WhisperFlo[®] Pump Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS READ AND FOLLOW ALL INSTRUCTIONS SAVE THESE INSTRUCTIONS

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AWARNING

Before installing this product, read and follow all warning notices and instructions accompanying this pump. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.

Important Notice



Attention Installer.

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/operator of this equipment.

WARNING



RISK OF ELECTRICAL SHOCK OR ELECTROCUTION

This pool pump must be installed by a licensed or certified electrician or a qualified pool installer in accordance with the 2008 National Electrical Code ("NEC") and/or all applicable local codes and ordinances. The specific section of NEC covering your pump may vary depending on your location. Some states, and/or municipalities may not have adopted the 2008 edition of the NEC. In this case your state or local code may only be applicable and/or an earlier edition of the NEC may apply. Please check your local and state codes and regulations before commencing any installation of this pump. Improper installation could create, among other things, an electrical hazard which may result in death or serious injury to pool users, installers, or others due to electrical shock, and/or property damage. Always disconnect power to the pool pump at the circuit breaker before servicing the pump. Failure to do so could result in death or serious injury to pool users, installers or others (due to electrical shock) and/or property damage.

Pentair Water Pool and Spa, Inc.

1620 Hawkins Ave., Sanford, NC 27330 • (800) 831-7133 • (919) 566-8000 10951 West Los Angeles Ave., Moorpark, CA 93021 • (800) 831-7133 • (805) 553-5000 Visit: www.pentairpool.com or www.staritepool.com



To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

This pump is for use with permanently installed 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 may be readily disassembled for storage and reassembled to its original integrity and has a maximum dimension of 18 feet (5.49m) and a maximum wall height of 42 inches (1.07m).

For hot tubs and spa pumps, do not install within an outer enclosure or beneath the skirt of a hot tub or spa unless so marked.

SECTION I. GENERAL INFORMATION

A. Wiring.

WARNING



This pool pump must be installed by a licensed or certified electrician or a qualified pool installer in accordance with the 2008 National Electrical Code ("NEC") and/or all applicable local codes and ordinances. The specific section of NEC covering your pump may vary depending on your location. Some states, and/or municipalities may not have adopted the 2008 edition of the NEC. In this case your state or local code may only be applicable and/or an earlier edition of the NEC may apply. Please check your local and state codes and regulations before commencing any installation of this pump. Improper installation could create, among other things, an electrical hazard which may result in death or serious injury to pool users, installers, or others due to electrical shock, and/or property damage. Always disconnect power to the pool pump at the circuit breaker before servicing the pump. Failure to do so could result in death or serious injury to pool users, installers or others (due to electrical shock) and/or property damage.

- 1. Make sure all electrical breakers and switches are turned off before wiring motor.
- 2. Make sure that the wiring voltage matches the motor voltage (230v or 115v). If they do not match the motor will burn up.
- 3. Choose a wire size from the Chart 1. When in doubt use a heavier gauge (larger diameter) wire. Heavier gauge will allow the motor to run cooler and more efficient.
- 4. Make sure all electrical connections are clean and tight.
- 5. Cut wires to the appropriate length so they don't overlap or touch when connected to the terminal board.
- 6. Permanently ground the motor using the green ground terminal located on the inside of the motor canopy or access plate, see Figure 1. Use the correct wire size and type specified by National Electrical Code. Make sure the ground wire is connected to an electrical service ground.

	SUPPLY WIRE SIZES (AWG)							
	(size and length by horsepower)							
hp	115 volts			230 volts				
	50 ft.	100 ft.	150 ft.	50 ft.	100 ft.	150 ft.		
1/3	14	14	12	14	14	14		
1/2	14	12	10	14	14	14		
3/4	12	12	10	14	14	14		
1	12	10	8	14	14	14		
1½	10	10	8	14	14	12		
2	10	8	8	14	12	12		
3	-	-	-	12	12	10		

Chart 1.

NOTE

When pump is mounted permanently within 5 ft. of the inside walls of a swimming pool, you must use a No. 8 AWG or larger conductor to connect to bonding conductor lug.

- 7. Bond the motor to the pool structure in accordance with the National Electrical Code. Use a solid No. 8 AWG or larger copper conductor. Run a wire from the external bonding to the pool bonding structure, see Figure 1.
- 8. Connect the pump permanently to a circuit. Make sure no other lights or appliances are on the same circuit.
- B. The Pump Strainer Basket.

This unit, sometimes referred to as the 'Hair and Lint Pot', is the unit in front of the volute. Inside the chamber is the basket which must be kept clean of leaves and debris at all times. View basket through the 'See Through Lid' to inspect for leaves and debris.

Regardless of the length of time between filter cleaning, it is most important to visually inspect the hair and lint pot basket at least once a week. A dirty basket will reduce the efficiency of the filter and heater and also put an abnormal stress on the pump motor which would result in a costly repair bill.

SECTIONII. MAINTENANCE

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.

To prevent damage to the pump and filter and for proper operation of the system, clean pump strainer and skimmer baskets regularly.

A. Pump Strainer Basket Cleaning Procedures.

- 1. Turn off motor.
- 2. Relieve pressure in the system by allowing the water to cool.
- 3. Gently tap the clamp in a counter-clockwise direction to remove the clamp and lid.
- 4. Put the debris from the basket into the trash and rinse out the basket. If the basket is cracked, it should be replaced.
- 5. Replace the basket and fill the pump pot and volute up to the inlet port with water.
- 6. Clean the cover, cover O-ring, and sealing surface of the pump pot. Grease the O-ring with a silicone based lubricant.
- 7. Reinstall the lid by placing the clamp and the lid on the pot; see Figure 2.
 - a. Make sure the lid O-ring is properly placed. Seat the clamp and lid then turn clockwise until the handles are perpendicular to the inlet/outlet ports; see Figure 3.
- 8. Turn the power "ON" at the house circuit breaker. Reset the pool time clock to the correct time.





AWARNING



THIS FILTER 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 SEVERE INJURY, DEATH, OR PROPERTY DAMAGE. TO AVOID THIS POTENTIAL HAZARD, FOLLOW THESE INSTRUCTIONS.

- 9. Open the High Flow manual air relief valve on top of the filter.
- 10. Stand clear of the filter. Start the pump.
- 11. Bleed air from the filter until a steady stream of water comes out. Close the High Flow manual air relief valve.
- B. Winterizing.
 - 1. If the air temperature drops below 35° F., the water in the pump can freeze and cause damage. Freeze damage is not warrantable.
 - 2. To prevent freeze damage follow the procedures listed below:
 - a. Shut off electrical power for the pump at the house circuit breaker.
 - b. Drain the water out of the pump case by removing the two thumbtwist drain plugs from the case. Store the plugs in the pump basket.
 - $c. \quad Cover the motor to protect it from severe rain, snow and ice.$
 - $d. \quad Do not wrap the motor in plastic. It will cause condensation and rust on the inside of the motor.$
- C. Care of Electric Motor.
 - 1. Protect from heat.
 - a. Shade the motor from the sun.
 - b. Any enclosure must be well ventilated to prevent overheating.
 - c. Provide ample cross ventilation.
 - 2. Protect against dirt.
 - a. Protect from any foreign matter or splashing water.
 - b. Do not store (or spill) pool chemicals near the motor.
 - c. Avoid sweeping or stirring up dust near the motor while it is operating.
 - d. If a motor has been damaged by dirt it voids the motor warranty.
 - 3. Protect against moisture.
 - a. Protect from splashing pool water.
 - b. Protect from the weather.
 - c. Protect from lawn sprinklers.
 - d. If a motor has become wet let it dry before operating. Do not allow the pump to operate if it has been flooded.
 - e. If a motor has been damaged by water it voids the motor warranty.

NOTE

DO NOT wrap motor with plastic or other air tight materials. The motor may be covered during a storm, for winter storage, etc., but never when operating, or expecting operation.

NOTE

When replacing the motor, be certain that the motor support is correctly positioned to support the size of motor being installed.



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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.

A. Pump Disassembly.

1. All moving parts are located in the rear sub-assembly of this pump.

Tools required:

- a. 3/32 inch Allen head wrench.
- b. 1/2 inch open end wrench.
- c. 9/16 inch open end wrench.
- d. Flat blade screwdriver.
- 2. To remove and repair the motor sub-assembly perform the following procedures.
 - a. Turn off the pump circuit breaker at the main panel.
 - b. Drain the pump by removing the drain plugs.
 - c. Remove the 6 bolts that hold the main pump body (strainer pot/volute) to the rear sub-assembly.
 - d. GENTLY pull the two pump halves apart, removing the rear sub-assembly.
 - e. Use a 3/32 inch Allen head wrench to loosen the two holding screws located on the diffuser.
 - f. Hold the impeller securely in place and remove the impeller lock screw by using a #2 Phillips screwdriver. The screw is a left-handed thread and loosens in a clockwise direction.
 - g. Remove the shaft cap located at the back of the motor and hold the shaft secure with a $\frac{1}{2}$ inch open-end wrench.
 - h. To unscrew the impeller from the shaft, twist the impeller counterclock-wise.
 - i. Remove the four bolts from the seal plate to the motor, using a 9/16 inch wrench.
 - j. If replacing the mechanical seal set, see Section B. Pump Reassembly/Seal Replacement on the next page.

NOTE

It is important that the O-rings be kept clean and well lubricated. We recommend a silicone base lubricant for best results.

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

- 1. When installing the replacement shaft seal, use silicone sealant on the metal portion before pressing into the seal plate, being careful to keep off of the seal face. Ensure the seal is fully seated and allow 24 hours for sealant to cure. (Complete seal plate w/seal replacement kit available, P/N 350201/350101.)
- 2. Before installing the ceramic section of the seal into the impeller, be sure the impeller is clean. Use a light density soap and water to seal the seal. Press the seal into the impeller with your thumbs and wipe off the ceramic and carbon faces with a clean cloth.
- 3. Remount the seal plate to the motor by installing bolts in an X pattern and tightening to 70 in-lbs.
- 4. Clean the motor shaft thread and the impeller insert, then screw the impeller onto the motor shaft.
- 5. Screw in the impeller lock screw (counter-clockwise and tighten to 25 in-lbs. while holding the motor shaft with wrench).
- 6. Remount the diffuser onto the seal plate. Make sure the plastic pins and holding screw inserts are aligned.
- 7. Grease the diffuser O-ring and seal plate gasket.
- 8. Grease the bolt threads, assemble the motor sub-assembly to the strainer pot-pump body by using the two through bolts for proper alignment. Do not tighten the through bolts until all 6 bolts are in place and finger tightened. Torque in a cross pattern to 110 in-lbs.
- 9. Fill the pump with water.
- 10. Reinstall the pump lid and plastic clamp; see SECTION IV. RESTART INSTRUCTIONS.
- 11. Reprime the system.
- C. The Shaft Seal.
 - 1. The Shaft Seal consists primarily of two parts, a rotating member and a ceramic seal.
 - 2. The pump requires little or no service other than reasonable care, however, a Shaft Seal may occasionally become damaged and must be replaced.

The polished and lapped faces of the seal could be damaged if not handled with care.

In mild climate area, when temporary freezing conditions may occur, run your filtering equipment all night to prevent freezing.

SECTION IV. RESTART INSTRUCTIONS

A. If pump is installed below the water level of the pool, close return and suction lines prior to opening hair and lint pot on pump. Make sure to re-open valves prior to operating.



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

Continued operation in this manner could cause a loss of pressure, resulting in damage to the pump case, impeller and seal.

B. Priming the Pump.

- 1. The pump strainer pot must be filled with water before the pump is initially started. Follow these steps to prime the pump:
 - a. Remove the pump lid plastic clamp. Remove the pump lid.
 - b. Fill the pump strainer pot with water.
 - c. Reassemble the pump cover and plastic clamp onto the strainer pot. The pump is now ready to prime.
 - d. Open the air release valve on the filter, and stand clear of the filter.
 - e. Turn on the switch or time clock.
 - f. When water comes out of the air release valve, close the valve. The system should now be free of air and recirculating water to and from the pool.
- 2. For 2-speed pumps:
 - a. Pump should run on high-speed for priming.
 - b. The pump should not run longer than 8 minutes before priming is achieved.

SECTIONV. TROUBLESHOOTING

A. Failure to Pump.

- 1. Pump will not prime too much air. Remedy:
 - a. Check suction piping and valve glands on any suction gate valves.
 - b. Secure lid on pump strainer pot and make sure lid gasket is in place.
 - c. Check water level to make sure skimmer is not drawing air.
- 2. Pump will not prime--not enough water. Remedy:
 - a. Make sure suction lines, pump strainer, and pump volute are full of water.
 - b. Make sure valve on suction line is working and open, (some systems do not have valves).
 - c. Check water level to make sure water is available through skimmer.
- 3. Pump strainer clogged. Remedy:
 - a. Clean pump strainer pot.
- 4. Pump strainer gasket defective. Remedy:
 - a. Replace gasket.

B. Reduced Capacity and/or Head.

- 1. Air pockets or leaks in suction line. Remedy:
 - a. See item A.1. of this section, above.
- 2. Clogged impeller. Remedy:
 - a. Disassemble; per SECTION III. A. Pump Disassembly.
 - b. Clean debris from impeller. If debris cannot be removed, complete the following steps.
 - (1) Remove left hand thread anti-spin bolt and O-ring.
 - (2) Remove, clean and reinstall impeller.
 - c. Reassemble; per SECTION III. B. Pump Reassembly.
- 3. Pump strainer clogged. Remedy:
 - a. Clean suction trap.

SECTION VI. TECHNICAL DATA

A. Replacement parts.

Item No.	P/N	Description	ltem No.	P/N	Description
1	357199	Clamp, Cam & Ramp, almond			Motors
1	357150	Clamp, Cam & Ramp, black	27	071313S	3/4 HP, 60 Hz, WFE-2, 3 & 24, 1 spd., almond, 9 lbs. @
2	357151	Cover, clear, WFE pump	27	071314S	1 HP, 60 Hz, WFE-4 & 26, 1 spd., almond, 33 lbs. 🥹
2	357156	Cover, chemical resistant Cam & Ramp	27	071315S	1-1/2 HP, 60 Hz, WFE-6 & 28, 1 spd., almond, 39 lbs. @
3	350013	O-ring, WFE cover	27	071316S	2 HP, 60 Hz, WFE-8 & 30, 1 spd., almond, 40 lbs. 🥹
4	070387	Basket, AQ & WFE	27	071317S	3 HP, 60 Hz, WFE-12, 1 spd., almond, 40 lbs. @
5	070430	Bolt, 3/8, 16 x 1.25 hex hd. SS, 4 req.	27	356630S	1 HP, WFDS-4 & 26, 2 spd., 34 lbs. Ø
6	072184	Washer, 3/8 x 13/16 o.d. SS, 6 req.	27	071320S	1-1/2 HP, WFDS-6 & 28, 2 spd., 36 lbs. @
7	070431	Bolt, 3/8, 16 x 1.75 hex hd. SS, 2 req.	27	071321S	2 HP, WFDS-8 & 30, 2 spd., 45 lbs. Ø
8	071403	Nut, 3/8, 16 hex hd., 2 req.	27	075232S	1/2 HP, WF-2 & 23, 1 spd., almond, 39 lbs. 🛛
9	357100	Black Gasket for Seal Plate	27	075233S	3/4 HP, WF-3 & 24, 1 spd., almond, 26 lbs. 🛛
10	350015	Volute, WFE pump & pot, almond	27	075234S	1 HP, WF-4 & 26, 1 spd., almond, 28 lbs. 🛛
10	357157	Volute, WFE pump & pot, black 0	27	075235S	1-1/2 HP, WF-6 & 28, 1 spd., 39 lbs. 🛛
11	355227	O-ring parker No. 2-238, WFE pump	27	075236S	2 HP, WF-8 & 30, 1 spd., 32 lbs. 🛛
12	071660	Set screw, 4-40 x 1-1/8 WFE, 2 req.	27	075237S	3 HP, WF-12, 1 spd., almond, 40 lbs. 0
13	072928	Diffuser assembly, WFE-12, 3 HP only	27	355203S	WFK-4 motor, 3 ph, 1 spd., black, 28 lbs.
13	072927	Diffuser assembly, WFE-2–8, 1/2 HP – 2.5 HP	27	355204S	WFK-6 motor, 3 ph, 1 spd., black, 30 lbs.
14	071652	Set screw, 1/4, 20 x 1 lh. Phillips	27	355205S	WFK-8 motor, 3 ph, 1 spd., black, 37 lbs.
15	075713	Rubber washer, WFE pump	27	355398S	WFK-12 motor, 3 ph, 1 spd., black, 35 lbs.
16	071734S	Seal PA-7 w/ceramic seat, PS1000	27	356626S	1 HP, 3 ph, 1 spd., sq. flg., almond
16	071728	Seal A7 w/ceramic seat, PS201 🕏	27	356627S	1-1/2 HP, 3 ph, 1 spd., sq. flg., almond
17	070429	Bolt, 3/8, 16 x 7/8 SS hex hd., 4 req.	27	356628S	2 HP, 3 ph, 1 spd., sq. flg., almond
18	350201	Seal Plate Kit WFE, almond	27	356629S	3 HP, 3 ph, 1 spd., sq. flg., almond
10	000201	(Includes Mechanical Seal installed)	27	356630S	1 HP, 1.5A, 2 spd., 1 ph, sq. flg., almond
18	350101	Seal Plate Kit WFE, black			Not Shown
10		(Includes Mechanical Seal installed)		79129900	2-Speed Toggle Switch
19	070927	Foot, WFE-4 pump, almond			Seal Plate Kit: Seal plate (almond), Gasket (black), with
19	357159	Foot, black 0		350202	installed Seal (Includes items: 9, 16, & 18)
20	070929	Foot insert, WFE pump, almond		350203	Seal Plate Kit: Seal plate (black), Gasket (black), with
20	357160	Foot insert, WFE pump, black 0		000200	installed Seal (Includes items: 9, 16, & 18)
21	071657	Screw, 1/4, 20 x 1 in. hh. SS, 2 req.		357243	Pot Assembly, Almond NPT. (Includes items: 1-4, 10,
22	071406	Nut, 1/4, 20 hex. hd. SS, 2 req.			24 [qty. 2], 25 [qty. 2]) Pot Assembly, Black NPT. (Includes items: 1-4, 10,
23	072183	Nut, 1/4, 20 hex. hd. SS, 2 req.		357244	24 [qty. 2], 25 [qty. 2])
24	071131	Knob plug drain, 2 req. almond			
24	357161	Knob plug drain, 2 req., black 0			Power End Subassy. Includes Items: 12-18, 27-28
25	192115	O-Ring drain plug, 2 req.		075136	WFE-2
26	357149	Volute/Seal plate replacement kit, almond		075137	WFE-3, WFE-24 🛛
				075138	WFE-4, WFE-26 🛛
				075139	WFE-6, WFE-28 @
				075140	WFE-8, WFE-30 @
				075141	WFE-12 🛛
				075145	WFDS-3, WFDS-24 Ø
				075142	WFDS-4, WFDS-26 4

ITEM 28 — IMPELLER CHART

HP	PUMP MODEL	STD PART NO.	
1/2	WFE-2, WF-2, WF-23, WFK-2	073126	
3/4	WFE-3, WFE-24, WF-3, WF-24, WFK-3, WFDS-24	073127	
1	WFE-4, WFE-26, WF-4, WF-26, WFK-4, WFDS-4, WFDS-26	073128	
1-1/2	WFE-6, WFE-28, WF-6, WF-28, WFK-6, WFDS-6, WFDS-28	073129	
2	WFE-8, WFE-30, WF-8, WF-30, WFK-8, WFDS-8, WFDS-30	073130	
3	WFE-12, WF-12	073131	

075143 WFDS-6, WFDS-28 @ 075144 WFDS-8, WFDS-30 @ WF-2, WF-23 🛛 075251 WF-3, WF-24 🛛 075252 WF-4, WF-26 🕑 075253 WF-6,WF-28 **6** 075254 WF-8,WF-30 **O** 075255 WF-12 🛛 075256 Fluid Ends-All Parts, w/o Motor WFE-3 fluid end, 3/4 HP 075453 WFE-4 fluid end, 1 HP 075454 WFE-6 fluid end, 1-1/2 HP 075455 WFE-8 fluid end, 2 HP 075456 WFE-12 fluid end, 3 HP • CSA/CUL (only) for Canada. ❷ Energy efficient, single phase. • Standard efficiency, single phase. Two speed, single phase.



B. Pump Curves.



Single Speed Models

Dual Speed Models

SAVE THESE INSTRUCTIONS



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1620 Hawkins Ave., Sanford, NC 27330 • (800) 831-7133 • (919) 566-8000 10951 West Los Angeles Ave., Moorpark, CA 93021 • (800) 831-7133 • (805) 553-5000

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