

Noritz Recirculation System (RPK-EXT) Installation Instructions



Closely observe the following symbols warning used in this document, they are critical to your safety.

WARNING If these safety instructions are not observed, it may result in personal injury.

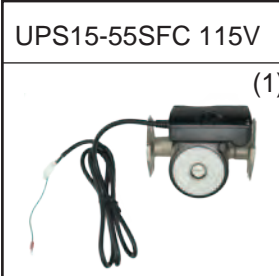

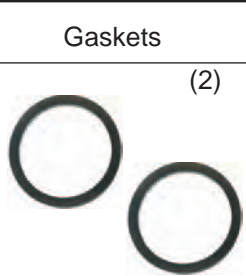
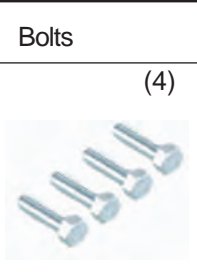
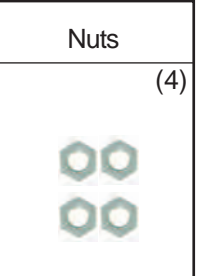
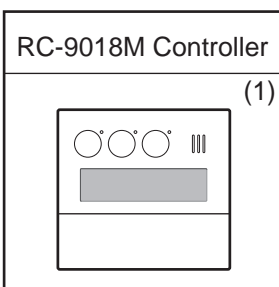
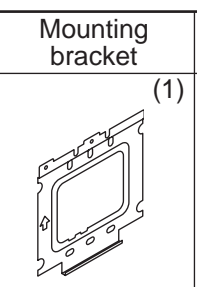
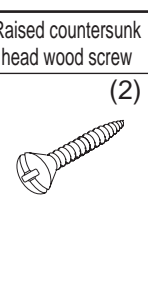
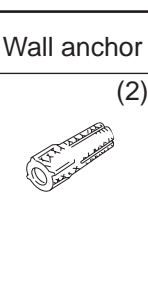
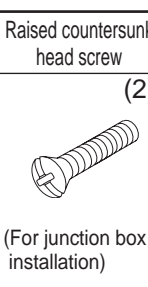
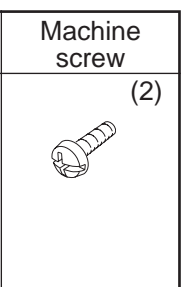
CAUTION If these safety instructions are not observed, it may result in malfunction or damage to the equipment.

WARNING Prior to installation, read these installation and operating instructions carefully. Installation and operation must comply with local code regulations which may vary and take precedence over these instructions.

Prior to installation, examine the components carefully to make sure no damage has occurred to the pump during shipment. Take care to ensure the pump is not dropped or mishandled, dropping will damage the pump. Before conducting any work, to prevent electrical shock, the power supply to the water heater and circulator should be disconnected. Installation and service must be performed by a qualified installer or service agency. The safe operation of this pump requires that it be grounding in accordance with the National Electrical code and local codes or regulations.

Included Parts

Visually inspect the contents of the package for any possible damage during shipment. Before starting installation, verify that all included supply parts are present as shown.

Pump Parts					
UPS15-55SFC 115V (1)	3/4" Bronze Flange (2)	Gaskets (2)	Bolts (4)	Nuts (4)	
					
Controller Parts					
RC-9018M Controller (1)	Mounting bracket (1)	Raised countersunk head wood screw (2)	Wall anchor (2)	Raised countersunk head screw (2) (For junction box installation)	Machine screw (2)
					

WARNING



DO NOT install this pump outdoors.
DO NOT start the pump until the system has been filled.



Pump is suitable for indoor applications only

When making pipe connections, be sure to follow the pipe manufacturer's recommendations and all code requirements for piping material.

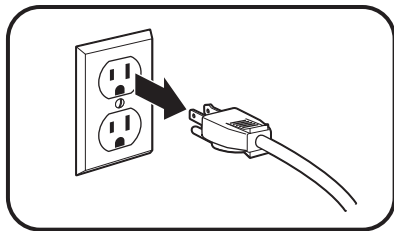
Arrows on the side or bottom of the pump housing indicate direction of flow through the pump. The circulator pumps can be installed in both vertical and horizontal lines. The pump must be installed with the motor shaft positioned horizontally.

Under no circumstances should the pump be installed with the shaft vertical or where the shaft falls below the horizontal plane.

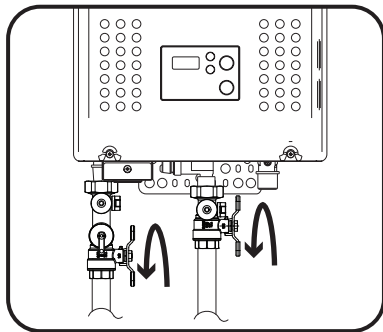
We recommend that isolating valves be installed on each side of the pump. If possible, do not install elbows, branch tees, and similar fittings just before or after the pump. Provide support to the pump or adjacent plumbing to reduce thermal and mechanical stress on the pump.

Pump Installation

1. Turn the remote controller off (if installed). Disconnect electric power to the water heater.



2. Shut off the incoming water and gas valves to the water heater.



3. Remove the front cover of the water heater.
4. Thoroughly clean and flush lines prior to pump installation.
5. Install pump in accordance with the typical plumbing application illustrated on the following page.



DO NOT install pump at the lowest point of the system where it can collect dirt and sediment.

6. Pump should be mounted such that the arrow at the bottom of the pump is pointing towards the heater. Pump must be mounted with the motor in a horizontal position.

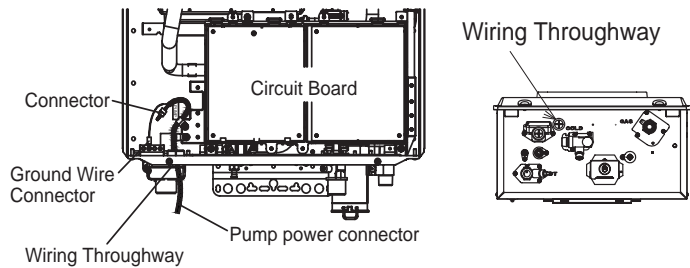


Acceptable

Not acceptable

Acceptable pump mounting positions

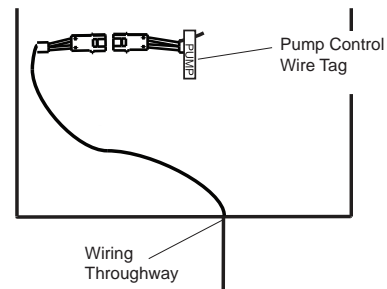
7. The pump comes pre-assembled with a wiring harness to be easily connected into the water heater. Feed wiring through the wiring throughway located at the bottom of the water heater.



Front View

Bottom View

8. Locate Connector marked "PUMP" and insert pump power connector. **Note:** A dummy plug is inserted from the factory. This connector must be removed before connecting the pump power connector. Press lightly on the connector to release the dummy plug.



9. Connect the ground wire (green color wire) to the screw at the base of the water heater.

10. Replace the front cover.

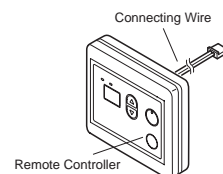
11. Turn back on the water and gas valves. Ensure the system is fully filled and leak checked. Pump should be flooded with water before it is started.



Do not start the pump until the system has been filled.

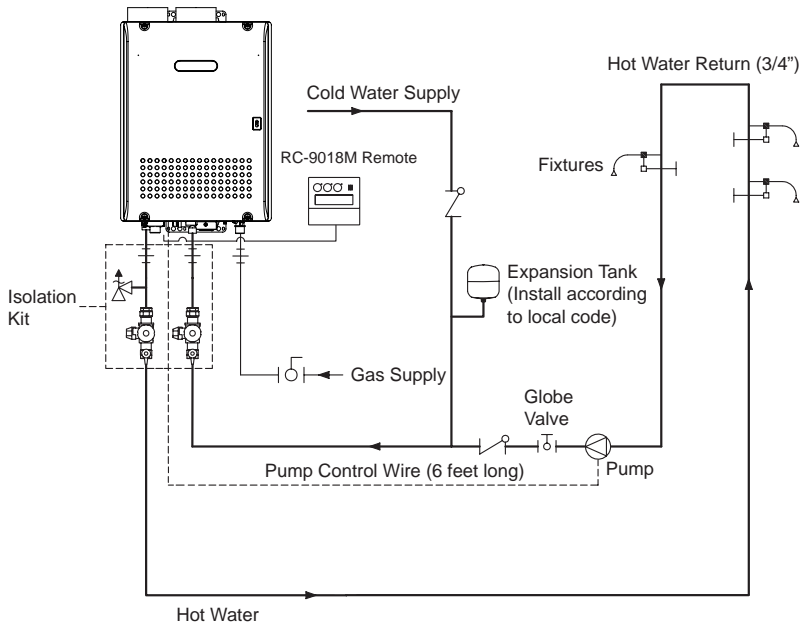
12. Disconnect the remote controller RC-7651M. Re-connect the remote controller RC-9018M (included).

Note: For models NR83DVC and NR98DVC remote is installed in the front cover. Do not physically remove the RC-7651M remote from the unit.



13. Reconnect electrical power to the water heater and turn on the remote controller.

Recirculation System Piping



Important Installation Notes:

Recommended Flow Rate for recirculation is 2 GPM (7.5 LPM).

Maximum equivalent distance* for 3/4" return lines: **400 ft.**
 Maximum equivalent distance* for 1/2" return lines: **75 ft.**

*Equivalent Distance factors in all fittings plus supply and return water piping length.

Pump control wire included with the pump is 6 feet long. Pump must be located within 6 feet of the water heater.

Compatible Water Heater Models

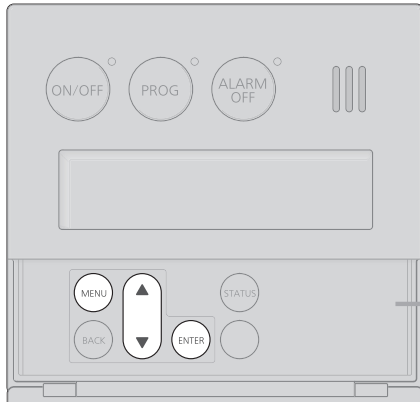
NR83DVC (GQ-2457WX-FFA US)	NRC98DV (GQ-C2857WX-FF US)	EZ98DV (GQ-C2859WX-FF US)
NR83OD (GQ-2457WX US)*	NRC98OD (GQ-C2857WX US)*	EZ111DV (GQ-C3259WX-FF US)
NR98DVC (GQ-2857WX-FFA US)	NRC111DV (GQ-C3257WX-FF US)	EZTR50 (EZ98 bundle pack)
NR98DV (GQ-2857WX-FF US)	NRC111OD (GQ-C3257WX US)*	EZTR75 (EZ111 bundle pack)
NR98OD (GQ-2857WX US)*		
NR98SV (GQ-2857WX-F US)		
Compatible with both NG and LP		
*Note: Pump cannot be installed outdoors. For OD installs, pump must be located indoors.		

Remote Control Programming Instructions

1. The clock must be set in order to program the recirculation mode. Follow steps 1-3 below to set the time.

Operation	Screen Display	Description
1 Press the button inside the cover.		* This adjustment can be made regardless of whether the button is ON/OFF.
2 Press the button.		
3 1) Use the buttons to reset the clock. 2) Press the button to complete the clock setting.	1) (Ex: AM10:15) 2) The screen returns to the previous screen.	* The time changes in 1-minute increments with each press of the button, and then in 10-minute increments if the button is kept pressed down. * If the display is left untouched for approximately 20 seconds without pressing the button, the setting will be completed. When the button is turned ON, the home screen will be restored.

Setting the Recirculation System



Cover shown in the open position.

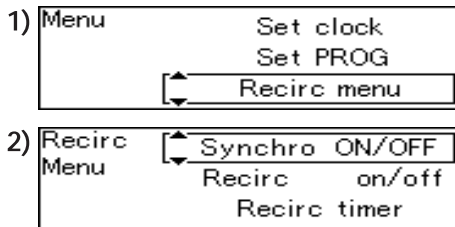
- * With the recirculation operation timer set, hot water will be automatically circulated in the hot water pipes. Even with this function activated, it may take several minutes for hot water to be completely circulated through the plumbing system. The timer should be set to activate the recirculation system prior to the first use of hot water to ensure hot water is available.
- * Multiple recirculation time periods can be set.
- * The recirculation system will operate daily at the set times unless the timer is deactivated.
- * When the recirculation system is turned "OFF", the water heater will still remain "ON" and can be used normally.

Operation	Screen Display	Description
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This example describes setting the recirculation system to operate between 5:00 am - 8:00 am.

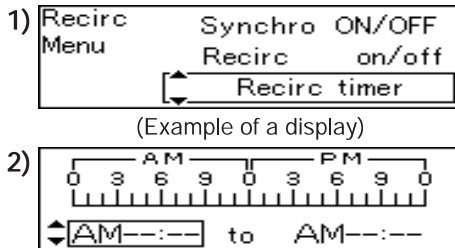
Preparation Check that the current time is properly set.
Refer to the previous page for instructions.

- 1**
- 1) Press the **MENU** button inside the cover, Select "Recirc menu" using the **▲** buttons.
 - 2) Press the **ENTER** button.



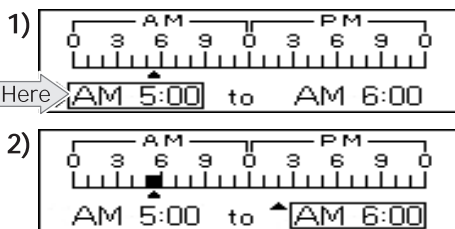
* You can set the timer regardless if the **ON/OFF** button is "ON" or "OFF".

- 2**
- 1) Select "Recirc timer" using the **▲** buttons.
 - 2) Press the **ENTER** button.



* The previous setting is displayed.

- 3**
- 1) Select "AM 5:00" using the **▲** buttons.
 - 2) Press the **ENTER** button to complete the "Start" time setting.







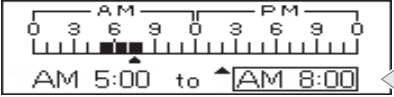

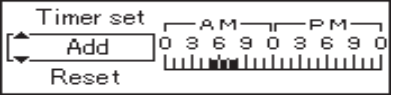
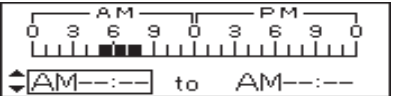
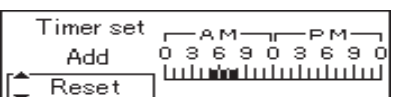
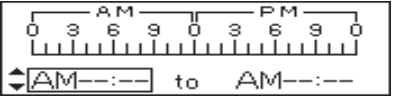


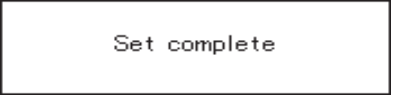




* Every time when you press the button, the time changes by one hour.
[To keep the current "Start" time] Press the **ENTER** button without changing the "Start" time, and proceed to step 4.



[To add additional time periods to the current setting, or to cancel the previous setting]

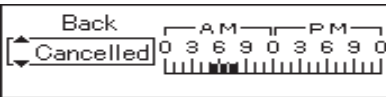
- 1) Press the **ENTER** button without setting "Start" time.
- 2) Press the **ENTER** button without setting "End" time.
- 3) Follow the procedures "Adding Additional Time Periods" or "Resetting All Time Periods"

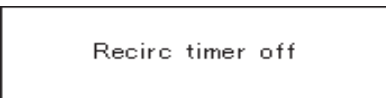
Setting the Recirculation System 2

Operation	Screen Display	Description
<p>4</p> <p>1) Select "AM8:00" using the  buttons.</p> <p>2) Press the  button to complete the "End" time setting.</p> <p><Adding Additional Time Periods></p> <p>1) Select "Add" using the  buttons.</p> <p>2) Press the  button.</p> <p>3) Select the time period following the procedures in Steps 3 to 4.</p> <p><Resetting All Time Periods></p> <p>1) Select "Reset" using the  buttons.</p> <p>2) Press the  button. (All settings are cleared.)</p> <p>3) Adjust the time period following the procedures in Steps 3 to 4.</p>	<p>1) </p> <p>2) </p> <p>1) </p> <p>2) </p> <p>1) </p> <p>2) </p>	<p>* Every time when you press the button, the time changes by one hour. [To keep the current "End" time] Press the  button without changing the "End" time, and proceed to step 5.</p> <p>* You can set multiple operation time periods.</p>
<p>5</p> <p>Press the  button to complete the time settings.</p>	<p></p> <p>"Recirc timer" and "Recirc timer on" are alternately displayed on the menu (approximately 10 seconds)</p> <p></p> <p>(Example of home screen when the power ON/OFF button is turned "ON")</p>	<p>* The timer will not activate without pressing the  button.</p> <p>* If the time is not set, the time setting screen is displayed</p> <p>* Until the timer is deactivated, the recirculation system will operate daily at the set "Start" and "End" times.</p>


● To Cancel the Recirculation System Operation Timer

- 1) Carry out steps 1 to 2.
- 2) Select "Cancelled" using the  buttons.
- 3) Press the  button.

1) 

2) 

The screen returns to the Recirc Menu.

- * If the  button is "ON", the screen returns to the home screen in approximately 10 seconds.
- * If the timer is deactivated during a recirculation time period, recirculation will continue until it is stopped using the procedure shown.