Humidity Generation and Calibration Equipment
THUNDER SCIENTIFIC
CORPORATION THE HUMIDITY SOURCE

Model 2500

Pump Replacement/Inspection Procedure

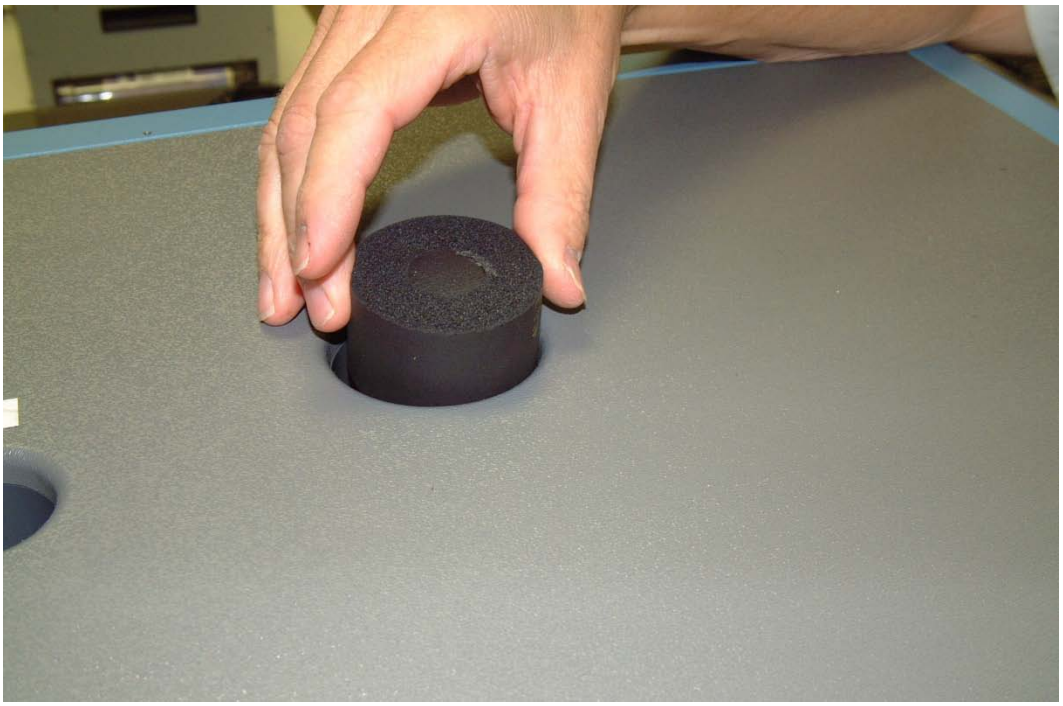
Tech Support Document TSD-0235
Revision Date: August 19, 2010

623 WYOMING BLVD. SE ALBUQUERQUE, NM 87123-3198 TEL: 505.265.8701
WWW.THUNDERSCIENTIFIC.COM FAX: 505.266.6203

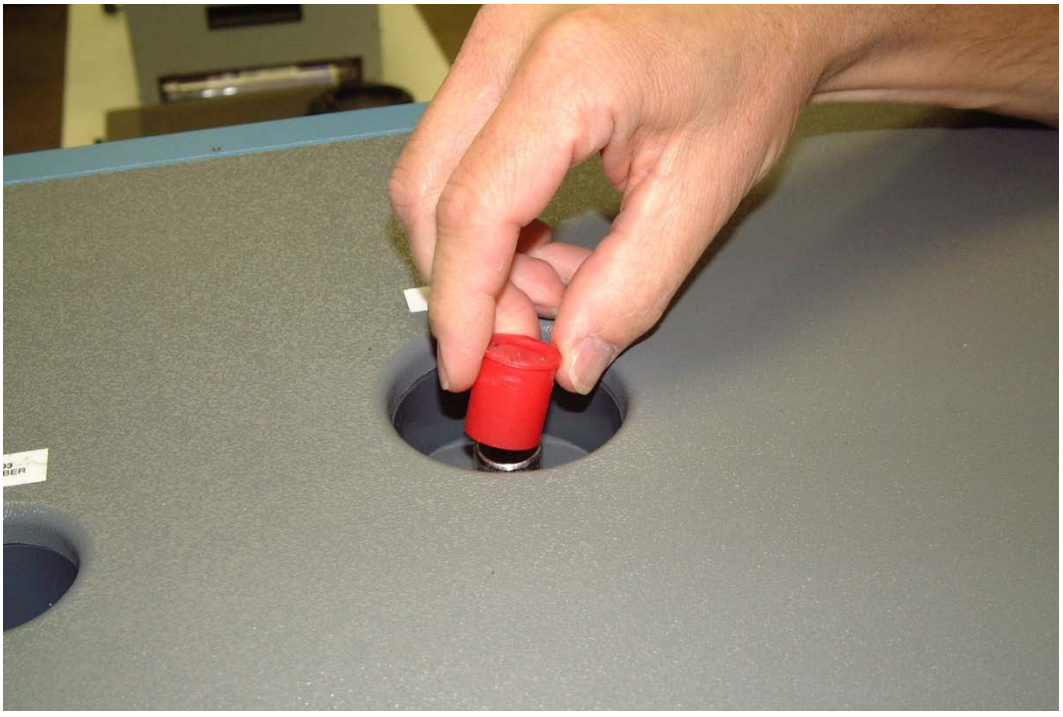
Pump Replacement/Inspection Procedure

1. Disconnect the main power cord and any other connections.
2. First you must drain the chamber, remove the top right hand chamber side panel.

3. Remove the fluid fill port insulation plug.



4. Remove the red plastic fill port cap.



5. Remove the left rear access panel.

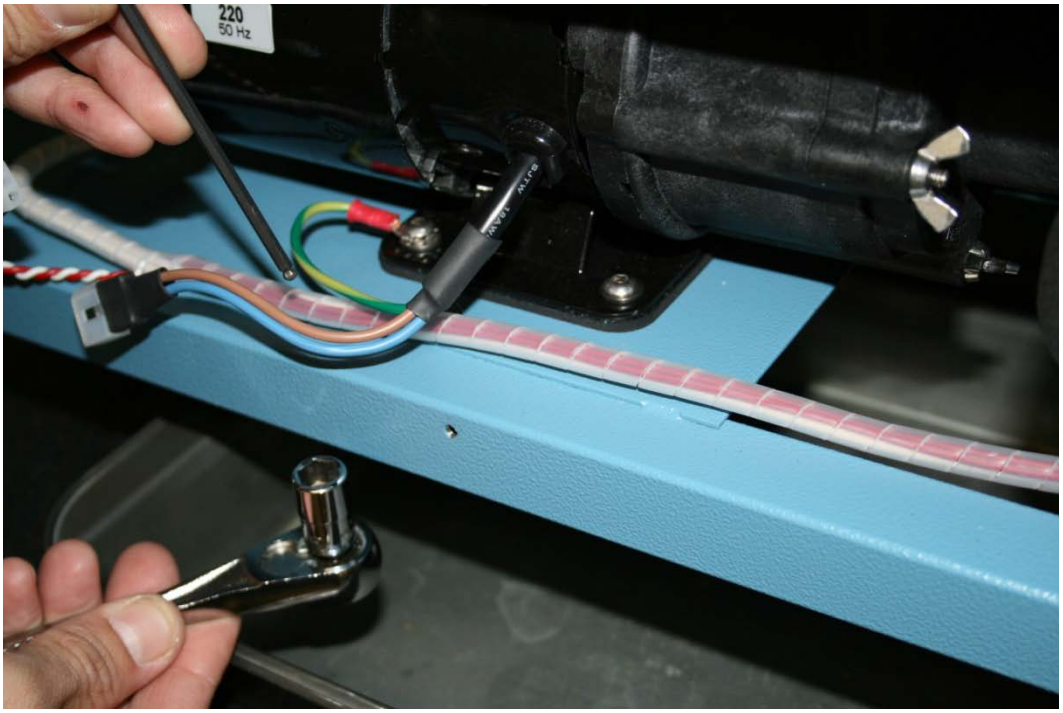
6. Find the chamber drain hose on the left and using a 9/16” wrench loosen the drain nut to hand tight. Note: your system may have a knurled nut instead.

7. Release the fluid into a clean container large enough to hold approximately 3 US gallons, this fluid can be reused.

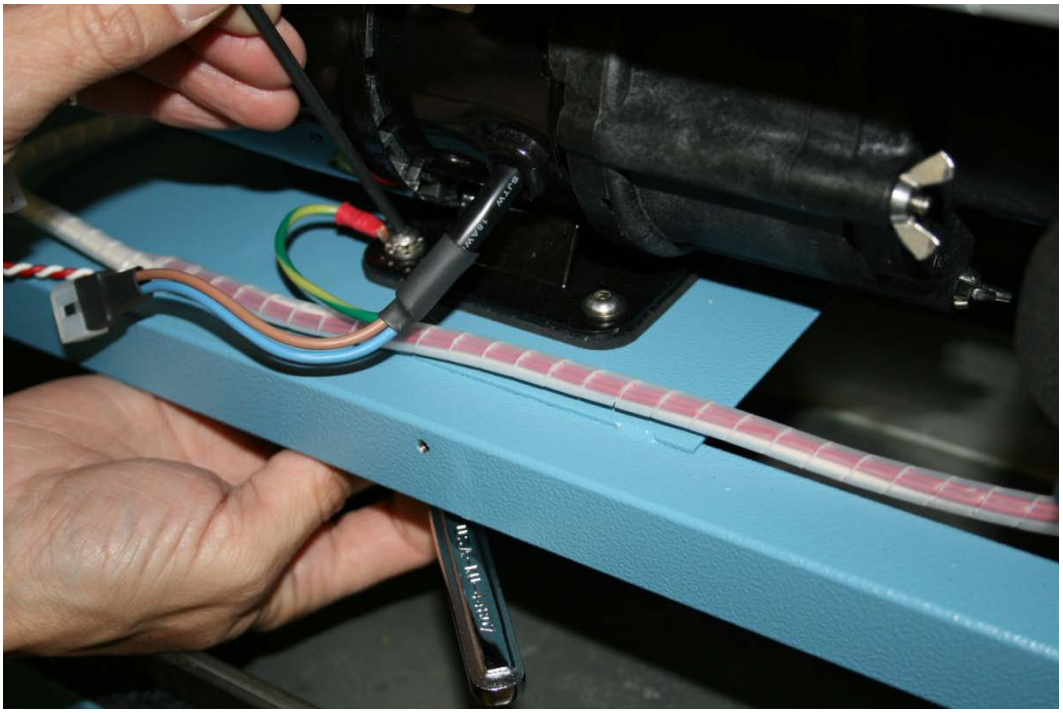
8. Locate the fluid pump at the bottom center of the system.

9. Disconnect the pump power harness.

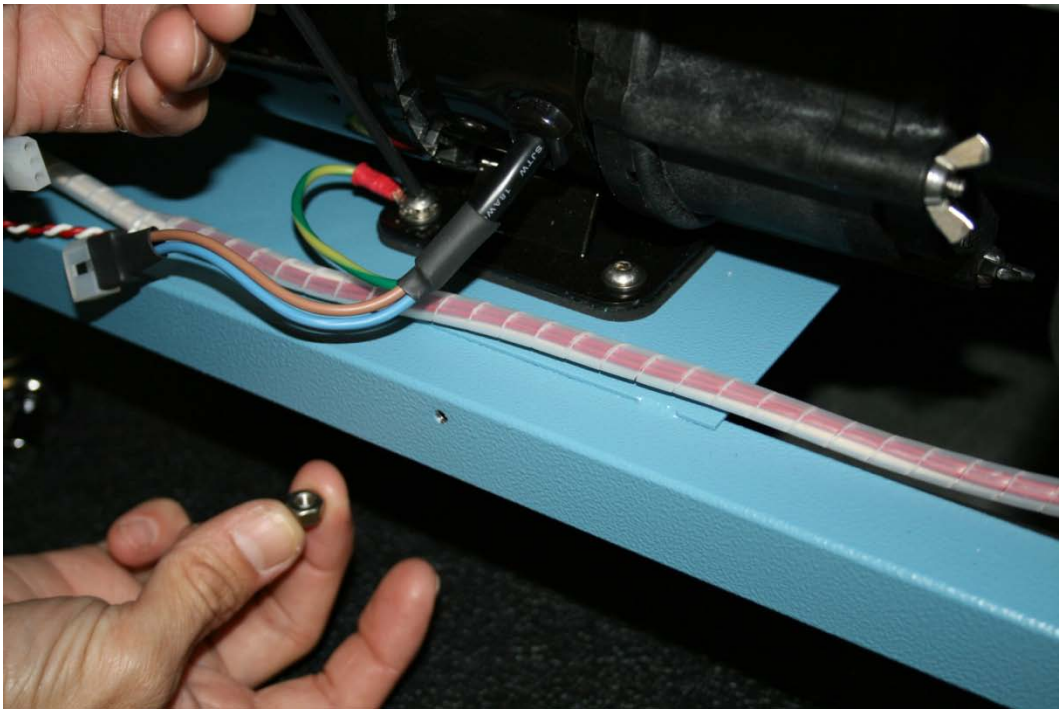
10. Slide a pan underneath the system to catch the pump fluid.



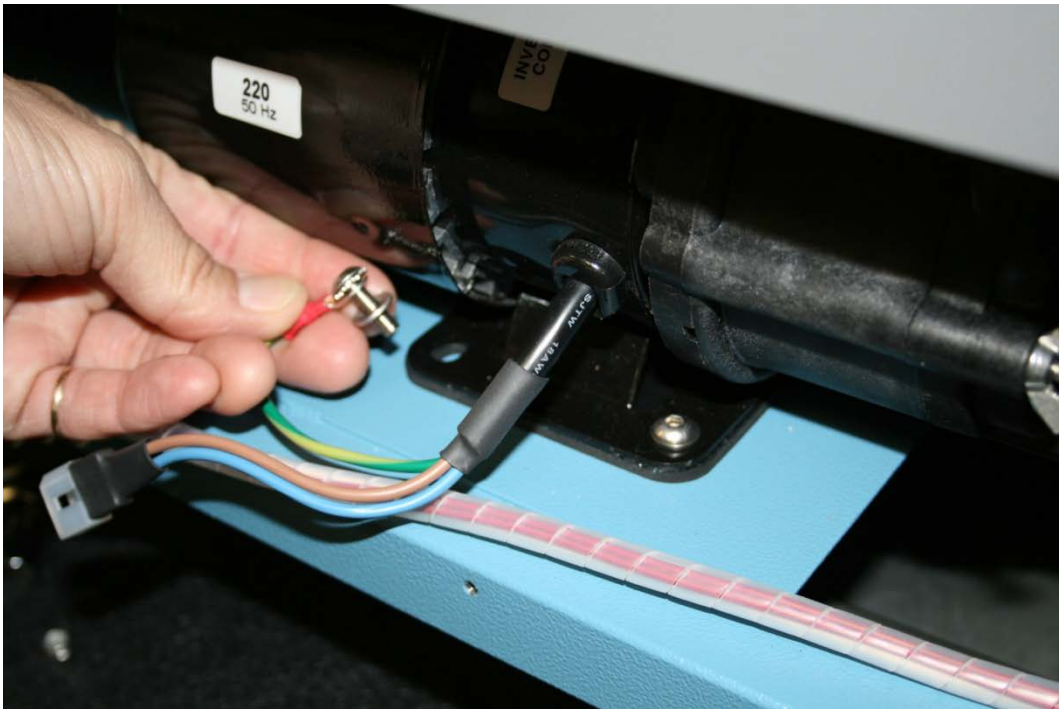
11. Using a 1/8” Allen wrench and a 3/8” socket wrench, slide the socket under the rear rail to locate the nut that secures the pump to the system frame.



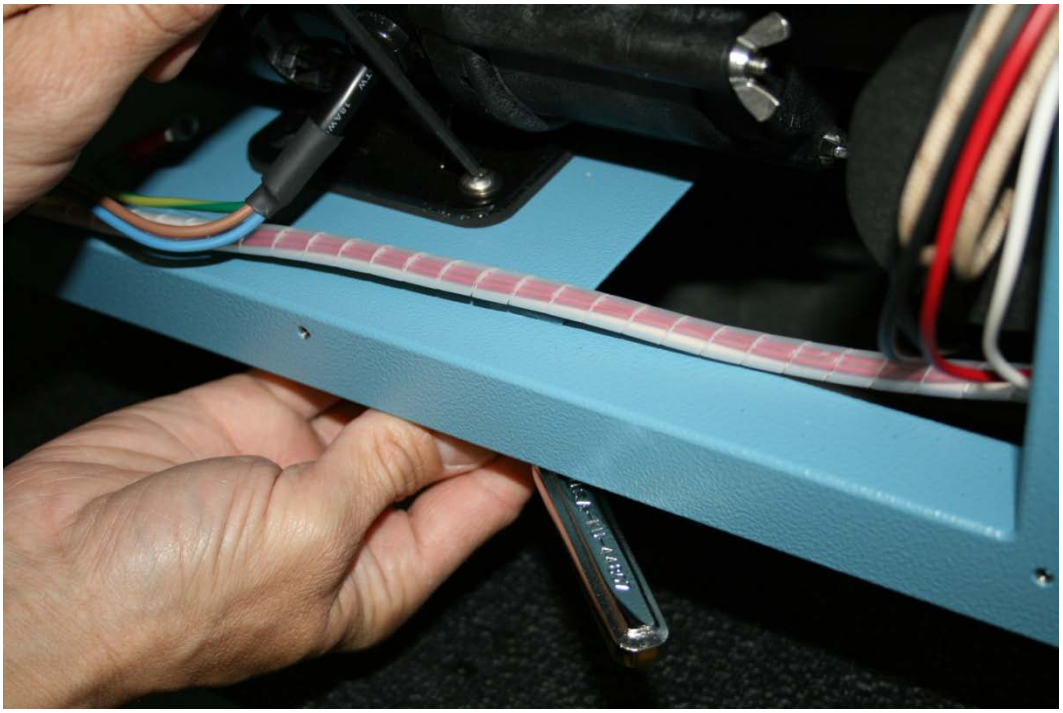
12. Remove the nut.



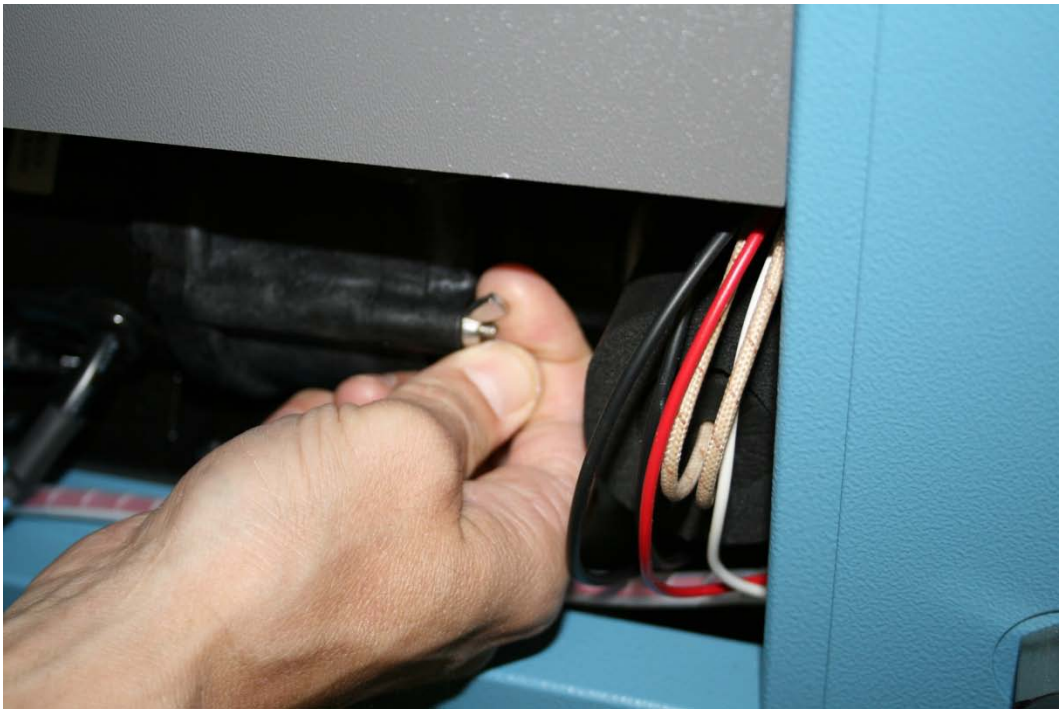
13. Remove the ground connector from the pump base.



14. Remove the second nut from the pump base.

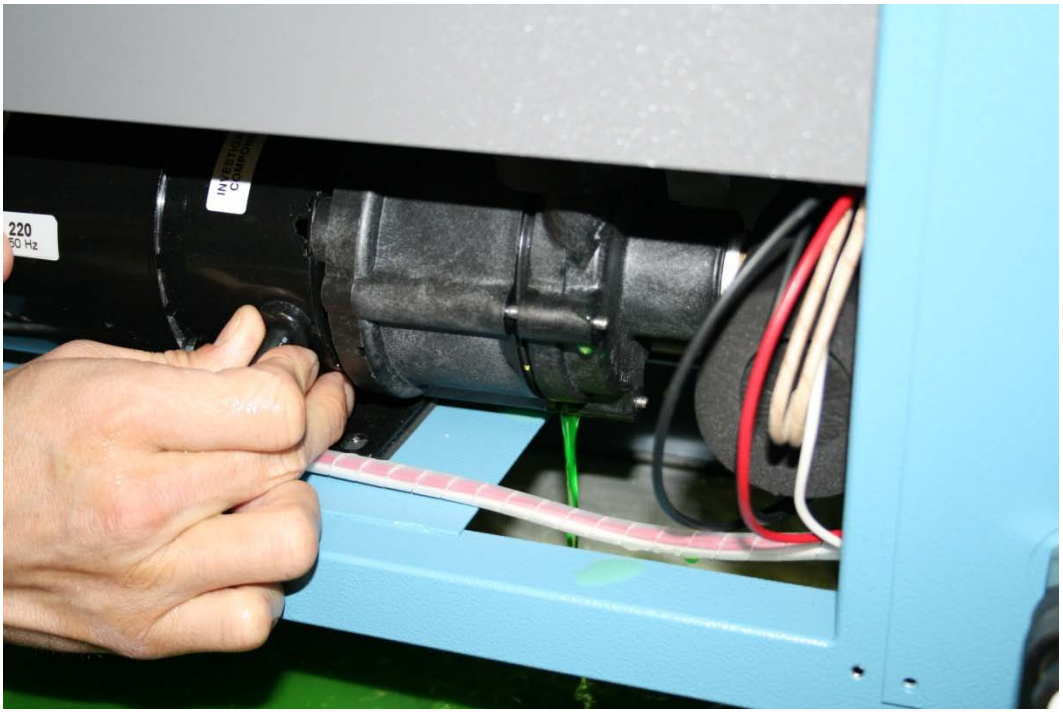


15. Remove the wing nuts from the pump volute.

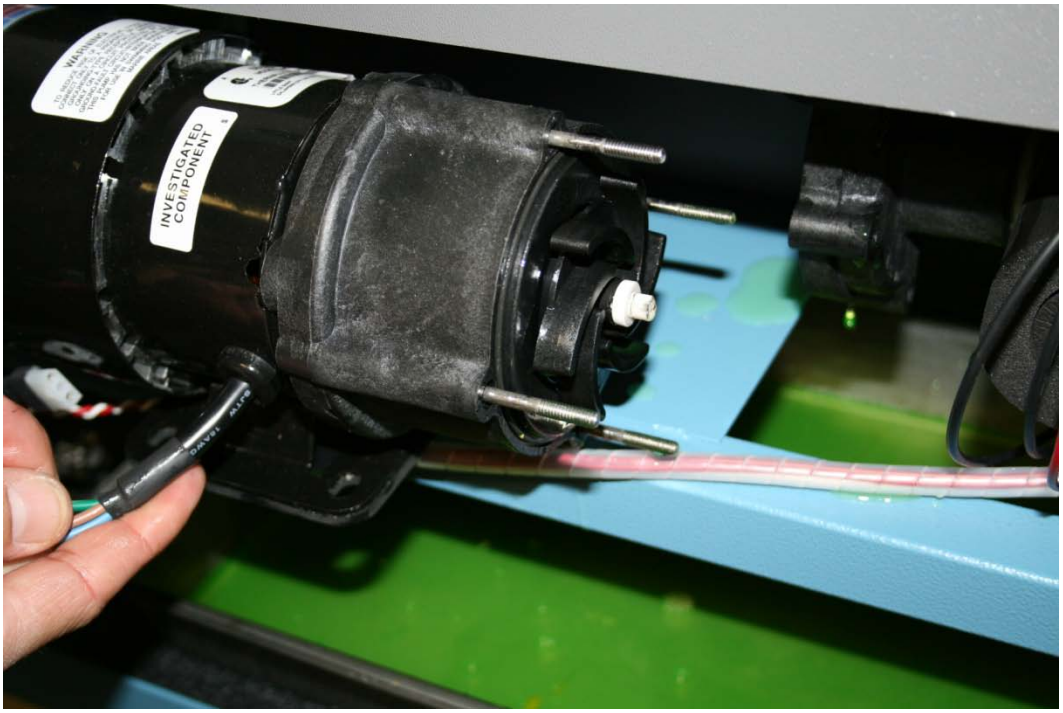


16. Remove all four wing nuts.

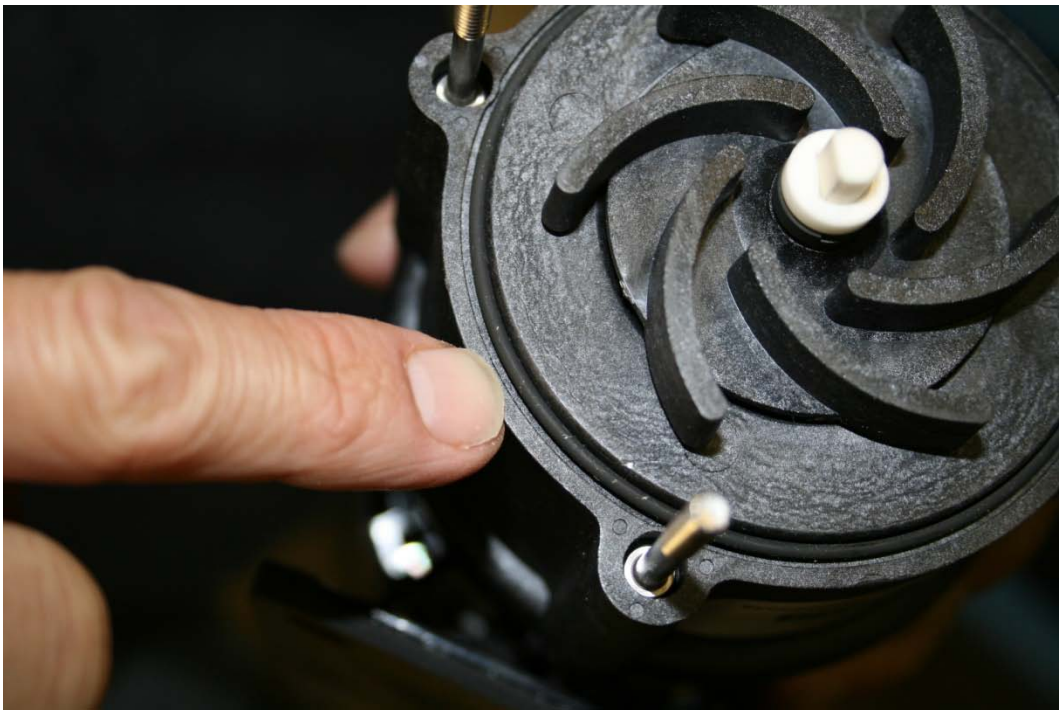
17. Slide the pump evenly away from the volute so no binding occurs, this action will release the fluid.



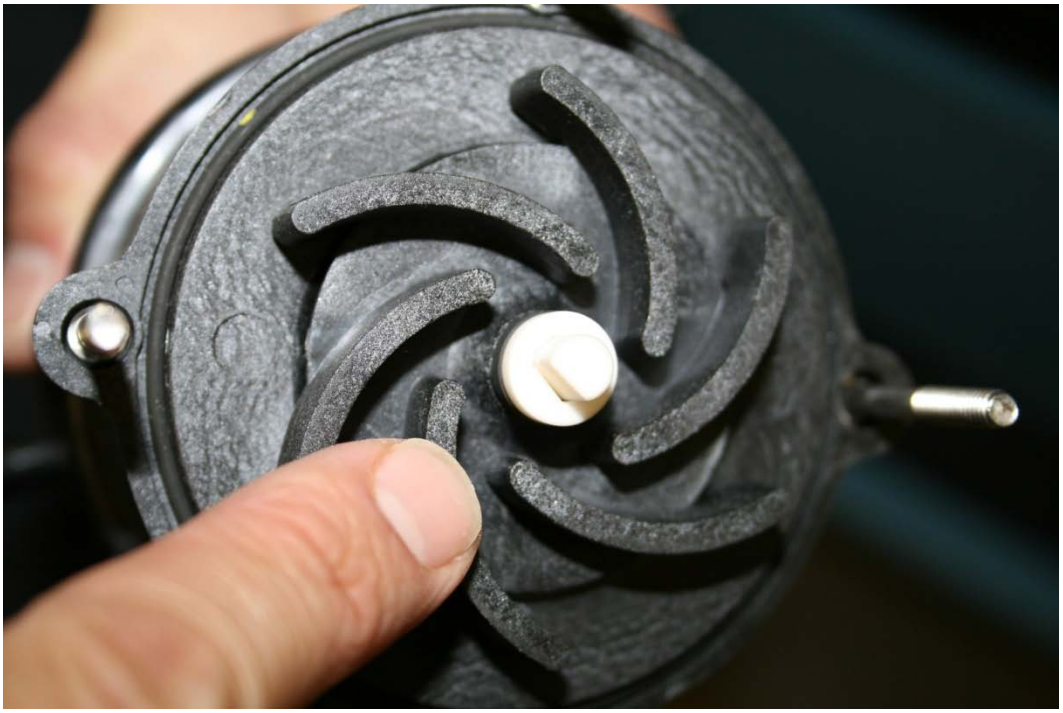
18. Once all the fluid has been drained carefully remove the pump.



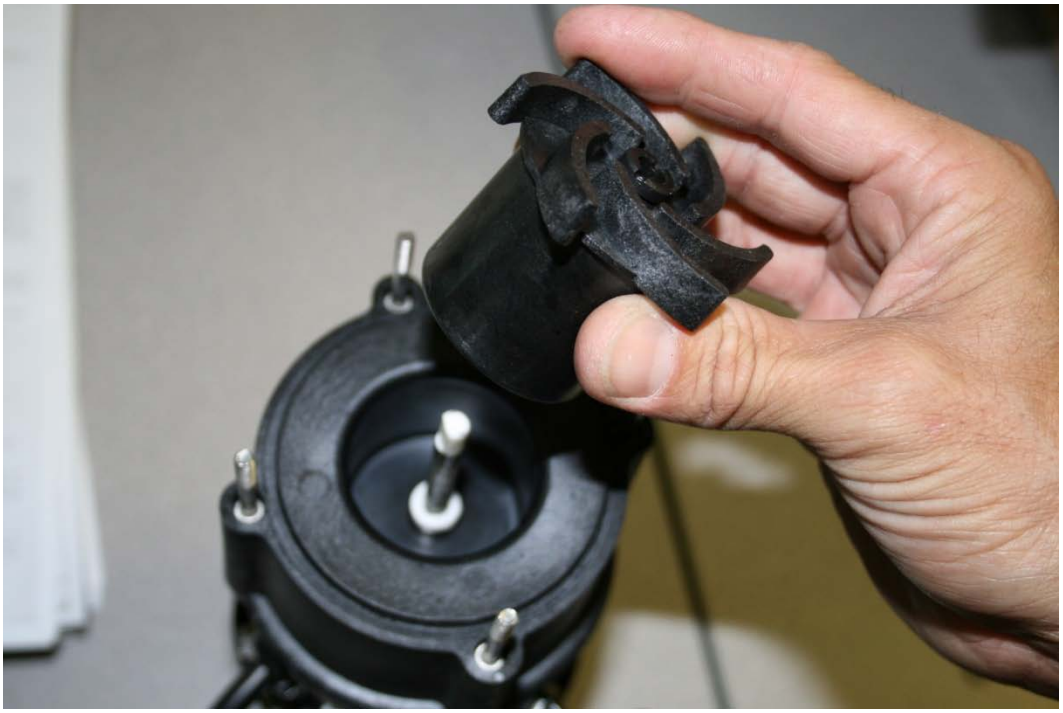
19. Inspect the o-ring for any debris, if any exists thoroughly clean.



20. Remove the thrust washer and clean.



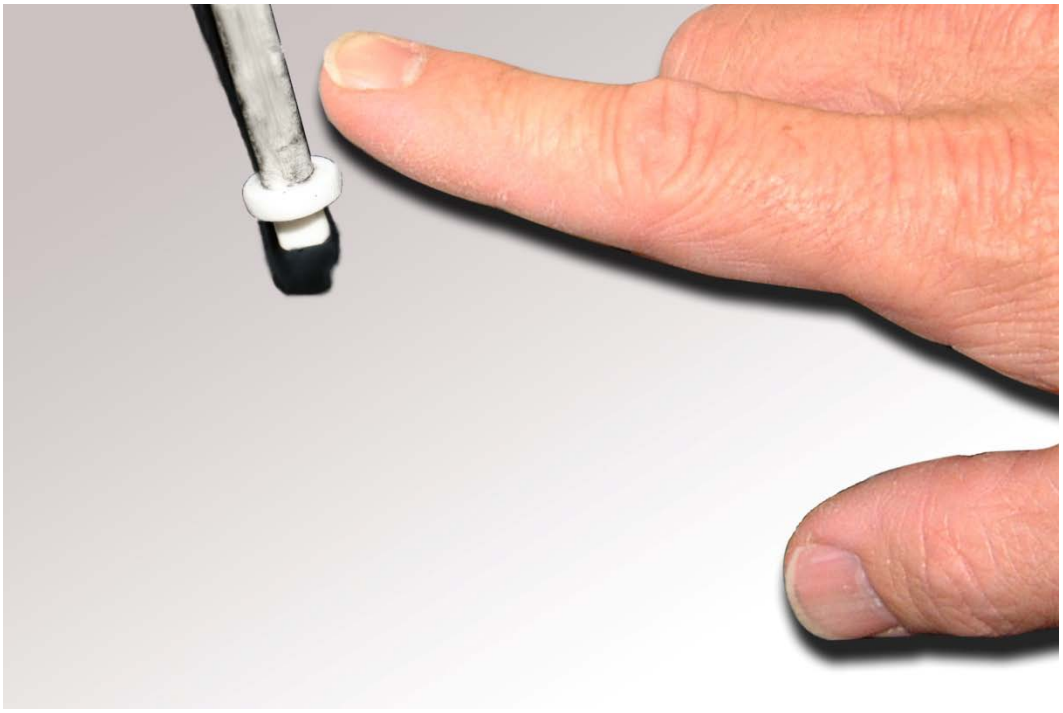
21. Remove the impeller/bushing from the impeller housing. Inspect and clean.



22. Remove the impeller shaft along with the thrust washer.

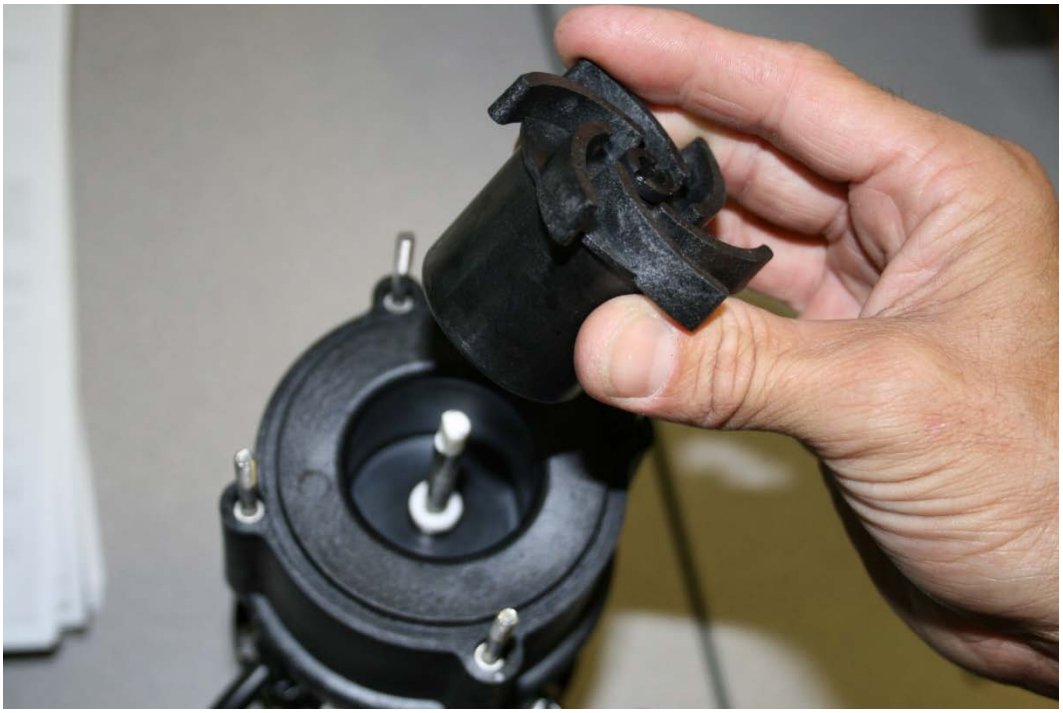
23. Clean inside the impeller housing.

24. Clean the impeller shaft as well as the thrust washer, and then lubricate with non-drying silicone grease (Dow Corning #111 lubricant, recommendation).



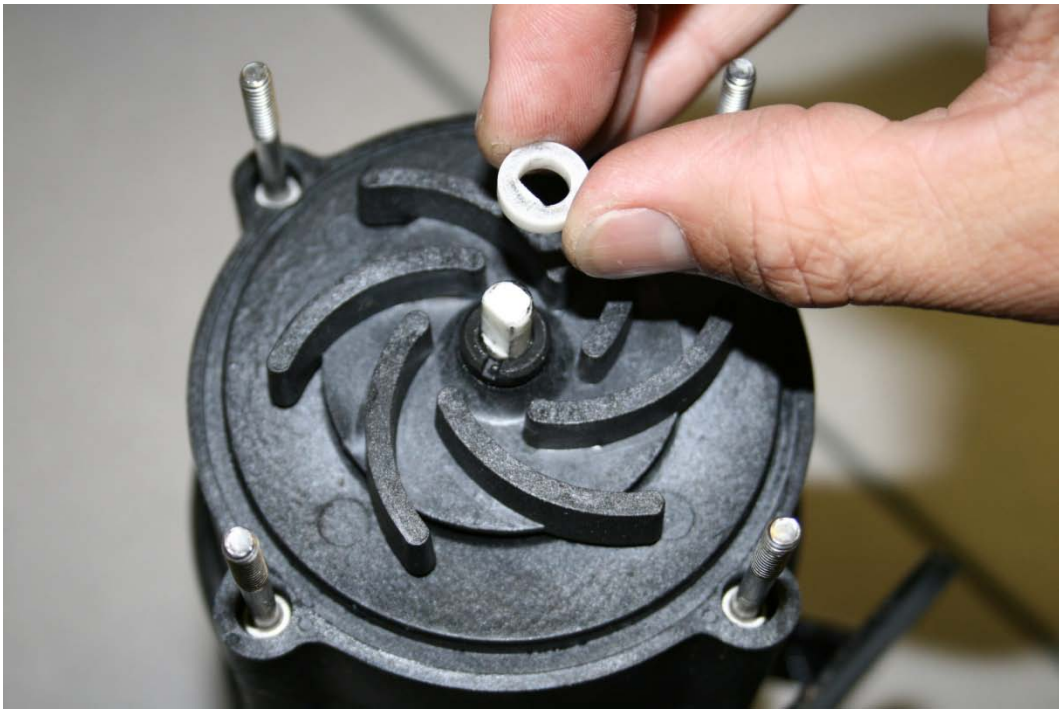
25. Insert the impeller shaft and the thrust washer, aligning the shaft with the key.

26. Slide the impeller/bushing over the shaft.

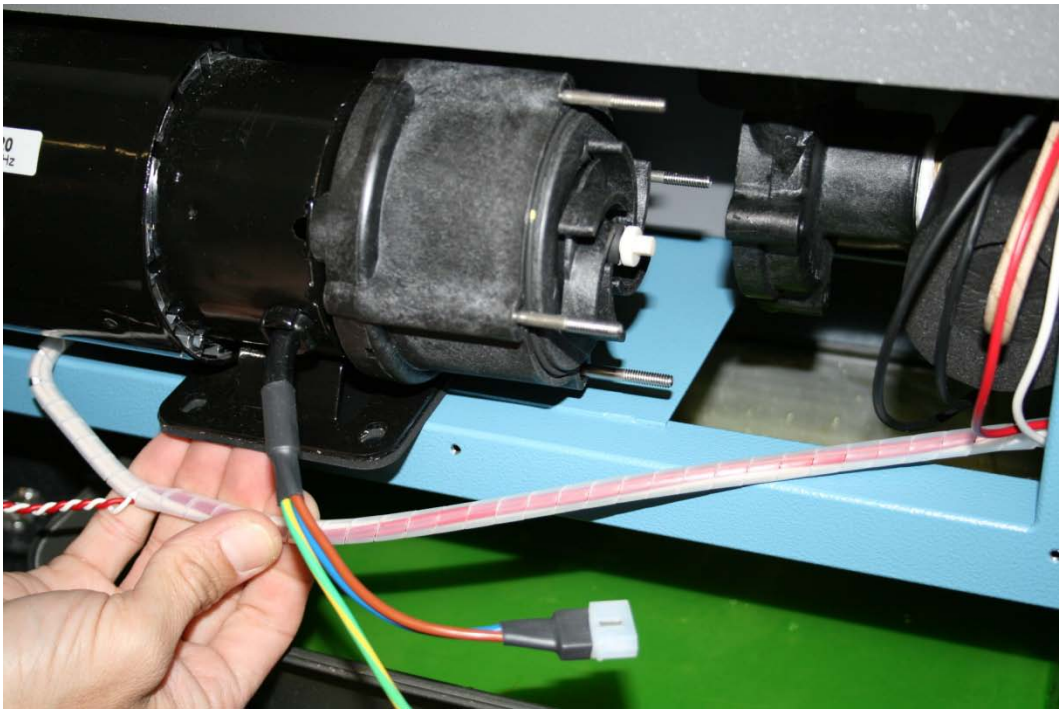


27. Carefully align the impeller/bushing in the center of the housing.

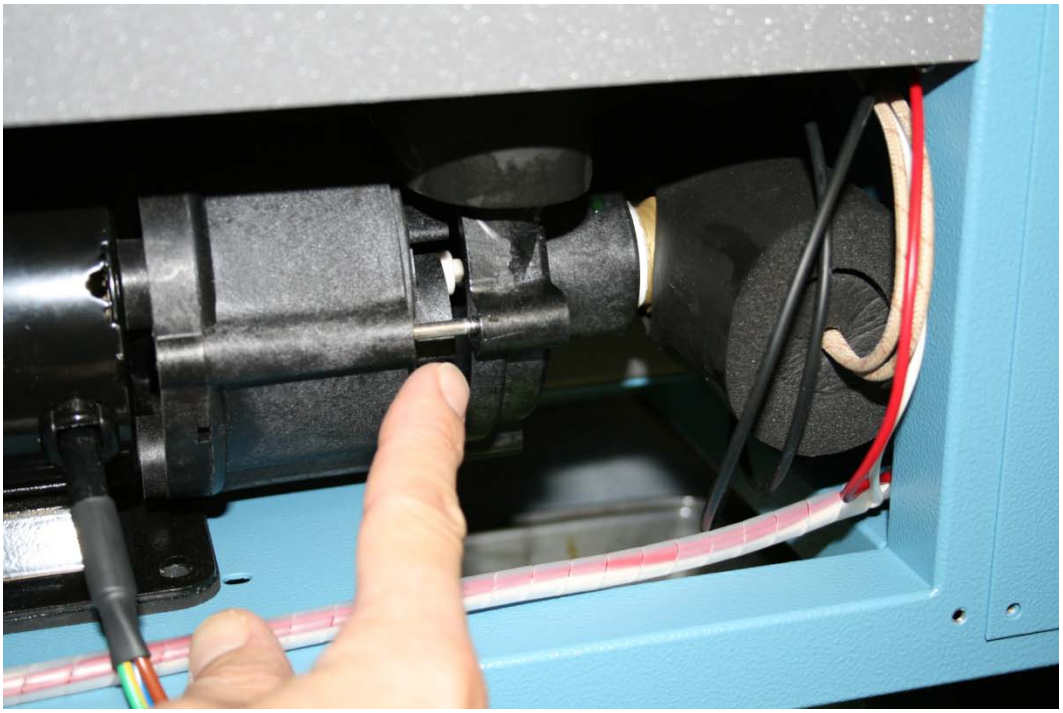
28. Align the key of the thrust washer with the shaft and push on.



29. Slide the pump back in the system and make sure the o-ring is properly seated over the center of the impeller housing.

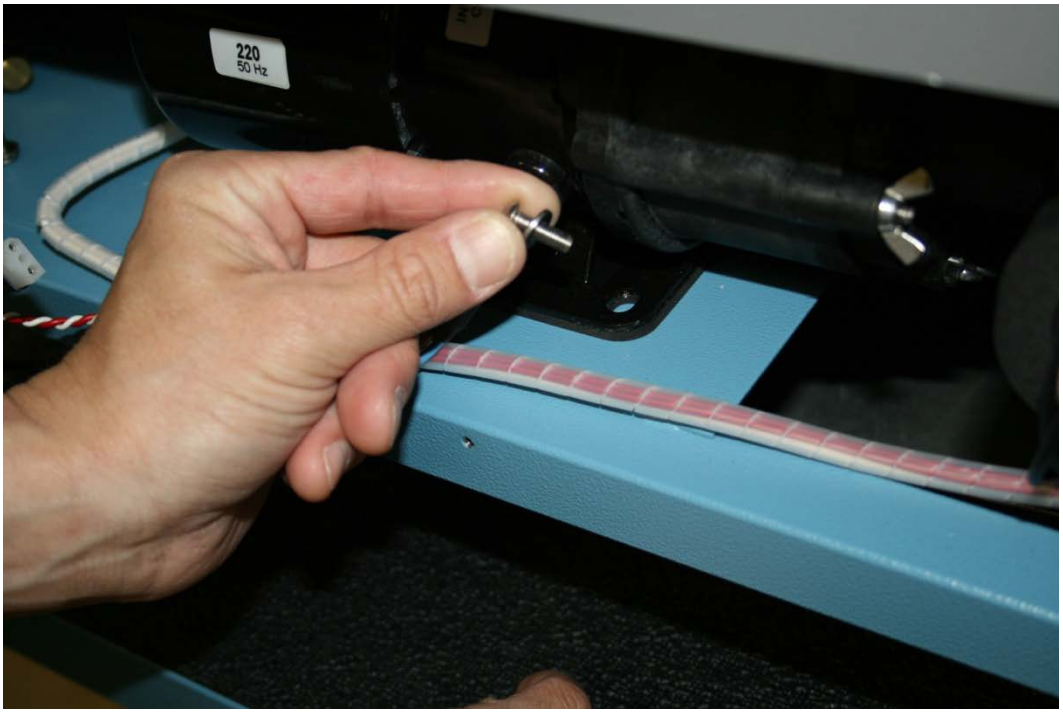


30. Align the threaded studs of the impeller housing with the volute and slide together evenly.



31. Install all four wing nuts and tighten only finger tight.

32. Install the pump mounting hardware.



33. Connect the pump power harness.

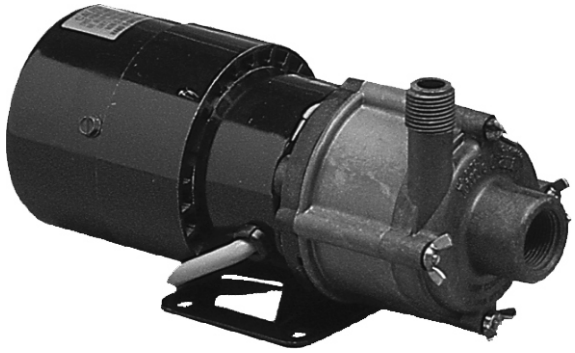
34. Fill the chamber.
35. Reconnect the main power cord and any other connections previously disconnected. Turn the system on and check for any leaks.
36. If no leaks are found, reinstall the system's left rear panel and top right chamber panel.

If you experience any difficulties or have questions, please call 1-800-872-7728, Fax 1-505-266-6203, or E-mail support@thunderscientific.com.

Little GIANT® Pump Company

Magnetic Drive

3-MD-HC



Features

Thermally Protected, Open, Fan-Cooled, Motor

Ball Bearings

6' Power Cord with 3-Prong Plug
(No plug on 230V)

Specific Gravity to 1.1

Fluid Temperature to 200 Degrees F.

Ambient Air Temperature to 77 Degrees F.

Run-dry capability up to 8 hours

NOTE: Consult your local distributor or the factory for applications with higher ambient temperatures, specific gravities and viscosities.

Construction

Volute — Glass-filled Ryton®

Housing — Glass-filled Ryton®

Impeller — Glass-filled Ryton®
w/Carbon Bushing

Shaft — Ceramic

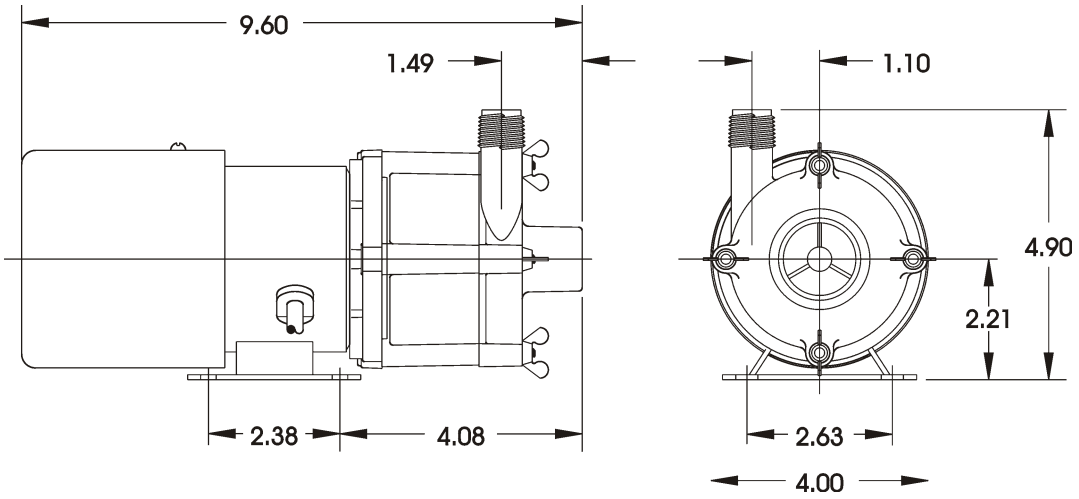
Thrust Washers — Ceramic

O-Ring — Viton®

The Little Giant MD-HC series features leakproof, seal-less magnetic drives and are designed for in-line, non-submersible use. Volute, magnet housing and impeller are glass-filled Ryton® for excellent chemical resistance. Ceramic shaft and thrust washers are 99.5% pure alumina for excellent wear and trouble-free service. Pumping heads are easily rotated, cleaned or serviced with no special tools required. Spindle shaft is supported at both ends to prevent impeller damage during start-up and stop of pump.

Little Giant Pump Co.

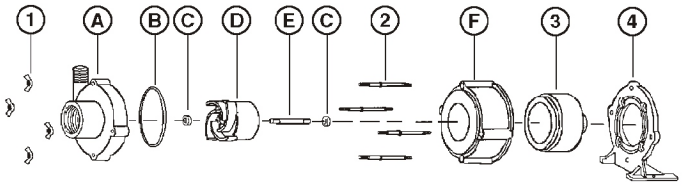
3-MD-HC

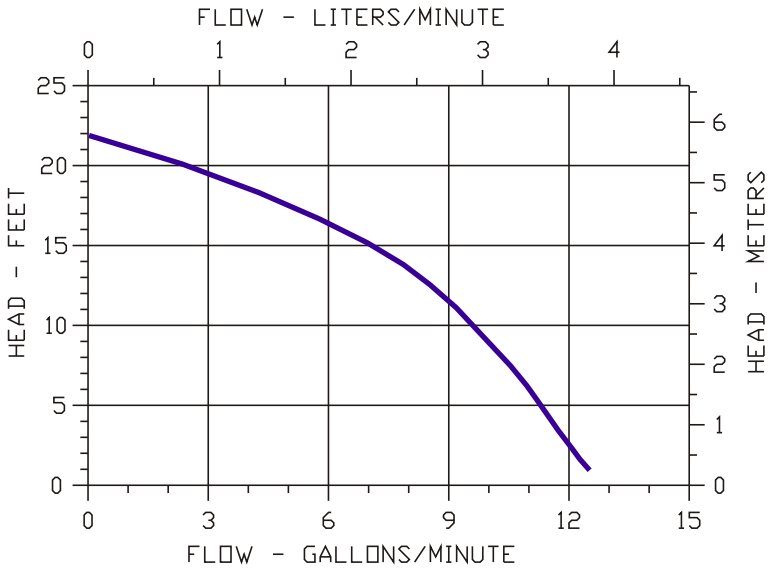


NOTE: Designs and dimensions may vary for various reasons (i.e. type of motor). This information should be used as general guide rather than an unqualified guarantee. Specifications are subject to change without prior notice.

Specifications

Model No.	Item No.	Intake	Discharge	Listing(s)	HP	Volts	Hertz	Amps	Watts	Performance (GPM @ Head) 1'	3'	6'	9'	15'	Shut Off Feet	Shut Off PSI	Pwr. Cord (ft)	Weight (Lbs.)
3-MD-HC	581603	3/4" FNPT	1/2" MNPT	UR/C-CSA	1/12	115	60	2.4	180	12.5	11.5	11.1	10	7.1	21.9	9.5	6	8.80
3-MD-HC	581613	3/4" FNPT	1/2" MNPT	UR/C-CSA	1/12	230	60	1.2	181	12.5	11.5	11.1	10	7.1	21.9	9.5	6	8.80
3-MD-HC	581697	3/4" FNPT	1/2" MNPT		PUMP HEAD LESS MOTOR													2.30





Replacement Parts

ITEM	PART NO.	DESCRIPTION
A	181204	Volute
B	924008	O-Ring
C	921077	Thrust Washer
D	181143	Impeller/Bushing
E	180057	Shaft
F	182006	Housing
1	920003	Wing nut
2	911403	Stud, Collared
3	182602	Drive Magnet
4	180048	Mtg. Bracket

Note: Parts A-F Contact Fluid.

Little Giant Pump Co.
PO Box 12010 • Oklahoma City, OK 73157
Phone: 405.947.2511 • Fax: 405.228.1550
E-mail: customerservice@littlegiant.com