

HAYWARD® MICRO STAR + CLEAR™ FILTER

MODEL C-120, C-200, C-225

The Micro Star-Clear 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 teflon tape or plastic pipe sealant to the male threads. Screw the fitting into the thread hand tight; then using a 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 Star-Clear 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 and air relief valve are closed. **Note: All suction and discharge valves must be open when starting the system. Failure to do so could cause severe personal injury and/or property damage.** Be sure filter housing is secure (hand tight-en).

Prime and start the pump following the manufacturer's instructions. Air trapped in the system will automatically vent to the pool.

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.

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 S-200-KT wrench (if supplied) 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

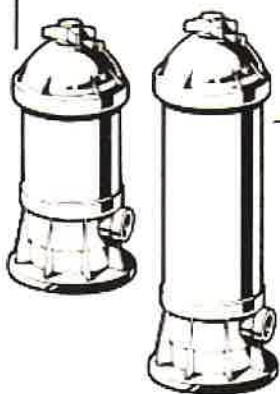
The cartridge filter element can be cleaned by pressure washing inside and out with a garden hose. Rotate cartridge, hosing from top down. (The cartridge is easier to clean when dry.) After hosing the cartridge, for best results, allow cartridge to dry and carefully brush pleated surface areas to remove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

If calcium or mineral deposits are excessive, the cartridge may be restored to "like new" condition by soaking in muriatic acid. Use commercially available 20% muriatic acid added to water in 1 to 1 ratio. Use a plastic container and take extreme care when handling cleaning agents as they can be harmful to eyes, skin and clothing. After cleaning, flush with water.

HAYWARD® STAR + CLEAR™ CARTRIDGE FILTERS

MODELS C-250, C-500, and C-750



NSF

Hayward Star-Clear filters are high performance swimming pool filters with a filtration rating of 1,500 gallons (5,678 L) per hour (Model C-250), 3,000 gallons (11,355 L) per hour (Model C-500), and 4,500 gallons (17,033 L) per hour (Model C-750). Manufactured from durable, corrosion-proof materials, they are designed for continuous or intermittent operation, for installation above or below the pool water line, for fresh or salt water swimming pools or spas. Star-Clear filters utilize a reusable single element, reinforced polyester filter cartridge to provide a high degree of water clarity with absolute minimum care. Their unique design is such that no tools are needed to remove or replace the cartridge in the filter assembly. Simply spin off the locking knob, lift off the filter cover, and remove cartridge. It's that easy.

PUMP SELECTION AND LOCATION

To power your Star-Clear filter, select a continuous duty pump designed for swimming pool or spa service.

It is important to first determine where your pump and filter will be located. If above the water line, a self-priming pump must be used. Self-priming pumps (such as Hayward Super Pump®, Super II™, Max-Flo or Power-Flo II™) have the ability to lift water from a lower level and prime automatically.

As a general guide, select a pump with an average output rating of at least 25-35 gallons (95-133 L) per minute for the C-250; 50-60 gallons (189-227 L) per minute for the C-500; 75-85 gallons (284-322 L) per minute for the C-750. Other considerations are operation of hydrotherapy fittings, automatic cleaners, etc. Your dealer will help you select the proper size pump for your system.

FILTER LOCATION

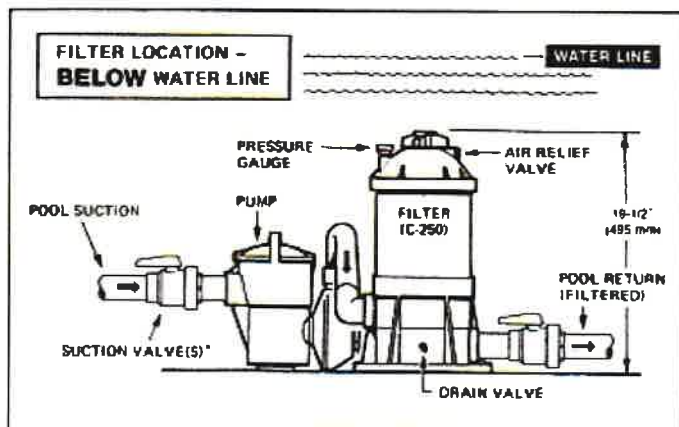
1. Since plumbing fittings offer a resistance to water flow, position the filter as close to the swimming pool as local codes allow. Keep the number of fittings to a minimum. Select a well-drained area, one that will not flood when it rains.
2. Set the filter on a solid level surface. Allow a minimum top clearance for cartridge removal (11" / 279 mm for C-250; 21" / 533 mm for C-500; 31" / 787 mm for C-750). Be sure filter, pump, drain and pressure gauge are accessible for convenient operation.

3. Position the filter so the tank can drain by gravity.
4. If practical, position pump and filter in the shade to shield it from continuous, direct heat from the sun.

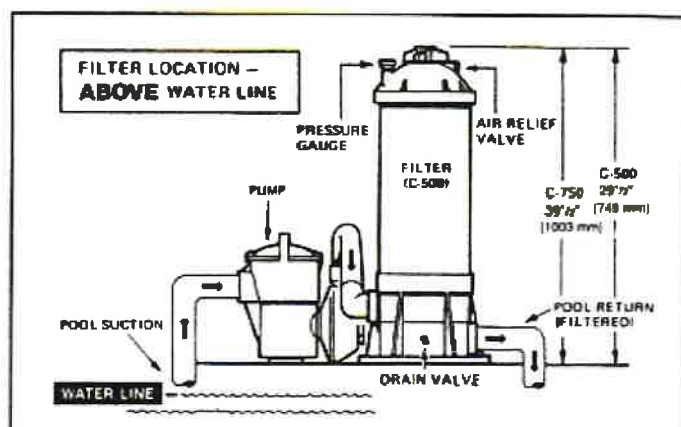
PLUMBING

1. Use 1-1/4" or 1-1/2" flexible plastic pipe or hose joined with insert fittings and stainless steel clamps. If rigid pipe is used, be sure to provide unions for easy servicing.
2. Refer to the diagrams for basic suggested valving. Ball valves are recommended where needed. While all systems vary, the main consideration is to provide the desired control of water flow from the pool to the pump and filter and back to the pool. When the filter is located below water level, provide valves to prevent back flow of water to the filter during cleaning and routine servicing.
3. All plumbing connections on the Star-Clear filter are 1-1/2" N.P.T. When making connections to the filter, use plastic male-end adapters. Apply three turns of teflon tape (or use special plastic pipe sealant) to the male threads.

Screw the fitting into the thread hand tight; then using a wrench, tighten one more full turn. Additional tightening is unnecessary and could result in broken or damaged fittings.



*Not furnished with 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.

Hayward cartridges are specifically designed and engineered for use in Star-Clear filters. For best results, use only genuine Hayward Star-Clear cartridges in your filter. Order Model No. CX120-RE, CX200-RE or CX225-RE from your dealer. The Hayward name is your guarantee of quality.

VACUUMING

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

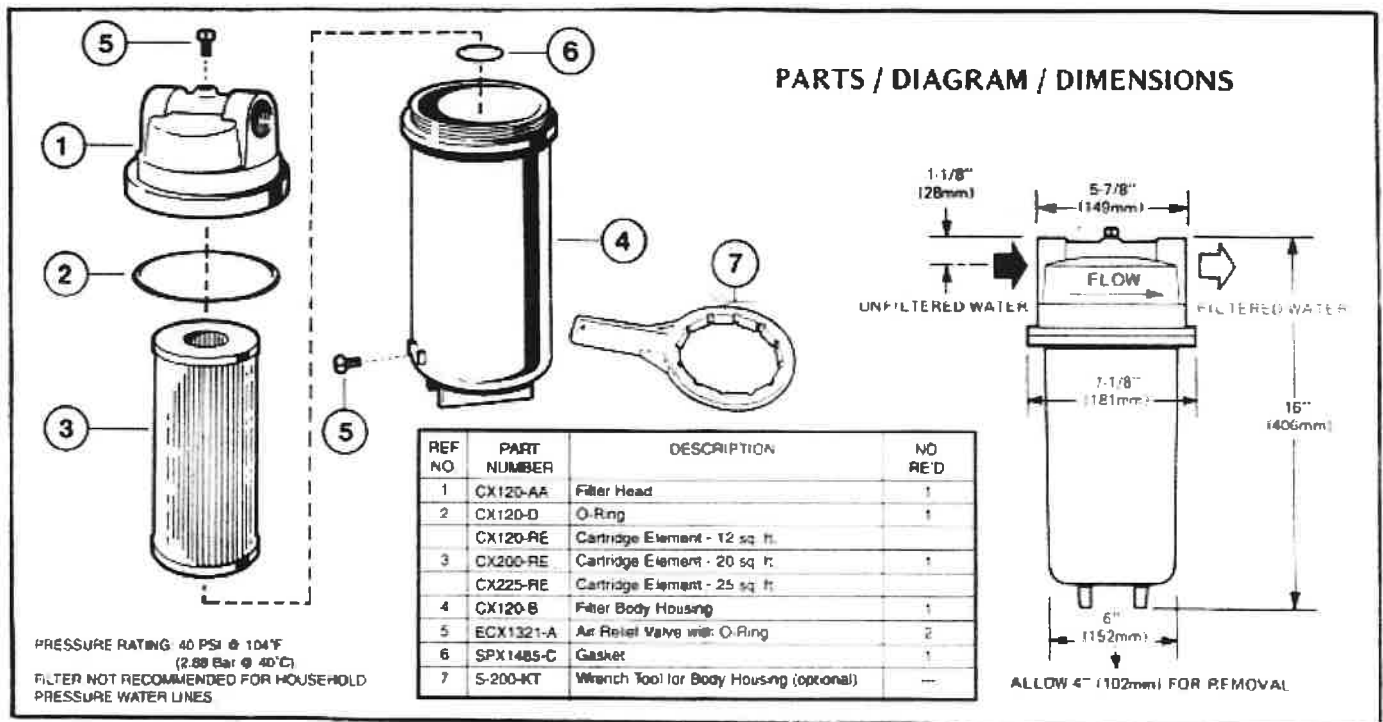
WINTERIZING FILTER

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.

Note: NSPI-4 Article V, standard for above-ground and on-ground pools, advises that components such as the filtration system, pumps and heater be positioned so as to prevent their being used as a means of access to the pool by young children.

SERVICE AND REPAIRS

Consult your local authorized Hayward dealer or service center. No returns may be made directly to the factory without the expressed written authorization of Hayward Pool Products, Inc.



Note: NSPI-4 Article V, standard for above-ground and on-ground pools, advises that components such as the filtration system, pumps and heater be positioned so as to prevent their being used as a means of access to the pool by young children.



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ALGAE CONTROL

Algae is a form of plant life which can vary in size from a few thousandths of an inch to the size of a small tree. Of the many forms of algae, those most frequently found in swimming pool water are microscopic in size and green in color.

Algae readily grows in sunlight and can, under favorable conditions, quickly overgrow a swimming pool turning it completely green in just a few hours. On the other hand, swimming pool water can be kept unfavorable to algae growth by simply maintaining a chlorine level of at least 0.5 ppm in the water at all times. The chlorine level should be checked at least once a day using a suitable test kit.

If algae condition develops and the pool water "blooms" green, superchlorination of the pool will be necessary to

clear it. Add unstabilized granular chlorine, or liquid chlorine. Follow chemical manufacturer's recommendation for superchlorination. The algae will quickly become inactive and can then be removed by the filter. Live algae, on the other hand, multiplies so fast that the filter cannot keep up with its growth rate.

When correctly used, commercial algaecides are effective against algae, though algaecides should be used in conjunction with, and not as a substitute for, regular chlorination or superchlorination.

Maintaining a chlorine level of at least 0.5 ppm in the pool water at all times is the most effective way to prevent algae growth in swimming pools.

POOL CHEMISTRY GUIDELINES

SUGGESTED POOL CHEMISTRY LEVELS	ACTION REQUIRED TO CORRECT POOL CHEMISTRY	
	TO RAISE	TO LOWER
pH 7.2 to 7.6	Add Soda Ash	Add Muriatic Acid or Sodium Bisulphate
TOTAL ALKALINITY 100 to 130 ppm	Add Sodium Bicarbonate	Add Muriatic Acid
CHLORINE (UNSTABILIZED) 0.3 to 1.0 ppm	Add Chlorine Chemical	No action—chlorine will naturally dissipate
CHLORINE (STABILIZED) 1.0 to 3.0 ppm	Add Chlorine Chemical	No action—chlorine will naturally dissipate
CHLORINE STABILIZER (Cyanuric Acid) 40 to 70 ppm	Add Stabilizer	Dilution—partially drain & refill pool with water that has not been treated with Cyanuric Acid.



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