

INSTRUCTIONS FOR #82089 WATER PUMP

POWER SUPPLY

Use only a DC power source to power your pump; AC transformers will ruin the pump motor. Although a battery may be used, we recommend a variable voltage DC supply, like an HO model train power pack (do not use a Lionel transformer, which is AC), so that you may control the pumping rate. The pump will start running at about 3 volts and will reach full speed at 12 volts. Also, if you supply more than 6 volts to the pump, **YOU MUST COMPLETELY SUBMERGE THE PUMP** to keep the motor cool; otherwise, the pump motor will burn out. Connect the plus and minus leads either way to the motor; polarity is not important because the pump will work no matter which way the motor turns.

Electrical Specifications: Requires 3v to 12v DC to operate. Draws approximately 1 amp at 6v; 1.8 amps at 12v. For full power, the power supply should be rated 22VA or higher.

Caution: Do not allow the power source to get wet or severe electrical hazard will be present. Do not pump anything but water with this pump.

WATER LINES

We recommend you use 5/16" or 3/8" diameter vinyl tubing (available at your local hardware store). Simply push the tubing onto the outlet fitting on the pump.

OPERATION

Submerge the pump in a container of water located below your layout, display or diorama and run the water lines up through your scenic base. The pump should be retained in an upright position. At full speed, the pump can shoot quite a stream of water (up to six feet high!), so be careful when applying power. Please keep in mind that dirty water or debris in the water will cause the pump to fail prematurely.

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