Mechanical Systems

Part II – Plumbing

Ryan Homes

Welcoming families home
for over 65 years.

InSinkErator
4700 21st Street
Racine, WI 53406

Badger® 1 has a one year "We Come To You" In-Home Parts and Labor Warranty.

All InSinkErator® models provide In-Home Service Warranties. That means We Come To You™ whenever your InSinkErator® food waste disposer or hot water dispenser needs service within the warranty period. To schedule a service call click here, or just dial 1-800-558-5700, press 2, and enter your five-digit zip code. We'll provide you with the name and phone number of the factory authorized service agent nearest you. It's that simple.

Our We Come To You™ Service Warranty means we handle your service problems at your convenience in your home.

The InSinkErator® We Come To You™ In-Home Service Warranty. It's another InSinkErator® exclusive.

ANGLE STOP VALVES

Operating your FlowTite Angle Stop Valve is easy!

To **SHUT OFF** the water supply to your sink or toilet:

PULL the round handle at the end of the valve.

To **RE-OPEN** the water supply, simply:

PUSH the handle back in.

ENJOY THE LUXURY OF CONTINUOUS HOT WATER WHILE HAVING THE PEACE OF MIND OF SAVING ENERGY...

CONTINUOUS HOT WATER

A tankless water heater heats water on demand. That means no storage or shortage of hot water.

ENERGY SAVINGS

Save up to 40% of your current water heating bill.*

LONGER LASTING

Noritz tankless water heaters have a typical life of up to 20 years. This can be twice as long as a tank style unit!

CLEAN & FRESH WATER

With tankless you avoid using water that has been stored in a tank with accumulated rust and scale.

RESIDENTIAL WARRANTY

12-yr on the heat exchanger, 5-yr on parts & 1-yr reasonable labor. Labor will paid to an authorized Noritz Service Rep. on pre-approved warranty repairs.

*This information is provided as a reference based on average hot water usage and unaltered energy source. Actual results may vary. The cost savings factor reflects solely to the relative usage of the water heater. Actual gas utility bill may reflect the usage of other gas appliances (e.g. gas stoves, furnace, clothes dryer).
**Refer to our warranty terms & conditions for more details.

PERIODIC MAINTENANCE

To ensure optimum operation and service life of your tankless water heater, Noritz suggests the following treatment and maintenance measures to be taken based on the water hardness level:

Type of Water	Hardness Level	Treatment Device	Flush Frequency*
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	Once a Year
Hard	7-10 gpg (120-171 mg/L)	ScaleShield	Once a Year
Very Hard	10-14 gpg (171-239 mg/L)	Water Softener	Softener Required
Extremely Hard	>14 gpg (>239 mg/L)	Water Softener	Softener Required

*Install Noritz Isolation Valves to allow for flushing, refer to the back page for instructions

In order to ensure full warranty coverage when water hardness exceeds these levels, periodic maintenance such as descaling should be performed. Visit support.noritz.com or call 1-866-766-7489 for more info on descaling procedure.

UNDERSTANDING ERROR CODES

(Displayed on the remote control)

Error Code	Cause	Action
11	Ignition error	Check whether the gas valve is open. Press the power button to turn the unit off, open a hot water fixture, and turn the unit back on. If the flashing number doesn't return the problem is solved.
05	Service warning	The water heater is equipped with an automatic service reminder. Contact the nearest Noritz agent.*
90	Abnormal combustion, low gas supply pressure	Have a professional check the gas supply pressure. Contact the nearest Noritz agent.
99	Abnormal combustion	Contact the nearest Noritz agent.

Refer to the Owner's Guide for more details on error codes.

FOLLOW UP SERVICE

First follow the instructions in the Owner's Guide, in the troubleshooting section.If the error is not corrected, contact Noritz America Technical Support at 866-766-7489. We will need to know the following:

1. The Model (check the rating plate - see p.4 of the Owner's Guide for the location of the label
2. Date of purchase (see the warranty)
3. Details of problem (flashing error codes,etc., in as much detail as possible)
4. Your name, address, and telephone number
5. Desired date of visit

Service must be performed by a qualified installer, service agency, or the gas supplier.

Descale Procedure

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.

Noritz America Corporation

11160 Grace Avenue, Fountain Valley, CA 92708

Phone 866-766-7489 Fax 714-241-1196

Descale Procedure

Procedure	Diagram
1. Items needed to perform a descale (1) Pump (2) Bucket (3) Hoses (4) 1 gallon CLR & 3 gallons Water or 4-5 gallons Vinegar **NOTE: When units are connected with a quick connect cord or on a system controller, the units will need to be disconnected and descaled individually.**	
2. Turn the unit on with the Power Button on the Remote Controller, if no Remote Controller make sure the unit is plugged into power 3. Turn off gas supply valve	

Procedure	Diagram
4. Locate the hot and cold water shut off valves, drain valves, and drain valve caps	
5. Close both the hot and cold water shut off valves	
6. Remove the drain valve caps on both the hot and cold side	

Procedure	Diagram
7. Connect the pump outlet hose to the cold water drain valve 8. Connect a drain hose to the hot water drain valve	
9. Pour approximately 4-5 gallons of vinegar or a solution of 1 gallon CLR and 3 gallons water into a bucket 10. Place both the pump with inlet hose attached and drain outlet hose into the pail	
11. Open both drain valves lever handles on the isolation valves	

Procedure	Diagram
12. Turn on pump. The unit will attempt to ignite but because the gas is turned off it will not ignite. If you have a remote controller, a number “11” should flash on the remote controller after about a minute. DO NOT RESET THE UNIT. 13. Allow the solution to circulate for about 1 hour	
14. Turn the pump off and close the cold water drain valve 15. Remove the hose from the cold water drain valve and replace cap onto the drain valve outlet. 16. Remove the pump and inlet hose from the bucket and empty the solution.	
17. Put the hot water drain hose back into the bucket and open the cold water main valve. This procedure will flush out the heater with fresh cold water. Flush for at least 5 minutes or until 20 gallons of water has passed through the heater	

Procedure	Diagram
Note: If you have a condensing model (**NRC111, NCC199, N-0841MC, or N-0842MC ONLY**), carefully unscrew the water drain valve from the bottom of the water heater. The system will be under pressure and the drain valve will only require a couple of turns to allow sufficient flow from the drain. Place the bucket under the unit and flush for about 10 seconds.	
18. Close the cold water main valve and clean the water filter. Place the filter back into the unit	

Procedure	Diagram
19. Close the hot water drain valve, remove the drain hose and replace the cap on hot water drain valve outlet	
20. Open both the hot and cold water main valves.	
21. Open the gas supply valve and reset the unit by turning the power off and then on again using the Power Button on the Remote Controller. If no Remote Controller is installed, disconnect electrical power to the unit and then reconnect to electrical power, this will reset the unit.	

COMMERCIAL-GRADE

RESIDENTIAL ELECTRIC WATER HEATERS

PROLINE®

COMMERCIAL-GRADE RESIDENTIAL

ENHANCED HEATING ELEMENTS

- Dual 4500 watt elements for faster recovery and reliable operation.*
- Incoloy stainless steel lower element lasts longer than a standard copper element.

SELF-CLEANING DIP TUBE

- Helps reduce lime and sediment buildup and maximizes hot water output. Made from long-lasting PEX cross-linked polymer (self-cleaning design is not used on lowboy models).

HIGH ENERGY FACTORS

- Eco-friendly non-CFC foam insulation, heat traps and other features combine to yield a higher Energy Factor that maximizes savings on operating costs.

COREGARD™ ANODE ROD

- Our anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.

BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry-standard glass lining.

ENHANCED-FLOW BRASS DRAIN VALVE

- Our residential water heaters have a solid brass, tamper resistant, enhanced-flow, ball type, drain valve.
- Uses a standard female hose fitting that allows for fast and easy draining during maintenance.
- Designed for easy operation, this valve includes an integral screwdriver slot that features a ¼ turn (open/close) radius, which not only permits full straight-through water flow but also a quick and positive shut off.

CODE COMPLIANCE

- Meets UBC, and ICC National Code and listed with CEC.
- Complies with the Federal Energy Conservation Standards effective April 16, 2015, in accordance with the Energy Policy and Conservation Act (EPCA), as amended.

APPROVED FOR MANUFACTURED HOUSING

- All residential electric water heaters are compliant with HUD standards for mobile homes/ manufactured housing.

CERTIFIED TO UL 174 FOR HOUSEHOLD ELECTRIC WATER HEATERS

CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE

DESIGN-LISTED BY UNDERWRITERS LABORATORIES

- Certified at 300 psi test pressure and 150 psi working pressure.
- Listed according to UL 174 standards governing storage tank-type electric water heaters.

6-YEAR LIMITED TANK LIMITED PARTS WARRANTY

- For complete information, consult written warranty or go to americanwaterheater.com.

*Model E6N 20L has a single element.

Low Lead Content

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COMMERCIAL-GRADE
RESIDENTIAL ELECTRIC WATER HEATERS

HYBRID ELECTRIC HEAT PUMP

The Hybrid Electric heat pump water heater from American is the most cost effective energy-efficient option available for consumers who want to save money on their utility bills. The Hybrid Electric heat pump can reduce water heating costs up to 73% and provide payback in 2-3 years. With annual savings of $305 or more, there is no better way to go green.

HOW DO THEY WORK?

- Absorb ambient heat from the surrounding air to heat water using a compressor and environmentally-friendly R134a refrigerant
- Self-contained heat pump unit is integrated into the top of the tank
- Multiple operating modes to maximize efficiency and performance

QUALIFIES FOR MANY STATE AND LOCAL UTILITY REBATES - CHECK WWW.DSIREUSA.ORG

INCREASED ENERGY EFFICIENCY

- Improved efficiency designed in, to ensure available hot water at the lowest possible cost
- Up to a 3.52 Uniform Energy Factor (UEF) Rating conserves energy and meets ENERGY STAR® qualifications

CHOICE OF OPERATING MODES

- Select from Efficiency, Hybrid, or Electric modes to match heating requirements to environmental conditions.
- Hybrid mode automatically adjusts between compressor and element, depending upon heat requirements.
- Vacation mode reduces operating costs and provides freeze protection during extended absence.

BACKUP ELECTRIC ELEMENTS

- Long-lasting backup heating elements help heat water according to environmental conditions, demand, and the chosen operating modes.

DRY FIRE PROTECTION

- Control system checks to ensure the tank is full of water during start up to prevent dry firing the heating elements.

OPTIONAL AIR DUCT ADAPTER KIT

- Permits installation in confined spaces

COREGARD™ ANODE ROD

- Our anode rod has a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.
- 66 and 80 gallon models have dual anodes for added protection.

ELECTRONIC USER INTERFACE

- User-friendly electronic interface allows easy control of temperature setting, operating mode, and communicates diagnostics
- Easy to read temperature display (see back) shows temperature in °F or °C.
- Advanced diagnostics convey error messages for service purposes. The last four error messages are saved in the control system memory.

OTHER FEATURES

- Ideal for basements or garage installations; the compressor transfers heat to the water while dehumidifying and cooling the ambient air.
- Washable air filter is easily removed for routine cleaning.

SIX YEAR LIMITED WARRANTY

- For complete information, consult written warranty or go to americanwaterheater.com.

Low Lead Content

ENERGY STAR

LISTED

AHRI CERTIFIED®
www.ahridirectory.org

For complete warranty information consult the written warranty of American Water Heaters found at:
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Residential Gas Water Heater

POWERFLEX® POWER VENT

VERSATILE POWER VENT DESIGN

- All models feature an exclusive 3-position rotatable blower outlet which adds flexibility
- Combined horizontal and vertical vent runs up to 180 equivalent feet with 4” diameter venting (ABS, PVC, CPVC and polypropylene)
- All models are equipped with a protected sensor that detects the presence of flammable vapors and automatically disables the burner to prevent ignition
- Air intake snorkel elevates the inlet location of combustion air to prevent flammable vapors from entering the sealed combustion chamber
- Reduced NOx emissions comply with air quality management district regulations

ENERGY STAR® QUALIFIED

- All models (except PVG62-75T76-NV) meet the ENERGY STAR® EF requirement and may also qualify for local utility and rebate programs.
- Built-in heat traps on the water inlet and outlet reduce the amount of heat lost through piping
- 2-inch, thick, “Environmentally-Friendly” foam insulation reduces the amount of heat loss and contributes to overall energy efficiency

DYNACLEAN™ DIFFUSER DIP TUBE

- Reduces lime and sediment buildup and maximizes hot water output. Made from long-lasting PEX cross-linked polymer.

HOT-SURFACE IGNITOR

- More robust and reliable than standing pilot, and reduces energy consumption

BLUE DIAMOND® GLASS COATING

- Provides superior corrosion resistance compared to industry standard glass lining

USER-FRIENDLY

- State-of-the-art electronic gas control provides more precise temperature control
- LED control light displays operation status and diagnostics information

ENHANCED-FLOW BRASS DRAIN VALVE

- Our residential water heaters have a solid brass, tamper resistant, enhanced-flow, ball type, drain valve.
- Uses a standard female hose fitting that allows for fast and easy draining during maintenance.
- Designed for easy operation, this valve includes an integral screwdriver slot that features a ¼ turn (open/close) radius, which not only permits full straight-through water flow but also a quick and positive shut off.

AVAILABLE IN NATURAL GAS AND PROPANE

DESIGN-CERTIFIED BY CSA INTERNATIONAL

- Certified at 150 PSI working pressure.
- Certified to ANSI Z21.10.1 - CSA 4.1 or ANSI A21.10.3 - CSA 4.3 standards governing storage tank-type water heaters

6-YEAR LIMITED TANK AND PARTS WARRANTY

- For complete information, consult written warranty or go to americanwaterheater.com.

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(EXCEPT PVG62-75T72-NVS)

For complete warranty information consult the written warranty of American Water Heaters found at:
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