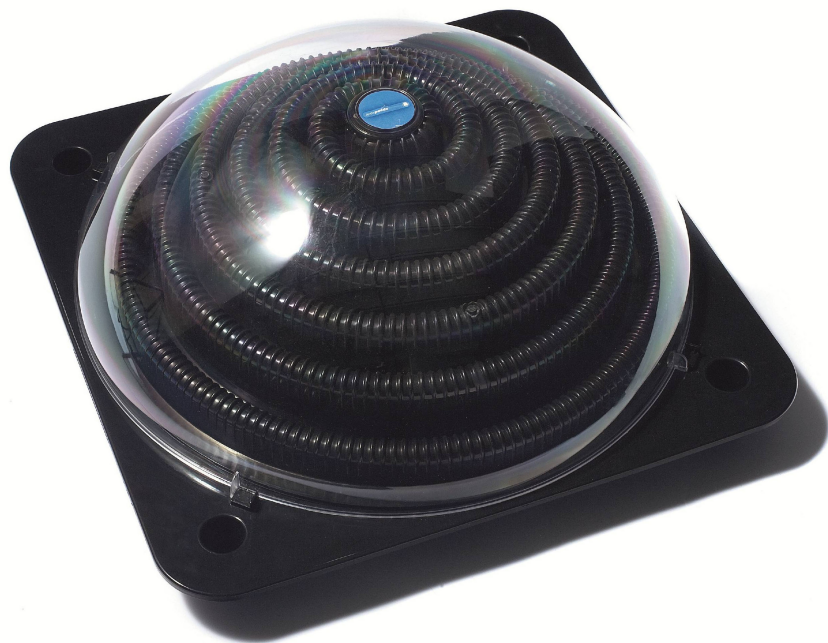


AQUA[®] FORTE

Solar Collector

OWNER'S MANUAL



Basic safety precautions are always observed. Errors caused by not following the instructions below could result in serious injury or serious accidents.



CAUTION

Read all instructions before assembling and using this product. Failure to follow instructions can cause severe and/or fatal injury.



IMPORTANT

Read all instructions and all CAUTION and NOTE notices located throughout this manual before assembling and using this product.

- Do NOT allow children to operate this product.
- Always turn off the filter system when installing or working on the solar collector.
- Install the unit out of reach of children.
- Install product away from the pool to prevent children from using the heater as a way to access the pool (enough safety distance).
- Do not use any petroleum based lubricant. Petroleum based products will destroy plastic parts.

Important Note: If the solar collector is not used (i.e. the filter pump was turned off) it must be covered with the cloth cover (included), otherwise the wires overheat in strong sunlight and are damaged by this!



ADVICE

Security Advice:

These safety warnings are not a guarantee of absence of potential problems or claims. The swimming pool owner should always handle the purchased unit with care.

Your Pool Heater has been engineered and manufactured to our highest standard for dependability, ease of operation and safety. With proper care, it will give you years of durable, trouble-free performance.

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1 Safety Warnings

Read all instructions **BEFORE** assembling and using this product.

Caution: Failure to follow instructions can cause severe and/or fatal injury.

- Carefully read this manual and all CAUTION and NOTE notices located throughout this manual.
- Do NOT allow children to operate this product.
- Always turn off the filter system when installing or working on the solar collector.
- Install product away from the pool to prevent children from using the heater as a way to access the pool (enough safety distance).
- Do not use any petroleum based lubricant. Petroleum based products will destroy plastic parts.



ADVICE

These CAUTION warnings are not intended to incorporate all possible instances for risk and/or severe injury. The pool owner should always exercise caution and common sense when utilizing their swimming pool and operating equipment.

2 General Information

2.1.1 Requirements for the installation of a solar collector

The solar collector you just purchased for your above ground pool is simple to install and effortless to operate once connected. The installation instructions included in this manual are based on a few assumptions:

- 1) You have an existing above ground pool that is completely set up and filled with water.
- 2) Your above ground pool is equipped with a pump-operated water filtering system. A filter pump with a flow capacity of at least 2000 litres/hour and a maximum operating pressure of 1 bar is required. Pool water is pumped through the solar collector using your existing filter pump.
- 3) You have the necessary hoses needed to feed water in and out of your pool and filter system (32 mm Ø or 38 mm Ø).
- 4) If you are planning to install the solar collector on the roof of a garden shed or somewhere similar, make sure that your pump is able to pump to that height, and that the filter tank is designed to withstand the resultant increase in pressure (1m of height = 0.1 bar of pressure).

These assumptions are necessary as the solar collector, once installed, will be completely dependent upon your pool's filter pump to push water in and through the heater's solar coils.

2.1.2 How It Works

When properly installed, the solar collector will be connected to your filter and your pool by two hose connections: One hose will feed cold, filtered pool water from your pump into one port of the solar collector. The other hose will feed sun warmed water from the other port of the solar collector to your pool via the pool return inlet in your pool. As cold water is fed into the solar collector, it travels through the solar coils where it is heated by the sun before it is delivered back into your swimming pool.

By the solar radiation, the spiral-shaped plastic tube of the solar collector is heated. This heat is transferred to the flowing water and then piped into your pool. The warming of the water depends on the following factors: the flow rate and solar radiation.

Sunshine is required for the solar collector to operate. The solar collector can be left connected even when the sun is not shining, since its installation leads to only a slight loss of pressure.

2.1.3 Unpacking Your Solar Collector

Carefully remove the product and all component parts from the box. Make certain all parts are present before beginning assembly. (see Section 4, Parts List/Reference).

2.1.4 Tools & Equipment Required

The following items are not included with your new solar collector, but will be required for proper installation and operation:

- #2 Phillips screwdriver
- ¼" Flat head screwdriver
- Silicone based lubricant

2.1.5 Know Your Pool

Before you begin installation it is a good idea to know certain specifications about your pool:

- How big is your pool?
- What size hose does it use between pool and filter pump (i.e. 32 mm Ø or 38 mm Ø)?
- What kind of hose connection does your pool use? (i.e. threaded/unthreaded)
- What location will position the heater for maximum solar exposure?

2.1.6 Solar Collector Location

Your solar collector needs a place with maximum possible sunlight.

- You will need to position the heater lower than the pool's water level.
- There has to be a safe distance away from the pool (safety distance).
- The solar collector has to be set up in a way which enables maximum possible sunlight. Also consider an optimal angle to the sun, but this angle should be not more than 30°.
- The solar collector's fold-out supports enable it to be correctly angled.

NOTE: The solar collector is to be installed between the filter system (after the water is filtered) and the pool water inlet, AFTER the water is filtered. The solar collector must come after the filter to prevent buildup in the tubing.

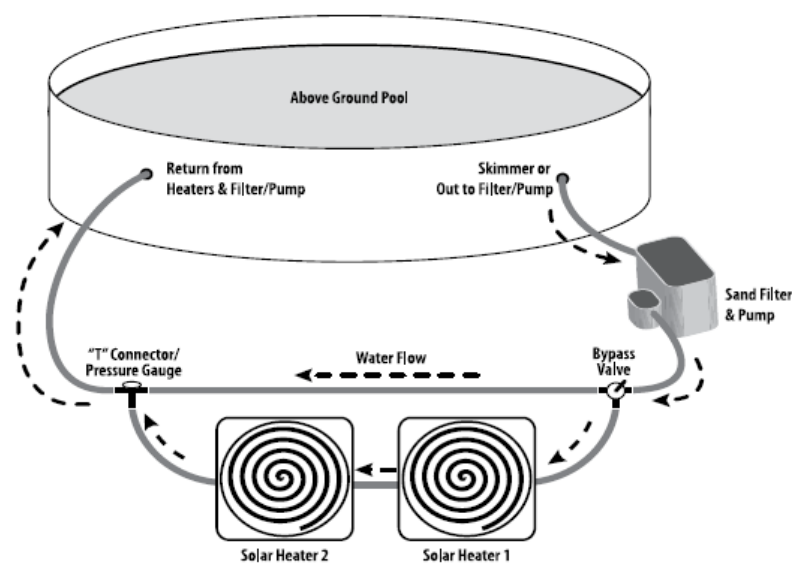
Before installing the solar collector, make sure that the suction and pressure hoses on the filter are closed or blocked to prevent water flow.

2.1.7 Connecting Multiple Units

DO NOT install multiple units directly into the return line. Doing so may damage the product and will void the warranty.

To install multiple units, you MUST use a bypass valve and "T" connector with pressure gauge (not included, but optionally available under the Article No. 00-60045 Bypass Set). The hose for a multiple unit installation MUST be at least 32 or 38 mm diameter.

For further information regarding the installation of the solar collector please contact our customer service or ask your local swimming pool specialty retailer.



The water flows through the filter system to the solar collector and then back to the pool.

2.1.8 Maintenance

To prevent damage, the solar coils should always be covered with the clear acrylic dome included in the package. The solar collector should not be exposed to cold weather. Prior to the first frost, or at the end of your swim season, the solar collector should be removed from its connections to the pool and stored in a frost free location.

2.1.9 Cloth Cover

A dome cover is included which can be used to cover the solar collector during the hottest days when your pool water does not need additional heating assistance. This cover can be used as a protection during the storage in winter.

Important Note: If the solar collector is not used (i.e. the filter pump was turned off) it must be covered with the cloth cover (included), otherwise the wires overheat in strong sunlight and are damaged by this!

2.1.10 Winterizing

Drain all the water from the solar collector by disconnecting the tubes. Store in a location protected from frost. Reconnect the pool return tubes.

Do NOT allow standing water inside the solar collector to freeze. Water expands as it freezes and can rupture the solar coils on the heater.

3 Technical Data

3.1.1 Technical Data

- Dimensions: L 570mm x W 570mm x H 270mm
- External dome: 560mm
- Hose diameter: Inside 24mm – Outside 38mm
- Weight: 8,0 Kilogram
- Water capacity: 10 Liter
- Max. pressure: 1 bar at 20°C
- water passage: min. 2.000 l/h; max. 7.500 l/h

3.1.2 Heating Power

Pool Volume	Days required to increase pool water temperature by 3°C *			
	1 Heater	2 Heaters	3 Heaters	4 Heaters
4000 Liter	1,7	0,8	0,6	0,4
9000 Liter	3,9	1,9	1,4	1,0
14000 Liter	6,2	3,1	2,1	1,6
19000 Liter	8,4	4,2	2,8	2,1
22000 Liter	9,8	4,9	3,3	2,5

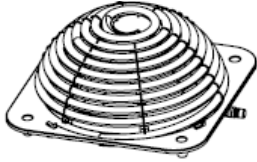
* Results based on 10 hours of direct sunshine per day and may vary with changes in weather. The Pool has been covered with a solar plane. Outside temperature 20°C.

NOTE: Connecting 2 or more Pool heaters requires use of a Bypass-Kit (sold separately).

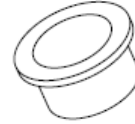
4 Parts List/Reference

4.1.1 Primary Components

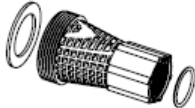
1x MAIN BASE WITH STAND



2 x HOSE REDUCER 38/32 mm

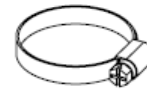


1 x INTEX SPECIAL ADAPTER WITH O-RING



Only used, if you connect the solar heater to an INTEX-Pool with a filter pump power starting from 5.700 l/h.

2 x HOSE CLAMP



1x LONG FILTER HOSE Ø 38 mm - length approx. 100 cm



1x SHORT HOSE Ø 38 mm - length approx. 40 cm



Only used, if you connect multiple units.

1x CLEAR DOME with CLOTH COVER



OWNER'S MANUAL

Note: Some parts may be pre-installed at the factory. Parts not shown to scale.

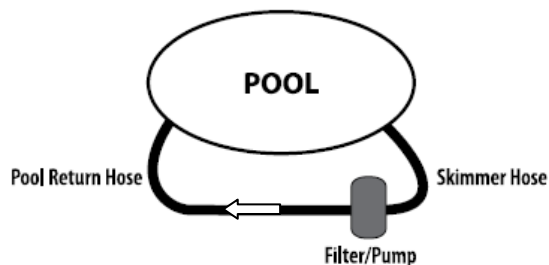
The solar collector is provided with connections for 32mm and 38mm hoses, and is compatible with INTEX-type adapters.

5 Installation Instructions

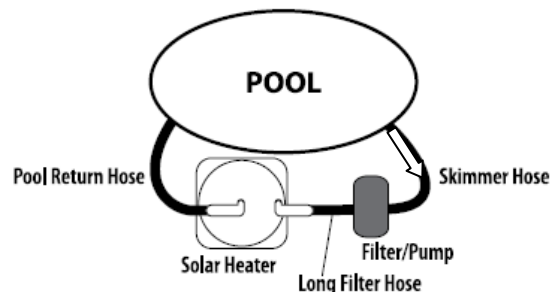
5.1.1 Assembly Instruction

The system layouts below will help you install the solar collector(s) to your above ground pool:

BEFORE INSTALLING SOLAR HEATER



AFTER INSTALLING SOLAR HEATER



NOTE:
not shown to scale.

Place the heater in a location where it will receive the greatest amount of sunlight, but keep a sufficient minimum distance from pool. **NOTE:** Hose connectors may come preinstalled.

Always ensure that the solar collector faces in a SOUTHERLY direction, and that solar radiation on the solar collector is unrestricted throughout the day. Make sure that the solar radiation is not disturbed by plants or other obstacles.

By expending the feets the optimum angle of the sunbeams can be reached. We recommend that the same angle is used for roof installations.

6 Assembling

The only tool you will need is a screwdriver with which to secure the hoses to the solar collector. For a "single" installation, you can use the long hoses which are included in the contents. If you wish to connect more than one system together, use the short hose, which is also included in the contents. We recommend that a maximum of four solar collectors are connected in series. If more solar collectors are required - to heat a larger pool for example - we recommend that they be installed in two or three parallel rows.

7 Installation

Unpack the solar collector and make sure that it contains the following parts:

1. Solar collector with removable hemispherical transparent cover.
2. Supports for fitting to the underside of the system in order to elevate to an angle of 30°.
3. Long hose (approximately 1.2 metres) for connecting the solar collector to the pool.
4. Short hose for connecting two solar collectors to one another.
5. Two 32/38 mm connection adapters
6. (Please note: the 00-40934 special adapter for use with larger "INTEX" pools is not included in the contents)
7. Set of hose clamps
8. Rubber reducer, 38/32 mm
9. White hood-shaped cover
10. Setup Instructions

- Determine the correct position for setting up the solar collector.
- Switch off the pump and ensure that no water can run out of the pool by blocking or shutting off the pool inlet.

- Attach the supports to the underside of the solar collector.



- Attach the two connection adapters to the underside of the solar collector.



- Connect the hoses between the filtration system, the solar collector and the pool.



- **32 mm hose connection installation:** This is pushed directly over the connection adapter and secured with the hose clamp.



- **38 mm hose connection installation:** The 32/38 mm rubber reducer is first pushed over the connection adapter. Next, the 38 mm hose is pushed over the reducer and secured with a hose clamp.



- **Optional (not included) Intex special adapter:** Intex special adapter No. 00-40934, required for larger INTEX pools fitted with a cartridge filter system (with a flow rate from 5,700 litres/hour).

Ensure ALL hose connections are tight and the hoses are NOT kinked or bent at severe angles. If the hoses are leaking, check to make sure ALL of the parts that have O-Rings have them attached and are screwed on tightly. DO NOT over tighten hose clamps (15 kg max torque).

- Clean any dust or dirt from the hemispherical transparent cover.
- Open the pool inlet and switch on the pump.
- Check the device and hose lines for tightness.
- And now, with the help of the solar collector, you will be able to save money and heat your water for free.

7.1.1 Initial Operation

Once the solar collector has been assembled and the hoses are connected to the filter pump and pool return, unblock the flow of water into the pool return hose and turn on the pump and filter system. Bubbles will shoot out of the return nozzle into the pool initially while air is pushed out of the solar collector. If this persists for longer than 2 or 3 minutes, check for and repair any leaks in the hoses or connections.

NOTE: Be sure to place your pool cover on at night to prevent heat loss.

8 Troubleshooting

Problem	Reason/Solutions
The pool water is not heated.	<ul style="list-style-type: none"> • Check to make sure that water is flowing through the tubes. • Has it been sunny? • Use the maximum possible solar radiation and increase the running time of the filter pump • Put your pool cover on at night to prevent heat loss. • Additional heaters may be necessary.
No initial bubbling after heater is connected and pump is on.	<ul style="list-style-type: none"> • Check the setting of the filter system to make sure it is returning water to the pool through the filter pump, then through the solar collector and afterwards through the connection hose back to the pool.
Bubbles continue to flow out of the pool water inlet well after the pump has been turned on.	<ul style="list-style-type: none"> • Check the connection hoses for possible damages. • Check if the hose clamps have been tightened enough.
Leaking heater.	<ul style="list-style-type: none"> • Check the connector seals in the pipeline system. • Check if the hose clamps have been tightened enough. • Check the connection hoses for cracks.

9 Limited Warranty Statement

The manufacturer provides the warranty and reliability only under the following conditions:

- The solar collector was set up correctly, connected and put into operation according to instruction.
- Only original parts have been used.
- Consumable parts are not covered by warranty!