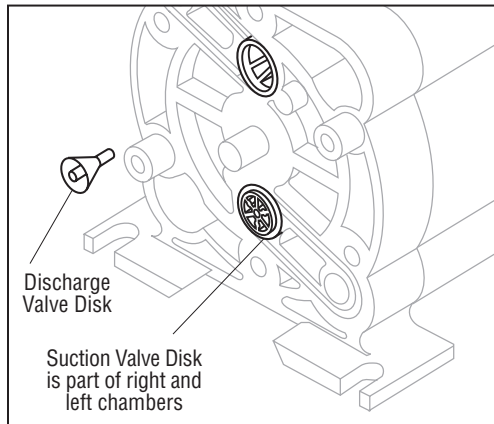


1/4" CLASSIC PERFORMANCE MAINTENANCE MANUAL

CHECK VALVE, GASKET AND O-RING MAINTENANCE

1. Flush and neutralize the pump to be certain all corrosives or hazardous materials are removed prior to any maintenance. This procedure should always be followed when returning pumps for factory service also. Remove suction, discharge and air supply lines.
2. Remove the 1/4-20 nuts (28) and slide the six cap screws (27) that hold the pump together out of the pump. Remove the #8 screws (5) from the left and right manifold plates (1,19) and inspect the gaskets (2). The suction (or lower) check valves are an integral part of the left and right chambers and should not be dismantled. If replacement of the valve seats is necessary, the left and right chambers (6, 18) which contain the valves must be replaced. The upper discharge disks (3) are not sealed into the chambers and may be inspected for wear. If any components are worn or scratched, replace. Note: Due to the distortion of gaskets under pressure, gaskets may need to be replaced after pump has been disassembled to assure a positive seal
3. To inspect manifold tube o-rings (17) remove right chamber.
4. Both diaphragms (9) can be inspected after removing the left and right chamber. If diaphragms appear worn or ruptured go to step 7. If diaphragms do not need replacing, proceed with steps 5 and 6.
5. To reassemble: Insert the discharge valve disks into place. Press gaskets into grooves in chambers.



6. Align left and right manifolds on the bosses of the chambers. Secure to each chamber with the ten #8 screws. **Tighten to 12 ft-lbs (16,3 NM)**. Slide left chamber tubes through intermediate. Position o-rings on the end of the tubes. Lubricate o-rings and right chamber holes. Slide a flat washer (26) onto each of the six capscrews and insert through the entire assembly. Secure with a flat washer (26) and a tension washer (29) under each nut. **Tighten to 5 ft-lbs (6,8 NM). Apply torque evenly.**

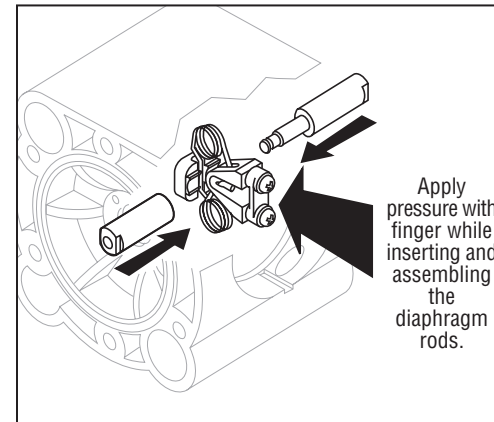
DIAPHRAGM MAINTENANCE

7. Remove outer diaphragm plates (7) by holding one diaphragm plate and twisting off the other plate.
8. The diaphragm o-ring (8) is used only with PTFE diaphragms. Replace diaphragms if ruptured or worn. Inspect inner diaphragm plates (10). If diaphragm rod needs replacing go to step 10.

9. If no further inspection is necessary reassemble inner diaphragm plates and diaphragms onto stud of outer diaphragm plates and screw each assembly into diaphragm rod. (Make sure optional diaphragm o-ring is in position in the o-ring groove on either side of the intermediate if using PTFE diaphragms. When positioning PTFE diaphragms make sure that the concave side is facing the wet ends of pump.) **Tighten outer diaphragm plates to 40 in-lbs (4,5 NM)**. Reassemble pump according to steps 5 and 6.

AIR VALVE AND DIAPHRAGM ROD MAINTENANCE

10. To remove the diaphragm rod twist the two rod halves apart by using a 7/16" wrench on the flats at the end of each half. Pull each half out of the pump. Inspect for corrosion.
11. To inspect diaphragm rod lip seals (14) remove the two self tapping screws (12) from the retaining plates (13). Gently remove lip seals and inspect for damage. To reassemble, lubricate diaphragm rod lip seals (14) and insert into bore with the u-cup portion facing inward. Note: Since the diaphragm rod passes through the spring clip assembly (23), spring clip assembly must be removed prior to reinsertion of the diaphragm rod into bore in intermediate.
12. To remove spring clip assembly firmly pull air valve plug (25) from pump.
13. Inspect spring clip assembly and shuttle (22) for damage. Surface of intermediate around air ports and flat surface of shuttle must be smooth, no scratches or debris. Replace or clean if necessary.
14. Attach retainer plate with flat surface toward lip seals. Do not over tighten self tapping screws.
15. To reinsert diaphragm rod halves, drop shuttle into intermediate over ports. Groove in shuttle should be aligned vertically in pump and should face outward. Insert spring side of spring clip assembly into groove in shuttle. At this point the assembly is not affixed to anything. Press down as shown below to insert long half of diaphragm rod (16) through spring clip assembly and position under spring ends.



16. While continuing to apply pressure to spring clip assembly, screw short half of diaphragm rod (11) into long half.
17. Follow instructions for assembly of diaphragms in step 9. Final tightening of diaphragm rod will occur when outer diaphragm plates are tightened.
18. Make sure valve plug o-ring (21) is well lubed, position o-ring and press air valve plug into the intermediate making sure that tab and indentation are aligned. If o-ring is not well lubricated, it will not permit reinsertion.

19. Follow procedure for final assembly of pump in step 6.

SPECIFICATIONS

CAPACITY:

Adjustable . . . 0 to 4.3 GPM (16,3 liters/min.)

MAXIMUM TEMPERATURE:

KN-025 Model 200°F (93°C)

Other Models 150°F (66°C)

MAXIMUM AIR PRESSURE:

All Models 100 PSI (6,8 bar)

DRY LIFT:

Other Models 17 ft. (5 meters)

WEIGHT:

KN-025 Model 7 lbs. (3,2 kg.)

Other Models 5 lbs. (2,3 kg.)

Maximum Solids: 1/16" or (1,6 mm)

AIR SUPPLY:

Inlet . . . 1/4" NPT Female (BSP Compatible)

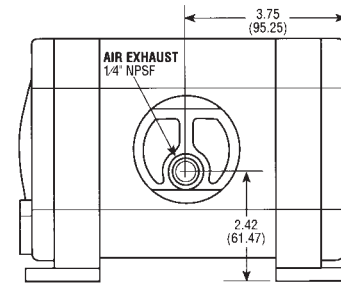
Outlet 1/4" NPT Female

Fluid Inlet/Discharge: 1/4" NPT

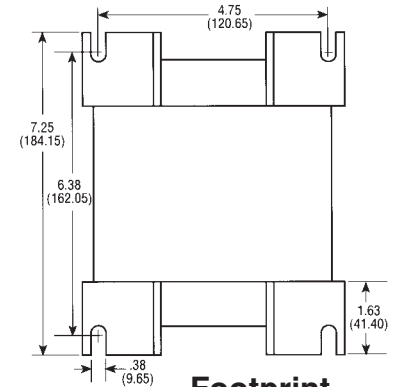
* Geolast properties are similar to that of Nitrile (Buna-N)

DIMENSIONS

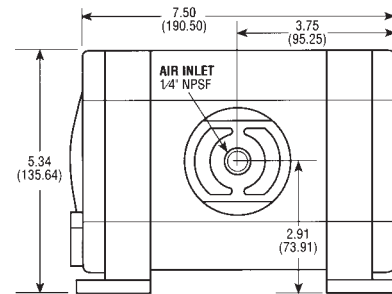
Dimensions in inches and (mm)



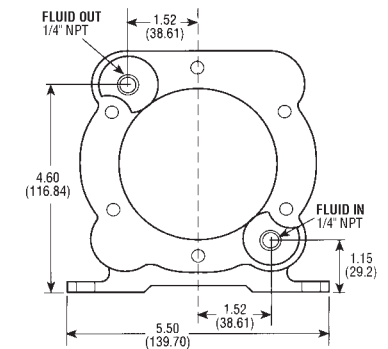
Rear View



Footprint

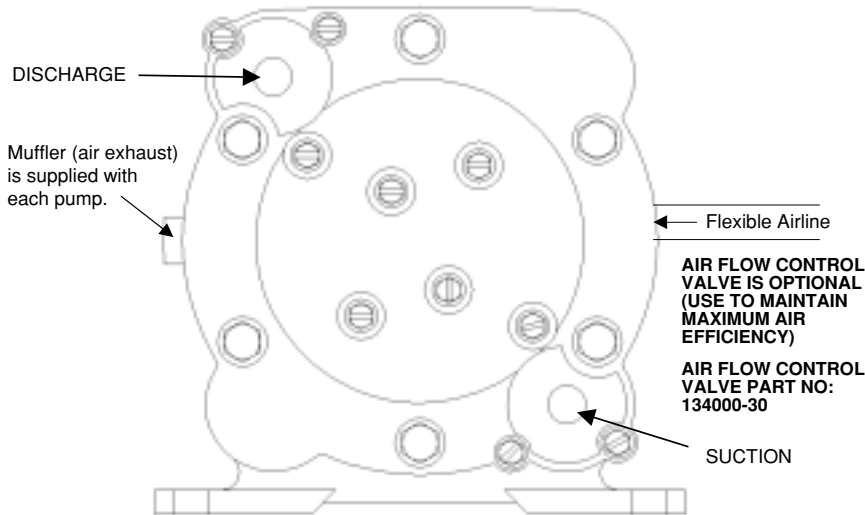


Front View



Side View

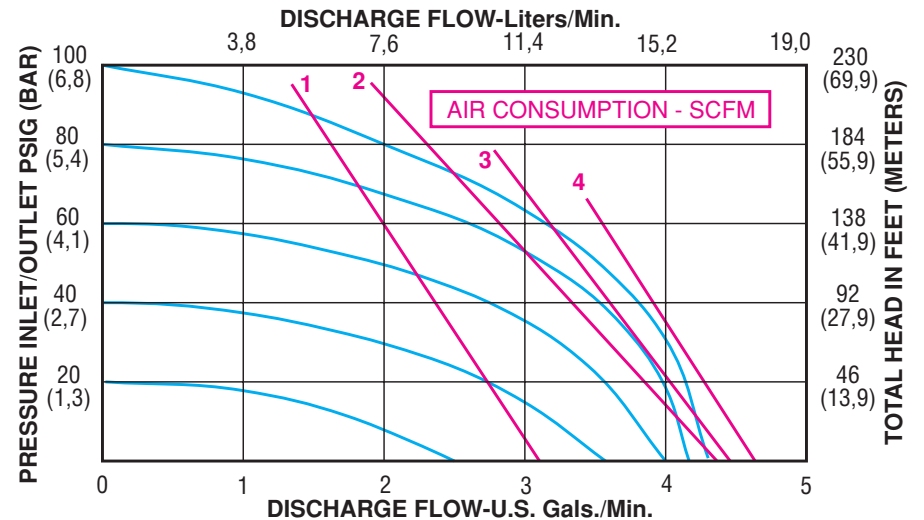
Typical Installation



DO NOT USE AIR LINE LUBRICATION

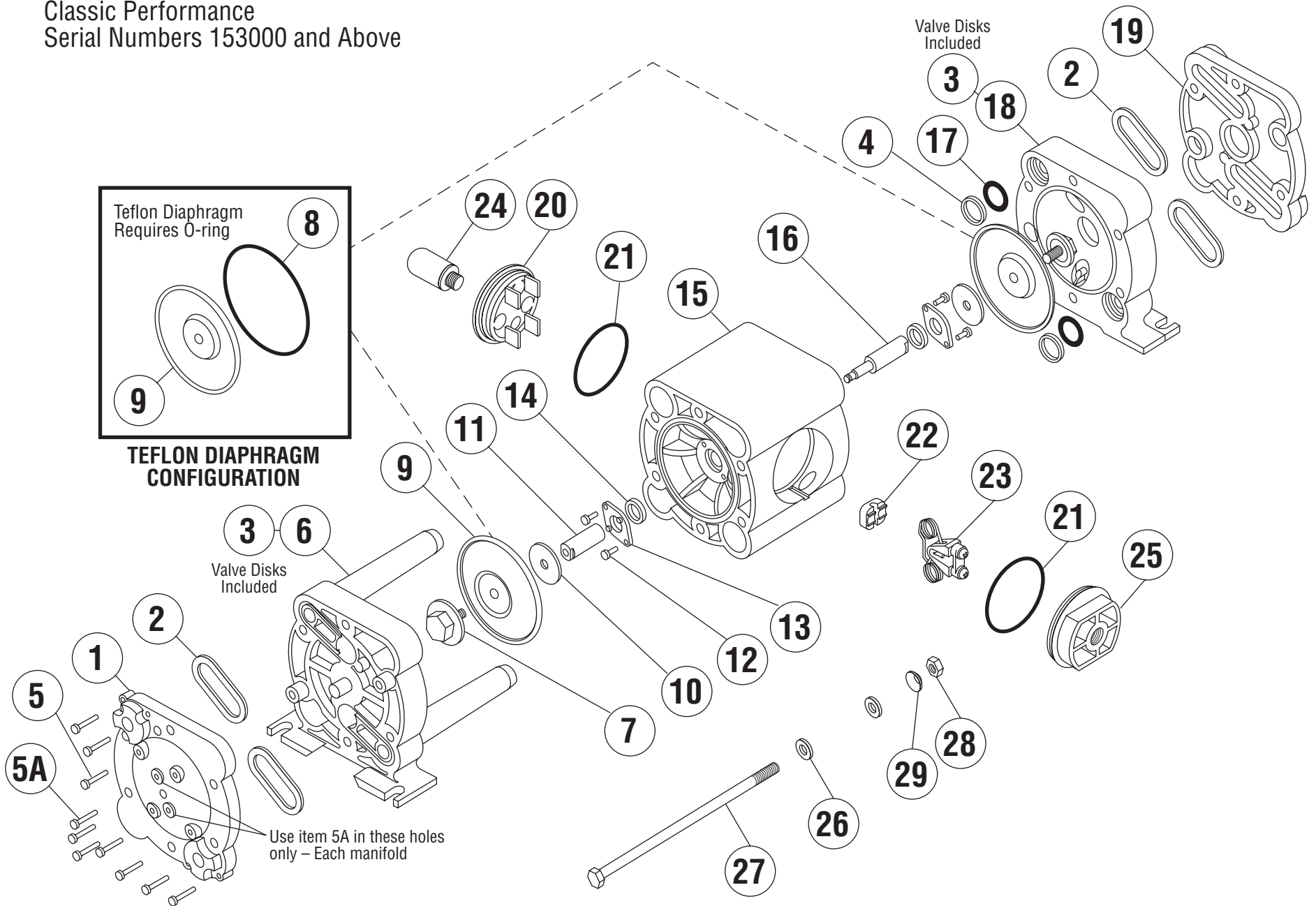
PERFORMANCE CURVE

(Based on water-flooded suction)



1/4" MODEL

Classic Performance
Serial Numbers 153000 and Above



1/4" CLASSIC PERFORMANCE MODELS

MARCH 2013

ITEM	DESCRIPTION	QTY PER PUMP	MODELS	PART NO.	MATERIAL
1	LEFT MANIFOLD (NPT/BSP compatible)	1	NC, BK RD CN KN	10503-40 10503-42 10503-46 10503-56	POLYPRO NYLON COND. NYLON PVDF
2	MANIFOLD, GASKET	4	NC, RD-B, CN-B CN, BK, RD, KN NC-E, RD-E, KN-E, CN-E BK-V, RD-V, KN-V, CN-V	11936-11 12111-59 11936-15 11936-13	GEOLAST PTFE SANTO VITON
3	VALVE DISC (Included in item 6 & 18. Cannot be ordered separately.)	4	ALL MODELS	11006-59	PTFE
4	O-RING RETAINER	2	ALL MODELS	12711-60	POLYPRO
5	SCREW (#8 X 1-1/4")	16	ALL MODELS	12524-26	SS
5A	SCREW (#8 X 1")	4	ALL MODELS	12525-26	SS
6	LEFT CHAMBER (Includes item 3)	1	NC, BK RD CN KN	10714-40 10714-42 10714-46 10714-56	POLYPRO NYLON COND. NYLON PVDF
7	OUTER DIAPHRAGM PLATE	2	NC, BK RD CN KN	11205-40 11205-42 11205-46 11205-56	POLYPRO NYLON COND. NYLON PVDF
8	O-RING, DIAPHRAGM (This o-ring used with PTFE diaphragms only !)	2	BK, RD, KN, CN BK-V, RD-V, KN-V, CN-V	10606-23 10606-13	SANTO VITON
9	DIAPHRAGM	2	NC, RD-B, CN-B CN, BK, RD, KN BK-V, RD-V, KN-V, CN-V NC-E, RD-E, KN-E, CN-E	10604-19 10604-59 10604-59 10604-23	GEOLAST PTFE PTFE SANTO
10	INNER DIAPHRAGM PLATE	2	ALL MODELS	11105-25	PS
11	DIAPHRAGM ROD (SHORT)	1	ALL MODELS	*	SS
12	SCREW (#6 X 1/2")	4	ALL MODELS	12510-26	SS
13	SEAL RETAINER	2	ALL MODELS	12710-60	POLYPRO
14	LIP SEAL	2	ALL MODELS	12000-76	NITRILE
15	INTERMEDIATE	1	ALL MODELS	11508-60	POLYPRO
16	DIAPHRAGM ROD (LONG)	1	ALL MODELS	*	SS
17	O-RING, MANIFOLD TUBE	2	NC, RD-B, CN-B CN, BK, RD, KN NC-E, RD-E, KN-E, CN-E BK-V, RD-V, KN-V, CN-V	11928-11 11928-17 11928-15 11928-13	NITRILE PTFE EPDM VITON

ITEM	DESCRIPTION	QTY PER PUMP	MODELS	PART NO.	MATERIAL
18	RIGHT CHAMBER (Includes item 3)	1	NC, BK RD CN KN	10715-40 10715-42 10715-46 10715-56	POLYPRO NYLON COND. NYLON PVDF
19	RIGHT MANIFOLD (NPT/BSP compatible)	1	NC, BK RD CN KN	10513-40 10513-42 10513-46 10513-56	POLYPRO NYLON COND. NYLON PVDF
20	MUFFLER CAP	1	ALL MODELS	13108-60	POLYPRO
21	O-RING, CAPS	2	ALL MODELS	11909-11	NITRILE
22	SHUTTLE	1	ALL MODELS	10411-00	SPECIAL
23	SPRING CLIP ASSY	1	ALL MODELS	51000-00	VARIOUS
24	EXTERNAL MUFFLER	1	ALL MODELS	13003-00	SPECIAL
25	AIR INLET CAP	1	ALL MODELS	13109-60	POLYPRO
26	FLAT WASHER	12	ALL MODELS	12300-26	SS
27	CAP SCREW	6	ALL MODELS	12517-26	SS
28	HEX NUT (1/4" - 20)	6	ALL MODELS	12600-26	SS
29	WASHER, TENSION	6	ALL MODELS	12305-26	SS

*** NOTE: DIAPHRAGM ROD AVAILABLE ONLY AS AN ASSEMBLY.**

DIAPHRAGM ROD ASSEMBLY Items 11 & 16	QTY PER PUMP	MODELS	PART NO.	MATERIAL
	1	ALL MODELS	39000-00	SS

REPAIR KITS - WET END

Includes items 2, 4, 9, 17 & (8 - Used in pumps built w/ PTFE)
To order a wet end repair kit, add "KIT" to the pump model. e.g. NC-025 KIT

NOTES:

1. SS = STAINLESS STEEL, PS = PLATED STEEL