

# Vortex

by Salvin

## Owners Manual

**308-B Rt 28 Kingston, NY 12401 845-340-0489**

# Vortex

by Salvin

## Table of Contents

Page

1- Unpacking

2- Attaching the tube

3- Installation (Filling)

4- Operation

5- Maintenance

6- Seal replacement

7- Specifications

8- Schematic

9- DMX wiring

# Vortex

by Salvin

## Unpacking the Vortex

After driver has unloaded the Vortex from truck do the following;

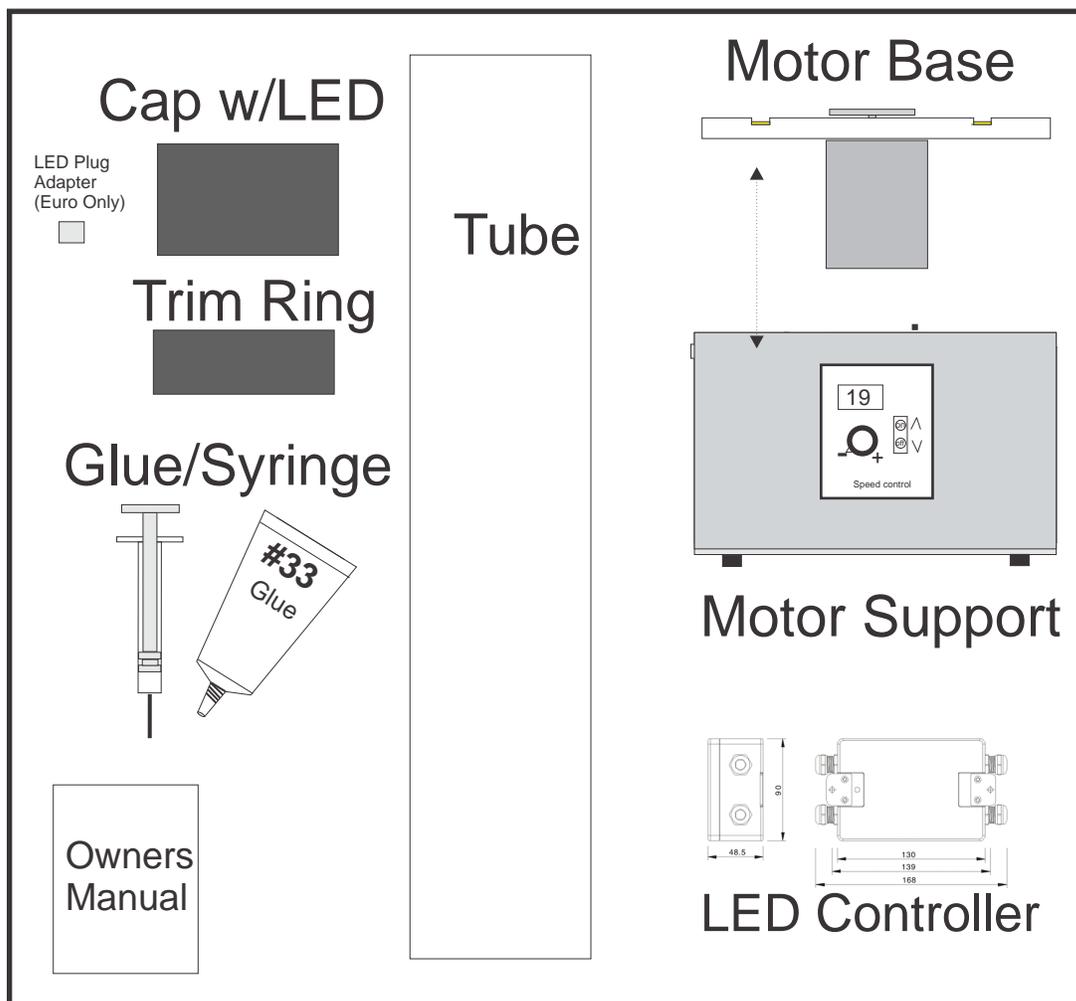
A- Inspect special labeling indicators for excessive tilt angles and excessive impact. This will be evident by the special indicators placed on the outside of the crate. **If either gauge shows to have been triggered, be sure driver notes it on the bill of lading.**

B- DO NOT use hammers, chisels or crowbars to unpack Vortex.

C- Use screw-gun to remove sides and then frame-work.

D- Vortex may be tilted to fit through doorways for placement. **DO NOT** put excessive force on tube.

## Contents

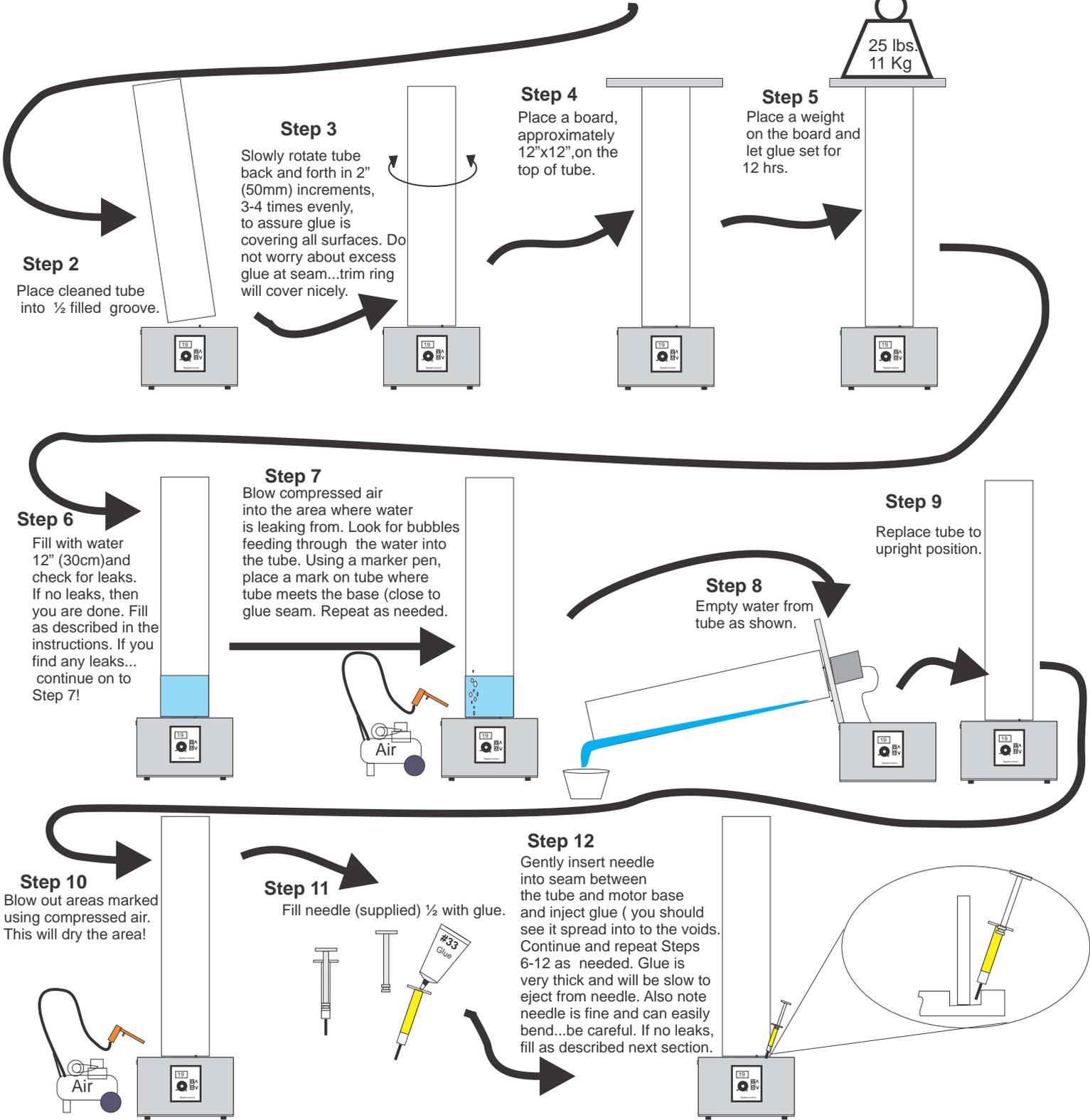
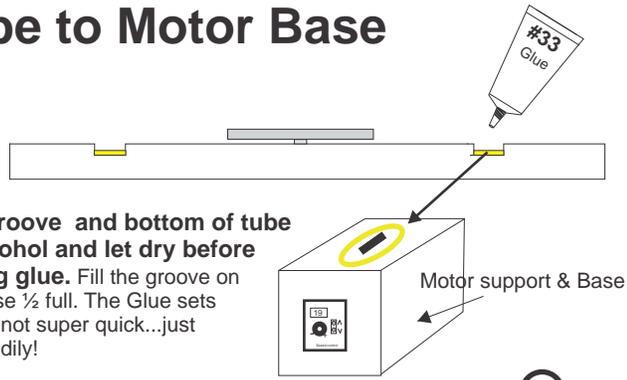


# Attaching Tube to Motor Base

**Important!!!**

**Step 1**

Clean groove and bottom of tube with alcohol and let dry before applying glue. Fill the groove on motor base 1/2 full. The Glue sets quick but not super quick...just work steadily!



**Step 2**

Place cleaned tube into 1/2 filled groove.

**Step 3**

Slowly rotate tube back and forth in 2" (50mm) increments, 3-4 times evenly, to assure glue is covering all surfaces. Do not worry about excess glue at seam...trim ring will cover nicely.

**Step 4**

Place a board, approximately 12"x12", on the top of tube.

**Step 5**

Place a weight on the board and let glue set for 12 hrs.

25 lbs.  
11 Kg

**Step 6**

Fill with water 12" (30cm) and check for leaks. If no leaks, then you are done. Fill as described in the instructions. If you find any leaks... continue on to Step 7!

**Step 7**

Blow compressed air into the area where water is leaking from. Look for bubbles feeding through the water into the tube. Using a marker pen, place a mark on tube where tube meets the base (close to glue seam). Repeat as needed.

**Step 8**

Empty water from tube as shown.

**Step 9**

Replace tube to upright position.

**Step 10**

Blow out areas marked using compressed air. This will dry the area!

**Step 11**

Fill needle (supplied) 1/2 with glue.

**Step 12**

Gently insert needle into seam between the tube and motor base and inject glue ( you should see it spread into to the voids. Continue and repeat Steps 6-12 as needed. Glue is very thick and will be slow to eject from needle. Also note needle is fine and can easily bend...be careful. If no leaks, fill as described next section.

# Vortex

by Salvin

## Installation

A- Be sure of the location because once Vortex is placed and filled it will be impossible to move without draining it.

B- Vortex will require 30 gallons of water. For filling use clean drinking grade water. For best results, use filtered water to insure sparkling particle free water.

C- With cap still on, place a piece of tape approx 2"-3" below bottom of cap on acrylic tube. This will become your reference point for filling (fill point). This point may seem low for now, but when the water starts swirling, this space will quickly rise up into the cap without over-flowing.

D- Remove top cap by sliding upward with both hands. Insert fill-hose, being careful not to scratch insides of acrylic tube. Fill to the tape mark you previously placed on the outside of the tube.

E- Replace cap on Vortex.... water level should be approx 2"- 3" from bottom of cap.

# Vortex

by Salvin

## 4- Operation (Creating the Vortex Effect)

A- Locate speed control and place speed dial in the “off” position (fully counter-clockwise).

B- Plug AC power cord into wall outlet.

C- Press the power “on” button located to the right of the speed control knob. This button is marked by an “up” arrow.

D- NOW COMES THE FUN PART.

Slowly rotate the speed control knob clockwise... you will see the motor impeller start to turn. Water will start to cavitate (spin side to side). Increasing the speed too fast may cause the Vortex to shake...(turn the speed control down and start again). Remember you are trying to gently coax the water into moving.

My favorite way is to do it in stages;

1 minute at 2 on the meter

1 minute at 4 on the meter and so on until a Vortex is achieved.

Note the speed indicator LED read out. This reading will read from 0-60. The best vortexes appear around 11-21. Should you need to go to go higher you will need to remove water from the Vortex or get a mop to . To achieve a vortex, it may be necessary to goose, which entails a very short burst of high speed on the dia. Upon initial start up, unit may start to gently rock side to side... turn speed control down to stop this movement and restart. NOTE....Just before a vortex appears there is a sucking sound then silence and then a vortex appears.

**Do not** let the tail of the Vortex get into the impeller...this will cause air to get whipped into the tube making it murky and hard to view the vortex. It may also damage the seal!

# Vortex

by Salvin

## 4- Maintenance

A- Clean outside of acrylic tube with soft cloth and window cleaner.

B- Water levels may drop with time due to evaporation. Replace water as needed. Excessive loss in water levels should be checked for possible seal damage. In case of seal damage drain Vortex and contact manufacturer.

C- Drain Vortex by using a small sump pump. Some recommended units are: Ace Hardware or Home Depot  
# 42806 Mini-Vac Pump Wayne Md# 57712-wyn1

# Salvin Vortex Seal Replacement

## Vortex by Salvin

### Step #1

Remove power from unit.

### Step #2

Remove top.

### Step #3

Drain all water by using syphon hose or small sump pump.

### Step #4

Lay the main column of the Vortex on its side. Be careful not to damage column. Disconnect all power connections from motor!

### Step #5

Carefully remove the ten 1/4-20 hex head screws that secure motor mounting plate to base of Vortex. Always remove screws across from one another to evenly distribute the pressure. This will also release the 10" o-ring that seals the chamber.

Caution- When down to the last two screws, hold motor to stop it from dropping.

### Step #6

With motor on work bench, remove the impeller from the motor shaft by using the back end of a screwdriver (the plastic handle) to give a sharp blow counter clockwise, (looking down the shaft). Be careful not to mar or gouge the motor shaft. It must be smooth to create a good seal.

### Step #7

Remove the four 3/8" bolts attaching the motor to the motor plate. This will free the motor from motor plate allowing the motor plate to be slid off. Note the water proof washers and their position, (rubber side to the motor plate). Their placement will be important when re-assembling.

### Step #8

Note the position of the seal in the motor plate. It must be re-installed in the same direction. Remove the seal from the motor plate being careful not to damage the bearing chase (area in which the bearing seated in).

### Step #9

Press new seal into motor plate (closed end of seal in first).

### Step #10

Clean motor shaft with alcohol thoroughly and re-grease liberally, with grease provided. Make sure greased motor shaft is not contaminated with dirt or other foreign matter. Contamination of the grease will cause premature seal failure.

### Step #11

Insert motor shaft up through motor plate, being careful not to damage seal.

### Step #12

Re-attach motor to the Vortex base with 3/8" bolts. Use clear silicone sealer (not provided) on waterproof washers and bolts to assure a water-tight seal.

### Step #13

Replace impeller with the reverse technique used in step #6.

### Step #14

Re-attach motor plate to bottom plate of Vortex. Make sure the 10" o-ring does not move from groove. Equally tighten down the 1/4-20 screws, first across from each other until snug, then in a circle using half turns. (you will see the o-ring start to compress). **Caution Do not over tighten!**

### Step #15

Re-attach power to motor and stand Vortex upright. Let silicone sit for 2-3 hours before adding water.

# Vortex

by Salvin Design

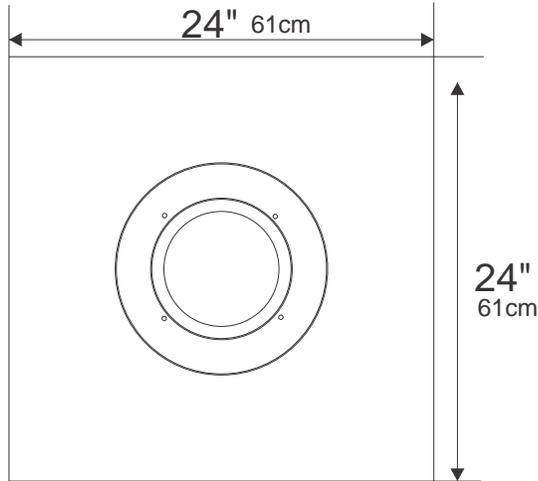


Plate Top View

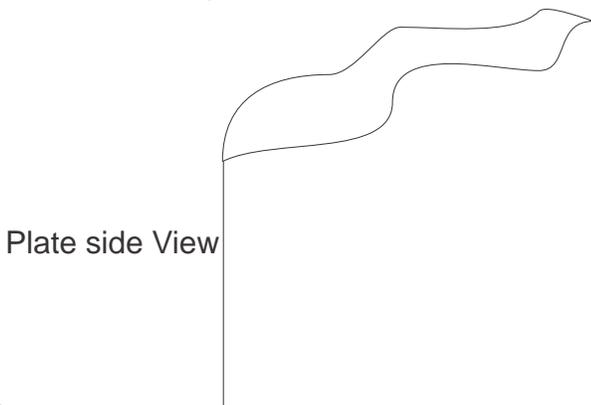
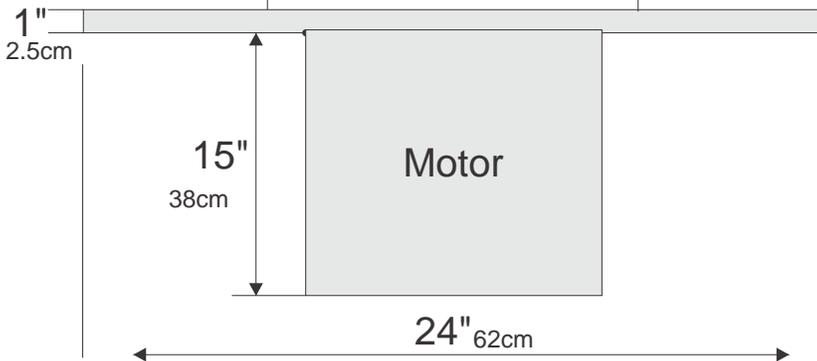


Plate side View



Cap

Beauty Ring

**Specs:**

120vac @ 17 amps

**Weights:**

Empty-138 lbs. Full 440 lbs.  
62.7kg 200kg

**DMX**

3 ch RGB, Factory default: DMX Ch1

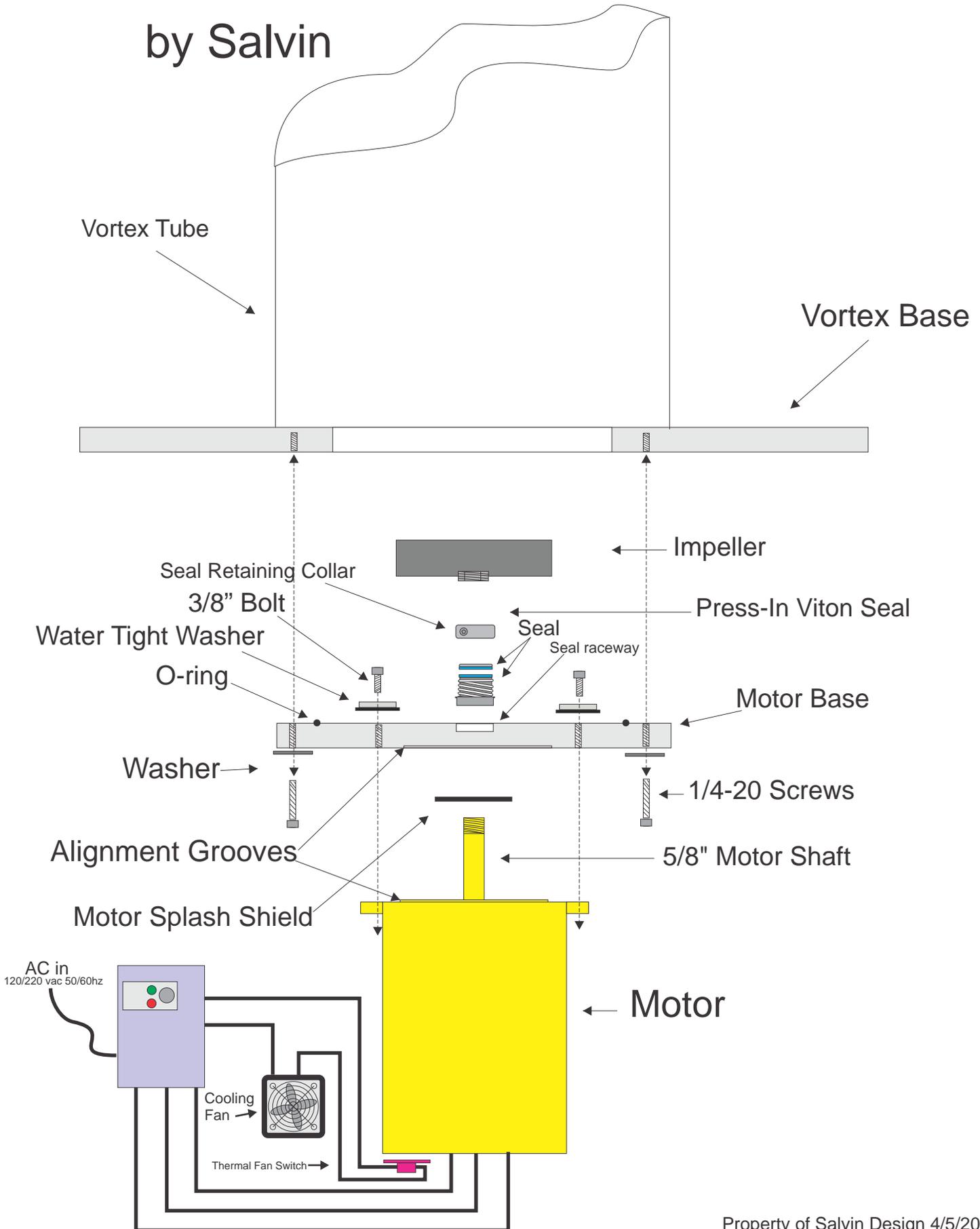
Specifications subject to change w/o notice

Property of Salvin Co 2/10/2012

**308-B Rt 28 Kingston, NY 12401 845-340-0489**

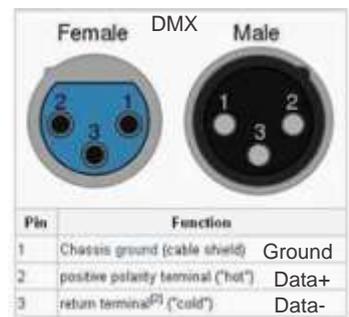
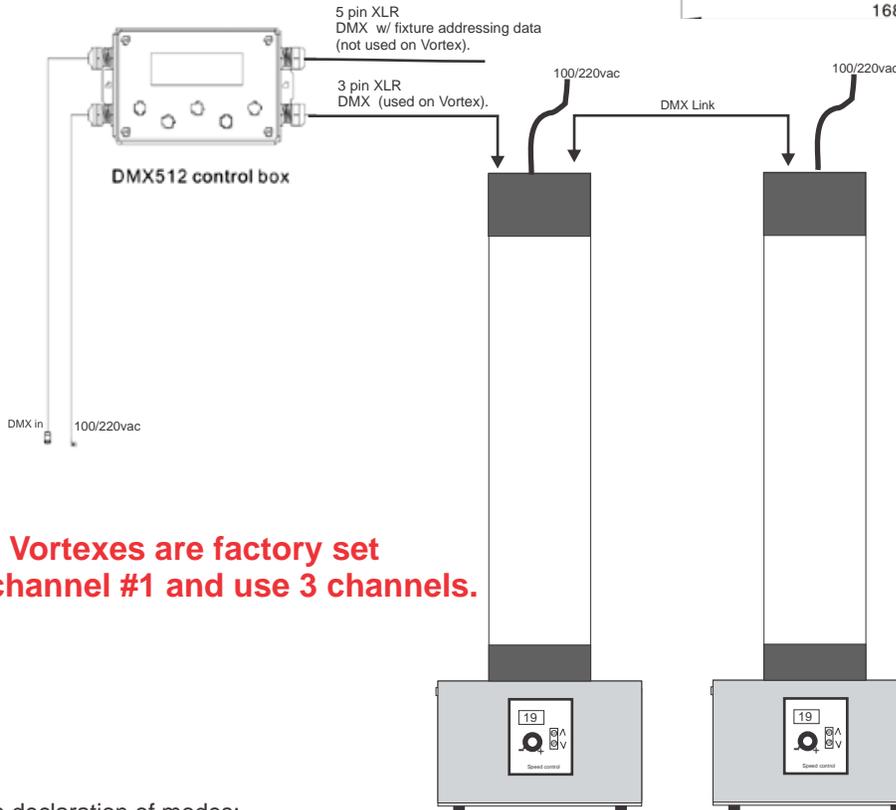
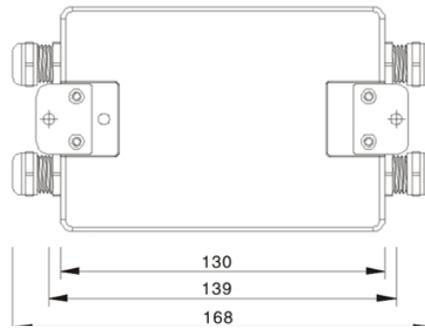
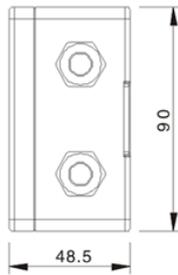
# Vortex by Salvin

Salvin Vortex Parts



# Vortex DMX Wiring

by Salvin



**3-pin XLR DMX Signal**  
 Pin 1= Signal Common  
 Pin 2= DMX Data+  
 Pin 3= DMX Data -

**Note: All Vortexes are factory set at DMX channel #1 and use 3 channels.**

**Classification declaration of modes:**

A01-A17, Master mode, the lighting performance is in master controlling mode when it is in this mode.  
 A18, Slave mode, lighting performance of all wall washers or similar products will change according to the Slave controller when it is in this mode.  
 Description of each mode:

- A01-Red, Red color , the output brightness can be adjusted with 256 classes .
- A02-Yellow, Yellow color , the output brightness can be adjusted with 256 classes .
- A03-Green, Green Color , the output brightness can be adjusted with 256 classes .
- A04-Cyan, Cyan color , the output brightness can be adjusted with 256 classes .
- A05-Blue, Blue color , the output brightness can be adjusted with 256 classes .
- A06-Purple, Purple color , the output brightness can be adjusted with 256 classes .
- A07-White, White color , the output brightness can be adjusted with 256 classes .
- A08-3 colors jumping, the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A09-7 colors jumping, the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A10-3 colors shade , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A11-7 colors shade , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A12-3 colors flash , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A13-7 colors flash , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A14-7 colors flow obversely , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A15-7 colors flow reversely , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A16-7 colors chase obversely , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A17-7 color chase reversely , the changing speed can be adjusted with 99 degrees . ( 1 is the fastest and 99 is the slowest)
- A18-Slave mode , the DMX512 control box receive the signals from the master controller, isolating it, and send it out when it is in this mode .

Part No.	Power	Voltage	signal format	Working temperature	IP rank
SAL-DMX-90/220	2.5W	AC100V ~ AC240V	DMX512(RS485)	-20? ~ +45?	IP65