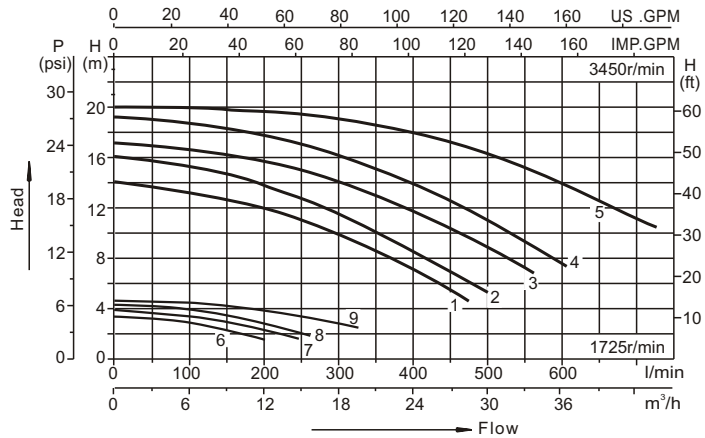
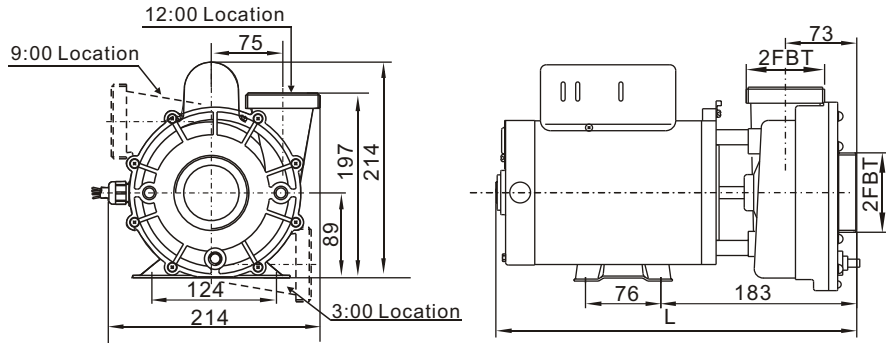


Performance curves



Installation structure



Model	V/Hz	Amps	Power				L	Qmax (l/min)	Hmax (m)	Curves	
			P2		P1						
			kW	HP	kW	HP					
48WUA0753C-I	115/230-60	10/5.0	0.55	0.75	1.1	1.5	345	460	14	1	
48WUA1003C-I		12/6.0	0.8	1.0	1.5	2.0	383	500	16	2	
48WUA1653C-I		17/8.5	1.25	1.65	1.85	2.5	406	600	19	4	
48WUA2002C-I	230/60	10	1.5	2.0	2.2	3.0	406	720	20	5	
48WUA1652C-I	230/60	8.5	1.25	1.65	1.85	2.5	406	720	20	4	
48WUA1001C-II	115/60	(Low speed)	3.8	0.08	0.12	0.18	0.35	383	460	14	6
		(High speed)	10.3	0.75	1.0	1.1	1.5				
48WUA1501C-II	115/60	(Low speed)	3.8	0.15	0.18	0.25	0.45	406	560	17	7
		(High speed)	13.8	1.1	1.5	1.5	2.0				
48WUA1002C-II	230/60	(Low speed)	2.0	0.08	0.12	0.18	0.35	383	460	14	6
		(High speed)	5.2	0.8	1.0	1.1	1.5				
48WUA1502C-II	230/60	(Low speed)	2.6	0.15	0.18	0.25	0.45	443	600	19	8
		(High speed)	8.0	1.1	1.5	1.85	2.5				
48WUA2002C-II	230/60	(Low speed)	3.0	0.2	0.25	0.35	0.65	443	720	20	9
		(High speed)	10	1.5	2.0	2.2	3.0				

liquid temperature: 4°C ~ 50°C
 Storage temperature: -10°C ~ +50°C.
 Relative Air Humidity: 95% Max.

Edition: 2018-01



POOL AND SPA PUMPS INSTRUCTION MANUAL

IMPORTANT SAFETY INSTRUCTIONS.

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

- 1) READ AND FOLLOW ALL INSTRUCTIONS
- 2) (For all units) **WARNING** - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.
- 3) **WARNING** - Risk of Electric Shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI.
- 4) The unit must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this pump. Disconnect the pump and have the problem corrected by a qualified service representative before using.
- 5) (For all cord- and plug-connected units) **WARNING** - To reduce the risk of electric shock, replace damaged cord immediately.
- 6) (For hot tub and spa pumps) Do not install within an outer enclosure or beneath the skirt of a hot tub or spa.
- 7) For indoor use only.
- 8) It is required that licensed electricians do all electrical wiring. **Risk of Electric Shock. Hazardous voltage can shock, burn, cause death or serious property damage. All electrical wiring MUST be in conformance with applicable local and national codes and regulations. Before working on pump or motor, turn off power supply to the pump. Failure to install according to defined instructions will void warranty.**
- 9) **SAVE THESE INSTRUCTIONS.**

1. General

These instructions are for correct installation, and optimum performance of spa pumps, so they should be read carefully. These are single-stage centrifugal pumps designed to operate with compact spa equipment. They are equipped with a total-emptying system to prevent the discharge of residual liquid in each stopping.

These units are designed to operate with clean water at a maximum water temperature of 50°C. 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.

2. Installation

- ⚠ The pumps should be installed horizontally, securing them with screws through the holes in the supports to prevent undesirable noise and vibration.

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.

3. Pipe Assembly

The suction and discharge pipes should have a diameter equal to or greater than that of the intake tapping of the pump.

Avoid traps as, in addition to affecting efficiency, they impede total overall emptying.

The suction and discharge pipes should not rest on the pump in any case.

Seal all the connectors and unions well. Avoid any dripping on the motor, which would unfailingly damage it.

4. Electrical Connection



This SPA pump must be installed by a licensed or certified electrician in accordance with the National Electrical Code for U.S. & Canadian Electrical Code for Canada and all applicable local codes and ordinances. Improper installation will create an electrical hazard

which could result in death or serious injury to users, installers, or others due to electrical shock, and may also cause damage to property.

- (1). Switch power off before servicing and wiring the pump.
- (2). Match suitable voltage and branch wire gauge per the pump rating and marking.
- (3). Use suitable Listed Insulated Quick Connector. Connect the wiring according to Fig.(1). Be sure all electrical connections are clean and tight.
- (4). Permanently ground motor. Use green ground terminal provided within the motor end shield; use size and type wire required by code. Connect motor ground terminal to electrical service ground.
- (5). Bond the pump in accordance with the National Electrical Code for U.S. & Canadian Electrical Code for Canada. For U.S, use a solid copper conductor, size 8 or larger. For Canada, a6 AWG or larger solid copper bonding conductor is required.
- (6). Install a Ground Fault Circuit Interrupter (GFCI) in circuit; For size of GFCI required and test procedures for GFCI, see manufacturer's instructions.
- (7). The electric connection must be carried out by qualified staff following strictly UL 1563, UL 1081 Standard.

5. 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 spa 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.

THE PUMP SHOULD NEVER OPERATE DRY.

6. Start-up

Start electrically the pump only when the suction and discharge pipes are connected to the corresponding inlets and outlets. Check that there is no obstacle in the pipes.

Apply voltage to the motor and suitably adjust the jets to obtain the desired flow.

7. Maintenance and clean



Our pumps for spa facilities do not require any special maintenance or programming.

If the pump will be 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 similarly qualified person to a hazard.

Pump can be automotive empty water after correct installation.

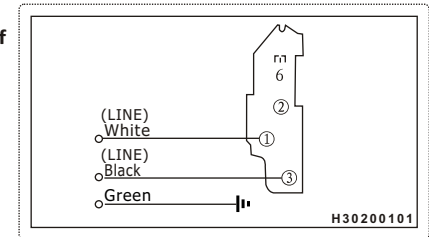
When the pump needs to clean (1) filling with water up to level position of spa's nozzle, (2) operating 2-3 minute, (3) exhausting water of spa after engine stop.

8. Trouble Shooting Guide

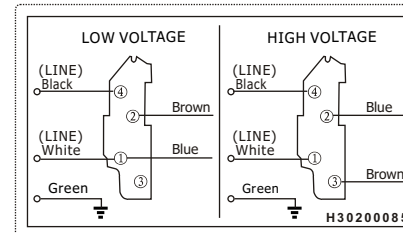
SYMPTOM	POSSIBLE CAUSE	CHECK
PUMP DOES NO TURN	NO POWER TO PUMP	-incoming power to the pump? -Is circuit breaker on? -Is GFCI operating properly? -Is the air switch plugged in?
	AIR SWITCH DISCONNECTED	-Is the air switch hose connected to the pump? -Is the air switch hose connected to the actuator button on the tub deck?
PUMP NOT PUMPING PROPERLY	BLOCKAGE OR LEAK	-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 clogged? -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 circuit diagram

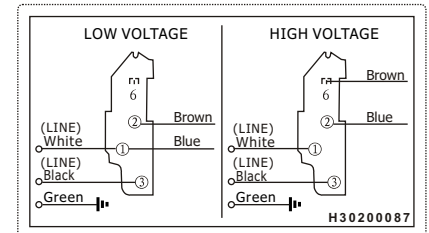
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your connection unit proceed as follows. The wire which is coloured green must be connected to the terminal in the connection unit which is marked with the letter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



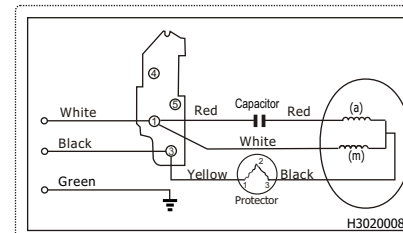
48WUA1652-I



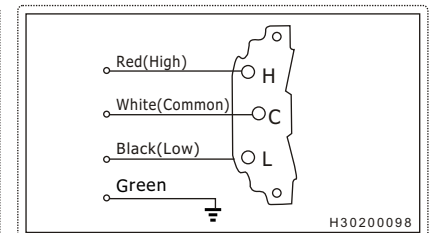
48WUA0753C-I, 48WUA1003C



48WUA1653C-I



48WUA2002C-I



48WUA1001C-II, 48WUA1501C-II, 48WUA1002C-II, 48WUA1502C-II, 48WUA2002C-II,

Fig. (1)