



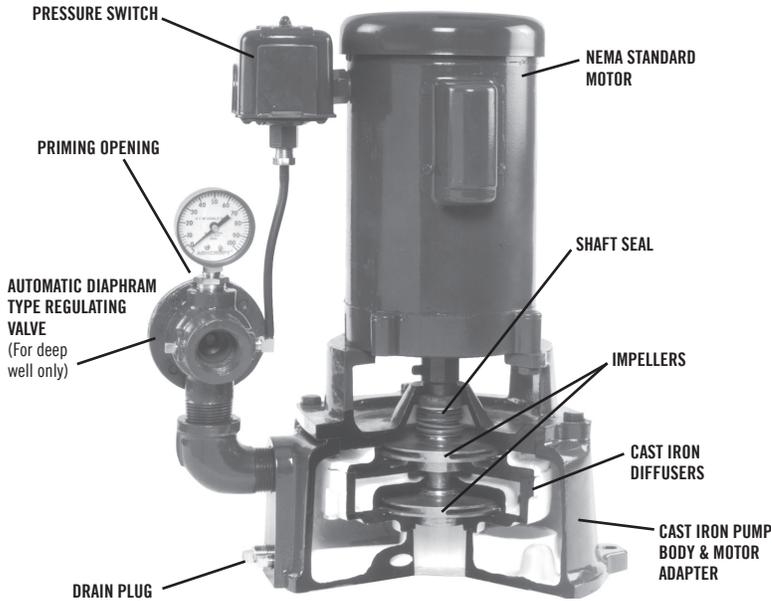
IMPORTANT NOTICE - READ CAREFULLY

# 1000 Series Vertical Multi-Stage Pump

**IMPORTANT - Read both sides of instructions before installing and operating your A.Y. McDonald Multi-Stage Pump. Proper installation will provide years of satisfactory service.**

**NOTE: Use pipe joint compound on male threads only.**

Model Numbers	
<b>Deep Well</b>	<b>Shallow Well</b>
1075 - 3/4 HP	1075SW - 3/4 HP
1010 - 1 HP	1010SW - 1 HP
	1015SW - 1 1/2HP



## Select the type of well installation:

### DEEP WELL INSTALLATIONS

#### Double pipe, using standard well seal (4" or larger wells)

1. Wrench tighten venturi into body. Place jet ejector, foot valve and piping in the well using plastic or galvanized pipe.
2. Install well seal and tighten packer bolts making sure well is tightly sealed.
3. Connect No. 108 adapter flange to the larger (suction) pipe. Screw a short nipple into the other threaded opening (drive pipe) of the flange and connect to the drive pipe line coming from the well by means of a compression coupling.
4. Place gasket on top of adapter flange and bolt pump to adapter flange with capscrews provided in adapter flange package. **BE SURE LARGE HOLE IN FLANGE AND GASKET IS LOCATED AT CENTER OF PUMP.**

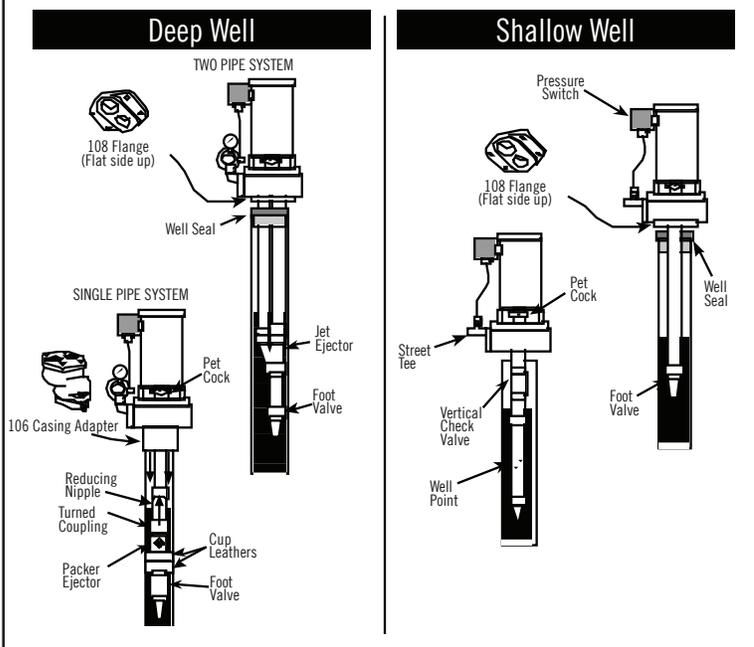
#### Single pipe (2" or 3" wells), using 106 casing adapter

1. Wrench tighten venturi into jet body. Place jet ejector, foot valve and piping in the well. On 2" single pipe installations a special 1 1/4" x 1" reducing nipple and turned coupling should be connected to the top of the packer ejector and the 1" suction pipe connected to this nipple. On 3" single pipe installations the 1 1/4" suction pipe connects directly to the top of the jet fitting using a turned coupling.
2. Screw suction piping into threaded portion of casing adapter. Adapter should be located with flanged side up and packer side down. A 1 1/4" x 1" bushing will be needed if 1" suction pipe is used.
3. Fasten casing adapter to well casing, and tighten bolts evenly and securely.
4. Place gasket on top of casing adapter and place pump on casing adapter making sure that the larger HOLE IN CENTER OF PUMP IS LOCATED OVER THE SUCTION PIPE (tapped hole) IN THE CASING ADAPTER.
5. Bolt pump to casing adapter flange using capscrews provided in jet fitting package.

### SHALLOW WELL INSTALLATIONS (For example, 1010SW)

1. Install suction piping in well or attach to well point. Use foot valve at end of suction pipe or check valve in suction line as far from pump as possible. Tighten well seal (if used) to create a seal and secure suction pipe.
2. Connect No. 108 adapter flange to suction pipe or well point piping using the 1 1/4" thread.
3. Place gasket on top of adapter flange and with 4 capscrews provided attach the pump to the flange making sure to align the large hole in pump body with the 1 1/4" suction pipe.
4. The smaller hole in the pump body will line up with the 1" NPT hole in the flange and this 1" thread should be plugged on the bottom side of the flange with a standard pipe plug.

### Typical Jet Pump Installations



See next page for priming instructions



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# 1000 Series Vertical Multi-Stage Pump

## Priming the Pump

### Deep Well

1. Open pet cock located on top side of motor adapter. Then prime the pump by filling with water through the 1/2" NPT thread in regulating valve. Stop filling when water flows from pet cock and close the pet cock.
2. Set the regulating valve as follows: with pump disconnected from tank or with zero pressure in tank, screw the adjusting screw as far in as it will go. Prime and start pump. Keep turning adjusting screw out until pump loses its prime (gets noisy or no water discharged). Turn screw in one turn, reprime and start pump. If pump will not deliver water, prime again, and turn screw in another turn before starting pump. Proper valve adjustment results in maximum capacity.
3. After the pump is primed, secure the piping to eliminate leaks.

### Shallow Well

1. Open pet cock located on top side of motor adapter. Then add an elbow or tee to the street tee provided and fill the pump housing with water until water flows from the pet cock. Then close the pet cock.
2. After priming as described in 1, plug the elbow/tee you provided only loosely to let air escape and start the pump and wait for it to prime. If it fails to prime in several minutes, repeat the priming procedure.
3. After the pump primes, turn it off and secure the piping to eliminate leaks.

Average Regulating Valve Settings	
3/4 HP .....	42 lbs.
1 HP .....	56 lbs.

**NOTE:** These pressures will vary considerably, depending on depth to water.

### Wiring

Be certain that wire and fuses of correct size are installed. Be certain the phase, voltage, and cycles of the supply circuit are the same as that shown on the motor name plate.

It is strongly recommended that a separate electric line, well protected against fire, be run from electrical service to the pump, with a fused switch box at the pump. In the event of fire, this precaution will permit continuous operation of your pumping system. For added safety, the pump and motor should be properly grounded to the well casing or to a separate ground rod driven eight feet into the ground.

### Wire Selection and Fusing Chart (Use copper conductors only)

#### Wire Gage and Standard Fuse Sizes

MOTOR SIZE	WIRE SIZE		FUSETRON SIZE	
	110V	220V	110V	220V
3/4 HP	8	12	30 amps	20 amps
1 HP	6	12	35 amps	20 amps
1 1/2 HP	4	10	40 amps	30 amps

For distances of 200 feet and over from meter to motor, larger wire than shown may be required.

## ATTENTION! Important information for installers of this equipment!

This equipment is intended for installation by technically qualified personnel. Failure to install it in compliance with national and local electrical codes, and with motor suppliers recommendations, may result in electrical shock or fire hazard, unsatisfactory performance, and equipment failure. Installation information is available from pump manufacturers and directly from motor suppliers. Retain this information sheet with the equipment for future reference.

### WARNING

Serious or fatal electrical shock may result from failure to connect the motor, control enclosures, metal plumbing, and all other metal near the motor or cable, to the power supply ground terminal using wire no smaller than motor cable wires. To reduce risk of electrical shock, disconnect power before working on or around the water system.

## Troubleshooting

### Always do this

1. After the pump is properly primed, permit pump to discharge on open flow long enough to determine if well supply is adequate. This allows for correct setting of regulating valve and prevents dirty water from entering pressure tank.
2. After pump is connected to pressure tank, allow the system to cycle several times to check pressure switch setting and operation.

### If motor will not run

1. Safely check to be sure you have voltage at the disconnect fuse box and pressure switch.
2. Check fused disconnect switch for blown fuse or loose wire.
3. After opening disconnect switch, check for loose wire in pump switch.
4. Check for free rotation of pump shaft, using the screwdriver slot or wrench flats under the cover on the end of motor.

### If motor runs but no water is delivered

1. Be sure there are no leaks in suction piping.
2. Be sure that foot valve is submerged when pump is running.
3. Open disconnect switch and reprime pump.
4. If a deep well pump, be sure that regulating valve is set at correct pressure for proper operation. See chart (upper right) on this page for approximate settings. (These vary with depth to water).
5. Impeller, jet fitting or foot valve may be plugged with sand or other obstruction.