

PUMP INSTALLATION

For proper operation, please understand the pump installation before beginning. The BDxpx water-cooled uses a magnetically coupled centrifugal pump. It is not self-priming and must be well below the water line. Air pockets caused by loops or descending lines from one component to the other may cause pump problems. **This pump must never be run dry. It is water cooled and lubricated. The wet end may be destroyed if it is started dry.**

A separate through hull fitting 1/2" or larger should be used. It should be as low in the boat as possible and away from head and cockpit drains. A forward facing scoop will prevent problems if the unit is operating underway.

A seawater strainer should be mounted above the seacock.

The pump should be mounted horizontally. It should be higher than the strainer. The discharge should be on the top. A 3/8" hose should feed up hill to the BD unit. This should connect to the lower water fitting. From the upper water fitting a 3/8" hose should connect to a through hull above the water line.

For quiet operation suspend the pump on its hoses or mount using a rubber strip bolted to the pump body. Refer to the pump installation drawing at the end of this manual.

Two or more units on one pump

Connect the pump to the inlet fitting on the first unit. This should be the freezer compressor. The first unit is the lowest mounted in the boat and the connected to run the freezer. Connect the outlet to the inlet of the second unit. Connect the outlet of the second to the discharge or a third etc. Always connect the water circuit in series.

PUMP WIRING

Inside the compressor box connect the red pump wire to the (+) on the water pump relay. Connect the black wire to the (-) terminal (top row, right side) on the compressor module board. See drawing on page 12. Be sure the toggle switch is off until the boat is launched and the pump is wet.

WIRE SIZE

Refer to ABYC tables for wire sizes other than these:

12-volt installations use AWG #10 wire for distances up to 10 feet from battery supply (20' roundtrip), and #8 AWG wire for distances up to 25 feet from battery supply (50' roundtrip). **Fuse 30 Amps.**

24 Volts, halve the wire size of 12-volt installation. The module will self calibrate to the applied voltage and provide proper fan voltage. The remote water pump must be a 24volt pump. **Fuse 15 Amps.**

A buss or terminal may be installed next to the compressor in order to drop the wire size to 10 gauge for easier connection to the module.

If the polarity is reversed, the electronic module will not work.

For best performance, the electronic module must always be connected directly to the battery or battery selector switch. Connecting the module through the boat's breaker panel may cause a voltage drop; small wires and multiple connectors create resistance. In any application, use the next largest wire if in doubt, to prevent a voltage drop. A fuse is preferred over a breaker as it has less potential voltage drop. A fuse is not provided.

Compressor Connections

Connect a black or yellow wire from 12 or 24 volts negative to the (-) terminal board. This is the top row of terminals.

Connect a red wire from 12 or 24 volts positive to the (+) terminal of the terminal board. This is the second row of terminals.

Do not operate the BDxpx directly from a charger without a battery. Never apply power to any of the other terminals.

THERMOSTAT WIRING CONNECTIONS

Connect the thermostat wires at the compressor module to terminals C and T using 1/4" female crimp terminals. This is for AEO operation. **There is no polarity requirement.**

Remote (snowflake panel) thermostat wires ~ red.

Electronic thermostat thermometer (version 1) wires ~ green and white

Electronic thermostat thermometer (version 2 & 3) cat 5 data cable with RJ 45 connector. Install a 3-amp ATC fuse in the fuse holder on the Module PCB board. **The PBC board fuse is required only if using Electronic Thermostat with the RJ-45 jack.**