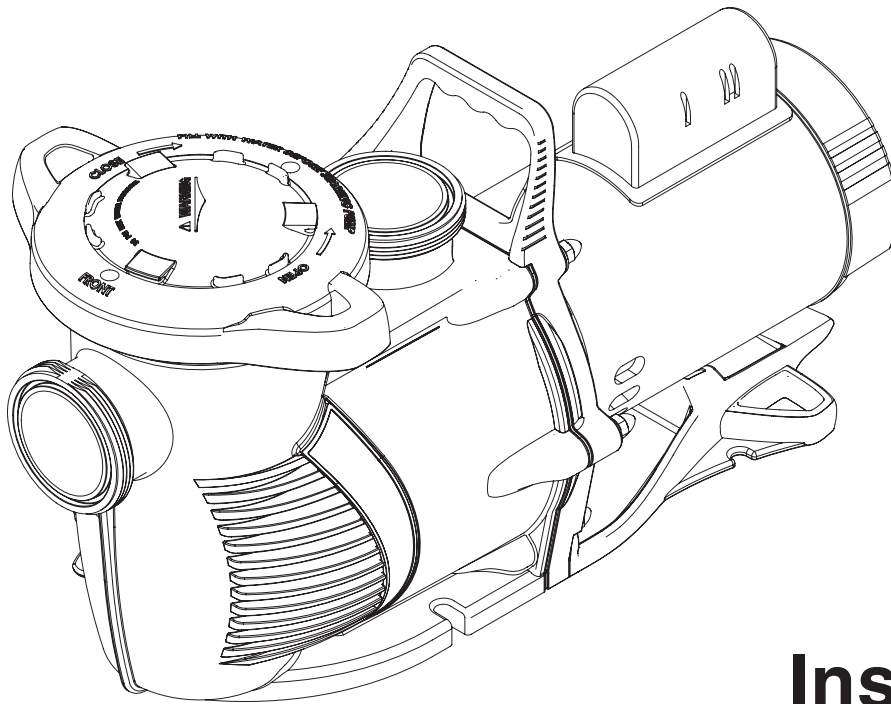


WhisperFloXF™ and Max-E-ProXF™ High Performance Pumps



Installation and User's Guide

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Customer Service / Technical Support

If you have questions about ordering Pentair Water Pool and Spa (“Pentair”) replacement parts, and pool products, please use the following contact information:

Customer Service (8 A.M. to 5 P.M. — Eastern and Pacific Times)

Phone: (800) 831-7133

Fax: (800) 284-4151

Technical Support

Sanford, North Carolina (8 A.M. to 5 P.M. ET)

Phone: (919) 566-8000

Fax: (919) 566-8920

Moorpark, California (8 A.M. to 5 P.M. PT)

Phone: (805) 553-5000 (Ext. 5591)

Fax: (805) 553-5515

Web site

visit www.pentairpool.com or www.staritepool.com to find information about Pentair products.

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Pentair Water Pool and Spa®
PUMP WARNING AND SAFETY INSTRUCTIONS
For Pool and Spa Pumps (Non SVRS Pumps)
(Pentair Water Pool and Spa®, Sta-Rite®, and Pentair Pool Products®)

IMPORTANT SAFETY INSTRUCTIONS

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

READ AND FOLLOW ALL INSTRUCTIONS

⚠ WARNING

To reduce the risk of injury, do not permit children to use this product.

⚠ WARNING

Risk of Electrical Shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI.

⚠ WARNING

This unit must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this pump. Disconnect the pump and have the problem corrected by a qualified service representative before using.

⚠ CAUTION

This pump is for use with permanent swimming pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity.

General Warnings

- Never open the inside of the drive motor enclosure. There is a capacitor bank that holds a 230 VAC charge even when there is no power to the unit.
- The pump is not submersible.
- The pump is capable of high flow rates; use caution when installing and programming to limit pumps performance potential with old or questionable equipment.
- Code requirements for the electrical connection differ from state to state. Install equipment in accordance with the National Electrical Code and all applicable local codes and ordinances.
- Before servicing the pump; turn breaker to OFF and disconnect the communication cable, then switch OFF power to the pump by disconnecting the main circuit to the pump.
- This appliance is not intended for use by persons (including children) of reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- To reduce the risk of injury, do not permit children to use this product.

SAVE THESE INSTRUCTIONS

Pentair Water Pool and Spa®

PUMP WARNING AND SAFETY INSTRUCTIONS

For Pool and Spa Pumps (Non SVRS Pumps)

(Pentair Water Pool and Spa®, Sta-Rite®, and Pentair Pool Products®)

Warnings and safety instructions for Pentair Water Pool and Spa® pumps and other related products are available at: <http://www.pentairpool.com/pool-owner/safety-warnings/> or call (800) 831-7133 for additional free copies of these instructions.

Please refer to <http://www.pentairpool.com/pool-owner/safety-warnings/> for warning and safety instructions related to the WhisperFloXF™ and Max-E-ProXF™.

READ AND FOLLOW ALL WARNING AND SAFETY INSTRUCTIONS



This is the safety alert symbol. When you see this symbol on your system or in this manual, look for one of the following signal words and be alert to the potential for personal injury.



DANGER Warns about hazards that can cause death, serious personal injury, or major property damage if ignored.



WARNING Warns about hazards that may cause death, serious personal injury, or major property damage if ignored.



CAUTION Warns about hazards that may or can cause minor personal injury or property damage if ignored.

NOTE indicates special instructions not related to hazards.

Carefully read and follow all safety instructions in this manual and on equipment. Keep safety labels in good condition; replace if missing or damaged.



FAILURE TO FOLLOW ALL INSTRUCTIONS AND WARNINGS CAN RESULT IN SERIOUS BODILY INJURY OR DEATH. THIS PUMP SHOULD BE INSTALLED AND SERVICED ONLY BY A QUALIFIED POOL SERVICE PROFESSIONAL. INSTALLERS, POOL OPERATORS AND OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS IN THE OWNER'S MANUAL BEFORE USING THIS PUMP. THESE WARNINGS AND THE OWNER'S MANUAL MUST BE LEFT WITH THE POOL OWNER.



SUCTION ENTRAPMENT HAZARD: STAY OFF THE MAIN DRAIN AND AWAY FROM ALL SUCTION OUTLETS!



THIS PUMP PRODUCES HIGH LEVELS OF SUCTION AND CREATES A STRONG VACUUM AT THE MAIN DRAIN AT THE BOTTOM OF YOUR POOL OR SPA. THIS SUCTION IS SO STRONG THAT IT CAN TRAP ADULTS OR CHILDREN UNDER WATER IF THEY COME IN CLOSE PROXIMITY TO A POOL OR SPA DRAIN OR A LOOSE OR BROKEN DRAIN COVER OR GRATE.

READ AND KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE

Pentair Water Pool and Spa®

PUMP WARNING AND SAFETY INSTRUCTIONS

For Pool and Spa Pumps (Non SVRS Pumps) (Pentair Water Pool and Spa®, Sta-Rite®, and Pentair Pool Products®)

THE USE OF UNAPPROVED COVERS OR ALLOWING USE OF THE POOL OR SPA WHEN COVERS ARE MISSING, CRACKED OR BROKEN CAN RESULT IN BODY OR LIMB ENTRAPMENT, HAIR ENTANGLEMENT, BODY ENTRAPMENT, EVISCERATION AND/OR DEATH.

The suction at a pool or spa drain or outlet can cause:

Limb Entrapment: When a limb is sucked or inserted into an opening resulting in a mechanical bind or swelling. This hazard is present when a drain cover is missing, broken, loose, cracked or not properly secured.

Hair Entanglement: When the hair tangles or knots in the drain cover, trapping the swimmer underwater. This hazard is present when the flow rating of the cover is too small for the pump or pumps.

Body Entrapment: When a portion of the body is held against the drain cover trapping the swimmer underwater. This hazard is present when the drain cover is missing, broken or the cover flow rating is not high enough for the pump or pumps.

Evisceration/Disembowelment: When a person sits on an open pool (particularly a child wading pool) or spa outlet and suction is applied directly to the intestines, causing severe intestinal damage. This hazard is present when the drain cover is missing, loose, cracked, or not properly secured.

Mechanical Entrapment: When jewelry, swimsuit, hair decorations, finger, toe or knuckle is caught in an opening of an outlet or drain cover. This hazard is present when the drain cover is missing, broken, loose, cracked, or not properly secured.

NOTE: ALL SUCTION PLUMBING MUST BE INSTALLED IN ACCORDANCE WITH THE LATEST NATIONAL AND LOCAL CODES FOR SWIMMING POOLS, SPAS AND HOT TUBS, INCLUDING NSPI STANDARDS AND CPSC GUIDELINES.

WARNING

TO MINIMIZE THE RISK OF INJURY DUE TO SUCTION ENTRAPMENT HAZARD:

- Pools and spas should utilize a minimum of two drains per pump.
- A properly installed and secured ANSI/ASME A112.19.8 approved anti-entrapment suction cover must be used for each drain.
- Each suction cover must be installed at least three (3') feet apart, as measured from the nearest point to nearest point.
- Regularly inspect all covers for cracks, damage and advanced weathering.
- If a cover becomes loose, cracked, damaged, broken or is missing, close the pool or spa immediately, shut off the pump, post a notice and keep the pool or spa closed until an appropriate certified cover is properly installed.
- Replace drain covers as necessary. Drain covers deteriorate over time due to exposure to sunlight, pool chemicals and weather.
- Avoid getting hair, limbs or body in close proximity to any suction cover, pool drain or outlet.
- Disable suction outlets or reconfigure into return inlets.

WARNING

A clearly labeled emergency shut-off switch for the pool pump and spa jet pump must be in an easily accessible, obvious place near the pool or spa. Make sure bathers know where it is and how to use it in case of emergency.

Pentair Water Pool and Spa®

PUMP WARNING AND SAFETY INSTRUCTIONS

For Pool and Spa Pumps (Non SVRS Pumps)

(Pentair Water Pool and Spa®, Sta-Rite®, and Pentair Pool Products®)

The Virginia Graeme Baker (VGB) Pool and Spa Safety Act creates new requirements for owners and operators of commercial swimming pools and spas.

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

- (A) A multiple main drain system without isolation capability with suction outlet covers that meet ASME/ANSI A112.19.8a 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.

Commercial pools and spas constructed prior to December 19, 2008, with a single submerged suction outlet shall use a suction outlet cover that meets ASME/ANSI A112.19.8a and either:

- (A) A SVRS meeting ASME/ANSI A112.19.17 and/or ASTM F2387, or
- (B) A properly designed and tested suction-limiting vent system, or
- (C) An automatic pump shut-off system, or
- (D) Disabled submerged outlets, or
- (E) Suction outlets shall be reconfigured into return inlets.



HAZARDOUS PRESSURE: STAND CLEAR OF PUMP AND FILTER DURING START-UP

Pool and spa circulation systems operate under high pressure. When any part of the circulating system (i.e. locking ring, pump, filter, valves, etc.) is serviced, air can enter the system and become pressurized. Pressurized air can cause the pump housing cover filter lid and valves to violently separate which can result in severe personal injury or death. Filter tank lid and strainer cover must be properly secured to prevent violent separation. Stand clear of all circulation system equipment when turning on or starting up pump.

Before servicing pool and spa equipment, make note of the filter pressure. Be sure that all controls are set to ensure the system cannot inadvertently start during service. Turn off all power to the pump.

IMPORTANT: Place filter manual air relief valve in the open position and wait for all pressure in the system to be relieved.

Before starting the system, fully open the manual air relief valve and place all system valves in the “open” position to allow water to flow freely from the pool and spa back to the pool or spa. Stand clear of all pool and spa equipment and start the pump.

IMPORTANT: Do not close filter manual air relief valve until all pressure has been discharged from the valve and a steady stream of water appears. Observe filter pressure gauge and be sure it is not higher than the pre-service condition.

Pentair Water Pool and Spa®
PUMP WARNING AND SAFETY INSTRUCTIONS
For Pool and Spa Pumps (Non SVRS Pumps)
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General Installation Information

- All work must be performed by a qualified pool professional, and must conform to all national, state, and local codes.
- Install to provide drainage of compartment for electrical components.
- These instructions contain information for a variety of pump models and therefore some instructions may not apply to a specific model. All models are intended for use in swimming pool applications. The pump will function correctly only if it is properly sized to the specific application and properly installed.

⚠ WARNING Pumps improperly sized or installed or used in applications other than for which the pump was intended can result in severe personal injury or death. These risks may include but not be limited to electric shock, fire, flooding, suction entrapment or severe injury or property damage caused by a structural failure of the pump or other system component.

⚠ WARNING The pump can produce high levels of suction within the suction side of the plumbing system. These high levels of suction can pose a risk if a person comes within the close proximity of the suction openings. A person can be seriously injured by this high level of vacuum or may become trapped and drown. It is absolutely critical that the suction plumbing be installed in accordance with the latest national and local codes for swimming pools.

⚠ CAUTION Electrical controls such as on/off switches, timers, and control systems, etc. should be properly installed to allow the operation (start-up, shut-down, or servicing) of any pump or filter without requiring the user to place any portion of his/her body over or near the pump strainer lid or filter lid. Such installation should allow the user to stand clear of the filter and pump during system start-up, shut down or servicing of the system.

Two Speed Pump Controls Notice California (Title 20 Compliance)

Please read the following important Safety Instructions. When using two-speed pumps manufactured on or after January 1, 2008, the pump's default circulation speed **MUST** be set to the **LOWEST SPEED**, with a high speed override capability being for a temporary period not to exceed one normal cycle, or two hours, whichever is less.

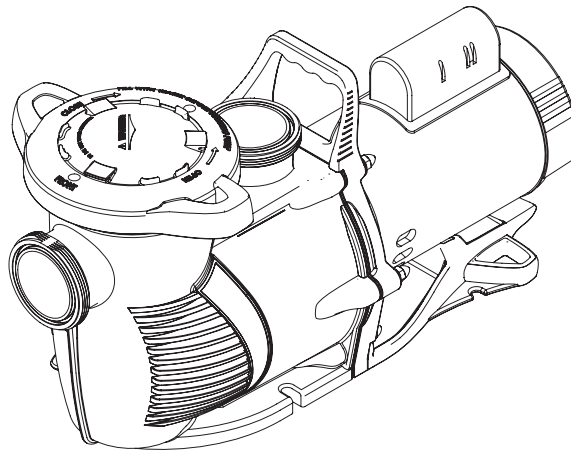
SAVE THESE INSTRUCTIONS

Introduction

Pump Overview

The WhisperFloXF™ and Max-E-ProXF™ pumps are the perfect choice for all types of pools and are specifically designed to be the best choice for a variety of inground pools. A heavy duty 56 square flange motor, and highly engineered hydraulics make this rugged and tested design perfect for any pool, spa, water feature, or fountain.

All pumps from Pentair Water Pool and Spa® incorporate innovative hydraulic engineering to move water more efficiently for lower operational costs. WhisperFloXF™ and Max-E-ProXF™ pumps are designed to deliver years of reliable service.



WhisperFloXF™ Pump (Almond)
Max-E-ProXF™ Pump (Black)

Features

- Extremely quiet operation
- See-through lid permits easy inspection of strainer basket
- Self-priming for quick, easy start-up
- Unionized fittings (2.5" and 3") for simple replacement
- Cam and Ramp™ lid for easy cleaning and maintenance
- Heavy-duty, high service factor 56 square flange motor for long life
- "Diamond Seal" O-rings for superior seal performance
- Integral volute and pot reduce hydraulic noise
- Every WhisperFloXF™ and Max-E-ProXF™ pump is performance and pressure tested prior to shipment to ensure superior quality.
- Drop-in replacement for all WhisperFlo models. Simple replacement for Challenger® pumps (Riser base required for Challenger replacements P/N 400012 available separately)
- UL/CUL/NSF

Installation

Only a qualified service person should install the WhisperFloXF™ and Max-E-ProXF™ pumps. Refer to “*Pump Warning And Safety Instructions*” on pages ii to vi for additional installation and safety information.

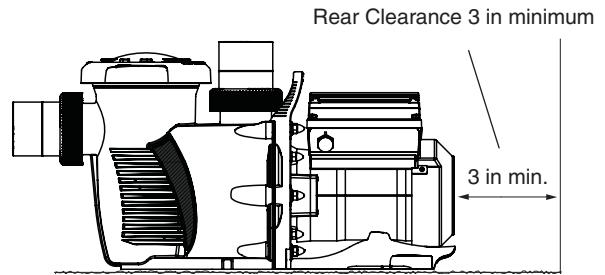
Location

Be sure the pump location meets the following requirements:

- Pump inlet as close as possible to water level.
- Short, direct suction piping returns (reduces friction loss).
- Install pump in a sheltered, well ventilated area to protect from excess moisture (i.e., rain, sprinklers, etc.) and flooding.
- Install and secure pump on level concrete slab or firm surface (reduce vibration noise).
- Pump location should allow access for servicing and maintenance.

Pump Location Installation Guide:	
From Heater Outlet	Min. 3 feet (0.9 meters)
Above water level	No more than 8 feet (2.4 m)
Below water level	No more than 3 feet (.91 m)
From inside wall of pool	Min. of 5 feet (1.52 m)*
Rear clearance of pump	At least 3 inches (76.2 mm)
Hot tubs and Spas	Not under outer enclosure

*Minimum of 9.8 feet (3 m) for Canadian installations.



Piping

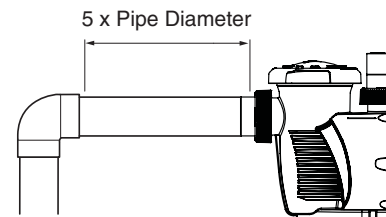
Use larger pipe sizes for improved pool plumbing. Pipe diameter should be the same or larger as the return line diameter.

- Install piping as close to the water level as possible.
- Run straight, horizontal piping for the suction side of the pump. The length of the piping should be equal to five (5) pipe diameters.

For example, if pool is plumbed with 3 in. diameter PVC pipe, than a straight section of pipe 15 in. long should be used for the suction side of the pump.

Fittings

- Install fittings (valves, elbows, tees, etc.) in the suction line no closer than five (5) times the pipe diameter to the front of the pump (eg. 3” pipe = 15 in).
- Do not install 90° elbows directly into pump inlet.



Valves

- Install gate valves on suction and discharge pipes for maintenance of flooded suction systems- install no closer than five (5) times the suction pipe diameter.
- Use a check valve in the discharge line when using this pump for waterfalls, solar heating systems, or in any application where there is significant height to the plumbing after the pump.
- Be sure to install check valves when plumbing in parallel with another pump. This helps prevent reverse rotation of the impeller and motor.

Electrical

- Install all equipment in accordance with the National Electrical Code and all applicable local codes and ordinances.
- A means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- If the supply cord is damaged, it must be replaced to avoid a hazard. The supply cord can be purchased separately from the manufacturer, its service agent or a qualified electrician.

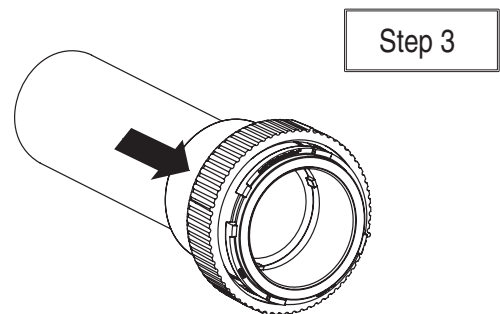
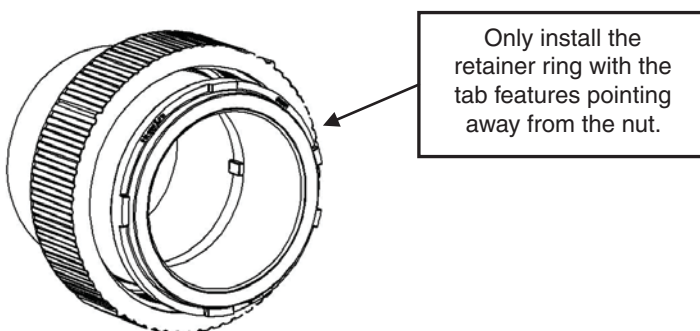
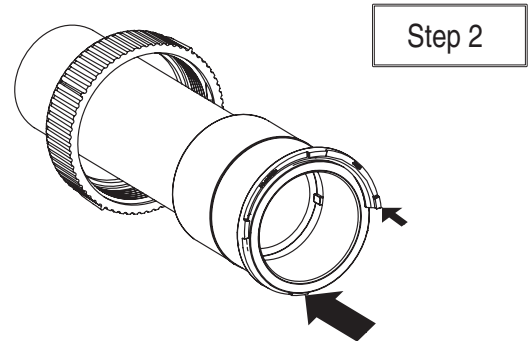
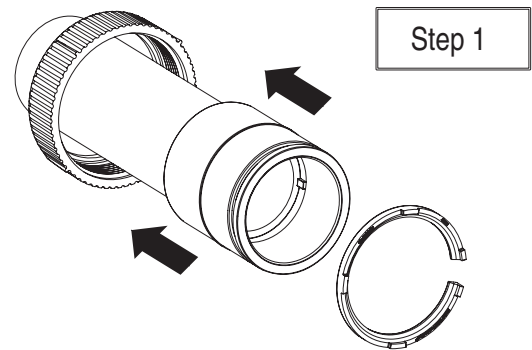
Union Adapter Installation

How to install the locking union onto the pump:

1. Glue the PVC union adapter fitting to the PVC pipe. The adapter accepts 2.5" PVC pipe internally or a 3" PVC coupling externally.

Note: Be sure that the groove for the retainer ring is on the end opposite your glue joint.

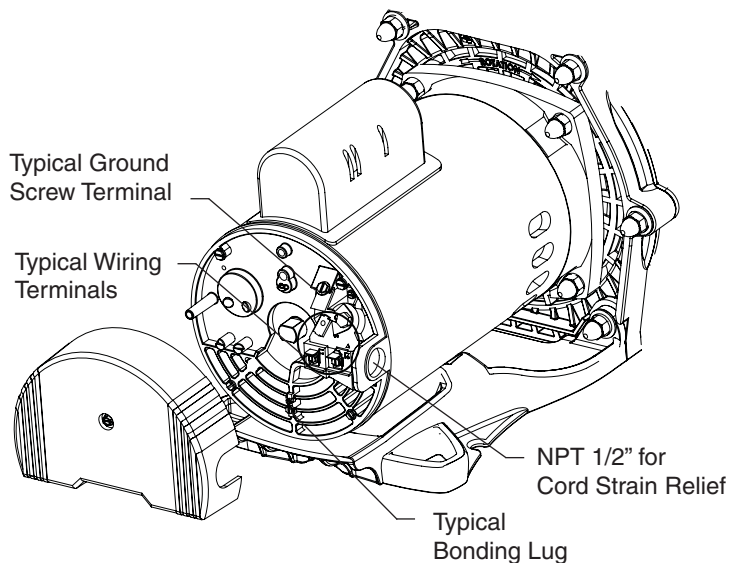
2. Slip the nut onto the fitting.
3. Place the flat side of the retainer ring against the adapter on the grooved end.
4. Gently flex the locking clip union nut retainer ring into its place in the groove on the adapter.
5. Start snapping it in at one end of the ring and work your way around.
The tab features should point out away from the nut and the glue joint towards the sealing surface.
6. Slide the nut over the ring and attach it to the pump.



Electrical Wiring Installation

To connect the pump to an AC power source:

1. Be sure all electrical breakers and switches are turned off before wiring motor.
2. Be sure that the supply line voltage matches the motor voltage listed on the motor plate (example 230 VAC or 115 VAC). If they do not match, permanent motor damage may occur.
3. Use #12 AWG for wire runs up to 100 feet (30.5 meters) and #10 AWG for lengths longer than 100 feet (30.5 meters). When in doubt use a heavier gauge (larger diameter) wire. Heavier gauge will allow the motor to run cooler and more efficiently.
4. Use strain relief and be sure all electrical connections are clean and tight.
5. Cut the wires to the appropriate length so they do not overlap or touch when connected.
6. Permanently ground the motor using the green ground wire, as shown in 3 below. Use the correct wire size and type specified by National Electrical Code. Make sure the ground wire is connected to an electrical service ground.
7. Bond the motor to the pool structure in accordance with the National Electrical Code. UL requires use of a solid copper bonding conductor not smaller than 8 AWG. Run a wire from the external bonding screw or lug to the pool bonding structure.



8. Connect the wire from the accessible wire connector on the motor to all metal parts of the swimming pool, spa, or hot tub structure and to all electrical equipment, metal conduit, and metal piping within 5 feet of the inside walls of the swimming pool, spa, or hot tub. For Canada, a 6 AWG or larger solid copper bonding conductor is required.
9. The pump should be permanently connected to either a circuit breaker, 2-pole timer or 2-pole relay. If AC power is supplied by a GFCI circuit breaker, use a dedicated circuit breaker that has no other electrical loads.

Note: When the pump is started and stopped by removing power with a relay or timer, a two-pole device should be used to apply and remove power to both POWER LINE TERMINALS.

Maintenance

Pump Strainer Basket

The strainer basket ('Hair and Lint Pot' or 'Strainer Pot'), is located in front of the pump housing. The strainer basket must be kept clean and free of leaves and debris. Inspect basket through the 'See Through Lid' on the top of the housing.

Be sure to visually inspect the strainer basket at least once a week. Dirty strainer baskets reduce filter and heater efficiency and put abnormal stress on the pump motor.

⚠ WARNING	DO NOT open the strainer pot if pump fails to prime or if pump has been operating without water in the strainer pot. Pumps operated in these circumstances may experience a build up of vapor pressure and may contain scalding hot water. Opening the pump may cause serious personal injury. In order to avoid the possibility of personal injury, make sure the suction and discharge valves are open and strainer pot temperature is cool to touch, then open with extreme caution.
⚠ CAUTION	To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.

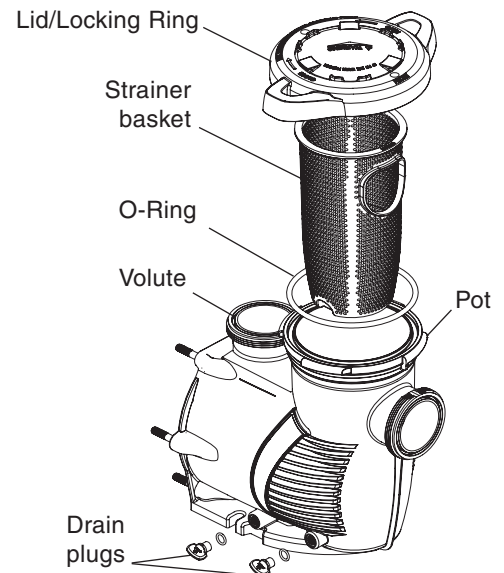
Cleaning the Pump Strainer Basket

1. Turn off the pump at the circuit breaker.
2. Relieve pressure in the system.
3. Turn the lid and locking ring counter-clockwise and remove from the pump.
4. Remove debris and rinse out the basket. Replace the basket if it is cracked.
5. Put the basket back into the housing. Be sure to align the notch in the bottom of the basket with the rib in the bottom of the volute.
6. Fill the pump pot and volute up to the inlet port with water.
7. Clean the lid and locking ring, O-ring, and sealing surface of the pump pot.

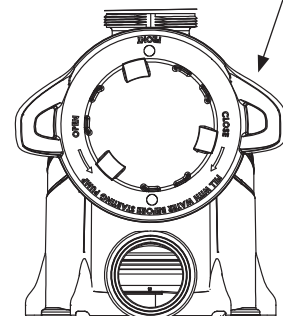
Note: It is important to keep the lid O-ring clean and well lubricated.

8. Reinstall the lid by placing the lid and locking ring on the pot. Be sure the lid O-ring is properly placed.

Seat the lid and locking ring on the pump then turn clockwise until the locking ring handles are horizontal.



Close Lid/Locking Ring handles in horizontal position



Cleaning the Pump Strainer Basket (Continued)

WARNING



THIS SYSTEM OPERATES UNDER HIGH PRESSURE.

When any part of the circulating system (e.g., Lock Ring, Pump, Filter, Valves, etc.) is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid to blow off which can result in serious injury, death, or property damage. To avoid this potential hazard, follow these instructions.

9. Turn the power “ON” at the house circuit breaker. If applicable, reset the pool time clock to the correct time.
10. Open the manual air relief valve on the top of the filter.
11. Stand clear of the filter. Start the pump.
12. Bleed air from the filter until a steady stream of water comes out of the filter air relief valve. Close the manual air relief valve.

Winterizing

- In mild climate areas, when temporary freezing conditions may occur, run your filtering equipment all night to prevent freezing.
- You are responsible for determining when freezing conditions may occur. If freezing conditions are expected, take the following steps to reduce the risk of freeze damage. Freeze damage is not covered under warranty.

To prevent freeze damage follow the procedures listed below:

1. Shut off electrical power for the pump at the house circuit breaker.
2. Drain the water out of the pump housing by removing the two thumb-twist drain plugs from the housing. Store the plugs in the pump basket.
3. Cover the motor to protect it from severe rain, snow and ice.

Note: Do not wrap motor with plastic or other air tight materials during winter storage. The motor may be covered during a storm, winter storage, etc., but never when operating or expecting operation.

Motor Care

1. Protect from heat

- Shade the motor from the sun.
- Any enclosure must be well ventilated to prevent overheating.
- Provide ample cross ventilation.

2. Protect against dirt

- Protect from any foreign matter or splashing water.
- Do not store (or spill) pool chemicals on or near the motor.
- Avoid sweeping or stirring up dust near the motor while it is operating.
- If a motor has been damaged by dirt it voids the motor warranty.

3. Protect against moisture

- Protect from splashing pool water and lawn sprinklers.
- Protect from the weather.
- If a motor has become wet - let it dry before operating. Do not allow the pump to operate if it has been flooded.
- If a motor has been damaged by water it voids the motor warranty.

Servicing

Pump Disassembly

⚠ WARNING



Always disconnect power to the pool pump at the circuit breaker and disconnect the communication cable 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.

Read all servicing instructions before working on the pump.

⚠ WARNING

DO NOT open the strainer pot if pump fails to prime or if pump has been operating without water in the strainer pot. Pumps operated in these circumstances may experience a build up of vapor pressure and may contain scalding hot water. Opening the pump may cause serious personal injury. In order to avoid the possibility of personal injury, make sure the suction and discharge valves are open and strainer pot temperature is cool to touch, then open with extreme caution.

⚠ CAUTION

Be sure not to scratch or mar the polished shaft seal faces; seal will leak if faces are damaged.

Tools required

- Adjustable wrench
- Flat-blade screwdriver
- 3/4 inch socket wrench
- 9/16 inch open end wrench
- 9/64 inch HEX key wrench

To remove and repair the motor subassembly, follow the steps below:

1. Turn off the pump circuit breaker at the main panel.
2. Drain the pump by removing the drain plugs.
3. Using a 9/16" open end wrench, remove the six (6) nuts that secure the main pump body (strainer pot/volute) to the rear subassembly.
4. Gently pull the two pump halves apart, removing the rear subassembly.
5. Remove the three hex head screws holding the diffuser in position with a 9/64 inch hex key wrench
6. Using a 3/4" socket wrench, hold the impeller securely in place and remove the impeller lock screw.

Note: The impeller screw is a left-handed thread and loosens in a clockwise direction.

7. Remove the screw on the motor rear plastic cover and remove the rear plastic cover.
8. Using an adjustable wrench to hold the motor shaft, twist the impeller counter-clockwise to remove it from the shaft.
9. Remove the four (4) nuts from the seal plate to the motor using a 9/16 inch wrench.
10. Place the seal plate face down on a flat surface and press out the ceramic part of the mechanical seal.
11. Clean the seal plate, seal housing, and the motor shaft.

Pump Reassembly/Seal Replacement

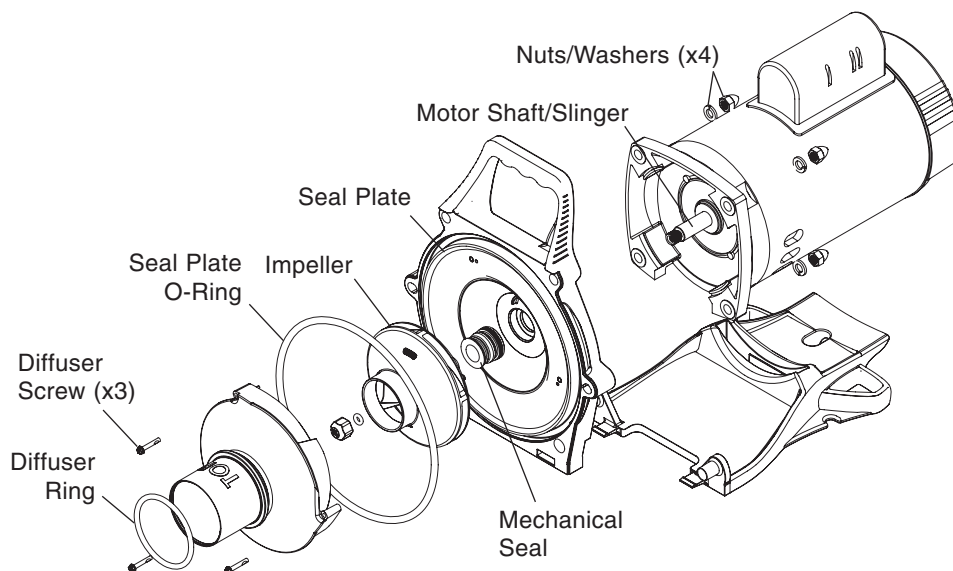


DO NOT run the pump dry. If the pump is run dry, the mechanical seal will be damaged and the pump will start leaking. If this occurs, the damaged seal must be replaced. **ALWAYS** maintain proper water level in your pool (half way up skimmer opening). If the water level falls below the skimmer opening, the pump will draw air through the skimmer, losing the prime and causing the pump to run dry, resulting in a damaged seal.

1. Install the **spring end** of the mechanical seal onto the impeller shaft. Be sure **black/carbon** face is facing outward.
2. Remount the seal plate to the motor using the four (4) lock washers and four (4) nuts.
3. With the white ceramic face facing outward, press the seal into the seal plate with your thumbs and wipe off the ceramic with a clean cloth. Do not lubricate seal faces.
4. Hand tighten impeller onto the motor shaft.
5. Screw in the impeller reverse lock screw (counter-clockwise to tighten).
6. Install the rear plastic cover on the back of the motor.
7. Remount the diffuser onto the seal plate. Make sure the plastic pins and holding screw inserts are aligned (see "TOP" indicator).
8. Assemble the motor subassembly to the housing. Do not tighten the nuts and washers until all four (4) motor bolts are in place. Using a torque wrench, install and tighten the four nuts to a torque value of 100 in-lbs (maximum). Do not overtighten the nuts.
9. Fill the pump with water.
10. Reinstall the pump lid and locking ring; see Maintenance on page 5.
11. Reprime the system.

The Mechanical Seal

The mechanical seal consists primarily of two parts, a rotating member and a ceramic seal. The pump requires little or no service other than reasonable care. However, a mechanical seal may occasionally become damaged and must be replaced.



Restart Instructions

If the WhisperFloXF or Max-E-ProXF pump is installed below the water level of the pool, close return and suction lines prior to opening hair and lint pot on pump. Be sure to reopen valves prior to operating.

Priming the Pump

⚠ CAUTION

DO NOT run the pump dry. If the pump is run dry, the mechanical seal will be damaged and the pump will start leaking. If this occurs, the damaged seal must be replaced. ALWAYS maintain proper water level in your pool (half way up skimmer opening). If the water level falls below the skimmer opening, the pump will draw air through the skimmer, losing the prime and causing the pump to run dry, resulting in a damaged seal.


Note: Running the pump dry could cause a loss of pressure, resulting in damage to the pump case, impeller and seal.

The pump strainer pot must be filled with water before the pump is initially started. Follow the steps below to prime the pump:

1. Remove the pump lid and locking ring.
2. Fill the pump strainer pot with water.
3. Reassemble the pump lid and locking ring onto the strainer pot. The pump is now ready to prime.
4. Open the air relief valve on the filter, and stand clear of the filter.
5. Turn on the pump.
6. When water comes out of the filter air relief valve, close the valve. The system should now be free of air and recirculating water to and from the pool.
7. This pump will prime within 20 minutes. Do not allow your pump to run longer than this time without developing full flow. If the pump does not prime, see the “Troubleshooting” section on page 10.
8. Two speed pumps should run on high speed for priming.

Troubleshooting

Use the following troubleshooting information to resolve possible WhisperFloXF™ and Max-E-ProXF™ pump problems.

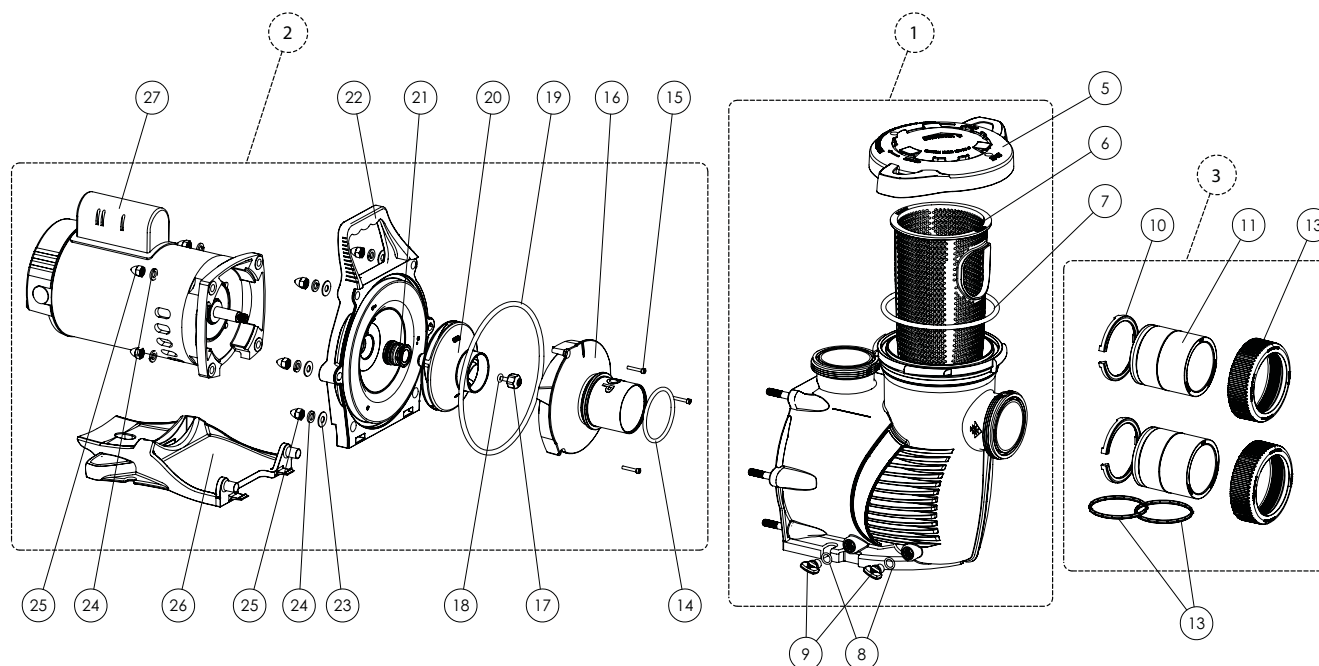
	<p>⚠ WARNING RISK OF ELECTRICAL SHOCK OR ELECTROCUTION.</p> <p>Improperly installation will create an electrical hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and may also cause damage to property.</p> <ol style="list-style-type: none"> 1. If you are not familiar with your pool filtering system and/or heater: <ol style="list-style-type: none"> a. Do NOT attempt to adjust or service without consulting your dealer, or a qualified pool technician. b. Read the entire Installation & User's Guide before attempting to use, service or adjust the pool filtering system or heater. 2. Switch OFF power to the pump before attempting to service or repair.
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Problems and Corrective Actions

Problem	Corrective Action
Pump will not prime	<p>Check suction piping and valve on any suction gate valves.</p> <p>Secure lid on pump strainer pot and be sure lid gasket is in place.</p> <p>Check water level to make sure skimmer is not drawing air.</p> <p>Be sure suction lines, pump strainer, and pump volute are full of water.</p> <p>Be sure valve on suction line is working and open, (some systems do not have valves).</p> <p>Check water level to be sure water is available through skimmer.</p>
Pump gasket defective	Replace gasket.
Reduced capacity and/or head Air pockets or leaks in suction line Pump will not prime — too much air	<p>Check suction piping and valve on any valve suction gate valves.</p> <p>Secure lid on pump strainer pot and make sure lid gasket is in place.</p> <p>Check water level to make sure skimmer is not drawing air.</p> <p>Clean pump strainer pot.</p> <p>Check to see if impeller or diffuser are clogged.</p>
Clogged Impeller	<p>Switch OFF electrical power at the house circuit breakers to the pump.</p> <p>Remove the nuts that secure the volute to the seal plate.</p> <p>Slide the motor and seal plate away from the volute.</p> <p>Clean debris from impeller.</p> <p>If debris cannot be removed, complete the following steps.</p> <ol style="list-style-type: none"> (1) Remove impeller reverse screw and O-ring. (2) Remove, clean and reinstall impeller. (3) Reinstall anti-spin bolt. <p>Reinstall diffuser and O-Ring.</p> <p>Reinstall motor and seal plate into volute.</p> <p>Reinstall hardware around seal plate and volute and tighten securely.</p> <p>Clean suction trap.</p>

Replacement Parts

WhisperFloXF™ and Max-E-ProXF™ Illustrated Parts List



Item No.	Description	WhisperFlo XF	Max-E-Pro XF
1	Wet End Assembly	400000	401000
2	Power End Assembly	See Power End Table	
3	Union Kit Without Tap	410020	410020
5	Lid/Locking Ring Assembly	400006	401006
6	XF Series Replacement Basket	400007z	400007z
7	Lid/Locking Ring O-Ring	35505-1440	35505-1440
8	Drain Plug O-Ring	192115	192115
9	Drain Plug	071131	357161
10	2.5" C-Clip Locking Ring	410001	410001
11	2.5" Union Adapter without Tap	410002	410002
12	2.5" Union Nut	411000	411000
13	2.5" Diamond Seal Kit - (Includes two)	410006z	410006z
14	Diffuser O-Ring	350336	350336
15	Diffuser Screw	353323	353323
16	Diffuser	See Hydraulic Parts Table	
17	Impeller Reverse Screw	37337-6080	37337-6080
18	Impeller Reverse Screw O-Ring	33455-1047	33455-1047
19	Seal Plate O-Ring	351446	351446
20	Impeller Assembly	See Hydraulic Parts Table	
21	Mechanical Seal Assembly	37400-0028s	37400-0028s
22	Seal Plate	400002	401002
22	Seal Plate Kit With Mech Seal	400031z	400032z
23	Flat Washer	072184	072184
24	Split Lock Washer	U43-12SS	U43-12SS
25	Acorn Nut	071413	071413
Not Shown	Hardware and Orings Kit	400030z	400030z
26	Motor Base	400004z	401004z
Not Shown	Riser Plate XF to Challenger	400012	400012
27	Motor	See Motor Table	

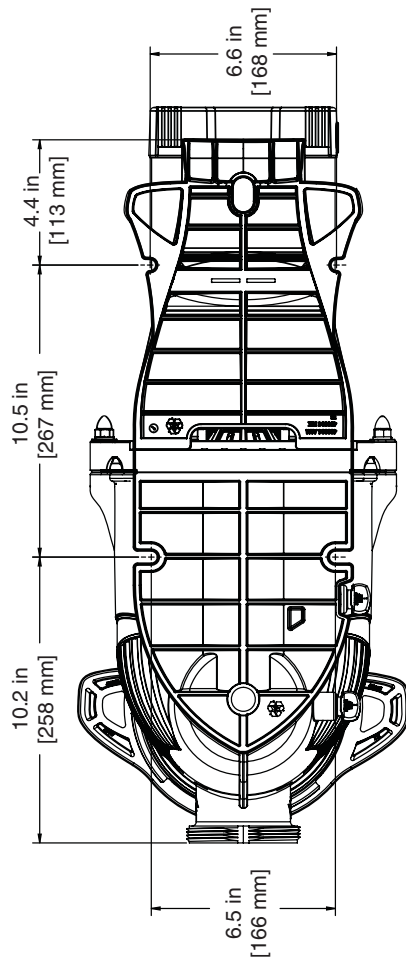
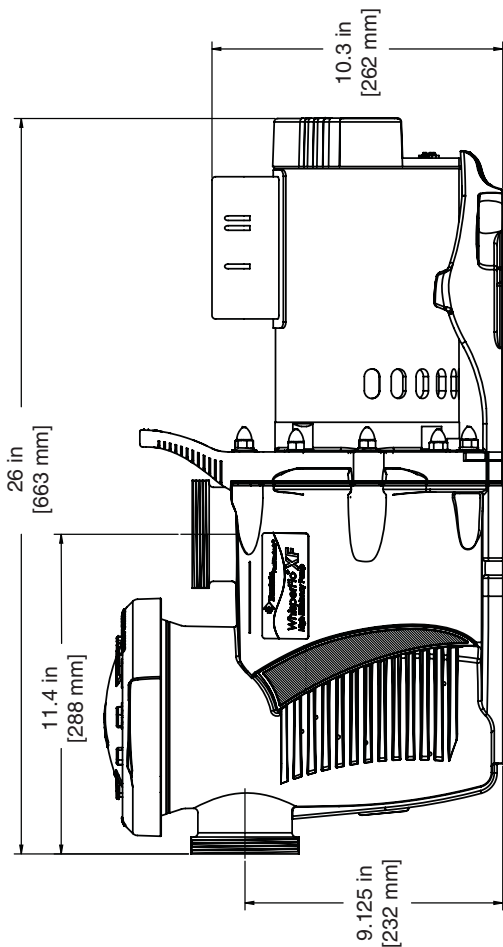
Motor Table

Model Name			Motor Part Number		Power End Part	
WhisperFloXF	Max-E-ProXF	Description	WhisperFloXF	Max-E-ProXF	WhisperFloXF	Max-E-ProXF
XF-8	XP-8	2hp Standard E 230V	355026s	355027s	400612z	401612z
XF-12	XP-12	3hp Standard E 230V	355033s	355034s	400613z	401613z
XFE-8	XPE-8	2hp High Eff 208-230V	355014s	355015s	400609z	401609z
XFE-12	XPE-12	3hp High Eff 208-230V	355016s	355017s	400610z	401610z
XFE-20	XPE-20	5hp High Eff 208-230V	353317s	353319s	400611z	401611z
XFDS-8	XPDS-8	2hp 2 Speed 230V	359526s	359527s	400607z	401607z
XFDS-12	XPDS-12	3hp 2 Speed 230V	353316s	353318s	400608z	401608z
XFDS-30	XPDS-30	2.5hp Uprated 2 Speed 230V	359526s	359527s	400607z	401607z
XF-30	XP-30	2.5hp Uprated Standard E 230V	355026s	355027s	400612z	401612z
XFE-30	XPE-30	2.5hp Uprated High E 208-230V	355014s	355015s	400609z	401609z
XFJ-8	XPJ-8	2hp 3 Phase High E 208-230-460V	356628s	355205s	400629z	401629z
XFJ-12	XPJ-12	3hp 3 Phase High E 208-230-460V	356629s	355398s	400630z	401630z
XFJ-20	XPJ-20	5hp 3 Phase High E 208-230-460V	353051s	355704s	400631z	401631z
XFK-8	XPK-8	2hp 3 Phase TEFC 208-230-460V	354809s	354810s	400617z	401617z
XFK-12	XPK-12	3hp 3 Phase TEFC 208-230-460V	354811s	354812s	400618z	401618z
XFK-20	XPK-20	5hp 3 Phase TEFC 208-230-460V	354813s	354814s	400619z	401619z

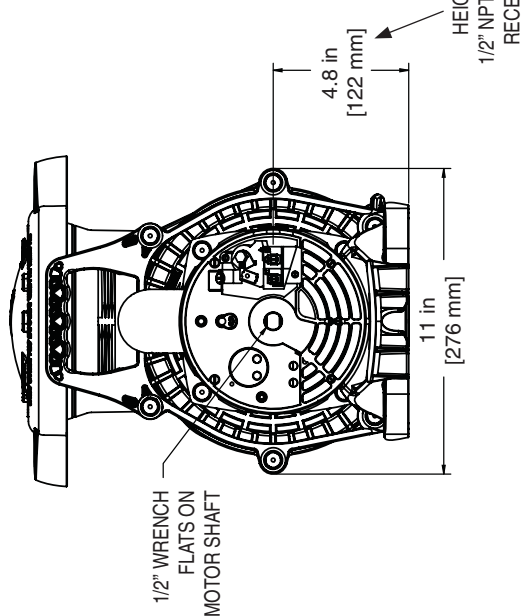
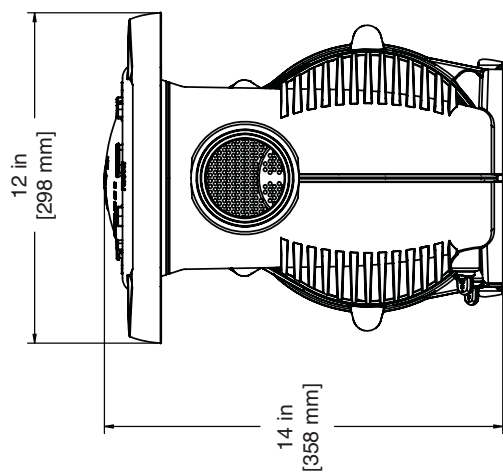
Hydraulic Parts Table

Model Name			Hydraulic Parts	
WhisperFloXF	Max-E-ProXF	Description	Diffuser	Impeller
XF-8	XP-8	2hp Standard E 230v	400010	400020
XF-12	XP-12	3hp Standard E 230v	400010	400015
XFE-8	XPE-8	2hp High Eff 208-230v	400010	400020
XFE-12	XPE-12	3hp High Eff 208-230v	400010	400015
XFE-20	XPE-20	5hp High Eff 208-230v	400011	400023
XFDS-8	XPDS-8	2hp 2 Speed 230V	400010	400020
XFDS-12	XPDS-12	3hp 2 Speed 230V	400010	400015
XFDS-30	XPDS-30	2.5hp Uprated 2 Speed 230V	400010	400020
XF-30	XP-30	2.5hp Uprated Standard E 230V	400010	400020
XFE-30	XPE-30	2.5hp Uprated High E 208-230v	400010	400020
XFJ-8	XPJ-8	2hp 3 Phase High E 208-230-460v	400010	400020
XFJ-12	XPJ-12	3hp 3 Phase High E 208-230-460v	400010	400015
XFJ-20	XPJ-20	5hp 3 Phase High E 208-230-460v	400011	400023
XFK-8	XPK-8	2hp 3 Phase TEFC 208-230-460V	400010	400020
XFK-12	XPK-12	3hp 3 Phase TEFC 208-230-460V	400010	400015
XFK-20	XPK-20	5hp 3 Phase TEFC 208-230-460V	400011	400023

Pump Dimensions

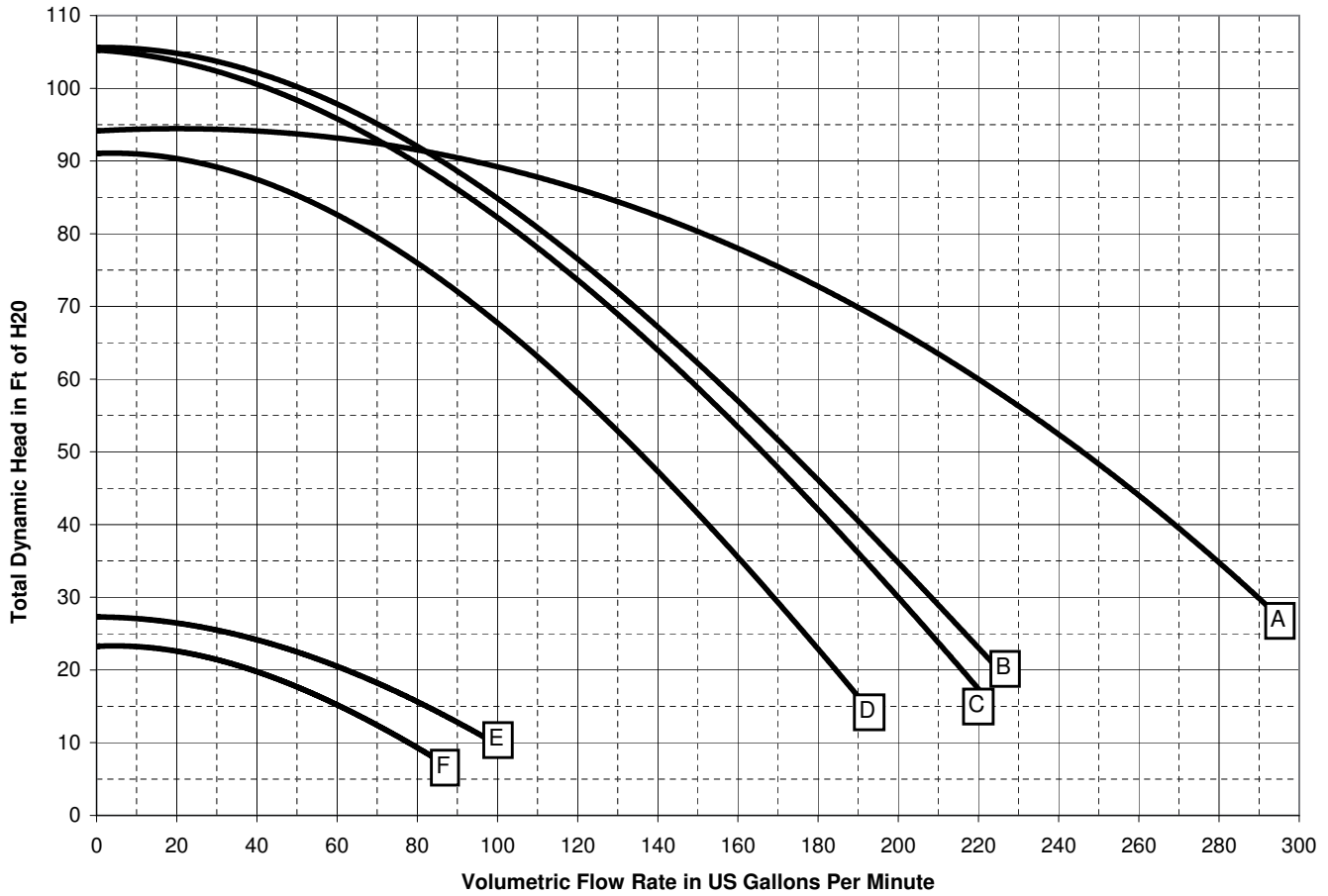


ANCHOR BOLT MOUNTING LOCATIONS



Pump Performance Curves

WhisperFlo/Max-E-ProXF Performance Curves



Pump Model		Performance Curve
WhisperFloXF	Max-E-ProXF	
XFE-20	XPE-20	A
XFJ-20	XPJ-20	A
XFK-20	XPK-20	A
XFE-12	XPE-12	B
XF-12	XP-12	C
XFDS-12	XPDS-12	B,E
XFJ-12	XPJ-12	B
XFK-12	XPK-12	B
XFE-8	XPE-8	D
XF-8	XP-8	D
XFDS-8	XPDS-8	D,F
XFE-30	XPE-30	D
XF-30	XP-30	D
XFDS-30	XPDS-30	D,F
XFJ-8	XPJ-8	D
XFK-8	XPK-8	D

NOTES

SAVE THESE INSTRUCTIONS



LIT. PKG. P/N 352033



P/N 352036 Rev. D 10/27/11