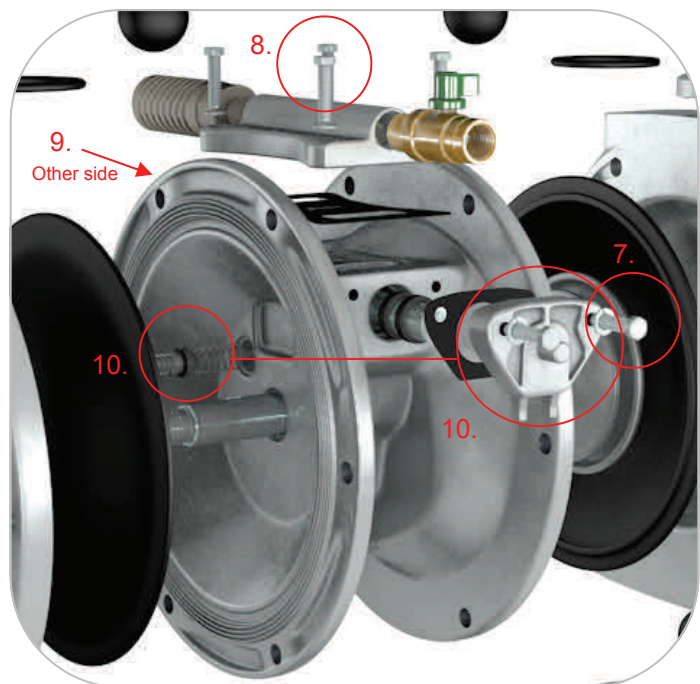
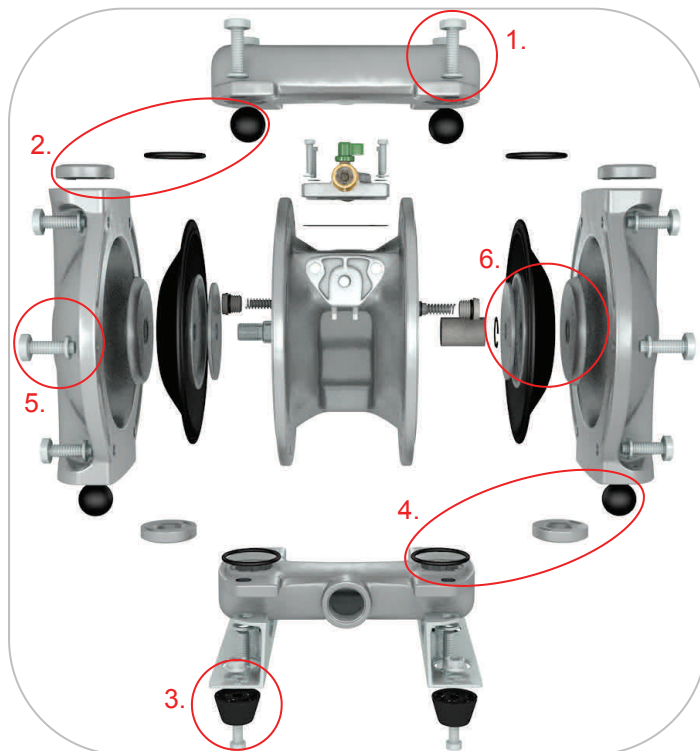
Test Conditions: Clear Water (room temperature)

Elastomeric Options

Buna N	EPDM (Nordel)
Neoprene™	Hytrel®
Santoprene®	Viton®

Pump Disassembly

1. Remove the 4 retainer bolts from the out manifold, and remove the out manifold.
 2. Remove the ball, O-ring and valve seat.
 3. Turn over the main body assembly and remove the 4 retainer bolts from the manifold and remove the in manifold and pump base (and feet, if available).
 4. Remove the O-ring, valve seat and ball.
 5. Remove the 12 retainer bolts from the out chamber and remove the out chamber.
 6. Remove the nuts on both sides of the center rod. After the nuts on one side have been removed, remove the center disk and diaphragm. Remove the diaphragm, center disk and center rod from the opposite side of the main body.
- Remove the nuts on the opposite side. Remove the coned disk spring, center disk and diaphragm.
7. Remove the 2 bolts from plate B and remove plate B, gasket and spool Assy.
 8. Remove the 4 bolts from plate A and remove plate A, gasket and silencer.
 9. Remove the 2 bolts from plate C and remove plate C and gasket.
 10. Using plate B, remove pilot assembly, spring, seat and O-ring. Repeat on other side.



For reassembly, reverse the above procedure steps.

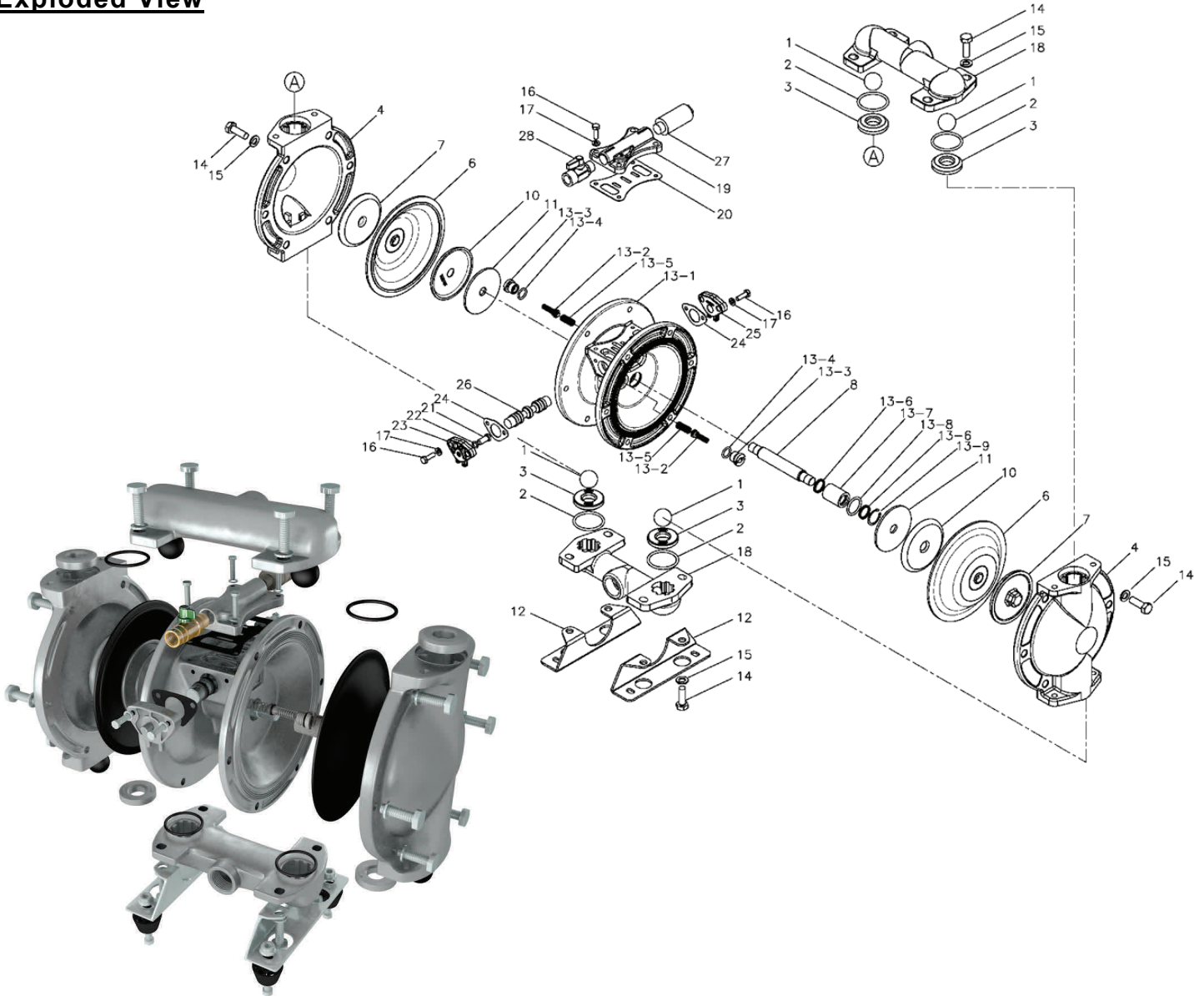
Retightening Torque

Fasteners components - bolts or nuts should be retightened before starting operation and if you find fluid leakage on daily inspection. Retightening torque for each part is shown in Table 1.

Table 1.

Out Chamber Bolt	Manifold Bolt
10 N.m	10N.m
[8 ft-lbs]	[8ft-lbs]

Exploded View



Parts List

Ref. No.	Parts No.	Description	Qty.
1	770720	BALL 20N	4
2	640041	O-RING	4
3	581130	SEAT	4
4	716959	OUT CHAMBER	2
6	772962	DIAPHRAGM	2
7	716958	CENTER DISK	2
8	717030	CENTER ROD	1
10	716258	CENTER DISK	2
11	716259	WASHER	2
12	717031	BASE	2
13	805126	BODY ASSY	1
13-1	716955	BODY	1
13-2	805127	PILOT ASSY	2
13-3	773310	SEAT	2
13-4	640013	O-RING	2
13-5	708666	SPRING	2
13-6	685414	V-PACKING	2

Ref. No.	Parts No.	Description	Qty.
13-7	773311	SLEEVE	1
13-8	640130	O-RING	1
13-9	630804	STOP RING	1
14	611175	BOLT	20
15	631917	WAVE WASHER	20
16	611101	BOLT	8
17	631915	WAVE WASHER	8
18	717037	MANIFOLD	2
19	717036	PLATE A	1
20	773288	GASKET	1
21	709161	RESET BUTTON	1
22	640005	O-RING	1
23	716957	PLATE B	1
24	773289	GASKET	2
25	581132	PLATE C	1
26	805128	SPOOL ASSY	1
27	686762	SILENCER NPT 3/8"	1

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