



Micro StarClear™

Owner's Manual



Models: C225, C2001540LSS, C2251540LSS

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.

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.



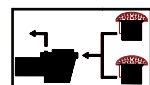
Body Suction Entrapment- A negative pressure applied to a large portion of the body or limbs can result in an entrapment.



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:



- o 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.
- o Dual suction fittings shall be placed in such locations and distances to avoid “dual blockage” by a user.
- o Dual suction fittings shall not be located on seating areas or on the backrest for such seating areas.
- o The maximum system flow rate shall not exceed the 40 gpm.
- o Never use Pool or Spa if any suction outlet component is damaged, broken, cracked, missing, or not securely attached.
- o Replace damaged, broken, cracked, missing, or not securely attached suction outlet components immediately.
- o 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.
- o 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. 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. **Never operate or test the circulation system at more than 40 PSI. Do not purge the system with compressed air.** Purging the system with compressed air can cause components to explode, with risk of severe injury or death to anyone nearby. Use only a low pressure (below 5 PSI), high volume blower when air purging the pump, filter, or piping.



HAYWARD®



⚠ 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. To reduce the risk of electric shock replace damaged wiring immediately. Locate conduit to prevent abuse from lawn mowers, hedge trimmers and other equipment. Do **NOT** ground to a gas supply line.

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

⚠ WARNING – Risk of Electric Shock 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 mm²) [No. 6 AWG (13.3 mm²) 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 . 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 – HAYWARD® pumps are 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.

⚠ WARNING – Risk of Hyperthermia. To avoid hyperthermia the following “Safety Rules for Hot Tubs” are recommended by the U.S. Consumer Product Safety Commission.

1. Spa or hot tub water temperatures should never exceed 104°F [40°C]. A temperature of 100°F [38°C] is considered safe for a healthy adult. Special caution is suggested for young children. Prolonged immersion in hot water can induce hyperthermia.
2. Drinking of alcoholic beverages before or during spa or hot tub use can cause drowsiness, which could lead to unconsciousness and subsequently result in drowning.
3. Pregnant women beware! Soaking in water above 100°F [38°C] can cause fetal damage during the first three months of pregnancy (resulting in the birth of a brain-damaged or deformed child). Pregnant women should adhere to the 100°F [38°C] maximum rule.
4. Before entering the spa or hot tub, users should check the water temperature with an accurate thermometer; spa or hot tub thermostats may err in regulating water temperatures by as much as 4°F (2.2°C).
5. Persons taking medications, which induce drowsiness, such as tranquilizers, antihistamines or anti-coagulants, should not use spas or hot tubs.
6. If the pool/spa is used for therapy, it should be done with the advice of a physician. Always stir pool/ spa water before entering the pool/spa to mix in any hot surface layer of water that might exceed healthful temperature limits and cause injury. Do not tamper with controls, because scalding can result if safety controls are not in proper working order.
7. Persons with a medical history of heart disease, circulatory problems, diabetes or blood pressure problems should obtain a physician’s advice before using spas or hot tubs.
8. Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above normal body temperature of 98.6°F [37°C]. The symptoms of Hyperthermia include: drowsiness, lethargy, dizziness, fainting, and an increase in the internal temperature of the body.

The effects of Hyperthermia include:

1. Unawareness of impending danger.
2. Failure to perceive heat.
3. Failure to recognize the need to leave the spa.
4. Physical inability to exit the spa.
5. Fetal damage in pregnant women.
6. Unconsciousness resulting in danger of drowning.

SAVE THESE INSTRUCTIONS



The Micro StarClear cartridge filter utilizes a reusable single element, reinforced polyester filter cartridge to provide a high degree of water clarity with minimum care. It is designed for in-line piping systems and may be used with a wide range of pumps and flow rates.

PLUMBING

Plumbing connections are 1-1/2" N.P.T. When making connections, use plastic adapters. Apply three turns of TFE tape or plastic pipe sealant to the male threads. Screw the fitting into the thread hand tight; then using a strap wrench, tighten one more full turn. Additional tightening is unnecessary and could result in damage to the components. Be sure to properly support pipe connections.

The Micro StarClear filter features an automatic bypass orifice for use on spa systems. The bypass allows for greater flow rates through the filter and system. To use bypass—remove plug inside filter head.

BEFORE STARTING THE FILTER

Superchlorinate the water by adding unstabilized granular or liquid chlorine. Stabilized forms of chlorine are recommended for normal daily use *after* the initial clean-up of the water. Follow dealer and chemical manufacturer's recommendations for superchlorination and normal daily use.

STARTING THE FILTER

Be sure filter drain valve is closed.

- ▲ **WARNING: - HAZARDOUS PRESSURE, Failure to open all the suction and discharge valves could cause severe personal injury and/or property damage. All the suction and discharge valves must be open when starting the system.**

Be sure filter housing is secure (hand tighten).

Open the Manual Air Relief Valve a few turns.

Prime and start the pump following the manufacturer's instructions. Air trapped in the system will automatically vent out the air relief valve as well as to the pool. When water starts to flow out of the Manual Air relief valve, close it.

FILTERING

Filtration starts as soon as flow is steady through the filter. As the filter cartridge removes the dirt from the pool water, the accumulated dirt causes a resistance to flow. As a result, the flow will decrease. When flow decreases below desired rate, clean or replace the filter cartridge.

VACUUMING

Vacuuming can be performed directly into the filter whenever needed. Clean cartridge after vacuuming, if required.

WINTERIZING FILTER

In areas where sub-freezing temperatures can be expected, the filter should be drained and/or removed from its operating location and stored indoors. Remove and clean cartridge and store with filter housing in a secure place.

SYSTEM LOCATION

1. Though the system is designed for outdoor use, it is advisable to protect electrical components from the weather. Select a well-drained area, one that will not flood when it rains.
2. Locate the system below the swimming pool water line. Set the mounting platform level. Allow a minimum clearance for cartridge removal. Be sure the pipe connections, drain, etc. are accessible for convenient operation and cartridge removal.



TO ASSEMBLE THE SYSTEM

1. Place pump and motor on mounting base. Align holes in motor base with holes in mounting base and secure with two screws and washers provided.
2. Securely thread sweep elbow, with 3 to 4 wraps of TFE pipe tape, into outlet of pump. Position so that large thread end points back toward the motor at an angle toward corner of base.
3. Thread the ball end of union, with union nut, into filter connection marked "IN". Use TFE tape (3 to 4 wraps on thread) and screw in as far as possible hand tight, then one additional turn with a strap wrench.
4. Adjust ball and socket and join by hand tightening union nut. Do not overtighten.
5. All plumbing connections on the system are 1 1/2" N.P.T. When making connections, use plastic male-end adapters and flexible hose. Apply three turns of TFE tape or plastic pipe sealant to the male threads. Screw the fitting into the thread hand tight; then using a strap wrench, tighten one more full turn. Additional tightening is unnecessary and could result in damage to components.

NOTE: For extra convenience, you may wish to install valves on the inlet and discharge of the system to prevent back flow of water when removing cartridge. See dealer for further instructions.

6. Connect the pool suction plumbing between the skimmer pool outlet, and the pump. Connect the pool return (inlet) plumbing.
7. A filter drain plug is furnished with each filter and is all that is needed for complete filter draining. A manual air vent valve is furnished to aid in bleeding off unwanted air when starting the filter.
8. All electrical connections must be made in accordance with local codes.
9. Check for joint leaks before operating the system.
10. Refer to pump instruction booklet for pump information.

CLEAN/REPLACE CARTRIDGE Removing Cartridge Element

1. Shut off the pump.
2. If filter is located below water level, close valves (or block off suction and discharge lines) to prevent back flow of water from pool.
3. Open top air relief valve and remove drain valve to allow water to drain from filter.
4. Hold filter head firmly and unscrew filter housing to remove. If difficult to unscrew, apply a lever between the two tab extensions on the bottom of the filter housing and apply a slight pressure to assist in freeing the thread seal. Or, apply optional S200-KT wrench to bottom side tabs.
5. Remove cartridge element and clean. Or, replace with clean, spare cartridge. (See Cleaning Cartridge)

Reinstalling Cartridge Element

1. Clean any collected debris from the bottom of the filter housing.
2. Reinstall cartridge in filter housing. Be sure o-ring is in place on threads.
3. Clean o-ring. For ease of future disassembly, apply a very light film of a dilute solution of non-granulated liquid-type soap to o-ring and threads. **Caution: Do not use any petroleum-based lubricants.**
4. Screw filter housing with o-ring into filter head. Do not overtighten. Tighten drain valve and top air relief valve.

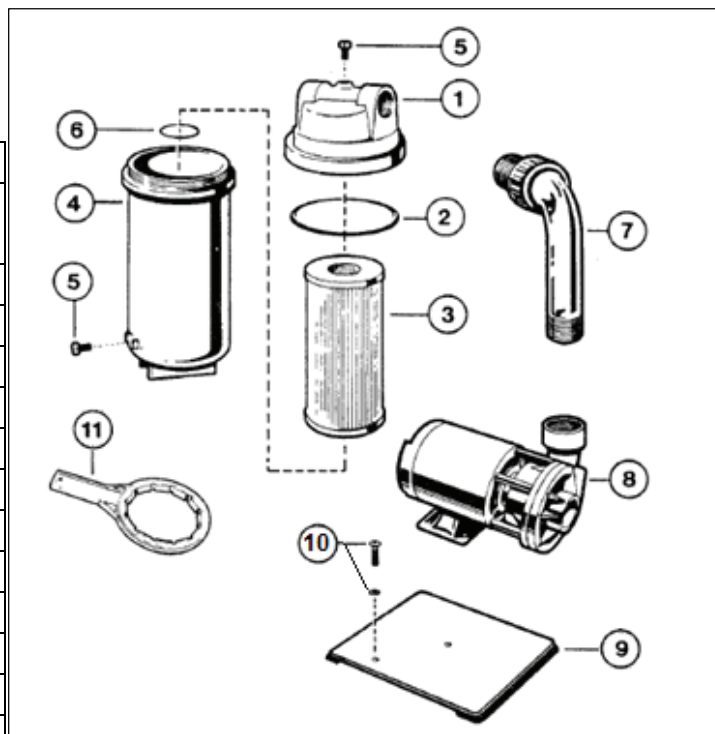
Cleaning Cartridge

The cartridge filter element can be cleaned by washing inside and out with a garden hose. Rotate the cartridge, hosing from top down. (The cartridge is easier to clean when dry.) After hosing the cartridge, for best results, allow cartridge to dry and carefully brush pleated surface areas to remove fine particles.

Algae, suntan oil and body oils can form a coating on the cartridge pleats which may not be thoroughly removed by hosing. To remove such materials, soak the cartridge in a solution of filter element cleaner (various brands available at pool dealer). Follow manufacturer's directions for use and allow an hour for soaking. Hose thoroughly before reinstalling in filter.

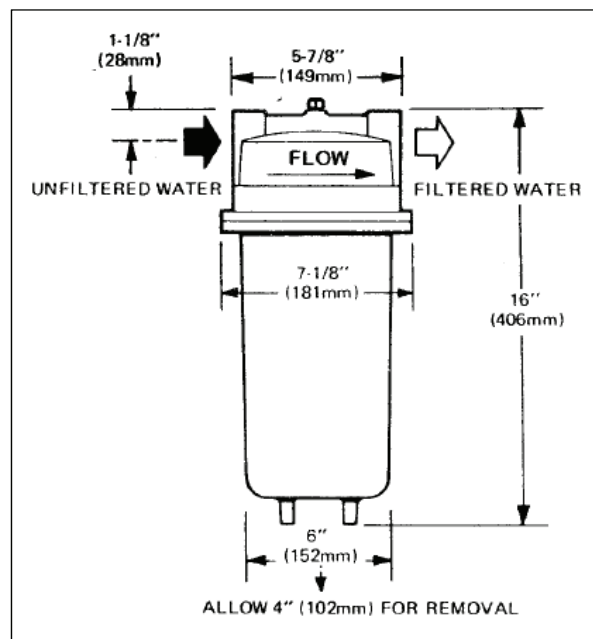
A spare cartridge filter element is an excellent investment. It provides convenience and ensures that your filter will always be ready to operate at peak efficiency.

SPARE PARTS			
Item	Part Number	DESCRIPTION	NO. REQ
1	CX120AA	Filter Head	1
2	CX120D	O-Ring, Body	1
3	CX225RE	Cartridge Element 25 sq. ft.	1
	CX225REBVS	Value Element 25 sq. ft.	
4	CX120B	Filter Body Housing	1
5	ECX1322A	Vent Valve w/ O-Ring	2
6	SPX1485C	Gasket	1
	CX250Z15	By-Pass Plug (Internal)	1
7	SPX1485BPAK	Threaded Elbow Assembly	1
8	SP1540C	40 GPM Pool Pump	1
9	ECX1289	Mounting Base	1
10	ECX1108A	Mounting screw and nut	2
11	S200KT	Wrench Tool (Optional)	



Maximum pressure rating 40 psi@104°F

Filter is NOT recommended for household pressure water lines.





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HAYWARD® Pool Products Limited Warranty

To original purchasers of this equipment, Hayward Pool Products, Inc. warrants its products 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.hayward.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.

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***Supersedes all previous publications.**

