Solar Pool Heating

Techno-Solis

Agenda

Part 1:

4 Most Important Things To Know about SPH

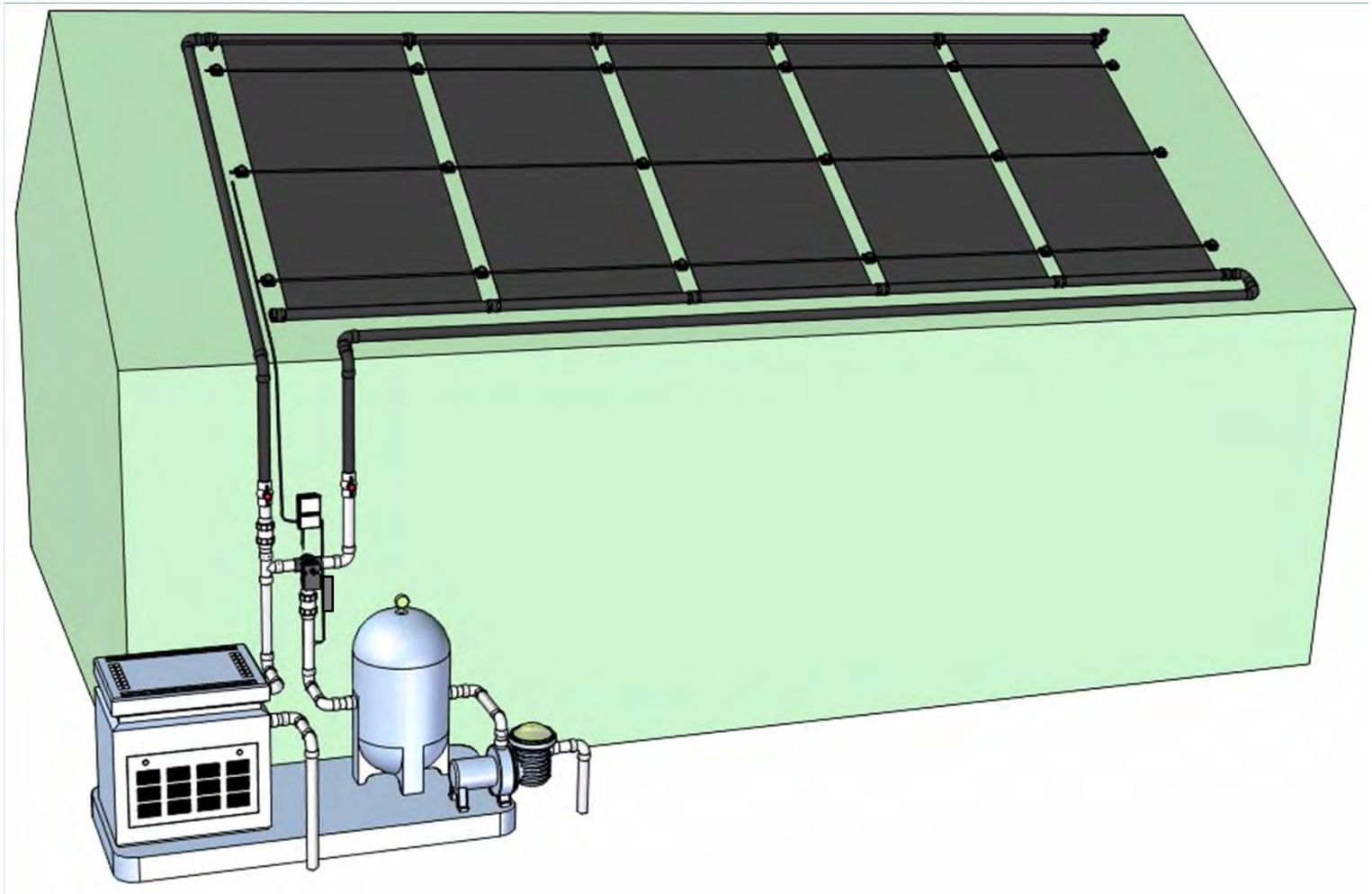
1. How a System Operates
2. How to Size a System
3. System Components
4. Techno-Solis Advantages

Part 2:

8 Simple Steps to Install a SPH System

1. Determine Spacing
2. Connect Panels
3. Secure Top Header
4. Close Outside Corners
5. Secure Panels with Strap
6. Top Plumbing
7. Bottom Plumbing
8. Automatic Temperature Controller

System Operation



System Operation

Sizing

4 factors for sizing a pool:

1. Swimming Pool Surface Area
2. Is Pool Shaded or Open
3. Direction that the panels will face
4. Panel Size

Panel Sizes

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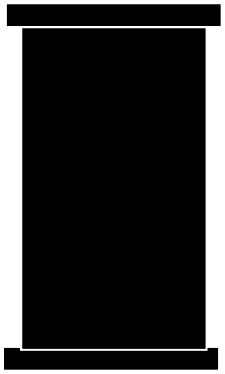
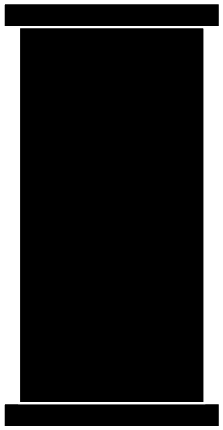
4 x 8



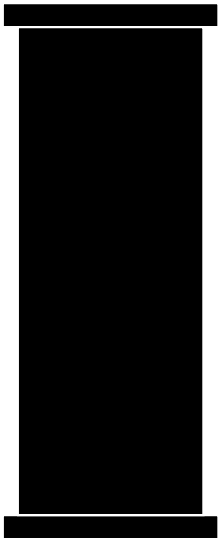
32Ft²

4 x 10



40 Ft²

4 x 12



48Ft²

CALCULATOR

A.	**Pool Surface Area**	0	**x**	0	(width x length)

B.	**Shading Factor**	100	**Enter the following values for:**	
			Open Pool	1.0
			Screened Pool	1.1
			Shaded Pool	1.15
			Screened & Shaded Pool	1.25

C.	**Roof Faces:**	0.75	**Enter the following values for:**	
			South	0.75
			West	0.85
			East	0.95

D.	**Panel Surface Area:**	48	**Examples:**		
			Panel Size - 4'x8' =	32	sq.ft.
			Panel Size - 4'x10' =	40	sq.ft.
			Panel Size - 4'x12' =	48	sq.ft.

E.	**Number of Panels Needed:**	**0**

CALCULATOR

A.	**Pool Surface Area**	16	**x**	32	(width x length)

B.	**Shading Factor**	100	**Enter the following values for:**	
			Open Pool	1.0
			Screened Pool	1.1
			Shaded Pool	1.15
			Screened & Shaded Pool	1.25

C.	**Roof Faces:**	0.75	**Enter the following values for:**	
			South	0.75
			West	0.85
			East	0.95

D.	**Panel Surface Area:**	48	**Examples:**		
			Panel Size - 4'x8' =	32	sq.ft.
			Panel Size - 4'x10' =	40	sq.ft.
			Panel Size - 4'x12' =	48	sq.ft.

E.	**Number of Panels Needed:**	**8**

System Components

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Panels

1.5" Header	2" Header
4 x 08 - c15ts08	4 x 08 - c20ts08
4 x 10 - c15ts10	4 x 10 - c20ts10
4 x 12 - c15ts12	4 x 12 - c20ts12

Panel Kit *(1 per panel)*
1.5" - k15pan-super
2.0" - k20pan-super

System Kit *(1 per System)*
1.5" - k15sys-super
2.0" - k20sys-super

Vacuum Breaker *(1 per System)*
1.5" - k15vac-super
2.0" - k20vac-super

Strap *(2 rolls per system)*
100 ft - astr100p

Auto Temp Controller *(1 per System)*
Hayward Goldline G235 - G-glc-2p-a
Pentair Suntouch Solar - Pen-520856

System Components

Part Numbers

4 x 8 Systems

	Panel	Panek Kit	System Kit	Vacuum Breaker	Strap	Auto Temperature Controller
1.2" Header:	C15TS08	K15Pan-S	K15Sys-S	K15Vac	astr100p	G-glc-2p-a (Hayward) -or- Pen-520856 (Pentair)
2.0" Header	C20TS08	K20Pan-S	K20Sys-S	K20Vac	astr100p	G-glc-2p-a (Hayward) -or- Pen-520856 (Pentair)

4 x 10 Systems

	Panel	Panek Kit	System Kit	Vacuum Breaker	Strap	Auto Temperature Controller
1.2" Header	C15TS10	K15Pan-S	K15Sys-S	K15Vac	astr100p	G-glc-2p-a (Hayward) -or- Pen-520856 (Pentair)
2.0" Header	C20TS10	K20Pan-S	K20Sys-S	K20Vac	astr100p	G-glc-2p-a (Hayward) -or- Pen-520856 (Pentair)

4 x 12 Systems

	Panel	Panek Kit	System Kit	Vacuum Breaker	Strap	Auto Temperature Controller
1.2" Header	C15TS12	K15Pan-S	K15Sys-S	K15Vac	astr100p	G-glc-2p-a (Hayward) -or- Pen-520856 (Pentair)
2.0" Header	C20TS12	K20Pan-S	K20Sys-S	K20Vac	astr100p	G-glc-2p-a (Hayward) -or- Pen-520856 (Pentair)

Typical Solar Collector

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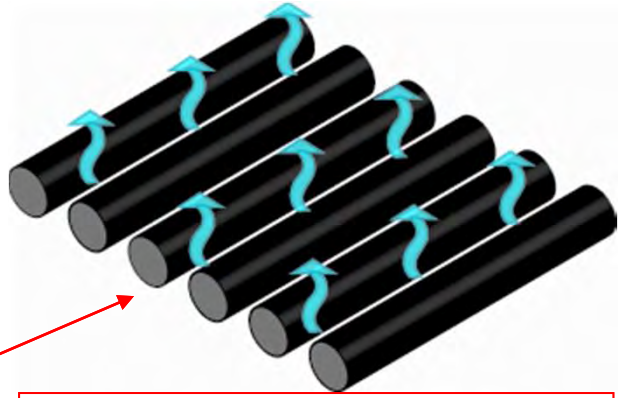
956 BTU Heat Output

Light Material

Requires repair kit



Individual Flow Tubes

Allow heat loss

Techno-Solis Collector

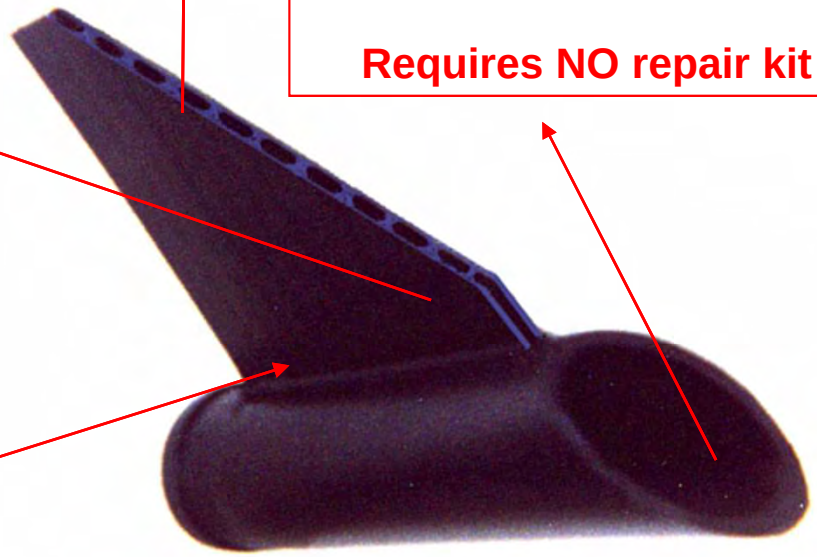
1006 BTU Heat Output

Thick Material

Requires NO repair kit

Connected Flow Tubes

PREVENT heat loss



Reinforced Pipe Weld

Structural Integrity

Warranty

Most Inclusive Warranty in the Industry!

- **10 Yr Full Replacement / Ltd Lifetime**
- **No repair or replace clause**
- **Freeze Damage included**
- **No-Fade Guarantee for Terra Cotta**

Techno-Solis Advantages

Heating Efficiency

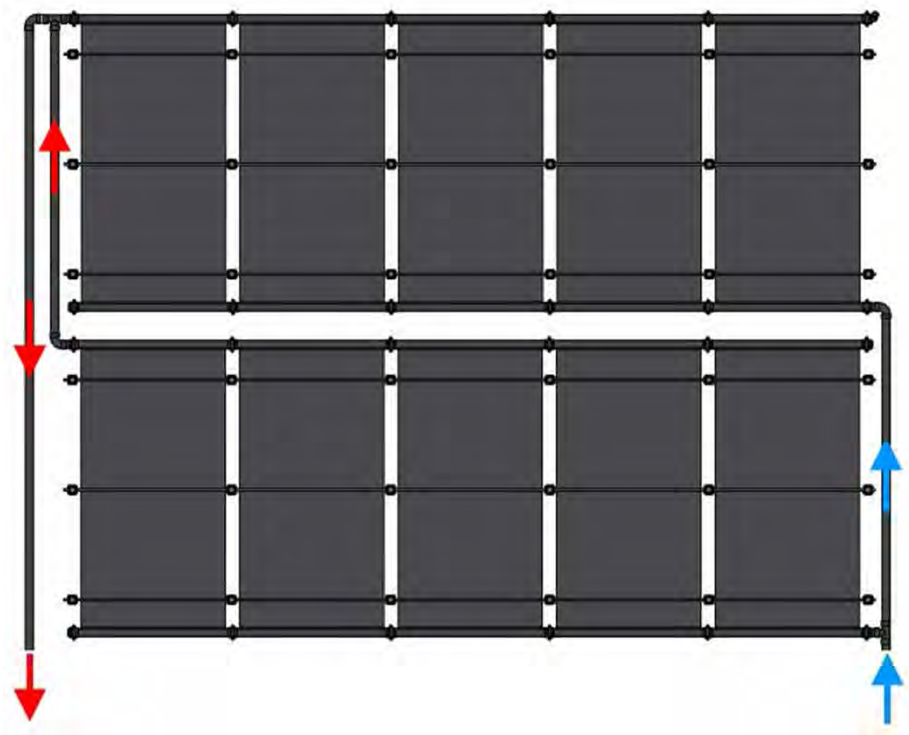
- High BTU Rating
- Unique design reduces heat loss

Durable Construction

- More Material
- Reinforced Pipe Weld

Best Warranty

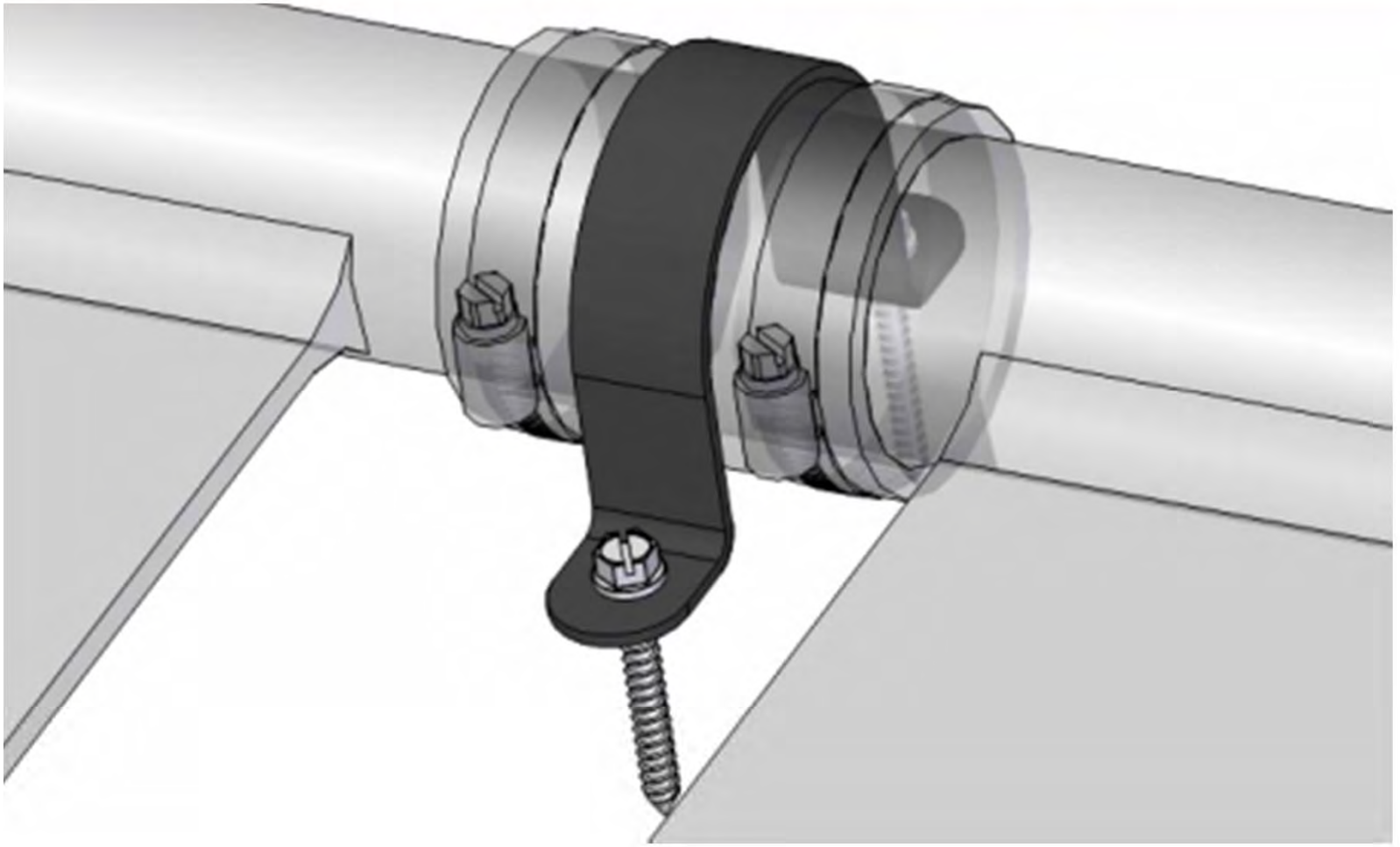
Determine Space Requirements



- Collector width = 48”
- Gap between collectors = 3”
- Total horizontal space required per panel = 51”
- Each row requires 3” on each side for feed and return plumbing

1. Connect Panels

2. Secure Top Header

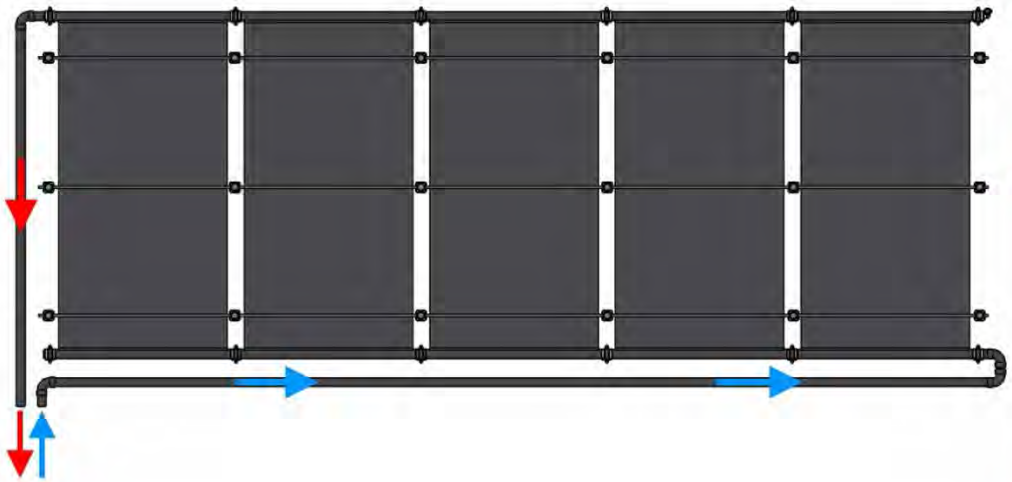


4. Close Outside Corners

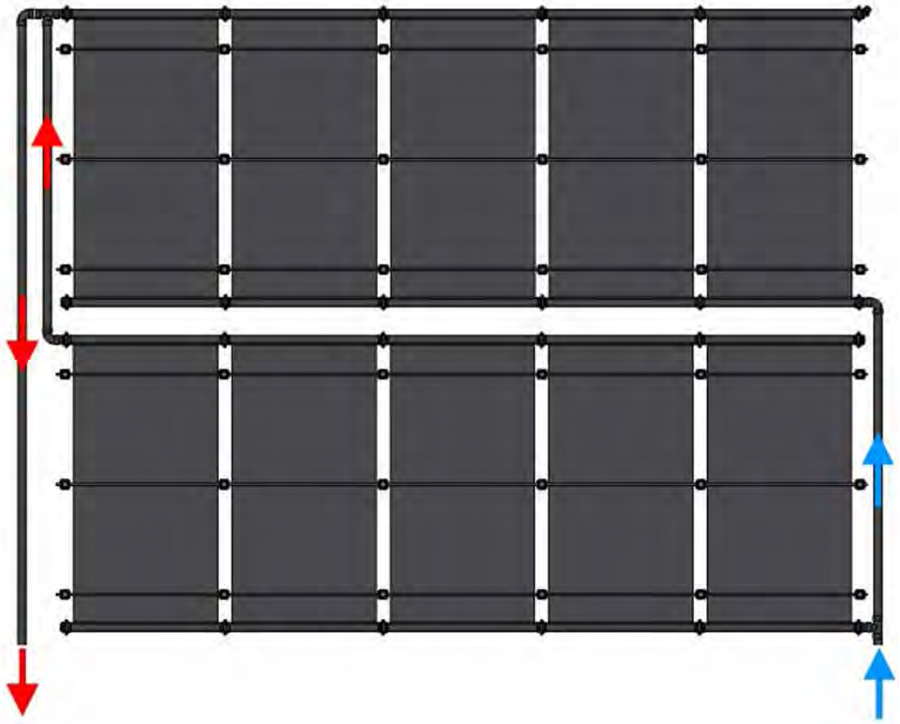
5. Secure Panels with Strap

6. Top End Plumbing

Reverse End Return

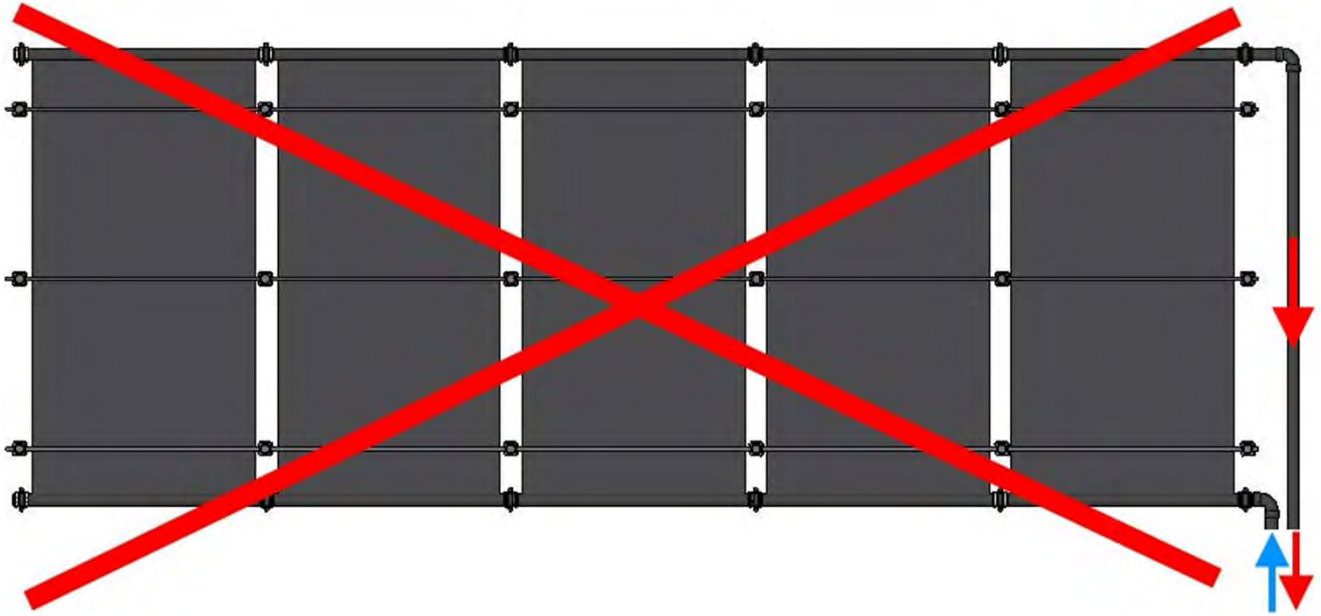


Double Row

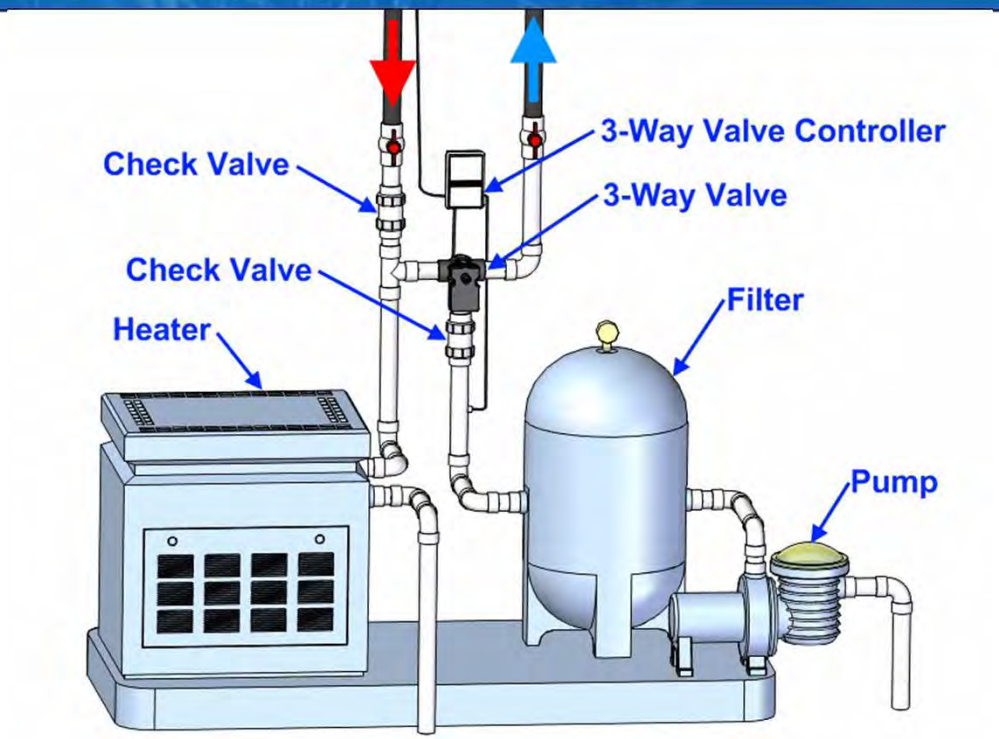


Incorrect Plumbing Layout

Same End Return



7. Bottom End Plumbing

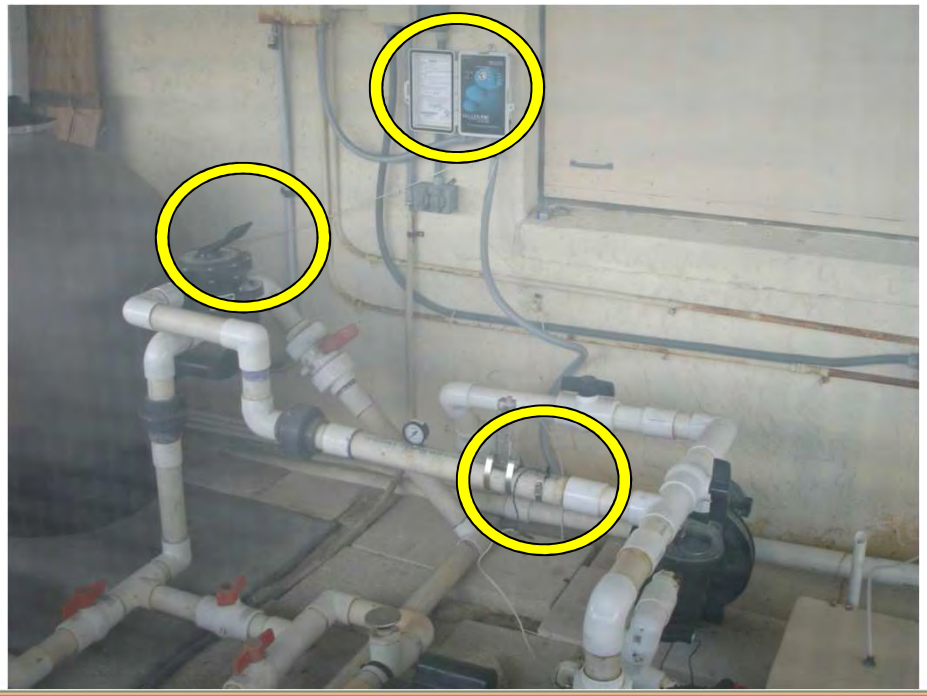


- Ball Valves (2) can be used to ensure system isolation when not in use
- Check Valves (2) allow water to flow in only one direction.
- 3-Way Valve (1) is used to divert flow to or from the collectors
- Controller Valve (1) Operates the 3-way valve

8. Automatic Control

Control Box & Water Temp Sensor

Roof Temp Sensor



FAQ

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1. Is it difficult to install?
2. Does it heat as well as a heat pump or gas heater?
3. Is there any maintenance involved?
4. Will it work on cloudy days?
5. Will a solar heater survive bad weather?
6. Can this be used with my existing pool heater?