



# SUNHEATER

SWIMMING POOL SOLAR HEATING SYSTEMS

## INSTALLATION AND OPERATION MANUAL

Models S120U & S240U










Read all instructions before assembling or using the SunHeater system.  
Retain this manual for future use.

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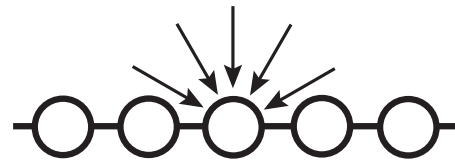
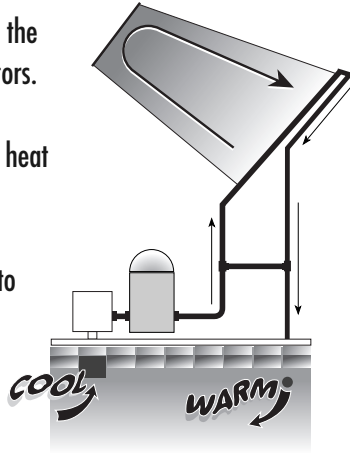
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## IMPORTANT SAFETY INFORMATION

-  **CAUTION:** Please read this manual carefully and thoroughly. Improper installation or failure to comply with the guidelines of this manual may damage the product and will void the warranty.
-  **CAUTION:** It is advised to consult with a professional when installing the SunHeater on a roof, fence or rack system. When installing the collectors near the pool, especially on an elevated rack system, ensure that the structure does not provide access to the pool.
-  **CAUTION:** Installing the collectors over grass will cause damage to the lawn.
-  **CAUTION:** Do not walk on the collectors.
-  **CAUTION:** Turn off all pool equipment prior to installation.
-  **CAUTION:** Only use SmartPool approved mounting equipment when installing collectors on a roof, fence or rack system.
-  **CAUTION:** Wear and tear components (connector hoses, strapping, clamps, plastic fittings and hardware) should be inspected regularly to ensure they are in working condition. These components are not covered by warranty.

# HOW SUNHEATER WORKS

- The pool pump circulates the water through the collectors.
- The collectors absorb the heat from the sun.
- Warm water is returned to the pool.



Collector Cross Section

SUNHEATER collectors have a web construction designed for maximum heat absorption regardless of the position of the sun.

## SIZING GUIDES

ABOVEGROUND POOLS			
Round	Oval	S140U	S240U
Up to 24'	Up to 15' x 30'	1 Box	1 Box*
Up to 33'	Up to 21' x 41'	2 Boxes	1 Box

\*The S240U can be used but only a S140U is required.

INGROUND POOLS			
Dimensions	S140U	S240U	Kits
Up to 15' x 30'	4 Boxes	2 Boxes	1 SK22U
Up to 16' x 36'	6 Boxes	3 Boxes	1 SK22U
Up to 20' x 40'	8 Boxes	4 Boxes	1 SK22U

## LIST OF COMPONENTS

S120U		
Item	Description	Qty
A	1.5" Stainless Steel Hose Clamp	4
B	3.75" Rubber Hose Connector	1
C	PVC Elbow Connector	2
D	PVC End Cap	2
E	Teflon Tape	1

S240 U		
Item	Description	Qty
A	1.5" Stainless Steel Hose Clamp	4
B	3.75" Rubber Hose Connector	2
C	PVC Elbow Connector	2
D	PVC End Cap	4
E	Teflon Tape	1



A  
(x4)



B



C  
(x2)



D  
(x2)



E

Note: An extra rubber hose has been supplied to connect additional SunHeater systems.

## INSTALLATION

READ THE ENTIRE MANUAL PRIOR TO THE INSTALLATION AND USE OF THE SUNHEATER SYSTEM.

### TOOLS REQUIRED

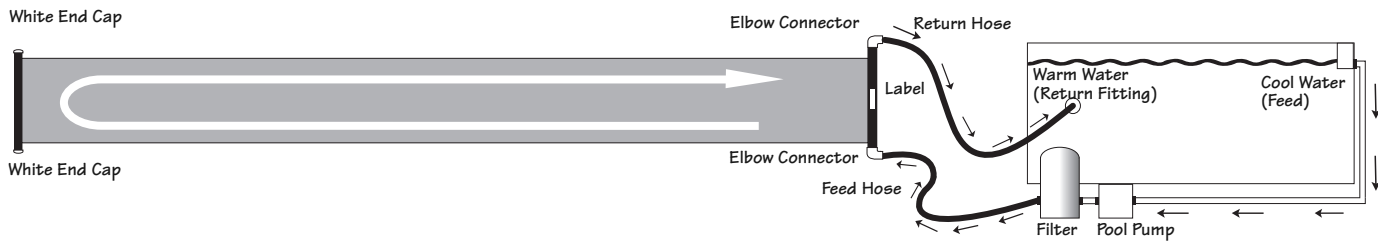
- Flathead screwdriver or 5/16" (8mm) nut driver
- Plug for return fitting
- For roof or rack mounting:
  - o Power drill
  - o 1/8" (3mm) drill bit
  - o #2 Phillips head drill bit
  - o Silicone sealant (Gell or equivalent)

### GUIDELINES FOR POSITIONING THE COLLECTOR

- The collector(s) needs at least 6 hours of full sunlight daily.
- For ground installation, ensure the area is free of sharp objects prior to installation.
- A 1hp pump will handle installations up to 30ft from the pool equipment and a height of 1 story.
- The collector(s) can be installed on the ground, a roof, a rack or a fence. Additional plumbing and hardware kits may be required (not included).

# S140U INSTALLATION

This layout is for a single collector installed near the pool filter equipment. Installing the collector on a roof, rack or fence may require additional plumbing and hardware kits.



- 1) Ensure there is adequate work space to unroll the 20' collector.
- 2) Remove the collector from the box and the strap from around the collector. Slowly uncoil the panel.

**Note:** Laying the collector in the reverse direction of the coils will help flatten the panel.

- 3) Remove and discard the black protective caps covering the threaded portion of the headers.
- 4) Wrap the threaded ends of the headers with the provided Teflon tape to ensure a watertight seal.



- 5) Locate the header that does not have the white serial number label and install the PVC end caps on either end of that header.



- 6) Locate the header with the white serial number label and install the PVC elbow connectors on either end of that header.



- 7) Turn the pool pump off and ensure the handle of the filter is in the OFF/CLOSED position.



- 8) Plug the return fitting to prevent water loss.



- 9) Remove the flex hose from the return fitting of the pool and secure it to the lower PVC elbow connector using a stainless steel clamp.



- 10) Secure another flex hose (not included) to the top PVC elbow and return fitting of the pool using the stainless steel hose clamps following the above system layout.

The collector is now installed and ready to use. Ensure that all fittings are secure.

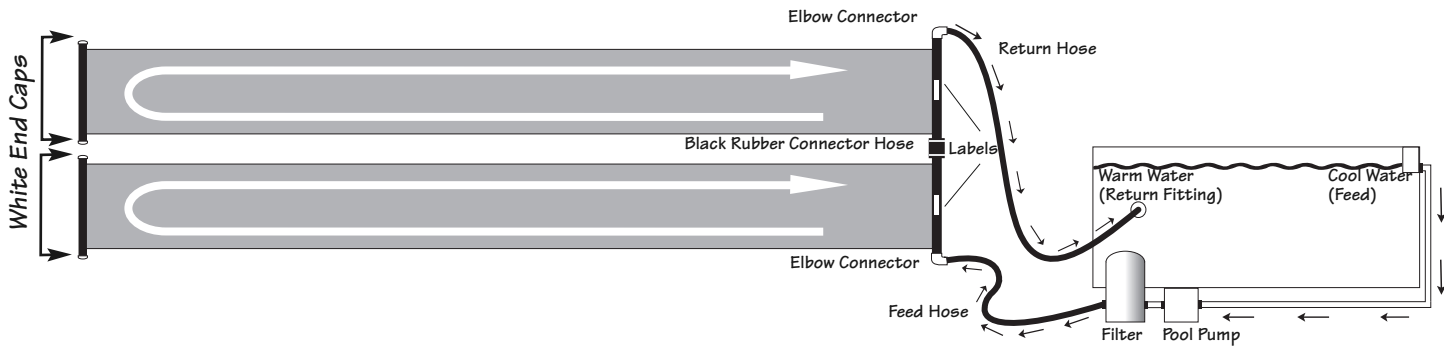
- 11) Remove the plug from return fitting and turn the handle of the filter to the FILTER position.

- 12) Turn the pool pump to the ON position.

**Note:** Air bubbles may come through the return line during initial start-up of the collector. This is normal and will stop after all the air has been purged from the solar heating system.

# S240U OR MULTI-SYSTEM INSTALLATION

This layout is for system of 2 or more collectors installed near the pool filter equipment. Installing the collector on a roof, rack or fence may require additional plumbing and hardware kits.



- 1) Ensure there is adequate work space to unroll the 20' collectors.
- 2) Remove the collectors from the box and the strap from around the collectors. Slowly uncoil the panels.

**Note:** Laying the collectors in the reverse direction of the coils will help flatten the panels.

- 3) Remove and discard the black protective caps covering the threaded portion of the headers.

- 4) Join the headers with the white labels together using a rubber hose connector and two 1 1/2" hose clamps. Position the hose clamps 1/2" in from each end of rubber connector hose and tightens.



- 5) Locate the header that does not have the white serial number label and install the PVC end caps on either end of that header.



- 6) Locate the header with the white serial number label and install the PVC elbow connectors on either end of that header.



- 7) Turn the pool pump off and ensure the handle of the filter is in the OFF/CLOSED position.



- 8) Plug the return fitting to prevent water loss.



- 9) Remove the flex hose from the return fitting of the pool and secure it to the lower PVC elbow connector using a stainless steel clamp.



- 10) Secure another flex hose (not included) to the top PVC elbow and return fitting of the pool using the stainless steel hose clamps following the above system layout.

The collector is now installed and ready to use. Ensure that all fittings are secure.

- 11) Remove the plug from return fitting and turn the handle of the filter to the FILTER position.

- 12) Turn the pool pump to the ON position.

**Note:** Air bubbles may come through the return line during initial start-up of the collector. This is normal and will stop after all the air has been purged from the solar heating system.

# ROOF/RACK/FENCE INSTALLATION

**Note:** The mounting hardware is sold separately. See page X for available kit options.

## Setup and Positioning

- Allow the collectors to lay in the sun for 30 minutes to relax the material and flatten the panels.
- Ensure there is at least 1' around all sides of the collector(s) for adequate space for connectors and plumbing.
- Install the collectors on a slight angle toward and end cap for draining and winterization.
- The panels can be placed on either side of a roof vent up to 3" in diameter.
- Ensure the collectors will have at least 6 hours of direct sun exposure.

## Installation

**Note:** Below instructions are for mounting purposes only. For full collector installation, please see the appropriate system layout provided in this manual.

- 1) Once positioning is established, locate the manufactured slots in the collector (5 slots in a 20' collector).
- 2) Place the bracket in place and pre-drill a 1/8" pilot hole for the screw.
- 3) Insert the screw using a Phillips head screwdriver to hold the bracket in place (as shown).



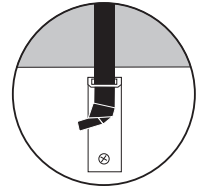
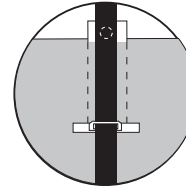
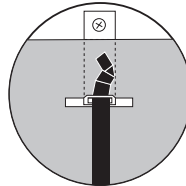
**Important:** If installing on a roof, use a silicone sealant to prevent water leakage into structure. Apply adequate amounts of sealant to both the pre-drilled hole and over the screw head once installed.

- 4) Install a bracket on the bottom side of the panel (as shown), ensuring that the bottom bracket is in line with the top bracket.



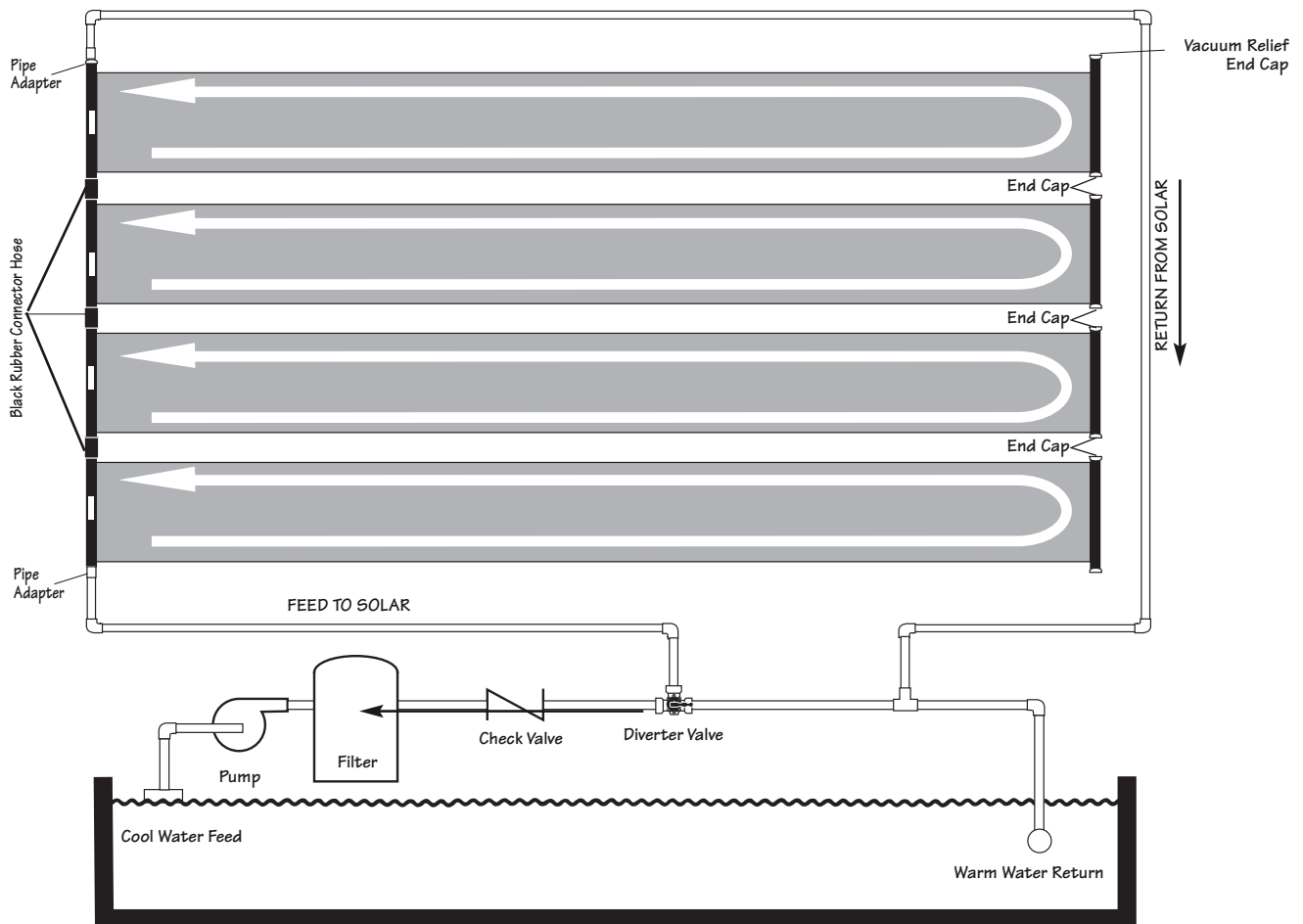
**Note:** (15) brackets are provided with each kit, which will support up to (2) 2'x20' collectors. (10) brackets are used for the top end of each 2' panel and (5) are used for the bottom of the second 2' collector.

- 5) Once all brackets are installed, use the provided strapping to hold the collectors in place. Tie a knot in the top bracket and feed the strap through the middle bracket before tying the strap the bottom bracket (as shown).



# HARD PLUMB SYSTEM LAYOUT

**Note:** The SK22 (not included) is required for the following installation. See page 7 for available kit options.



# WINTERIZATION

**YOUR SOLAR SYSTEM MUST BE DRAINED FOR WINTERIZATION! FREEZE DAMAGE IS NOT COVERED UNDER WARRANTY! YOU MUST DRAIN YOUR SOLAR COLLECTORS JUST LIKE YOU DRAIN THE REST OF YOUR POOL EQUIPMENT!**

Remove the vacuum relief valve at the top of the solar system. Remove the rubber end cap at the bottom and be sure ALL the water is drained out of the system. Replace end caps and blow pressurized air in the reverse direction of normal water flow. This is the most effective way to drain your system. You can leave the collectors in place (as long as they are completely drained) and they will withstand even the harshest winters. SmartPool recommends that you store your collectors inside in a warm dry place.

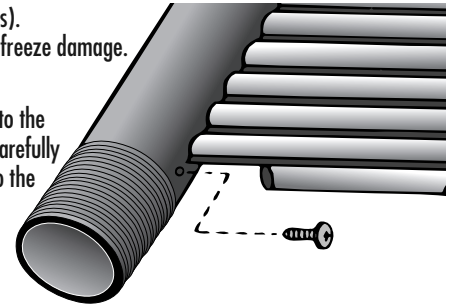
## COLLECTOR REPAIR

### IF A COLLECTOR DEVELOPS A LEAK

Your solar collectors are warranted against defects in materials and workmanship (see warranty for details and limitations). If a leak develops for any other reason, you may use the repair method shown. The collectors are not warranted against freeze damage.

### SOLAR COLLECTOR REPAIR

This method allows for an easy and permanent, on-site repair of a collector by isolating the leading riser tube. Referring to the figure at the right, locate the tube to be isolated. (End tube has been shown for clarity). Using a sharp utility knife, very carefully cut away approximately 1" (2.54 cm) of the tube at both headers. Drive a #10 sheet metal screw, preferably stainless, into the hole in the header. The screw must be between 1/2" (1.27 cm) and 3/4" (1.9 cm) long. **DO NOT OVER-TIGHTEN!** If the screw strips out, or if the repair leaks, use a #12 screw. This repair method will not void the collector warranty.



With proper care and winterization, you will enjoy your solar collectors for many years.

## AVAILABLE KIT OPTIONS

SK22U: INGROUND UNIVERSAL SYSTEM KIT	
Kit Components	Qty
1.5" Diverter Valve	1
3.75" Rubber Hose Connector	1
Pipe Adaptor	2
End Cap	1
Vacuum Relief Valve	1
Spring Check Valve	1
1.5" Stainless Steel Clamps	3
<ul style="list-style-type: none"> <li>• Used for hard plumb installation</li> <li>• Will support up to (8) S140U systems or (4) S240U</li> </ul>	
SK35: ABOVEGROUND MANUAL DIVERTER VALVE KIT	
Kit Components	Qty
1.5" Ball Valve	1
1.5" PVC Tees	2
Flex Hose Adaptors	4
<ul style="list-style-type: none"> <li>• Used for flex hose installations.</li> <li>• Will support S140U and S240U systems.</li> </ul>	
SK43: MOUNTING KIT	
Kit Components	Qty
6' Web Strapping	5
Stainless Steel Mounting Brackets	15
#14 Stainless Steel Screws	15
<ul style="list-style-type: none"> <li>• Used for mounting on roof, rack or fence.</li> <li>• Will support up to (2) S140U or (1) S240U system(s).</li> </ul>	
SK34: HIGH WIND ADD-ON MOUNTING KIT	
Kit Components	Qty
6' Web Strapping	4
Stainless Steel Mounting Brackets	4
#14 Stainless Steel Screws	4
<ul style="list-style-type: none"> <li>• Used in conjunction with SK43 in areas of excessive wind.</li> <li>• Will support (1) 2' x 20' collector.</li> </ul>	

# TROUBLESHOOTING

Problems	Possibilities/Solutions
SunHeater does not appear to be heating the pool.	<ul style="list-style-type: none"> <li>• Make sure that water is flowing through SunHeater by checking the flow at the pool return.</li> <li>• Note the weather - has it been cloudy or raining?</li> <li>• Use your pool cover at night to reduce heat loss.</li> <li>• Refer to our order guide - pool size may require additional collectors.</li> </ul>
Bubbles continue to appear from the pool water inlet during operation.	<ul style="list-style-type: none"> <li>• Check the connections for leaks.</li> <li>• Check the flow rate.</li> <li>• Check the tubing for leaks or clogging.</li> </ul>
SunHeater leaks	<ul style="list-style-type: none"> <li>• Make sure connectors and hose clamps are tight and not defective.</li> </ul>

**SMARTPOOL SOLAR COLLECTOR**  
*Five Year Limited Warranty*  
*(Valid for North America Only)*



**FIVE YEAR WARRANTY**  
 Five year limited warranty from date of purchase with one year full.  
 After the first year, the claimant shall pay the list price at the date of the claim less one-sixtieth (1/60) of that price for each full month remaining in the warranty period.

**ALL WARRANTY CLAIMS MUST BE HANDLED DIRECTLY WITH SMARTPOOL. DO NOT RETURN TO YOUR DEALER. SMARTPOOL ACCEPTS CLAIMS FROM POOL OWNERS ONLY.**

SmartPool Inc. warrants to the original purchaser of the Solar Collector that the company will, at its option, repair or replace any solar collector that proves to be defective in either workmanship or material upon prepaid return of the collector by the owner to SmartPool, Inc., subject to the provisions of the limited warranty stated above, and the exclusions and limitations set forth below. SmartPool, Inc. will, pursuant to the terms of this warranty, at its sole option, either repair the collector at a nominal charge to the owner, or replace the collector per the pro-rated provisions stated herein. All repaired or replaced collectors will be returned at the homeowner's expense. The pro-rated basis for collector replacement is set forth above.

**What is covered:** The solar collector is warranted to be free of defects in material and workmanship when leaving the factory.

**What is not covered:** Hardware; including hoses, clamps and plastic fittings; Any damage due to freezing caused by or related to improper drainage, winterization, or storage; Damage, defects, malfunctions, or other failures arising from use of the product which does not comply with the instructions provided by the manufacturer; Damage, defects, malfunctions, or other failure caused by or related to repairs performed by any servicer other than an authorized service representative of SmartPool, Inc. Claims will not be accepted for a collector's damage in transit unless damage to shipping container is noted at time of delivery on the transport company's delivery bill.

**SMARTPOOL, INC. SHALL IN NO WAY BE LIABLE OR RESPONSIBLE UNDER ANY CIRCUMSTANCES OR IN ANY AMOUNT FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OR FOR ANY INJURY OR DAMAGES TO PERSON OR PROPERTY USING OR USED IN CONNECTION WITH THIS PRODUCT, OR FOR LOSS OF PROFITS OR OTHER COSTS OR EXPENSES OF ANY KIND OR CHARACTER. THERE ARE NO OTHER WARRANTIES OR REPRESENTATIONS, EITHER EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER, MADE BY SMARTPOOL, INC., OTHER THAN THOSE SPECIFICALLY SET FORTH IN THIS WARRANTY. NO PERSON, FIRM, OR CORPORATION IS AUTHORIZED TO MAKE ANY REPRESENTATIONS, OR INCUR ANY OBLIGATIONS IN THE NAME OF OR ON BEHALF OF SMARTPOOL, INC., EXCEPT AS STATED HEREIN. THIS WARRANTY IS EXPRESSLY UNDERSTOOD TO BE THE EXCLUSIVE REMEDY AVAILABLE TO THE PURCHASER, AND THIS WARRANTY CONTAINS THE FULL AND COMPLETE AGREEMENT BETWEEN SMARTPOOL AND THE PURCHASER. THIS WARRANTY SETS FORTH THE ONLY OBLIGATIONS OF SMARTPOOL WITH REGARD TO THIS PRODUCT, AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.**

**To File a Claim:**

- 1) Call 1-732-730-9880 to initiate a claim.
- 2) You will receive an instruction package within 10 days.
- 3) Please allow 2-4 weeks for warranty claims to be settled.
- 4) If you do not receive your collector within 6 weeks, please call SmartPool Warranty Department Monday through Friday at 1-732-730-9880.

The representations set forth herein are the only representations made by SmartPool, Inc. with respect to the product, and this warranty does not constitute either a performance or satisfaction guarantee. It is the responsibility of the product owner to regularly test and check the product for proper function and safety.

This warranty gives the original purchaser specific legal rights. You may have other rights depending on where you live.



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