Installation
Operation & Maintenance

Condensate neutralizing tubes

Model JM-2
Available in opaque or clear tubing
Specify when ordering
Overview

What is pH?

The pH measurement of a fluid is an indicator of the acidity or alkalinity. Neutral fluids have pH of 7.0. Acid fluids have pH below 7. And alkaline fluids have pH above 7 (up to 14). The pH can be easily measured using litmus paper.

Condensate pH from condensing boilers and furnaces is slightly acidic. The condensate pH needs to be increased (made less acidic) to prevent possible damage to cast iron soil pipe, ABS pipe, septic tanks, plants, wastewater treatment plants and other materials handling waste water.

JM-series condensate neutralizing tubes increase pH (reduce acidity).

JM-series commercial flue-side condensate neutralizing tanks are designed to raise the pH level of the condensate discharged by high-efficiency boilers and warm air furnaces.

Each increase of 1.0 in pH is a 10-times decrease in acidity. The pH of condensate is increased by approximately 1.0 to 3.0 after passing through NB neutralizing tanks. (This is a change of between 10 and 30 times.)

Applying JM-series neutralizing tubes

Condensate can be collected from flueways and boiler/furnace condensate trap outlets. See WARNING section at left for guidelines on application.

Match neutralizing tubes to boiler/furnace ratings. Use multiple tubes if needed to handle the load. Locate the neutralizing tube below the condensate connection and slightly above the floor drain or inlet to a condensate pump reservoir (if used).

Follow the guidelines in this manual, the boiler/furnace manual and all applicable local codes when installing, using and maintaining JM-series condensate neutralizing tubes.

Installation sequence

1. Securely fasten the two mounting clamps (item M) to floor or wall (recommended spacing is 6½ inches apart).
2. Pull clamps apart and insert JM tube — pay attention to INLET and OUTLET markings on the tube. Close clamps tightly (using slight pressure with pliers if needed).
3. Connect plastic tubes or PVC piping from appliance or breeching drains to P-traps and then from P-trap outlet to either one of the two JM tube inlets.
4. Connect the JM tube outlet to house drain or condensate pump.
5. Use Teflon tape on all threaded plastic fittings.
6. NOTE — Always contact the local authority in regards to any requirements concerning flue gas condensate handling codes.
**Installation**

**Figure 1**  JM-series condensate neutralizing tubes — features and dimensions

![Diagram of JM-series condensate neutralizing tubes with labels A to L.]

**Figure 2**  JM-2 tube with floor drain, typical

![Diagram of JM-2 tube with floor drain.]

- **A** Condensing boiler or furnace
- **B** JM condensate neutralizing tube (or multiple tubes piped in parallel)
- **C** Boiler/furnace condensate trap connection
- **D** Boiler/furnace vent
- **E** Vent condensate trap, when used — Install a trap as shown. Connect the tubing to a separate JM tube if appliances are common vented. For individually-vented appliances, the vent condensate drain can be connected to the appliance condensate drain line.
- **F** Floor drain or sump
- **G** Condensate pump
- **H** Bottom of boiler/furnace condensate outlet — MUST be ABOVE condensate pump inlet connection
- **J** Bottom of JM tube condensate outlet
- **L** Mounting pad or structural platform, when required to elevate boiler condensate drain as needed

**Figure 3**  JM-2 tube with condensate pump, typical

![Diagram of JM-2 tube with condensate pump.]

- **M** Mounting clamps
- **N** Mounting clamps must be secured to the mounting surface
- **P** Plastic tubing or PVC pipe — When using PVC pipe, remove the JM inlet and outlet hose barb fittings and replace with threaded PVC fittings. Include unions in the piping to allow removal of the JM tube for inspection and service. — Secure pipe or tubing in place. — Protect with a shield if necessary if routed through traffic areas.
- **R** Use hose clamps at all connections when using plastic tubing.
- **S** Condensate drain termination at floor drain (or condensate pump reservoir inlet) — secure in place with clamps. — Follow instructions for condensate pump.
- **T** Elevate the JM tube on a structural base if necessary for the outlet to be raised.
- **U** Route condensate discharge line to appropriate drain location.

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**RATINGS & DIMENSIONS**

<table>
<thead>
<tr>
<th>Model</th>
<th>MBH</th>
<th>GPH</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
<tr>
<td>JM-2</td>
<td>150</td>
<td>2</td>
<td>10 ½</td>
<td>2 ¾</td>
<td>1 ½</td>
<td>3 ⅜</td>
<td>1 ½</td>
<td>6 ½</td>
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1. PVC tubing filled with ½" and ¾" aggregate calcium carbonate
2. Clamp-on support brackets
3. Condensate outlet hose barb fitting ¾" hose barb x ½" NPT — or — ¾" PVC x ½" NPT (both supplied)
4. Condensate inlet hose barb fitting

Part number JM-002-1211
Installation (continued)

Piping options

Overflow by-pass piping

See Figure 4 and Figure 5 for installation with a Y-fitting for an overflow by-pass line.
Locate the overflow discharge so flow can be easily seen. Instruct the owner to notify the service technician immediately if flow through the overflow line is frequent or steady.

Make sure the installation complies with all local code requirements.

Piping for multiple boilers/furnaces

Follow the guidelines on page 2 for combined piping with multiple boilers or furnaces.

As stated on page 2, do not connect a flue pipe condensate line to the same neutralizer as used for a boiler/furnace unless the boiler/furnace is individually vented, the vent will not allow rain water to enter the flue pipe, and no other appliance is connected to the same neutralizer tube.

Legend for Figure 4 and Figure 5

A Condensing boiler or furnace, floor-mounted type
B Condensing boiler or furnace, wall-mount type
C JM neutralizing tube floor-mounted (or multiple tubes piped in parallel)
D JM neutralizing tube wall-mounted (or multiple tubes piped in parallel)
E Y-fitting, ¾” PVC minimum — locate a minimum of 2 inches above the neutralizer tube and so the overflow line is below the bottom of appliances condensate drain connection (item L)
F Appliance condensate trap/condensate drain connection
H Overflow drain line (terminate so flow from line is easily seen)
J Floor drain, sump or condensate pump reservoir
L Bottom of appliance condensate drain connection — all condensate piping and components must be below this level
M Bottom of JM neutralizer tube outlet connection
N Terminate the overflow line above the drain location so any flow from the line is easily visible

Maintenance

Inspect frequently

Instruct the building owner to frequently inspect the JM tube and all condensate connections. The owner must notify a qualified technician if any problems are noticed.

Recharge as required

See instructions on page 2 for recharging or replacing the neutralizer tubes.

Replacement parts

Contact JJM Boiler Works, Inc., your local wholesaler or manufacturer’s representative for replacement parts.