

# Rotech RST Series Pumps



**ROTECH**  
Pumps & Systems Inc

"A Trusted Partner in Pump Solutions"

Position the pump on its end with the shaft up. The work surface should be level, capable of supporting the motor.

**! WARNING !**

Make certain the motor is not connected to a power source. Do not install or assemble the pump on a motor connected to a power source. Serious injury could occur if the motor activates during pump assembly.

**ASSEMBLING THE PUMP:**

1. Position the motor bracket on the motor with the mounting feet toward the motor. Cross-tighten bolts to factory recommended torque of 6 ft. lbs.
2. Using finger pressure only, firmly press the stationary seal seat into the casing cover. Press the seat until it evenly bottoms out in the seat cavity.
3. Be careful not to damage the stationary seal.
  - a. Position the casing cover over the motor shaft.
  - b. Align the casing cover holes with the motor bracket holes.
  - c. Firmly press the casing cover into position. (Casing cover may need to be tapped into place by using a rubber mallet).
4. Ensure all seals have good contact.
  - a. Carefully press the rotating seal assembly onto the motor shaft. Ensure the face of the seal assembly has solid, square contact with the stationary seal seat.
  - b. The seal retainer must seal against the motor shaft.
  - c. Position the seal spring & seal washer.
5. Failure to properly install the impeller & the impeller nut could result in the impeller spinning off the shaft in three phase applications (when the motor may start in reverse rotation).
  - a. While holding the seal spring in place, thread the impeller clockwise onto the motor shaft.
  - b. Use a screwdriver to hold the motor shaft stationary. Turn the impeller on the shaft until it spins down & bottoms out. Make certain that the impeller is firmly bottomed & sealed.
  - c. Install the impeller nut onto the shaft in the same manner as the impeller was installed. Make certain the impeller nut is firmly sealed against the impeller. Apply lock tight to the impeller nut before installing.
6. Position the Viton O-Ring over the casing cover. Do not cut nick or damage the O-ring during installation.
7. The discharge can be positioned in the direction desired.
  - a. Position the pump volute casing over the casing cover.
  - b. Rotate the discharge to the desired direction.
  - c. Align the bolts & secure the case to the casing cover with lock washers & cap screws.
  - d. Cross tighten the bolts to 3.4 lbs (factory recommended torque). Overtightening may result in stripping of the motor bracket threads.
8. Position the mounting base on the pump & secure with cap screws.
9. Place the bolt & lock nut on the back of the mounting base. Adjust the bolt height to support the motor & tighten the lock nut to secure the bolt height.
10. Rotate the impeller to ensure proper alignment.

### MOUNTING THE ASSEMBLY:

Do not operate the pump unless the assembly is securely & properly mounted.

Misalignment of the motor/pump assembly or not having the assembly reasonably level may cause pump vibration, noisy operation, fluid leaks or air leaks & air locks in the suction pipe.

1. Place the motor/pump assembly in its intended operating position.
2. Level the pump through the centerline of the motor/pump assembly suction port.

### **! WARNING !**

#### **INITIAL OPERATION:**

Make certain the motor is not connected to a power source until the motor is properly assembled & mounted. Serious personal injury or damage to the motor/pump assembly could occur if the motor is activated improperly.

Only certified electricians should make electrical connections.

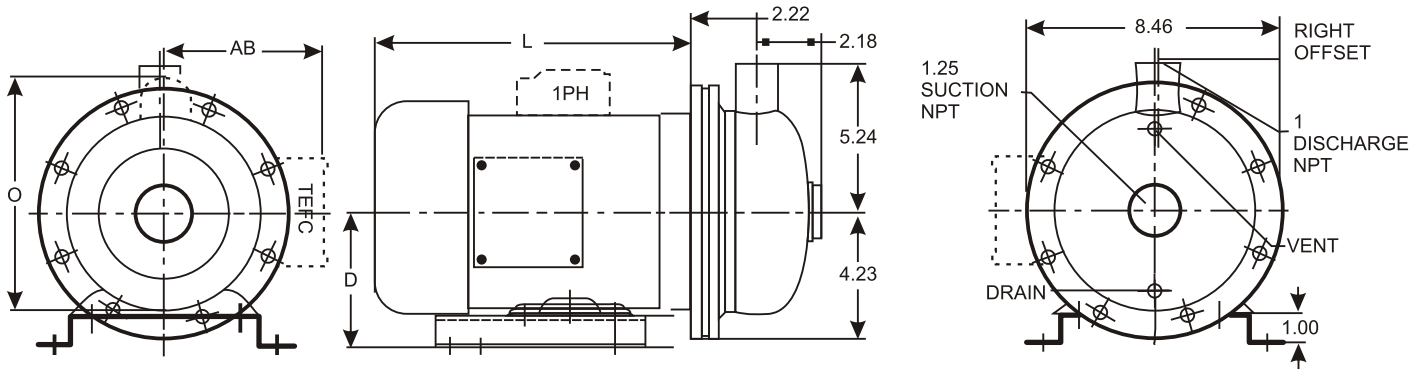
1. Prime the pump by adding fluid to the volute case through the top plug. To properly prime the pump, venting may be required.
2. Check the nameplate on the motor to determine the correct wiring procedure for your intended power source & if the motor is single or three phase. Connect the motor to a power source by following the wiring procedure on the motor's nameplate.

#### **NOTE:**

- a. Single phase motors are typically dual voltage. In some cases, three phase motors are tri-voltage. Check the nameplate & follow the proper wiring procedure for the voltage you are using. Improperly wiring the motor could result in damage to the motor.
- b. Three phase motors require a control box. install overload protection to help prevent motor damage.
- c. Depending on the wiring, three phase motors may start in reverse. Interchange any two power leads to change the starting direction & pump rotation.
  - Always follow correct operating procedures.
  - Always disconnect the motor/pump assembly from all power sources before servicing the pump or motor.
  - Periodically check all power connections, bolts, screws & the motor's mounting.
  - Failure to properly follow assembly & operating instructions could result in damage to the pump & motor.
  - Failure to properly install the impeller & impeller nut could result in damage to the pump & could cause serious personal injury.

# RST701

## Dimensional Drawing



RST701 with 1 PHASE 56J 3600 RPM TEFC Motor

## Motor Dimensions NEMA 56J Frame 3600 RPM

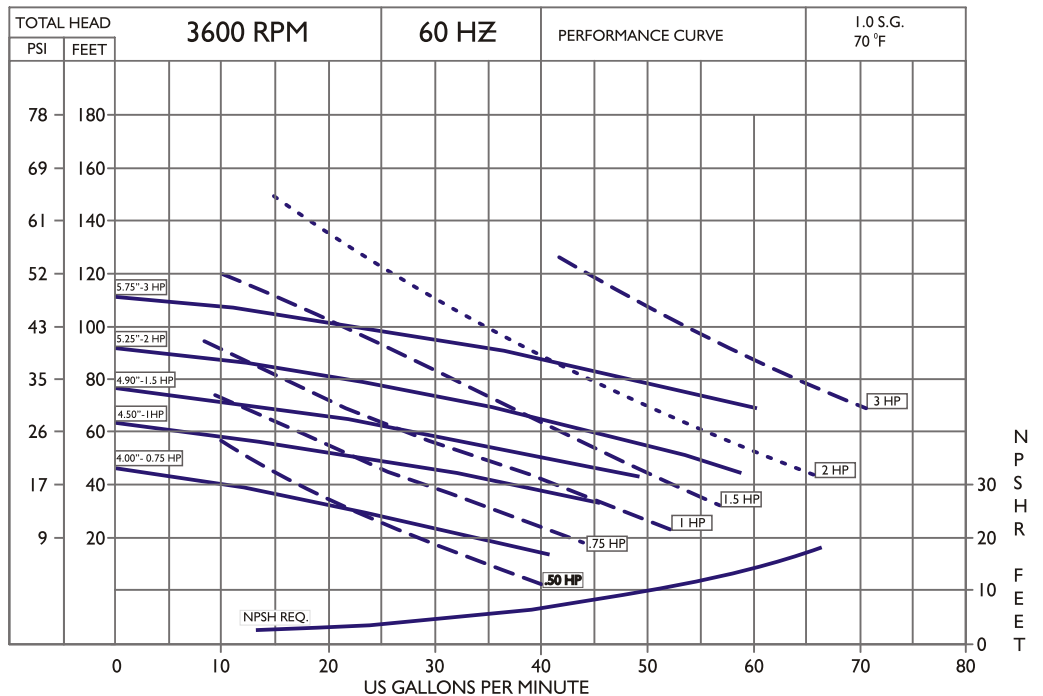
ALL DIMENSIONS ARE IN INCHES

PUMPS MUST ONLY BE INSTALLED IN THE HORIZONTAL POSITION

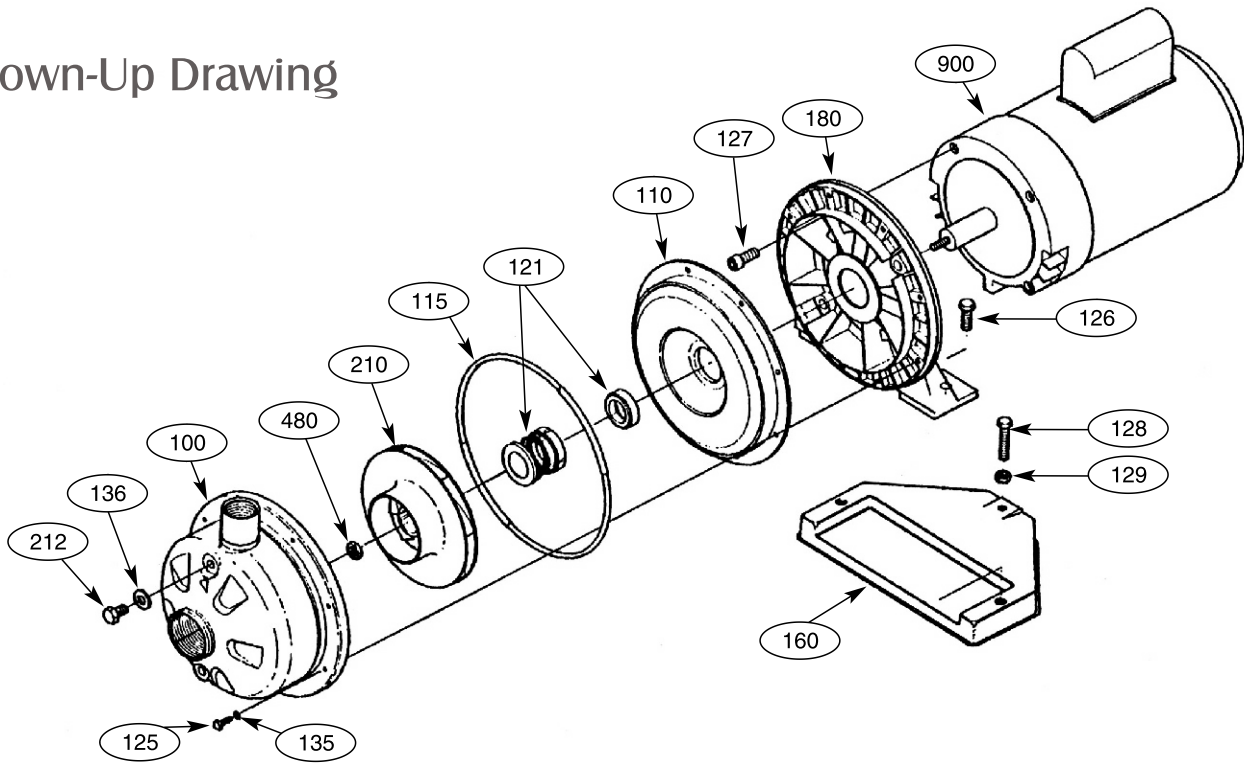
HP	FRAME	TYPE	1PH				3PH			
			L	O	D	AB	L	O	D	AB
.50	56J	ODP	8.37	8.00	3.50	3.25	8.37	6.50	3.50	3.25
.75	56J	ODP	8.37	8.00	3.50	3.25	8.37	6.50	3.50	3.25
1.0	56J	ODP	8.37	8.00	3.50	3.25	8.37	6.50	3.50	3.25
1.5	56J	ODP	8.87	8.00	3.50	3.25	8.87	6.50	3.50	3.25
2.0	56J	ODP	8.87	8.00	3.50	3.25	8.87	6.50	3.50	3.25
3.0	56J	ODP	9.37	8.00	3.50	3.25	9.37	6.50	3.50	3.25
.50	56J	TEFC	12.00	8.13	4.50	5.31	9.43	7.04	4.50	5.31
.75	56J	TEFC	12.00	8.13	4.50	5.31	9.43	7.04	4.50	5.31
1.0	56J	TEFC	13.18	8.13	4.50	5.31	9.43	7.04	4.50	5.31
1.5	56J	TEFC	13.18	8.13	4.50	5.31	9.43	7.04	4.50	5.31
2.0	56J	TEFC	14.36	8.13	4.50	5.31	10.61	7.04	4.50	5.31
3.0	56J	TEFC	14.75	8.13	4.50	5.31	11.30	7.04	4.50	5.31

## RST701

Pump Size (Inlet X Outlet X Max. Impeller Diameter)  
1.25" x 1.0" x 5.75" Impeller Type : Enclosed



# RST Blown-Up Drawing



Part No.	Part Name	Material	No. for 1 Unit
100	Casing	SS 304	1
110	Seal Plate	SS 304	1
180	Bracket	Aluminum	1
210	Impeller	SS304	1
480	Impeller nut	SS 304	1
121	Mechanical seal	carbon graphite/ ceramic/ nitrile	1
115	O-Ring	Viton	1
125	Bolt	Stainless Steel	8
126	Bolt	Stainless Steel	2
127	Bolt	Stainless Steel	4
128	Bolt	Stainless Steel	1
129	Nut	Stainless Steel	1
135	Washer	SS 304	8
136	Washer	Aluminum	2
160	Base	Steel	1
212	Plug	Stainless Steel	2
900	Motor	—	1



"A Trusted Partner in Pump Solutions"

1320 Britannia Road East,  
 Mississauga, Ontario, Canada. L4W 1C8  
 Tel : (905) 461- 9617 Fax : (905) 461- 9618  
 Toll Free : 1-866-217-PUMP ( 7867)