



Heating & Cooling Products

# INSTALLATION INSTRUCTIONS

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**DPM26A**

**PUMP MODULE KIT**

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**BARD MANUFACTURING COMPANY**  
**Bryan, Ohio 43506**

*Since 1914...Moving ahead, just as planned.*

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## GENERAL

The pump module kit should only be installed by trained technicians. These instructions serve as a guide to the technician installing the pump module kit. They are not intended as a step-by-step procedure with which the mechanically inclined owner can install the unit.

## DESCRIPTION

The system is designed to heat domestic water using heat recovered from a water source unit's hot discharge gas.

## LOCATION

The DPM26A must be installed indoors. Because of potential for damage from freezing or condensation the unit must be located in the conditioned space.

Locate the storage tank as close to the heat pump and pump module as the installation permits.

When locating the DPM26A and the storage tank, keep in mind water lines should be a maximum of 25 feet long measured one way. Also, the vertical lift should not exceed 20 feet. This keeps pressure losses and heat losses at a minimum.

## ELECTRICAL CONNECTION

The DPM26A is equipped with a standard 115V 3-prong plug. The unit is rated at .9 amps, and can normally be plugged into any convenient electrical outlet.

*NOTE: Make sure outlet is grounded, and that the circuit will handle the added load. If any concerns in this regard you should run a separate grounded circuit to the main panel.*

## INSTALLATION PROCEDURE – GENERAL

Before beginning the installation, turn off all power supplies to the water heater and unit, and shut off the main water supply line.

**TWO TANK** – In order to realize the maximum energy savings from the heat recovery system, it is recommended that a second water storage tank be installed in addition to the main hot water heater. Fossil fuel fired water heaters must be a two-tank installation.

Tanks specifically intended for hot water storage are available from water heater manufacturers (solar hot water storage tanks). A well insulated electric water heater without the electric heating elements will also make a suitable storage tank.

The size of storage tank should be as large as space and economy permit but in no event should it be less than one-half of the daily water requirements for the occupants. As a guide in estimating the daily family water requirements, The Department of Energy recommends a figure of 16.07 gallons of hot water per day per individual. For example, a family of four would require 64.3 gallons per day (4 x 16.07).

**ONE TANK** – The single hot water tank may be a new hot water heater (sized to 100% of daily water requirements) or the existing water heater in the case of a retrofit installation. The existing water heater should be drained and flushed to remove *all* loose sediment. This sediment could damage the circulating pump. The bottom heating element should be disconnected.

**WATER PIPING** – All water piping must adhere to all state and local codes. Refer to piping diagrams for recommended one and two tank installations. Piping connections are 1/2 inch O.D. copper pipe.

A plugged tee and shut off valve should be provided near the pump module should cleaning of the water coil become necessary. A cleanable “Y” type strainer should also be included to collect any sediment.

## OPERATION OF THE HEAT RECOVERY UNIT

The pump module operation is controlled by a series of two thermostats, an on/off switch, and a circuit breaker. The thermostats are to insure a safe hot water supply temperature.

The pump module is a very simple device having a circulating water pump and two thermostats. Heat is transferred from the hot refrigerant to the cool water. A temperature controlled switch located on the inlet DPM26A water line will stop the circulating pump when the return water temperature reaches 140 degrees F.

The heat pump compressor must be operating for the pump module to run, and is controlled by a relay in the module.

The DPM26A is internally protected, and is equipped with an on/off disconnect switch.

## START UP AND CHECK OUT

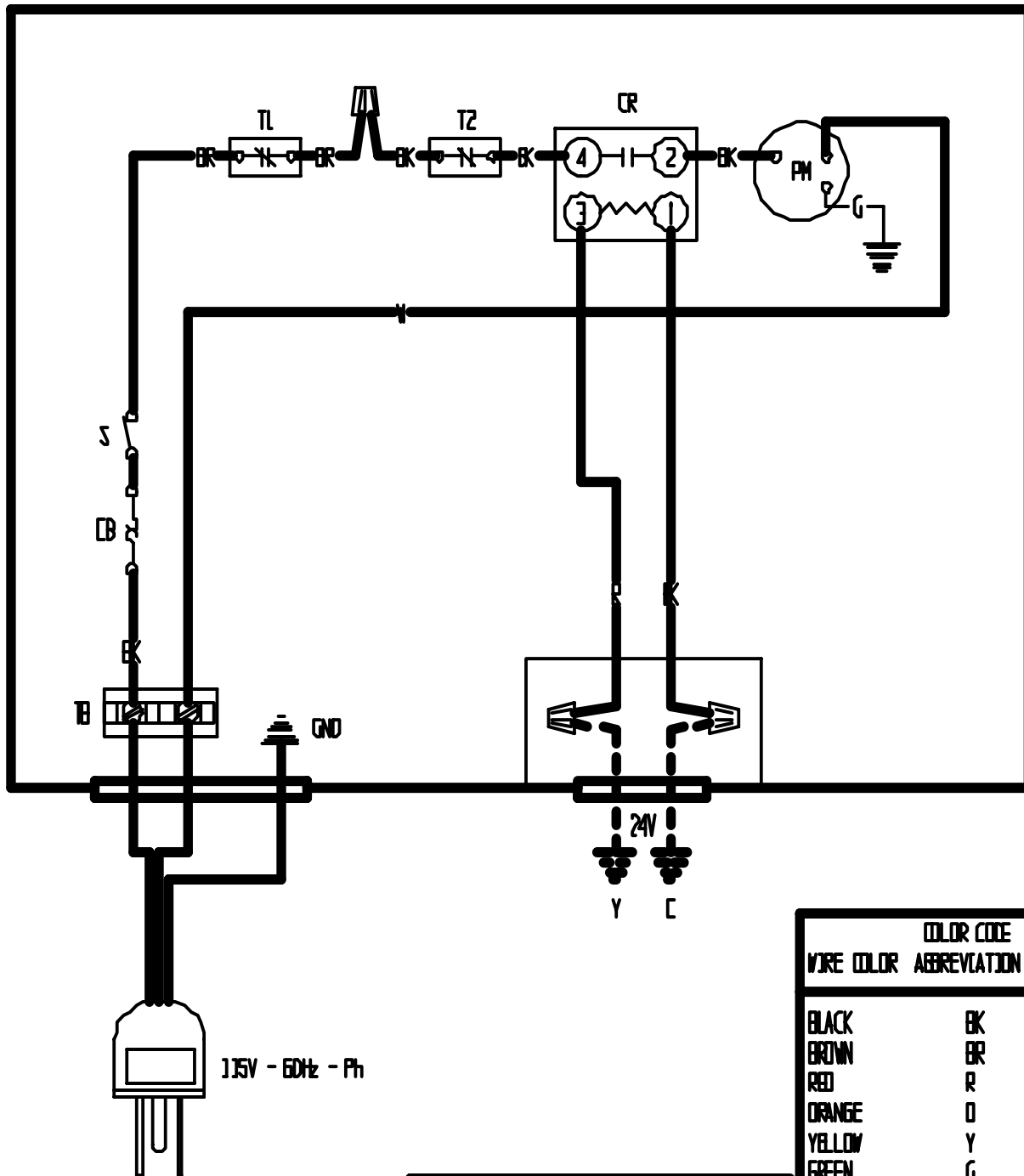
Be sure all *shut off* valves are open and all power supplies are on. Open a hot water faucet to permit any air to bleed from the plumbing.

Turn ON the air conditioning system and verify the circulating pump will operate. Feel the “Water to Unit” and “Water from Water Heater” tubes for noticeable difference in temperature. Turn OFF the system and verify that the circulating pump stops.

*NOTE: When checking the refrigerant operating pressures of the ground source heat pump. The DPM26A must be turned off. With the DPM26A operating a wide variance in pressures can result, giving the service technician the indication there is a charge problem when the unit is operating correctly.*

## MAINTENANCE

**CLEANING THE HEAT EXCHANGER** – If scaling of the coil is strongly suspected, the coil can be cleaned with a solution of phosphoric acid (food grade acid). Follow the manufacturer's directions for the proper mixing and use of cleaning agent.



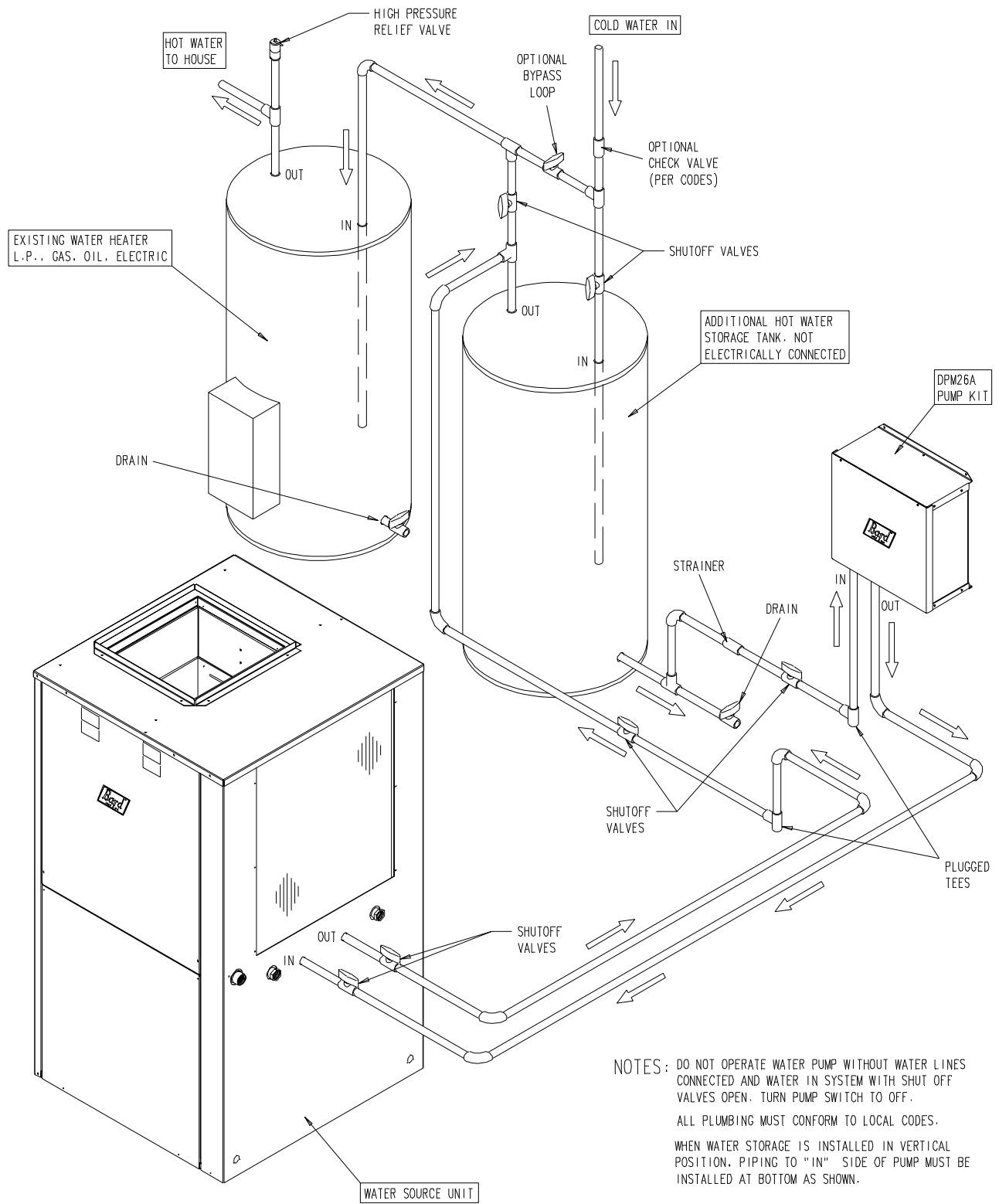
115V - 60Hz - Ph

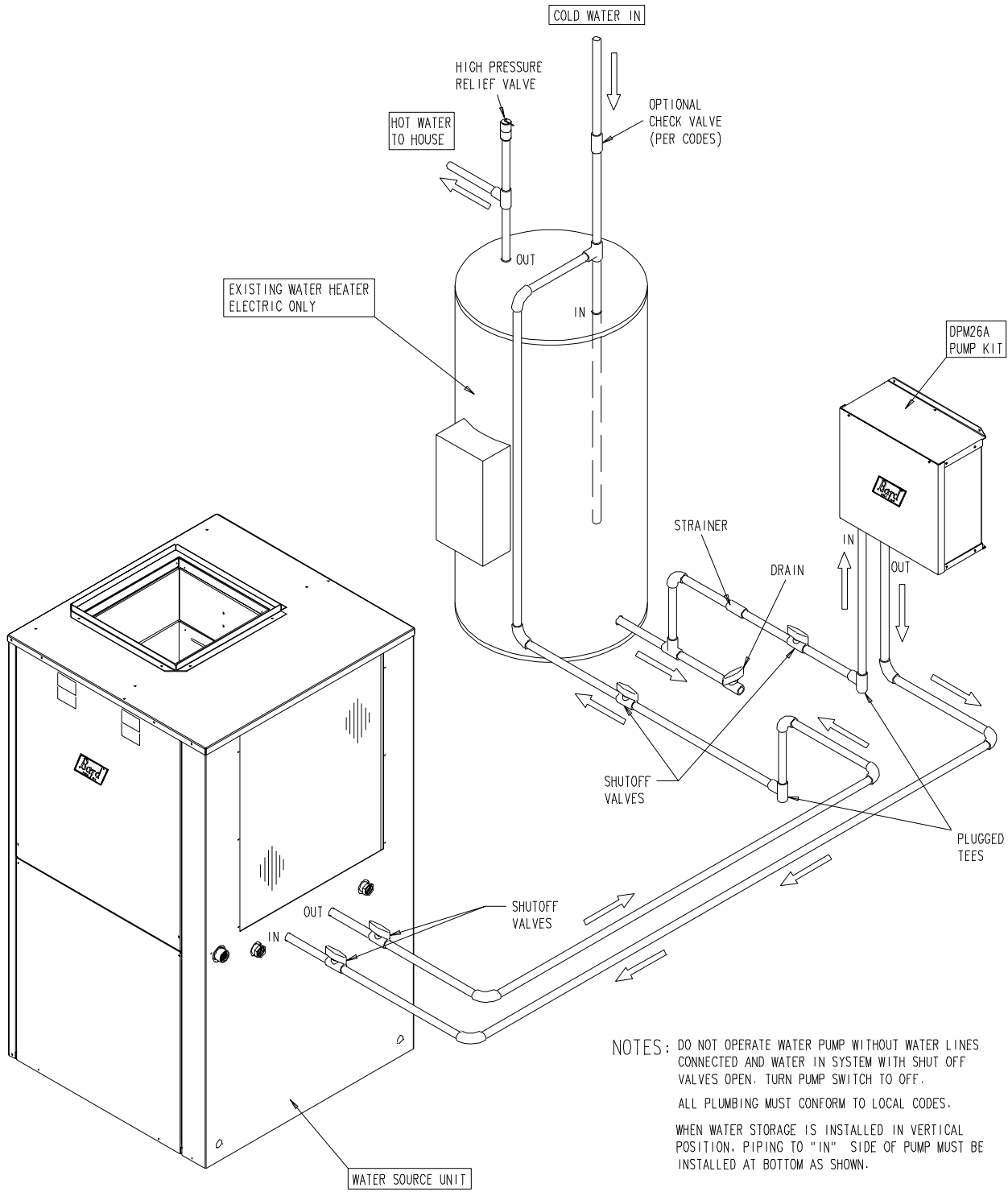
	FACTORY WIRING	FIELD WIRING
LOW VOLTAGE	————	-----
HIGH VOLTAGE	—————	-----

TB	TERMINAL BLOCK
S	SINGLE POLE SWITCH
CB	CIRCUIT BREAKER
T1	TEMPERATURE LIMITING THERMOSTAT
T2	TEMPERATURE REGULATING THERMOSTAT
PM	PUMP MOTOR
CR	CONTROL RELAY

COLOR CODE	
WIRE COLOR	ABBREVIATION
BLACK	BK
BROWN	BR
RED	R
ORANGE	O
YELLOW	Y
GREEN	G
BLUE	BL
(VIOLET/PURPLE)	V(PRI)
GRAY(SLATE)	GY(SI)
WHITE	W
TAN	T
PINK	PK
LAVENDER	L

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**NOTES:** DO NOT OPERATE WATER PUMP WITHOUT WATER LINES CONNECTED AND WATER IN SYSTEM WITH SHUT OFF VALVES OPEN. TURN PUMP SWITCH TO OFF.

ALL PLUMBING MUST CONFORM TO LOCAL CODES.

WHEN WATER STORAGE IS INSTALLED IN VERTICAL POSITION, PIPING TO "IN" SIDE OF PUMP MUST BE INSTALLED AT BOTTOM AS SHOWN.