



Descale Procedure

Gas Fired Condensing Combination Boiler

This instructional manual is only intended for use by a qualified service professional or authorized Noritz Service Representative. Any unauthorized use of this manual may result in voiding the warranty.

Please contact Noritz Technical Support (866-766-7489) for additional support.

Applicable Models :

NRCB199DV (GHQ-C3201WX-FF US)

NRCB180DV (GHQ-C2801WX-FF US)

Noritz America Corporation

11160 Grace Avenue, Fountain Valley, CA 92708

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Water Treatment

If this Combi Boiler will be installed in an application where the supply water is hard, the water must be treated with either the Noritz ScaleShield or a water softener. Refer to the below tables for suggested treatment and maintenance measures to be taken based on the water hardness level.

Damage to the Combi Boiler as a result of the items below is not covered by the Noritz America Limited Warranty.

- Water in excess of 1 gpg (00mg/L) of hardness
- Poor water quality (see the installation manual)

Note: Water softeners may be regulated by the local water jurisdiction, consult with the manufacturer for code, sizing, and installation guidelines; the below diagram is for reference only. For more information about ScaleShield, contact Noritz America at <http://support.noritz.com/> or 866-766-7489.

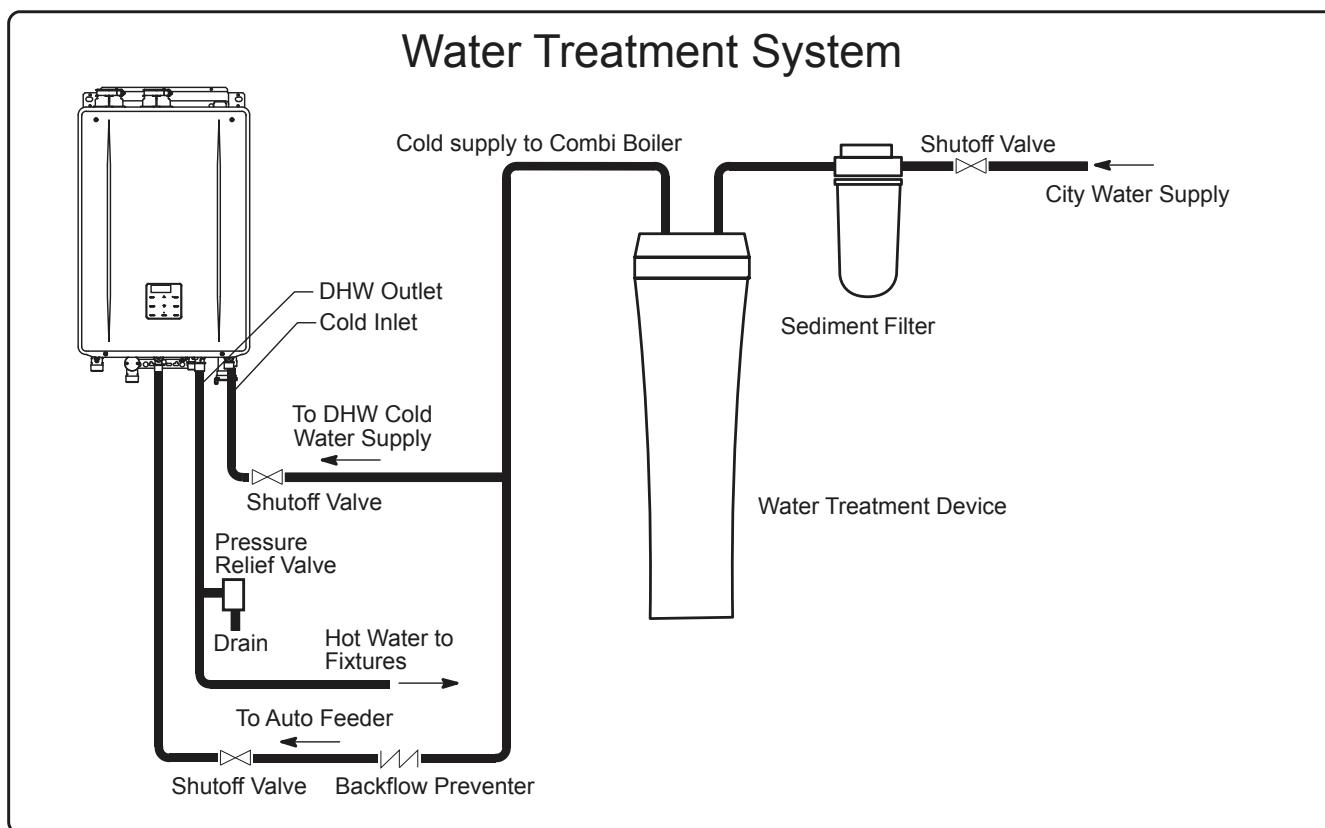
Treatment Guidelines

Type of Water	Hardness Level	Treatment Device*	Flush Frequency**
			Residential Use
Soft	0-1 gpg (0-17 mg/L)	None	None
Slightly Hard	1-3 gpg (17-51 mg/L)	None	None
Moderately Hard	3-7 gpg (51-120 mg/L)	ScaleShield or Water Softener	Once a Year***
Hard	7-10 gpg (120-171 mg/L)	ScaleShield or Water Softener	Once a Year***
Very Hard	10-12 gpg (171-200 mg/L)	ScaleShield or Water Softener	Once a Year***
Extremely Hard	> 12 gpg (> 200 mg/L)	ScaleShield or Water Softener	Once a Year***

* When selecting a treatment device, you must consult with the device's spec sheet and installation manual for guidelines and limitations. Not all water supplies are compatible - a water test may be required.

** Install Noritz Isolation Valves to allow for flushing.

*** Flushing is required if a water treatment device is not installed.



▲ The illustration is an example. Please check with the actual Combi Boiler about the position of piping, and form.

■ Procedure for Flushing the Heat Exchanger

This procedure is only intended for use by a qualified service professional or authorized Noritz Service Representative. Any unauthorized use of this procedure may result in voiding the warranty. Please contact Noritz America (866-766-7489) for additional support.

To prevent damage to the Heat Exchanger from Scale Build-up, the Heat Exchanger needs to be flushed* to remove the Scale Build-up.

Damage to the Combi Boiler due to Scale Build-up is not covered by the Combi Boiler's warranty.

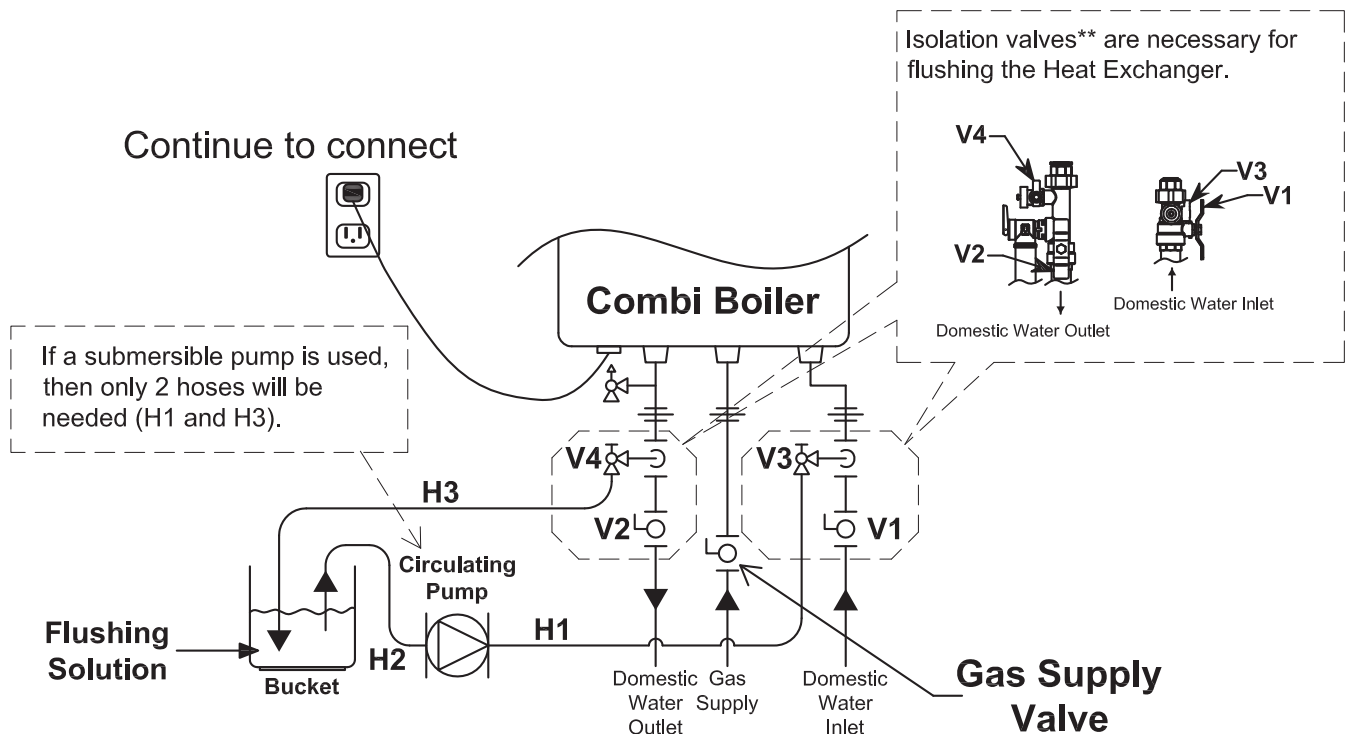
* Connect the blue connector marked "FLUSH" for flushing near the Circuit Board when flushing the Heat Exchanger.

The Combi Boiler must remain connected to electrical power when flushing the Heat Exchanger.

Basic Procedure

«Procedure 1. The preparation of the flushing system»

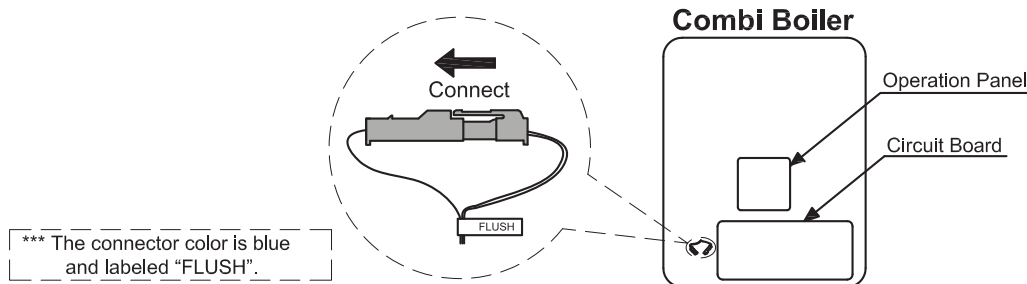
1. Close the gas supply valve.
2. Close the Domestic Water Inlet valve (V1) and the Domestic Water Outlet valve (V2).
3. Connect the one drain hose (H1) to the drain valve (V3), and then the other to the circulating pump.
4. Connect the drain hose (H2) to the circulating pump.
5. Connect the drain hose (H3) to the drain valve (V4).
6. Pour 1 gallon of "Calcium, Lime and Rust Removal Product" and 1 gallon water into the bucket.
7. Place the both drain hoses (H2 and H3) into the bucket filled with the flushing solution.
8. Open the both drain valves (V3 and V4).



** Isolation valves may be purchased as an accessory from an authorized Noritz wholesaler. They allow for full diagnostic testing and easy flushing of the system. Contact Noritz America for more information. (866-766-7489).

《Procedure 2. Flushing the Heat Exchanger - For Single Unit》

1. Open the Front Cover.
2. Connect the blue connector*** marked "FLUSH" for flushing near the Circuit Board.



3. Then the code "CCC" is displayed on the Operation Panel.
4. Turn on the circulating pump to circulate the flushing solution through the Combi Boiler for 1 hour at a rate of 1.5 gallons per minute or more.
5. The code "C60" is displayed on the Operation Panel when the Combi Boiler detects the flow of the flushing solution.

When 1 minute passes, the code "C60" will change to "C59" on the Operation Panel.



Please check whether the reverse connection of the hose (H1) and (H3) if the display number will not change.
In that case, the flow rate of the flushing solution may be under 1.5 gallons per minute.

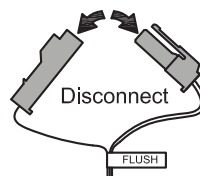
6. When 1 hour passes, the code "C00" is flashing on the Operation Panel.
Do not disconnect the blue connector marked "FLUSH" for flushing.
7. Turn off the circulating pump.



《Procedure 3. Cleaning the Heat Exchanger》

The flushing solution needs to be rinsed and cleaned out of the Combi Boiler.
Below is the way to rinse and clean the flushing solution.

1. Remove both drain hoses (H2 and H3) from the bucket. And then place the drain hose (H3) into the sink or outside to drain.
2. Close the drain valve (V3) and then open the Domestic Water Inlet valve (V1).
Do not open the Domestic Water Outlet valve (V2).
3. Clean the Combi Boiler with fresh water for 3 minutes or more.
(Needs to have enough time to clean the Combi Boiler.)
4. Close the drain valve (V4) and then remove the drain hose (H3) from the drain valve (V4).
5. Remove the drain hose (H1) from the drain valve (V3).
6. Disconnect the blue connector marked "FLUSH" for flushing.
The code "C00" goes out on the Operation Panel.

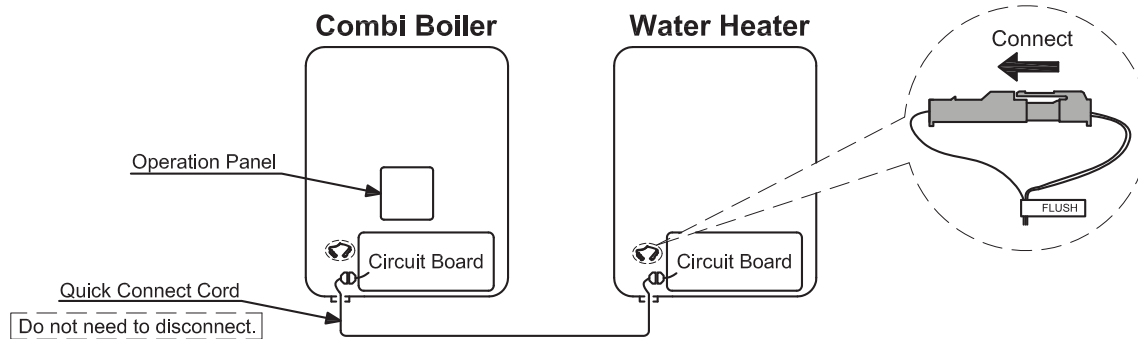


7. Close the Front Cover.
8. Open the gas supply valve and Domestic Water Outlet valve (V2).
9. Check for correct operation of the Combi Boiler.

In case of the “Quick Connect Multi System Procedure”

Note: Refer to the Water Heater's Parts List Sheet for the Water Heater's preparation of the flushing system.

1. Connect the blue connector marked "FLUSH" for unit needing to be flushed.
(The unit is isolated from Quick Connect Multi System when the blue connector marked "FLUSH" for flushing is connected. Not need to disconnect the Quick Connect Cord.)

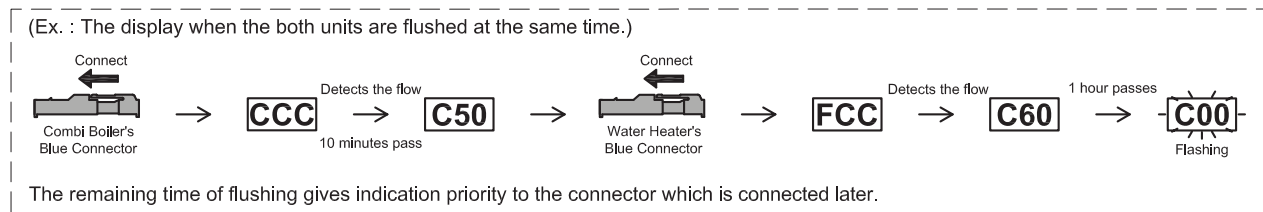


2. Then the code “CCC” or “FCC” is displayed on the Operation Panel.

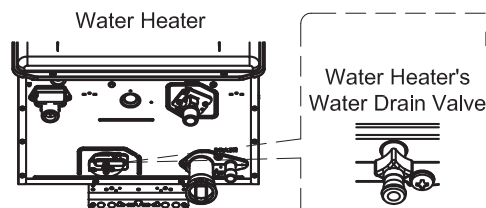
CCC is displayed when the Combi Boiler's blue connector is connected.

FCC is displayed when the Water Heater's blue connector is connected.

3. Turn on the circulating pump to circulate the flushing solution through the units for 1 hour at a rate of 1.5 gallons per minute or more.
4. When 1 hour passes, the code “C00” is flashing on the Operation Panel.
Do not disconnect the blue connector marked "FLUSH" for flushing.



5. Turn off the circulation pump.
6. Rinse and clean the flushing solution out of the units in accordance with “Procedure 3”.
(See the “Step 1 - 5”.)



NOTE : For Water Heater, place a bucket under the unit to drain water from the “Water Drain Valve”. Carefully unscrew the “Water Drain Valve” to rinse flushing solution out of the unit for about 10 seconds. Then close the “Water Drain Valve”.

7. Disconnect the blue connector marked "FLUSH" for flushing.
The Code “C00” goes out on the Operation Panel.
8. Close the Front Covers.
9. Open the gas supply valves and water outlet valves.
10. Check for correct operation of the units.

Please contact Noritz America if more information is needed for flushing. (Phone # : 866-766-7489)