



# GLACIER POOL COOLERS, LLC OPERATOR INSTRUCTIONS, INSTALLATION AND SERVICE MANUAL

ALL MODELS

GPC 23 THROUGH GPC 280 SERIES

---



GPC 23-280 SERIES

PATENT NO:  
US 7,624,589 B1

MADE IN THE USA



---

GLACIER POOL COOLERS, LLC    P.O. BOX 5198    SCOTTSDALE, AZ 85261  
PHONE: (480)272-7700    FAX: (866)276-2083  
[www.glacierpoolcoolers.com](http://www.glacierpoolcoolers.com)

# **IMPORTANT INSTRUCTIONS FOR YOUR SAFETY**

This product must be installed and serviced by authorized personnel, qualified in pool equipment installation. Improper installation and/or operation could cause serious injury or property damage. Improper installation and/or operation will void the warranty.

When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

- 1. READ AND FOLLOW ALL INSTRUCTIONS  
BEFORE INSTALLATION!**
- 2. WARNING: TO REDUCE THE RISK OF INJURY, DO NOT PERMIT CHILDREN TO USE THIS PRODUCT UNLESS THEY ARE CLOSELY SUPERVISED AT ALL TIMES.**
- 3. SAVE THESE INSTRUCTIONS. DO NOT DISCARD!  
GIVE THIS MANUAL TO POOL OWNER!!**



## PREFACE

Adequate knowledge of pool cooler maintenance and control is necessary for optimum safe performance over time. In this manual, equipment, function, operation, and checking procedures will be described as follows:

## CAUTIONS DURING OPERATION

Keep hands and foreign objects away from fan motor and assembly at all times.

Since the cooling performance will be affected by the volume of the circulating water, be sure to maintain the regulation of water flow at all times.

Keep the interior of the cooler always clean and take care that no scale, calcium, salt, or debris accumulates.

When the level of the water in the basin drops, air is sucked in and cavitation may develop; therefore, it is necessary to keep the water at the proper level at all times. It is important to note that the water level should rise and fall with the pump operation. DO NOT try to balance the water level as doing so will eventually result in the basin being sucked dry and WILL NOT ALLOW WATER TO YOUR POOL PUMP, WHICH IN RESULT COULD DAMAGE THIS PUMP.

## WARRANTY INFORMATION

The Glacier Pool Cooler is sold with a limited factory warranty. A copy of the warranty is included in a plastic bag inside the cooler and on the back cover of this manual. The warranty does not cover damage caused by improper installation, operation, or field modification; or damage caused by corrosive water. See section on pool water chemistry and salt water pool disclaimer for guidelines.

Glacier Pool Coolers, LLC warrants all parts to be free from manufacturing defects in materials and workmanship for a period of one year from the date of retail purchase, with the following exceptions:

- Commercial models on commercial pools will be covered for two years

You can register your unit by emailing the following information to [registration@glacierpoolcoolers.com](mailto:registration@glacierpoolcoolers.com):

*PURCHASE DATE*

*RETAILER PURCHASED FROM*

*MODEL NO*

*SERIAL NO (located on fan motor plate)*

*YOUR NAME, INSTALLED ADDRESS, AND PHONE NUMBER*

# OPERATING INSTRUCTIONS

## CHECK THE COOLER

### Installer Needs To Check The Following BEFORE Installation:

1. Tighten any loose nuts and bolts on ALL areas outside of the pool cooler (visible) from top to bottom. These can come loose by vibration during shipping.
2. Tighten ALL bulkhead fittings at the bottom of the unit. This is done by tightening the union o-ring on the inside of the unit's basin.
3. Make sure the unit is leveled on the surface where it is being installed.

## TO START AND OPERATE COOLER

### MANUAL OPERATION

Close main drain. *(This is the far left 1" line with ball valve at the bottom basin.)*

Turn pool pump on.

Open center valve (about 10 % open) to the two o'clock position. This is the input line to the pool cooler. *(Installer should marked this valve after setting)*

Look through hand hole cover. Sprinkler wands should be turning at a "moderate" medium speed.

If sprinkler wands aren't turning, slightly open center valve more to allow increased water flow and air out of the line which will activate wands. If sprinkler wands are moving too fast, close valve off more. *(If water is splashing through the top of fan guard it is too fast.)*

Wait approx. 30 seconds while basin fills with water.

Open right valve (about 13% open) to the two ½ o'clock position. This is the output line back to the pool. The chilled water will drain out slowly. If the water does not show it is draining open your valve a little bit more until you see it draining down. **THIS IS YOUR SETTING ON THE OUTPUT LINE.** You want the water to drain completely and then rise again to the sump pump float switch. Then the sump pump will turn on drain the water basin again. This is how the cooler works with water flow going up and down. **DO NOT BALANCE THE WATER LEVEL, THIS WILL CAUSE OVERFLOWING OR CAVITATION.** *(Installer should mark valve after setting)*

Turn fan switch to the on position in the switch box or with your automated controls.



Setting inlet and outlet lines improperly can cause large scale water loss or flooding. Special attention must be made each time cooler is operating especially after any change to pool water pressure. Glacier Pool Coolers, LLC cannot be responsible for such water loss or flooding or resulting damage.

**IMPORTANT: OPERATE AND RUN YOUR POOL COOLER OVERNIGHT FOR MAXIMUM COOLING CAPACITY. A MINIMUM OF 10 TO 12 HOURS IS REQUIRED. WE DO NOT RECOMMEND OPERATING POOL COOLER DURING DAYTIME HOURS. THE HEAT FROM THE SUN AND DAYTIME TEMPERATURES WILL OVER POWER THE CHILLING PROCESS.**

## TURNING THE COOLER OFF

Turn the fan switch to the OFF position or turn your automated controls OFF to the chiller.

Close the center and right valves and open the main drain valve and leave open until next use.

THE COOLER SHOULD BE LEFT IN THIS POSITION WHEN NOT IN USE! FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN THE BURNING UP OF THE PUMP SYSTEM!

During summer months of operation, you DO NOT have to open and close the valves after every chilling cycle. Your check valves in line will hold the water in the pool coolers basin and will allow your pool pump to turn on and re-cycle and prime itself for the next day use. The pool cooler will keep cycling the pool water back through to the pool.

TO WINTERIZE YOUR POOL COOLER PLEASE FOLLOW THE INSTRUCTIONS ABOVE FOR TURNING OFF THE POOL COOLER.

*\*\*These instructions are for manual operation. If system is automated refer to your automated system instructions.*

## MAINTENANCE

### **Clean Basin**

Open the drain at the bottom of the water basin and drain. Remove dirt and debris and clear suction holes at base of pump and basin with pool water or hose as needed. Close the drain for start of operation.

### **Clean Fan Guard**

Clean leaves, pine needles, and any other debris from the top of the cooler on or around the fan guard.

### **Check Inside**

Remove hand hole cover and inspect interior of cooler. Remove any debris from top of PVC filling by reaching through the hand hole cover. ALWAYS MAKE SURE COOLER IS COMPLETELY TURNED OFF BEFORE REACHING INSIDE THE UNIT! NEVER PLACE HAND INSIDE UNIT WHEN FAN MOTOR IS ON!

## Pool Water Chemistry

Failure to maintain pool water chemistry can result in rusting, corrosion, or scaling buildup on your pool cooler. The proper chemical balance in your pool water should be the following:

pH level between 7.2 and 7.8

Total Alkalinity (TA) between 80-120 ppm

Total Dissolved Solids (TDS) less than 2000

## Salt Water Pools\*

Understand that salt is a corrosive mineral. Salt likes to remove ions and can take zinc away from galvanized steel and this type of chlorine is five times harder on pool equipment than regular chlorine. As such, use of a salt system may lead to the deterioration of certain materials if salt levels exceed the manufacturer's limits. Steps should be taken to protect your pool cooler and keep it in good working operation for many years. Our units are made of reinforced fiberglass, with galvanized steel components. Homeowner or operator **MUST HOSE DOWN WITH FRESH WATER REGULARLY ON THE FAN MOTOR SHAFT AND FAN MOTOR HOUSING AS WELL AS THE SPRINKLER HEAD ASSEMBLY LOCATED THROUGH THE FAN GUARD ( THIS IS THE CENTER PIECE CONNECTING THE SPRINKLER WANDS). FAILURE TO DO SO WILL CAUSE SALT RESIDUE BUILDUP AND WILL FREEZE UP THESE PARTS AND CAUSE DAMAGE.** Keep these parts cleaned with fresh water regularly to reduce salt build up and rusting (from the fan motor housing and shaft to the exterior visible nuts and bolts). As with all pool equipment there should be some expectation of cosmetic effects from the corrosiveness of salt water. These **cosmetic** effects will not hinder the operation of the pool cooler. Glacier Pool Coolers, LLC, however, does not warranty fan motors or pumps on salt water pools due to salt corrosion or buildup. All remaining parts are fully warranted as per our limited factory warranty.

## FAN MOTOR MAINTENANCE

Homeowner and/or operator needs to annually spray the fan motor casing with Rustoleum Paint ( color to match) to maintain the fan motor from rusting and/or corroding. This will keep the fan motor from rusting and keep its performance working for years to come.

 **CAUTION**

**Keep all objects off the top of the cooler and do not obstruct louver openings in cooler sides. Blocking ventilation air flow may damage the cooler and void the warranty.**

# INSTALLATION INSTRUCTIONS

## GENERAL REQUIREMENTS

All Glacier Pool Cooler models require correct installation to assure safe and satisfactory operation. The requirements for pool coolers include the following:

1. Appropriate site location and clearances. Cooler must be installed at least 18 inches away from buildings, walls, or fences made from material that could degrade from water exposure. Our coolers are open systems that may experience some water splatter or misting.
2. Sufficient supply clean air and ventilation around and above the unit. A minimum of a 5 foot clearance above the unit is necessary to avoid condensation on the structure above.
3. Adequate water flow is required by your existing pool pump.
4. Do not locate pool cooler in an enclosed room (i.e. maintenance room, garage, utility room, equipment room).
5. SEE INSTALLATION INSTRUCTIONS DIAGRAMS FOR APPROPRIATE INSTALLATIONS.

 **WARNING**

When pool equipment is located below the pool surface, a leak from any component can cause large scale water loss or flooding. Installation **MUST** have automated valves. Glacier Pool Coolers, LLC cannot be responsible for such water loss or flooding or resulting damage.

**SEE INSTALLATION DIAGRAMS FOR EXISTING AND NEW POOL SET UPS. AUTOMATION INSTRUCTIONS ARE LOCATED ON SEPARATE PAGES.**

## ELECTRICAL POWER

### WIRING

All GPC-23 through GPC-220 models are single phase and require electrical power from a 115V 60 Hz source.

All GPC-230 through GPC-280 models are 3 phase and require electrical power from a 220/480V 60 Hz source.

**See installation diagrams for wiring instructions.**

 **WARNING**

**ELECTRICAL SHOCK HAZARD.** Residential pool coolers contain low voltage wiring. Commercial pool coolers contain high voltage wiring. Contact with these wires may result in severe injury or death. Wiring errors can cause improper and dangerous operation.

# TROUBLESHOOTING

## EXCESS SPLATTER COMING FROM THE TOP OF THE COOLER

If there is water droplets splattering out the top of the cooler you need to slow your sprinkler wands down. In order to do this simply restrict the flow of water coming into the unit by slowly turning the ball valve back on the IN line. The wands should be turning at a slower of "walking" rate of speed. As a rule of thumb both the IN and OUT valves should be positioned at about the 2 o'clock position.

## MY COOLER ONLY DROPPED MY POOL DOWN BY 5 DEGREES. IS THERE SOMETHING WRONG?

If a desirable drop in degrees is not established within an 8-12 hour period, there may need to be some use adjustments. Always make sure that the sprinkler wands are turning at a slower or "walking" rate of speed. It is recommended that the cooler run at night when the sun is off the pool. An initial drop in temperature should be expected overnight. If the sun warms the pool back up by afternoon, just turn the system on to keep your pool refreshing. Please be reminded that all pools are different and your pool's finish (i.e. dark bottom, pebble bottom), location (in the sun all day), and equipment location (over 15 ft. run from equipment to pool), among other variables can cause different cooling results. It may take some time to figure out what settings suit your preferences. You might need to run the cooler for a longer period of time.

## IS THE WATER SUPPOSED TO FILL UP IN THE BASIN AND THEN DRAIN EVERY FEW MINUTES?

Yes. The cooler is designed so that the cool water collects in the basin and the internal pump system kicks on and pushes the water back into your pool. You should never try to balance the water flow as this will eventually cause cavitation in your pool pressure. **DO NOT TRY TO BALANCE TO WATER LEVEL IN YOUR COOLER'S BASIN! THE LEVEL IS SUPPOSED TO GO UP AND DOWN.**

## WHAT DO I NEED TO DO TO WINTERIZE MY COOLER?

You must keep your IN and OUT valves closed and your main drain ball valve (the bottom left valve) open so the system is drained and will stay empty from rain water. If water stays in the basin over the off-season it could potentially burn up your pump. You may also want to purchase a cover or tarp to keep any leaves or debris out of the fan area and basin especially if the cooler is under or around trees or bushes. Upon start-up at the beginning of the summer season, make sure the unit is clear of debris especially around the pump. A good hose down should do the trick.

## SUMP PUMP IS NOT WORKING

The sump pump float switch is the power switch to the pump. If the float switch is stuck and does not activate the pump, pull one side louver out and reach into the basin and see if you can manually move the float switch up to activate the pump. If the pump vibrates, there is power to it. If the water level still does not reduce in the basin then there may be some debris stuck in the impeller which is located at the bottom of the pump. Cleaning this out should solve that problem. If the float switch goes up and there is no vibration, the wiring configuration and/or power to the pump should be looked at. **ALL POOL COOLERS ARE TURNED ON AND TESTED IN THE FACTORY PRIOR TO SHIPPING.**



#### SPRINKLE WANDS ARE STUCK AND ARE NOT SPINNING

Make sure all power is turned off to the unit. Take the hand hole cover off on the side panel of your cooler. **DANGER!!! MAKE SURE YOUR FAN MOTOR IS NOT RUNNING!** Reach into the hand hole to the sprinkler head assembly located in the center of the cooler. Spin the assembly clockwise to see if it is moving freely and to make sure that there is no debris in or around the wands. If there is debris clean accordingly. Our units require pressure to allow the wands to spin. You may need to increase water flow by opening the "IN" valve to the cooler to make the wands spin.

#### COOLER IS OVERFLOWING

Immediately shut the valves "IN" and "OUT" of the cooler. Check to make sure that there is power to the pump. Follow instructions above for sump pump troubleshooting.

#### CONTROL THE TEMPERATURE OF MY POOL

Our residential coolers do not come with thermostat controls. Cooling is determined by the run time of your pool pump. If it's too cold, cut back your hours. If it's not cool enough, run your pump longer. Now if your pool is automated our pool cooler can integrate into your system and a temperature range can be set through your automated system.

YOU MAY ALSO CONTACT OUR TECHNICAL SERVICE DEPARTMENT BY EMAILING [ADMIN@GLACIERPOOLCOOLERS.COM](mailto:ADMIN@GLACIERPOOLCOOLERS.COM) OR CALLING 480-272-7700.



Glacier Pool Coolers, LLC and Glacier Pool Coolers is a registered trademark. All other brand names, products names or trademarks belong to their respective holders.

# BASIC PARTS LIST FOR INSTALLATION

## PLUMBING

### EXISTING POOL

QTY	PART
2	2" 2 LB. JANDY CHECK VALVES
2	2" T-FITTINGS
2	2" TO 1.5" REDUCERS
10	90 DEGREE ELBOWS
2	1.5" MALE ADAPTERS (THREADED) OR NIPPLES
2	2" BALL VALVES - STANDARD
1	1" MALE ADAPTER (THREADED) OR NIPPLES
1	1" PLUG (THREADED)
12"	1" PVC PIPE
20 FT	2" PVC PIPE (EST. FT)
1	1" BALL VALVE - STANDARD

### NEW POOL BUILD

QTY	PART
1	2" 2 LB. JANDY CHECK VALVES
1	2" T-FITTING
1	2" TO 1.5" REDUCER
5	90 DEGREE ELBOWS
2	1.5" MALE ADAPTERS (THREADED) OR NIPPLES
1	2" BALL VALVES - STANDARD
1	1" MALE ADAPTER (THREADED) OR NIPPLES
1	1" PLUG (THREADED)
12"	1" PVC PIPE
20 FT	2" PVC PIPE (EST. FT)
1	1" BALL VALVE - STANDARD

## ELECTRICAL

### EXISTING AND NEW POOL BUILD

QTY	PART
	.5" SEAL TIGHT CONDUIT (DETERMINE FT)
2	.5" CONDUIT CONNECTORS (water tight)
14	GAUGE WIRE - 3 COLORS

### EXISTING POOL

2 - 3-WAY AUTOMATED ACTUATOR VALVES

### NEW POOL

1 - 3-WAY AUTOMATED ACTUATOR VALVE

\*\*ADDITIONAL PARTS MAY BE NEEDED FOR AUTOMATED SYSTEMS

# GLACIER POOL COOLERS, LLC

## LIMITED WARRANTY

Glacier Pool Coolers, LLC warrants all parts to be free from manufacturing defects in materials and workmanship for a period of one year from the date of retail purchase, with the following exceptions:

- Commercial models on commercial pools will be covered for two years

This warranty is limited to the first retail purchaser, is not transferable, and does not apply to products that have been moved from their original installation sites. The liability of Glacier Pool Coolers, LLC shall not exceed the repair or replacement of defective parts and does not include any costs for labor to remove and reinstall the defective part, transportation to or from the factory, and any other materials required to make the repair. This warranty does not cover failures or malfunctions resulting from the following:

- Failure to properly install, operate or maintain the product(s) in accordance with our published Installation and Operation Manual provided with the product(s).
- The workmanship of any installer of the product(s).
- Not maintaining a proper chemical balance in your pool water [pH level between 7.2 and 7.8, Total Alkalinity (TA) between 80 and 120 ppm, Total Dissolved Solids (TDS) less than 2000].
- Abuse, alteration, accident, fire, flood, lightening, rodents, insects, debris, negligence, or acts of God.
- Scaling, freezing, or other conditions causing inadequate water circulation.
- Use of non-factory authorized parts or accessories in conjunction with the product(s).
- Chemical contamination or improper use of sanitizing chemicals.
- Incorrect wire runs, improper electrical supply, collateral damage caused by improper operation and maintenance.
- Damage or corrosion from, or buildup of salt on fan motors, pumps, or any other moving or non-moving parts resulting from a salt chlorination/generating pool. See salt pool disclaimer in Operations Manual.
- Damage from shipping/freighting from manufacturer.

### LIMITATION OF LIABILITY:

This is the only warranty given by Glacier Pool Coolers, LLC. No one is authorized to make any other warranties on Glacier Pool Coolers, LLC's behalf. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY. GLACIER POOL COOLERS, LLC EXPRESSLY DISCLAIMS AND EXCLUDES ANY LIABILITY FOR CONSEQUENTIAL, INCIDENTAL, INDIRECT, OR PUNITIVE DAMAGES FOR BREACH OF ANY EXPRESSED OR IMPLIED WARRANTY. This warranty gives you specific legal rights. You may also have other rights which vary by state or province.

### WARRANTY CLAIMS:

For prompt warranty consideration, contact your dealer and provide the following information: Proof of purchase, model number, serial number, and date of installation. The installer will contact the factory for instructions regarding the claim. If the dealer is not available, you can find an authorized service provider in your area by visiting [www.glacierpoolcoolers.com](http://www.glacierpoolcoolers.com) or by calling our technical support department at 480.272.7700. All returned parts must accompany a return authorization number issued by Glacier Pool Coolers, LLC and require inspection prior to a warranty being fulfilled. Glacier Pool Coolers, LLC has the right to replace any warranty claim with a refurbished part. All replacement parts are warranted for the initial one year from date of purchase.