HI TEMP
SOLAR HEATING SOLUTIONS

EDPM SOLAR POOL PANELS

INSTRUCTION MANUAL

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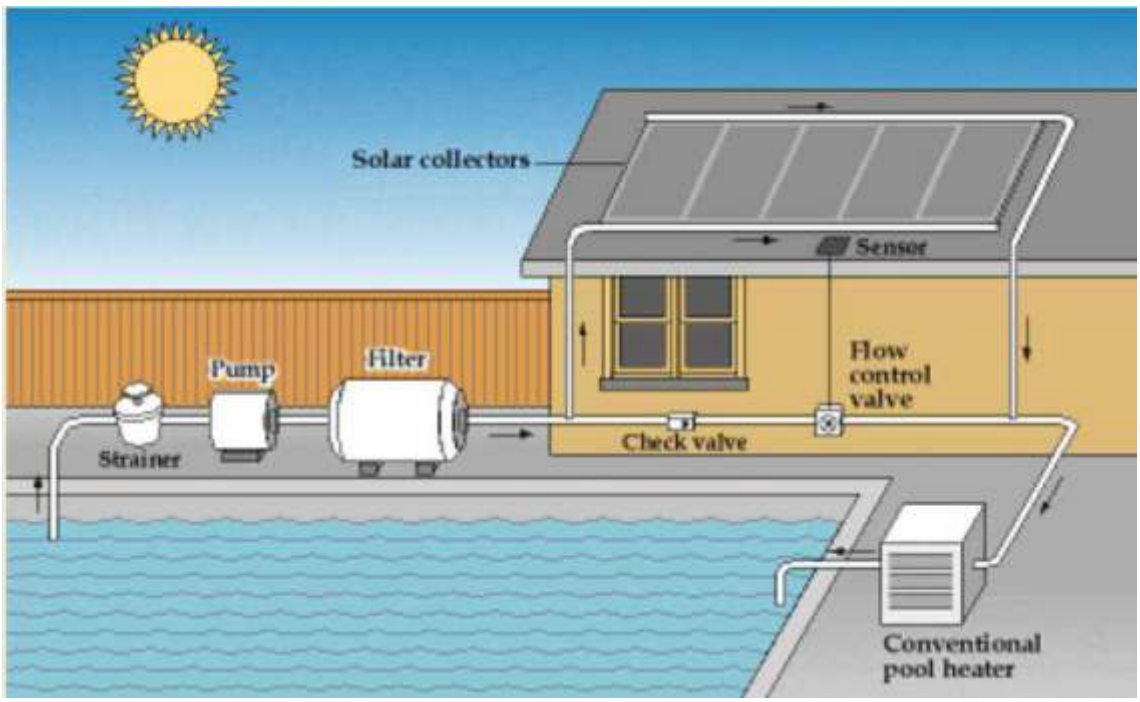
:: INTRODUCTION

Solar Pool Heating System provides you and your family with a cost-effective and environmentally conscious way to keep your pool warm and inviting even during the winter months. Contrary to common belief, there is enough solar energy, even in cold area, to warm your pool to summer levels. There may be short period during inclement weather when the pool water becomes cooler; however, several sunny days will return the pool back to a comfortable temperature.

:: HOW IT WORKS

Pool water is pumped through the filter and then through the solar collectors (panels), where it is heated before it is returned to the pool. A whole set of solar pool heating system includes the following:

- **A solar collector** - the device through which pool water is circulated to be heated by the sun
- **A filter** - removes debris before water is pumped through the collector
- **A pump** - circulates water through the filter and collector and back to the pool
- **A flow control valve** - automatic or manual device that diverts pool water through the solar collector

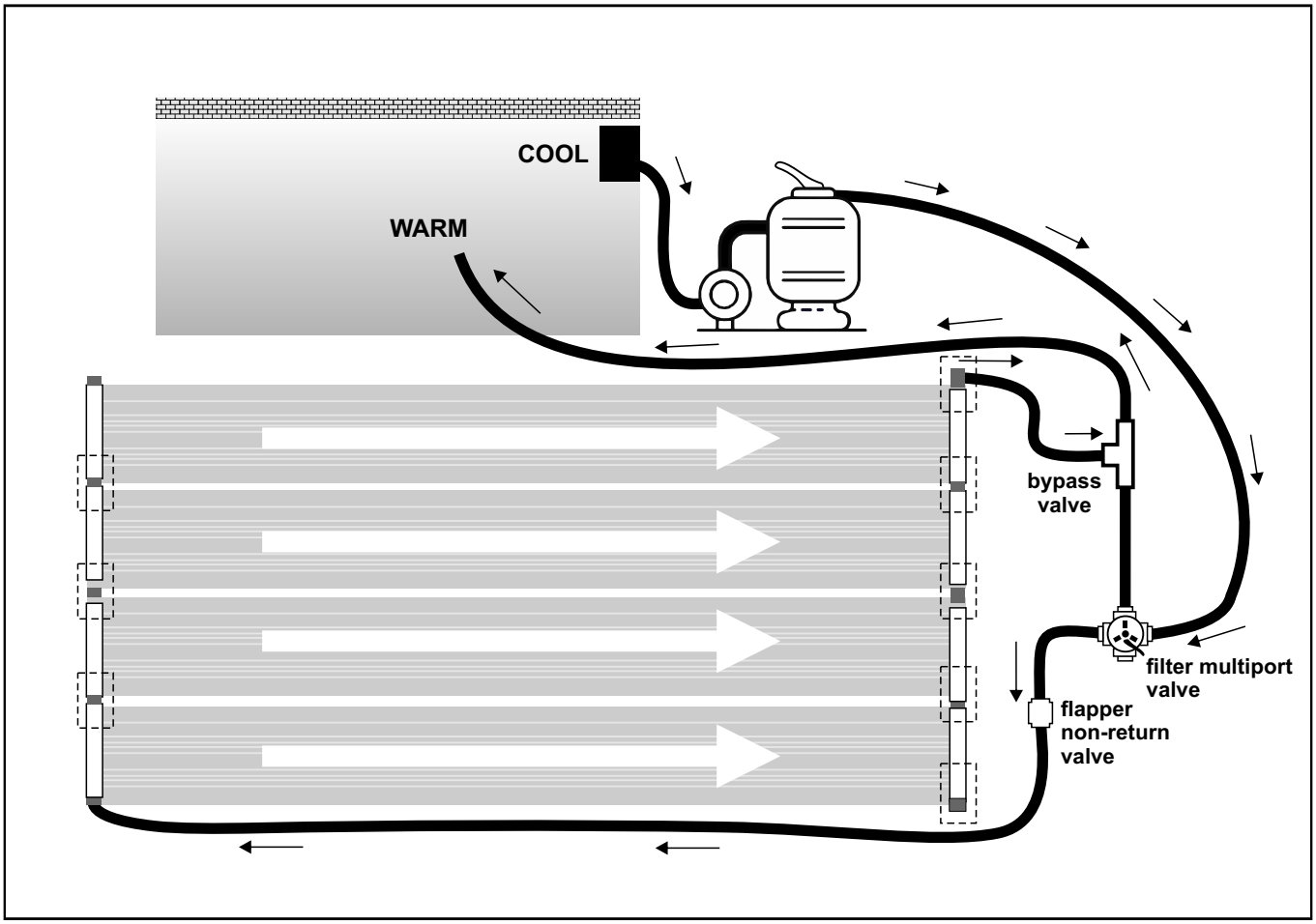


:: BENEFITS

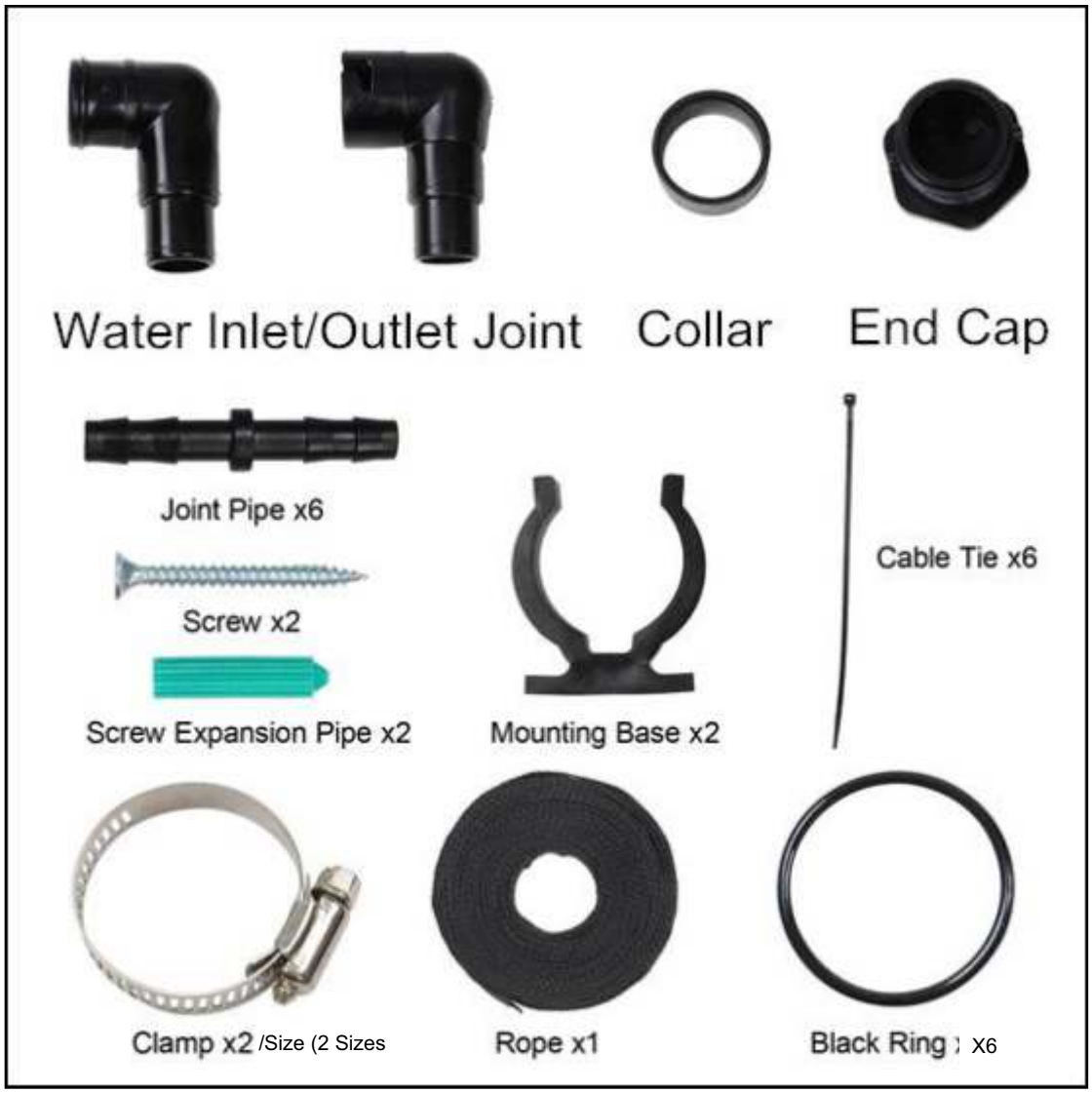
- Can extend swimming season up to 12 months
- Have no operating costs
- No pollution, no fuel needed
- Quick and easy installation
- Minimal maintenance required

:: SYSTEM LAYOUT

If your pool pump is greater than 0.5HP, please use a set of diverter kit to shunt the flow (as shown below):



:: PARTS WE PROVIDE:



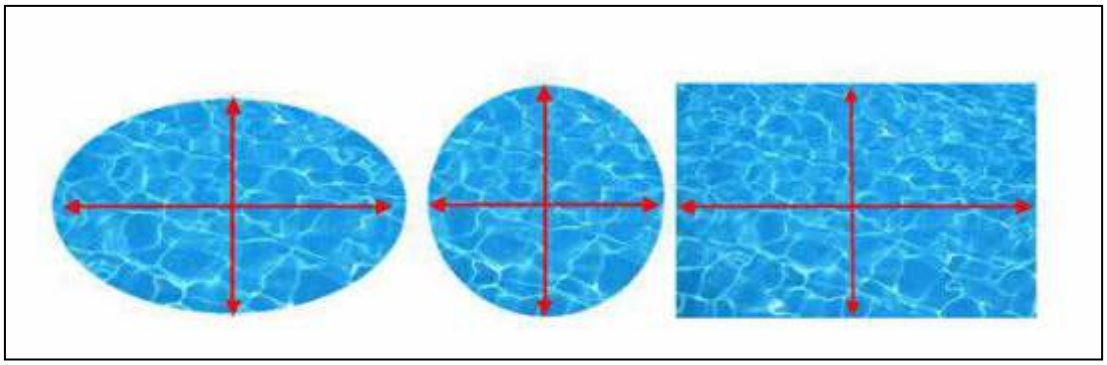
:: INSTALLATION

The proper installation of a solar pool heating system depends on many factors.

These factors include solar resource, climate, local building code requirements, and safety issues. Therefore, it's best to have a qualified technician install your system or thoroughly read & follow this manual.

STEP #1 Sizing Your Solar Pool Heater

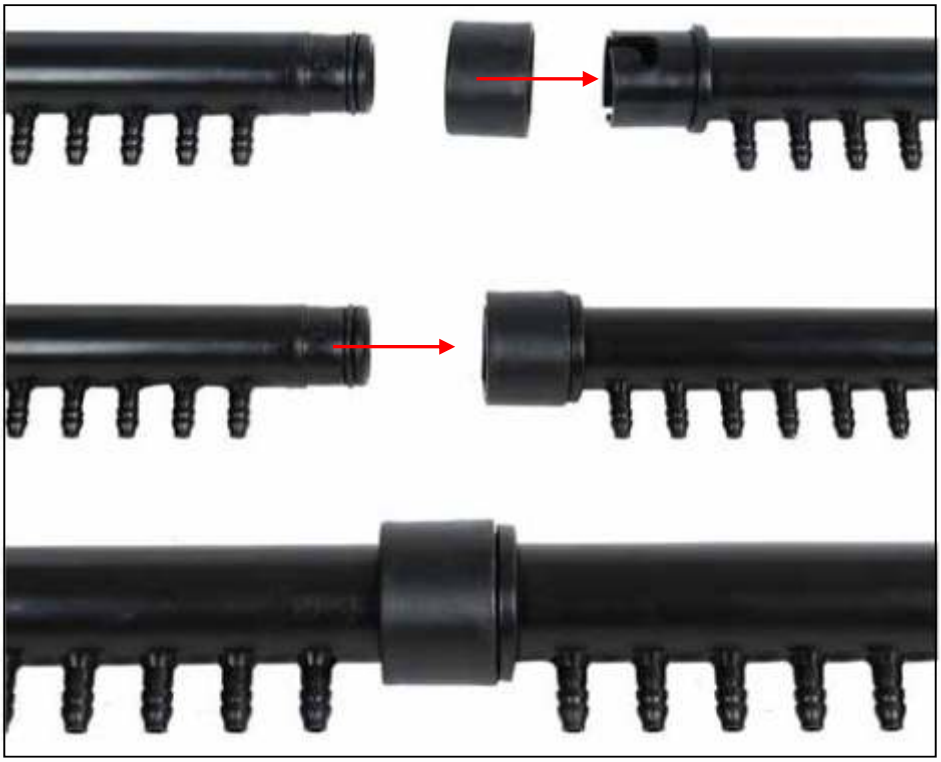
Basically, the surface area of your solar collector should at least equal 70% of the surface area of your pool. In cooler and cloudier areas, you may need to increase the ratio between the panel area and the pool surface area. Adding panel square footage also lengthens the swimming season.



Measure pool size surface area and divide by 7.2 = number of panels. Example: 10m x 5m pool will require 7 panels [10 x 5 / 7.2 = 6,94 panels]. You can buy enough panels as long as you need.

.:: PANEL BODY TIE-DOWNS

If you need to use two or more solar collector panels, connect them in parallel. Flexible solar collector panels that are designed to fit together in a parallel ganged arrangement reduce the overall water pressure while heating the same amount of water. As illustrated below:



STEP #2 Siting Your Solar Pool Heating System 's Collector

Panels can be mounted on roofs or anywhere near the swimming pool that provides the proper exposure, orientation, and tilt toward the sun. Both the orientation and tilt of the panel will affect your solar pool heating system's performance.

:: COLLECTOR ORIENTATION

Solar pool heater panels should be oriented geographically to maximize the amount of daily and seasonal solar energy that they receive. In general, the optimum orientation for a solar collector in the northern hemisphere is true south.

:: COLLECTOR TILT

The angle at which a panel should be tilted varies based on your latitude and the length of your swimming season (summer or year-round). Ideally, panels for summer-only heating should be tilted at an angle equal to your latitude minus 10o-15o. Panels for year-round heating should be tilted at an angle equal to your latitude. However, studies have shown that not having a panel tilted at the optimum angle will not significantly reduce system performance. Therefore, you can usually mount panels flat on your roof, which might not be at the optimum angle but more aesthetically pleasing.

Here are some ways to run the system for best results:
Place the solar collector panel where it sees the most sunlight when the pool pump is running.
If you place the solar collector panel on your roof, try to minimize resistance to the water flow.
Keep the solar panel out of the wind as much as possible.
For best heating results, run the pool pump during the sunniest time of the day; running it longer will result in more heat in the pool.

STEP #3 Attaching to your roof

Assembling the system
There are three parts need to be assembled into the Header, respectively are water inlet/outlet joint and end cap. The water inlet joint should be assembled into one end of the Header, and the end cap into the other end while the water outlet should be assembled into the diagonal end of the water inlet joint. Spin the joint until it is completely aligned. As illustrated below.

Attaching the end cap
Start by snapping the Header into the collar and the end cap into the black ring. In the end, cover the Header with end cap.

Attaching the water inlet/outlet joint

Snap the collar onto the Header

Insert the water inlet/outlet joint into the Header and be sure to align the embossing on the joint to the groove of the Header.

Spin the joint and until it is completely aligned

Mounting the Header

Wherever you site the system, you should affix it firmly. For example, attaching the system to your roof, you need to select the precise location at first. Use a pencil to mark an "X" on the roof where the screw will go. Afterwards, use a drill or an electric drill to start the pilot hole for the screw. Hammer the screw expansion pipe (plastic sleeve) into the hole, and tap the screw into the hole after aligning to the mounting base's hole. In the end, snap the Header in the mounting base.

:: ATTENTION

1. Solar water heating systems, which use liquids as heat-transfer fluids, need protection from freezing in climates where temperatures fall below 42°F (6°C).

For protecting the panel and piping from damage due to freezing temperatures, you basically may drain the panel(s) and piping (the header), either manually or automatically, when there's a chance the temperature might drop below the liquid's freezing point. Usually an air vent is installed at the highest point in the header. It is a good practice to insulate air vents so that they do not freeze. Also make sure that nothing blocks the airflow into the system when the drain cycle is active.

NOTE If panels are installed on a flat roof, they will not drain. In this case, each panel will have to be lifted up and manually drained of all water.
2. When you go punching holes on the roof with drill, make sure the drill bit be a little smaller than the closed end of the screw. If the bit is too big, the screw will notfit snugly inside of the hole.
3. The piece of rope and cable ties may be used for affixing the panel according to your need.

4. How to repair/fix a broken solar panel?
The are many possible ways to damage a solar panel. However, if only a small piece of panel damaged, the repair can usually be done simply by adding a joint pipe.

Make a cross cut on the panel, and then insert the joint pipe into the hole.

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