



# HAYWARD®



## Hayward Chemical Pump

Model: 1F-CHEMPUMPPS

For use with 11% - 16% Hydrochloric Acid (HCL) or Liquid Chlorine (NaClO) (Sodium Hydrochlorite)

### Owner's Manual

To prevent potential injury and to avoid unnecessary service calls read this manual carefully and completely.

## SAVE THIS INSTRUCTION MANUAL

**Hayward Pool Products (Australia) Pty Ltd.**

Melbourne-Sydney-Brisbane-Perth

Email: [sales@hayward-pool.com.au](mailto:sales@hayward-pool.com.au) | Website: [www.hayward-pool.com.au](http://www.hayward-pool.com.au)

PO Box 4384 | Dandenong South VIC 3164

ABN 66 083 413 414

Sales Contact Ph: 1300POOLS1 Fax: 1300POOLS2



30-LITINSF001 REV-A

## IMPORTANT SAFETY INSTRUCTIONS

Before installing or servicing this electrical equipment, turn power supply OFF.



**⚠ 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** – This product should be installed and serviced only by a qualified professional.

**⚠ CAUTION** – All electrical wiring MUST be performed by a qualified electrical contractor, and must conform to local electrical regulations and AS/NZS 3000 Wiring Rules latest edition.

### Use of non-Hayward replacement parts voids warranty.

**ATTENTION INSTALLER – THIS MANUAL CONTAINS IMPORTANT INFORMATION ABOUT THE INSTALLATION, OPERATION, AND SAFE USE OF THIS PUMP THAT MUST BE HONOURED THROUGH TO THE END USER OF THIS PRODUCT. FAILURE TO READ AND FOLLOW ALL INSTRUCTIONS COULD RESULT IN SERIOUS INJURY.**

**⚠ WARNING** – This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

**Children should be supervised to ensure that they do not play with the appliance.**

**⚠ CAUTION** – This pump is intended for use on permanently installed swimming pools and may also be used with hot tubs and spas if so marked. Do NOT use with storable pools. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity. Though this product is designed for outdoor use, it is strongly advised to protect the electrical components from the weather. DO NOT install in a damp or non-ventilated location, within an outer enclosure or beneath the skirt of a hot tub or spa, adequate ventilation and free circulation of air must be provided to prevent the accumulation of dangerous fumes.

**⚠ WARNING** – Pool and spa components have a **finite life**. All components should be **inspected weekly** and the Squeeze Tube, Non-Return Valve, along with the suction and discharge hoses should be **replaced at least every 6 months** or sooner if component degradation is evident.



**⚠ WARNING – Risk of Electric Shock.** All electrical wiring must be performed by a qualified electrical contractor, and must conform to electrical regulations and AS/NZS 3000 Wiring Rules. All electrical circuits must be supplied through a Residual Current Device - RCD (Safety Switch), with a residual operating current of 30mA. 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 the electricity supply.

**⚠ WARNING** – To reduce the risk of electric shock a damaged supply cord must be immediately replaced by Hayward, our Service Agent, or a similarly qualified person in order to avoid a hazard.

**⚠ WARNING** – Never operate the circulation system at more than (36PSI) 250kPa maximum.

**⚠ WARNING – Automatic Control.** The Chemical Pump is automatically turned on and off by the controller it is connected to, being either the OmniLogic or HCC2000. To undertake maintenance or repairs to the Chemical Pump, unplug the power cord from the GPO that controls it to ensure it is isolated. Also ensure that the filtration and boost pumps are off and isolated with all water pressure in the plumbing system relieved.

**USE ONLY HAYWARD GENUINE REPLACEMENT PARTS**

Hayward Chemical Pump

## IMPORTANT SAFETY INSTRUCTIONS

Before installing or servicing this electrical equipment, turn power supply **OFF**.



**⚠ 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 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 the off position and the filter manual air relief valve must be in the open position. Before

starting the system pump, all valves must be set in a position to allow system water to return back to the pool. Do not change the filter control valve position while the system pump is running. Before starting the system pump, fully open the filter manual air relief valve. Do not close the filter manual air relief valve until all the air is expelled and a steady stream of water is discharged from the valve. All suction and discharge valves **MUST BE OPEN** when starting the circulation system. Failure to do so could result in severe personal injury and/or property damage.



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

All suction and discharge valves **MUST BE OPEN** when starting the circulation system. Failure to do so could result in severe personal injury and/or property damage.



**⚠ DANGER - Chemical Hazard: Mixing Chemicals or adding water to acid may result in explosion, fire and/or toxic gas release.** To avoid death, serious injury or major property damage, **do not mix** Chlorine tablets with Calcium Hypochlorite, or with any other form of concentrated Chlorine. **Do not mix** any chemicals with Hydrochloric Acid (HCL). Chlorine and Hydrochloric Acid must be used and stored apart in well ventilated areas as per local codes and regulations.



**⚠ DANGER - Chemical Hazard: Hydrochloric Acid (HCL) & Chlorine (liquid and vapour) can cause severe burns; may be fatal if swallowed or inhaled. Inhalation can cause severe lung damage.** To avoid death or serious injury:

- Wear eye and skin protection while maintaining or servicing this unit.
- If inhaled move to an area of fresh air and seek medical attention immediately.
- If swallowed contact local poison information service center or physician immediately. Give large amounts of milk or water.
- Wear chemical resistant clothing including chemically resistant gloves. If skin contact occurs, wash with soap and water for at least 20 minutes. Remove contaminated clothing and shoes. Contaminated clothing should be discarded or at least cleaned before reuse.
- Use splash resistant safety goggles. If eye contact occurs, seek immediate medical attention. Flush eyes immediately with clean clear water continuously for at least 20 minutes.
- **Use in a well-ventilated area only**



**⚠ WARNING - Hazardous Waste:** Hydrochloric Acid and Chlorine can cause corrosion, which can cause injury or property damage. To avoid, dispose of used/unwanted acid and/or liquid chlorine at an approved hazardous waste facility. Call your local fire department in the case of significant spills on 000.

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Hayward Chemical Pump

## Installation Instructions

**⚠ WARNING – This product should be installed and serviced only by a qualified professional.**

The unit should be located within 1.5 metres of the 240 Vac automatically switched GPO and within 3.5 metres of the location on the return to pool piping. Although the pump and power supply are designed for outdoor use, it is advised to mount them in the shade to shield them from continuous direct heat while ensuring adequate free flowing ventilation. Fasten the pump and power supply unit to a rigid structure with screws or similar. Included in the package is a check valve and 50mm X 1/2" faucet tee with threaded reducing bush that **MUST** be installed on the return pool line, down stream of all filters, heaters, and other equipment. A check/non-return valve should also be installed between the injection point and the last piece of equipment to ensure no back syphoning of chemicals into the equipment will occur.

### To install the check valve:

1. Shut off the pool system pump and disconnect/isolate the power source. Allow the water to drain from the return to pool line. (if this is a flooded suction application, the location for the faucet tee must be isolated with valving or you will get wet.)
2. Locate the desired spot for the injection point on the pool return line.
3. Cut the pipe to fit in the 50mm X 1/2" faucet tee and glue it in place. Either vertical or horizontal orientation is fine.
4. Facing the thread end of the fitting, begin wrapping Teflon tape in a clockwise direction, starting on the second thread nearest the fitting end. Overlap each wrap by one-half the width of the Teflon tape. Do this to the threaded reducing bush and the check valve.
5. Carefully screw the threaded reducing bush into the thread on the faucet tee, hand tight plus 1/2 turn maximum. Do the same with the check valve into the threaded reducing bush.  
Run the blue 6mm tubing (two 4 metre rolls included) from the discharge of the pump (Down arrow on the front) to the check valve. Both ends are compression fittings, so loosen the nuts at each end and slide the nuts over the tubing. Push the tubing over the short male nipple at each end (may need to soak in hot water to soften) and firmly hand tighten the nuts.

### Pump to chemical drum suction line connection:

1. It is recommended where a chemical drum leak could create a safety hazard or damage flooring, that the drum is located within a containment vessel or bund made from a suitable material to contain the chemical.
2. If using **diluted Hydrochloric Acid**, the container **MUST be limited to a volume of 5 litres for spas or per 12,500 litres of pool volume**. So a 25,000 Ltr pool would have a 10 Ltr container of 16.5% diluted HCL.
3. Remove the lid from the drum or container and take a 6.2mm drill bit and drill a hole through the middle of the lid.
4. Pass the blue 6mm tubing through the hole in the lid and extend by approximately 30cm and then slide the white tube weight over the tube so that the tube exits it from the chamfered end.
5. Soak the tube weight end of the tube in hot water to soften and then push it over the nipple on the suction filter. Slide/screw the tube weight down over the tube and suction strainer nipple until the weight is sitting on top of the suction strainer.
6. Slide tube through lid so that when it is fastened to the drum or container the suction filter just sits on the bottom of the drum or container.
7. Run the blue 6mm suction tube to the inlet of the pump (Up arrow on the front) and trim to length.
8. Remove the compression fitting nut on the squeeze tube and slide it over the blue tube.
9. Soak the blue tube in hot water to soften and then push it over the short male nipple on the squeeze tube and firmly hand tighten the nut.

**For correct operation plug the 3-pin plug into the controlled GPO or socket outlet only. As long as there is power the pump will run. So if it is running constantly it is not plugged in to the correct outlet or the outlet has not been configured correctly.**

**The ACID feed system should NOT be stored in the same room as other chemicals or chemical tanks.**

**The Liquid Chlorine feed system should NOT be stored in the same room as other chemicals or chemical tanks**

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## Operation

The diluted Hydrochloric Acid (HCL) or Liquid Chlorine (NaClO) (Sodium Hypochlorite) is stored in the appropriately sized drum or closed container near the pump. The Hydrochloric Acid or Liquid Chlorine (depending on what is to be pumped) is sucked from the drum or closed container via the 6mm blue suction tube, through the squeeze tube of the pump, and then pumped through the 6mm blue tube and check valve into the Return to Pool Line.

**⚠ WARNING** – Pool and spa components have a finite life. All components should be inspected weekly and the Squeeze Tube, Non-Return Valve, along with the suction and discharge hoses should be replaced at least every 6 months or sooner if component degradation is evident.

**Nb** These components are wear items and are only covered by warranty for manufacture defects.

**This system is designed for the following:**

- Liquid Chlorine (NaClO) (Sodium Hypochlorite); or
- Hydrochloric Acid (HCL) diluted to 16.5% for pools or 11% for Spas or Pool/Spa combinations.

**Hayward recommend the following when the system is used with Hydrochloric Acid:**

- For pools, Hydrochloric Acid diluted to 16.5% must be used. This is commercially available already diluted or can be achieved by diluting commercially available 33% HCL at a rate of 1 part HCL to 1 part water.
- For Spas or Pool/Spa combinations, the dilution rate of 33% HCL will need to be changed to 1:2 or 1 part of HCL to 2 parts water to become HCL diluted to 11%.

**⚠ WARNING – ALWAYS ADD ACID TO WATER - NOT WATER TO ACID!**

## Replacing the Squeeze Tube & Roller Holder

- Kit Part No. 20-CHEMPKIT -

**The Santoprene Squeeze Tube should be replaced every 3 to 6 months or sooner if degradation is evident**

1. Disconnect the pump from the power supply.
2. Remove the faceplate. (Note: the bearing (transaxle) will be seated in front of the roller. Gently pull the faceplate and bearing assembly until it is unseated. **Be careful not to lose the bearing assembly attached to the back of the faceplate, or the screws.**
3. Turn the roller holder clockwise, so that the bottom roller is equally spaced between the intake and discharge fittings.

**⚠ DANGER** - Chemical Hazard: Hydrochloric Acid (HCL) & Chlorine (liquid and vapour) can cause severe burns; may be fatal if swallowed or inhaled. Inhalation can cause severe lung damage.

To avoid death or serious injury:

- Wear eye and skin protection while maintaining or servicing this unit.
  - If inhaled move to an area of fresh air and seek medical attention immediately.
  - If swallowed contact local poison information service center or physician immediately. Give large amounts of milk or water.
  - Wear chemical resistant clothing including chemically resistant gloves. If skin contact occurs, wash with soap and water for at least 20 minutes. Remove contaminated clothing and shoes. Contaminated clothing should be discarded or at least cleaned before reuse.
  - Use splash resistant safety goggles. If eye contact occurs, seek immediate medical attention. Flush eyes immediately with clean clear water continuously for at least 20 minutes.
  - **Use in a well-ventilated area only**
4. Unscrew the compression nuts over the blue tubing and remove the tubing from the squeeze tube fittings.
  5. Lift and remove the squeeze tube fitting on the lower left side (inlet) of the pump from its seat by sliding it away from the pump and toward you. Lift and remove the squeeze tube fitting on the lower right side (outlet) of the pump from its seat by sliding it away from the pump and toward you.
  6. Manually rotate the roller holder clockwise while drawing the squeeze tube toward you - until the squeeze tube comes away from the pump.

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Hayward Chemical Pump

## Replacing the Squeeze Tube & Roller Holder - Kit Part No. 20-CHEMPKIT - (cont.)

7. Clasp the roller holder assembly between your thumb and forefinger and pull the roller holder assembly straight off the pump shaft. Take note that one face has the flat bearing pocket while the other face has the tapered pocket to suit the profile of the bearing housing.
8. Remove the 6mm blue tube that runs from the pump to check valve and also remove the check valve. Also remove the 6mm blue tube that runs from the pump to the drum/closed container along with the suction tube weight and suction strainer. Discard these items.

## To Reassemble

1. Take the new roller holder assembly and identify which face has the tapered pocket to suit the profile of the bearing housing on the pump and slide this end over the shaft. Take note of the flat on the shaft and align the flat of the roller holder assembly bore with that of the shaft and then press down using your fingers until the top of the shaft is flush with the bottom of the bearing pocket in the roller holder assembly.
2. Manually rotate the roller holder clockwise, so that the rollers are positioned at the 3 o'clock and 9 o'clock positions.
3. Insert the curved side of the new squeeze tube into its seat on the left of the pump.
4. Manually rotate the roller holder clockwise while pushing on the squeeze tube until the right side of the squeeze tube is easily inserted into its seat (Curved side first).
5. Re-install the faceplate, starting at the top and pressing the bearing into the bearing pocket on the roller holder assembly. Install the two screws.
6. Replace the check valve, 6mm blue pump to check valve discharge tube, the 6mm blue pump to chemical drum suction tube and the tube weight and suction strainer by following the Installation Instructions on page 4.
7. Unscrew the compression nut on the inlet/left side (up arrow) of the squeeze tube. Slide it over the blue 6mm tube that runs down to the drum or closed container. Soak the blue tube in hot water to soften and then push it onto the short male nipple on the squeeze tube and firmly hand tighten the nut.
8. Unscrew the compression nut on the discharge/right side (down arrow) of the squeeze tube. Slide it over the blue 6mm tube going to the return to pool check/non-return valve. Soak the blue tube in hot water to soften it and then push it onto the short male nipple on the squeeze tube and firmly hand tighten the nut.
9. Power up the pump and check for leaks and then set back to automatic control.

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## WARRANTY

**STANDARD CONDITIONS** - Australia and New Zealand Hayward Pool Products (Australia) Pty Ltd (ABN 083 413 414) ("Hayward Pool Products (Australia)") distributes Hayward Pool Products in Australia and New Zealand and provides the following warranties:

### STATUTORY RIGHTS

1. The benefits to the consumer under this warranty are in addition to other rights and remedies of the consumer under the laws in relation to the goods and services to which the warranty relates; and
2. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You may be entitled to a replacement or refund for a major failure and for compensation for any other loss or damage. You are also entitled to have the goods repaired if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

### LIMITED WARRANTY

Hayward Pool Products (Australia) warrants that its products are free from defects in materials and manufacture for 12 months from date of supply by Hayward Pool Products (Australia) plus 90 days to allow for installation and supply (unless otherwise specified). Hayward Pool Products (Australia) will at its discretion, except in the circumstances described below, either repair or replace any product proven to be defective during the warranty period for either materials of manufacture or alternatively pay the cost of repair or replacement within 90 days of the receipt of the defective product, barring unforeseen delays. This warranty is for domestic installation only, is personal to the original purchaser and does not pass to any subsequent purchaser(s).

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## WARRANTY CONTINUED

- To the extent permitted by law, Hayward Pool Products (Australia) will not be liable for products which fail or become defective during the warranty period as a result of freezing, accident, negligence, improper installation, water chemistry, misuse, tampering or lack of care.
- To the extent permitted by law, except as set out in this Warranty, Hayward Pool Products (Australia) excludes all statutory or implied conditions and warranties and any other liability it may have to the Customer (including liability for indirect consequential loss) that may arise under statute or at law including without limitation for breach of contract, in tort (including negligence) or under any other cause of action.
- To the extent permitted by law, except as set out in this Warranty, Hayward Pool Products (Australia) limits its liability under any condition or warranty which cannot be legally excluded in relation to the supply of Goods and Services to:
  1. Repairing the Goods;
  2. Replacing the Goods or supplying equivalent Goods or Services again;
  3. Paying the cost of replacing the Goods or of supplying equivalent Goods or Services again; or
  4. Paying the costs of repairing the Goods.

Claims made for warranty, labour or infield support will not be accepted by Hayward Pool Products unless evidence is provided that installation has been completed in accordance with standard warranty conditions. Please refer to specific program document for details.

### WHAT TO DO IF YOU HAVE A WARRANTY CLAIM

The faulty product is to be returned to the place of purchase, or where installed by an approved agent to an authorised warranty agent. No returns will be received directly from end consumers by Hayward Pool Products (Australia). You are responsible for arranging removal of the defective product and arranging installation of the repaired or replacement product, all transportation (and any applicable insurance costs) of transporting the product to the supplier and transporting the replaced or repaired product from the supplier. All returns are subject to Hayward Pool Products (Australia)'s written approval and must be accompanied by either:

1. A Field Inspection Report authorised by the Local Customer Service Manager or Authorised Agent; or
2. A "Return Goods Authorisation" form obtained from Hayward Pool Products (Australia) prior to shipment.

### UNAUTHORISED RETURNS WILL NOT BE ACCEPTED

- All Hayward Pool Products (Australia) warranty parts taken as an across the counter warranty exchange must be held for inspection authorisation has been given by the Local Branch Customer Service Manager to dispose of them. Hayward Pool Products (Australia) reserves the right to provide replacement or credit for any items authorised under this warranty program.
- All claims must be accompanied by a copy of original purchase receipt, clearly stating date of purchase. All serial numbers must place the product within the warranty period or a proof of purchase is required. No claims in respect of the product can be made after the expiration of the warranty period.

Warranty service requests can be faxed to:  
**Hayward Pool Products (Australia) Pty Ltd.**  
**Fax: 1300 POOLS2 (1300 766571)**  
Or submitted to your local Hayward Pool Products (Australia)  
Branch Office.

A standard form is available to request warranty service. We will require:

- Installation contact information including address, daytime telephone numbers, home phone number, email etc.
- Complete model and serial number
- Proof of purchase (if the serial number was manufactured > 1 year ago).
- Evidence that purchase and Installation was completed in one transaction, by the one business or organisation.
- Nature of problem including specific faults and error codes

**To determine if you are eligible for an extended warranty  
register your Hayward pool products  
online today at:  
[www.hayward-pool.com.au](http://www.hayward-pool.com.au)**



**Hayward Pool Products (Australia) Pty Ltd.**

Melbourne-Sydney-Brisbane-Perth

Email: [sales@hayward-pool.com.au](mailto:sales@hayward-pool.com.au) | Website: [www.hayward-pool.com.au](http://www.hayward-pool.com.au)

PO Box 4384 | Dandenong South VIC 3164

ABN 66 083 413 414

Sales Contact Ph: 1300POOLS1 Fax: 1300POOLS2



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