



NBT Series

Installation, Operation & Maintenance

Model: NBT-23, NBT-24P, NBT-230, NBT-610
Acidic Condensate Neutralizer with pH Power Pellets®



For use with JJM® NBT-Series
NBT-23, NBT-24P, NBT-230,
NBT-610

APPLICATION

◆ Condensing boilers, hot water heaters or furnaces, and flue pipe condensate drains.

INTRODUCTION

⚠ WARNING

Please follow these installation instructions carefully in order to avoid a safety hazard, severe injury, death, and/or substantial property damage.

◆ The neutralizer should only be installed and serviced by a qualified installer/service technician. Failure to follow these instructions completely can cause a safety hazard, severe personal injury, death or substantial property damage.

◆ All JJM® neutralizers use our proprietary pH Power Pellets®, which can only be found in JJM® products.

⚠ WARNING

Only pH Power Pellets® can be used in JJM® neutralizers. Any other media, such as limestone or marble chips, is strictly prohibited. Failure to follow these instructions completely voids the manufacturer's limited warranty and could cause a safety hazard, severe personal injury, death or substantial property damage. For information on pH Power Pellets®, including Safety Data Sheet, visit www.jjmalkalinetech.com.

NOTE—Always consult the local authority regarding any requirements concerning flue gas condensate handling codes.

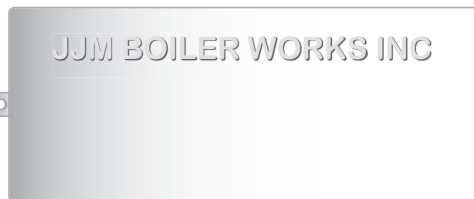
NBT-23

INCLUDED PARTS & DIMENSIONS

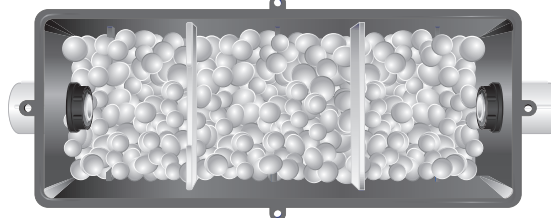
NBT-23

NBT-23 Included Parts
(2) 3/4" Insert Adapter x IPS Spigot
(6) Arrow Clip Push Pins
(2) Brackets
(2) 1/2" NPT Locknuts
(2) Gaskets
(2) 1/2" x 3/4" Adapter MIPT x Socket SCH 40

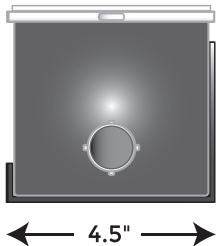
Top view



Top view



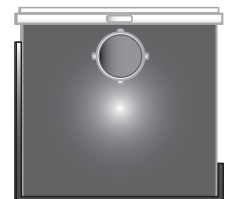
Left side



Side view



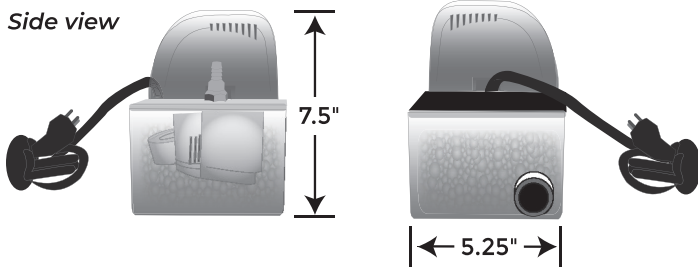
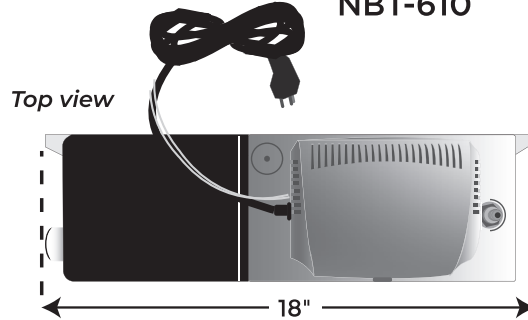
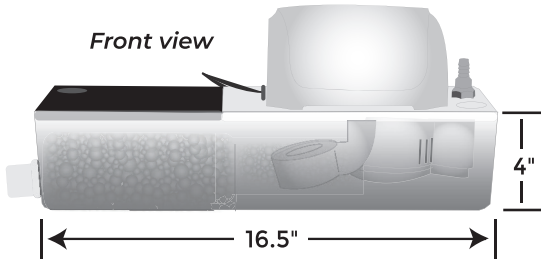
Right side



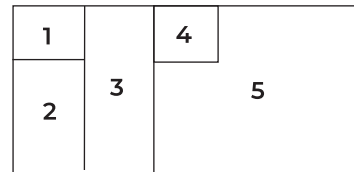
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INCLUDED PARTS & DIMENSIONS (CONT.)

NBT-24P



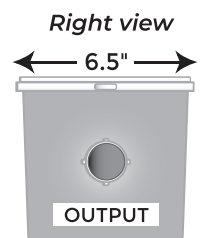
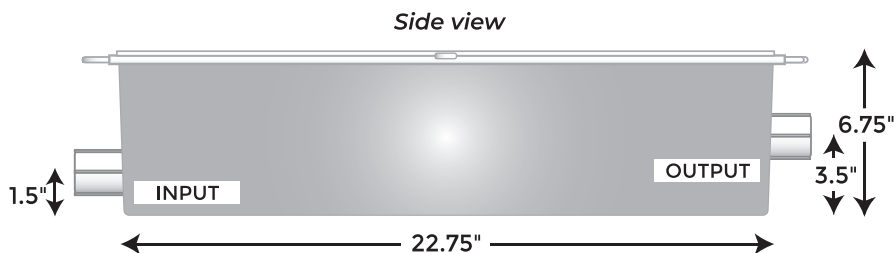
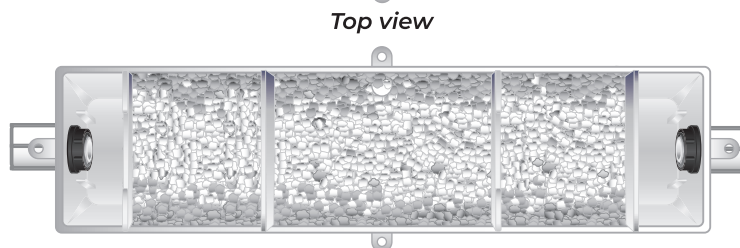
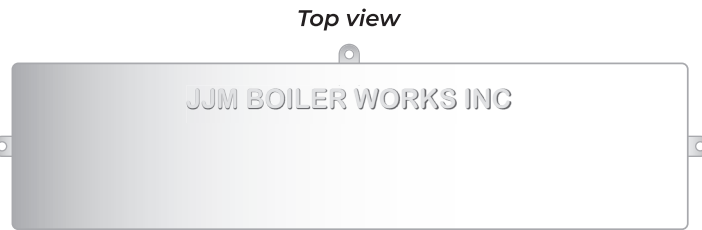
NBT-24P Included Parts	
(1)	3/4" NPT Locknuts
(2)	Gaskets
(1)	3/4" Adapter MIPT x Socket Sch 40
(1)	3/4" Plug Spigot Sch 40



Top view of chambers

NBT-230

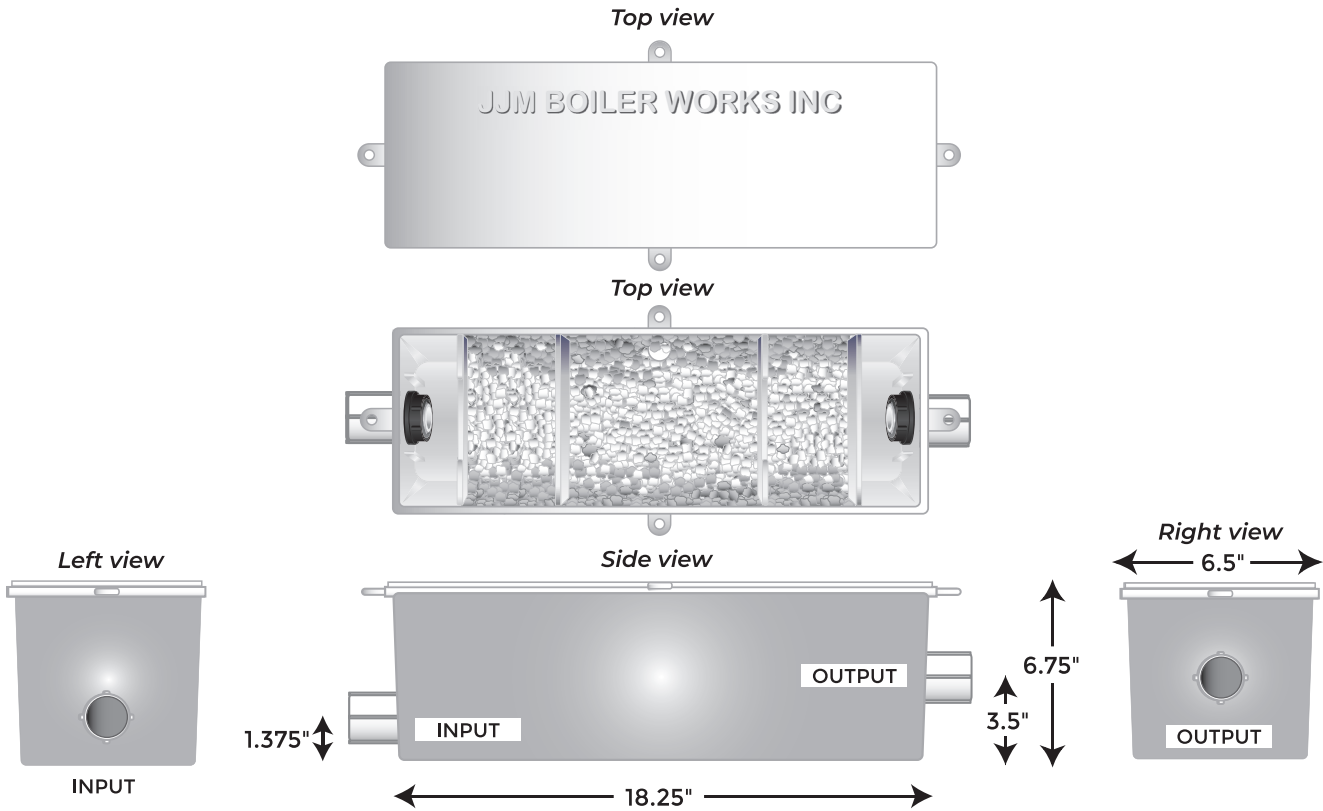
NBT-230 Included Parts	
(6)	Hex Nuts
(6)	Bolts
(2)	Gaskets
(2)	NPT 1" Locknuts
(2)	1" Adapter MIPT x Socket SCH 40



For use with JJM® NBT-Series
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NBT-610

INCLUDED PARTS & DIMENSIONS (CONT.)

NBT-610



NBT-610 Included Parts
(6) Hex Nuts
(6) Bolts
(2) Gaskets
(2) NPT 1" Locknuts
(2) 1" Adapter MIPT x Socket SCH 40

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PREPARE FOR INSTALLATION

- ◆ The neutralizer must be located at a lower elevation than the condensate drain on the appliance to ensure proper flow of condensate through the drain line. Relocate and elevate the appliance above the neutralizer, if necessary. The neutralizer can be mounted to the floor or wall.
- ◆ Prepare to route the neutralizer outlet piping to an appropriate drain. If a drain is not located within close proximity, use a condensate pump to route condensate to a suitable location.

▲WARNING

Do not exhaust flue gases through the neutralizer. Flue gas leakage or venting exhaust through the neutralizer can cause injury or death from carbon monoxide.

INSTALLATION

NOTE—Do not mount the neutralizer in a vertical position.

- ◆ Turn off electrical power and main manual gas shutoff to the appliance.
- ◆ Place the neutralizer in a horizontal position. If applicable, affix the brackets to the floor or wall, making sure not to damage any appliance components.
- ◆ Fill the neutralizer with pH Power Pellets® as provided. Replace lid and tighten nuts and bolts (if applicable).

NOTE—The NBT-24P has (5) chambers. Do NOT fill chamber 5 with any pH Power Pellets®.

- ◆ Connect plastic tubes or PVC piping from the appliance condensate trap outlet to the neutralizer inlet.

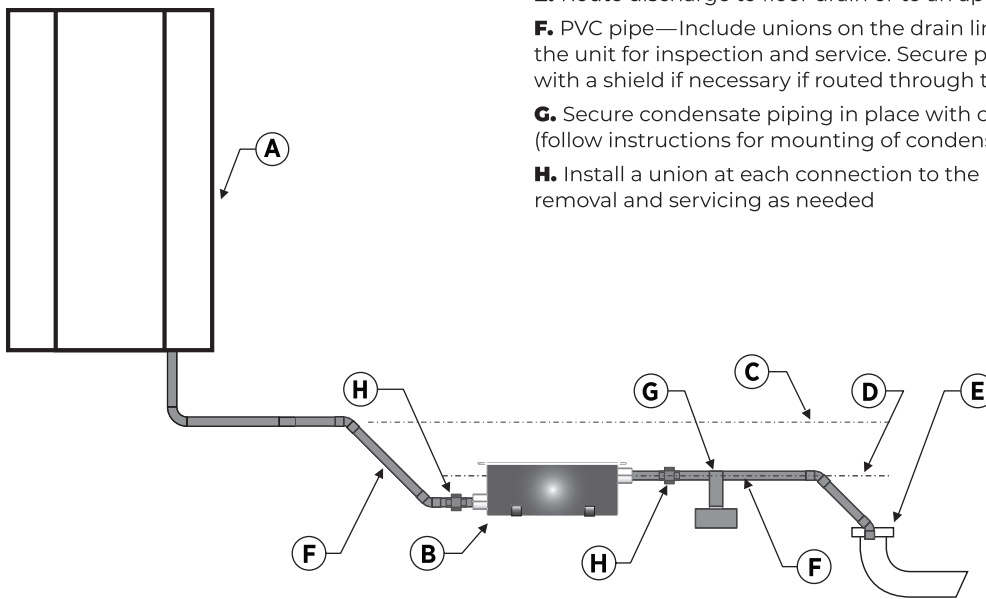
NOTE—The NBT-24P has separate inlet ports for both acidic condensate and (non-acidic) air conditioning condensate.

- ◆ Connect the neutralizer outlet to the floor drain (or condensate pump, if applicable), making sure the drain line is level or is pitched downhill from the outlet. Access to the condensate discharge is necessary for proper maintenance to check the efficacy of the pH Power Pellets® media.
- ◆ Secure the drain piping to the floor using clamps to prevent movement.
- ◆ Use Teflon tape on all threaded plastic fittings, as appropriate, and only use appropriate corrosion-resistant pipe materials.
- ◆ Connections to the appliance and neutralizer must be installed to ensure that no condensate back flow can occur.
- ◆ Before operating the appliance, fill the neutralizer and traps with tap water to establish flow. Never operate with dry neutralizer or P-traps.
- ◆ Turn on electrical power and gas to the appliance and restore the appliance to normal operation. Verify condensate drains properly and test the pH level at the outlet of the neutralizer.

NOTE—Do not route the condensate line through any area that is exposed to freezing temperatures. If personnel traffic poses a risk, install protection to prevent movement and/or damage.

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OPERATION



- A.** Condensing Appliance
- B.** Neutralizer (floor or wall mounted)
- C.** Bottom of the condensate outlet from the appliance **MUST** be ABOVE the bottom of the neutralizer outlet
- D.** Bottom of the neutralizer condensate outlet
- E.** Route discharge to floor drain or to an appropriate drain location
- F.** PVC pipe—Include unions on the drain line to allow removal of the unit for inspection and service. Secure pipe in place—protect with a shield if necessary if routed through traffic areas
- G.** Secure condensate piping in place with clamps if necessary (follow instructions for mounting of condensate pump, when used)
- H.** Install a union at each connection to the neutralizer to allow for removal and servicing as needed

MAINTENANCE

- ◆ The neutralizer should be serviced regularly, including visual inspection for leaks or damage and replacement of the pH Power Pellets®.
- ◆ pH Power Pellets® must be replaced the sooner of (i) annually, or (ii) the pH level at the outlet of the neutralizer drops below 5.0 (or the minimum level of the local water authority).
- ◆ The pH level can be monitored by taking a sample from the outlet of the neutralizer using a suitable pH test strip or an electronic pH meter for precise measurements.
- ◆ For refills of pH Power Pellets®, contact your local JJM® distributor, a list can be found at www.jjmalkalinetech.com.

LIMITED WARRANTY

- ◆ The neutralizer is warranted against defects in materials and workmanship for one year. The warranty does not cover issues that result from misuse, improper installation, and/or failure to replace the pH Power Pellets® as instructed.

MICRODAM™

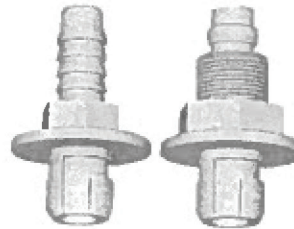
Condensate Removal Pump

INSTALLATION GUIDE

- (1) Carefully unpack the unit and check for damage. Make sure that all of the required parts are included. The units are thoroughly tested before packing to insure safe delivery and operation. If there is any sign of damage due to shipment, return it to the place of purchase for repair or replacement.
- (2) Select a mounting location near the appliance. The pump must be mounted horizontally. Run flexible tubing or pipe from evaporator drain into the inlet hole of pump. Be sure inlet piping is sloped downward to allow gravity flow.
- (3) Connect outlet piping (3/8" I.D.) with the check valve. From condensate unit, extend outlet piping straight up as high as necessary, but not higher than the maximum head of the pump. Be sure that the outlet piping is not twisted or clogged.

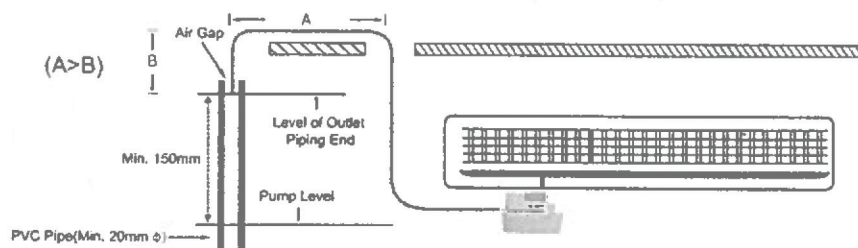
<Tip> How to Use the Check Valve

- ① For Un-installation
→ Turn an angle of 90° to the anti-clockwise direction
→ Take the check valve off from the hole
- ② For Installation
→ Put the check valve into the hole
→ Turn an angle of 90° to the clockwise direction



- (4) In order to avoid siphoning action & running the pump dry, always connect the outlet piping to a drain at a higher level than the pump itself.

<Tip> To Avoid the Siphoning Action



- (5) ⚠ Make sure that the power source voltage matches with the pump's requirement. Connect the pump's power cord to a constant source of power (not a fan or other device that runs intermittently). Do not connect or link the air conditioner's power cable directly to the pump's power cable. Use the power plugs respectively. If the pump's power cable should be extended, use a cable of same specification. All wiring should be done by qualified service technician.
- (6) When all the above tasks are done, please perform a trial operation. Pour water into the pump's reservoir and check if the pump works properly.

<Tip> About Safety Switch

- ⚠ The purpose of the safety switch is to prevent an overflow while the pump is not properly working due to various reasons.
- ⚠ The lead wires of safety switch originally coming from our factory are set to shut down the Heating/AC circuit. For this, the lead wires should be connected in series with the Low Voltage Thermostat Circuit.
- ⚠ All wiring should be done by qualified service technician. Please refer to local codes in your area.