

# OWNER MANUAL



IMPORTANT! READ THIS MANUAL AND FOLLOW  
THIS MANUAL WHEN INSTALLING AND OPERATING.

## **CMARITX SERIES SAND FILTER SYSTEM**

# Installation and Operation Manual

## IMPORTANT SAFETY INSTRUCTION

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

1. READ AND FOLLOW ALL INSTRUCTIONS
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. When disassembling, cleaning, repairing, maintaining or making any other adjustments to the systems. Be sure to first unplug it from the electrical outlet.
4. To reduce the risk of electric shock, the pool must be installed no less than six feet (1.8m) from any electrical outlet. Do not place portable appliances less than five feet (1.5m) from the pool.
5. Do not bury the cord. Locate cord to minimize abuse from lawn mowers, hedge trimmers, and other equipment.
6. WARNING – To reduce the risk of electric shock, replace damaged cord immediately.
7. WARNING – To reduce the risk of electric shock, do not use extension cords to connect unit to electric supply; provide a properly located outlet.
8. Do not try to plug or unplug the device while standing in water or your hands are wet.
9. Do not use appliance leakage current interrupt (ALCL), the ALCL will not protect people.
10. SYSTEM IS EQUIPED WITH GFCI.
11. Ensure that the electrical parameters which are marked on the product are consistent with the local supply voltage before connecting the device.
12. Never enter the pool if the suction strainer subassembly is loose, broken, cracked, damaged or missing to reduce the risk of entrapment. Replace the loose, broken, cracked, damaged or missing suction strainer subassemblies immediately.
13. Never play or swim close to the suction device. Your body or hair may be trapped, which could lead to permanent injury or drowning.
14. To prevent the equipment damage and the risk of injury, make sure to turn the pump off before changing the position of the filter control valve.
15. Never operate the system when the working pressure is over the maximum value indicated on the filter tank.
16. Hazardous pressure in the filter tank. Due to the improper tank value cover assembly, the value cover will blow off and cause serious injury, property damage even death due to the improper assembly.
17. All filters and filter media should be checked regularly to ensure that there is no debris accumulation, which hinders good filtration. The disposal of any used filter media should be complied with applicable local regulations and laws.
18. Operate the system with water temperature between 39.2 °F (4 °C) 95 °F (35 °C).
19. This product can only be used for the purposes described in the manual.
20. SAVE THESE INSTRUCTIONS.

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## SYSTEM OVERVIEW



### Sand Filter Pump Specification

Model	CMARITX12	CMARITX14	CMARITX16
Tank Size	12 inches	14 inches	16 inches
Horsepower	0.3 HP	0.6 HP	0.75 HP
Voltage	115 Volt AC ONLY		
Amperage	2.3 A	3.3 A	5.0 A
Frequency	60 Hz		
Maximum Working Pressure	2 bar (30 psi)		
Effective Filtering Area	0.07 m <sup>2</sup> (0.79 ft <sup>2</sup> )	0.1 m <sup>2</sup> (1.07 ft <sup>2</sup> )	0.13 m <sup>2</sup> (1.44 ft <sup>2</sup> )
Pump Flow Rate	9.8 m <sup>3</sup> /h 43.149GPM	11.5m <sup>3</sup> /h 50.634GPM	14.7 m <sup>3</sup> /h 64.724GPM
Recommended Filtering Media Quantity	No. 20 silica sand 23 Kg (50 Lbs) or glass sand 16 Kg (35 Lbs)	No. 20 silica sand 35 Kg (77 Lbs) or glass sand 25 Kg (55 Lbs)	No. 20 silica sand 55 Kg (121 Lbs) or glass sand 38 Kg (84 Lbs)
Pool Size	48-64 m <sup>3</sup>	60-80 m <sup>3</sup>	72-96 m <sup>3</sup>
Strainer Basket	Yes		

## PRODUCT PARTS LIST

When you get the product, open the packages and check for the following spare parts that should be included. If there is any missing or damage, contact the service center.



REF. NO.	DESCRIPTION	QTY.
1	Six-Way Valve	1
2	12"/14"/16" Sand Filter Tank	1
3	12"/14"/16" Sand Filter Tank Base	1
4	12"/14"/16" Filter Element Tube Assembly	1
5	12"/14"/16" Filter Element Tube	1
6	Six-Way Valve Lock Ring	1
7	0.3/0.6/0.75 HP Pump	1
8	Base of Pump	1
9	O-Ring of Six-Way Valve	1
10	Sand Shield	1
11	Screw with Gasket of Six-Way Valve Lock Ring	2
12	Screw of Pump Base Connection	4
13	Screw of Tank Base Connection	2
14	O-Ring of Pressure Gauge	1
15	Pressure Gauge	1
16	T1 Sealing Gasket	4
17	330/390/500mm Hose Chain Assembly Connect between Filter and Pump	1
18	1m Hose Chain Assembly	1
19	3m Hose Chain Assembly	1
20	Sealing Ring for the Hose	2

# INSTALLATION

- The system must be installed on a sturdy, vibration-free base.
- The system must be installed in a location that is not affected by weather, humidity, floods and freezing. Provide sufficient passage, space and lighting for daily maintenance.
- The pump motor requires air to circulate freely for cooling. Do not install the pump in humid or ventilated places.
- It is recommended that a team of two or more people set up the system.

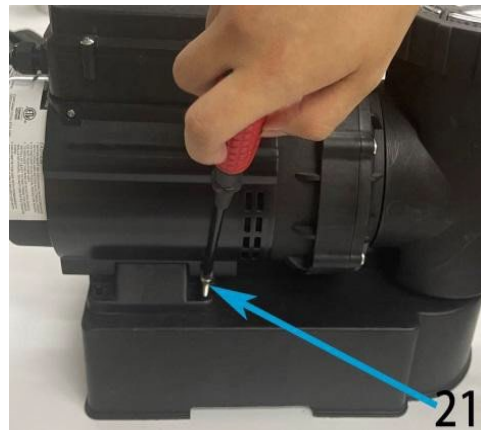
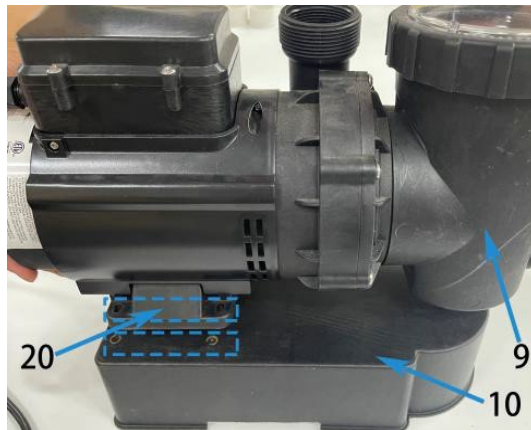
Before beginning assembly, repositioning the valve, disassembly or any other repair of the circulation system:

- A. Turn off the pump and turn off all automatic controls to ensure that the system does not start accidentally during repair.
- B. Open the manual bleed valve.
- C. Wait for all pressure to release.

## Installation Steps

1. Place the pump (9) on the system base (10), align the four waist holes on the motor brackets (20) with the screw holes on the system base, and then screw in the four screws (21) to fix them.

**CAUTION:** For continued protection against possible electric shock this unit is to be mounted to the base in accordance with the installation instructions.



2. Place the system base with pump on the sand tank base (3), align the holes and drive in two screws (14).





3. Place the sand filter tank (2) on the base.



4. Fold all the filter element tubes (4) which are assembled on the filter element components and put the filter element assembly into the bottom of the tank.



5. Screw the pressure gauge clockwise with the O-ring on the six-way valve.



6. Pour the quartz sand into the tank after the sand shield (17) is placed over the PVC pipe to prevent a large amount of sand entering the pipe during the process of loading. Fill and evenly distribute the sand into the tank around half away, then pour clear water inside for a cushioning effect when pouring in the remaining sand and also to prevent the PVC pipe from excessive shock. Continue pouring the sand and fill between the “MIN” and “MAX” marked scale lines on the pipe.

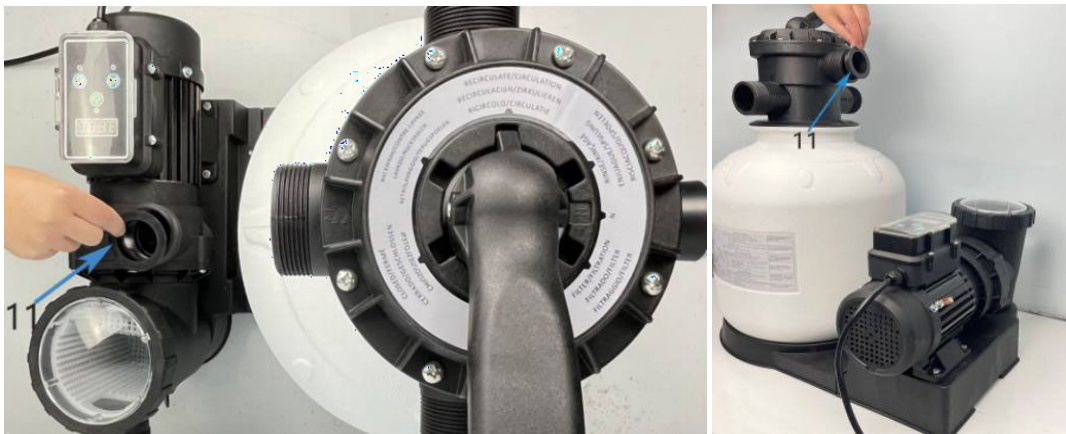


7. Remove the sand shield (17) and level out the sand. Wash away all the sand around the top edge of the tank. Install the O-ring (13) on the six-way valve and then install the six-way valve (1) on the tank. The installation direction of the six-way valve (1) should be consistent with the figure (the water inlet of the six-way valve and the water outlet of the pump should be on the same side).





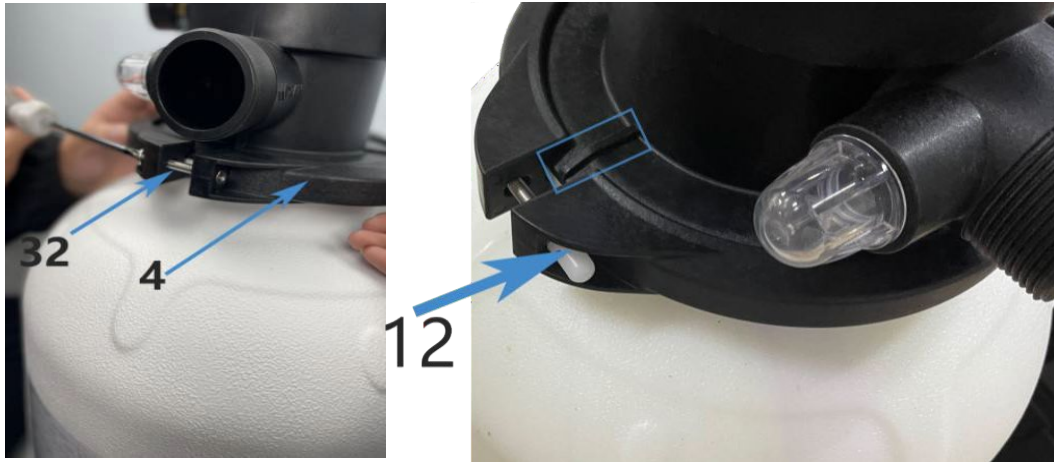
8. Install the sealing gaskets on the two holes (11) shown in the figure.



9. Connect the water inlet of the six-way valve and the water outlet of the pump with the hose (15). Screw the connectors clockwise with the nuts on the hose.



10. Install the locking ring (4) to fix the six-way valve. Refer to the baseline on the six-way valve when installing, then secure with screws.

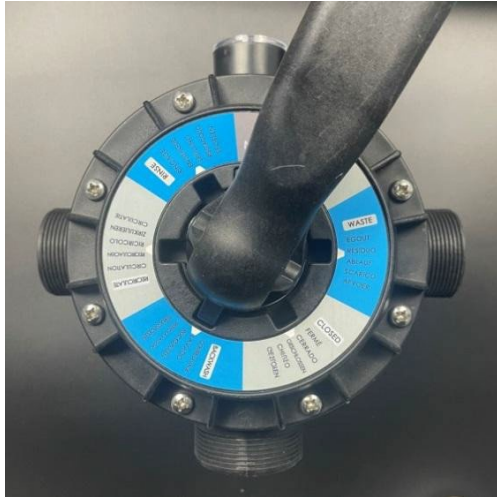


**Note:** When there has been a long period without using the system, unscrew the drain screw (19) drain the water out of the pump, and then screw it back to the pump after the water is drained.

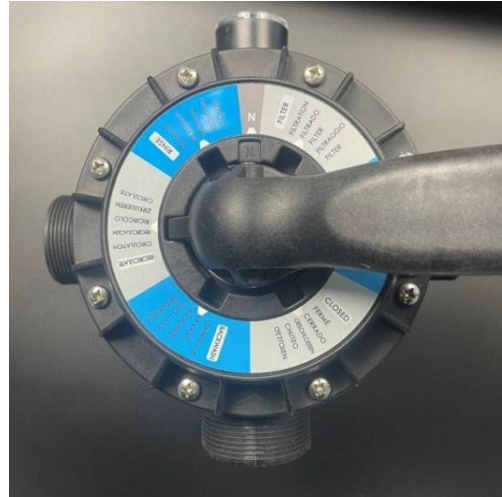


# OPERATION

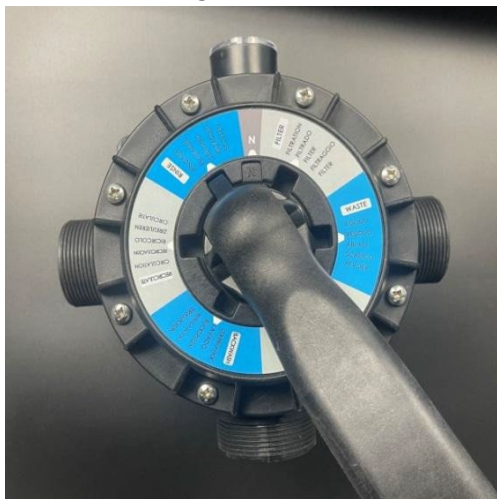
## Six-Way Valve Operation



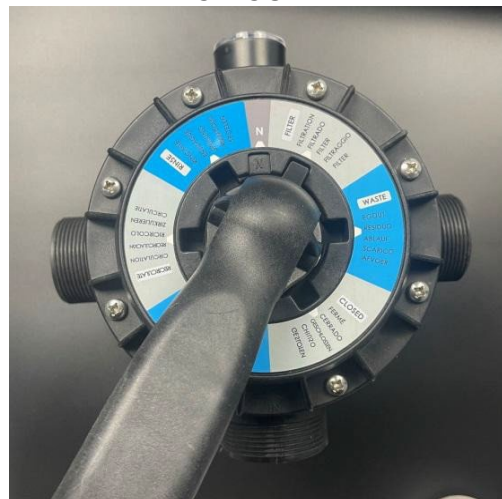
BACKWASH



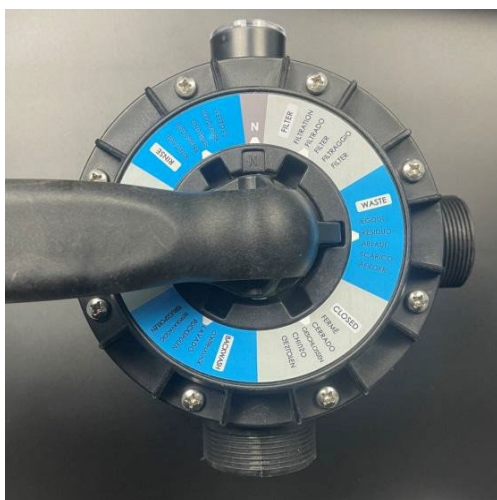
RECIRCULATE



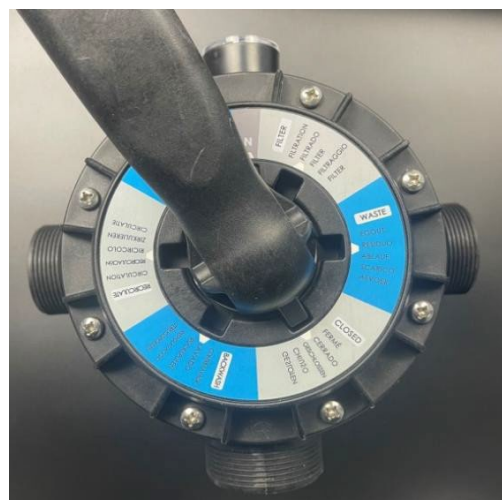
RINSE



FILTER



WASTE

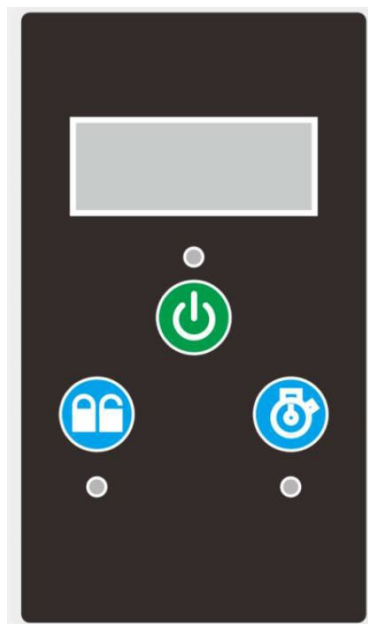


CLOSED

Valve Position	Function	Water Flow Direction
Backwash	Reversing water flow to clean the filter media	Pool → Pump → Filter media → Waste valve / drain outlet
Recirculate	Circulating water back to the pool without passing through the filter media	Pool → Pump → Valve → Pool; bypassing the filter media
Rinse	Cleaning the sand on initial startup; Leveling the sand after backwashing	Pool → Pump → Filter media → Waste valve / drain outlet
Filter	Normal filtration Regular vacuuming of the pool	Pool → Pump → Filter media → Pool
Waste	Directly vacuuming the pool; Lowering the pool level or draining off the pool water	Pool → pump → Waste valve / drain outlet; bypassing the filter media
Closed	Shuts off (Never select this setting until the pump has stopped)	

## Pump Operation

(Only for the pump with timer controller)



Pump with timer function, 1~12 hours and 24 hours continuous working mode two working time settings. A 24-hour timing cycle, running in cycle unless the interruption of power supply; it contains the function of display: time setting, counting down and so on; also including three indicator lights and three keys.

### 1. Operation Interface

- a) The Function of the Key



- **Power Key:** When pressing the power key to open the power supply, the display panel shows the time or working status, such as “2:00” or “Hold”; when pressing the power key to close the power supply, the display panel shows “OFF” and all the light on the interface turn off. The display panel shows “00:00” and flashes for the first time using, needs to start working after setting the timer.



- **Lock Key:** The digital value is flashing when it is unlocked, and the lock indicator light off; the timer starts once the locking, and the lock indicator light on; automatically locking after 6s of no operation on the lock key; clearing the timer setting after long pressing the lock key for 3s, also the display panel shows “00:00” and flashes, only reset the timer to start working.
- **Timer Key:** Press the timer key to set the timer after the setting is unlocked: 1~12 hours or 24 hours continuous working setting (hold mode); press the timer key to view the current working time setting, exit automatically or after re-pressing the timer key.



- b) The function of the Indicator Lights
- Running Indicator: The light on while the pump is working; otherwise, it is off.
  - Lock Indicator: The light is on while the setting is locked; otherwise, it is off.
  - Timer Indicator: The light is on while the timer working; otherwise, it is off.

## **2. Timer Working Instruction**

- a) When the setting time is 1-12 hours, the display panel shows the countdown time of current working or standby time.
- For example: Setting the time “3:00”, the pump starts work after the setting locks, and the display panel starts 3-hour countdown. The pump stops working after 3-hour countdown finishes, and the display panel starts a 21-hour countdown. The pump re-works after 21-hour countdown finishes. It follows this loop repeatedly until the timer function is turned off.
- b) When the setting time is 24 hours, the display panel shows hold mode, which means the pump runs all the time.

The pump has memory storage function in the case of power outage, including the status of start/stop and the timer setting.



## TROUBLESHOOTING

SITUATION	POSSIBLE CAUSE	SUGGESTION
Failing to start the system	The motor is not plugged in	The power cord needs to be plugged into a three-hole outlet
		Change a socket
		Check the wire connection
	The motor overheats leading to the overload protection to disconnect the circuit	Cool down the motor, then restart the system
Pump does not work	Low water level	Fill the pool to correct the water level
	The impeller of the motor is stuck or the motor is broken	Contact the service center
Have no water through the system or flowing very slow	The inlet/outlet of the hose is clogged	Clear the hoses
	The sand medium is clogged with dirt	Use backwash operation to clean the sand medium
The pressure gauge does not work	The inlet of the pressure gauge is clogged	Clear the obstructions on the inlet of the pressure gauge
	The pressure gauge is broken	Contact the service center
The system does not clean the pool	The pool is too dirty	Operate the system for a long time
	Improper chlorine or pH levels of the water in the pool	Consult the local swimming pool supply shop to help adjust the chlorine and pH level
	Wrong position setting with the six-way valve	Set the position to "FILTER"
	No sand media in the tank	Load the sand media, refer to "Installation" instruction
Six-way valve leaking	The sealing gasket is missing/dirty/broken	Ensure the intact gasket is in place and clean
	Flange clamp is not tight	Tighten securely
Connections leaking	The nut is not securely tight	Ensure the nut is tightened
	The connection fitting missing	Ensure all the fitting intact and in place
	The sand is too small	Recommended 0.45 mm to 0.85 mm #20 silica sand and rinse at the first time using

The sand flows back to the pool	The level of sand is too high	Check the level of the sand is between the marks "Max" and "Min" on the hub (4-5 cm under the top of the tank)
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## LIMITED WARRANTY

The sand filter pump system carries the following limited warranty when it is out of order due to faulty manufacture or materials during normal use and service. We warrant to the original purchaser that the product shall be free of manufacturer's defects at the time of sale, and upon examination shall provide replacements parts in accordance with the following schedule:

### SAND FILTER PUMP WARRANTY – 1 YEAR

**TERMS OF SALE:** If you discover that the product is not the one you want after receiving, simply return it within 30 days for a full refund, and the back freight shall be borne by you. And there is no refund if the product has already been installed, used or damaged in any way. The product must be returned with its original box, packing materials and instructions (if applicable) in the same perfect new condition.

#### **This limited warranty is subject to the following terms, conditions and exclusions:**

1. To obtain the benefits of this warranty, contact the warranty department for troubleshooting.
2. If the product or its accessories break down under warranty, the warranty department will at its sole discretion repair or replace. The department reserves the right to replace defective parts with new or refurbished parts. This warranty does not include the cost of labor or transportation charges for equipment or component parts to or from products, or the removal, reinstallation, or any such costs incurred in obtaining warranty replacement or repair.
3. This warranty extends to the original retail purchaser and original installation site only, beginning at the original date of purchase, and it is non-transferable.
4. The warranty contains the following exclusions. O-rings, rubber gaskets, electrical fuses and circuit-breaker components are normal replacement items subject to wear and are excluded from the warranty. Product discoloration, or any other cosmetic or superficial damage or deterioration, regardless of its cause, it is not covered by this warranty. The warranty is not applicable to the problems which are arising from circumstances beyond the control of products, including but not limited to the following:
  - A. Damage or premature wear due to improper pool chemistry, and failure to maintain pool water chemistry in accordance with the recommendations contained in the owner's manual.
  - B. Damage due to improper installation or connection to improper voltages, including materials and workmanship supplied by others.
  - C. Damage due to negligence or failure to properly maintain equipment, including the maintenance of clean and tight electrical connections.
  - D. Damage due to improper service, as well as unauthorized equipment modifications and use of non-genuine replacement parts.

- E. Damage due to misapplication, abuse or failure to operate equipment as specified in the owner's manual.
- F. Problems resulting from tampering, accident, fire, flood, freezing, lightning, insects or other natural elements, or other circumstances beyond the control of products.
- G. Damage due to over-tightening of threaded components or excessive pressure or stress.
- H. Material supplied or workmanship performed by others in the process of installation.

The liability of products shall not exceed the repair or replacement of defective items or parts under the referenced limited warranty terms. There are no implied warranties of merchantability or fitness for a particular purpose that applies to this equipment. Under no circumstances shall products, its agents, employees and affiliates be liable for any loss, damage, injury, inconvenience or loss of time, incidental expenses such as labor and material charges or any other incidental, or consequential damages, which may result from the use, installation, removal or reinstallation of its equipment and parts.

**Disclaimer:** This limited warranty is the entire warranty. No other warranties apply, expressed or implied. It gives you specific legal rights and you may also have other rights, which vary accordingly from place to place. This warranty supersedes all previous publications. Any dispute between the original purchaser and products will be settled by binding arbitration. Under no circumstances shall the manufacturer or authorized agents/installers be responsible for consequential, special, or incidental damage(s) of any kind, including but not limited to personal injury, property damage or damage to or loss of equipment. The manufacturer or agents/installers may charge a trip fee for warrantable service work.

Some places do not allow the exclusion of limitations of incidental or consequential damages. Listed exclusions and limitations may not apply to you.

During the full coverage warranty process, we cover all replacements, repairs and labor costs. The customer is responsible for the logistics costs.



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