



# INSTALLATION AND OPERATION

**Model DMC Series**

**Horsepower Range: 3/4 - 2 HP**

**60 Cycle**

**Single and Three Phase Installations**

## Owner's Record

Pump Model: \_\_\_\_\_

Pump Serial No.: \_\_\_\_\_

Pump Date Code: \_\_\_\_\_

Motor H.P. \_\_\_\_\_ Voltage \_\_\_\_\_ Phase \_\_\_\_\_

Date of Installation: \_\_\_\_\_

Owner: \_\_\_\_\_

Installer: \_\_\_\_\_

Installer Phone Number: \_\_\_\_\_

## General Information

- Keep the static suction lift (vertical distance between the center line of the pump and the water level) to a minimum.
- Mount the pump on a solid, level foundation which provides a rigid and vibration-free support. It should be located where the unit is readily accessible for service and maintenance.
- Examine the unit for any visible shipping damage. Immediately report any damage to the carrier.
- All pipe used should be clean and free from rust and scale.
- Use pipe joint compound on all joints to avoid leaks.
- This manual should be kept near the pump installation for ready reference when servicing.
- All correspondence, relating to your particular pump, should include the complete Model Number. Order and repair parts by Part Description and Part Number.

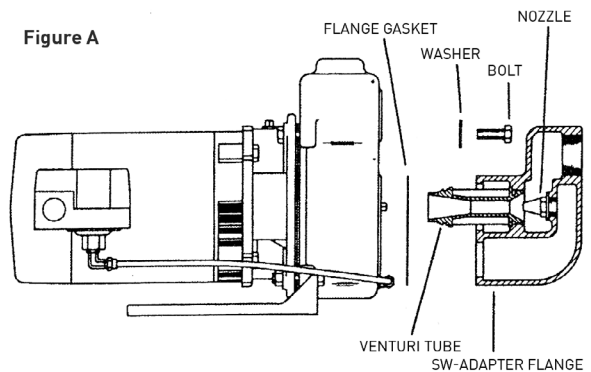
### California Proposition 65 Warning

**▲WARNING** This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

## Shallow Well Installation

**For Shallow Well Application, it requires the Basic Pump Unit of Horsepower Selected PLUS Shallow Well Package for Corresponding Horsepower Size. Be certain that you are using the correct Venturi Tube and Nozzle Combination based on Pump Horsepower.**

1. Screw the Nozzle into the Adapter Flange and tighten. This is usually done by the factory to save you time.
2. Screw the Venturi Tube into adapter Flange and tighten. (Be sure you have the correct Venturi Tube size for HP size of pump being installed.)
3. With Gasket in place bolt Shallow Well Adapter Assembly to pump caseflange. Tighten bolts evenly.



### Limited Warranty

PENTAIR warrants to the original consumer purchaser ("Purchaser" or "You") of the products listed below, that they will be free from defects in material and workmanship for the Warranty Period shown below.

Product	Warranty Period
Water Systems Products — jet pumps, small centrifugal pumps, submersible pumps and related accessories	<i>whichever occurs first:</i> 12 months from date of original installation, 18 months from date of manufacture
PENTEK INTELLIDRIVE™	12 months from date of original installation, or 18 months from date of manufacture
Pro-Source™ Composite Tanks	5 years from date of original installation
Pro-Source™ Steel Pressure Tanks	5 years from date of original installation
Pro-Source™ Epoxy-Line Tanks	3 years from date of original installation
Sump/Sewage/Effluent Products	12 months from date of original installation, or 18 months from date of manufacture

Our warranty will not apply to any product that, in our sole judgment, has been subject to negligence, misapplication, improper installation, or improper maintenance. Without limiting the foregoing, operating a three phase motor with single phase power through a phase converter will void the warranty. Note also that three phase motors must be protected by three-leg, ambient compensated, extra-quick trip overload relays of the recommended size or the warranty is void.

Your only remedy, and PENTAIR's only duty, is that PENTAIR repair or replace defective products (at PENTAIR's choice). You must pay all labor and shipping charges associated with this warranty and must request warranty service through the installing dealer as soon as a problem is discovered. No request for service will be accepted if received after the Warranty Period has expired. This warranty is not transferable.

PENTAIR IS NOT LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, OR CONTINGENT DAMAGES WHATSOEVER.

THE FOREGOING LIMITED WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE FOREGOING LIMITED WARRANTIES SHALL NOT EXTEND BEYOND THE DURATION PROVIDED HEREIN.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to You. This warranty gives You specific legal rights and You may also have other rights which vary from state to state.

This Limited Warranty is effective June 1, 2011 and replaces all undated warranties and warranties dated before June 1, 2011.

**PENTAIR**  
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**Phone (262) 728-5551 • Fax (262) 728-7323**

## Discharge Piping

### Shallow Well Installation

1. Install a nipple and tee in the top of the pump. The top opening is used for initial priming. (Figure 1)
2. It is advisable to increase the size of the discharge pipe if any appreciable run of pipe is required.
3. Provision for draining discharge lines is also recommended to prevent freezing.
4. Install a check valve in the suction side pipe to prevent back flow into the pump housing, then connect your line to your service.

## Wiring

**▲WARNING** **DO NOT START PUMP UNTIL IT HAS BEEN FILLED WITH WATER!**

1. Motor wiring should conform to national and local electrical codes.
2. Use wire of adequate size to prevent voltage drop.
3. Pump should be on a branch or separate circuit, fused or circuit breaker, protected, with a manual disconnect.
4. Connect the electrical supply from the switch to the motor terminals, following the wiring diagram on the motor nameplate or terminal coverplate. NOTE: Be sure that the connections to the motor terminals correspond with the voltage to be applied.
5. Check wiring and fuse charts before connecting wires to service line. Make sure the voltage and frequency of the electrical current supply agrees with that stamped on the motor nameplate. If in doubt, check with power company.
6. Some pumps are equipped with three phase motors. Three phase motors require magnetic starters, and can run in either direction, depending on how they are connected to the power supply.

## Rotation

On three phase units, the rotation is indicated by an arrow on the back of the motor. The correct rotation of three phase motors must be established before putting the pump in operation. On coupled units this can be observed by briefly starting (bumping) the motor and noting the direction of rotation of the coupling and shaft. Close coupled units are inherently more difficult to check and may require some disassembly, depending on model, to verify rotation. This should only be accomplished by a trained serviceman knowledgeable in the pump construction and safety hazards involved.

**▲CAUTION** Starting a closed coupled unit in the wrong direction, with threaded motor shaft, may cause permanent damage to the pump and/or motor.

**NOTE:** Looking at the back of motor rotation should be clockwise. It is recommended that a permanent ground connection be made to the unit using a conductor of appropriate size from a metal underground water pipe or a grounded lead in the service panel. Do not ground to a gas supply line. Do not connect to electric power supply until unit is permanently grounded. Connect the ground wire to the approved ground and then connect to the terminal provided.

WIRE SIZE & FUSE SELECTION TABLE											
HP	Ph.	Volts	Fuse Rating Amps	MAXIMUM FEET OF COPPER WIRE SIZE							
				#14	#12	#10	#8	#6	#4	#2	#0
3/4*	1	115	30		61	98	153	231	355	518	708
		230	15	161	245	391	613	924	1420		
	3	230	7.5	306	486	760	1172				
		460	3	1226							
1*	1	115	40		51	82	128	192	296	432	592
		230	20	134	204	326	511	770	1183		
	3	230	10	276	437	685	1055				
		460	5	1103							
1 1/2*	1	115	45			64	100	151	232	338	463
		230	25	105	160	255	400	602	926	1351	
	3	230	15	197	312	489	753	1785			
		460	7.5	788	1249						
2	1	115	60			52	81	122	187	273	374
		230	30	85	129	206	323	486	747	1090	
	3	230	20	167	265	415	640	982	1515		
		460	10	669	1060						

\*These models are no longer available for sale. Informational only.

## Service Guide

<b>A - PUMP WON'T START OR RUN</b>	
<b>CAUSE OF TROUBLE</b>	<b>REMEDY</b>
<b>1. Blown fuse.</b>	Check to see if fuse is OK. If blown, replace with fuse or proper size.
<b>2. Low Line voltage.</b>	Use voltmeter to check pressure switch or terminals nearest pump. If voltage under recommended minimum, check size of wiring from main switch on property. If OK, contact power company.
<b>3. Loose, broken, or incorrect wiring</b>	Check wiring circuit against diagram. See that all connections are tight and that no short circuits exist because of worn insulation, crossed wire, etc. Rewire any incorrect circuits. Tighten connections, replace defective wires.
<b>4. Defective motor.</b>	Check to see that switch is closed. Repair or take to motor service station.
<b>5. Defective pressure switch.</b>	Check switch setting. Examine switch contacts for dirt or excessive wear. Adjust switch settings. Clean contacts with emery cloth if dirty.
<b>6. Tubing to pressure switch plugged.</b>	Remove tubing and blow through it. Clean or replace if plugged.
<b>7. Impeller or seal.</b>	Turn off power, then use screwdriver to try to turn impeller or motor. If impeller won't turn, remove housing and locate source of binding.
<b>8. Defective start capacitor.</b>	Use an ohmmeter to check resistance across capacitor. Needle should jump when contact is made. No movement means an open capacitor; no resistance means capacitor is shorted. Replace capacitor or take motor to service station.
<b>9. Motor shorted out.</b>	If fuse blows when pump is started (and external wiring is OK) motor is shorted. Replace motor.
<b>B - MOTOR OVERHEATS AND OVERLOAD TRIPS OUT</b>	
<b>CAUSE OF TROUBLE</b>	<b>REMEDY</b>
<b>1. Incorrect line voltage.</b>	Use voltmeter to check at pressure switch or terminals nearest pump. If voltage under recommended minimum, check size of wiring from main switch on property. If OK, contact power company.
<b>2. Motor wired incorrectly.</b>	Check motor wiring diagram. Reconnect for proper voltage as per wiring diagram.
<b>3. Inadequate ventilation.</b>	Check air temperature where pump is located. If over 100°F., overload may be tripping on external heat. Provide adequate ventilation or move pump.
<b>4. Prolonged low pressure delivery.</b>	Continuous operation at very low pressure places heavy overload on pump. This can cause overload protection to trip. Install globe valve on discharge line and throttle to reduce flow and to increase pressure.
<b>E - PUMP OPERATES BUT DELIVERS LITTLE OR NO WATER</b>	
<b>CAUSE OF TROUBLE</b>	<b>REMEDY</b>
<b>1. Low line voltage</b>	Use voltmeter to check at pressure switch or terminals nearest pump. If voltage under recommended minimum, check size of wiring from main switch on property. If OK, contact power company.
<b>2. System incompletely primed.</b>	When no water is delivered, check prime of pump and well piping. Reprime if necessary.
<b>3. Air lock in suction line.</b>	Check horizontal piping between well and pump. If it does not pitch upward from well to pump, an air lock may form. Rearrange piping to eliminate air lock.
<b>4. Undersized piping.</b>	If system delivery is low, the discharge piping and/or plumbing lines may be undersized. Refigure friction loss. Replace undersized piping or install pump with higher capacity.
<b>5. Leak in air volume control or tubing.</b>	Disconnect air volume control tubing at pump and plug hole. If capacity increases, a leak exists in the tubing of control. Tighten all fittings and replace control if necessary.