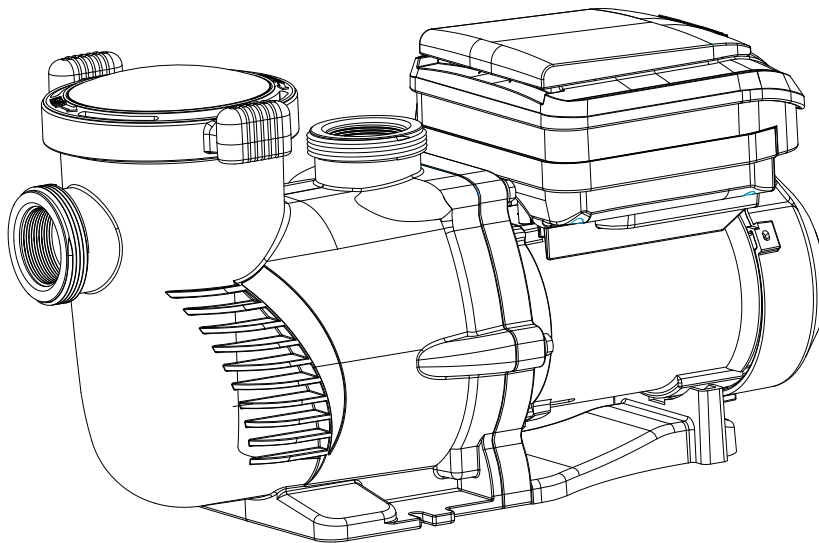




VARIABLE SPEED PUMP

SKU: 75408

1.75HP 230V 2 INCH



INSTALLATION AND USER'S GUIDE

IMPORTANT:

Read all safety warnings and instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury. Save all warnings and instructions for future reference.

75408 

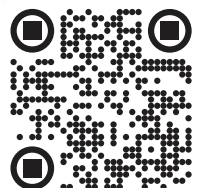


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IMPORTANT SAFETY INSTRUCTIONS


IMPORTANT SAFETY INSTRUCTIONS


This guide provides instructions for installing and using the VARIABLE SPEED PUMP. If you have any questions about the equipment, please contact XtremepowerUS.


This guide contains important information about safely installing and operating this product. After installation, make sure to share this information with the owner/operator or leave it with them for their reference.


Legends and Symbols

When you come across the safety-alert symbol on your equipment or in this manual, pay attention to the following signal words and remain vigilant about the potential for personal injury.

 **DANGER:** Ignoring these hazards can result in death, severe personal injury, or significant property damage.


 **WARNING:** Indicates potential hazards that can result in severe personal injury, death, or significant property damage. Ignoring these warnings presents a real danger.


 **CAUTION:** Indicates potential hazards that can result in minor or moderate personal injury, property damage, or actions that are unpredictable and unsafe. Ignoring these cautions presents a potential hazard.

 **NOTE:** This label indicates important special instructions that are not directly related to hazards.

USE OF NON-XTREMEPOWERUS REPLACEMENT PARTS VOIDS WARRANTY

ATTENTION INSTALLER: This manual contains vital information regarding the installation, operation, and safe use of this product. It is essential to provide this manual to the end user of the product. Failure to read and follow all instructions could lead to severe injuries.

 **DANGER** Failure to comply with all instructions and warnings may lead to severe bodily injury or even death. For optimal safety and functionality, it is advisable to have the product installed and serviced by a certified service professional. Prior to using this product, installers, operators, and owners must carefully review these warnings and all instructions provided in the owner's manual. It is essential to leave these warnings and the owner's manual with the owner for their reference and safety.

 **WARNING** For safety reasons, children should not be allowed to use this product. Packing materials and plastic bags are not toys. Keep them away from children to prevent the risk of suffocation.

IMPORTANT SAFETY INSTRUCTIONS

⚠ DANGER

- High suction can trap and drown persons near drains or broken covers. Never use the pool or spa if covers are missing, cracked, or broken.
- Never open the drive or motor enclosure due to the electrical hazard.



SUCTION ENTRAPMENT HAZARD

⚠ WARNING

- Installation and service are highly recommended to be performed by a qualified pool service professional.
- Failure to follow instructions and warnings can result in serious injury or death.
- This product is not suitable for children without adult supervision.
- Avoid installing the pump in applications not suited for its design to prevent injury or death.
- Hazardous pressure can occur; stand clear during start-up.
- Circulation systems operate under high pressure. Improperly secured system components can cause injury or death during start-up.

⚠ CAUTION

- Pumps improperly sized or installed can cause severe injury or damage.
- Suction entrapment hazard: Stay off the main drain and away from suction outlets.
- To minimize the risk of suction hazard, use properly installed and secured anti-entrapment covers and maintain a distance from suction outlets.
- Disable suction outlets or convert to return inlets to reduce the risk of suction entrapment.
- Suction plumbing must be installed in accordance with national and local codes.

★ NOTE

- This pump is for use with permanent swimming pools and may also be used with marked hot tubs and spas. Not for use with storable pools.
- This manual contains important information for safe operation and maintenance.
- All electrical installations should allow safe operation without exposing the user to hazards.
- Keep safety labels in good condition and replace if necessary.
- Before starting the system, open the air relief valve and ensure system valves are open to avoid pressure build-up.

OVERVIEW (PRODUCT INFORMATION)

PRODUCT INTRODUCTION

This pump boasts a variable frequency drive that ensures premium efficiency, allowing for flexible adjustments in motor speed and operation duration. Capable of functioning across a broad speed spectrum of 1000 to 3450 RPM, it is also designed to work with 230 Vrms nominal voltage at both 50HZ and 60HZ frequencies. Engineered to prioritize energy conservation, the pump maintains cleanliness at the lowest necessary speeds, with optimal settings being influenced by pool dimensions, additional water features, sanitation chemicals used, and environmental conditions. Determining the most energy-efficient settings may require a period of trial and optimization.

DRIVE

- User-friendly interface
- Weather-resistant design
- Integrated daily timer
- Adjustable start-up priming
- Programmable Quick Clean function
- Persistent alarm system
- 230V input, compatible with 50/60Hz
- Overload protection circuit
- Clock memory during power cuts

PUMP

- Ultra-quiet operation
- 2-inch connections for straightforward replacement
- Transparent lid for strainer basket monitoring
- Self-priming for fast startup

MOTOR

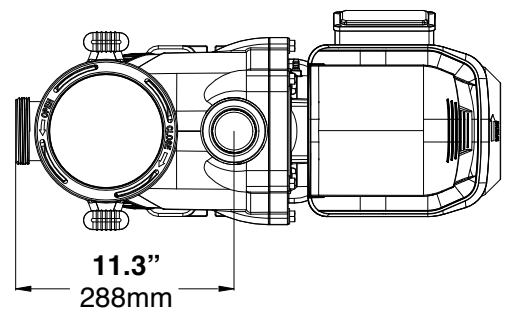
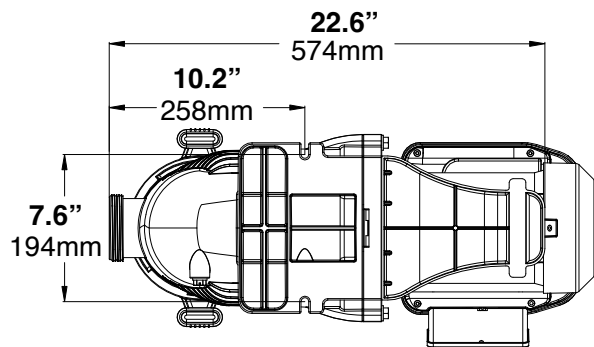
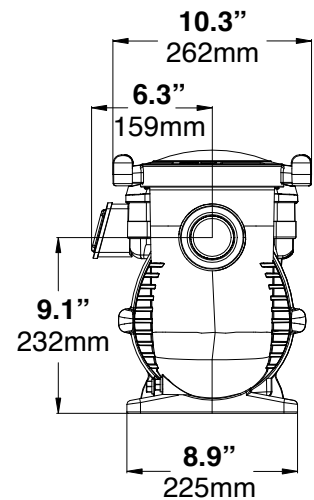
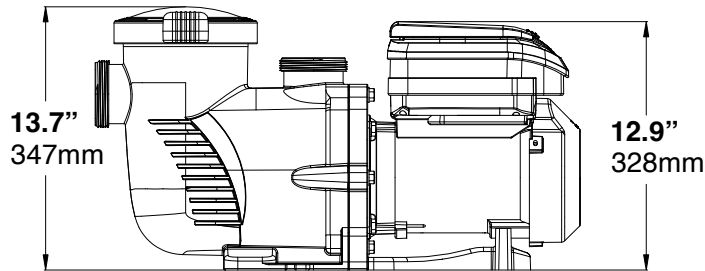
- High-efficiency, permanent magnet design
- 56 square flange size
- Quiet performance
- Outdoor-rated durability
- Cooler operation through high efficiency
- Surpasses Department of Energy and Energy Star standards
- TEFC (totally enclosed fan-cooled) motor with permanent magnets
- WEF: 8.982, THP: 1.70

OVERVIEW (PRODUCT INFORMATION)

SPECIFICATION

| | |
|------------------------------|--|
| Power | 1.75 HP |
| Connection | 2" Inlet/Outlet |
| Electrical Requirements | 230V, 60HZ, 6.47A |
| Maximum Power Consumption | 2750 W |
| Maximum Shaft Horsepower | 1.75 HP |
| Maximum Current | 7.33 AMPS |
| Maximum Flow Rate Per Minute | 111 GPM (Gallons Per Minute) |
| Maximum Head Lift | 75.4 FT |
| Speed Range | 1000 ~ 3450 RPM (Revolutions Per Minute) |
| Hydraulic Horsepower (HHP) | 0.792 |
| Total Horsepower (THP) | 1.70 |
| Protection Rating | IPX 5 (Water Resistant) |
| Storage Temperature Range | -40°F ~ 140°F |
| Operating Temperature Range | 32°F ~ 122°F |
| Humidity Tolerance | 0% ~ 95% Relative Humidity, Non-Condensing |

DIMENSIONS



INSTALLATION

INSTALLATION

- Only a qualified plumbing professional should install the pump. Refer to IMPORTANT SAFETY INSTRUCTIONS on page i-ii for additional installation and safety information.
- For additional installation and safety guidelines, please consult the IMPORTANT SAFETY INSTRUCTIONS provided on page 2~3.

LOCATION

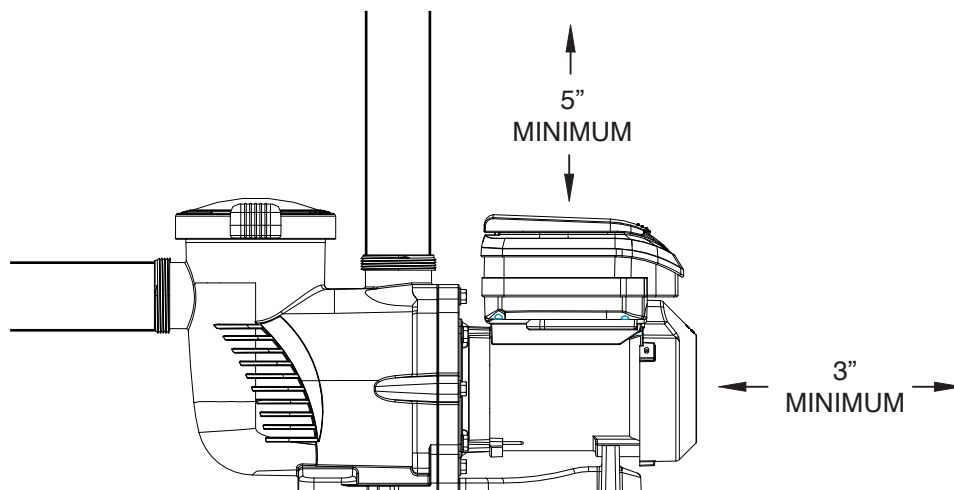
★ NOTE

- Avoid installing the pump inside an outer enclosure or under a hot tub/spa skirt.
- Ensure the pump is securely attached to the equipment pad.

LOCATION REQUIREMENTS

- Place the pump close to the pool or spa. Use short, direct piping for suction and return to minimize friction loss and enhance efficiency.
- Position the pump at least 5 FT from the pool or spa's inner wall. In Canada, maintain a minimum distance of 9.8 FT.
- Keep the pump at least 3 FT away from the heater outlet.
- Do not install the pump higher than 5 FT above the water level.
- Choose a well-ventilated area for installation, away from excessive moisture sources like rain gutters and sprinklers.
- Provide a minimum of 3 inches of rear clearance for motor removal and 5 inches of top clearance for Keypad accessibility. (refer to **Figure 1** for reference).

FIGURE 1



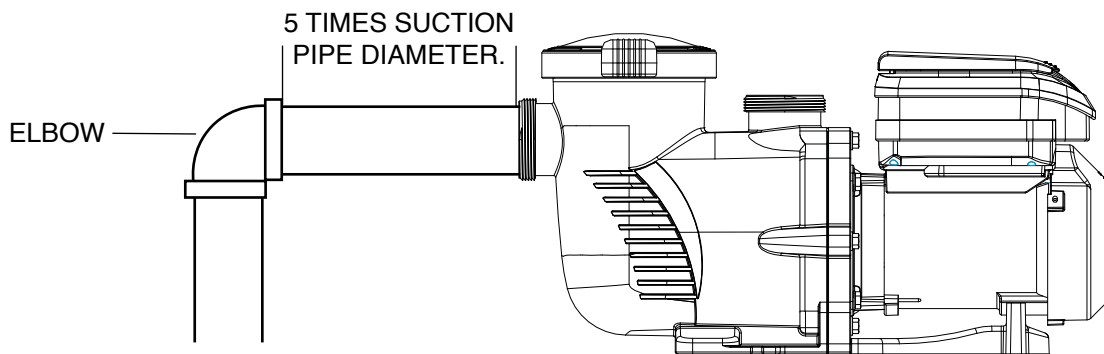
INSTALLATION

PIPING

PIPING GUIDELINES

- Using a larger pipe size is recommended for enhanced pool plumbing efficiency.
- Ensure the diameter of the piping on the suction side is equal to or larger than that of the return line.
- Keep the plumbing on the suction side as short as possible for optimal performance.
- It's advised to install valves on both the suction and return lines of the pump for easier isolation during maintenance. Additionally, any valve, elbow, or tee in the suction line should be placed no closer than 5 times the diameter of the suction line from the pump's front. Refer to **Figure 2** for clarity.
- *Example: For a 2.5" pipe, maintain a straight run of at least 12.5" before the suction port. This ensures quicker priming and prolongs pump life.*

FIGURE 2



FITTINGS AND VALVES

★ NOTE

- Avoid installing 90° elbows (see FIGURE 2) directly into the pump's suction port.

FITTINGS AND VALVES GUIDELINES

- For systems with flooded suction, install gate valves on both suction and discharge pipes to facilitate maintenance. Ensure the suction gate valve is positioned at least 5 times the diameter of the suction pipe away from the pump, as specified in this section.
- Incorporate a check valve in the discharge line, especially in applications where the plumbing rises significantly in height after the pump.
- When plumbing in parallel with another pump, it's important to install check valves. This prevents the reverse rotation of the impeller and motor, ensuring smooth operation.

INSTALLATION

ELECTRICAL INSTALLATION

WARNING

- Risk of Electrical Shock or Electrocution.
- It is highly recommended that installation of this pump be carried out by a certified electrician or qualified professional in accordance with the National Electrical Code and local codes to avoid the risk of serious injury, death, or property damage.
- Always disconnect power at the circuit breaker before servicing to prevent electric shock or injury.
- Read all instructions before servicing the pump.

NOTE

- The pump is designed to operate with 230 V single-phase input power, accommodating both 50 or 60 Hz. Its power connections are suitable for up to 8 AWG solid or stranded wire.

WIRING INSTRUCTIONS

- Turn off all electrical breakers and switches before beginning motor wiring.
- Verify that the supply voltage matches the motor's nameplate specifications.
- Adhere to the National Electric Code and local codes for wire sizes and requirements; opt for a heavier gauge wire if uncertain.
- Make sure all electrical connections are secure and free of corrosion.
- Trim wiring to fit terminals without excess overlap or contact.
- Always replace the drive lid after wiring or when the pump is left unattended to protect against the elements.

NOTE

- Be careful not to pinch the wires when securing the drive body and lid.

GROUNDING INSTRUCTIONS

- Ensure the motor is permanently grounded by using the Grounding Terminal located within the drive's wiring compartment.
- Comply with the current National Electrical Code and local regulations regarding the size and type of grounding wire.
- The ground wire must be attached to the electrical service's ground.

GROUNDING INSTRUCTIONS

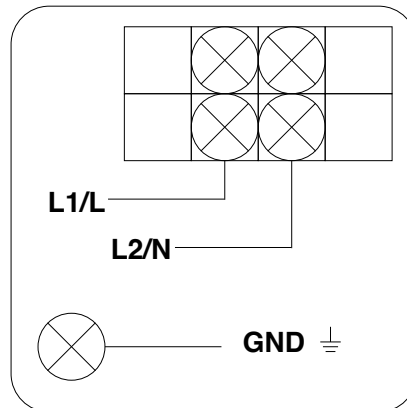
- Ensure the motor is permanently grounded by using the Grounding Terminal located within the drive's wiring compartment.
- Comply with the current National Electrical Code and local regulations regarding the size and type of grounding wire.
- The ground wire must be attached to the electrical service's ground.

INSTALLATION

BONDING INSTRUCTIONS

- Connect the motor to the pool's structural metal components, electrical systems, and metal conduits and piping within 5 feet of the pool or spa's inner walls using the provided Bonding Lug on the motor's side. Comply with the current National Electrical Code and local codes for bonding practices.
- A solid copper conductor of at least 8 AWG is mandatory for bonding. For installations in Canada, a 6 AWG or thicker solid copper conductor is required.

FIGURE 3



OPERATION

INITIAL SETUP

- Prior to the initial use of the pump, program its internal clock and operational schedules. Instructions for setting the clock can be found on **SETTING THE CLOCK** and **USING THE DEFAULT SCHEDULE**, and for programming custom schedules, see **CUSTOM SCHEDULE PROGRAMMING**.
- The drive keypad allows for programming and control of the pump, as well as access to all features and settings.

NOTE

- The pump's functionality may differ if features like External Control Only Mode or Keypad Lockout are activated.
- Remember to close the keypad cover after each use to protect the keypad and drive components from damage.

CAUTION

- To avoid damaging the keypad, only use your fingers to press the buttons. Do not use screwdrivers, pens, or any other tools for programming the pump.

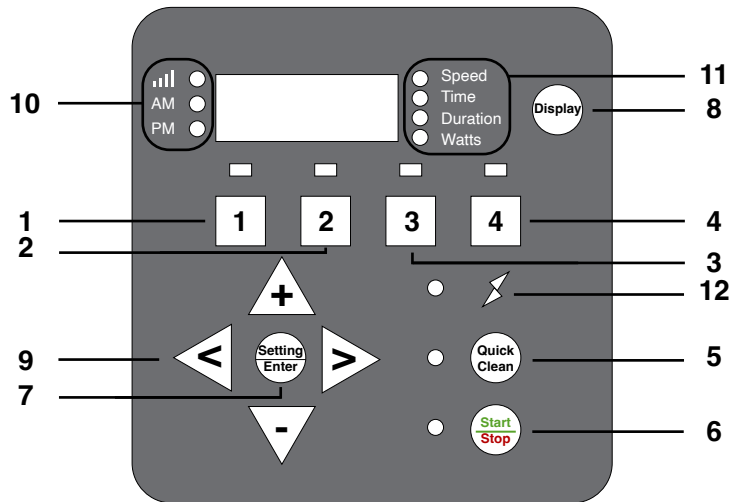
WARNING

- If the pump motor is connected to power, engaging any buttons mentioned in this section may activate the motor. Unanticipated motor start-ups could lead to personal injury or equipment damage. Always be aware of the motor's power status when programming or servicing.

OPERATION

KEYPAD FUNCTIONS

FIGURE 4



- 1 SPEED 1:** Press to activate Speed 1 (2850 RPM). The corresponding LED will illuminate to indicate Speed 1 is active.
- 2 SPEED 2:** Press to select Speed 2 (1730 RPM). An illuminated LED confirms Speed 2 is running.
- 3 SPEED 3:** Press to engage Speed 3 (2300 RPM). The LED light shows that Speed 3 is currently operational.
- 4 SPEED 4:** Press to select Speed 4 (1150 RPM). An active LED indicates Speed 4 is in use.
- 5 QUICK CLEAN KEY:** Dedicated key for Quick Clean function.
- 6 START/STOP KEY:** Use to start or stop the pump. A lit indicator signifies the pump is operational or in a specific mode. A blinking light indicates the pump is off and awaiting the next scheduled mode.
- 7 MAIN MENU ACCESS:** Enter the main menu directory when the frequency converter is powered down.
- 8 DISPLAY BUTTON:** Switches between different display contents during pump operation.
- 9 ARROW KEYS:**
 - **UP KEY:** Increases speed or time during adjustments.
 - **DOWN KEY:** Decreases speed or time during adjustments.
 - **LEFT KEY:** Moves the cursor to the left.
- 10 CONTROL PANEL DIGITAL DISPLAY:** This screen displays various operational parameters such as current speed, time, duration, power consumption, Bluetooth connectivity status, and more.
- 11 DISPLAY MODE LED INDICATOR:** Works in conjunction with the display button. The LED lights up to correlate with the information shown on the digital display. A blinking light indicates a parameter that can currently be edited.
- 12 POWER LED INDICATOR:** When this LED is illuminated, it signifies that the pump is powered and receiving energy.

OPERATION

INITIAL PROGRAMMING

- Before first use, set the pump's internal clock and operational schedules as detailed in this manual. Refer to **SETTING THE CLOCK** in this section and **CUSTOM SCHEDULE PROGRAMMING** for step-by-step instructions.

★ NOTE

- When setting up a new schedule, ensure the start times for **SPEED(s) 1 ~ 4** are programmed in chronological order within a 24-hour period.

SETTING THE CLOCK

- Upon initial power connection, the clock will flash, indicating the need for setup.
- Press **Setting**.
- Use **+** and **-** to set the current time. **<** and **>** adjust the cursor position.
- In 12-hour format, AM/PM will be displayed.

USING THE DEFAULT SCHEDULE

- The default schedule provides adequate daily circulation for typical pools (see Table 2 for details).

| PROGRAM | STARTUP TIME | OPERATION DURATION | DEFAULT SPEED |
|----------------|---------------------------------|------------------------|--------------------------|
| SPEED 1 | 8:00AM (8:00) (ADJUSTABLE) | 2 HRS (ADJUSTABLE) | 2850 RPM (ADJUSTABLE) |
| SPEED 2 | 10:00AM (10:00) (ADJUSTABLE) | 10 HRS (ADJUSTABLE) | 1730 RPM (ADJUSTABLE) |
| SPEED 3 | 8:00AM (20:00) (ADJUSTABLE) | 2 HRS (ADJUSTABLE) | 2300 RPM (ADJUSTABLE) |
| SPEED 4 | 10:00AM (22:00) (ADJUSTABLE) | 8 HRS (ADJUSTABLE) | 1150 RPM (ADJUSTABLE) |

★ NOTE

THE DEFAULT OPERATING CYCLE OF THE PUMP IS SET TO RUN FOR 22 HOURS PER DAY.

DEFAULT SCHEDULE OPERATES

- **SPEED 1:** Starts at 8:00 AM, runs at 2850 RPM for 2 hours.
- **SPEED 2:** Begins at 10:00 AM, runs at 1730 RPM for 10 hours.
- **SPEED 3:** Activates at 8:00 PM, runs at 2300 RPM for 2 hours.
- **SPEED 4:** Commences at 10:00 PM, runs at 1150 RPM for 8 hours.
- Following **SPEED 4**, the pump pauses for 2 hours, then resumes **SPEED 1**. This cycle repeats, maintaining a 22-hour daily operation as set by the factory, until altered by the user.

★ NOTE

To run, press the Start/Stop button and ensure the corresponding LED is lit.

OPERATION

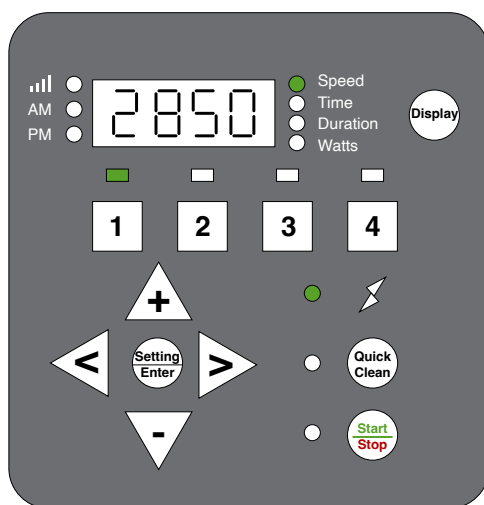
CUSTOM SCHEDULE PROGRAMMING

- Ensure the pump is halted with the Start/Stop LED off before customizing your schedule.
- A blinking LED next to the parameter being edited indicates it's in programming mode.

TO SET A CUSTOM SCHEDULE

1. Press Start/Stop to stop the pump.
2. Press "1" to edit Speed 1; its LED and "Speed" will blink (refer to **Figure 5**).

FIGURE 5

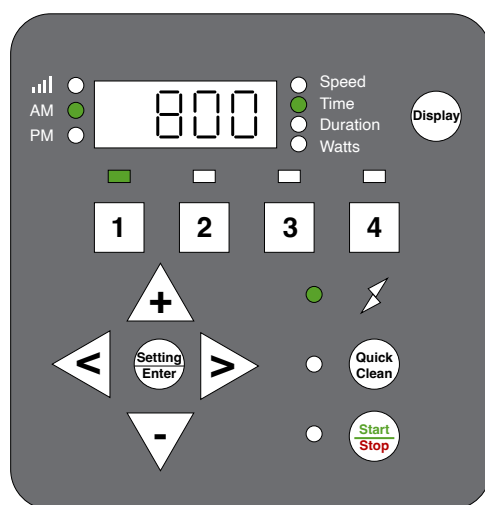


3. Adjust Speed 1 RPM with + and - buttons, and move the cursor with < and >.

NOTE Speed adjusts in 100/10/1 RPM increments.

4. Press 1 to set the start time for SPEED 1; TIME will blink (see **Figure 6**).

FIGURE 6



OPERATION

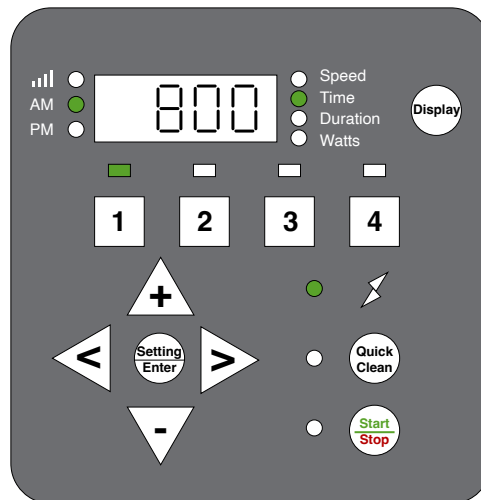
TO SET A CUSTOM SCHEDULE (CONTINUED)

5. Set the start time with + and - buttons, and adjust the cursor with < and >.

★ NOTE Time adjusts in 1-hour/10-min/1-min increments.

6. Press **1** for SPEED 1 duration; DURATION will blink (refer to **Figure 7**).

FIGURE 7



7. Set duration with + and - buttons, and adjust the cursor with < and >.

★ NOTE Duration adjusts in 1-hour/10-min increments.

★ NOTE If set to **0**, the pump skips this segment.

8. Confirm SPEED 1 setup. Subsequent presses of "1" cycle through settings but save changes instantly.

★ NOTE Pressing **1** cycles through SPEED 1 settings; changes save automatically.

9. For SPEED 2, press **2** and follow the same steps as SPEED 1.

10. Adjust SPEED 2 RPM, using +, -, <, and > buttons.

11. Display SPEED 2 setup, press **2**.

12. Set SPEED 2 Duration, using +, -, <, and > buttons.

13. Follow steps 9-12 for SPEED 3, 4, and QUICK CLEAN settings.

14. To activate the pump with the new schedule, press Start/Stop; the LED will light up.

★ NOTE

If the pump was manually stopped, press Start/Stop again to run. A lit Start/Stop LED means the pump will adhere to the set schedule.

OPERATION

SPEED PRIORITIZATION FOR SCHEDULING (WITHOUT EXTERNAL CONTROL)

- When the pump operates under its own scheduling, the programmed speeds follow a priority sequence from highest to lowest: SPEED 1 is the top priority, followed by SPEED 2, then SPEED 3, and finally, SPEED 4 holds the lowest priority.
- The drive's prioritization is outlined in an accompanying table for reference.

• *Example:*

STARTING SCHEDULE (BEFORE ADJUSTMENT)

SPEED 1 start time = 8:00AM duration = 6 hours

SPEED 2 start time = 9:00AM duration = 1 hours

SPEED 3 start time = 10:00AM duration = 1 hours

SPEED 4 start time = 2:00PM duration = 1 hours

- *In this way, according to the priority, the water pump will run the speed1 mode from 8:00 a.m. to 2:00 p.m. (skip the speed2 and 3 modes in the middle, because speed2 and 3 have been included in the speed1 operation period), and the speed4 mode will run from 2:00 p.m. to 3:00 p.m.*

End Schedule (After Adjustment)

SPEED 1 start time = 8:00AM duration = 6 hours

SPEED 4 start time = 2:00PM duration = 1 hours

OPERATING THE PUMP IN ACTIVE MODE

⚠ CAUTION

- When the pump is powered, engaging any buttons outlined in this section may activate the motor, potentially causing personal injury or equipment damage.

OPERATING THE PUMP IN ACTIVE MODE

- The Display button toggles through active settings: SPEED (current RPM), TIME (current time), DURATION (time left at current speed), and WATTS (current power usage).
- Pressing any Speed button (**1**, **2**, **3**, **4**, or QUICK CLEAN) during operation temporarily overrides the current setting. The pump will execute the preset speed and duration for the selected button and then resume the regular schedule.

★ NOTE

- Changes to schedule speeds during operation will apply for the remaining duration of the active program but will not permanently save these adjustments.

OPERATION

PROGRAMMING QUICK CLEAN

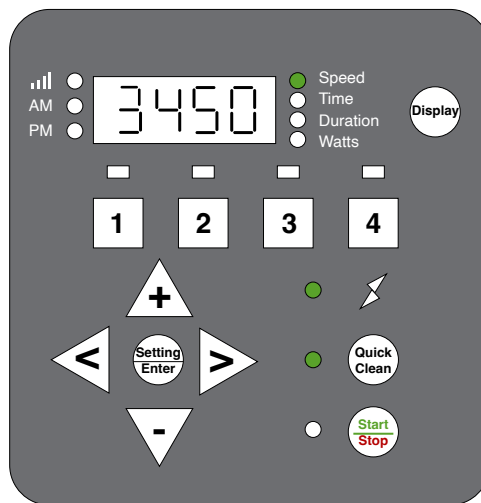
QUICK CLEAN FEATURE SETUP

- The pump comes with a Quick Clean option, allowing temporary operation at speeds from 1700 to 3450 RPM. After a Quick Clean cycle, the pump reverts to its scheduled program.
- The drive's prioritization is outlined in an accompanying table for reference.

PROGRAMMING QUICK CLEAN

- Halt the pump by pressing Start/Stop.
- Activate Quick Clean mode; the Quick Clean and "Speed" LEDs will flash (refer to **FIGURE 8**).

FIGURE 8



- Set the RPM using + and - keys; navigate with < and >.

NOTE RPM adjustments range in 100, 10, or 1 RPM steps.

- Press Quick Clean again to set the duration; "Duration" LED blinks (see **FIGURE 9**).

FIGURE 9



OPERATION

PROGRAMMING QUICK CLEAN (CONTINUED)

- Adjust duration in hours and minutes using "+" and "-" keys; navigate with "<" and ">".

★ NOTE Duration steps are 1 hour or 10 minutes.

★ NOTE Duration range: 10 minutes to 24 hours.

★ NOTE Quick Clean duration settings won't affect the programmed start time.

FACTORY RESET

To revert the drive to its default settings, a Factory Reset can be executed. This process erases all customized settings and schedules except for the time of day. It is important to confirm the necessity of this action, as it takes immediate effect.

FACTORY RESET PROCESS

- Stop the pump by pressing the Start/Stop button if it is currently running.
- Hold down buttons "1" and "2" simultaneously for 3 seconds.
- A 3-second prompt tone will confirm a successful reset.

Following the reset, reprogramming of the schedule and priming speed is required, as outlined in previous sections. Activation of the pump for subsequent operation requires pressing the START/STOP button, after which it will adhere to the newly set schedule.

OPERATION

PRIMING

⚠ CAUTION

- The pump is pre-set to Priming mode, which will cause it to automatically accelerate to 3200 RPM upon initial start-up.
- Before activating the pump:
 - Open the filter's air relief valve.
 - Ensure all necessary valves are open.
 - Confirm that the return line is unobstructed.
 - Fill the pump with water.
 - Keep a safe distance from the filter and any pressurized vessels.

⚠ WARNING

- Never run the pump dry; it will damage the shaft seal and cause leaks.
- Replace a damaged seal immediately to prevent leaking.
- Maintain the proper water level in your pool (at least halfway up the skimmer opening) to prevent air draw through the skimmer.
- A low water level can cause the pump to lose prime, leading to seal damage.
- Continuous operation with a compromised seal can damage the pump body, impeller, and may lead to personal and property damage.

STARTUP AND PRIMING PROCESS

- At startup, the pump begins a priming cycle automatically, aside from any quick clean cycle. It starts at 2400 RPM, gradually increasing to 3200 RPM over 5 minutes, with the drive indicating the time left.

★ NOTE

- If the control system's priming timer is still running post-priming cycle, the pump will continue at the control system's set speed until the timer runs out.
- The startup speed is adjustable between 3200 RPM and 3450 RPM using the "+" and "-" buttons during boot-up.

★ NOTE

- The initial boot starts with a 5-minute countdown. Speed buttons 1 to 4 can be pressed to exit the priming mode prematurely.
- Upon subsequent startups, the pump assesses the need for priming, taking about 20 seconds to make this determination.

OPERATION

STARTUP AND PRIMING PROCESS (CONTINUED)

- Priming duration may vary with local conditions such as water temperature, atmospheric pressure, and pool water level, all of which should be considered when choosing the priming speed. Test and adjust priming speeds multiple times, allowing the system to drain between tests.

NOTE

- To avoid air intake into the system, ensure the pump strainer pot is filled to the bottom of the suction port with water.

MAINTENANCE

! WARNING

STRAINER POT HANDLING

- Never open the strainer pot if the pump fails to prime or has operated without water. There's a risk of vapor pressure build-up and scalding water inside.
- Opening under these conditions can lead to severe injury.
- Ensure both suction and discharge valves are open and the strainer pot is cool before cautiously opening it.

POWER DISCONNECTION

- Always turn off power at the circuit breaker and disconnect the digital input cable before servicing the pump.
- Neglecting this step can cause fatal or severe electric shock injuries. Ensure all service instructions are read and understood prior to pump maintenance.

! CAUTION

PUMP MAINTENANCE

- To prevent pump damage and maintain system efficiency, regularly clean the pump strainer and skimmer baskets.

CLEANING THE PUMP STRAINER BASKE

The strainer pot, located at the pump's front, contains the strainer basket. Visually inspect the basket through the pot lid at least weekly. Regular cleaning ensures higher efficiency of the filter and heater and reduces stress on the pump motor.

CLEANING INSTRUCTIONS

Stop the pump using Start/Stop and turn off the electrical power at the circuit breaker.

- Open the filter's air relief valve to release any pressure from the filtration system.
- Unscrew the strainer pot lid counterclockwise and remove it.
- Take out the basket, remove debris, and rinse. Replace the basket if it's cracked or damaged.
- Reinsert the basket into the pot, aligning the basket's notch with the strainer pot's rib.
- Refill the strainer pot with water to the level of the inlet port.
- Clean the lid's O-ring and the pot's sealing surface.

★ NOTE Maintain the O-ring's cleanliness and lubrication.

- Replace the lid, screwing it clockwise until the handles align horizontally.

★ NOTE Ensure correct placement of the O-ring to avoid pinching.

★ NOTE The lid marked "Front" should face the pump's front.

- Open the filter air relief valve again and maintain a safe distance from the filter.
- Restore electrical power at the circuit breaker and restart the pump.
- Once a steady water flow is established from the air relief valve, close the valve.

MOTER CARE

HEAT PROTECTION

- Shield the motor from direct sunlight.
- Ensure any covering provides adequate ventilation to avoid overheating.
- Facilitate good cross ventilation around the motor area.

DIRT PROTECTION

- Keep foreign materials away from the motor.
- Store chemicals away from the motor to prevent spills.
- Minimize dust creation near the motor during operation.
- Dirt damage can lead to voiding of the motor warranty.
- Regularly clean the lid, O-ring, and strainer pot's sealing surface.

DIRT PROTECTION

- Keep foreign materials away from the motor.
- Store chemicals away from the motor to prevent spills.
- Minimize dust creation near the motor during operation.
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- Regularly clean the lid, O-ring, and strainer pot's sealing surface.

MOISTURE PROTECTION

- Shield the motor from water splashes or sprays.
- Protect it against harsh weather conditions.
- If the motor gets wet internally, allow it to dry thoroughly before use. Do not operate a flooded pump.
- Water damage may also result in voiding of the motor warranty.

WARNING

HIGH-PRESSURE SYSTEM OPERATION

- This system functions under high pressure. Servicing any component of the circulation system can introduce air, leading to pressurization. Such pressurized air may forcefully dislodge the lid, posing risks of serious injury, death, or property damage. To prevent these hazards, adhere strictly to the provided instructions.

MAINTENANCE

PUMP DISASSEMBLY AND REASSEMBLY

NOTE

- For a detailed parts breakdown of the pump, refer to PAERTS DIAGRAM section.

WARNING

POWER DISCONNECTION

- It is crucial to always shut off the power at the circuit breaker prior to servicing the pump.
- Failing to disconnect the power source can result in potentially fatal electric shock injuries.
- Make sure to fully understand and comply with all servicing guidelines before starting any maintenance work.

STRAINER POT HANDLING

- Opening the strainer pot should be avoided if the pump has trouble priming or has been operating without water in the pot.
- Such scenarios may cause vapor pressure to build up, with a possibility of containing extremely hot water, posing a serious risk upon opening.
- For safety, confirm that both the suction and discharge valves are open and that the strainer pot is cool to the touch before attempting to open it. Proceed with extreme caution.

REQUIRED TOOLS

- Adjustable wrench
- #2 Phillips screwdriver
- Flat blade screwdriver

PUMP DISASSEMBLY

- Stop the pump with Start/Stop and disconnect power at the circuit breaker.
- Unplug digital inputs or communication cables, if any.
- Close all valves on suction and discharge lines.
- Release system pressure at the filter's air relief valve.
- Remove drain plugs from the strainer pot's bottom.
- Unscrew the two through-bolts and nuts of the strainer pot with an adjustable wrench.
- Remove the four remaining strainer pot bolts.
- Carefully detach the motor/hydraulics assembly from the strainer pot.
- Unscrew the diffuser from the seal plate.
- Hold the motor shaft at the motor's rear end to stop it from spinning; remove the impeller screw and washer.
- Unscrew the impeller by hand.
- Remove the four bolts from the seal plate with a 9/16 in. wrench.
- Take off the seal plate from the motor/drive assembly.

MAINTENANCE

PUMP DISASSEMBLY AND REASSEMBLY (CONTINUED)

PUMP REASSEMBLY

- Align the seal plate on the motor, ensuring 'UP' is at the top.
- Reattach the seal plate to the motor with bolts, tightening to 70-80 in-lbs.
- Hold the motor shaft and reattach the impeller onto the shaft, then the impeller screw and washer; tighten to 25 in-lbs.

★ NOTE The impeller screw has reverse threading.

- Reinstall the diffuser and its screws onto the seal plate.
- Check and replace the diffuser seal and seal plate gasket if needed. Lubricate before proceeding.
- Reattach the strainer pot to the motor/hydraulics assembly with bolts and washers.

★ NOTE Tighten the through-bolts only after all bolts are finger-tightened. Tighten to 110 in-lbs.

★ NOTE Ensure the seal plate gasket is properly aligned.

- Replace the drain plugs in the strainer pot.
- Refer to **RESTARTING THE PUMP** section for instructions on restarting the pump.

PUMP RESTARTING

! CAUTION

Avoiding Dry Running

- Never operate the pump without water (dry run). This will damage the shaft seal, necessitating its replacement.
- Consistently maintain the appropriate water level in your pool, ideally halfway up the skimmer opening. If the water level drops below the skimmer opening, the pump may draw in air, lose its prime, and consequently run dry.
- Operating the pump under these conditions can lead to decreased pressure, potential damage to the pump, property, or even result in personal injury.

PUMP RESTARTING PREPARATION

- If the pump is installed below the water level of the pool, close the return and suction lines before opening the strainer pot. Ensure these valves are reopened before operating the pump.

PUMP RESTARTING INSTRUCTIONS

- Stop the pump using the Start/Stop button and disconnect power at the circuit breaker.
- Release all pressure in the filtration system via the filter's air relief valve.
- Unscrew and remove the strainer pot lid by turning it counter-clockwise.
- Fill the strainer pot with water up to the level of the inlet port.

MAINTENANCE

PUMP RESTARTING INSTRUCTIONS (CONTINUED)

- Replace the lid onto the strainer pot, securing it by turning clockwise.

★ NOTE The lid is correctly locked when its handles are nearly perpendicular to the pump body.

- Restore power to the pump at the circuit breaker.
- Open the filter's air relief valve.
- Stand away from the filter and restart the pump using the Start/Stop button.
- Bleed air through the filter air relief valve until water flows steadily, then close the valve.
- The pump will undergo a priming cycle and then proceed to normal operation if priming is successful.

WINTERIZING

Be proactive in anticipating freezing conditions, as freeze damage is not covered under warranty. In areas with mild climates where temporary freezing may occur, keep your filtering equipment running overnight to avoid freezing.

PREVENT FREEZE DAMAGE INSTGRUCTIONS

- Stop the pump by pressing START/STOP and then disconnect all power at the circuit breaker.
- Ensure all power sources to the pump are disconnected.
- Release all pressure from the filtration system using the filter's air relief valve.
- Remove both drain plugs located at the bottom of the strainer pot to drain the pump completely. Store these plugs in the strainer basket for safekeeping.
- Protect the motor by covering it against harsh weather elements like heavy rain, snow, and ice.

★ NOTE

- Avoid using plastic or any airtight materials to cover the motor during winter storage.
- Ensure the motor is not covered when in operation or if there is an expectation of the pump being operational.

TROUBLESHOOTING

TROUBLESHOOTING

! WARNING

ELECTRICAL SAFETY

- Risk of Electrical Exposure: Diagnosis may require proximity to energized components.
- Servicing is highly recommended to be performed by certified service professionals.
- Hazards: Interaction with electricity can lead to death, personal injury, or property damage.

| ISSUE | CAUSE | CORRECTIVE ACTION |
|---------------------------------------|---|--|
| Pump Failure | Pump Will Not Prime: Air in the suction line or pump | Check the suction line and valves for damage or loose connections. Confirm the strainer pot lid is sealed correctly and the O-ring is intact. Check the pool's water level is adequate for the skimmer. |
| | Pump Will Not Prime: Insufficient water | Make sure both the suction line and pump strainer pot contain water. Verify if the suction line valve is operational and in the open position (if applicable). Ensure the pool water level is sufficient for the skimmer function. |
| | The Strainer Basket is Dirty or Full Damaged Strainer Pot O-Ring | Refer to CLEANING THE PUMP STRAINER BASKET instruction. Examine the O-ring for wear or damage and replace if needed. |
| Reduced Pump Capacity and Head | Air in the suction line or pump | Check suction line and valves for any damage or loose connections. Confirm that the strainer pot lid is properly sealed and the O-ring is correctly positioned. Check that the pool's water level is adequate for skimmer intake. |
| | Clogged impeller | Refer to PUMP DISASSEMBLY instruction and clear any debris from the impeller. Refer to CLEANING THE PUMP STRAINER BASKET instruction. |
| | Dirty or full strainer basket | Replace any blown fuses or reset the circuit breaker. |
| Non-Starting Pump | No power from the mains Voltage | Check and secure connections to the mains wires. Refer to PUMP DISASSEMBLY instruction and manually rotate the motor shaft to clear obstructions. |
| | Motor is jammed Motor shaft is compromised | The pump may require replacement. |
| Pump That Runs Then Stops | Overheating (Over Temperature Fault) | Check the motor fan cover located at the back of the motor for any accumulation of dirt and debris. |
| | Excessive current draw (Over Current Fault) | Clean the fan cover using compressed air to remove any obstructions. |

TROUBLESHOOTING

★ NOTE

- The pump is designed to automatically attempt a restart after a one-minute cooldown period.

| ISSUE | CAUSE | CORRECTIVE ACTION |
|--|---|--|
| Noisy Pump | Obstruction by debris in fan area | Inspect the motor fan cover at the rear of the motor for debris. Use compressed air for cleaning. |
| | Full or dirty strainer basket | Refer to CLEANING THE PUMP STRAINER BASKET instruction. |
| | Improperly secured mounting | Check and tighten all mounting bolts and pump bolts to ensure the pump is securely fastened. |
| Pump Running Without Water Flow | The impeller may be loose. | Verify that the fan at the rear of the pump is active. If it is, proceed to disassemble the pump as directed on page 12 and check that the impeller is properly fitted. |
| | There could be air in the suction line or pump. | Examine the suction line and valves for any signs of damage or loose connections. Make sure the strainer pot lid is creating a proper seal and that the O-ring is present and correctly positioned. Confirm that the pool has an adequate water level for the skimmer to function effectively. |
| | Plumbing may be clogged or restricted. | Look for and eliminate any obstructions in the strainer pot or suction line. Check the discharge piping for blockages, including a partially closed valve or a dirty pool filter, and clear any found. |

ALARMS AND FAULT CODE GUIDANCE

When an alarm triggers, the drive will halt the pump and display a fault code. To reset, turn off the power and wait for all keypad LEDs to go off before restoring power. If the fault persists, consult the error description table below for troubleshooting.

FAULT CODE DESCRIPTIONS

- 1:** Obstruction, motor wiring issue, short circuit, or excessive temperature rise.
- 2, 4, 6:** Input voltage is excessively high.
- 8:** Input voltage is too low.
- 16, 128:** Motor does not start under normal conditions.
- 256:** Motor phase loss or poor connection between motor and driver.
- 300:** The pump is running without water (no load).
- 301:** Overheating of internal components.

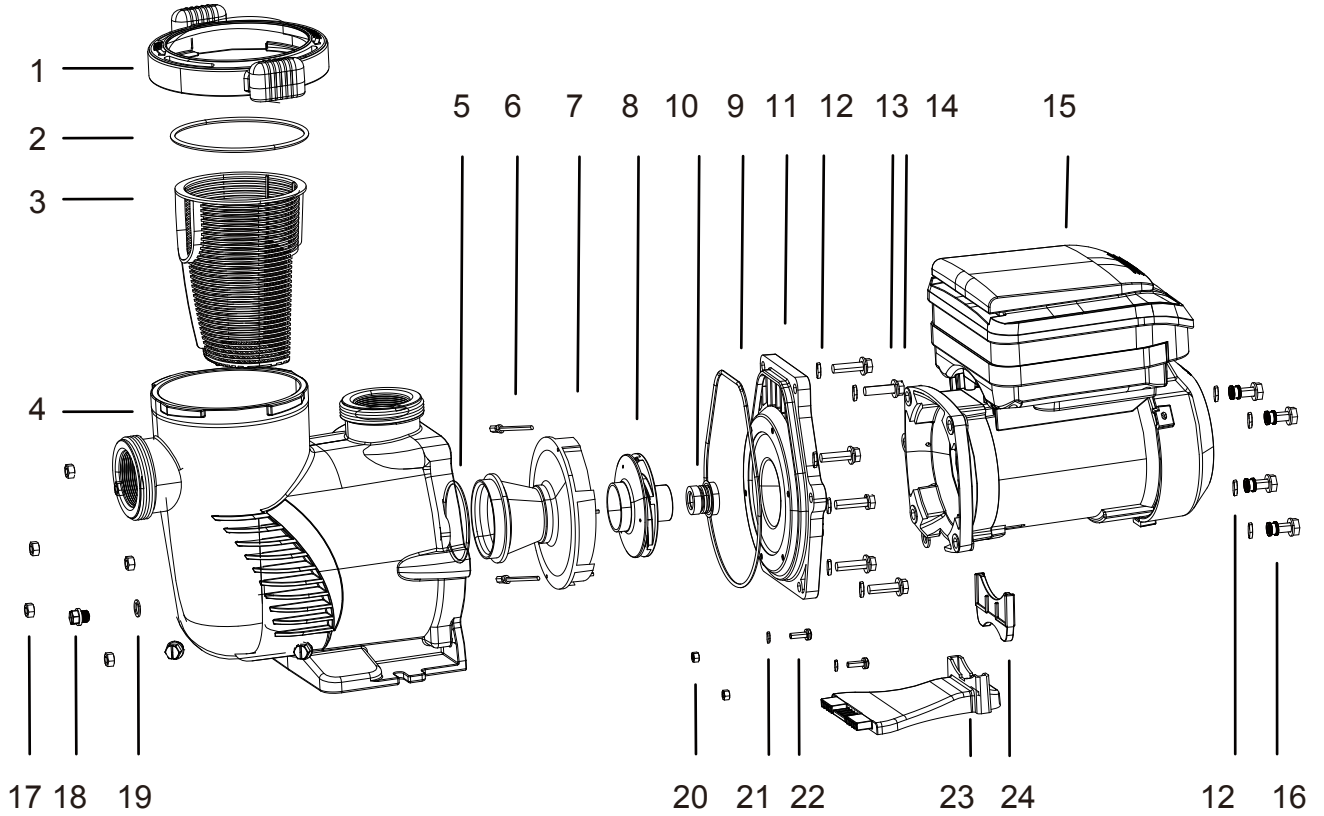
TROUBLESHOOTING

SPECIFIC FAULTS

- **Power Out Failure:** Supply voltage drops below 190 VAC, or the controller's input voltage exceeds the limit.
- **16, 128 - Motor Failure to Start:** This could be due to a jammed motor, improperly connected ground wire, or misinstallation of the driver.
- **300 - No Load:** Indicates the pump may not be drawing water.
- **301 - Overtemperature:** Internal driver components have exceeded their temperature limit.

REPLACEMENT PARTS

REPLACEMENT PARTS PARTS DIAGRAM



| ITEM | PART NO. | DESCRIPTION | QTY |
|------|--------------|--------------------|-----|
| 1 | 647252772 | COVER | 1 |
| 2 | 65431042080 | O-RING | 1 |
| 3 | 647252704 | BASKET | 1 |
| 4 | 47276801080 | PUMP HOUSING | 1 |
| 5 | 65431032080 | O-RING | 1 |
| 6 | 65212025000 | SCREW ST4.2*38 | 2 |
| 7 | 647254703 | DIFFUSER | 1 |
| 8 | 647274871000 | IMPELLER FOR 72559 | 1 |
| 9 | 65431168080 | O-RING | 1 |
| 10 | 65028014000 | SEAL ASSEMBLY | 1 |
| 11 | 647254702 | PUMP COVER | 1 |
| 12 | 65244015000 | GASKET M10 | 10 |
| 13 | 65244032000 | SPRING WASHER M10 | 6 |

| ITEM | PART NO. | DESCRIPTION | QTY |
|------|-------------|---|-----|
| 14 | 65225003000 | SCREW 3/8-16*1 1/2 UNC | 6 |
| 15 | 65023332000 | VARIABLE SPEED 1.5HP MOTOR FOR 72559 | 1 |
| 16 | 65221008000 | SCREW M10*25 | 4 |
| 17 | 65232001106 | NUT 3/8-16 | 6 |
| 18 | 648860105 | DRAIN PLUG | 2 |
| 19 | 65432002080 | DRAIN PLUG GASKET | 2 |
| 20 | 65231002106 | NUT M6 | 2 |
| 21 | 65244016000 | GASKET M6 | 2 |
| 22 | 65224003000 | SCREW M6*20 | 2 |
| 23 | 647254704 | MOUNTING FOOT | 1 |
| 24 | 647255301 | SUPPORTING FOOT | 1 |

DISCLAIMER

DISCLAIMER

PLEASE READ THE FOLLOWING CAREFULLY

The manufacturer and/or distributor have provided the parts list and assembly diagram in this manual for reference purposes only. They do not make any representation or warranty to the buyer that they are qualified to make repairs to the product or replace any parts of the product. In fact, the manufacturer and/or distributor expressly state that all repairs and parts replacements should be undertaken by certified and licensed technicians, and not by the buyer.

The buyer assumes all risk and liability arising from their repairs to the original product or replacement parts or arising from their installation of replacement parts. It is strongly advised that qualified professionals handle any repairs or replacements to ensure safety and proper functioning of the product. Improper installation and operation may result in injury, property damage, or voiding of warranty. The manufacturer and/or distributor shall not be held responsible for any accidents, damages, or malfunctions resulting from the buyer's installation and operation of the product. It is essential to follow all safety guidelines and recommendations provided in this manual and to seek professional assistance if unsure about the installation or operation procedures.

CUSTOMER SERVICE

If you have any questions about ordering our pool pumps and replacement parts or pool products, please feel free to contact us using the following contact information:

Customer Service and Technical Support

Phone: (909) 628-0880

Email: customer@xtremepowerusa.com

Hours of Operation: Monday – Friday, 9AM – 4PM (CST)
