EQ Series® Strainer Pot Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Table of Contents

⚠WARNING

Read and follow all warning notices and instructions accompanying this product before installing.
Failure to follow safety warnings and instructions can result in severe injury, death, or property damage.
Call (800) 831-7133 (US) 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.

c UL CE CE marking only applies to 50 Hz models: EQK300, EQK500, EQK750, and EQK1000.

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*Because **reliability** matters most®*

SECTION I. GENERAL INFORMATION

This product is intended for use in swimming pool applications only. It may be mounted directly to a Pentair Pool Products EQ Series pump. This will provide filtration of debris that could damage the pump and will allow the pump to be self-priming in installations up to 10 feet. The exact height at which a pump can prime depends on many installation and environmental factors.

The EQ Strainer Pot Assembly may also be mounted as a separate unit in the suction line of a circulation system.

⚠ CAUTION

If this product is to be attached to an EQ Series Pump you also must read and follow all warning notices and instructions in the pump manual.

SECTION II. MECHANICAL INSTALLATION AND PRESSURE TESTING

A. MECHANICAL INSTALLATION

1. Carefully remove the strainer pot assembly from its shipping package.
2. Determine the installation location of the strainer pot assembly. Ensure that adequate space and lighting is provided for routine maintenance.
3. It is good practice to install a valve on the suction line before this unit and on the return line after the pump so that both items can be isolated for routine maintenance.

⚠ CAUTION

The strainer pot assembly is shipped with the correct screws and O-Ring for attaching the strainer pot assembly to the Pentair Pool Products EQ Series pump. These screws and the O-Ring should be discarded and different hardware should be obtained if this unit is to be installed as a separate stand-alone strainer. See the diagram below for installing the strainer pot assembly as a separate stand-alone unit. (Please note that if stainless steel screws and nuts are obtained to make the pipe flange connection that galling may occur making proper tightening of the flange connection impossible. Galling of threads can be resolved by using stainless steel screws and brass nuts.)

It will be necessary to obtain the following to connect the strainer pot flange to a 15.24 cm (6") Pipe. Double the quantities shown below if the unit is to be installed as a stand-alone unit and two flange connections must be made. **Some local codes may require the use of ¾ in. fasteners instead of 5/8 in.**

8	Hex Head Cap Screws 5/8 in.-11 X 3-1/4 in. Long
16	Washers Nominal ID 5/8 OD 1-5/16 or larger
8	Hex Nuts
1	Gasket 3.2 mm (1/8") Thick EPDM or Nitrile Full Face (with holes) For Class 125/150 Flange
1	Flange 15.24 cm (6") ANSI Class 150

4. Plan carefully the layout of adjacent plumbing including cutting pipe to the exact length and ensuring that flange will be aligned and square with the strainer pot assembly. Note that the strainer must be installed so that water flow travels into the upper flange and out the bottom flange. ***Note:*** It is good practice to install a straight section of pipe (free of valves or fittings) that is at least 76 cm (30") long on the inlet side of the strainer. If the strainer pot assembly is installed as a stand alone unit, another straight piece of pipe at least 76 cm (30") long should be installed to connect the strainer assembly to the pump housing. Glue plumbing in place once you are certain that fit ups are correct.

5. Ensure that the flange gasket is properly positioned between the strainer pot flange and the top flange connection. Use only high quality, full diameter, 3.2 mm (1/8") thick gaskets with holes for the bolts to pass through. It may be necessary to hold the gasket in place with either silicone or two or three drops of cyanoacrylate (super glue). Do not use any other grease or glue as they may contain chemicals that could attack the plastic material.
6. Install the flange screws, washers and nuts hand tight on the first flange connection as shown in the diagram.

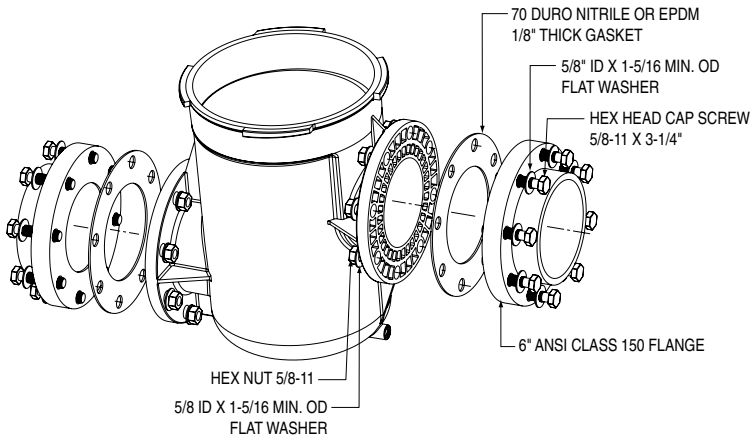


Figure 1.

7. Repeat steps 4, 5 and 6 for the lower flange connection unless the strainer is directly attached to a Pentair Pool Products EQ Series pump.
8. Inspect both flange connection(s) to ensure that the flanges of the strainer pot and the connection flanges are in line and that the faces are parallel. Take any corrective action to properly align flanges before tightening the flange screws to the required torque.

⚠ CAUTION

Use large diameter flat washers (at least 1-5/16 in. outer diameter) between the hex nut and the strainer pot assembly flanges to properly distribute the clamping forces on the flanges. Tighten the flange bolts to 27.1 newton meter (20 ft-lb) unless otherwise specified by the flange manufacturer. If it is not possible to use a torque wrench then care should be taken not to over tighten the flange bolts. Failure to follow the above instructions can result in damaging the strainer pot flanges.

⚠ CAUTION

Suction and discharge piping must be supported by an appropriate system of supports or hangers. Inadequately supported pipe can cause excessive loads to be transmitted to the strainer pot assembly resulting in a structural failure that could result in flooding and property damage.

B. PRESSURE TESTING

Certain local codes require that the circulation system be pressure tested with a proof pressure before being commissioned into service or before allowing construction to progress to the next stage.

⚠ WARNING

This product is intended to operate on the suction side of the pump and must not be installed on the pressure side of a circulation system. Extreme caution should be taken when applying pressure to this product during a system pressure test as this product has a lower pressure rating than other components in the system. Exceeding the pressure or temperature rating during the pressure test can result in a structural failure. A structural failure of the strainer pot assembly can cause the instantaneous release of energy causing failed components to be accelerated to high velocities and to travel distances of 30.5 m (100 feet) or more. These components could cause severe personal injury or death if they were to strike a person.

⚠ WARNING

It is important that the four tabs on the locking ring be fully overlapped with the four tabs on the strainer pot before performing a pressure test. If the locking ring is under tightened or over tightened so that the tabs do not fully overlap with tabs on the pot a structural failure can occur. A structural failure can cause severe personal injury or death.

⚠ CAUTION

This product is shipped with a pressure relief valve. This device must be installed into the 0.6 cm (¼") NPT drain opening before the strainer pot assembly is pressure tested if an installer's pressure test is required. This pressure relief device is not intended to replace a pressure regulator and cannot relieve the system of pressure if the installer over pressurizes the system rapidly during the pressure test process. The device is intended to function as a low volume pressure relief should a gradual increase in pressure occur due to changes in temperature or atmospheric pressure once the test pressure is established.

⚠ WARNING

Improperly pressure testing a circulation system can involve significant risk of property damage or severe personal injury or death. Circulation systems store energy when pressure tested due to the elastic nature of the materials used in construction and due to the compressibility of air that may be contained in the system. The instructions below should be considered a guide only. Each installation should be considered a unique situation that should be carefully investigated for risk.

⚠ WARNING

Never test this equipment with air pressure even if specified by the local code. Even low levels of air pressure result in tremendous storage of energy that can instantaneously be released if a system failure occurs. This instantaneous release of energy can cause failed components to be accelerated to high velocities and to travel distances of 30.5 m (100 feet) or more. These components could cause severe personal injury or death if they were to strike a person.

1. Understand the local code. The intent of the code may be to ensure that the piping system with its many bonded joints is leak free. Piping systems typically have a higher pressure capability than the other system components such as the pump or filter. Do not pressure test this product unless the code specifically requires this.
2. Verify that each component in the system is designed to meet the local code test pressure. Most components should be marked with a maximum operating pressure. If a component is not marked consult the Owner's Instructions that came with the component or consult the manufacturer.
3. Verify that the pressure test will be conducted within the operating temperature listed on the components that make up the circulation system. If no maximum operating temperature is listed then it may be necessary to review the owner's manual or contact the manufacturer for this information. It is common practice for plastic components to be pressure rated at 22° C (72° F). and then derated for temperatures greater than this.

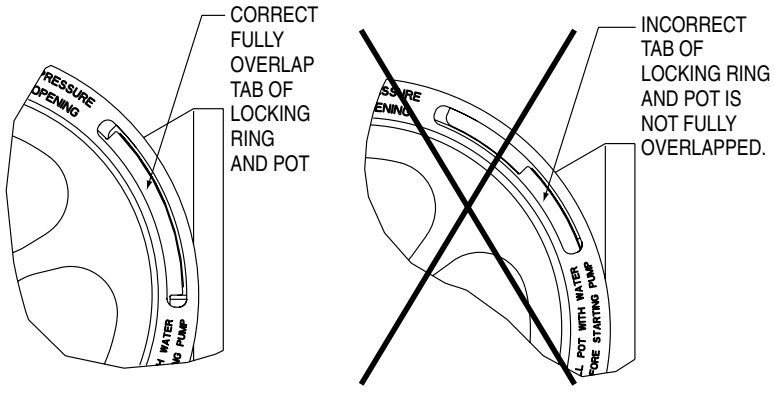


Figure 2.

4. Use only a high quality pressure gage that is certified to be accurate for the pressure for which the test is going to be conducted. Do not rely on the pressure gage included with the filtration system as it may not be sufficiently accurate to conduct a pressure test for the system. Please note that the pressure in the system will vary depending on where the pressure is taken due to the weight of the water.
5. Ensure that all air will be evacuated from the system when the water pressure is applied to the system. This will require that all air bleeders on any equipment are open. It also may be necessary to remove some lids or covers on system equipment such as the pump strainer lid to prevent air from being trapped in the system. In addition, there may be other areas of the circulation system where air may be trapped. Do not connect water pressure to the system until you are certain that air will be totally evacuated.
6. Determine the appropriate location in the system to apply the test water pressure. Consider the place in the system that will best ensure that all air will be displaced when water is introduced.

⚠ WARNING

Never exceed the maximum operating pressure or temperature limits of the system components. Ensure that pressures higher than those required in the pressure test cannot inadvertently be applied to the circulation system. This may require the use of a pressure regulator between the water supply and the circulation system.

Changes in temperature or barometric pressure can cause the internal test pressure to increase or decrease over time once the system is isolated. A pressure relief device should be installed that would prevent the pressure from exceeding the intended test pressure. Exceeding these limits could result in a component failing under pressure. This instantaneous release of energy can cause failed components to be accelerated to high velocities and to travel distances of 30.5 m (100 feet) or more. These components could cause severe personal injury or death if they were to strike a person.

7. Slowly apply the water pressure and allow the water to flow out all of the openings intended for air to escape. Close the openings beginning at the lowest level first and progressing to the highest level. Do not close any opening until you are sure that air is completely out of that part of the system.
8. Allow the pressure to slowly build once all of the air openings are closed. Close the valve between the water supply and circulation system to isolate the system from the supply pressure.
9. Monitor the system pressure for a few minutes to ensure that it is stabilized.

⚠ WARNING

Due to the potential risk that can be involved it is recommended that the pressure test be kept to the minimum time required by the local code. Do not allow people to work around the system when the circulation system is under pressure test. Post appropriate warning signs and establish a barrier around the pressurized equipment. If the equipment is located in an equipment room, lock the door and post a warning sign.

Never attempt to adjust any closures or lids or attempt to remove or tighten bolts when the system is pressurized. These actions can result in a separation or failure of system components. This instantaneous release of energy can cause components to be accelerated to high velocities and to travel distances of 30.5 m (100 feet) or more. These components could cause severe personal injury or death if they were to strike a person.

10. It is normal for the test pressure to drift down slightly during the first few minutes as the circulation system expands under pressure.
11. If the system pressure continues to fall, then bleed off the remaining water pressure in the circulation system and inspect the system for leaks. Look for water on the floor and feel around joints for moisture.
12. Ensure the system is not under pressure before attempting any system adjustments or repairs.
13. Repeat the pressurization sequence once the system leaks have been corrected.

SECTION III. INITIAL OPERATION

Verify that the following tasks are completed before energizing the circulation pump.

1. Make sure the O-Ring is on drain plug and that drain plug is tightened hand tight.
2. Fill strainer pot with as much water as it will hold.
3. Position basket correctly in pot.
4. Inspect the O-Ring in the lid to make sure that it is clean and properly positioned in the groove.
5. Install the lid into the strainer pot so that the tabs on the lid overlay the tabs on the strainer pot.
6. Secure lid in place by tightening the locking ring hand tight only.

⚠ WARNING

The strainer pot may be at a pressure that is higher or lower than the atmospheric pressure. Always open the drain plug on the strainer pot and allow for the pressure to equalize before removing the locking ring. Attempting to remove the locking ring before the pressure is equalized may result in a rapid exchange of pressure. This instantaneous release of energy can cause components to be accelerated to high velocities and to travel distances of 30.5 m (100 feet) or more. These components could cause severe personal injury or death if they were to strike a person.

⚠ 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 strainer pot may cause serious personal injury. In order to avoid personal injury make sure the strainer pot temperature has cooled to room temperature. Carefully remove the drain plug on the strainer pot and allow the pressure to equalize before removing the locking ring.

SECTION IV. CLEANING OF THE STRAINER BASKET

1. The pump is designed to be maintenance free with the exception of requiring a periodic cleaning of the strainer basket.
2. A routine inspection should be done by visually looking through strainer lid for debris while the pump is in operation. The strainer basket should be cleaned when approximately 25 % blocked. Allowing the strainer basket to become excessively blocked will diminish water flow, reduce pump efficiency, cause cavitation and may damage the basket or other pump components.
3. Disconnect power to the pump before cleaning the basket.
4. Close isolation valves on the suction and discharge lines if necessary to prevent flooding.

⚠ WARNING

The strainer pot may be at a pressure that is higher or lower than the atmospheric pressure. Always open the drain plug on the strainer pot and allow for the pressure to equalize before removing the locking ring. Attempting to remove the locking ring before the pressure is equalized may result in a rapid exchange of pressure. This instantaneous release of energy can cause components to be accelerated to high velocities and to travel distances of 30.5 m (100 feet) or more. These components could cause severe personal injury or death if they were to strike a person.

⚠ WARNING

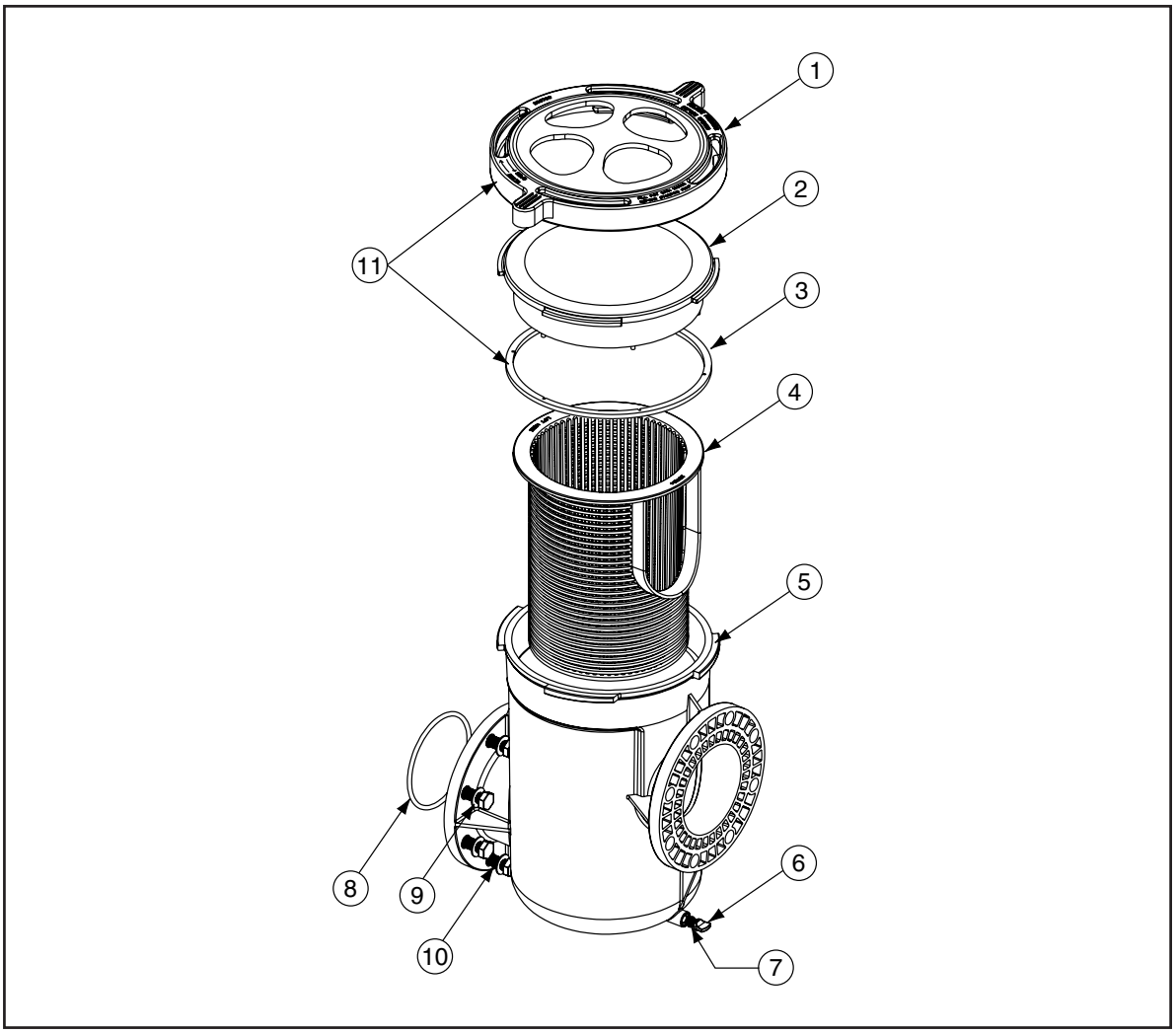
If the pump has been energized for a period greater than 45 minutes without water flowing through the pump for any reason, the water in the strainer pot may be hot. Attempting to remove the locking ring without removing the drain plug in the pot and allowing the pressure to equalize may result in the hot water rapidly escaping and causing severe personal injury. To reduce the risk of being injured by hot or scalding water, allow the strainer pot to cool to the ambient temperature before removing the drain plug.

5. Open the drain plug in the strainer pot and allow the pressure to completely stabilize.
6. Remove the locking ring and the clear lid from the strainer pot.
7. Remove the basket and dispose of the debris. Use a water hose and soft brush to remove debris blocking the openings in the basket if required.
8. Replace the basket making sure it is properly oriented.
9. Replace the lid, by aligning the four tabs with the tabs on the strainer pot and making sure the O-ring is clean and is properly located in the groove of the lid.
10. Secure the lid in place by tightening the locking ring hand tight only. Do not over tighten the locking ring as that will make removal difficult.

⚠ WARNING

It is recommended that only water and a soft cloth be used to clean the lid and other pump components. Cleaners may contain chemicals that could damage or weaken pump components causing them to fail and allowing an instantaneous release of energy. This instantaneous release of energy can cause components to be accelerated to high velocities and to travel distances of 30.5 m (100 feet) or more. These components could cause severe personal injury or death if they were to strike a person.

SECTION V. REPLACEMENT PARTS

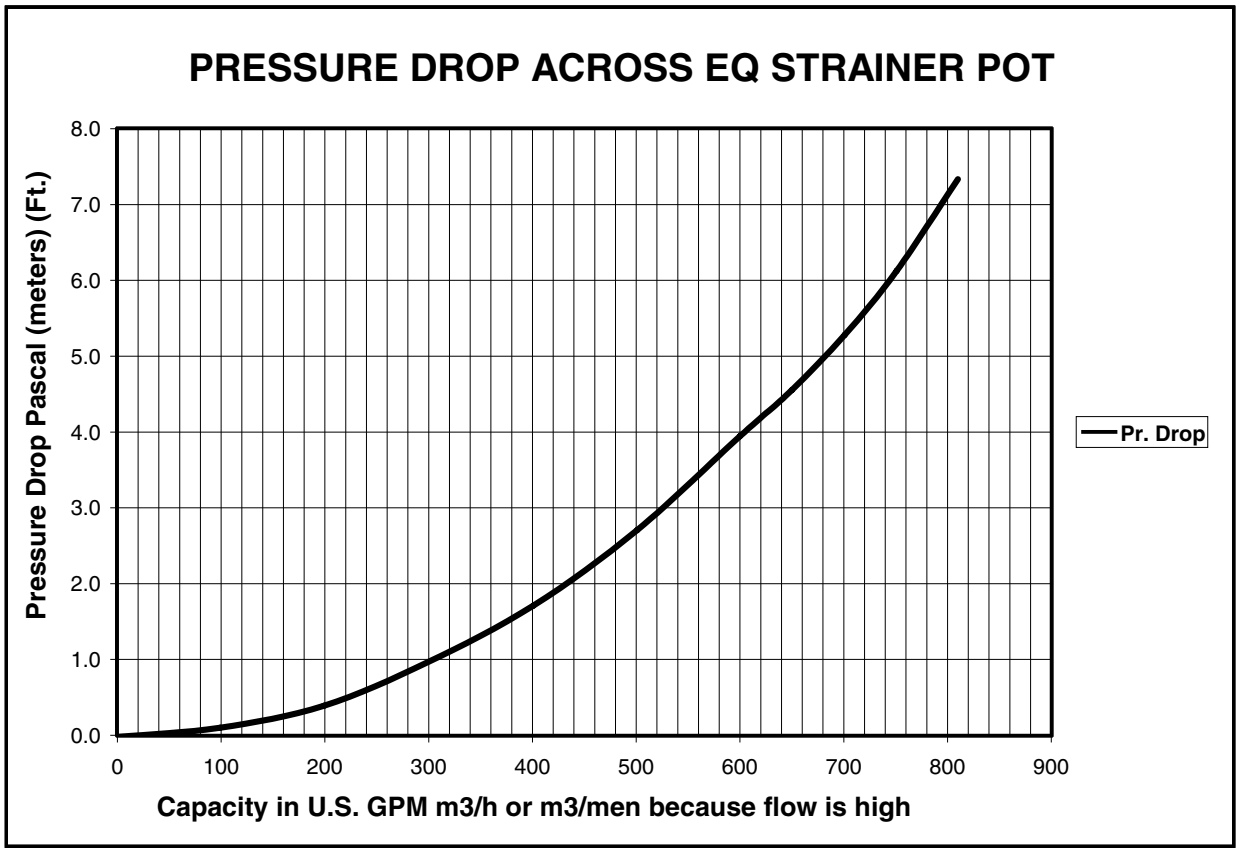


Item No.	Part No.	Description
1	356700	Clamp Cam & Ramp EQ
2	356750	Lid EQ Clear
3	350166	Gasket EQ Lid
4	357184	Basket EQ Strainer
5	356725	Pot EQ Strainer
6	154699	Plug Wire .25 in. Drain LGR
7	192215	O-ring Drain Plug
8	356766	O-ring Pot Flange
9	356789	Washer, Flat 11/16 in. ID x 1-5/16 in. OD .078 Thk 300 s/s {qty. 8}
10	356788	Screw 5/8 in.-11 x 1-¾ in. Hx Hd Cap 18-8 s/s {qty. 8}
11	350171	Clamp Cam & Ramp and Gasket EQ Lid ¶
		(NOT SHOWN)
	350087	Pressure Relief Valve 1/4 in. NPT

¶ This is a replacement kit for P/N 357038 [O-ring for EQ lid]

SECTION VI. STRAINER POT ASSEMBLY TECHNICAL DATA

A. FRICTION LOSS CURVE



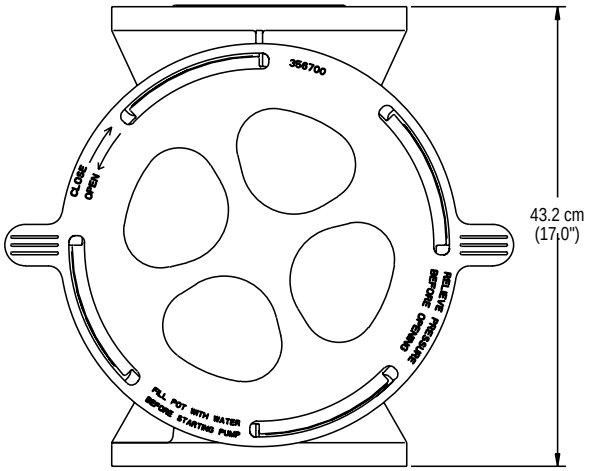
B. ENGINEERING SPECIFICATIONS

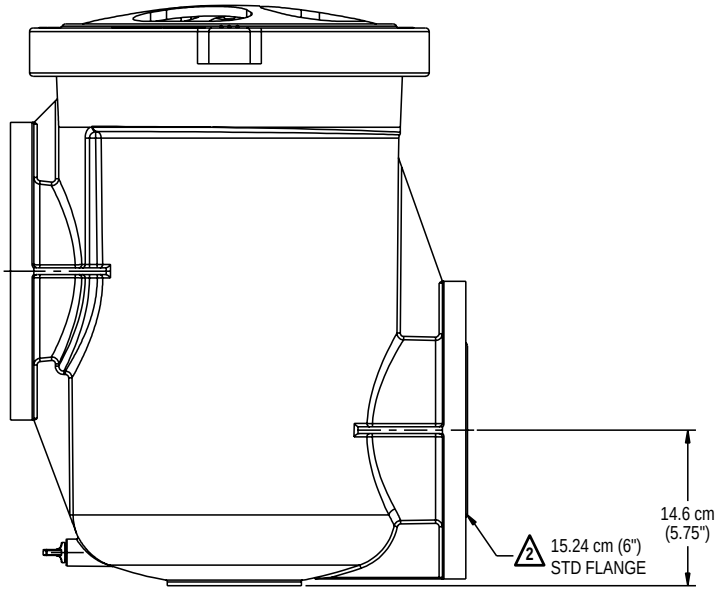
Maximum Recommended Design Flow Rate	**181.7 m3/h (800 GPM)**
Inlet Connection — Opening Diameter	14.2 (cm) (5.6 inches)
Inlet Connection — Open Area	158.1 cm2 (24.5 square inches)
Basket — Volume	15.5 Liters (950 cubic inches)
Basket — Open Area	632.3 cm2 (98 square inches)
MATERIALS OF CONSTRUCTION:	
Lid	Clear Polycarbonate
Body, Locking Ring, Drain Plug	Fiberglass Reinforced Polyphenylene Oxide
Basket	Mineral Reinforced Polypropylene

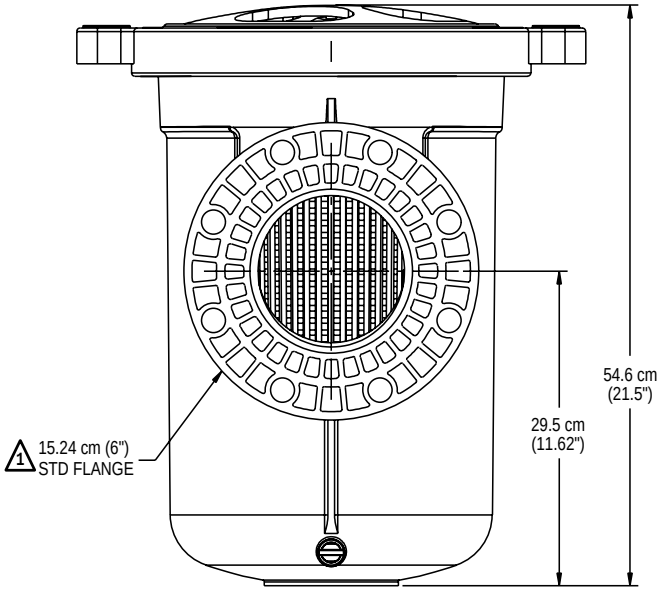
C. DIMENSIONAL DATA

2 FASTENERS AND O-RING ARE INCLUDED WITH EQ 6 X 6 STRAINER TO CONNECT STRAINER DIRECTLY TO PENTAIR POOL PRODUCTS EQ SERIES PUMP. IF STRAINER IS TO BE INSTALLED AS A STAND - ALONE UNIT, CONNECT BOTH FLANGES PER NOTE 1.

1 USE ANSI CLASS 150 PLASTIC FLANGE AND 1/8" THICK CLASS 150 FULL FACE GASKET TO MAKE CONNECTION.







SAVE THESE INSTRUCTIONS.

Technical and Customer Support (Europe)

For technical support questions and product service information, contact:

Phone: (0032) 14 25 99 66 - 8 A.M. to 5 P.M. (GMT)
Fax: (0032) 14 25 99 73

Technical and Customer Support (United States)

For technical support questions and product service information, contact:

Sanford, North Carolina (8 A.M. to 5 P.M. - EST)
Moorpark, California (8 A.M. to 5 P.M. - PST)
Phone: (800) 831-7133
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www.pentairpool.com and staritepool.com

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Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

Basic safety precautions should always be followed, including the following: Failure to follow instructions can cause severe injury and/or death.

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

⚠ WARNING warns about hazards that could cause serious personal injury, death or major property damage and if ignored presents a potential hazard.

⚠ CAUTION warns about hazards that will or can cause minor or moderate personal injury and/or property damage and if ignored presents a potential hazard. It can also make consumers aware of actions that are unpredictable and unsafe.

⚠ DANGER indicates an imminently hazardous situation which, if not avoided, will result in death, serious injury, or major property damage.

The NOTICE label indicates special instructions that are important but not related to hazards.

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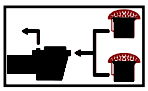
⚠ WARNING - Read and follow all instructions in this owner's manual and on the equipment. Failure to follow instructions can cause severe injury and/or death.

⚠ WARNING – Suction Entrapment Hazard.

Suction in suction outlets and/or suction outlet covers which are, damaged, broken, cracked, missing, or unsecured can cause severe injury and/or death due to the following entrapment hazards:

Hair Entrapment- Hair can become entangled in suction outlet cover.
Limb Entrapment- A limb inserted into an opening of a suction outlet sump or suction outlet cover that is damaged, broken, cracked, missing, or not securely attached can result in a mechanical bind or swelling of the limb.
Body Suction Entrapment- A negative pressure applied to a large portion of the body or limbs can result in an entrapment.
Evisceration/ Disembowelment - A negative pressure applied directly to the intestines through an unprotected suction outlet sump or suction outlet cover which is, damaged, broken, cracked, missing, or unsecured can result in evisceration/ disembowelment.
Mechanical Entrapment- There is potential for jewelry, swimsuit, hair decorations, finger, toe or knuckle to be caught in an opening of a suction outlet cover resulting in mechanical entrapment.

⚠ WARNING - To Reduce the risk of Entrapment Hazards:



- When outlets are small enough to be blocked by a person, a minimum of two functioning suction outlets per pump must be installed. Suction outlets in the same plane (i.e. floor or wall), must be installed a minimum of three feet (3') [1 meter] apart, as measured from near point to near point.
- Dual suction fittings shall be placed in such locations and distances to avoid "dual blockage" by a user.
- Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas.
- The maximum system flow rate shall not exceed the flow rating of as listed on Table 1.
- Never use Pool or Spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- Replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- In addition two or more suction outlets per pump installed in accordance with latest ASME, APSP Standards and CPSC guidelines, follow all National, State, and Local codes applicable.
- Installation of a vacuum release or vent system, which relieves entrapping suction, is recommended.

⚠ WARNING – Failure to remove pressure test plugs and/or plugs used in winterization of the pool/spa from the suction outlets can result in an increase potential for suction entrapment as described above.

⚠ WARNING – Failure to keep suction outlet components clear of debris, such as leaves, dirt, hair, paper and other material can result in an increase potential for suction entrapment as described above.

⚠ WARNING – Suction outlet components have a finite life, the cover/grate should be inspected frequently and replaced at least every ten years or if found to be damaged, broken, cracked, missing, or not securely attached.

⚠ CAUTION – Components such as the filtration system, pumps and heater must be positioned so as to prevent their being used as means of access to the pool by young children.

⚠ WARNING – Never operate or test the circulation system at more than 50 PSI.

⚠ WARNING – Never change the filter control valve position while the pump is running.

⚠ WARNING – To reduce risk of injury, do not permit children to use or climb on this product. Closely supervise children at all times. Components such as the filtration system, pumps, and heaters must be positioned to prevent children from using them as a means of access to the pool.

⚠ WARNING – Hazardous Pressure. Pool and spa water circulation systems operate under hazardous pressure during start up, normal operation, and after pump shut off. Stand clear of circulation system equipment during pump start up. Failure to follow safety and operation instructions could result in violent separation of the pump housing and cover, and/or filter housing and clamp due to pressure in the system, which could cause property damage, severe personal injury, or death. Before servicing pool and spa water circulation system, all system and pump controls must be in off position and filter manual air relief valve must be in open position. Before starting system pump, all system valves must be set in a position to allow system water to return back to the pool. Do not change filter control valve position while system pump is running. Before starting system pump, fully open filter manual air relief valve. Do not close filter manual air relief valve until a steady stream of water (not air or air and water) is discharged.

⚠ WARNING – Separation Hazard. Failure to follow safety and operation instructions could result in violent separation of pump and/or filter components. Strainer cover must be properly secured to pump housing with strainer cover lock ring. Before servicing pool and spa circulation system, filters manual air relief valve must be in open position. Do not operate pool and spa circulation system if a system component is not assembled properly, damaged, or missing. Do not operate pool and spa circulation system unless filter manual air relief valve body is in locked position in filter upper body.

⚠ WARNING – **Risk of Electric Shock.** All electrical wiring MUST be in conformance with applicable local codes, regulations, and the National Electric Code (NEC). Hazardous voltage can shock, burn, and cause death or serious property damage. To reduce the risk of electric shock, do NOT use an extension cord to connect unit to electric supply. Provide a properly located electrical receptacle. Before working on any electrical equipment, turn off power supply to the equipment.

⚠ WARNING – To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment.

⚠ WARNING – Electrical ground all electrical equipment before connecting to electrical power supply. Failure to ground all electrical equipment can cause serious or fatal electrical shock hazard.

⚠ WARNING – Do NOT ground to a gas supply line.

⚠ WARNING – To avoid dangerous or fatal electrical shock, turn OFF power to all electrical equipment before working on electrical connections.

⚠ WARNING – Failure to bond all electrical equipment to pool structure will increase risk for electrocution and could result in injury or death. To reduce the risk of electric shock, see installation instructions and consult a professional electrician on how to bond all electrical equipment. Also, contact a licensed electrician for information on local electrical codes for bonding requirements.

Notes to electrician: Use a solid copper conductor, size 8 or larger. Run a continuous wire from external bonding lug to reinforcing rod or mesh. Connect a No. 8 AWG (8.4 mm^2) [No. 6 AWG (13.3 mm^2) for Canada] solid copper bonding wire to the pressure wire connector provided on the electrical equipment and to all metal parts of swimming pool, spa, or hot tub, and metal piping (except gas piping), and conduit within 5 ft. (1.5 m) of inside walls of swimming pool, spa, or hot tub.
IMPORTANT - Reference NEC codes for all wiring standards including, but not limited to, grounding, bonding and other general wiring procedures.

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

⚠ WARNING – Risk of Electric Shock . The electrical equipment 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 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 electrical equipment without the test button being pushed, a ground current is flowing, indicating the possibility of an electrical shock. Do not use this electrical equipment. Disconnect the electrical equipment and have the problem corrected by a qualified service representative before using.

⚠ CAUTION – The pump is intended for use with permanently-installed pools and may 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.

SAVE THESE INSTRUCTIONS

HAYWARD® Pool Products Limited Warranty

To original purchasers of this equipment, Hayward Pool Products, Inc. warrants its chemical feeders to be free from defects in materials and workmanship for a period of ONE (1) year from the date of purchase, when used in single family residential applications.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care or any Acts of God. Parts that fail or become defective during the warranty period shall be repaired or replaced, at our option, within 90 days of the receipt of defective product, barring unforeseen delays, without charge.

Proof of purchase is required for warranty service. In the event proof of purchase is not available, the manufacturing date of the product will be the sole determination of the purchase date.

To obtain warranty service, please contact the place of purchase or the nearest Hayward Authorized Service Center. For assistance on your nearest Hayward Authorized Service Center please visit us at www.haywardpool.com.

Hayward shall not be responsible for cartage, removal, repair or installation labor or any other such costs incurred in obtaining warranty replacements or repair.

The Hayward Pool products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.

The express limited warranty above constitutes the entire warranty of Hayward Pool Products with respect to its' pool products and is in lieu of all other warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event shall Hayward Pool products be responsible for any consequential, special or incidental damages of any nature.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Hayward Pool Products
620 Division Street
Elizabeth, NJ 07207

***Supersedes all previous publications.**

⚠ DANGER Mixing Chemicals or using fast dissolving chemicals may result in explosion and/or fire. To avoid death, serious injury or major property damage:

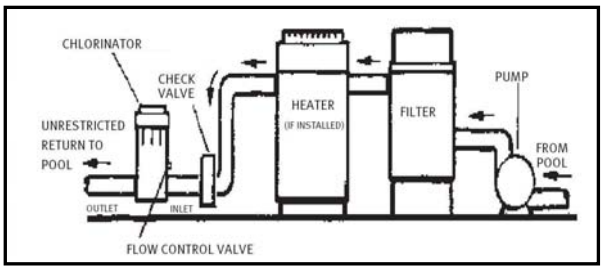
- ⚠ Use only slow dissolving Trichlor Chlorine tablets.
- ⚠ Never use fast dissolving Trichlor Chlorine tablets.
- ⚠ Never mix chemicals.
- ⚠ Never mix Trichlor Chlorine tablets with Calcium Hypochlorite, or with any other form of concentrated chlorine or other chemicals. Fire and/or explosion may result.
- ⚠ Never add any other types of chlorine, pH adjusters, shock treatments or algaecides through the skimmer. If these products must be used, they should be added directly into the pool water.
- ⚠ Never isolate chlorine feeder with valves or other devices.

⚠WARNING Wear eye and skin protection while maintaining or servicing this unit.

⚠WARNING Do not inhale fumes from the chlorinator or chemical container.

⚠WARNING Chlorine feeder may be under pressure. Use caution removing cover.

INSTALLATION:



CL–100/200

1. Your **CL–100/200** automatic chlorine feeder is designed for permanent installation in the pool water return line.
2. Always install the chlorine feeder **after** the heater. If there is no heater, install **after** the filter.

⚠ CAUTION Damage to the heater or filter may result if concentrated chlorine is allowed to flow through them.

An in-line positive seal corrosion resistant check valve should be installed to reduce backflow of chlorine gas when the system is shut off. If the chlorine feeder is located below water level, you may want to install a check valve to prevent water backflow when operating/servicing the unit. The CL100 has this feature built in.

3. Both the **CL–100/200** are furnished with 1 1/2" female threads. If PVC socket (solvent weld) connections are desired, order SP1500UNPAK2, socket flush union end connectors package. For threaded male and union connectors, order SP1500UNMPAK1 male union connector package (two required). Thread or socket adapters may also be used. Only use pipe sealants formulated and approved for use with ABS plastic connections (e.g. Teflon Tape, Permatex Form-A-Gasket No. 2, Laco Plasto-Joint stick). Do not over tighten pipe fitting. Proper fitting makeup is hand tight plus 1 to 1 1/2 turns maximum.

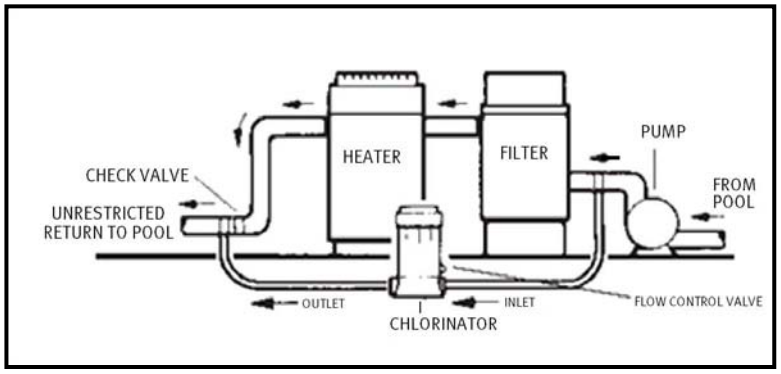
NOTICE: After starting up system, re-check all connections for leaks. Re-tighten as required.

⚠ CAUTION Never install chlorine feeder directly into copper plumbing as pipe damage may occur. If you have brass or bronze backwash valves, or other sensitive metallic components, consult your dealer for precautions or recommendations for your particular system.

CL–110/220

1. The inlet connection should be made in the piping after the pump and before the filter. Mark location on pipe.
2. The outlet connection should be made in the piping after the heater. If no heater is being used, connection should be made after the filter. Mark location on pipe.
3. Based on the locations from steps. No. 1 and No. 2, cut tubing to required lengths. Be sure ends are cut evenly and cleanly.
4. Wrap Teflon tape on larger male thread of Check Valve and thread it hand tight plus ½ turn into outlet port of chlorinator. DO NOT OVER TIGHTEN.

NOTICE: The Check Valve is marked with a "dot". It also has a ball that "clicks" when you shake it.



5. Wrap Teflon tape on larger male thread of the Inlet Fitting Adapter and thread it hand tight plus ½ turn into the inlet port of chlorinator. DO NOT OVER TIGHTEN.
6. To connect inlet tubing to chlorinator, place Compression Nut over inlet tubing and slide nut up about 2". Insert the tubing all the way into the Inlet Fitting Adapter socket and, holding tubing in place, tighten nut firmly by hand. Do not over tighten.
7. Connect outlet tubing to the Check Valve in the same manner as in step 6 above.

NOTICE: The saddle fittings and clamps are designed to fit the O.D. of 1 1/2" or 2" pipe.

8. Drill a 3/8" hole at location identified in Step 1 of Planning Installation section. Clean all burrs, shavings etc. Fit Saddle Fitting, with gasket, into oval shaped hole in clamp and insert fitting into the 3/8" hole. Secure clamp around Saddle Fitting, gasket and pipe and tighten securely to achieve a good seal. Do not over tighten clamp.
9. Drill a 3/8" hole at location identified in Step 2 of Installation section for CL-110/220. Install Saddle Fitting as in Step 8 above.
10. Connect inlet and outlet tubing to the Saddle Fittings with Compression Nuts as in Step 6 above. Do not over tighten.

⚠ **CAUTION** Never install chlorine feeder directly into copper plumbing as pipe damage may occur. If you have brass or bronze backwash valves, or other sensitive metallic components, consult your dealer for precautions or recommendations for your particular system.

NOTICE: After starting up system, re-check all connections for leaks. Re-tighten as required.

DIRECTIONS FOR USE:

GENERAL

Before using your chlorinator, your pool/spa water should be properly balanced and conditioned and should have a chlorine residual of approximately 1.0 to 1.5 ppm. Follow dealer and chemical manufacturer's directions and instructions.

Check chlorine residual daily and adjust the dial valve for more or less chlorine. The chlorine demand for pools and spas varies based on usage, temperature, sunlight, etc. Initially, you'll have to experiment to determine the proper amount of chlorine and the correct valve setting required for your pool and filter time cycle. Follow chemical manufacturer's instructions for proper chlorine level.

⚠ **DANGER Mixing Chemicals or using fast dissolving chemicals may result in explosion and/or fire.**
To avoid death, serious injury or major property damage:

- ⚠ Use only slow dissolving Trichlor Chlorine tablets.
- ⚠ Never use fast dissolving Trichlor Chlorine tablets.
- ⚠ Never mix chemicals.
- ⚠ Never mix Trichlor Chlorine tablets with Calcium Hypochlorite, or with any other form of concentrated chlorine or other chemicals. Fire and/or explosion may result.
- ⚠ Never add any other types of chlorine, pH adjusters, shock treatments or algaecides through the skimmer. If these products must be used, they should be added directly into the pool water.
- ⚠ Never isolate chlorine feeder with valves or other devices.

⚠**WARNING** Wear eye and skin protection while maintaining or servicing this unit.

USE ONLY GENUINE HAYWARD PARTS

⚠WARNING Do not inhale fumes from the chlorinator or chemical container.
⚠WARNING Chlorine feeder may be under pressure. Use caution removing cover.

REFILLING CHORINATOR

1. Shut off all pumps and pump timers.
2. Turn chlorine feeder flow control valve to "OFF".
3. Verify chlorine feeder return line to pool is unrestricted.
4. Wait one minute to relieve system pressure before attempting to remove cover.
5. If installed in a flooded system, shut off valves to isolate chlorinator.
6. Remove cover.
7. Refill chlorine feeder with slow dissolving Trichlor-Chlorine Tablets.
8. Secure cover to chlorine feeder.
9. If installed in a flooded system, open valves to assure flow from pump to pool.
10. Turn flow control valve on chlorinator to desired setting and restart pump.

MAINTENANCE:

TO CHANGE O-RING CL100/110

1. Read and follow instructions in Steps 1 to 5 in Refilling Chlorinator section.
2. Remove the O-Ring and replace with a Genuine Hayward Part O-Ring (part no. CLX110K).
3. Replace cover. If chlorinator needs to be refilled, read and follow instructions in Steps 6 to 8 in Refilling chlorinator section.

TO CHANGE O-RING CL200/220

1. Read and follow instructions in Steps 1 to 5 in Refilling Chlorinator section.
2. Pry off Logo Cap, located on the cover of the chlorinator. Unscrew and remove retainer screw. Cover may now be slipped free of the Cover Cap.
3. Replace O-ring with a Genuine Hayward Part O-ring (part no. CLX200K). Reassemble being sure Slip Washers are in place on stem of Cover (inside), and under head of Retaining Screw.
4. Replace cover. If chlorinator needs to be refilled, read and follow instructions in Steps 6 to 8 in Refilling Chlorinator section.

TO REMOVE FLOW CONTROL VALVE HANDLE

Set pointer to FULL. Insert screwdriver in slot opposite pointer, lift up and rotate handle counterclockwise. This allows the handle index lock tab to clear the body ridge.

TO INSTALL FLOW CONTROL VALVE HANDLE

1 The flow control valve handle Genuine Hayward Part (CLX200PA) is furnished in two pieces.
2 To install push the handle into the stem and fully install stem into body. You may have to remove handle and reposition to assure the stem is fully seated.
3 Remove handle by pulling straight out.
4 Apply a single drop of Super Glue to the end of the stem, push on handle, positioned in the OFF position. Apply pressure for 30 seconds.

WINTERIZING

Where freezing temperatures can be expected, drain all water and remove all chlorine from chlorinator. (For in-line permanently installed unit remove drain plug). Carefully remove all tablets and pieces of tablets. Rinse out chlorinator thoroughly with water. Replace cover and drain plug.

VACUUMING

When vacuuming, close flow control valve to prevent bypass of sediment and possible clogging of control valve.

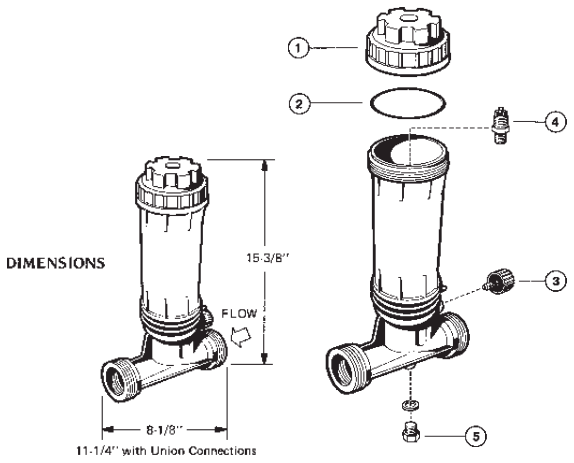
LUBRICATION

Never use petroleum type lubricants on Cover O-Ring. To lubricate use Genuine Hayward Part Jack's Lube No. 327 (Part No. SP032712).

SPARE PARTS

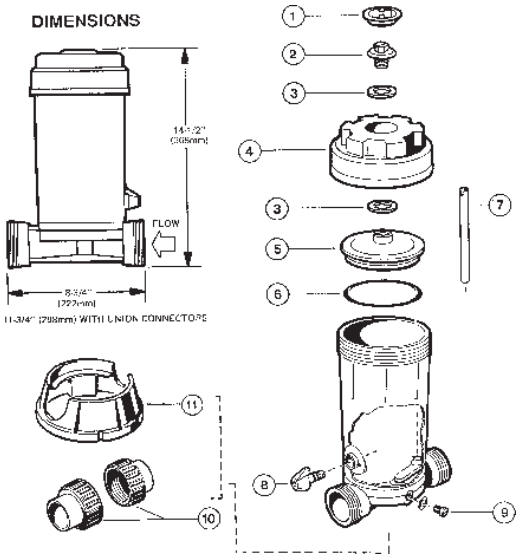
CL100

Ref No.	Part Number	Description	No. Req'd
1	CLX110C	Cover	1
2	CLX110K	O-Ring	1
3	CLX110FA	Control Knob Assembly	1
4	CLX220CV	Check Valve Assembly	1
5	SPX1700FGV	Drain Plug w/Gasket	1
	SP032712	Hayward Jack's Lub #327	1



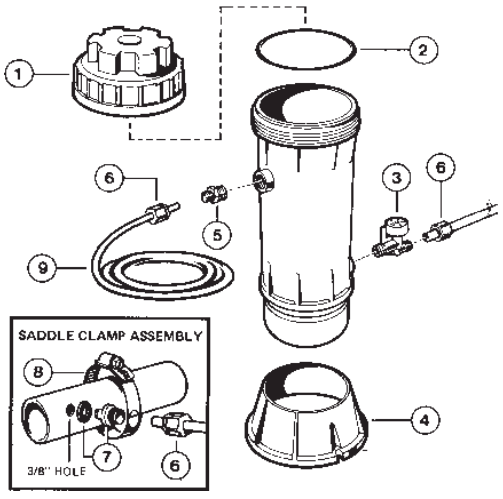
CL200

Ref No.	Part Number	Description	No. Req'd
1	CLX200E	Logo Cap	1
2	CLX200G	Cover Retaining Screw	1
3	CLX200W	Slip Washer	2
4	CLX200C	Cover Cap	1
5	CLX200B	Cover	1
6	CLX200K	O-Ring	1
7	CLX200H	Feeder Tube (some models)	1
8	CLX200PA	Control Valve Assembly	1
9	SPX1700FA	Drain Plug w/Gasket	1
10	SPX1500UNPAK	Union Connectors–Socket (2)	-
11	CLX200BS	Base	1
	SP032712	Hayward Jack's Lub #327	1



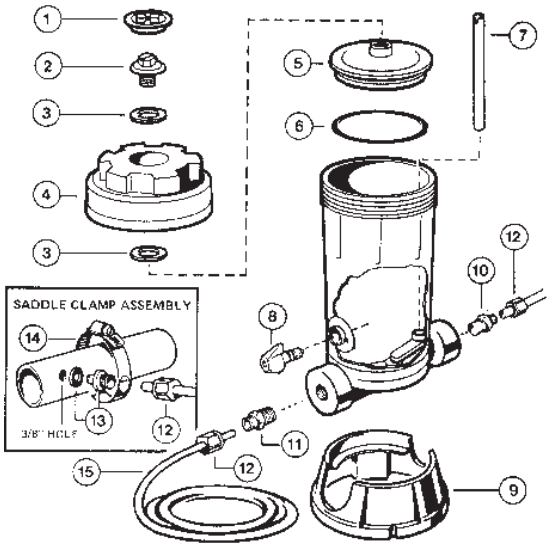
CL110

Ref No.	Part Number	Description	No. Req'd
1	CLX100C	Cover	1
2	CLX110K	O--Ring	1
3	CLX110DA	Dial Flow Valve	2
4	CLX110B	Base	1
5	CLX220CV	Check Valve Assembly	1
6	CLX220H	Compression Nuts	4
7	CLX220G	Saddle Fitting	2
8	CLX220K	Saddle Clamp	2
9	CLX220J	Plastic Tubing–8 Ft.	1
	SP032712	Hayward Jack's Lub #327	1



CL220

Ref No.	Part Number	Description	No. Req'd
1	CLX200E	Logo Cap	1
2	CLX200G	Cover Retaining Screw	1
3	CLX200W	Slip Washer	2
4	CLX200C2	Cover Cap	1
5	CLX200B	Cover	1
6	CLX200K	O-Ring	1
7	CLX200H	Feeder Tube (some models)	1
8	CLX200PA	Control Valve Assembly	1
9	CLX220B	Base	1
10	CLX220CV	Check Valve Assembly	1
11	CLX220D	Inlet Fitting Adapter	1
12	CLX220H	Compression Nuts	4
13	CLX220G	Saddle Fitting	2
14	CLX220K	Saddle Clamp	2
15	CLX220J	Plastic Tubing—8 ft.	1
	SP032712	Hayward Jack's Lub #327	1



PRODUCT REGISTRATION

(Retain For Your Records)

DATE OF INSTALLATION _____

▲Retain this Warranty Certificate (upper portion) in a safe and convenient location for your records.

DETACH HERE: Fill out bottom portion completely and mail within 10 days of purchase/installation or register online.

AUTOMATIC CHLORINE FEEDERS Warranty Card Registration

Register online at www.haywardpool.com

Please Print Clearly:

First Name_____ **Last Name**_____

Street Address_____

City_____ **State**_____ **Zip**_____

Phone Number_____ **Purchase Date**_____

E-Mail Address_____

Serial Number

Model Number_____

Pool Capacity_____(U.S. Gallons)

☐Please include me on all e-mail communications regarding Hayward® Equipment or promotions.

Mail to: Hayward Pool Products, 620 Division Street, Elizabeth, NJ 07207

Attn: Warranty Dept

Or REGISTER YOUR WARRANTY ON-LINE AT WWW.HAYWARDPOOL.COM

Years Pool has been in service

☐ < 1 year ☐ 1-3 ☐ 4-5 ☐ 6-10 ☐ 11-15 ☐ >15

Purchased from_____

☐Builder ☐Retailer ☐Pool Service ☐Internet/Catalog

Company Name_____

Address_____

City_____ State_____ Zip_____

Phone_____

Type of Pool:

☐ Concrete/Gunite ☐ Vinyl ☐ Fiberglass

☐ Other_____

☐ New Installation ☐ Replacement

Installation for:

☐ In Ground ☐ Above Ground ☐ Spa

HAYWARD®

Hayward is a registered trademark of Hayward Industries, Inc.

PENTAIR

HI-FLOW™
SIDE MOUNTED BACKWASH VALVE

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

TABLE OF CONTENTS

⚠WARNING Before installing this product, read and follow all warning notices and instructions accompanying this valve. Failure to follow safety warning 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.

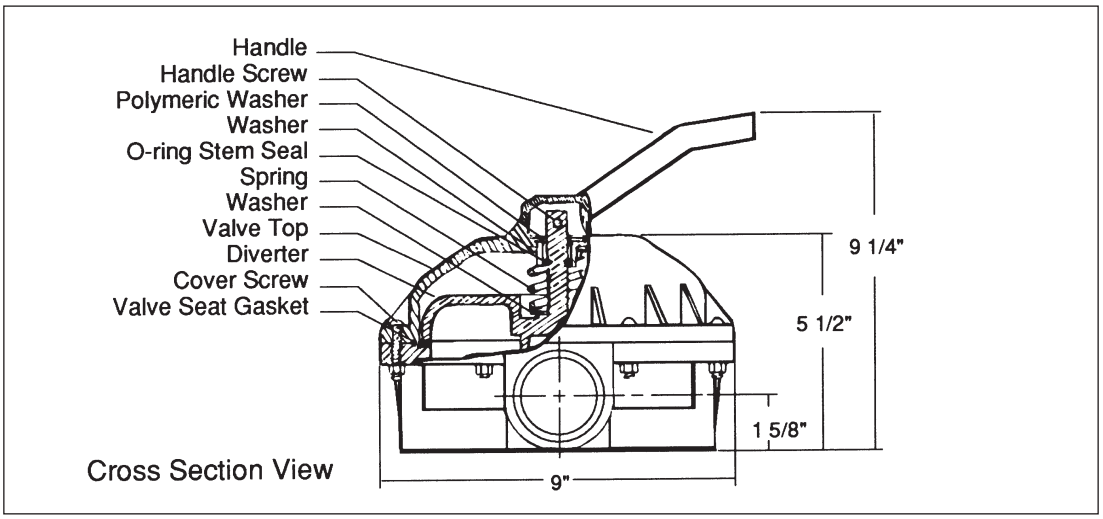
⚠ DANGER The valve must be installed by a qualified serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances.

Always disconnect power to the equipment at the circuit breaker before servicing any of the equipment. Ensure that the disconnected circuit is locked out or properly tagged so that it cannot be switched on while you are working on the equipment. Failure to do so could result in serious injury or death to serviceman, operator users or others due to electric shock.

Position the filter and the air relief valve to safely direct water drainage and purged air or water. Water discharged from an improperly positioned filter or valve can create an electrical hazard that can cause severe personal injury as well as damage property.

⚠CAUTION **For Installation of Electrical Controls at Equipment Pad (ON/OFF Switches, Timers and Automation Load Center)**

Install all electrical controls at equipment pad, such as on/off switches, timers, and control systems, etc. to allow the operation (startup, shut-down, or servicing) of any pump or filter so the user does not place any portion of his/her body over or near the pump strainer lid, filter lid or valve closures. This installation should allow the user enough space to stand clear of the filter and pump during system start-up, shut down or servicing of the system filter.



FILTER OPERATES UNDER HIGH PRESSURE.

When any part of the circulating system, (e.g., clamp, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid to separate which can result in severe injury, death, or property damage. To avoid this potential hazard, follow these instructions:

1. Before repositioning valve(s) and before beginning the assembly, disassembly, or adjustment of the clamp or any other service of the circulating system: (A) Turn the pump **OFF** and **shut OFF** any automatic controls to ensure the system is NOT inadvertently started during the servicing; (B) open the manual air relief valve; (C) wait until all pressure is relieved.
2. Whenever installing the filter clamp **FOLLOW THE FILTER CLAMP INSTALLATION INSTRUCTIONS EXACTLY**.
3. Once service on the circulating system is complete **FOLLOW SYSTEM RESTART INSTRUCTIONS EXACTLY**.
4. Maintain circulation system properly. Replace worn or damaged parts immediately, [e.g., clamp, pressure gauge, valve(s), o-rings, etc].
5. Be sure that the filter is properly mounted and positioned according to instructions provided.

Valve Positions Overview

SETTING	FLOW PATH Function
Filter	**Pump > Sand Top / DE Bottom > Through Filter > DE Top / Sand Bottom > Return** For normal filter action and vacuuming pool thru filter.
Backwash	**Pump > DE Top / Sand Bottom > Through Filter > Sand Top / DE Bottom > Waste** For cleaning filter by reversing flow
Rinse	**Pump > DE Top / Sand Bottom > Through Filter > DE Top / Sand Bottom > Waste** For start-up cleaning and resetting filter bed after backwashing
Waste	**Pump > Waste** For vacuuming directly to waste, lowering pool level or draining pool
Closed	**No Circulation - DO NOT USE THIS SETTING WITH PUMP OPERATING!**
Recirculate	**Pump > Return** For circulating water without going through filter

Valve Installation

⚠CAUTION This valve is available in two models for use with sand type or diatomaceous earth (DE) type pool filters. Be sure that you have the correct model for your filter. Installing the incorrect model may cause your pump to dead head, or drain the pool when in backwash position.

1. Confirm correct valve is being used; DE valves for DE filters and Sand valves for Sand filters.
2. Install valve to filter by securing bulkhead nuts on valve to fittings on the filter.

⚠CAUTION Tighten the nuts by hand only! No additional tightness is required.

3. Plumb pump piping to center pipe in valve.
4. Plumb return and waste lines.

Winterizing

1. Drain and winterize pump and filter per manufacturer's instructions.
2. Depress valve handle and rotate so pointer on handle is between any two settings.

Replacement of Valve Top and Diverter Assembly

1. Set valve handle in any setting.
2. Remove cover screws.
3. Lift off valve top and diverter assembly.
4. Install new valve top and diverter assembly. Be sure arrows on valve top and bottom are aligned.
5. Tighten cover screws evenly and alternately. Do not over tighten.

Complete Disassembly

1. Remove Handle to diverter screw. Note arrow on top of diverter stem as handle is removed.
2. Evenly and alternately loosen cover screws.

⚠CAUTION Top is under spring load. Loosen all screws before removing any of them.

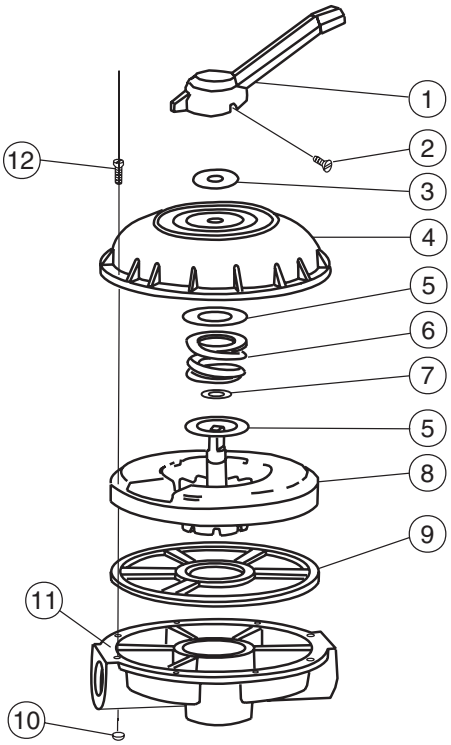
3. Remove cover screws and valve top.
4. Note location of O-ring and spring, and number of washers on diverter stem. Remove O-Ring, spring and washers.
5. Re-assemble in reverse order.

   Note: Prior to assembly, be sure bottom gasket and diverter sealing surface are clean and free from nicks to insure positive sealing.
6. When replacing valve handle, be sure arrow on diverter stem and pointer on handle are pointed in the same direction.

⚠CAUTION DO NOT over tighten the screws or use motorized screwdrivers; as this can cause damage to the threads.

Technical Data

Replacement Parts



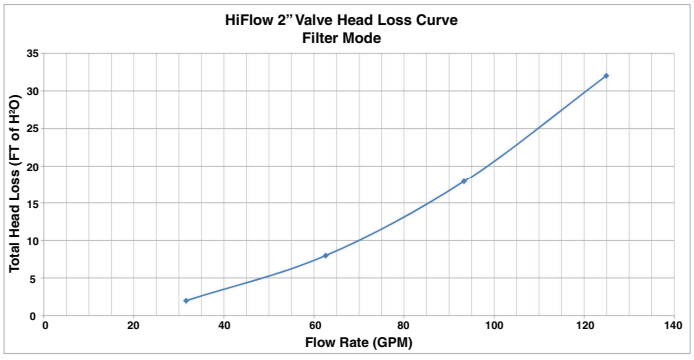
Covers Assemblies P/Ns 261049, 261050 and 261142

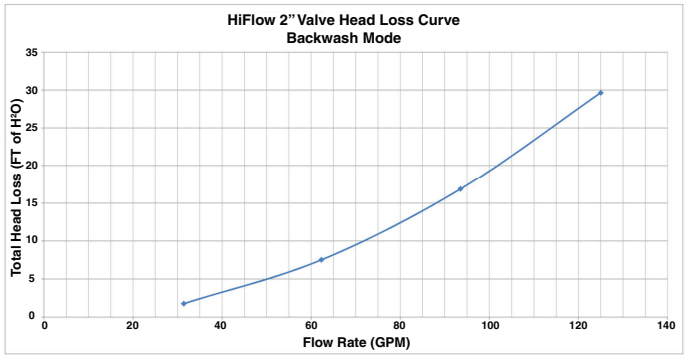
Item	P/N	Description	Qty.
1	272520	Handle	1
2	272405	Screw - Handle	1
3	272402	Washer, Plastic	1
4	272412	Valve Top	1
5	271193	Washer - 18 GA	2
6	272400	Spring - Compression	1
7	272406	O-ring - Diverter	1
8	272413Z	Diverter	1
9	272409	Seal -Diverter	1
10	98211400	Nut - 1/4" - 20 Hex	8
11	272415	Plat - 2" Valve Bottom	1
12	272403	Screw - 1/4" - 20	8
*	272422	Valve Top Assembly	1

*This part number includes items 1 thru 9

Note: When replacing gasket P/N 272409, secure it to valve bottom with an instant cyanocrylate adhesive suitable for bonding rubber to plastic.

Head Loss Curves





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10951 WEST LOS ANGELES AVE., MOORPARK, CA 93021 • (805) 553-5000
WWW.PENTAIR.COM

P/N 272133 REV. G 11/28/18