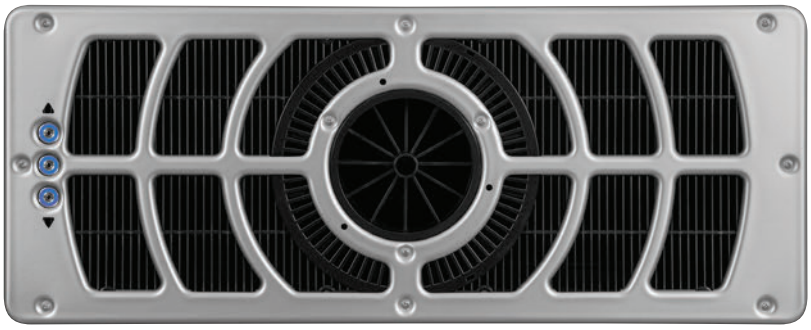
Installation Manual

BADUJET® Turbo

Counter Swimming Unit



SPECK pumps

Rev. 01/26

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Date of Installation:	
Installed by:	
Serial Number:	
For Service Call:	

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This document is subject to change without notice.

Table of Contents

1 Important Safety Instructions

WARNING: *Before Installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call +1 (904) 739-2626 or visit usa.speck-pumps.com for additional copies of these instructions.*

Unblockable Swim Jet Combination Fitting - Manufacturers Warnings

MUST BE INSTALLED by an experienced and qualified pool industry professional **ONLY.**

Attention Installer: This manual contains important information about installation, operation, and safe use of this product. This information should be given to the owner and/or operator of this equipment. Most states and local codes regulate the construction, installation and operation of pools and spas. It is important to comply with these codes, many which regulate the installation and use of this product.

1. READ, FOLLOW AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS.

1. ***DO NOT*** *locate this fitting in seating areas or on the back rests for such seating areas.*

2. *This fitting should be mounted in the vertical pool wall only per manufacturer's instructions. No modifications to the swimjet are permitted.*

3. *The anti-entrapment cover, when installed, shall not protrude more than 2 in. (51mm) from the finished surface of the pool in which the swimjet is installed.*

4. ***Service Access:*** *The use of adhesives or other attachment methods that prevent access to suction piping or swimjet components is* ***prohibited.***

5. *The anti-entrapment cover must be hand-checked for snugness to the jet housing after installation.*

6. *The anti-entrapment cover and fasteners shall be examined for damage or tampering each operational day.*

7. *Any missing, broken, or cracked fittings must be replaced before using this product. Only genuine Speck replacement parts may be used.*

8. *Never exceed the maximum flow rate stated on this product.*

9. ***WARNING: DO NOT RUN THE SYSTEM DRY OR PERMANENT DAMAGE TO THE PROPELLER MAY OCCUR.***

10. *The anti-entrapment cover must be in place when using this product.* ***DO NOT*** *use this product if the cover is missing, broken, or loose, and it shall be replaced before bathers are allowed to use the pool.*

11. *The anti-entrapment cover (part# 5) should be replaced within 10 years from installation date.*

12. *Installation requires a Phillips screw driver. Hand tighten only.* ***DO NOT*** *use electrical or air drills.*

13. *Consult your physician before exercising with the BADUJET® Turbo.*

14. ***NOT A TOY! DO NOT*** *permit children to use this product unless they are closely supervised at all times.*

15. ***DO NOT*** *remove any safety alert labels such as* ***DANGER, WARNING,*** *or* ***CAUTION****. Keep safety alert labels in good condition and replace missing or damaged labels.*

Unblockable Swim Jet Combination Fitting - Manufacturers Warnings - continued

16. *Stay alert, watch what you are doing and use common sense.* ***DO NOT*** *use unit if you are tired and/or exhausted.* ***DO NOT*** *use unit while under the influence of drugs, alcohol, or any medications.*

17. ***WARNING:*** *Children should not use spas or hot tubs without adult supervision.*
AVERTISSMENT: *Ne pa laisser les enfants utiliser une cuve de relaxation sans surveillance.*

18. ***WARNING:*** ***DO NOT*** *use spas or hot tubs unless all suction guards are installed to prevent body and hair entrapment.*

19. ***WARNING:*** ***DO NOT*** *permit electric appliances (such as a light, telephone, radio, or television) within 5 ft (1.5 M) of the pool, hot tub, or spa.*

20. CAUTION: ***DO NOT*** *increase pump size; this will increase the flow rate through the system and exceed the maximum flow rate stated on this product.*

21. WARNING: *The VFD is shipped with the motor cable pre-wired to the drive output to ensure correct motor rotation.* ***DO NOT ALTER THE WIRING PATTERN! SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE!***

22. WARNING: *Parameter set and programming of the VFD are completed at the factory. This ensures that the motor is "tuned" to the VFD, and that motor rotation is correct. Parameters are locked and extended parameters are password protected.* ***ATTEMPTING TO CHANGE PARAMETERS WILL VOID WARRANTY AND CAN CAUSE SERIOUS INJURY OR DEATH!***

23. WARNING: *In the event that the motor cable is replaced at the installation site,* ***THE INSTALLER MUST VERIFY CORRECT ROTATION OF THE MOTOR AND THAT THE WIRING PATTERN IS CORRECT! SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE!***

IMPROPER INSTALLATION OR USE OF THIS PRODUCT MAY PRESENT A RISK OF HAIR OR BODY ENTRAPMENT AND DROWNING. *Install this equipment in accordance with the instructions provided.*

As the manufacturer, Speck Pumps-Pool Products, Inc., hereby certifies that their Swim Jet Combination Fitting meets or exceeds the requirements of the Virginia Graeme Baker Pool & Spa Safety Act, VGBA 2017 and ANSI/ APSP 16 standards and safety regulations as set forth by the Consumer Products Safety Commission.

SAVE THESE INSTRUCTIONS!

General Safety Instructions

The following guidelines provide information to minimize the risk of injury to users of pools, spas, and hot tubs.
WARNING: TO REDUCE THE RISK OF ENTRAPMENT HAZARD

Pool and spa pumps produce high levels of suction, which can pose extreme danger if a person comes in close proximity to an open pool or spa drain or if a drain cover is loose, cracked, broken or missing. Pool and spa pumps move large volumes of water, which can pose extreme danger if a person's hair comes in close proximity to a drain that is not the proper size for the pump or pumps.

General Safety Instructions - continued

If not an approved single, unblockable outlet, a minimum of two functioning suction outlets per pump must be installed. Suction outlets in the same plane (i.e. floor or wall) must be installed a minimum of three (3) feet (1 meter) apart, as measured from center point to center point. Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas. If any suction outlets are located closer they shall be located on two different planes (i.e. one on the bottom and one on the vertical wall, or one each on two separate vertical walls).

***WARNING:** Failure to keep suction outlet components clear of debris, such as leaves, dirt, hair, paper and other material can result in an increased potential for suction entrapment.*

If not a single, unblockable outlet, in the event of one suction outlet being completely blocked, the remaining suction outlets serving the system shall have a flow rating capable of the full flow of the pump(s) or the specific suction system. If in doubt about the rating and/or head loss curve of your system, consult a qualified pool or spa professional and/or your respective equipment manufacturer(s). Also, double check with your local building/ health authorities regarding single vs. multiple drain installations, etc.

Regularly inspect all drain covers for cracks, damage and advanced weathering. If a drain cover becomes loose, cracked, damaged, broken or is missing, close the pool or spa immediately, post a notice and keep the pool or spa closed until an appropriate VGBA 2017 certified drain cover is properly installed.

WATER VELOCITY AND FLOW RATES

The maximum water velocity through drain covers is limited by some local regulations, for example some state health departments limit the velocity through public pool drain covers to 1.5 feet per second. This velocity limit is lower than the flow rating provided by the ANSI/APSP 16 certification; therefore local limit applies and must be followed. Never exceed the flow rating listed on the cover even if local code does not provide a velocity limit.

For additional information on proper installation refer to The Association of Pool & Spa Professionals ANSI/APSP-7 Standard and the US Consumer Product Safety Commission Guidelines for Entrapment Hazard.

VGB Compliance - **VIRGINIA GRAEME BAKER POOL AND SPA SAFETY ACT**

The Virginia Graeme Baker Pool and Spa Safety Act raises certain new requirements on owners and operators of swimming pools and spas.

Pools or spas constructed on or after December 19, 2008, shall utilize:

(A) No submerged suction outlets, a gravity drainage system with ANSI/APSP compliant cover(s), one or more unblockable outlets; or

(B) A multiple main drain system without isolation capability with suction outlet covers that meet ANSI/ APSP 16 Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs and either:

  (i) A safety vacuum release system (SVRS) meeting ASME/ANSI A112.19.17 Manufactured Safety Vacuum Release Systems (SVRS) for Residential and Commercial Swimming Pool, Spa, Hot Tub, and Wading Pool Suction Systems and/or ASTM F2387 Standard Specification for Manufactured Safety Vacuum Release Systems (SVRS) for Swimming Pools, Spas and Hot Tubs
  or

  (ii) A properly designed and tested suction-limiting vent system or

  (iii) An automatic pump shut-off system.

Pools and spas constructed prior to December 19, 2008, with a single submerged suction outlet shall use a suction outlet cover that meets ANSI/APSP 16 and either:

(A) A multiple main drain system without isolation capability, or a single (VGBA 2017 compliant) unblockable suction outlet, or

(B) A safety vacuum release system (SVRS) meeting ASME/ANSI A112.19.17 and/or ASTM F2387, or

(C) A properly designed and tested suction-limiting vent system, or

(D) An automatic pump shut-off system, or

(E) Disabled submerged outlets, or

(F) Suction outlets shall be reconfigured into return inlets.

General Safety Instructions - continued

For more information about the Virginia Graeme Baker Pool and Spa Safety Act, contact the Consumer Product Safety Commission at (301) 504-7908 or visit www.cpsc.gov.

WARNING: *Risk of Electrical Shock or Electrocution*

System must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation will create an electric hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and may also cause damage to property.

Always disconnect power to the system at the circuit breaker before servicing the pump. *Failure to do so could result in death or serious injury to serviceman, pool users, or others due to electric shock.*

2 Pre-Installation

Planning

The BADUJET Turbo is normally incorporated into the original pool design. It requires **no plumbing**, making it simpler to install compared to our previous swimjet systems.

The BADUJET Turbo requires a clear **unobstructed area** within the swimming pool which is 8 ft wide x 15 ft long x 3 ft deep to work effectively at its full potential. This "swimming envelope" allows enough length for a swimmer to comfortably drift back and swim against the current. **DO NOT** locate the swimjet housing in seating areas or on the back rests for such seating areas.

A vault measuring 24" x 24" x 32" must be constructed behind the Turbo, allowing access to the motor, and providing proper drainage. **Proper drainage is extremely important**. Motor damage due to flooding is not warrantable.

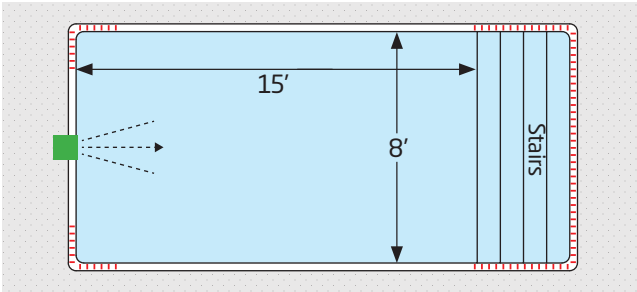
Choosing a Location:

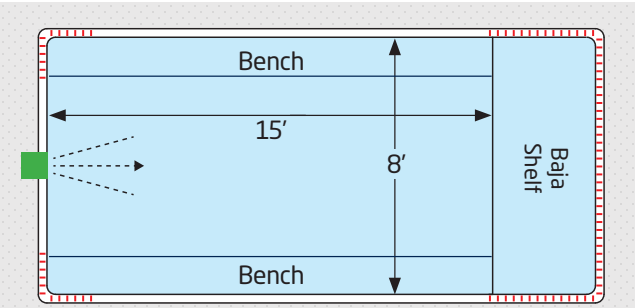
To ensure that there is a clear unobstructed swim lane, it is key to position the swimjet away from surrounding walls, benches, stairs, etc. It is also **important to ensure overall symmetry** in the pool design, should there be a sun shelf or steps on the side of the pool opposite the jet, for instance, it is imperative that they run the entire length of the back side. See diagram. Be sure to position the jet down the longest possible swim envelope within the pool.

Refer to the diagram (right) for recommended clear area for the BADUJET Turbo.

- IDEAL LOCATION
- UNFAVORABLE LOCATIONS

Please Note: *The BADUJET Turbo is **not recommended** for freeform pools. The BADUJET Turbo requires a straight wall within the pool for installation.*





BADUJET Turbo recommended clear area.

***Benches are okay if symmetrical. (A bench on only one side will cause flow failure.)*

Receiving Information

1. Upon receipt of the swimjet system, check the cartons for damage. Open each carton and check the motor, jet housing, variable frequency drive (VFD), and control box for concealed damage, such as cracks, dents, or a bent base. If damage is found, contact the shipper or distributor where the product was purchased.

2. Inspect the contents of each carton and verify that all parts are included. *(See parts checklist below)*

A. Flush-mount jet housing *(not shown)*

B. Plastic or Stainless steel cover

C. Two-piece clamping ring and suction grate.

D. Nozzle/Propeller

E. LED Push Buttons with of 100 ft. cable:
- Start/Stop (Middle)
- Increase Speed (Top)
- Decrease Speed (Bottom)

F. Magnetic drive motor unit with 80ft. orange VFD cable.

G. Variable frequency drive NEMA 4X

H. SPECK Control box

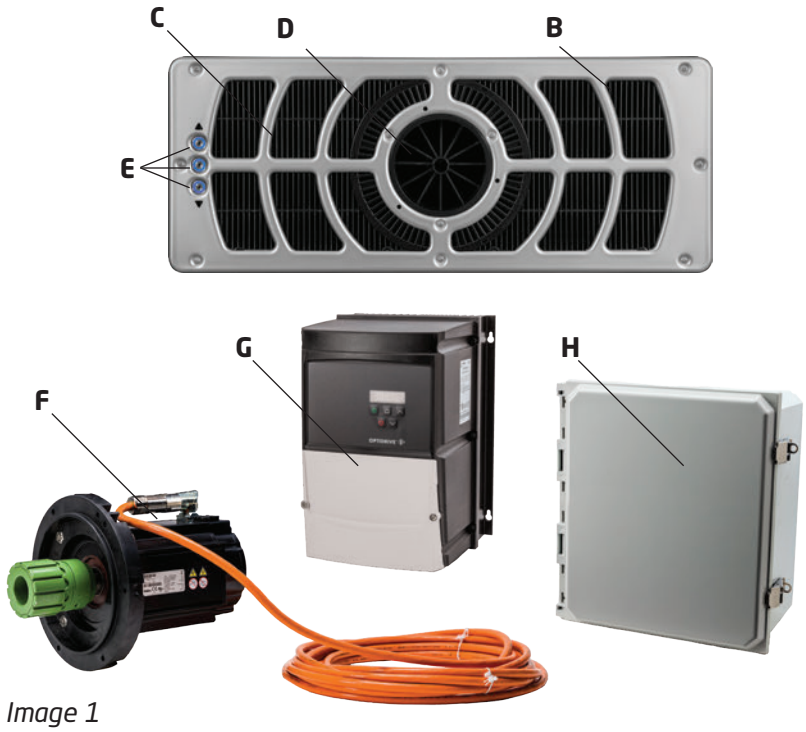
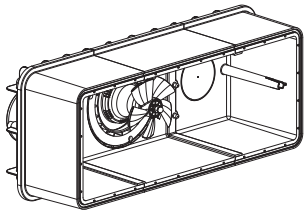
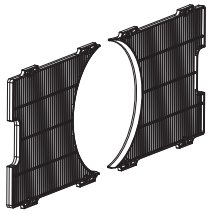
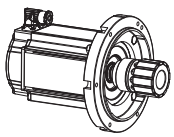
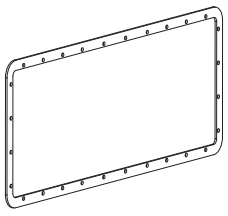
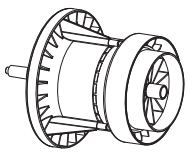
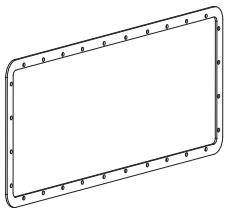
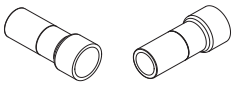
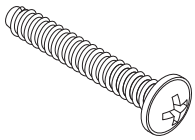
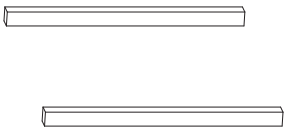
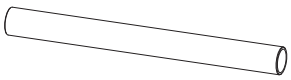
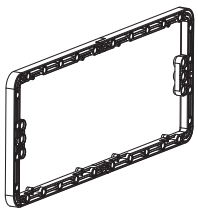
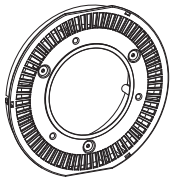
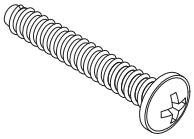
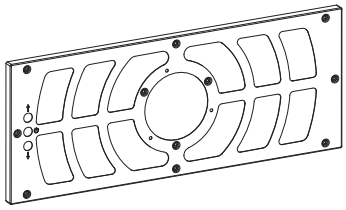
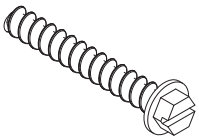
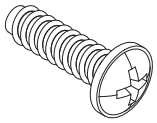
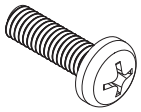


Image 1
BADUJET Turbo System

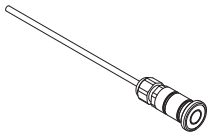
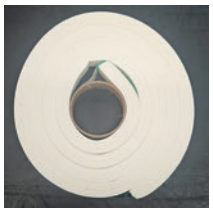
Parts Checklist

Image	Description	Image	Description
	Jet Housing with Propellor **Qty:** 1 **Drawing number:** 1		Suction Grate **Qty:** 2 **Drawing number:** 5
	Motor Unit **Qty:** 1 **Drawing number:** 2		Gasket (Suction Cover) **Qty:** 1 **Drawing number:** 11
	Nozzle Unit **Qty:** 1 **Drawing number:** 4		Butterfly Gasket (for steel wall pools) **Qty:** 1 **Drawing number:** 11.1

Receiving Information - continued

Image	Description	Image	Description
	Conduit Adapter M25 x 1" **Qty:** 1 **Drawing number:** 13		Adaptor Set (for nozzle unit) **Qty:** 1 **Drawing number:** 45
	Round Sealing Cord (for concrete installations) **Qty:** 1 **Drawing number:** 16		M6 x 40mm Tapping Screws (for nozzle unit) **Qty:** 3 **Drawing number:** 46
	Wooden Support (for concrete installations) **Qty:** 2 **Drawing number:** 17		Alignment Tool **Qty:** 1 **Drawing number:** 47
	Clamping Ring (two piece) **Qty:** 1 **Drawing number:** 18		Center Cover **Qty:** 1 **Drawing number:** 52
	M6 x40mm Tapping Screws (for clamping ring) **Qty:** 28 **Drawing number:** 19		Front Cover **Qty:** 1 **Drawing number:** 55
	M7 x48mm Tapping Screws (for motor unit) **Qty:** 6 **Drawing number:** 29		M6 x 22mm Tapping Screw (for center cover) **Qty:** 3 **Drawing number:** 56
	0-ring 212x7mm (propellor unit) **Qty:** 1 **Drawing number:** 36		M6 x 20mm Machine Screw (for suction grate) **Qty:** 16 **Drawing number:** 56.1

Receiving Information - continued

Image	Description	Image	Description
	LED Push Button w/ 100ft cable **Qty:** 3 **Drawing number:** 64 & 65		AquaBond Anchoring Epoxy **Qty:** 4 **Drawing number:** n/a
	Foam Tape - 9ft. (for concrete installations) **Qty:** 1 **Drawing number:** n/a		Clamping Ring Foam Strip **Qty:** 2 **Drawing number:** n/a

3 Jet Installation

Type of Pool Construction

Before installing the jet system, identify which type of pool you are working with. Installation steps vary depending on pool construction, and reviewing the correct section beforehand is essential.

By following the instructions for your specific pool type, you help ensure proper performance, safe operation, and long-term reliability of the system. Failure to install correctly may lead to performance issues, equipment strain, or potential damage.

- New Gunite or Concrete Instruction - See page 13
- Steel Wall Pool Installation - See page 17
- Fiberglass Pool Installation - See page 19

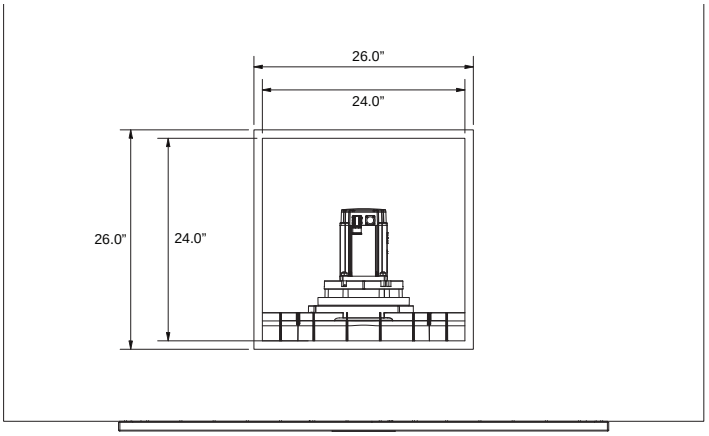
Jet Housing Installation - New Gunite or Concrete Construction

CAUTION: *All necessary screws and bolts included with the BADUJET Turbo are stainless steel.* ***ALL*** *screw threads and threaded inserts are* ***METRIC! ONLY METRIC*** *hardware may be used! All screws should be* ***HAND TIGHT. DO NOT*** *use drills or pneumatic tools.* ***DO NOT*** *over tighten!*

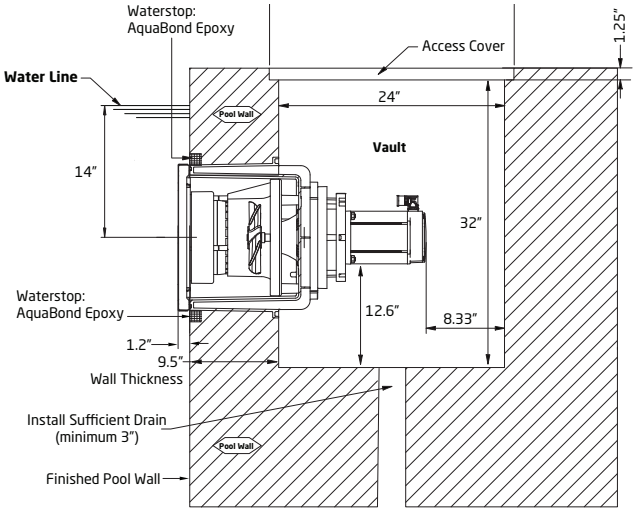
SERVICE ACCESS (Vault): *The BADUJET Turbo electric motor unit is mounted directly to the rear of the jet housing. A minimum open space of 24" x 24" x 32" deep is required around the motor unit for ventilation and service access (See Figure 2). Smaller open spaces will not allow the motor to cool properly and cause an over-temperature fault at the VFD. The VFD monitors the motor temperature through the orange cable by way of a PTC Thermistor built into the motor. Drainage must be included at the bottom of this service access vault. It is recommended the drain line is run prior to pouring/shooting vault. SPECK recommends a 24" x 24" opening at the top of the access vault used in combination with a removable access cover.*

WARNING: ADEQUATE DRAINAGE IS REQUIRED SO THAT ELECTRIC MOTOR CAN NOT BE SUBMERGED. WATER INTRUSION FOUND IN SIDE OF MOTOR IS <u>NON-WARRANTABLE.</u>

Figure 2



Top View



Side View

Jet Housing Installation - New Gunite or Concrete Construction

1. Insert the two wooden supports *(part #17)*. These are temporarily installed to support the housing shape under the weight of gunite/concrete. See Image 1 & 1A

CAUTION: Failure to install wooden supports will result in non-warrantable damage to jet housing during gunite/ shotcrete application and curing.

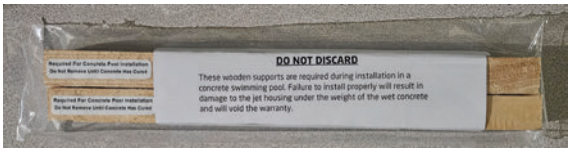


Image 1
Wooden Supports

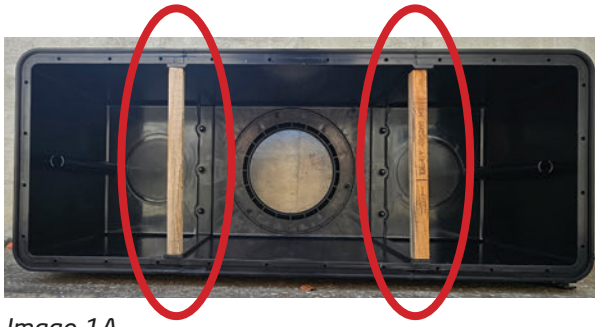


Image 1A
Housing with Wooden Supports Installed

2. Install the foam strip approximately 1" (thickness of finished plaster) from the front edge of the jet housing all the way around. This strip will be removed after concrete is dry. See Image 2 & 2A.

IMPORTANT: *The foam strip is crucial for applying the supplied AquaBond for prevention of leaks around the unit.*

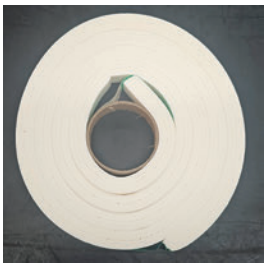


Image 2
Foam Tape

Image 2A
Foam Strip & Gunite Cover Installed

Jet Housing Installation - New Gunite or Concrete Construction

3. For Gunite Pools:

- To keep gunite out of the mounting holes and housing, we provide a white gunite cover that should be installed until the finish is applied. The cover is held to the housing with four (4) of the M6 x 22 tapping screws *(part #56)*. Tape the entire edge around the housing and gunite cover.

- Place the housing between steel rebar, **making sure that "OBEN/UP/HAUT"** is at the top on the rear of the housing *(See Figure 3)*. There are 4 predrilled holes in the corners of the housing to be used with wire ties to help support front of housing to rebar. *(See image 3 &4)*

  CAUTION: *The center line of the housing* ***MUST*** *be installed at a depth of 14" below the water line of the finished plaster pool (typically 17" below top of beam).* ***JET HOUSING LOCATION IS VERY IMPORTANT! Jet housing must be level and plumb.***

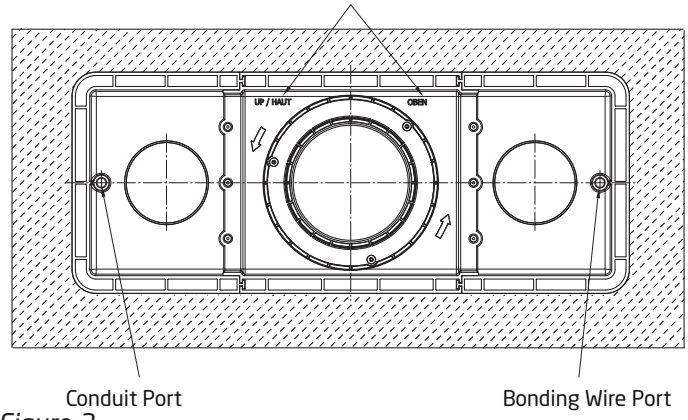


Figure 3

Front View

Image 3
Placement in rebar

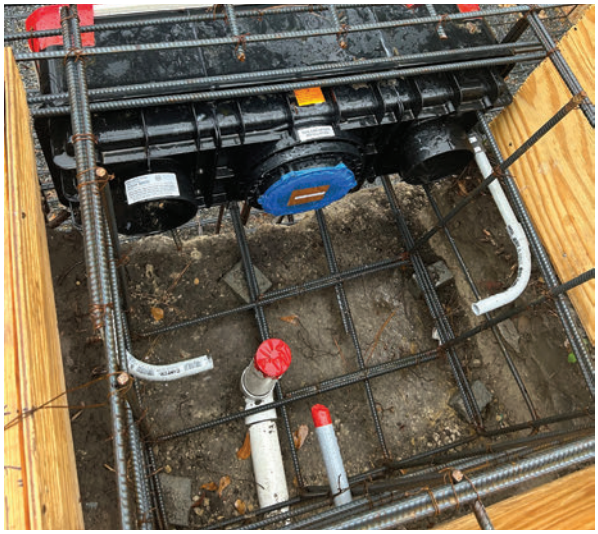


Image 5
Vault with rebar

Image 4
Wire Ties (not included with system)

Jet Housing Installation - New Gunite or Concrete Construction

4. For Poured Concrete Pools Only: ***(Not Common in the USA)***

- Create formwork as shown in Figure 2. Figure 2A shows the drill pattern for the mounting holes and the optional cut-out for the wooden supports.
- Drill the 28 holes (9/32" drill bit) in the formwork for the inner pool wall per Figure 2. Cut a 39" (W) x 15.5" (H) hole in the formwork for the outer pool wall. ***CAUTION:*** *The center of the jet housing* ***MUST BE*** *mounted 14"* ***BELOW*** *the water line as shown in Figure 2.*
- Insert the round sealing cord *(part #16)* in the groove around the rear edge of the housing.
- Making sure that **OBEN/UP/HAUT** is at the top of the housing *(See Figure 3),* place the jet housing between steel rebar with the rear against the hole in the outer wall formwork. Jet housing location is very important!
- Place the inner wall formwork on the front of the jet housing, lining up the pre-drilled holes with the holes in the front of the jet housing.
- Secure the inner pool wall formwork to the jet housing using the twenty-eight (28) 6 x 40mm tapping screws *(part #19).*

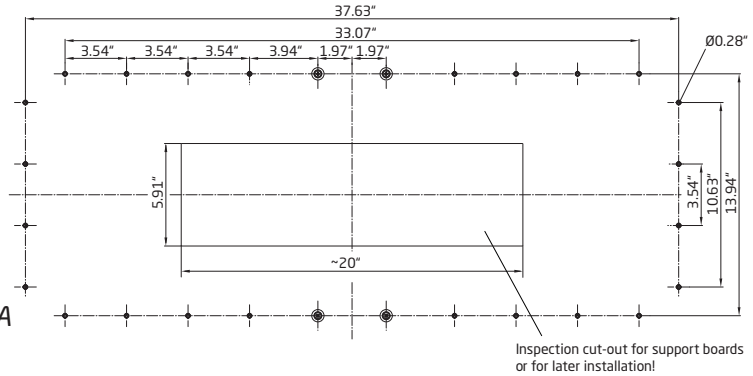


Figure 2A

5. Shoot Gunite or Pour Concrete:

- ***IMPORTANT: Front edge of the jet housing should be flush with the finished pool wall (i.e. after plaster, marcite, etc.).***
- Recheck the location of the jet housing when pouring concrete or shooting gunite. Make sure the housing remains properly aligned, level, and plumb.

Image 6
Aquabond AE-2200-250 Anchoring Epoxy

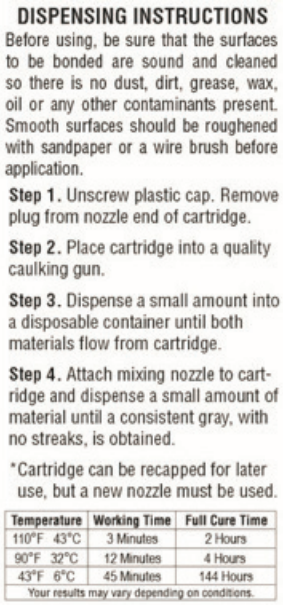
Jet Housing Installation - New Gunite or Concrete Construction - continued

6. Once concrete cured remove foam strip. ***IMPORTANT:*** *USING A WIRE BRUSH CLEAN GROOVE THOROUGHLY OF DUST, DEBRIS, ETC. TO ENSURE A GOOD BOND IS ACHIEVED.*

7. Use **ALL** of the included AquaBond AE-2200 Anchoring Epoxy to fill the groove around the jet housing. The epoxy cartridges fit in a standard caulk gun. ***FOLLOW ALL AQUABOND INSTRUCTIONS FOR APPLICATION AND DRYING TIME.*** The epoxy should finish flush with the surrounding concrete. See Image 7 For Instructions as printed on AquaBond tube.

AquaBond Instructions

- Thoroughly Clean out groove around jet housing using a wire brush.
- Blow out any remaining dust or loose debris.
- Remove the cap, place cartridge into dispensing tool.
- Screw on included non-modified nozzle.
- Dispense and waste enough material to ensure uniform gray color before injecting into the groove around the jet housing.
- Fill groove 2/3 full of adhesive starting at the back of the groove going around the entire jet.
- Make another pass around the jet until the adhesive is flush with gunite.
- Do not disturb or apply plaster for 24hrs to allow product to fully cure.
- Proper groove cleaning, cartridge preparation and installation is CRITICAL to ensure proper adhesion.



DISPENSING INSTRUCTIONS

Before using, be sure that the surfaces to be bonded are sound and cleaned so there is no dust, dirt, grease, wax, oil or any other contaminants present. Smooth surfaces should be roughened with sandpaper or a wire brush before application.

Step 1. Unscrew plastic cap. Remove plug from nozzle end of cartridge.

Step 2. Place cartridge into a quality caulking gun.

Step 3. Dispense a small amount into a disposable container until both materials flow from cartridge.

Step 4. Attach mixing nozzle to cartridge and dispense a small amount of material until a consistent gray, with no streaks, is obtained.

*Cartridge can be recapped for later use, but a new nozzle must be used.

Temperature	Working Time	Full Cure Time
110°F 43°C	3 Minutes	2 Hours
90°F 32°C	12 Minutes	4 Hours
43°F 6°C	45 Minutes	144 Hours

Your results may vary depending on conditions.

Image 7
Instructions as printed on Aqua Bond

Concrete Pool with Vinyl Liner:

A. Connect the two halves of the clamping ring *(part #18)* together using two (2) M6 x 20mm screws *(part #56.1)*. See Image 7. *NOTE: For simplified winterizing, install the two 2.5" foam strips between the overlapping sections of the clamping ring. See Image 13.*

B. Feed the cables for each LED push button through the three holes on the left side of the suction cover assembly. ***Buttons are on the left side when facing the front of the BADUJET Turbo.*** Press the buttons into place on the suction cover assembly. Use a piece of tape on the end of each cable and mark the three cables:

TOP = INCREASE SPEED
MIDDLE = START/STOP
BOTTOM = DECREASE SPEED

C. Insert the gasket *(part #11)* into the groove around the front of the jet housing. The gasket may be held in place with a drop of super glue.

D. Install the liner. With the liner pulled tightly in place cut the 28 holes for the clamping ring.

E. Install clamping ring. and cut liner, tracing inside edge of clamping ring.

F. Align the suction cover assembly and secure to the housing using the twenty-eight (28) M6 x 40mm tapping screws (part #19).

Jet Housing Installation - New Gunite or Concrete Construction - continued

Figure 4

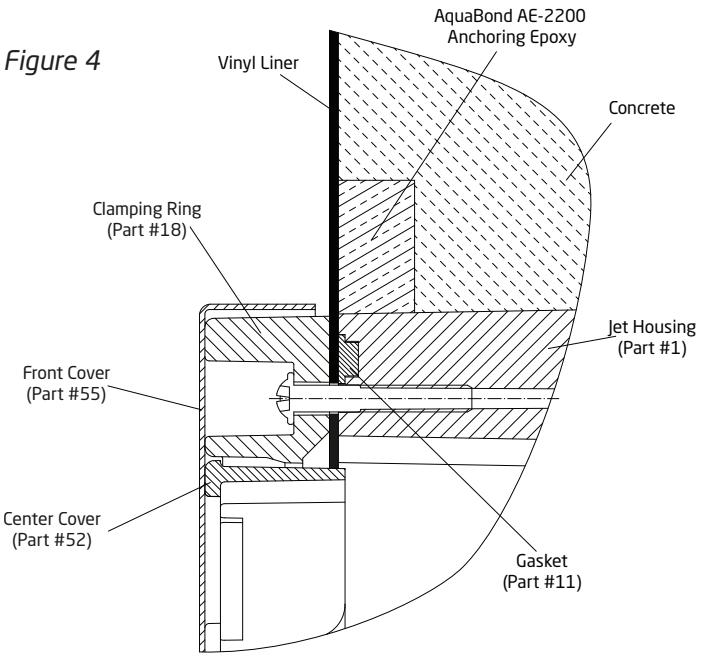
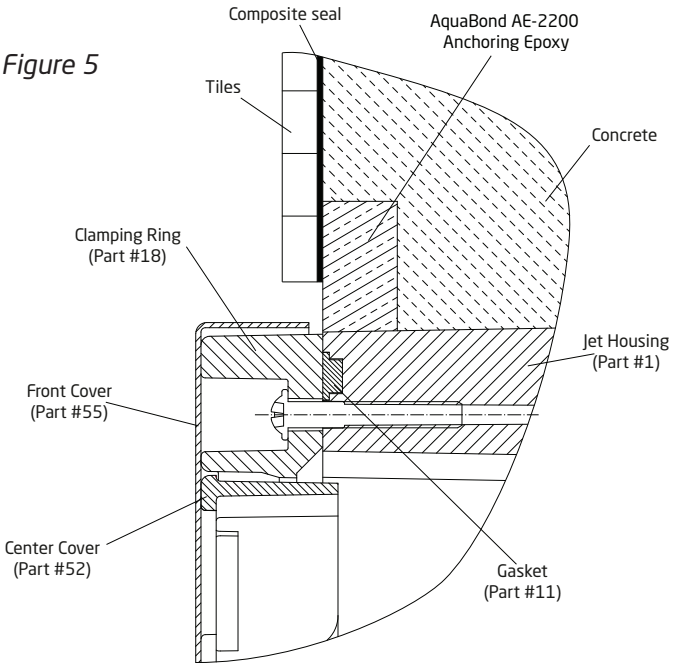


Figure 5



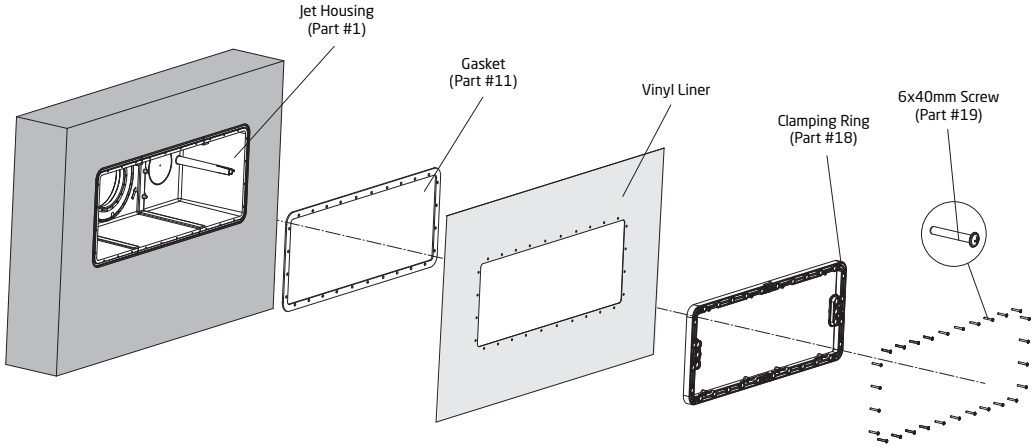


Figure 6

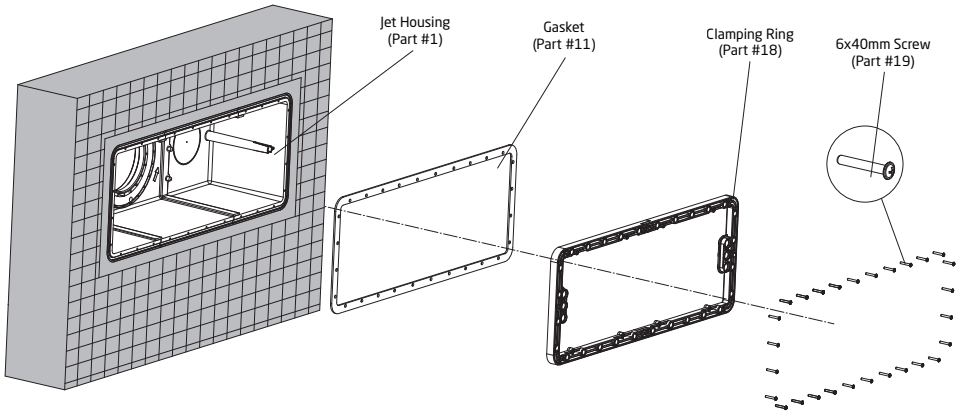


Figure 7

Jet Housing Installation - New Gunite or Concrete Construction - continued

Tiled Pool:

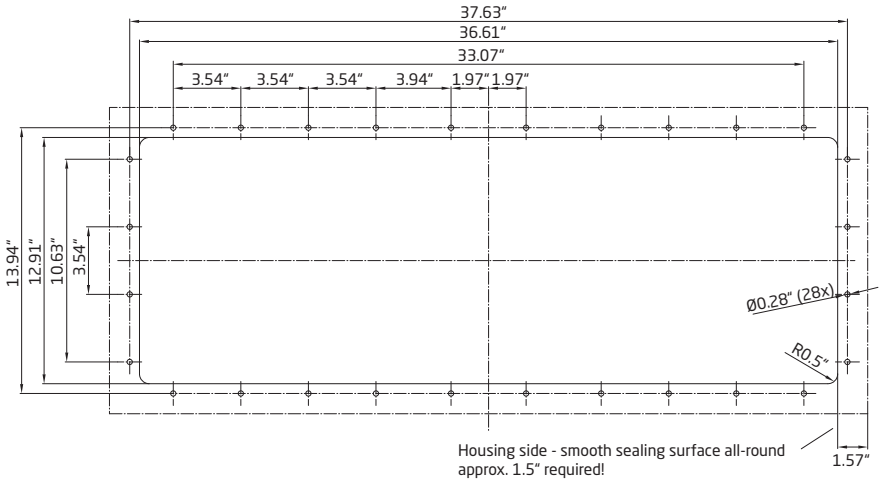
A. Connect the two halves of the clamping ring *(part #18)* together using two (2) M6 x 20mm screws *(part #56.1). NOTE: For simplified winterizing, install the two 2.5" foam strips between the overlapping sections of the clamping ring. See Image 13.*

B. Feed the cables for each LED push button through the three holes on the left side of the suction cover assembly. ***Buttons are on the left side when facing the front of the BADUJET Turbo.*** Press the buttons into place on the suction cover assembly. Use a piece of tape on the end of each cable and mark the three cables:
   TOP = INCREASE SPEED
   MIDDLE = START/STOP
   BOTTOM = DECREASE SPEED

C. Feed the three cables through the jet housing and previously installed protective conduit to the control box location.

D. Secure the suction cover assembly to the jet housing using the twenty-eight (28) M6 x 40mm screws *(part #19).*

Figure 8



Steel Wall Pool Installation

1. Connect the two halves of the clamping ring *(part #18)* together using two (2) M6 x 20mm screws *(part #56.1). NOTE: For simplified winterizing, install the two 2.5" foam strips between the overlapping sections of the clamping ring. See Image 13.*

2. Using the clamping ring as a template, mark the 28 screw holes and the large rectangular hole (36.61" x 12.91") on the pool wall. ***NOTE:*** *Ensure that the center line of the cover is* ***14" BELOW*** *water level. See Figure 8.* Once marked, drill the screw holes and cut the rectangular hole in the pool wall.

3. Feed the cables for each LED push button through the three holes on the left side of the clamping ring assembly. ***Buttons are on the left side when facing the front of the BADUJET Turbo.*** Press the buttons into place on the suction cover assembly. Use a piece of tape on the end of each cable and mark the three cables:
   TOP = INCREASE SPEED
   MIDDLE = START/STOP
   BOTTOM = DECREASE SPEED

4. Place butterfly gasket *(part #11.1)* in the cutout in the steel wall. Making sure the holes in the gasket are aligned with the pre-drilled holes in the steel wall.

5. Making sure that **OBEN/UP/HAUT** *(Orange label)* is at the top of the housing *(See Figure 3),* place the jet housing against the pool wall.

CAUTION *This step requires two people. Person 1 aligns the jet housing on backside of pool with the mounting holes in the pool wall. Person 2 secures the suction cover assembly to the jet housing through the wall using the twenty-eight (28) M6 x 40mm screws (part #19).*

Figure 9

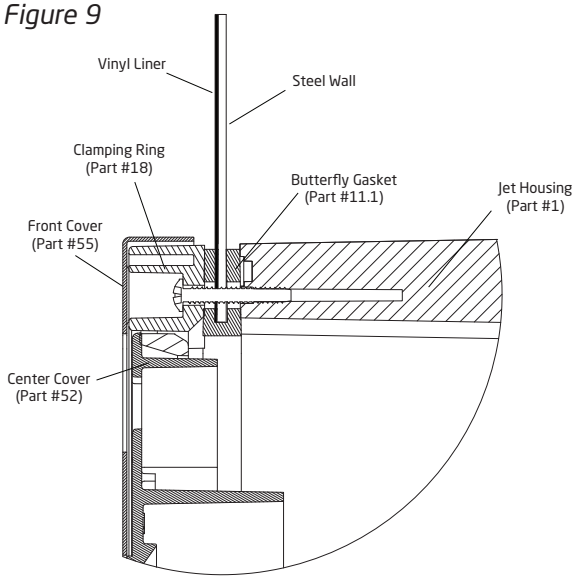
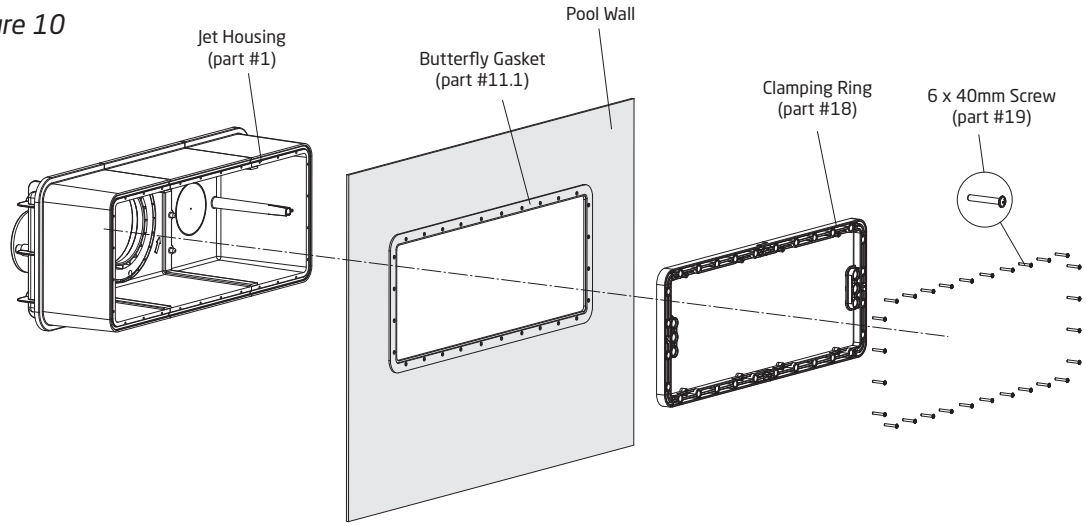


Image 8
Installed butterfly gasket

Figure 10



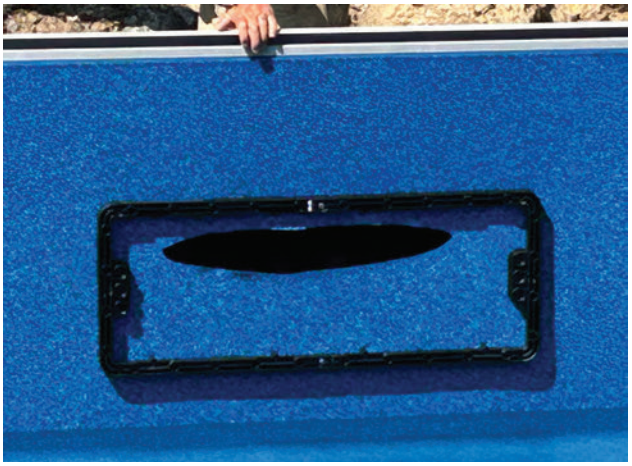


Image 9
Installed clamping ring on vinyl liner

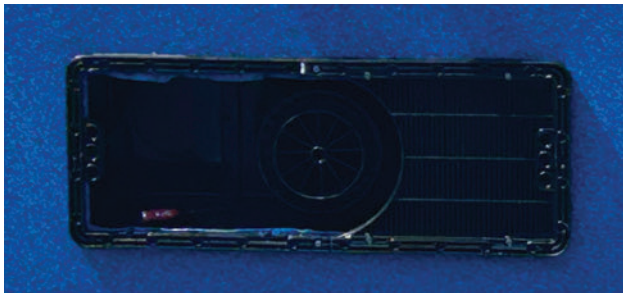


Image 10
Installed suction grate on vinyl liner

Fiberglass Pool Installation

1. Connect the two halves of the clamping ring *(part #18)* together using two (2) M6 x 20mm screws *(part #56.1). NOTE: For simplified winterizing, install the two 2.5" foam strips between the overlapping sections of the clamping ring. See Image 13.*

2. Using the clamping ring as a template, mark the 28 screw holes and the large rectangular hole (36.61" x 12.91") on the pool wall. ***NOTE:*** *Ensure that the center line of the cover is* ***14" BELOW*** *water level. See Figure 8.* Once marked, drill the screw holes and cut the rectangular hole in the pool wall.

3. Feed the cables for each LED push button through the three holes on the left side of the clamping ring assembly. ***Buttons are on the left side when facing the front of the BADUJET Turbo.*** Press the buttons into place on the suction cover assembly. Use a piece of tape on the end of each cable and mark the three cables:

TOP = INCREASE SPEED
MIDDLE = START/STOP
BOTTOM = DECREASE SPEED

4. Place gasket *(part #11)* in the seat around the front edge of the housing, *NOTE: You may use a drop of super glue to hold the gasket in place.*

5. Making sure that **OBEN/UP/HAUT** *(Orange label)* is at the top of the housing *(See Figure 3),* place the jet housing against the pool wall.

CAUTION *This step requires two people. Person 1 aligns the jet housing on backside of pool with the mounting holes in the pool wall. Person 2 secures the suction cover assembly to the jet housing through the wall using the twenty-eight (28) M6 x 40mm screws (part #19).*

Figure 11

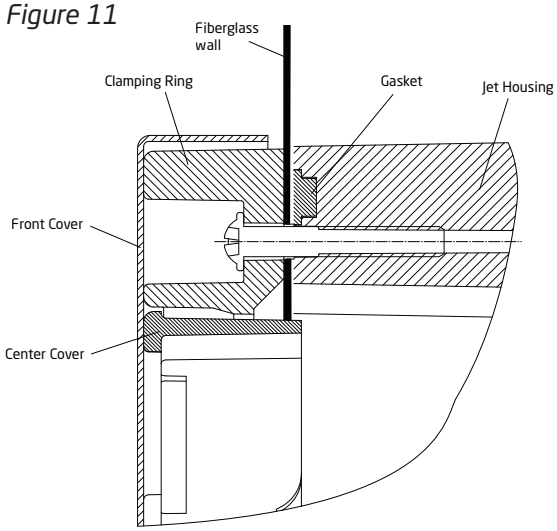
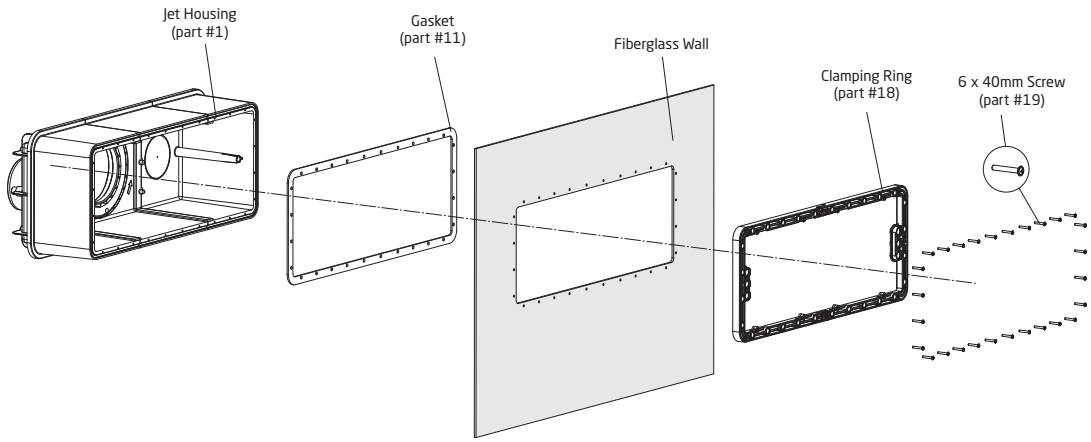


Figure 12



Conduit Installation - PRIOR TO GUNITE/CONCRETE SHELL APPLICATION

1. Install the protective conduit from the jet housing to control box and VFD location: (Must at least stub conduit beyond the thickness of the pool shell).

- Glue the smaller side of the conduit adapter *(part# 13)* to the port on the rear of the BADUJET Turbo housing. See Image 11. The three (3) push button cables will be routed through this opening.
- Glue 1" flexible (liquid-tight) or rigid PVC conduit to the conduit adapter from the above step. Run the conduit to the control box location, ***ABOVE THE WATER LINE.***

  CAUTION: *There is 100 ft of cable for each of the three (3) push buttons included with the BADUJET Turbo. If a longer distance is required a longer 150' cable is available for purchase.*
- Run a **SEPARAT**E 1" conduit. from inside the vault to the final VFD location for the motor cable to run through.

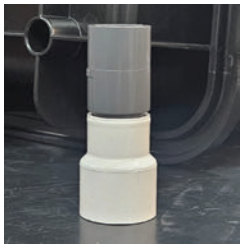


Image 11
Gluing conduit adapter

Bonding - PRIOR TO GUNITE/CONCRETE SHELL APPLICATION

BONDING: As required by National Electrical Code, the pump motor must be electrically bonded to the pool structure (reinforced bars, etc.) by a solid copper conductor ***(NOT INCLUDED)*** not smaller than No. 8 AWG (6 AWG for Canada) via the external copper bonding lug on the pump motor. In addition, all metal parts larger than 4 in. in the pool must be bonded.

IMPORTANT: **Installation instructions in this section are for <u>stainless steel</u> jet covers only.**
These steps do not apply to jet systems that use plastic covers.

- Glue the bonding adapter to the port on the back of the jet housing with the grey plug. See Figure 13. There is a hole pre-drilled in the plug in order to feed the bonding wire through the housing.
- Insert the bare-end of the included 8 AWG bonding wire through the front of the jet housing and bonding adapter. See Figure 14.
- The copper strap will make contact with the back of the stainless steel cover once it is installed during the final assembly.
- The copper strap is secured between the stainless steel and plastic covers with one of the stainless steel cover screws *(part# 56.1). See Figure 15.*
- Connect the other end to bonding grid for pool.

Figure 13

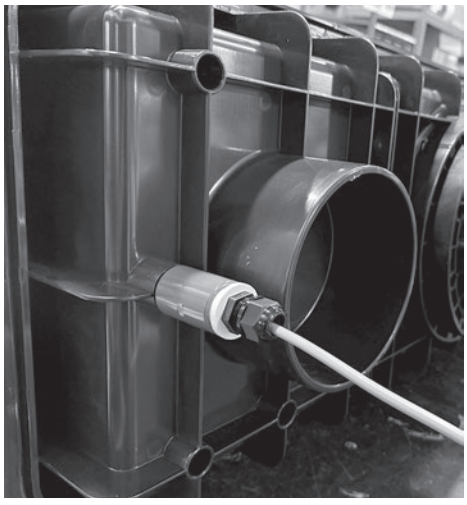


Figure 14

Figure 15

Final Assembly

1. Install the nozzle unit:

- Insert the pre-assembled nozzle unit *(part #4)* into the front of the jet housing. Make sure the three pegs align properly with the three holes inside the jet housing.

- Secure the nozzle unit with the three tapping screws *(part #46). NOTE: Appropriately sized spacers (part #45) are required for fiberglass or steel pool walls with a wall thickness greater than 3.5mm (1/8") up to 27mm (1-1/16"). The spacer size must be chosen so that the gap between the center cover (part #52) and the nozzle unit (part #4) must not be larger than 8mm (5/16"). See Image 12*

- See below chart for spacer order kits corresponding to various wall thicknesses: *NOTE: Wall thickness larger than 7/16" please contact factory.*

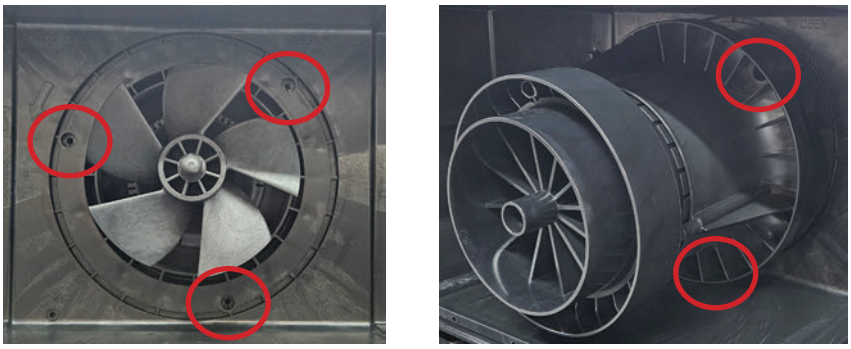


Image 12
Installing nozzle unit

Wall Thickness mm (inches)	Spacer Type	Screw Length (mm)	Order Kit
Up to 3.5mm (1/8")	N/A	40	N/A
Up to 3.5mm (1/8") up to 7mm (1/4")	Washer 3.5	40	N/A
Over to 7mm (1/4") up to 11.5mm (7/16")	Washer 7	50	1

2. Install the 2-part clamping ring (part # 18) based on your pool construction:

NOTE: For simplified winterizing, install the two 2.5" foam strips between the overlapping sections of the clamping ring. See Image 13

Connect the two halves of the clamping ring *(part #18)* together using two (2) M6 x 20mm screws *(part #56.1)*.

Feed the cables for each LED push button through the three holes on the left side of the suction cover assembly. Press the buttons into place on the suction cover assembly. Use a piece of tape on the end of each cable and mark the three cables:

TOP = INCREASE SPEED
MIDDLE = START/STOP
BOTTOM = DECREASE SPEED

Feed the three cables through the jet housing and previously installed protective conduit to the control box location.

Secure the clamping ring *(part #18)* assembly to the jet housing using the twenty-eight (28) M6 x 40mm screws *(part #19)*.

Image 13
Foam Strip Installation

Final Assembly - continued

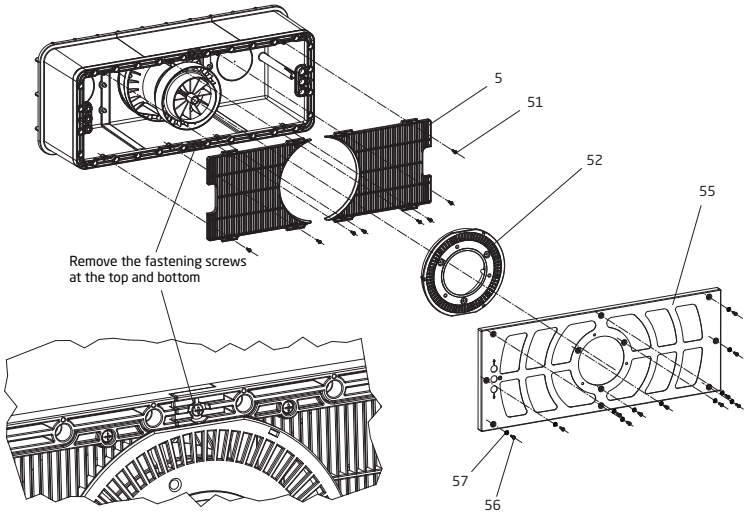
3. Install the two-piece suction grate (part# 5) to the clamping ring with eight (8) M6 x 20mm screws (part #56.1).

4. Install center cover (part#52) snaps into place.

5. Install the front cover (part #55):

- Remove the two (2) M6 x 20mm screws that were previously installed to connect the two-piece clamping ring (top center and bottom center holes). See Figure 13.
- Place the front cover *(part #55)* over the clamping ring and suction grate, making sure that the holes line up properly.
- Secure the front cover using eight (8) M6 x 20mm *(part #56.1)* screws **around the perimeter of the cover**, and three (3) M6 x 22mm tapping screws *(part #56)* **around center of cover**. *NOTE: Use plastic washers provided for stainless steel covers.*

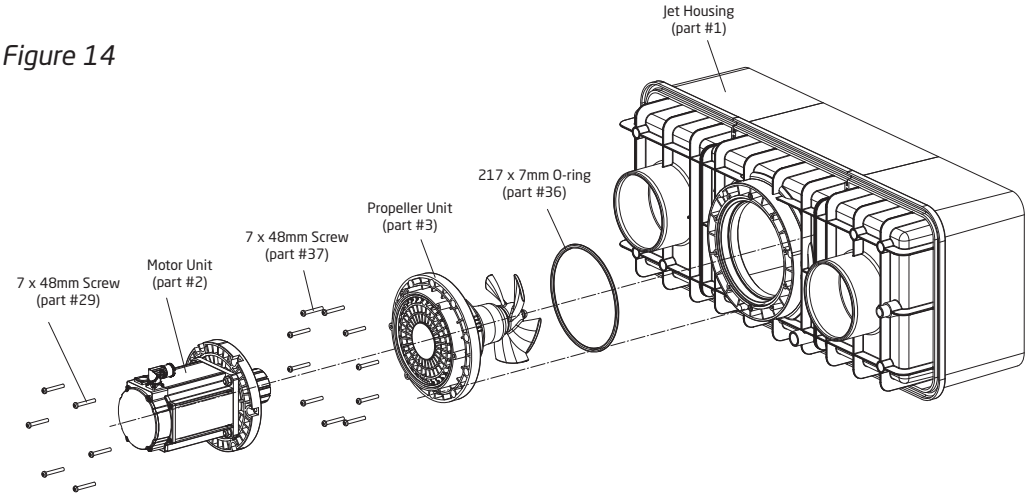
Figure 13



6. Install the pre-assembled motor unit: ***(DO NOT INSTALL UNTIL AFTER POOL IS PLASTERED)***

- Align the motor unit *(part #2)* with the center hole on the rear of the propeller unit. The plug connection is required to be installed at the TOP of the motor with the orientation of the plug pointing towards the jet housing. *Any change in plug orientation will result in the warranty being voided.*
  CAUTION: *Strong magnetic coupling: keep fingers clear of front of motor unit when installing!*
- Carefully insert the magnet of the motor unit into the propeller unit. The force of the magnetic coupling will pull the motor unit forward!
- Secure the motor unit using the 6 (six) M7 x 48mm tapping screws *(part #29).* See Figure 14.

Figure 14



4 Electrical Installation

Identifying Control Box

Identifying the Control Box Installed on Your System

Before beginning installation, troubleshooting, or configuration, it is critical to confirm which control box model is present. Each control box type varies in wiring layout, communication capability, and supported accessories. Correct identification ensures proper setup and prevents damage to the system or connected components.

Control Box: BJC-Turbo

This control box is supplied with all standard WiFi based systems. It is not compatible with third-party automation boards and cannot be integrated with external control systems.

The unit features built-in WiFi connectivity, enabling homeowners to pair the system through the BADU*Connect* mobile app for remote operation and monitoring.

Refer to Image 14 for visual reference and identifying characteristics.

For installation instructions skip to page: 24-26

Image 14
Control Box: BJC-Turbo (WiFi)

Control Box: BJC-Turbo-Comm

This control box is supplied with all systems designed to connect to third-party automation boards. It is not compatible with the BADUConnect mobile app and does not support WiFi app-based control.

Refer to Image 15 for visual reference and identifying characteristics.

For installation instructions skip to page: 27-33

Image 15
Control Box: BJC-Turbo-Comm

Electrical Installation - BJC-Turbo (WiFi)

WARNING: *The wiring of the pool motor and control box should be done by a licensed electrician in accordance with all local, state, and federal codes. Be certain that the motor frame and control box are properly grounded. Motor name plate lists voltage, phase, amp draw, and other information as well as wiring connection instructions.*

WARNING: *The VFD is shipped with the motor cable pre-wired to the drive output to ensure correct motor rotation.* ***DO NOT ALTER THE WIRING PATTERN! SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE!***

WARNING: *Parameter set and programming of the VFD are completed at the factory. This ensures that the motor is "tuned" to the VFD, and that motor rotation is correct. Parameters are locked and extended parameters are password protected.* ***ATTEMPTING TO CHANGE PARAMETERS WILL VOID WARRANTY AND CAN CAUSE SERIOUS INJURY OR DEATH!***

WARNING: *In the event that the motor cable is replaced at the installation site,* ***THE INSTALLER MUST VERIFY CORRECT ROTATION OF THE MOTOR AND THAT THE WIRING PATTERN IS CORRECT! SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE!***

This section concerns the electric motor and control box for BADUJET Turbo swimjet system.

CAUTION: *There is 100ft of cable included with the LED push buttons. If a longer distance to the control box is required, a 150' corded LED push button is available for purchase (QTY 3 required).*

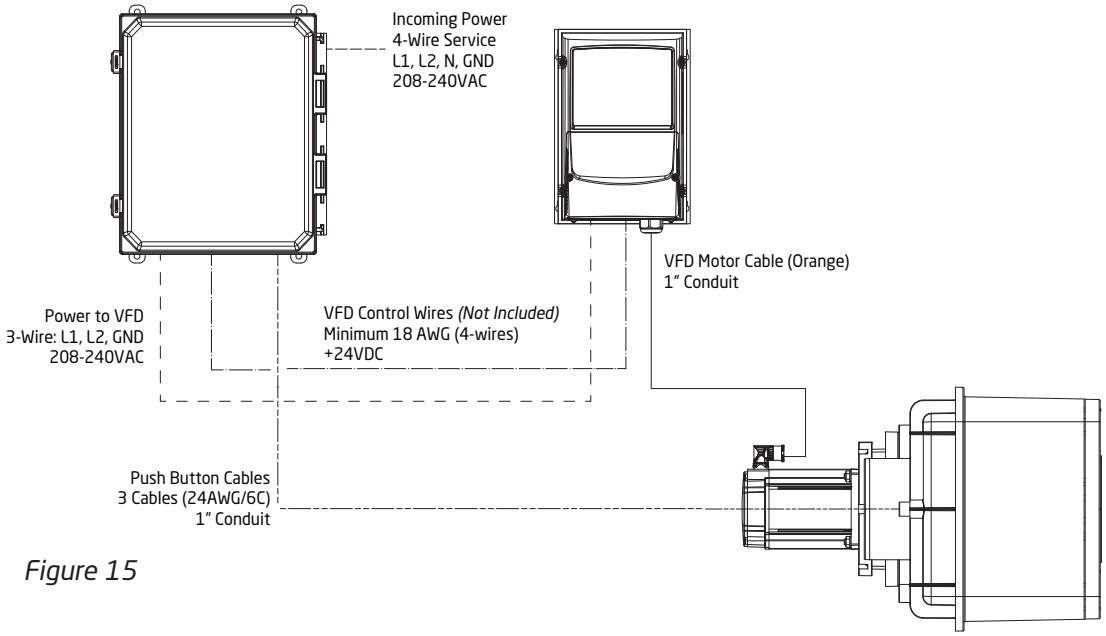


Figure 15

GROUNDING: Permanently ground the pump motor and control box using a conductor of appropriate size.

- **Pump Motor:** Connect to the #10 green headed ground screw provided inside the motor terminal box.
- **Control Box:** Connect to the aluminum grounding terminal strip on the inside of the control box enclosure.

CAUTION: ***DO NOT*** *connect to electric power supply until the unit is permanently grounded.*

1. Mount the control box and VFD together at the equipment pad. See Figure 15.

2. Steps for Running Orange Cable.

Electrical Installation - BJC-Turbo (WiFi) - continued

- Remove the orange cable from the VFD by disconnecting the wires labeled U, V, W (Black), the ground wire (yellow/green), and the small brown and white wires from VFD terminals 4 & 5. ***(NOTATE WIRING CONFIGURATION FOR REASSEMBLY LATER)***
- Remove the 3/4" liquid tight cord grip from the VFD. Do not discard, it will be reused.
- Install a 1" conduit connector on the VFD in the same location where the cord grip was removed (not included).
- Run 1" flexible liquid-tight or rigid PVC conduit to the jet housing location, near the motor.
- Install a 1" x 3/4" female adapter on the end of the conduit near the motor (not included).
- Install the liquid tight cord grip from previous step into the female adapter.
- Pull cable from the motor location through conduit back to the VFD.
- Reconnect the wires at the VFD in the same manner before they were removed. ***CAUTION:*** *Motor cable wires labeled U, V, & W must be connected to matching labeled terminals!* ***IMPROPER WIRE CONNECTIONS MAY RESULT IN SERIOUS INJURY OR DEATH!***
- Tighten the liquid tight cord grip at the end of the conduit near the motor.
- Use provided dielectric grease to the end of the motor cable connector. Install the plug onto the motor. Tighten the collar on the connector until you feel 4-5 "clicks." ***CAUTION:*** *There is 80 ft orange VFD motor cable included with the BADUJET Turbo. If a longer distance is required, please contact the factory directly for longer options. This cable* ***should not*** *be spliced and extended.*
- Review the connection diagram in Figure 1 for an overview of connections between the control box, VFD, and swim jet.

3. Wire according to the diagram included with the control box. Incoming power minimum 10 AWG (4-wire service) from the breaker panel (208-240VAC, 1PH, 60Hz), goes to the input side of the control box. The control box then supplies power to the VFD.

4. The VFD is pre-programmed with all necessary parameters.

WARNING: *Parameter set and programming of the VFD are completed at the factory. This ensures that the motor is "tuned" to the VFD, and that motor rotation is correct. Parameters are locked and extended parameters are password protected.* ***ATTEMPTING TO CHANGE PARAMETERS WILL VOID WARRANTY AND CAN CAUSE SERIOUS INJURY OR DEATH!***

6. **VERIFY CORRECT ROTATION.** When first starting the system, correct rotation **MUST BE VERIFIED**. Correct rotation is counter-clockwise (CCW) when looking at the propeller from the front of the swimjet. **SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE.**

WARNING: DO NOT RUN THE SYSTEM DRY OR PERMANENT DAMAGE TO THE PROPELLER MAY OCCUR.

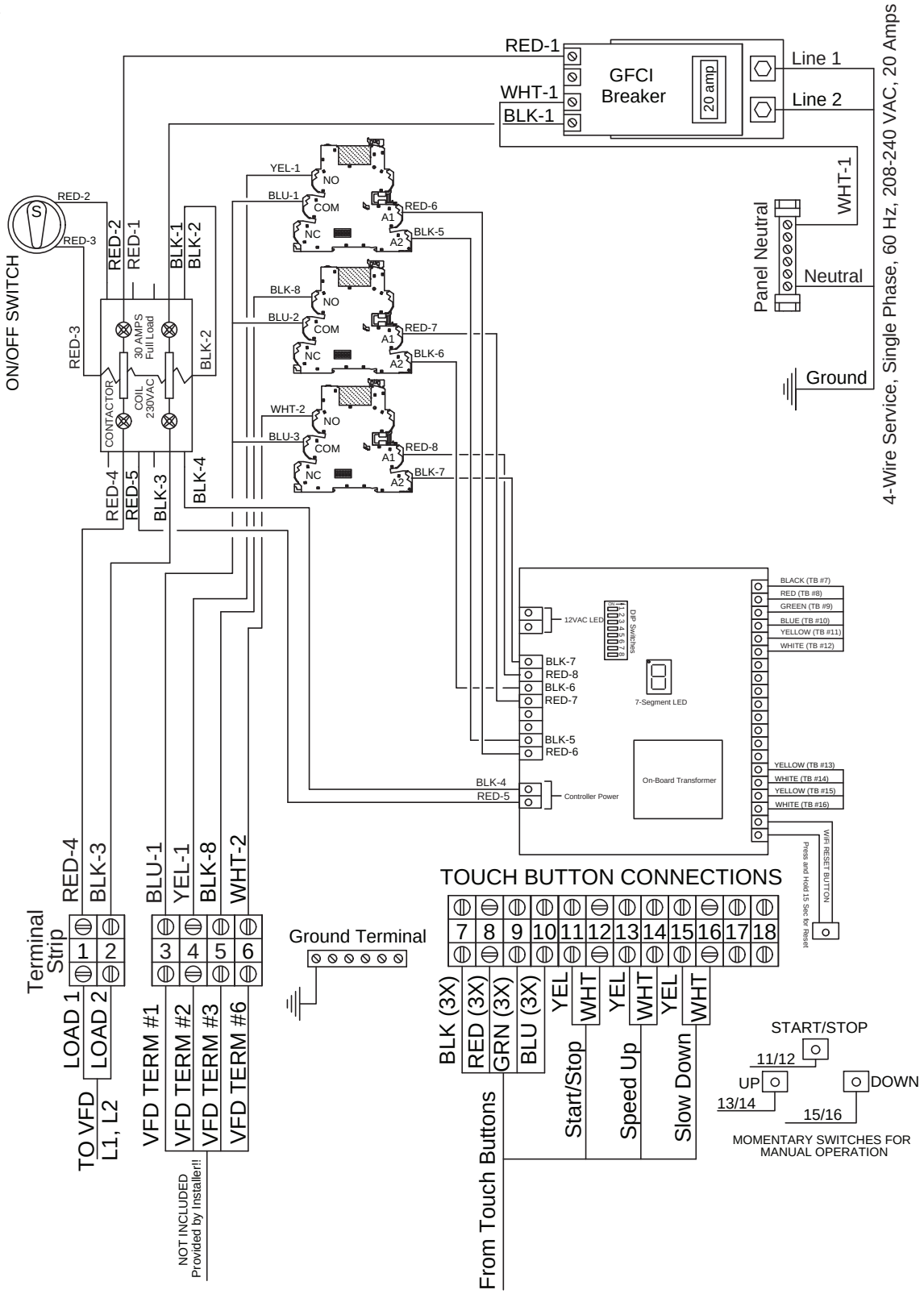
Connecting the SPECK controller to a WiFi network for the FIRST TIME:
1. Before connecting the SPECK controller to the WiFi network, stand where the SPECK equipment is located and with your mobile device in-hand assure that the signal strength to the WiFi network is good to excellent *(weak signals will cause problems).*

2. Make sure the power to the SPECK Device is turned ON. There is a green indicator on the controller board to indicate power. A small "o" will be flashing on the LED display.

3. Customer to install BADUConnect App.

Wiring Diagram - BJC-Turbo (WiFi)

Figure 16



Electrical Installation - BJC-Turbo-Comm (3rd Party Automation)

WARNING: *The wiring of the pool motor and control box should be done by a licensed electrician in accordance with all local, state, and federal codes. Be certain that the motor frame and control box are properly grounded. Motor name plate lists voltage, phase, amp draw, and other information as well as wiring connection instructions.*

WARNING: *The VFD is shipped with the motor cable pre-wired to the drive output to ensure correct motor rotation.* ***DO NOT ALTER THE WIRING PATTERN! SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE!***

WARNING: *Parameter set and programming of the VFD are completed at the factory. This ensures that the motor is "tuned" to the VFD, and that motor rotation is correct. Parameters are locked and extended parameters are password protected.* ***ATTEMPTING TO CHANGE PARAMETERS WILL VOID WARRANTY AND CAN CAUSE SERIOUS INJURY OR DEATH!***

WARNING: *In the event that the motor cable is replaced at the installation site,* ***THE INSTALLER MUST VERIFY CORRECT ROTATION OF THE MOTOR AND THAT THE WIRING PATTERN IS CORRECT! SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE!***

This section concerns the electric motor and control box for BADUJET Turbo swimjet system.

CAUTION: *There is 100ft of cable included with the LED push buttons. If a longer distance to the control box is required, a 150' corded LED push button is available for purchase (QTY 3 required).*

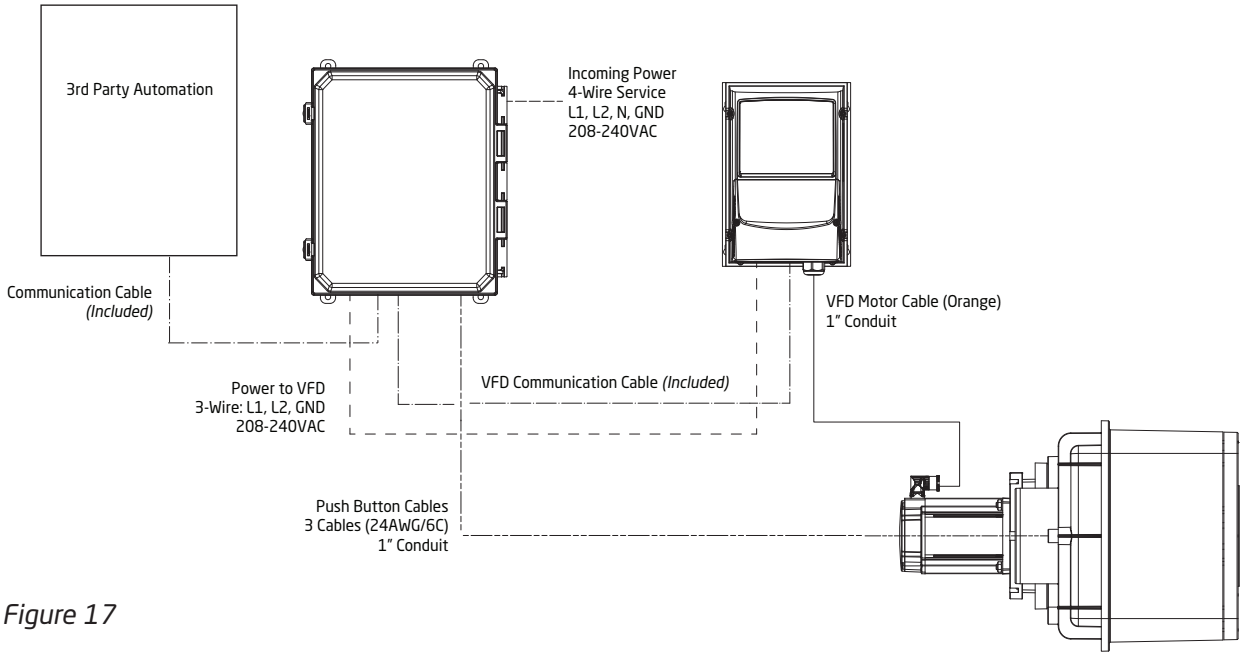


Figure 17

GROUNDING: Permanently ground the pump motor and control box using a conductor of appropriate size.

- **Pump Motor:** Connect to the #10 green headed ground screw provided inside the motor terminal box.
- **Control Box:** Connect to the aluminum grounding terminal strip on the inside of the control box enclosure.

CAUTION: ***DO NOT*** *connect to electric power supply until the unit is permanently grounded.*

1. Mount the control box and VFD together at the equipment pad. See Figure 17.

2. Running Orange Cable see steps on page 28

Electrical Installation - BJC-Turbo-Comm (3rd Party Automation) - continued

- Remove the orange cable from the VFD by disconnecting the wires labeled U, V, W (Black), the ground wire (yellow/green), and the small brown and white wires from VFD terminals 4 & 5. ***(NOTATE WIRING CONFIGURATION FOR REASSEMBLY LATER)***
- Remove the 3/4" liquid tight cord grip from the VFD. Do not discard, it will be reused.
- Install a 1" conduit connector on the VFD in the same location where the cord grip was removed (not included).
- Run 1" flexible liquid-tight or rigid PVC conduit to the jet housing location, near the motor.
- Install a 1" x 3/4" female adapter on the end of the conduit near the motor (not included).
- Install the liquid tight cord grip from previous step into the female adapter.
- Pull cable from the motor location through conduit back to the VFD.
- Reconnect the wires at the VFD in the same manner before they were removed. ***CAUTION:*** *Motor cable wires labeled U, V, & W must be connected to matching labeled terminals!* ***IMPROPER WIRE CONNECTIONS MAY RESULT IN SERIOUS INJURY OR DEATH!***
- Tighten the liquid tight cord grip at the end of the conduit near the motor.
- Use provided dielectric grease to the end of the motor cable connector. Install the plug onto the motor. Tighten the collar on the connector until you feel 4-5 "clicks." ***CAUTION:*** *There is 80 ft orange VFD motor cable included with the BADUJET Turbo. If a longer distance is required, please contact the factory directly for longer options. This cable* ***should not*** *be spliced and extended.*
- Review the connection diagram in Figure 1 for an overview of connections between the control box, VFD, and swim jet.

3. Wire according to the diagram included with the control box. Incoming power minimum 10 AWG (4-wire service) from the breaker panel (208-240VAC, 1PH, 60Hz), goes to the input side of the control box. The control box then supplies power to the VFD.

4. The VFD is pre-programmed with all necessary parameters.

WARNING: *Parameter set and programming of the VFD are completed at the factory. This ensures that the motor is "tuned" to the VFD, and that motor rotation is correct. Parameters are locked and extended parameters are password protected.* ***ATTEMPTING TO CHANGE PARAMETERS WILL VOID WARRANTY AND CAN CAUSE SERIOUS INJURY OR DEATH!***

6. **VERIFY CORRECT ROTATION.** When first starting the system, correct rotation **MUST BE VERIFIED**. Correct rotation is counter-clockwise (CCW) when looking at the propeller from the front of the swimjet. **SERIOUS INJURY OR DEATH MAY OCCUR IF THE SYSTEM IS OPERATED IN REVERSE.**

WARNING: DO NOT RUN THE SYSTEM DRY OR PERMANENT DAMAGE TO THE PROPELLER MAY OCCUR.

Connecting the SPECK controller to a WiFi network for the FIRST TIME:
1. Before connecting the SPECK controller to the WiFi network, stand where the SPECK equipment is located and with your mobile device in-hand assure that the signal strength to the WiFi network is good to excellent *(weak signals will cause problems).*

2. Make sure the power to the SPECK Device is turned ON. There is a green indicator on the controller board to indicate power. A small "o" will be flashing on the LED display.

3. Connecting to 3rd Party Automation. See pages 29-30

3rd Party Automation - Connecting to Jandy® Automation (iAquaLink®/RS Panel)

Connection from SPECK Comm Board to VFD:

VFD COM TERMINAL BLOCK	VFD 4-Pin Adapter
GND	-0V
B	B
A	A

Connection from SPECK Comm Board to Jandy RS Panel:

POOL COM TERMINAL BLOCK	Jandy COM PORT
GND	#4 (GR)
B	#3 (Y)
A	#2 (BK)

SPA SIDE J TERMINAL BLOCK	JANDY SPA SIDE SWITCH TERMINAL BLOCK
1	5 (BLACK)
2	1 (BLUE)

Suggested iAquaLink Setup:

Step 1: Relabel any available Aux relay to "SwimJet," "BADU Jet," or other desired nomenclature.
For the purpose of these instructions, we will refer to the available aux relay as Aux1:
Menu → System Setup → Label Aux → Aux1 = SwimJet

Step 2: Add a Spa Switch with 1 button and assign Button 1 to SwimJet:
Menu → System Setup → Spa Remotes → 4 Function Spa Switch = 1 (press Next)
Button 1 = SwimJet

Step 3: Add a variable speed pump under **Pump 2:**
Menu → System Setup → VSP Setup:
Pump #2 = IntelliFlo VS
Application = Aux Pump
Min Speed = 600 RPM
Max Speed = 1200 RPM
Priming Duration = 0 minutes

Step 4: Setup/Assign Start Speed for **Pump 2:**
Menu → System Setup → VSP Setup → Speed Setup
Select Pump 2 (Intelliflo VS) → Next
Speed 1 = 900 RPM (this will be the speed when the swimjet first starts)
Assign to Aux = SwimJet

The swimjet system will start whenever the designated auxiliary is activated. System can be started/stopped either by way of buttons in pool or through the Jandy controller.

When STARTING the system: There is a roughly 5-10 second delay between when the auxiliary relay is activated and when the swimjet system starts.

When STOPPING the system: There is a roughly 5-10 second delay between when the auxiliary relay is deactivated and when the swimjet system stops.

Button Color Code:

COLOR	FUNCTIONALITY:
RED	Error
PINK	Error Communication with Pool Controller
BLUE	Button Press
GREEN	System Running (1st Speed)
LIGHT BLUE	System Running (After Speed Change)
YELLOW	Start/Stop Requested - Waiting on Pool Controller
WHITE	Stand Alone Mode (No Pool Controller Detected.

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Connection to Pentair® Automation (EasyTouch® Panel)

Connection from SPECK Comm Board to VFD:

VFD COM TERMINAL BLOCK	VFD 4-Pin Adapter
GND	-0V
B	B
A	A

Connection from SPECK Comm Board to Pentair Panel:

POOL COM TERMINAL BLOCK	Pentair COM PORT
GND	BLK
B	GRN
A	YLW

SPA SIDE P TERMINAL BLOCK	Pentair IS4 REMOTE TERMINAL BLOCK
C	2Y
BLK	BLK

Suggested Settings for use with a free auxiliary on EasyTouch:

MENU
SETTINGS
PENTAIR PUMP
PUMP #2
TYPE: VS
SPEED 1/8
900 RPM

MENU
Spa Side [ON]
Assign is4
Circuit 2/4
AUX (1-8)

The swimjet system will start whenever the designated auxiliary is activated. System can be started/stopped either by way of buttons in pool or through the Pentair controller.

When starting the system: There is a roughly 5-10 second delay between when the auxiliary relay is activated and when the swimjet system starts.

When stopping the system: There is a roughly 3 second delay between when the auxiliary relay is deactivated and when the swimjet system stops.

Button Color Code:

COLOR	FUNCTIONALITY:
RED	Error
PINK	Error Communication with Pool Controller
BLUE	Button Press
GREEN	System Running (1st Speed)
LIGHT BLUE	System Running (After Speed Change)
YELLOW	Start/Stop Requested - Waiting on Pool Controller
WHITE	Stand Alone Mode (No Pool Controller Detected.

Pentair® and EasyTouch® are trademarks and/or registered trademarks of Pentair Water Pool and Spa, Inc. and/or its affiliated companies.

Connection to Pentair® Automation (IntelliCenter® Panel)

Connection from SPECK Comm Board to VFD:

VFD COM TERMINAL BLOCK	VFD 4-Pin Adapter
GND	-0V
B	B
A	A

Connection from SPECK Comm Board to Pentair Panel:

POOL COM TERMINAL BLOCK	Pentair COM PORT
GND	BLK
B	GRN
A	YLW

SPA SIDE P TERMINAL BLOCK	Pentair IS4 REMOTE TERMINAL BLOCK
C	2Y
BLK	BLK

Suggested Settings for use with with "Jets" feature circuit on IntelliCenter:

Step 1: Add Feature Circuit

Settings → Advanced System Configuration → Installation Setup →
Circuits → Feature Circuits → New Feature Circuit → Jets
Circuit Function = Generic; Visible in Features = ON
NOTE: Other feature circuits can be designated, "Jets" is only a recommendation

Step 2: Add Variable Speed Pump (This "pump" will correspond to the BaduJet Turbo)

Settings → Advanced System Configuration → Installation Setup → Pumps → Add Pump
Pump Type = IntelliFlo VS
Pump Name = VS
Pump Address = 2**
****If a different address must be selected, then P-36 on VFD must be updated to match!****
Min Speed (RPM) = 600
Max Speed (RPM) = 1200 (or lowest setting that panel will allow)
Step Size (RPM) = 100

Step 3: Add Speed Circuit

Settings → Advanced System Configuration → Installation Setup → Pumps →
Select "VS" added from Step 2 → Speed Circuits → Add Circuit → "Jets" from Step 1
Speed (RPM) = 900*
***This can be set to a higher or lower speed if desired. The speed set here will be the starting speed when the system is turned on. ***

Step 4: Add Remote (Physical remote is not needed. The Start/Stop button acts as a "remote.")

Settings → Advanced System Configuration → Remotes Setup → iS4#1 (Add Remote if none exists) →
Button Assignments → Select "2" and set to "Jets" from Step 1.

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Connection to Pentair® Automation (IntelliCenter® Panel) - continued

The swimjet system will start whenever the designated auxiliary is activated. System can be started/stopped either by way of buttons in pool or through the Pentair controller.

When starting the system: There is a roughly 5-10 second delay between when the auxiliary relay is activated and when the swimjet system starts.

When stopping the system: There is a roughly 3 second delay between when the auxiliary relay is deactivated and when the swimjet system stops.

Button Color Code:

COLOR	FUNCTIONALITY:
RED	Error
PINK	Error Communication with Pool Controller
BLUE	Button Press
GREEN	System Running (1st Speed)
LIGHT BLUE	System Running (After Speed Change)
YELLOW	Start/Stop Requested - Waiting on Pool Controller
WHITE	Stand Alone Mode (No Pool Controller Detected)

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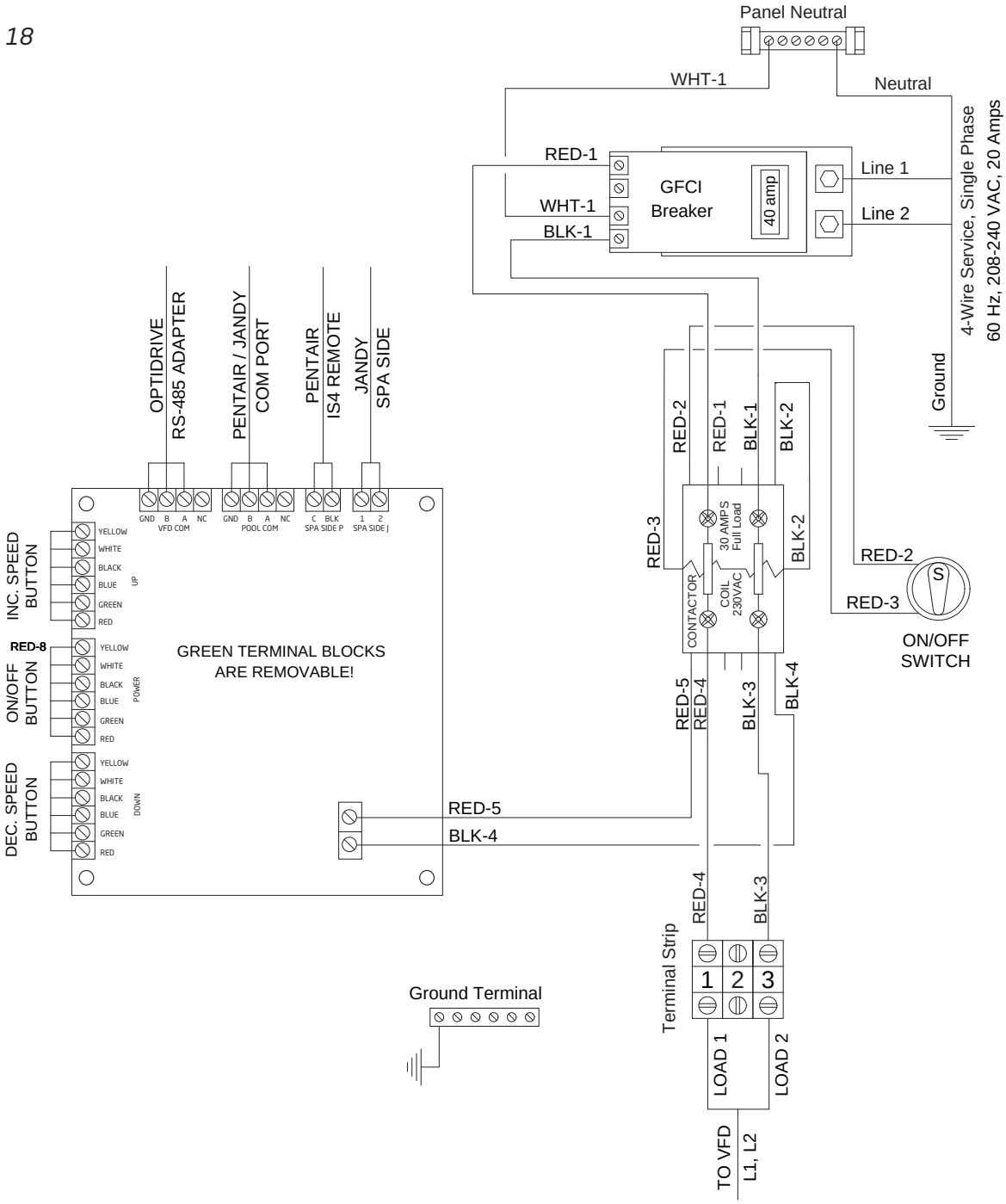
Wiring Diagram - BJC-Turbo-Comm

Figure 18



5 Service and Maintenance

Stainless Steel

Stainless Steel can provide an outstanding combination of aesthetic appeal, corrosion resistance, strength, durability, and clean ability, and they are commonly used for a wide range of indoor and outdoor pool applications, including ladders, handrails, diving platforms, and slide assemblies. These components are frequently still structurally sound and aesthetically pleasing after more than 25 years of service.

The BADUJET Turbo cover is made from high grade 316L polished stainless steel, often referred to as marine grade. It is ideal for immersed in pool applications or higher temperature pool and spa applications. The following are suggestions for maintaining the stainless:

1. After installation and before filling of the pool, thoroughly clean all stainless parts.

2. Maintain pool water chemistry. Poor water chemistry control can damage any metal or lessen the life of the pool or equipment.

3. Muriatic acid should not be used to clean concrete or tile near stainless steel. If Muriatic Acid comes in contact with stainless steel, it should be washed off and neutralized immediately.

4. Carbon steel wool or wire brushes should never be used for cleaning stainless.

5. Super chlorination (Shocking) should only be performed when necessary. High levels of chlorination can be minimized or eliminated through careful water management.

6. When shocking the pool, the pump should be maintained on its highest speed until chlorine levels return to normal.

7. If the pool level is dropped, and the swimjet is exposed to air, hose down surfaces with fresh clean water or wipe down with fresh clean water using a sponge or lint free cloth. **DO NOT** use acid, oil based cleaners, or wax. Light staining may be removed with a water-dampened cloth or with vinegar or ammonia cleaning solutions (e.g. window and surface cleaners).

8. Pool chemicals should never be added in or around the swimjet.

With proper maintenance, the BADUJET Turbo is designed for a lifetime *of enjoyment.*

Winterizing - continued

In regions subject to freezing temperatures, the swimjet system must be protected to prevent equipment damage. We recommend using the Winter Cover Kit (Part #2328120050K).

The kit includes:

- One (1) winter plate
- One (1) self-adhering gasket
- Eight (8) mounting screws

Alternate method: The swimjet system may also be protected by lowering the pool's water level below the jet housing.

Installing Winter Cover Kit:

1. Drain pool until water level has dropped below the front cover.

2. Remove the three (3) M6 x 22mm screws (part# 56) and the eight (8) machined screws (part# 56.1) which hold the Cover (part# 55).

3. Remove the cover. Store cover, and screws in a safe place while not being used during the winter season. *See Figure 19 for cover disassembly.*

4. Verfiy that the gasket is installed between the overlapping sections of the clamping ring. If not installed, a pool/spa rated silicone, such as Boss 801, may be used instead.

5. Place the winter plate with gasket (part# 8.2) over the jet housing. Be sure that the holes are aligned properly. Using the eight (8) M6 x 30mm screws (part #9/6). All screws should be ***HAND TIGHT***. **DO NOT** use drills or pneumatic tools. **DO NOT** over tighten! *See Figure 20 for winter plate assembly.*

6. Remove the drain plug from the swim jet housing. It may be replaced once all water has drained from the system.

Winter Cover Kit Parts for the BADUJET Turbo

Description	Drawing #	Qty
Screw, M6 x 30	9/6	8
Winter Plate	8.2	1
Gasket	n/a	1

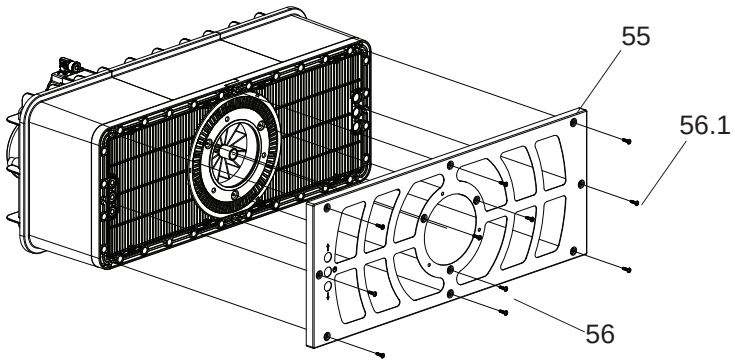


Figure 19
Cover Disassembly

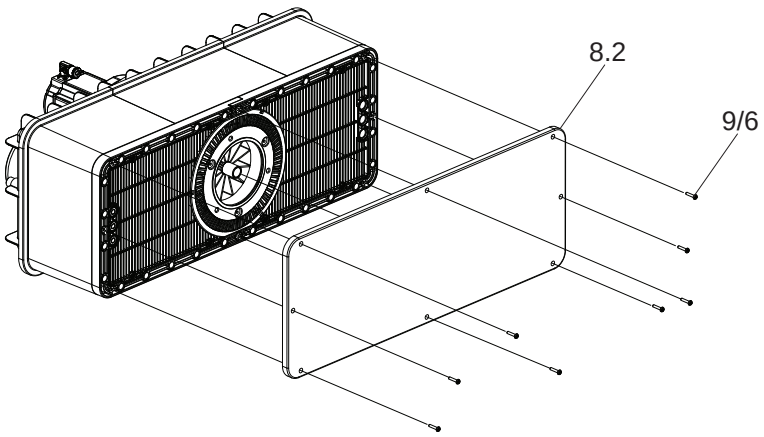
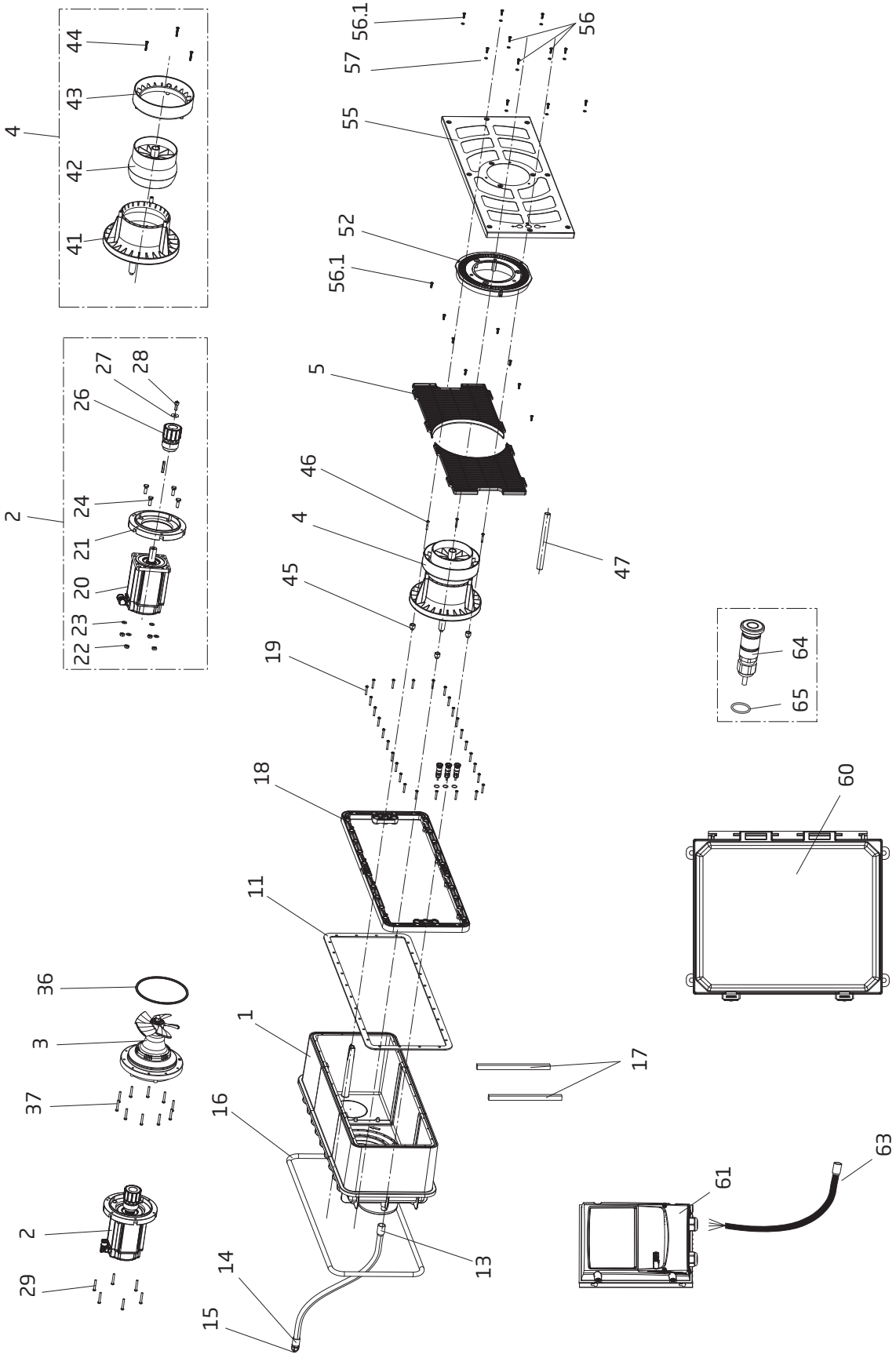


Figure 20
Winter Plate Installation

6 Product Specification



Replacement Parts

Order#	Drawing #	Qty Required	Description
2328000100A	1	1	Housing CPL w/ Housing Tapping Screws, Washers, Support slats, Foam tape, & Epoxy
2328150001	2	1	Motor Unit
2325023200	3, 36 & 37	1	Propeller Unit CPL
2325010200	4	1	Nozzle Unit CPL
2328009301	5	2	Suction Grate
2328002700	11	1	Gasket, Housing
2328002701	11.1	1	Butterfly Gasket, Housing *(for steel wall pools)*
7300050003	13	1	Connector Conduit M25 x 1"
2326000020	16	1	Round Sealing Cord 3.8mm *(for concrete pools)*
2325000405	17	2	Wood Support, 20 x 220 x 325mm *(for concrete pools)*
2328002801	18	2	Clamping Ring
5879006041	19	28	Tapping Screws - 6 x 40mm, A4
5266342	20	1	Motor - 2HP
2325059800	21	1	Intermediate Flange
5879341000	22	4	Nut - Motor M10, A4
5871251000	23	4	Washer - Motor 10.5mm, A2
5879331036	24	4	Hex Bolt - Motor, M10 x 35mm, A4
2325084705	26	1	Inner Rotor CPL (w/ Magnets)
5879021100	27	1	Washer - Motor, 10.5 x 30mm, A2
5879121025	28	1	Bolt - Motor, M10 x 25mm, A2
2991000091	29	6	Screw - Motor - Hex/Slot M7 x 48mm, SS
2325006200	36	1	O-ring - 212 x 7mm, NBR
2991000091	37	10	Screw - Motor - Hex/Slot M7 x 48mm, SS
2325010210	41	1	Inlet Nozzle
2325005400	42	1	Ball Nozzle CPL, 180mm
2325005900	43	1	Nozzle Flange

Order#	Drawing #	Qty Required	Description
5879006042	44	3	Tapping Screw - Nozzle - 6 x 40mm, A5
2325010240	45	1	Adaptors Set - Nozzle
5879006042	46	3	Tapping Screw - 6 x 40mm, A4
2325005500	47	1	Adjustment Tool
2325009321	52	1	Center Cover
2328009315A	55	1	Plastic Cover
5879006024	56	3	Tapping Screw - Front Cover - 6 x 22mm, A5
2991000146	56.1	16	Screw - M6 x 20mm, For Suction Grate and Front Cover
5871250602	57	11	Washer - M6, Clear (For Stainless Steel Cover ONLY)
2920280743	60	1	Control Box - BJC TURBO
ODE31200701F1AP	61	1	VFD
2325000013A	63	1	VFD Motor Cable, 10m *(shipped prior to 12/2023)*
2336002899T	64 & 65	3	LED Push Button CPL w/ Cable, O-rings & ferrules

Optional Parts

2328009311A	55	1	Stainless Steel Cover (Bubble Design)
2328009310A	55	1	Stainless Steel Cover (Standard Design)
7300050000	Not Shown	1	Bonding Adaptor *(for Stainless Steel Cover)*
7300050001	Not Shown	1	Bonding Wire Assembly *(for Stainless Steel Cover)*
2325000014A	63	1	VFD Motor Cable, 80 ft. *(shipped after 12/2023)*
2325000015A	63	1	VFD Motor Cable, 150 ft.
2336002869A	64	3	100 ft. LED Push Button CPL w/ Cable, O-rings & ferrules
2601001902	Not Shown	4	Aqua Bond Epoxy *(for concrete install)*
2601001906	Not Shown	1	Foam Tape *(for concrete install)*
2328120050K	Not Shown	1	Winter Cover Kit

7 Limited Warranty

Product Registration

Thank you for purchasing a SPECK PUMPS® product please take a few moments to register it online. Your registration helps us keep you up to date on product information and offers.

Before you register:
What do I need to get started?

- The Serial Number and the Model Name
- An email address. We will use this to send you confirmation of your registration.
- A copy of your sales receipt and/or qualified installer's invoice.

To register your SPECK equipment please register online at www.usa.speck-pumps.com/register/

or

Scan QR code to register product

Limited Warranty

Speck Pumps-Pool Products, Inc. grants solely to the original consumer purchaser ("Buyer") of the BADUJET Turbo SwimJet System(s)the following personal, non-transferable and limited warranty on the following terms and conditions (the "Limited Warranty"): the BADUJET Turbo SwimJet System(s) is warranted to be free of material defects in materials or workmanship under normal use for a period of two (2) years beginning on the date of the Buyer's purchase of the BADUJET Turbo SwimJet System(s) (the "Limited Warranty Period"). Not withstanding any provisions herein to the contrary, the warranties and obligations hereunder shall not in any event extend for more than three (3) years beyond the date of shipment of the BADUJET Turbo SwimJet System(s) from the factory (the "Limited Warranty Period"). The Limited Warranty is subject to each of the following additional terms and conditions:

1. **IN THE EVENT OF ANY BREACH OF THE LIMITED WARRANTY, SPECK PUMPS-POOL PRODUCTS, INC.'S ENTIRE OBLIGATION AND LIABILITY TO BUYER, AND BUYER'S SOLE AND EXCLUSIVE REMEDY SHALL BE AS FOLLOWS:** Speck Pumps-Pool Products, Inc. will, at its option, either repair or replace the BADU SwimJet System(s) or refund to Buyer the purchase price actually paid by Buyer for the BADUJET Turbo SwimJet System(s) subject to the Limited Warranty. Speck Pumps-Pool Products, Inc. shall have no obligations under the Limited Warranty unless Buyer delivers timely written notice to Speck Pumps-Pool Products, Inc. of the Limited Warranty claim within the Limited Warranty Period and returns the BADUJET Turbo SwimJet System(s) to Speck Pumps-Pool Products, Inc. if requested. To the fullest extent permitted by law, Speck Pumps-Pool Products, Inc. expressly disclaims any liability for, and the Limited Warranty does not include or cover, any labor, costs or other expenses in connection with the removal, transportation, shipment, insurance, replacement, repair, or installation of repaired or replaced parts or for any other costs or expenses or damages to property or things including, but not limited to, those arising in connection with the use of, or inability to use, the BADUJET Turbo SwimJet System(s).

2. To the fullest extent permitted by law, the Limited Warranty will be void and of no force or effect and Speck Pumps-Pool Products, Inc. will have no liability, responsibilities or obligations to Buyer or with respect to the BADUJET Turbo SwimJet System(s) in the event of the occurrence of any one or more of the following:

(a) Any damage to the BADU SwimJet System(s) caused by Buyer, any third party, ground movement, other natural forces, acts of God or any other sources or causes not arising from a breach of the Limited Warranty, excluding ordinary wear and tear;

(b) Any replacement, modification, alteration or repair of any parts or components of the BADU SwimJet System(s) by anyone other than Speck Pumps-Pool Products, Inc.;

(c) Any abuse, misuse, accident, tampering with, improper installation or modification of the BADU SwimJet System(s) or any other actions, inactions or failures to act that violate the terms and conditions of this Limited Warranty;

(d) Buyer's failure or inability to present an invoice, bill, receipt or other documentation clearly evidencing that the BADU SwimJet System(s) was installed and maintained in strict compliance with this Limited Warranty and that the claim was timely submitted within the Limited Warranty Period; and/or

(e) Buyer's failure to comply with the conditions and contingencies set forth in paragraph 3 below.

3. The Limited Warranty is expressly conditioned and contingent upon Buyer's strict compliance with each of the following:

(a) Installation of the BADU SwimJet System(s) by an experienced and qualified pool industry professional and a licensed electrician who is licensed within the jurisdiction in which the BADU SwimJet System(s) is installed and will be used; and

Limited Warranty - continued

(b) Buyer's operation and maintenance of the BADU SwimJet System(s) in strict accordance with Speck Pumps-Pool Products, Inc.'s printed operator/maintenance manuals delivered with the BADU SwimJet System(s).

4. **DISCLAIMER: THE LIMITED WARRANTY IS THE ONLY WARRANTY MADE AND IS IN LIEU OF ALL OTHER WARRANTIES, AND ANY AND ALL IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, THE IMPLIED WARRANTY AGAINST INFRINGEMENT, AND THE IMPLIED WARRANTY OR CONDITION OF FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY LIMITED IN THEIR SCOPE AND DURATION TO THE ONE YEAR TERM OF THE LIMITED WARRANTY SET FORTH HEREIN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO THE BUYER.**

5. **TO THE FULLEST EXTENT PERMITTED BY LAW, IN NO EVENT SHALL SPECK PUMPS-POOL PRODUCTS, INC. OR ITS OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, AGENTS, OR REPRESENTATIVES BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR LOSS, INCLUDING TIME, MONEY, GOODWILL, AND LOST PROFITS IN ANY WAY WHICH MAY ARISE HEREUNDER OR FROM THE USE OF OR INABILITY TO USE THE BADU SWIMJET SYSTEM(S) OR THE PERFORMANCE OR NONPERFORMANCE OF ANY OBLIGATION UNDER THIS LIMITED WARRANTY. THIS PARAGRAPH, THE WARRANTY DISCLAIMERS IN PARAGRAPH 4 ABOVE, AND THE SOLE AND EXCLUSIVE REMEDY SET FORTH IN PARAGRAPH 1 ABOVE SHALL APPLY EVEN IF SPECK PUMPS-POOL PRODUCTS, INC. HAS BEEN NOTIFIED OF THE POSSIBILITY OR LIKELIHOOD OF SUCH DAMAGES OCCURRING, WHETHER SUCH LIABILITY IS BASED ON CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, PRODUCTS LIABILITY OR OTHERWISE, AND EVEN IF ANY REMEDY STATED HEREIN FAILS OF ITS ESSENTIAL PURPOSE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OR LOSS, SO THE ABOVE EXCLUSIONS AND LIMITATIONS MAY NOT APPLY.**

6. This Limited Warranty gives the Buyer specific legal rights, and the Buyer may also have other rights, which vary from state to state.

7. A return merchandise authorization ("RMA") must be obtained from Speck Pumps-Pool Products, Inc. before returning any product. Products returned without an RMA will be refused and returned, unopened, to the Buyer. All returned products are to be sent freight prepaid and insured for Buyer's protection to the manufacturer at 8125 Bayberry Road, Jacksonville, Florida 32256 USA. Under no condition will products be accepted after the expiration of the Limited Warranty Period. Speck Pumps-Pool Products, Inc. shall not bear any costs or risks incurred by Buyer in shipping a defective BADU SwimJet System(s) to Speck Pumps-Pool Products, Inc. or in shipping a repaired or replaced BADU SwimJet System(s) to Buyer.