

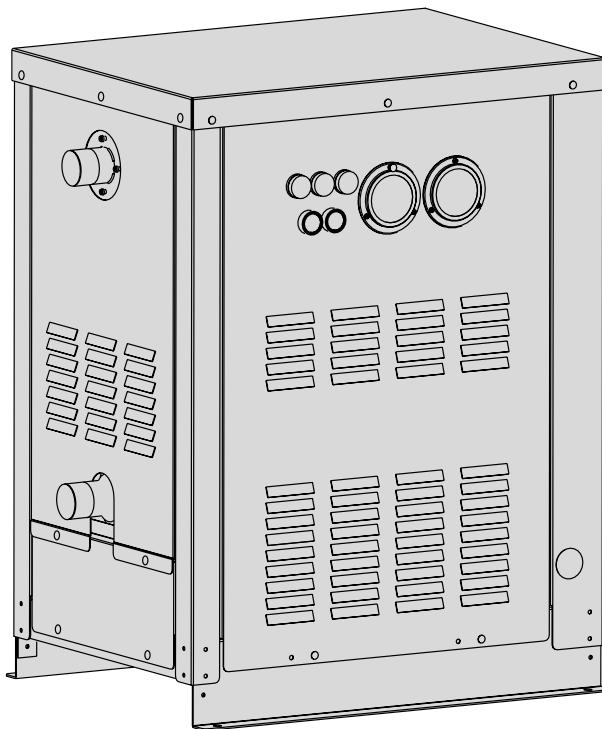


ADVANCED FLUID TECHNOLOGY

INSTALLATION AND SERVICE MANUAL FOR VORTEX WATER TREATMENT SYSTEM

Part Number 85-1448-10 (10 GPM)

Part Number 85-1448-20 (20 GPM)



This manual is an initial issue.

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DATE: 10/23/00
P.N. 28-0470

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RECEIVING

CAUTION

INSPECT THE UNIT FOR DAMAGE! IF DAMAGE IS EVIDENT, NOTIFY THE FREIGHT COMPANY IMMEDIATELY TO FILE A DAMAGE CLAIM REPORT.

Each unit is tested and inspected before shipment. At the time of shipment, the carrier accepts the unit and any claim for damage must be made with the carrier. Upon receiving units from the delivering carrier, carefully inspect the carton for visible indication of damage. If damage exists, have the carrier note same on the bill of lading and file a claim with the carrier.

WARNING

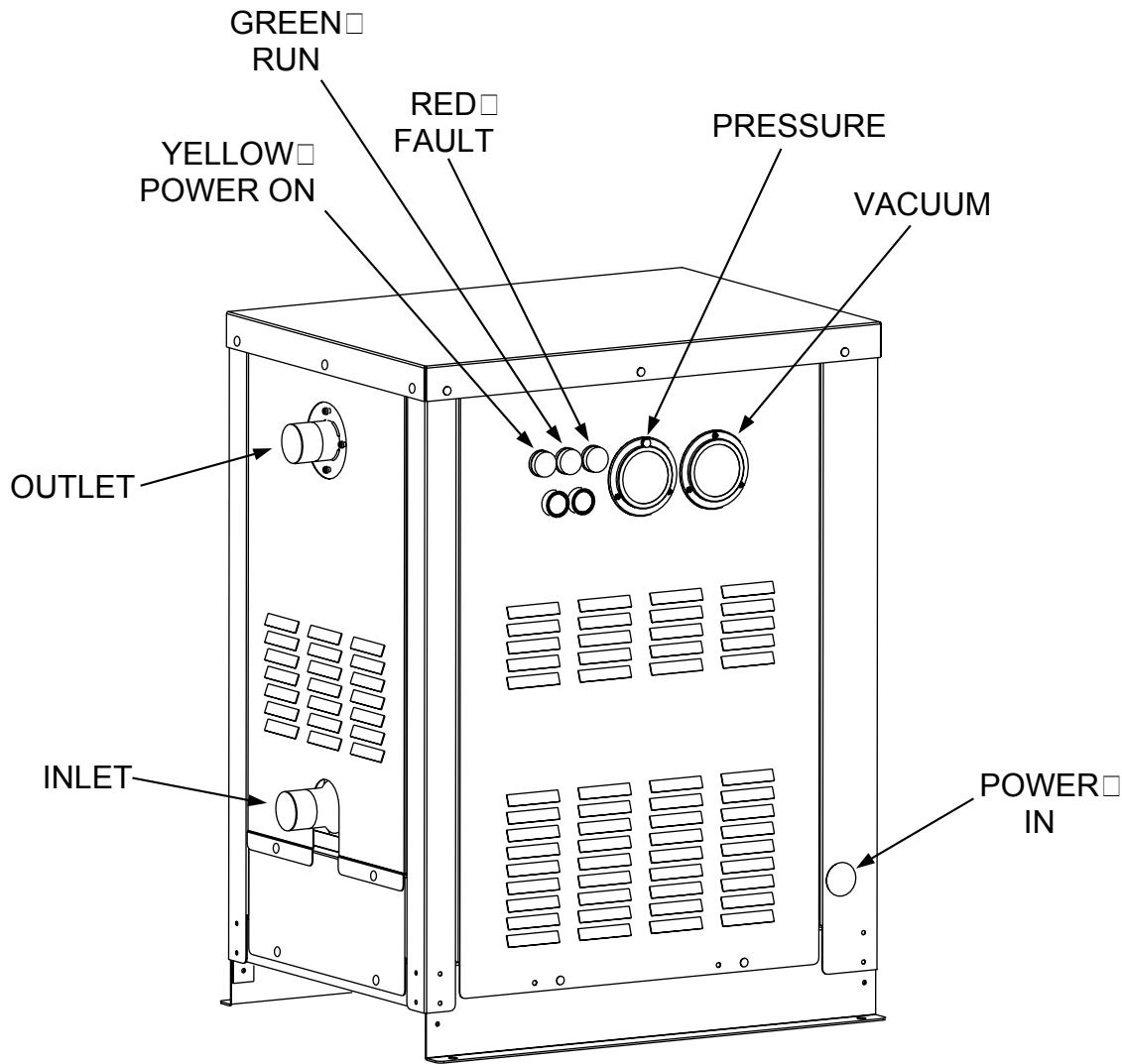
THIS UNIT MUST BE PROPERLY ELECTRICALLY GROUNDED TO AVOID POSSIBLE FATAL ELECTRICAL SHOCK OR SERIOUS INJURY TO THE OPERATOR.

CAUTION

BE SURE TO FOLLOW LOCAL ELECTRICAL CODES WHEN MAKING ALL CONNECTIONS.

CAUTION

BE SURE TO FOLLOW LOCAL PLUMBING CODES WHEN MAKING ALL CONNECTIONS.



SPECIFICATIONS

ELECTRICAL:

230/460 VAC, 20A/10A

(FACTORY WIRED 460

NOTE: 230V REQUIRES CHANGING
MOTOR OVERLOAD, 24 VOLT
CONTROL TRANSFORMER
JUMPER, AND MOTOR
ELECTRICAL CONNECTIONS)

CONDUIT CONNECTION:

3/4", LOCATED AT BOTTOM RIGHT

WATER CONNECTION:

INLET: 1 1/4" NPT

OUTLET: 1 1/4" NPT

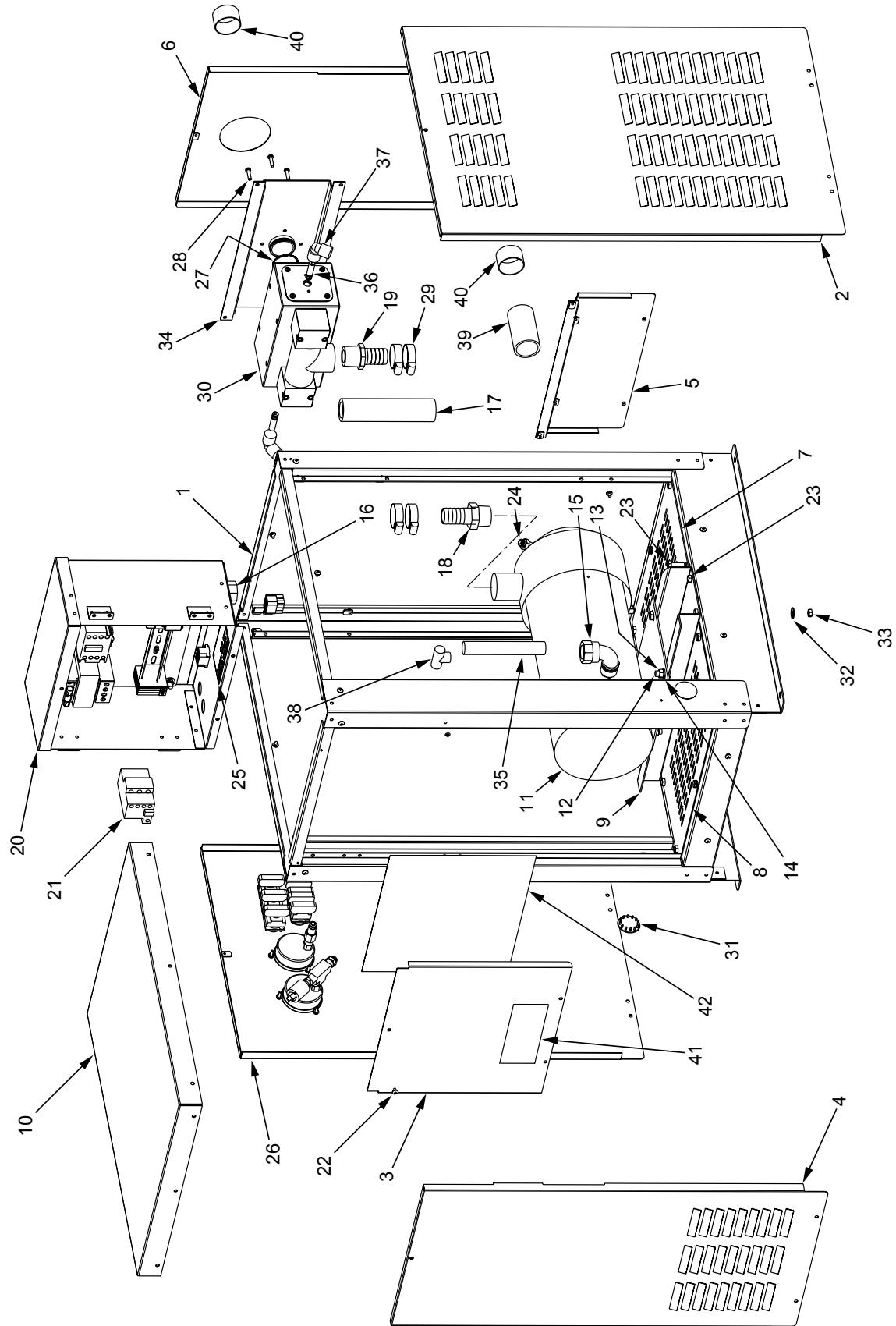
DIMENSIONS OVERALL:

WIDTH: 18 INCHES

DEPTH: 22 3/8 INCHES

HEIGHT: 29 1/2 INCHES

WEIGHT: 135 POUNDS



EXPLODED VIEW

PARTS LISTING

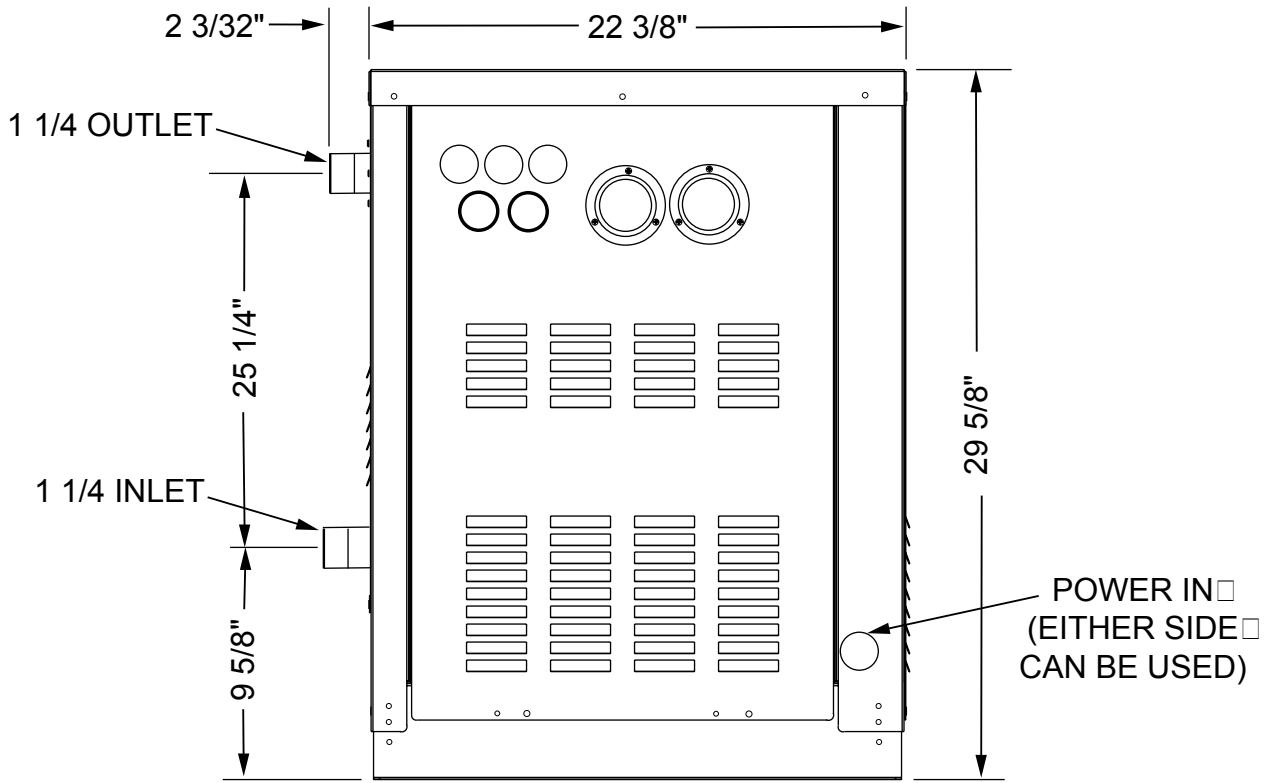
ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
1	51-5692	Weldment, Frame	22	04-0448	Screw, 8 - 32 x 0.250, THD, PH, MS18-8, SS
2	30-7820	Panel, Back	23	04-1233	HEX HD, 1/4 - 20 x 7/8, C/S, SS
3	30-7875	Cover, Control Box	24	01-1991	Fitting, Adapter, 1/4 NPT(M), 1/4 Tube
4	30-7821	Panel, Left	25	06-2174	Nameplate, Water Vortex, Chesterton
5	30-7877	Plate, Base, Fluid End	26	82-2954	Control Panel Assy
6	30-7822	Panel, Right	27	02-0231	O-Ring
7	30-7833	Cover, Floor, Left	28	04-0548	Screw, 8 - 16 x 0.750, PHD, PH, PL, T302
8	30-7834	Cover, Floor, Right	29	07-0569	Clamp, Hose, 0.813 x 1.500
9	30-7835	Mount, Pump	30	82-2778-10	Vortex Assy, 10 GPM
10	30-7832	Cover, Top	-	82-2778-20	Vortex Assy, 20 GPM
11	86-0103	Pump, 10 GPM, Vortex	31	07-0571	Plug Hole, 1 1/4"
-	86-0110	Pump, 20 GPM, Vortex	32	04-1170	Washer, Split, 1/4, IN, SS
12	04-0551	Screw, Machine, 5/16 - 18 x 3/4, HH, SS	33	04-0279	Nut, HEX, 1/4 - 20, SS
13	04-1178	Nut, 5/16 - 18, HEX, SS, PL	34	51-5761	Weldment, Outlet
14	04-1179	Washer, 5/16, Split, SS, PL	35	13-0097	Conduit, Liquid Tight, 1/2"
15	01-1999	Fitting, 90 Degree Elbow, Connector	36	10-475	Stem, Vacuum, 3/8
16	01-2066	Fitting, Straight, 1/2 Conduit	37	01-2081	Elbow, Reducing, JG, 1/4 x 3/8
17	08-0393	Hose, 1", 299 PSI	38	01-2107	Fitting, Union Tee, 1/4 JG
18	01-2068	Fitting, 1", Barb x NPTM, SS	39	01-2109	Fitting, Nipple, 1.25 x 3", SS
19	01-2068	Fitting, 1", Barb x NPTM, PVC	40	90-1092	Cap, Protective, 1.25, Red, Shipping
20	82-2953	Control Box Assy	41	06-0986	Label, WARNING, High Voltage
21	12-0424	Overload, Thermal, 20 GPM, 3 HP, 460V	42	06-2405	Label, Electric, Diagram, Vortex
-	12-0403	Overload, Thermal, 10 GPM, 2 HP, 460V			
-	12-0404	Overload, Thermal, 10 GPM, 2 HP, 230V			
-	12-0426	Overload, Thermal, 20 GPM, 3 HP, 230V			

FIELD SERVICE TROUBLESHOOTING TIPS

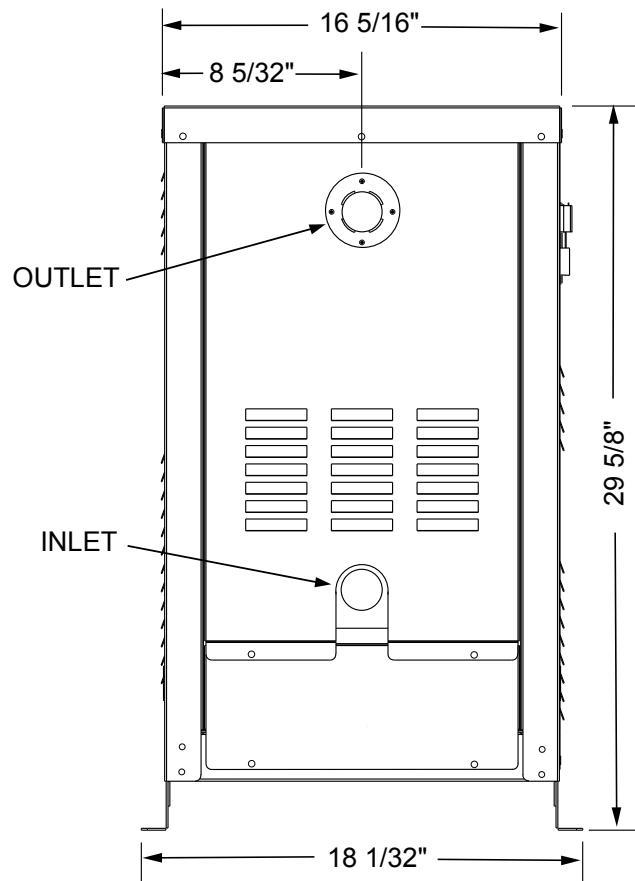
VRTX UNIT

1. Pressure gauge reads low.
 - Clean strainer.
 - If low on start-up, check pump rotation.
 - If running backwards, have electrician change two of the three black wires.
2. Vacuum gauge reads low.
 - See pressure gauge.
 - Make sure liquid filled pressure gauges are vented (see installation instructions).
 - Check vacuum gauge line to make sure it is not plugged.
3. Gauges fluctuating.
 - Check suction for leaks - starved for water.
 - Check for pump cavitation (minimum submergence).
4. If pump does not come to full pressure after the above remedies are applied, hold hand over the discharge vent tube to build up some back pressure in the reactor chamber.
5. If there is still a problem, shut down the VRTX unit. Wait for 2-3 minutes and re-start.

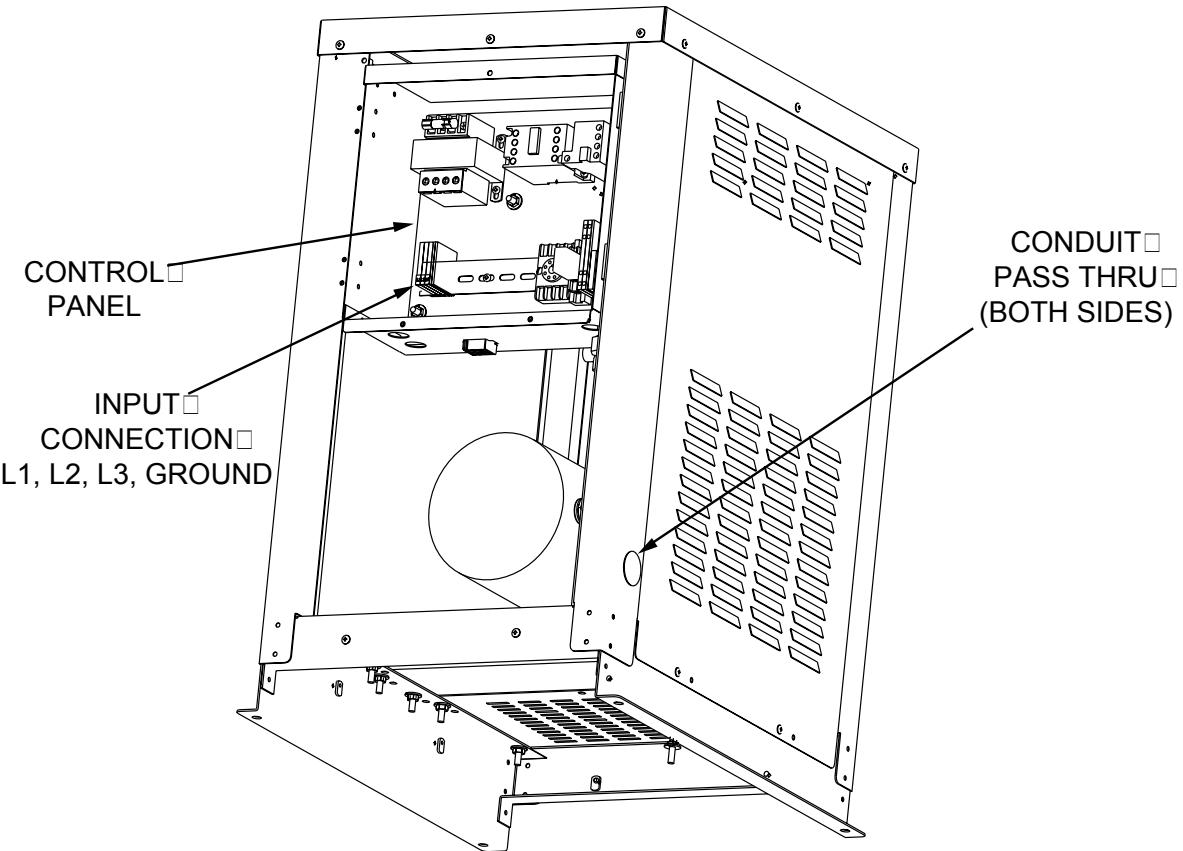
NOTE: If air leaks into the suction piping, the VRTX will not work (i.e., cavitate). The suction piping must be air-tight.



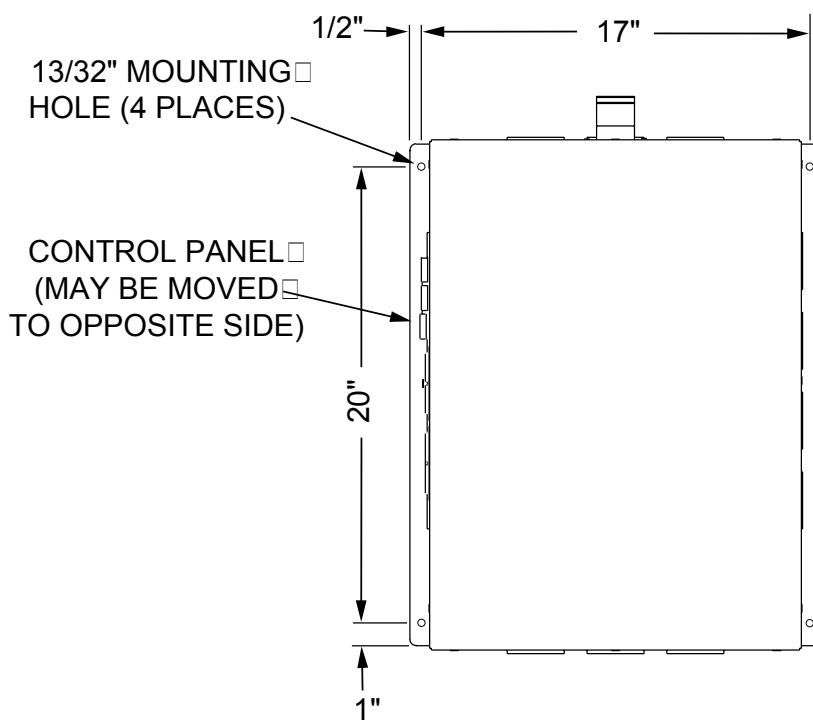
FRONT VIEW



**RIGHT SIDE VIEW
WITH PANEL INSTALLED**



**LEFT SIDE VIEW
WITH PANEL REMOVED**



**TOP VIEW
MOUNTING DETAIL**

VORTEX ELECTRICAL DIAGRAM, LABEL, PN 06-2405

