



User's Manual for

# Brute® XTR

with Touchscreen

Modulating Boilers and  
Volume Water Heaters

BNT2(H,V) 399 MBTU/h  
 BNT2(H,V) 500 MBTU/h  
 BNT2(H,V) 650 MBTU/h  
 BNT2(H,V) 800 MBTU/h  
 BNT2(H,V) 999 MBTU/h  
 BNT2(H,V) 1500 MBTU/h

**FOR YOUR SAFETY:** This product must be installed and serviced by a professional service technician, qualified in hot water boiler and heater installation and maintenance. Improper installation and/or operation could create carbon monoxide gas in flue gases which could cause serious injury, property damage, or death. Improper installation and/or operation will void the warranty.

## ⚠ WARNING

**If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.**

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other unit.

### WHAT TO DO IF YOU SMELL GAS

- Do not try to light any unit.
- Do not touch any electrical switch; do not use any phone in your building.
- Immediately call your gas supplier from a nearby phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency, or gas supplier.

## ⚠ AVERTISSEMENT

**Assurez-vous de bien suivre les instructions données dans cette notice pour réduire au minimum le risque d'incendie ou d'explosion ou pour éviter tout dommage matériel, toute blessure ou la mort.**

Ne pas entreposer ni utiliser d'essence ni d'autres vapeurs ou liquides inflammables dans le voisinage de cet appareil ou de tout autre appareil.

### QUE FAIRE SI VOUS SENTEZ UNE ODEUR DE GAZ:

- Ne pas tenter d'allumer d'appareils.
- Ne touchez à aucun interrupteur. Ne pas vous servir des téléphones dans le bâtiment où vous êtes.
- Appelez immédiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur.
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.

L'installation et l'entretien doivent être assurés par un installateur ou un service d'entretien qualifié ou par le fournisseur de gaz.

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### A. Safety Notes

Safety notes are used throughout this manual to bring attention to the presence of hazards with various risk levels and to offer important information concerning the life of this product. There are 3 basic types.

<b>⚠ WARNING</b>	Indicates an imminently hazardous situation which, if not avoided, can or will result in death or serious injury and can or will result in catastrophic property damage.
<b>⚠ CAUTION</b>	Indicates a potentially hazardous situation which, if not avoided, may result in moderate injury and/or property damage.
NOTE:	Indicates instructions that are important to that topic but not related to personal injury or property damage.

**⚠ WARNING**

If overheating occurs or if the gas supply fails to shut off, do not turn off or disconnect the electrical supply to the pump. Instead, shut off the gas supply at a location external to the appliance.

**⚠ AVERTISSEMENT**

En cas de surchauffe ou si l'admission de gaz ne se ferme pas, ne pas couper ni débrancher l'alimentation électrique de la pompe. Fermer plutôt le robinet d'admission de gaz à l'extérieur de l'appareil.

**⚠ WARNING**

Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

**⚠ AVERTISSEMENT**

N'utilisez pas cet appareil s'il a été plongé dans l'eau, même partiellement. Faites inspecter l'appareil par un technicien qualifié et remplacez toute partie du système de contrôle et toute commande qui ont été plongés dans l'eau.

**⚠ WARNING**

**Carbon Monoxide Hazard**

This product burns gas to produce heat. The appliance must be properly installed, operated, and maintained to avoid exposure to appreciable levels of carbon monoxide.

If the unit is installed within a residential living space or home, the installer is required to confirm that at least one carbon monoxide alarm is installed in the living space before the appliance is put into operation.

It is important for carbon monoxide alarms to be installed, maintained, and replaced following the alarm manufacturer's instructions and applicable local codes.

**⚠ AVERTISSEMENT**

Ce produit brûle des gaz pour produire de la chaleur. L'appareil requiert une installation, un fonctionnement et une maintenance adéquates afin d'éviter l'exposition à des niveaux appréciables de monoxyde de carbone; l'installateur est requis de confirmer qu'au moins une alarme de détection de monoxyde de carbone est installée dans l'espace de vie avant que l'appareil ne soit mis en service.

Il importe que les alarmes de détection de monoxyde de carbone soient installées, maintenues et remplacées selon les directives du manufacturier et les codes locaux applicables.

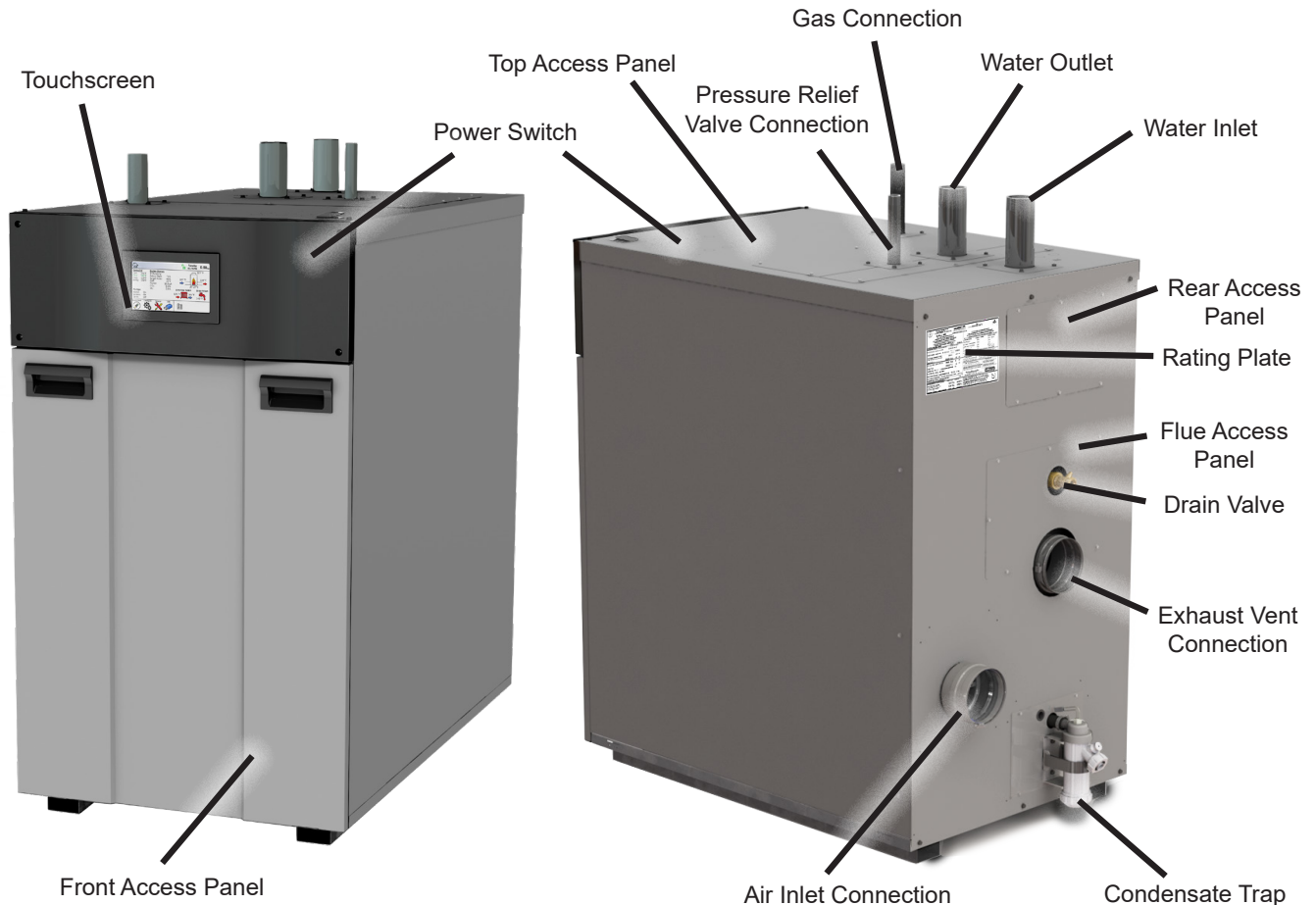
**⚠ WARNING**

The Repair Parts list designates parts that contain refractory ceramic fibers (RCF). RCF has been classified as a possible human carcinogen. When exposed to temperatures above 180°F, such as during direct flame contact, RCF changes into crystalline silica, a known carcinogen. When disturbed as a result of servicing or repair, these substances become airborne and, if inhaled, may be hazardous to your health.

Do not remove or replace RCF parts or attempt any service or repair work involving RCF without wearing the following protective gear:

1. A National Institute for Occupational Safety and Health (NIOSH) approved respirator.
2. Long-sleeved, loose-fitting clothing.
3. Gloves.
4. Eye Protection.

**B. Location of Components**



**Figure 1. Front**

**Figure 2. Rear**

C. Start-Up and Shut-Down Decal. Located inside the front access panel.

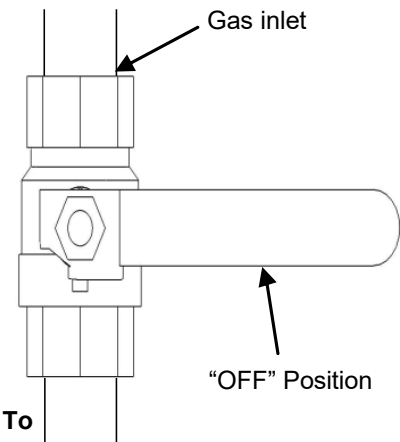
**FOR YOUR SAFETY READ BEFORE OPERATING**

**⚠ WARNING:** If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. **BEFORE OPERATING** smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS**
- Do not try to light any appliance.
  - Do not touch any electric switch; do not use any phone in your building.
  - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
  - If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to turn the gas valve handle. Never use tools. If the valve handle will not turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

**OPERATING INSTRUCTIONS**

1. STOP! Read the safety information above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Remove front access panel.
6. Turn off manual gas valve. Valve is off when valve handle is at a right angle to gas pipe.
7. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to next step.
8. Turn ON manual gas valve. Valve handle will be parallel to gas pipe.
9. Replace front access panel.
10. Turn on all electric power to the appliance.
11. Set thermostat to desired setting.
12. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.



**TO TURN OFF GAS TO APPLIANCE**

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Remove front access panel.
4. Turn off manual gas valve. Valve is off when valve handle is at a right angle to gas pipe.
5. Replace front access panel.

**POUR VOTRE SÉCURITÉ LIRE AVANT DE METTRE EN MARCHE**

Figure 3. Start-Up and Shut-Down Decal (inside front panel)

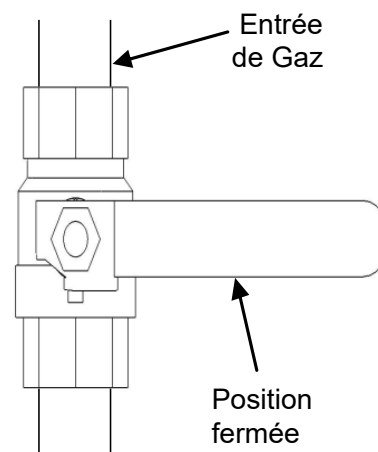
## POUR VOTRE SÉCURITÉ LIRE AVANT DEMETTRE EN MARCHÉ

**⚠ AVERTISSEMENT:** Quiconque ne respecte pas à la lettre ces instructions risque de déclencher un incendie ou un explosion entraînant des dommages matériels, des blessures ou des pertes de vie.

- A. Cet appareil ne comporte pas de veilleuse. Il est muni d'un dispositif d'allumage qui allume automatiquement le brûleur. Ne pas tenter d'allumer le brûleur manuellement.
- B. **AVANT DE FAIRE FONCTIONNER**, porter attention aux odeurs tout autour de l'appareil pour déceler une odeur de gaz. Faire de même près du plancher, car certains gaz sont plus lourds que l'air et s'accumuleront au niveau du sol. **QUOI FAIRE S'IL Y A UNE ODEUR DE GAZ**
  - Ne pas tenter d'allumer d'appareil.
  - Ne toucher à aucun interrupteur électrique; ne pas se servir des téléphones se trouvant dans le bâtiment.
  - Contacter immédiatement votre fournisseur de gaz depuis un bâtiment voisin. Suivre les instructions du fournisseur.
  - S'il est impossible de joindre le fournisseur de gaz, contacter le service des incendies.
- C. Ne pousser ou tourner la manette d'admission du gaz qu'à la main. Ne jamais utiliser d'outil. Si la manette reste coincée, ne pas tenter de la réparer, contacter un technicien qualifié. Le fait de forcer la manette ou de la réparer pourrait déclencher une explosion ou un incendie.
- D. Ne pas utiliser cet appareil si une ou plusieurs de ses pièces ont été plongées dans l'eau. Faire inspecter immédiatement l'appareil par un technicien qualifié et remplacer toute partie du système de contrôle et toute commande qui ont été plongées dans l'eau.

## INSTRUCTIONS DE MISE EN MARCHÉ

1. **ARRÊTER !** Lire les instructions de sécurité sur la portion supérieure (à gauche) de cette étiquette.
2. Régler le thermostat au réglage de température le plus bas.
3. Coupez toute alimentation électrique de l'appareil.
4. Cet appareil est équipé d'un dispositif d'allumage qui allume automatiquement le brûleur. N'essayez pas d'allumer le brûleur à la main.
5. Retirez le panneau d'accès a avant.
6. Fermez la vanne de gaz manuelle. La vanne est désactivée lorsque la poignée de la vanne est an angle droit au tuyau de gaz.
7. Attendre cinq (5) minutes pour laisser échapper tout gaz. Porter attention aux odeurs tout autour de l'appareil, y compris près du plancher, pour déceler une odeur de gaz. S'il y a une odeur de gaz, **ARRÊTER !** Passer à l'étape B des instructions de sécurité sur la portion supérieure (à gauche) de cette étiquette. S'il n'y a pas d'odeur de gaz, passer à l'étape suivante.
8. Pour ouvrir la vanne de gaz manuelle. La poignée de la vanne sera parallèle au tuyau de gaz.
9. Remplacez le panneau d'accès avant.
10. Mettre l'appareil entièrement sous tension.
11. Régler le thermostat au réglage de température désiré.
12. Si l'appareil ne se met pas en marche, suivre les instructions intitulées « Pour couper l'admission de gaz à l'appareil » et contacter un technicien qualifié ou le fournisseur de gaz.



## POUR COUPER L'ADMISSION DE GAZ À L'APPAREIL

1. Régler le thermostat au réglage de température le plus bas.
2. Couper toute alimentation électrique de l'appareil s'il faut procéder à l'entretien.
3. Retirez le panneau d'accès a avant.
4. Fermez la vanne de gaz manuelle. La vanne est désactivée lorsque la poignée de la vanne est an angle droit au tuyau de gaz.
5. Remplacez le panneau d'accès avant.

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Figure 4. French Start-Up and Shut-Down Decal (inside front panel)

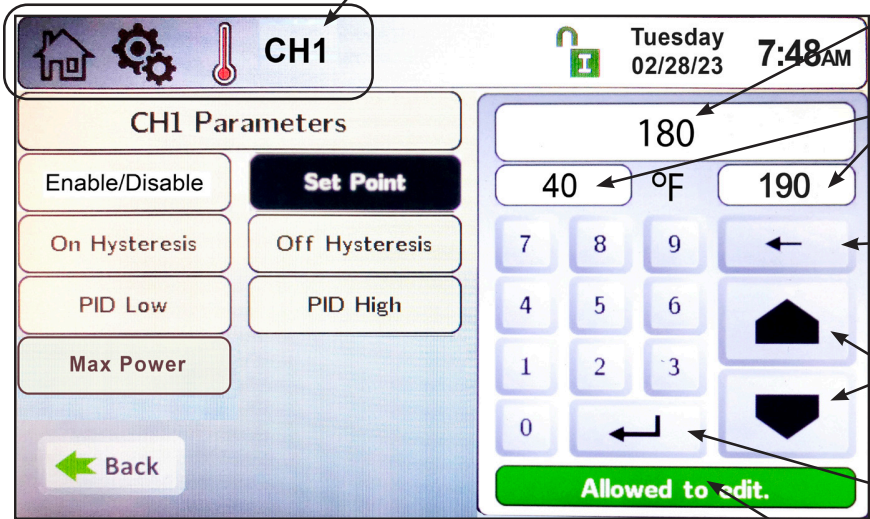
**D. The Touchscreen Display**

The screenshot shows a touchscreen interface with a navigation bar at the top containing a home icon, a lock icon, and the date/time: Tuesday 02/28/23 8:40 AM. Below the navigation bar, there are two columns of data: **Setpoint** (CSP: 180°F, CH1: 180°F, CH2: 145°F, DHW: 180°F) and **Boiler Status** (B: Running, Actual Rate: 50%, Target Rate: 50%, OAT: -- °F, Flame: 13.6uA). A central diagram shows a boiler with a flame, with temperatures 107°F on the left, 95°F on top, and 136°F on the right, and a ΔT of 29°F. Below the boiler, there are two temperature readouts: **SYSTEM TEMP.** (130°F and 124°F) and **DHW TEMP.** (140°F). At the bottom, there are five icons: Quick Start (rocket), Configure (gears), Service (wrench and pencil), Messages (speech bubble), and a house icon.

Name	Icon	Description
<b>Security</b>		Displays the current lock status icon. Touch the lock icon to lock or unlock the Touchscreen Display. See <b>Section 9.B on page 56</b> of the install & operating manual.
<b>Quick Start</b>		Provides quick access to the most commonly used parameters for easy installation. See <b>Section 9.C on page 57</b> of the install & operating manual (document 1475).
<b>Configure</b>		Provides access to ALL of your configurations for a detailed setup of the unit. See <b>Section 9.D on page 61</b> of the install & operating manual (document 1475).
<b>Service</b>		Allows the service technician to access the basic diagnostic and troubleshooting information. See <b>Section 9.E on page 86</b> of the install & operating manual.
<b>Messages</b>		Will show an 'Exclamation Point' when there is a message. Clicking onto the Message icon will take you to the message itself. The USB functionality will show the USB Icon at this location, if being used. See <b>Section 9.F on page 91</b> of the install & operating manual.
<b>Active Demands</b>		Will show icons that indicate the active parameters that are currently in demand. See <b>Section 9.G on page 92</b> of the install & operating manual.
<b>Navigation Bar</b>		Top left of every menu. The constant indicator of where you are as you navigate into and out of the touchscreens. See <b>Section 9.A.1 on page 55</b> of the install & operating manual.  The alarm bell icon indicates that the units alarm has been silenced.  LOCKOUTS and ERROR Codes are also show in the <b>Navigation Bar</b> when there is one of several unit Lockouts, Errors or Shut-downs that have occurred. See <b>Section 13.B on page 110</b> of the install & operating manual (document 1475).  <b>Lockout: Outlet Probe High Limit</b> <span style="border: 1px solid black; padding: 2px 10px;">RESET</span>
<b>Date &amp; Time</b>	Thursday 03/01/23 8:12 AM	To change date and time, simply touch the date or time and follow the directions. See <b>Section 9.D.10 on page 80</b> (document 1475).

NOTE: You can always tell exactly where you have navigated to by looking at the icons in the **Navigation Bar**.

In this example you are in **Home / Configure / Central Heat / Central Heat One**



Shows the current setting of the parameter.


These windows will reflect the allowable ranges of the parameter.

To delete the current setting before entering in the new value.

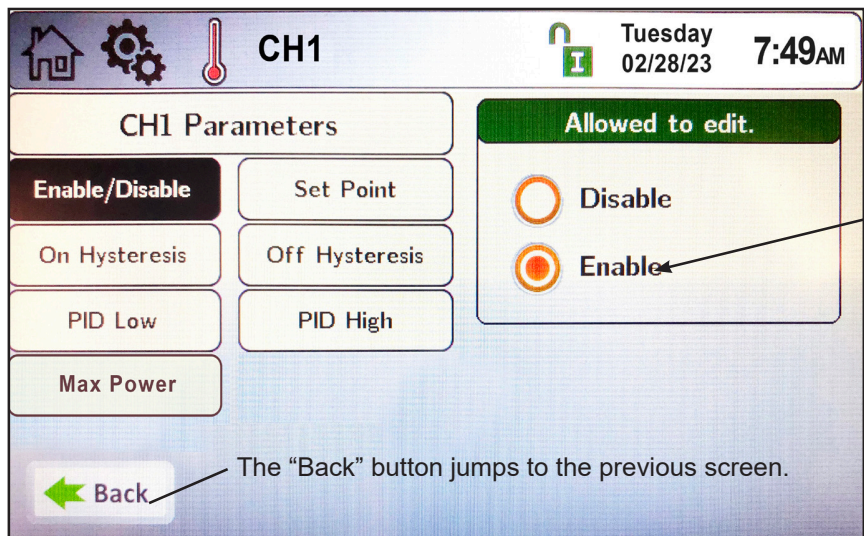
“Up and Down” arrows are used to increment the setting accordingly.

The “Enter” button is used to accept the new value.

**A Typical Numeric Keypad Entry Screen.**

Remember to always save the new setting with the  button.

This is the indicator that will be shown when the correct password has been entered to allow the setting to change.



The highlighted button (orange) shows which one is selected. Some screens may only allow you to set one or the other, while some other screens (example: pump selection) will allow you to select any or all of the options.

The “Back” button jumps to the previous screen.

**A Typical Selection Screen.**

## E. Maintenance

The following maintenance steps will help ensure that your XTR is operating at its best. Perform these steps at least once a year. If you find any issues, contact a qualified service technician for repair.

### E.1 General Care

1. Keep the area around the unit free from combustible materials, gasoline, and other flammable vapors and liquids.
2. Ensure that the air intake is isolated from any source of corrosive chemical fumes such as pool chemicals, refrigerants, paint, spray cans, cleaning, and laundry chemicals. When the air intake is contaminated with these chemicals, rapid deterioration of the unit will occur.
3. If desired, clean the jacket surface with a damp cloth and mild detergent. Do not use flammable cleaning materials.
4. If sidewall vented, ensure that the vent and air intake terminals are clear of obstructions. Do not pile snow against the terminals.

### E.2 Vent and Air Intake

1. Visually inspect the vent and air intake piping. Ensure that there are no signs of obstructions, leakage, corrosion, or deterioration along the length of the pipe or at the terminals.

**NOTE:** This unit is equipped with a system to shut down the unit when the pressure drop on the vent or air intake has exceeded safe limits. If the unit has shut down and is displaying a "High pressure drop" Lockout, follow the corrective action steps in Section 13.B of the Installation and Operation manual or contact a qualified service technician.

### E.3 Water Piping and Pressure Relief Valve

1. Visually inspect the water piping and pumps for any signs of leakage.
2. Visually inspect the pressure relief valve for signs of weeping or leakage.

### E.4 Condensate Disposal System

1. Visually inspect the condensate trap and drain line for signs of any debris that could cause blockages and ensure that condensate is draining properly. If cleaning of the trap is required, refer to section 12.C.2 of the Installation and Operation manual, or contact a qualified service technician.
2. Inspect the neutralizer (if installed) for any signs of sediment or debris that could cause blockages.

### E.5 Annual Service

1. Once a year, contact a qualified service technician to perform a detailed inspection of the unit, the vent and air intake system, water and gas connections, and condensate disposal system.

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