



Bad Boy

Spa & Swimming Pool
Pumps

Model – Delta
Dual Speed Spa Pump
1 year warranty



This manual contains important information relating to the installation, and operation of this pump. Please ensure this manual is left with the pump operator for future reference.

IMPORTANT SAFETY INSTRUCTIONS

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following: READ AND FOLLOW ALL INSTRUCTIONS.

1. **WARNING** To reduce the risk of injury. Do not permit children to use this product unless they are closely supervised at all times.
2. **WARNING** Risk of Electrical Shock. Connected only to grounding type receptacle protected by a ground fault circuit interrupter (GFCI).
3. Contact a qualified electrician if you cannot verify that the receptacle is protected by GFCI.
4. **CAUTION** Do not bury cord. Locate cord to minimise damage from other equipment & nearby objects.
5. **CAUTION** Running parts can cause injury. Do not make the electric pump live before the pipeline has been connected & system is ready for operation.
6. **WARNING** To reduce the risk of electrical shock, replace damaged cord immediately.
7. **WARNING** To reduce the risk of electrical shock, do not use an extension cord to connect to electric supply; provide a properly located outlet.
8. **CAUTION** This pump is for use in fixed-installed bath tubs & Spas; it is not suitable for swimming pools.
9. Do not install within an outer enclosure or beneath the skirt of a hot tub unless so marked.
10. **FOR INDOOR USE ONLY.**
11. **SAVE THESE INSTRUCTIONS.**
12. **Household use only.**
13. Connection must be incorporated into fixed wiring in accordance with NZ wiring regulations.
14. In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.



Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facilities. Contact your local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

GENERAL

- These instructions are for the correct installation, and optimum performance of Bad Boy Delta dual speed spa pumps, so they should be read carefully.
- These are single - stage centrifugal pumps designed to operate with compact hydro massage equipment, They are equipped with a total emptying system to prevent the discharge of residual water in each stop cycle
- V/Hz 240/50: See pump nameplate.
- These units are designed to operate with clean water at maximum water temperature of 50°C.
- Storage temperature: -10°C ~ +50°C. Relative Air Humidity: 95% Max.
- Built of top quality materials; they are subjected to strict hydraulic and electrical controls and are carefully verified.
- Correct installation is ensured by following these instructions and those of the wiring diagram; otherwise, over loads may be produced in the motor. We decline responsibility for any damage caused by not following these instructions.

INSTALLATION

- Pumps must be level upon installation, Dimensions and position of the pump for supporting and fixing the pump within this space (Fig.3).
- Pump must be fixed by screws on the spa shelf, and fixed with a silent block or foam pad to lower noise and vibration. Do not glue or tie down!
- The pump will get hot during operation, To assist cooling, the minimum distance between the pump motor and the surrounding structure should be, not be less than 25mm.
- The suction pipe of the pump should be as short as possible.
- The rating label must be visible after installation.
- Parts containing live parts, except parts supplied with safety extra low voltage <12V, must be inaccessible to a person in the Spa.
- Class I appliances must be permanently connected to fixed wiring. Parts including electrical components, except remote control devices, must be located or fixed so that they cannot enter or fall into the bath.

PIPE ASSEMBLY

- The maximum inlet water pressure is ≤ 0.15 MPa.
- The suction pipes should have a diameter equal to or larger than that of the discharge pipes. This assists and avoids the loss of head and improves efficiency. The suction and discharge pipes should not be placed above the pump in all cases.
- Ensure a good seal on all connectors and unions. Avoid any water dripping onto motor, to avoid damage to motor and electrical.
- Do not re-use old hose or connections. Replace with new hose and fittings.

ELECTRICAL CONNECTION

- The electrical installation should have a multiple separation system with contacts opening at least 3mm.
- For continued protection against possible electric shock this unit is to be mounted to the base in accordance with the installation instructions.

- The protection of the system should be based on a residual current device (RCD) with a rated tripping current not exceeding 30mA. The supply cable should comply with EMC standards.
- Single-phase motors have built-in thermal protection.
- The electric connection should be carried out by qualified staff following strictly appropriate NZ standards.
- Be sure that the earth cable connection is correctly made.
- Wires serving as equipotential bonding conductors shall have a cross sectional area between 2.5 mm² terminal suitable receptacles.

CONTROLS PRIOR TO INITIAL START-UP

- Verify that the pump shaft turns freely.
- Check that the mains voltage and frequency are according to the name plate.
- The hydromassage assembly should be equipped with a system to prevent the pump from starting up if a minimum water level is not present.
- Check the rotating direction of the motor, which should concur with that indicated on the fan cover.
- If the motor does not start up, try to locate the problem in the table of most common faults and their possible solutions that is provided further on in this manual.

CAUTION: THE PUMP SHOULD NEVER OPERATE DRY.

START-UP

- Ensure Spa valves are open and water is available to flow.
- Start electrically, the pump only, when the suction and discharge pipes are connected to the corresponding inlets and outlets.
- Switch on pump and suitably adjust the jets to obtain the desired flow.

MAINTENANCE AND CLEANING

Our pumps for hydromassage/Spa facilities do not require any special maintenance or programming. If the pump will remain idle for a long period of time, it is recommended to disassemble, clean and store it in a dry, well ventilated place. If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a suitably qualified person to avoid a hazard.

TROUBLE SHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	CHECK
Pump Does Not Turn	No Power To Pump	-Incoming power to the pump? -Is circuit breaker on? -Is GFCI operating properly? -Is the air switch plugged in?
	Air Switch Disconnected	-Is the air switch hose connected to the pump? -Is the air switch hose connected to the actuator button on the tub deck?
Pump Not Pumping Properly	Blockage Or Leak	- Is the water level in Spa adequate? -Jets should be pointed away from the suction inlet so air is not forced into pump suction. -Is the in tub suction inlet blocked or covered? -Is there any debris in the pump housing? -Is there a leak in the piping or the pump?
	Low Voltage	-Is the proper voltage applied to the pump? -Is there an extension cord being used?

INSTALLATION DIAGRAM

The colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your connection unit, proceed as follows. The wire which is coloured green-and-yellow must be connected to the terminal in the connection unit which is marked with the letter E or by the earth symbol or coloured green or green-and-yellow.

Brown wire and Blue wire connected with power supply is low speed.
Black wire and Blue wire connected with power supply is high speed.

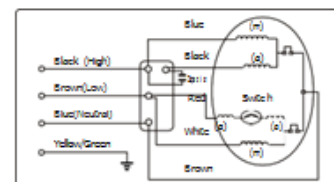


Fig. 1

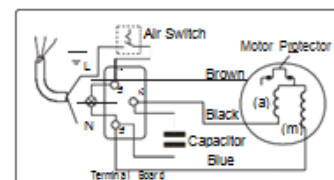
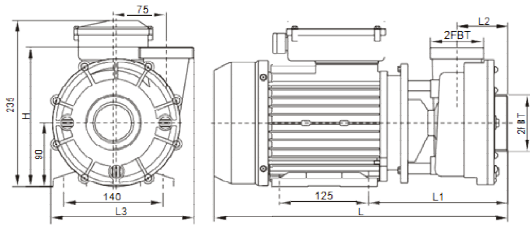
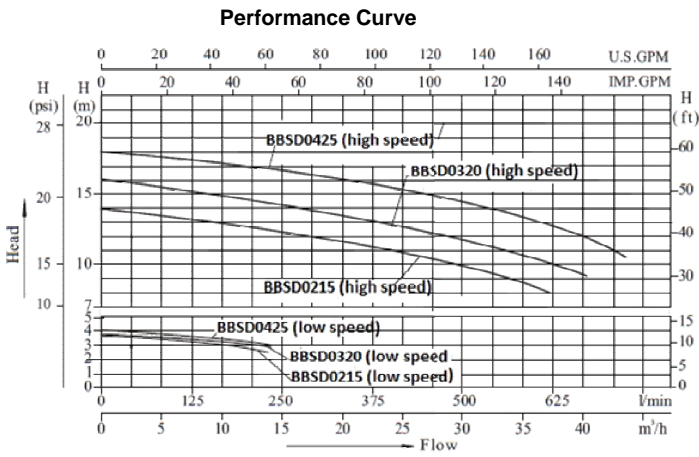


Fig. 2



Code	Output P2		L	L1	L2	L3	H
	KW	HP					
BBSD0215	(Low speed)	0.25	434	197	73	202	197
	(high speed)	1.5					
BBSD0320	(Low speed) 0.3	0.38					
	(high speed) 1.5	2.0					
BBSD0425	(Low speed) 0.35	0.45					
	(high speed) 1.85	2.5					

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given adequate supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with this appliance.

If the supply cord is damaged, it must be replaced by the manufacturer, service agent or a qualified person in order to avoid hazards.

WARRANTY

In the unlikely event you experience any issues with your Bad Boy pump, within 1 year of the date of purchase; please contact the dealer from which you purchased the Pump who will organise repair or replacement. Ensure you have a valid proof of purchase that clearly demonstrates the product name, its date of purchase and the place of purchase. This is a return to base warranty. The onus is on the purchaser to return the pump to the dealer at the purchasers own expense.

ITEMS NOT COVERED BY THE WARRANTY

- Claims outside the 1 year warranty period
- Fair wear & tear
- Consumables – including mechanical seals, bearings, capacitors, o-rings
- Damage resulting from misuse, neglect, improper use outside design parameters
- Improper or inadequate installation or operation
- Voltage spikes, corrosive chemicals
- Unauthorised persons attempting repairs or modifications
- When used in a commercial or non-domestic application, warranty is for 6 months only.

Space Industries Ltd is not liable for any consequential losses associated with this Bad Boy Pump for whatever reason. Nor are they liable for any damage or injury caused directly or indirectly as a result of the operation of this Bad Boy Pump.

This limitation does not negate our obligations under the New Zealand Consumer Guarantees' Act.

Space Industries Limited
 160 Plunket Ave
 Manukau City
 Auckland 2104
 Ph (09) 262 3902
reception@spaceindustries.co.nz
www.spaceindustries.co.nz