

VSeries

Acidic Condensate Wastewater and
Air Conditioning Non-Acidic
Wastewater Removal System

**Models: V-125
V-250 / V-250 Combi
V-252 / V-253**



Installation Operation & Maintenance



Maintenance

DANGER

Indicates a condition or hazard which will cause severe personal injury, death or major property damage.

WARNING

Indicates a condition or hazard which may cause severe personal injury, death or major property damage.

CAUTION

Indicates a condition or hazard which will or can cause minor personal injury or property damage.

NOTICE

Indicates special attention is needed, but not directly related to potential injury or property damage.

Install all electrical wiring in accordance with the **National Electrical Code** and local requirements.

NOTICE

This unit when installed must be electrically grounded in accordance with the requirements of the authority having jurisdiction or, in the absence of such requirements, with the current edition of the National Electrical Code, ANSI/NFPA 70 and/or the Canadian Electrical Code, Part 1, CSA C22.1, Electrical Code.

CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

Inspect frequently

Installer — Instruct the building owner to frequently inspect the V Series canister cartridge neutralizer and all condensate connections. The owner must notify a qualified technician if any problems are noticed.

Recharge as required

Follow the requirements on page 2 for recharging or replacing the V Series cartridge. Follow instructions at right.

Replacement parts

Contact JJM® Boiler Works, your local wholesaler or manufacturer's representative for replacement parts and refill kit.

WARNING

Model V-250 Combi

Electrical Rating: 115/1/60 Amps: 1.5A/Single Pump

Thermally Protected

Indoor use only

Model: VCMA-20UL / Little Giant

Head: 8.6 PSI Max

Application:

The V Series canister neutralizer is best applied to wall mounted condensing hot water heaters, boilers. The V-250 pump combi model is best applied when a condensate pump is needed to transfer the treated acidic condensate wastewater to a remote drain location. All acidic condensate wastewater is gravity fed from the appliance condensate outlet port to the V-250 inlet port. The V-250 pump combi can also be used for non acid air conditioning condensate removal. Simple pipe to either of the spare inlet ports on the pump tank.

Overview

Read before proceeding

WARNING

Failure to comply with these guidelines could result in severe personal injury, death or substantial property damage.

Canister and lines must be wet

Before operating a V-series neutralizer with a hot water heater, boiler, furnace, or flue stack drain fill the V-series canister and all "P" traps with fresh tap water. NEVER operate with the canister or "P" traps dry

DANGER

Application restrictions

- Flue stack drains, condensing boilers, furnaces and hot water heaters
- Flue pipe condensate drains
- DO NOT exhaust flue gases through the V Series canister, is not rated for boiler or furnace flue gases. Operating the V Series canister as exhaust vents can cause injury or death from carbon monoxide.
- Gas traps must be installed between the boiler, vent drains, hot water heaters and furnace condensate outlet and the inlet of all V Series canisters.
- The V Series canister must be installed below sysem P-traps, boiler, furnace, and breeching condensate drains.

Combined piping options

Flue pipe condensate drains

- Boiler/furnace condensate drain/hot water heater and flue condensate drain can be commonly piped to a V Series canister. Also, the flue pipe must be terminated so rain water cannot enter the flue pipe.

Recharge canisters regularly

- Canisters should be recharged when pH level moves below 5.0. The pH should be checked regularly (at least twice during the first year of operation) to determine the required recharging schedule.

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 digital pocket pH probe

Condensate pH from condensing boilers and furnaces is typically around 4. The condensate pH needs to be increased (made more neutral) to prevent possible damage to cast iron soil pipe, ABS pipe, septic tanks, plants, wastewater treatment plants and other materials handling waste water.

V-series condensate neutralizing canisters increase pH (reduce acidity).

V-series commercial fire-side condensate treatment canisters are designed to raise the pH level of the condensate discharged by high-efficiency boilers and warm air furnaces.

Each change of 1.0 in pH is a 10-times reduction (or increase) in concentration. The pH of condensate is increased by approximately 1.0 to 4.0 higher after passing through NB neutralizing tanks.

Applying V-series neutralizing canisters

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

See the JJM sizing chart located on our website, www.jjmboilerworks.com.

Discharge lines may be mounted overhead with the V-250 pump combi model.

Follow the guidelines in this manual, the boiler/furnace manual and all applicable local codes when installing, using and maintaining V-series Condensate pH treatment canisters.

Installation sequence

1. The V Series must be wall mounted a minimum of 1.75" above the floor level to be able to remove the canister when replacing the inner cartridge.
2. The V-250 pump combi can be floor or wall mounted since it is a factory packaged unit already maintaining the 1.75" for canister removal.
3. All V-series units must be installed below the appliance condensate outlet drain. This will allow for gravity flow into the neutralizer inlet port, through the V-series canister and out the V-series outlet port. Never use any pumps BEFORE the V-series inlet port. Use only PP tubing, PVC Pipe, CPVC Pipe, or stainless steel pipe when connecting any JJM neutralizing product.
4. Use PP tubing from the V-250 pump combi units pump outlet port to the nearest house waste drain.
5. Always use a water trap between the appliance condensate outlet port and the V Series inlet port.
6. NOTE: Always consult the local authority regarding any requirements concerning flue gas condensate handling codes.
7. Connect piping using today's modern piping practices. See Figures 1,2,3, & 4 for JJM® piping.

Figure 1 Piping diagram for wall hung heater/V Series vertical pH treatment canister to drain.

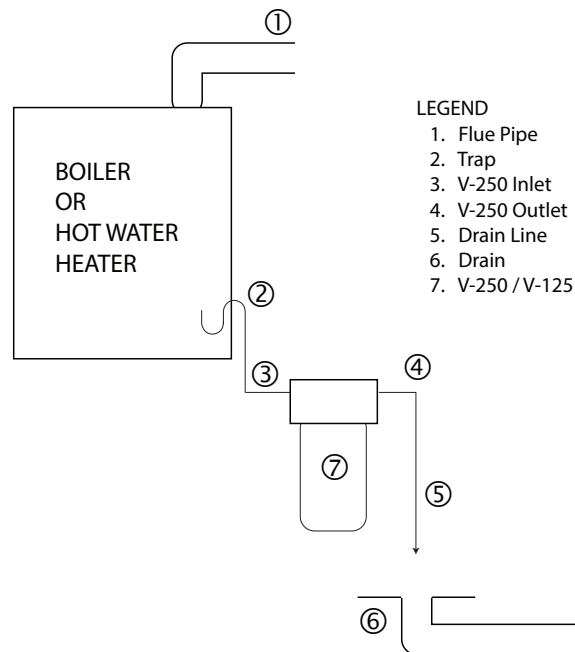
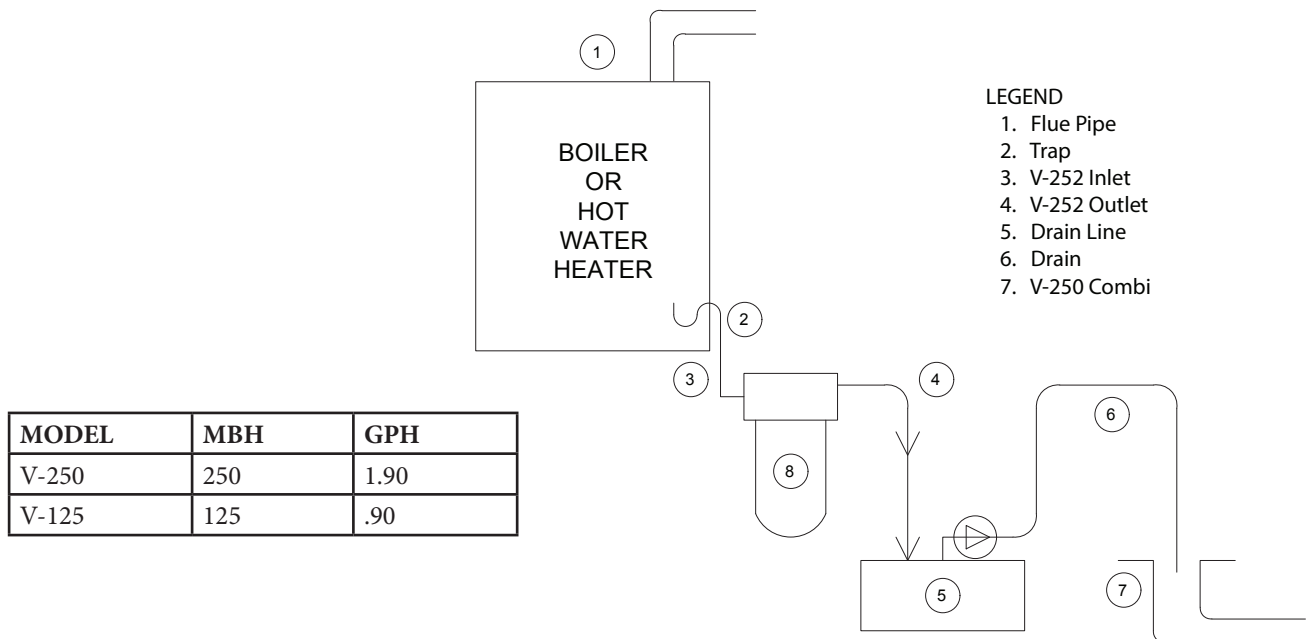


Figure 2 Piping diagram for wall hung heater/V-Series vertical pH treatment canister with receiver pump.



MODEL	MBH	GPH
V-250	250	1.90
V-125	125	.90

Recharging procedure

To recharge any V-250 series product order part number 4003 for each neutralizer. Shut off all electrical power to all heating units. Remove the outer canister by turning it counter-clockwise. Remove the inner pellet cartridge and clean out any debris left in the canister. Replace the inner pellet cartridge with a new cartridge. Return the outer canister to the V-250 cap by twisting it on clock-wise. Return system to full operation and check for any leaks.



Never pipe the outlet of a neutralizer directly to a pipe, outlet should be piped to an open drain or open wastewater trap.

Figure 3 Piping diagram for wall hung heater / V-252 vertical pH treatment canisters.

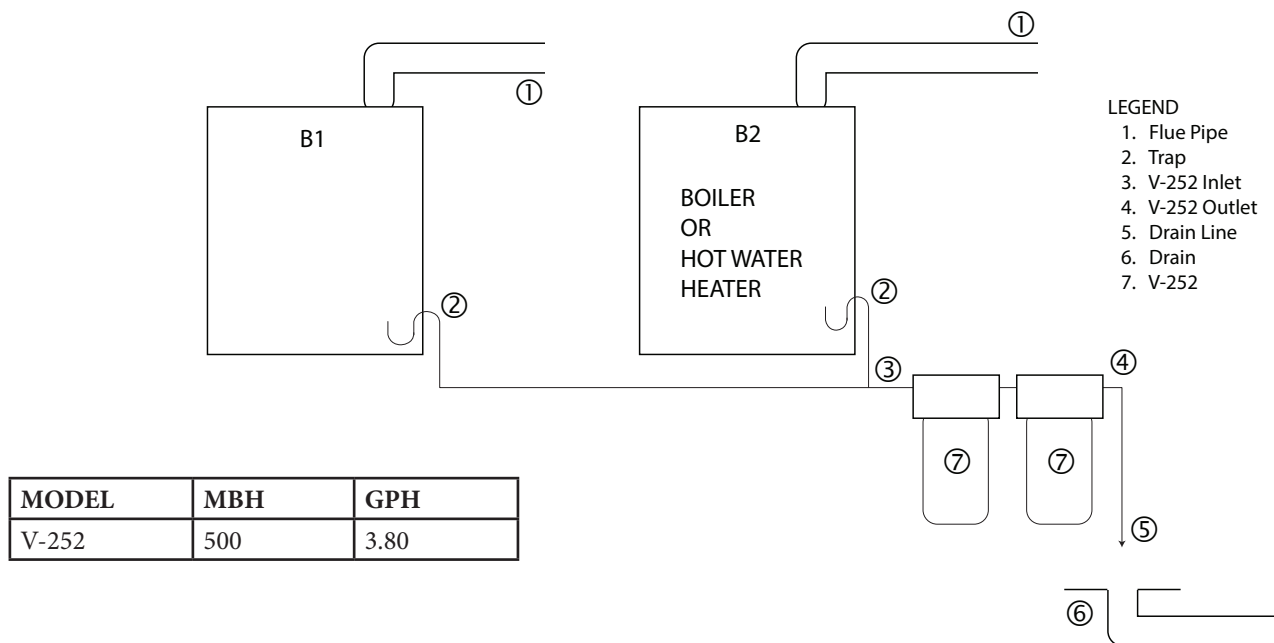


Figure 4 Piping diagram for wall hung heater / V-253 vertical pH treatment canisters.

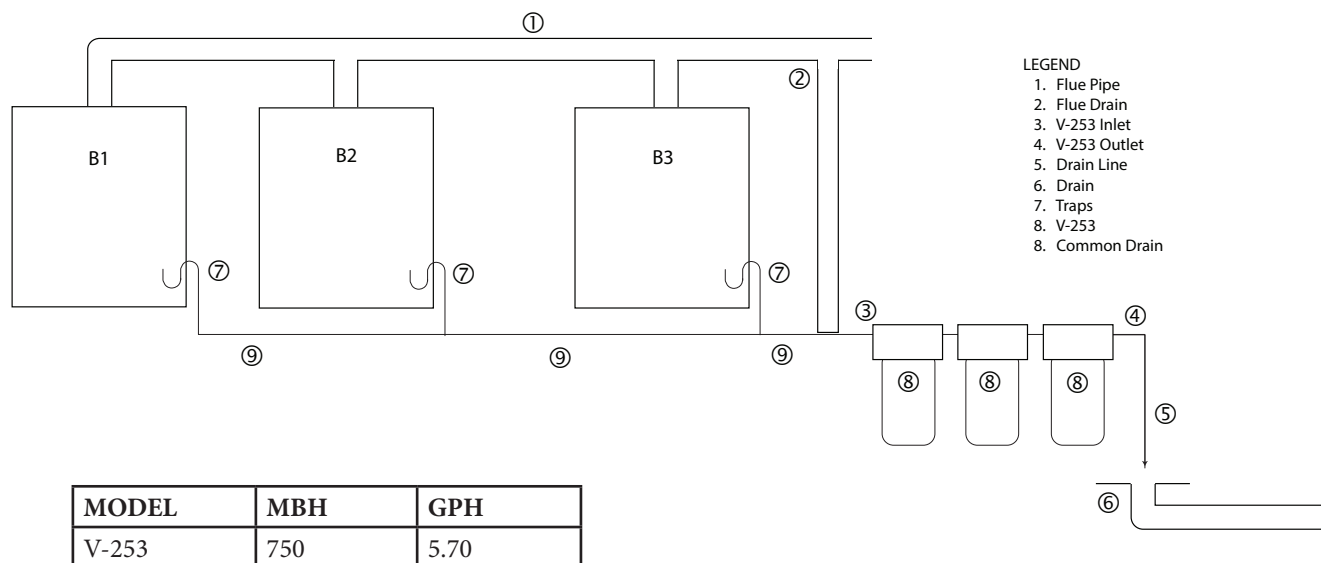


Figure 5 Exploded View of V-125

RATING: 125 MBH

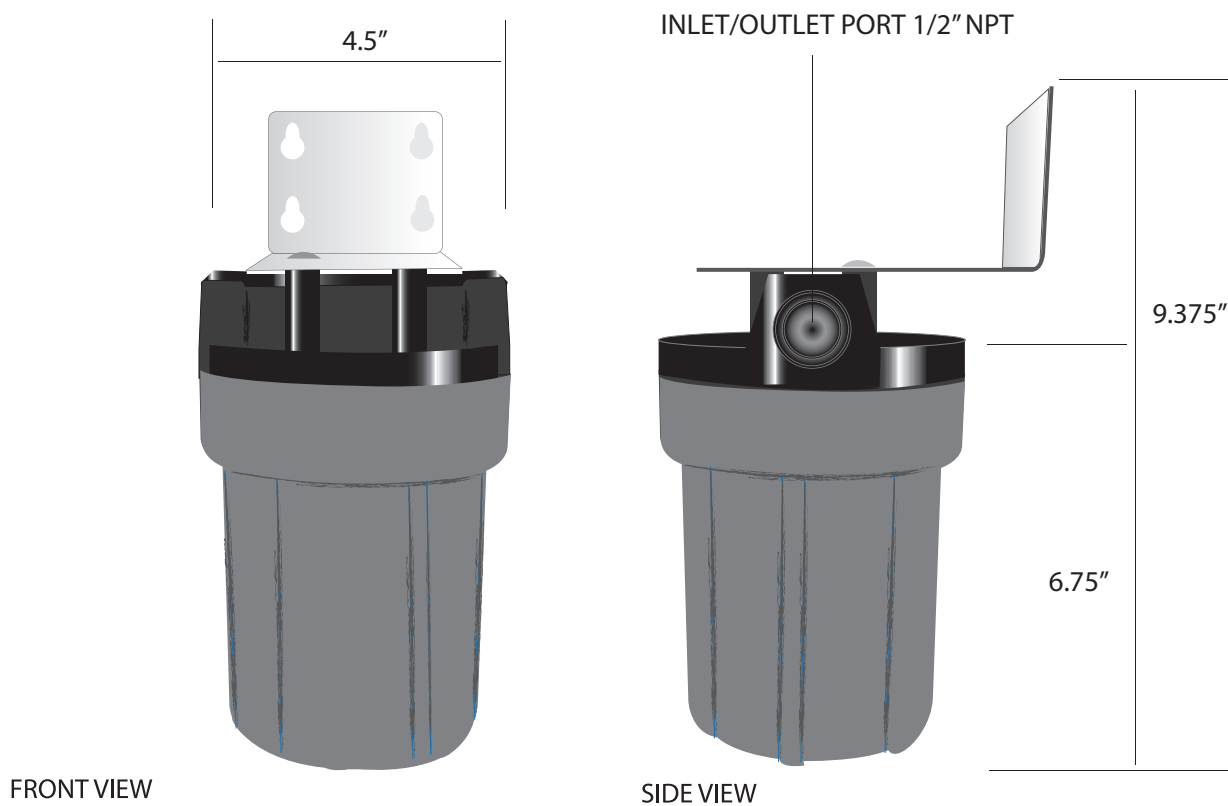
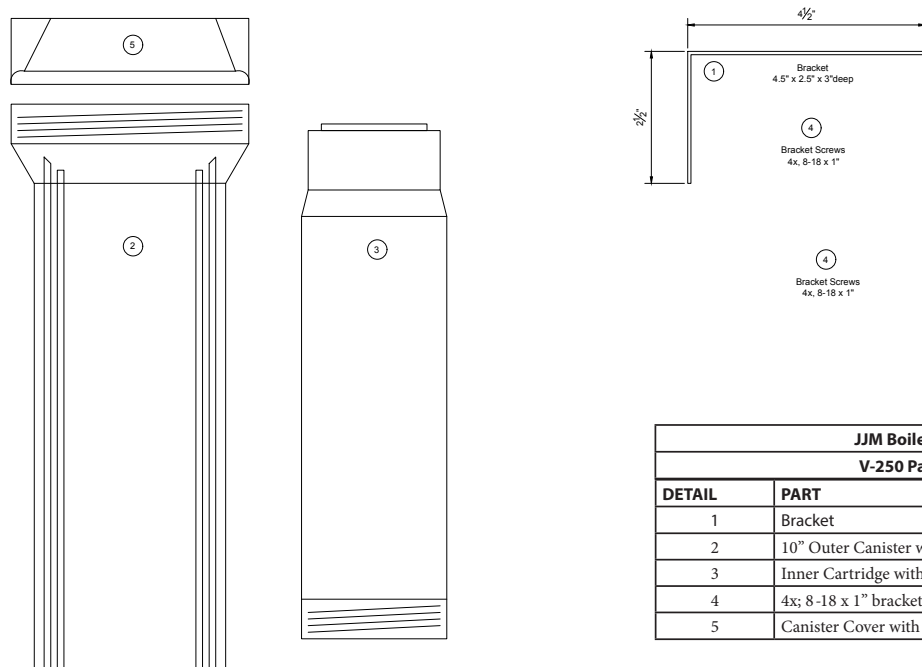
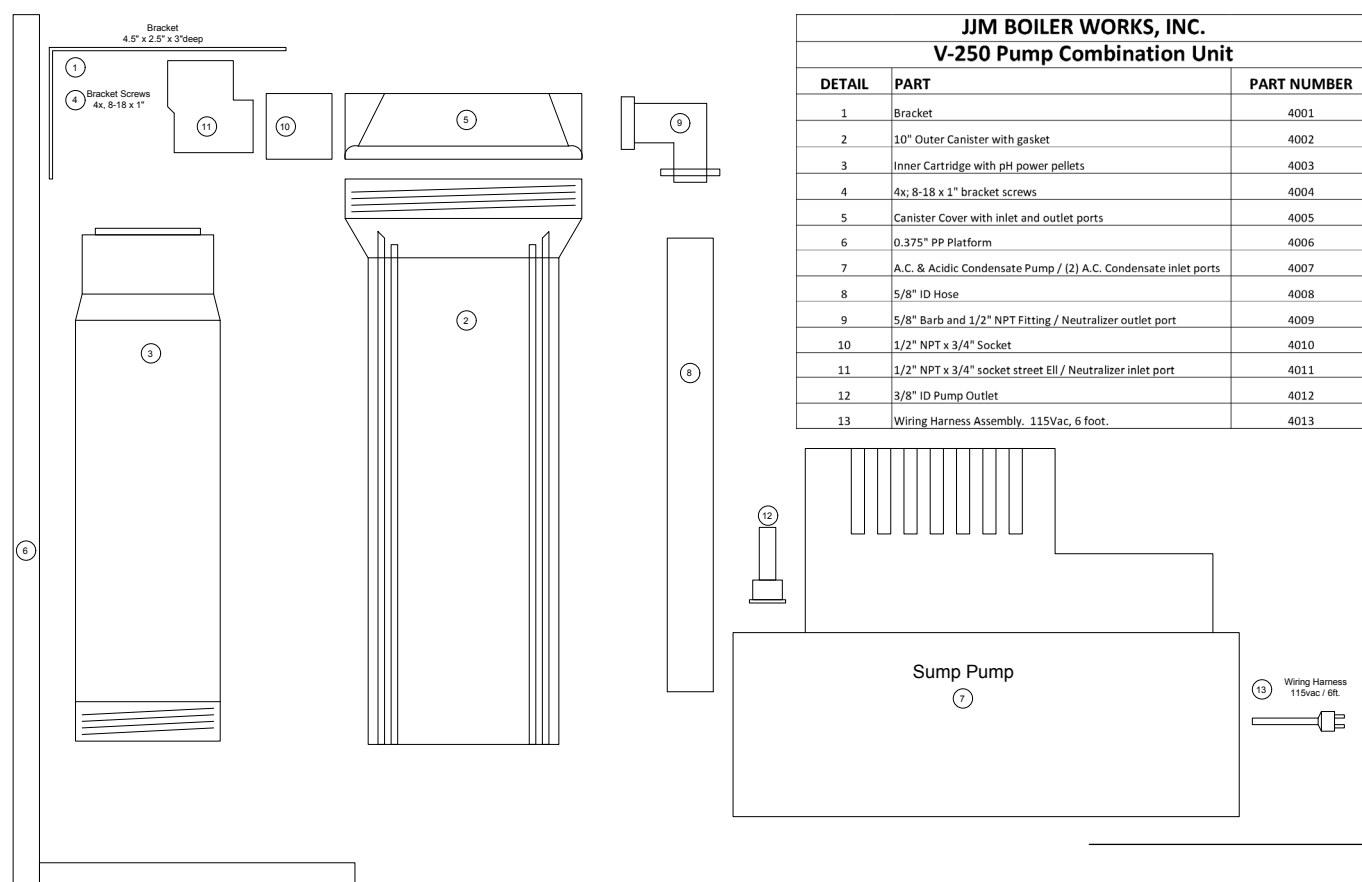


Figure 6 Exploded View of V-250

Figure 7 Exploded view of V-250 pump combi


Technical drawings of the 1000 Series Water Dispenser showing Front View and Side View with dimensions.

FRONT VIEW

4.75"

SIDE VIEW

14.25"

FRONT VIEW

Technical drawing of the V250 Pump Combination Unit from the front. The unit consists of a V250 pump assembly mounted on a Sump Pump. The V250 pump has a total height of 1'-0" and a width of 1'-0". It features a 1/2" diameter inlet and a 3/4" diameter outlet. The Sump Pump has a height of 3/4" and a width of 1'-0". The overall unit height is 1'-0".

SIDE VIEW

Technical drawing of the V250 Pump Combination Unit from the side. The unit consists of a V250 pump assembly mounted on a Sump Pump. The V250 pump has a total height of 1'-0" and a width of 1'-0". It features a 1/2" diameter inlet and a 3/4" diameter outlet. The Sump Pump has a height of 3/4" and a width of 1'-0". The overall unit height is 1'-0".

Figure 10 V-252 dimensions

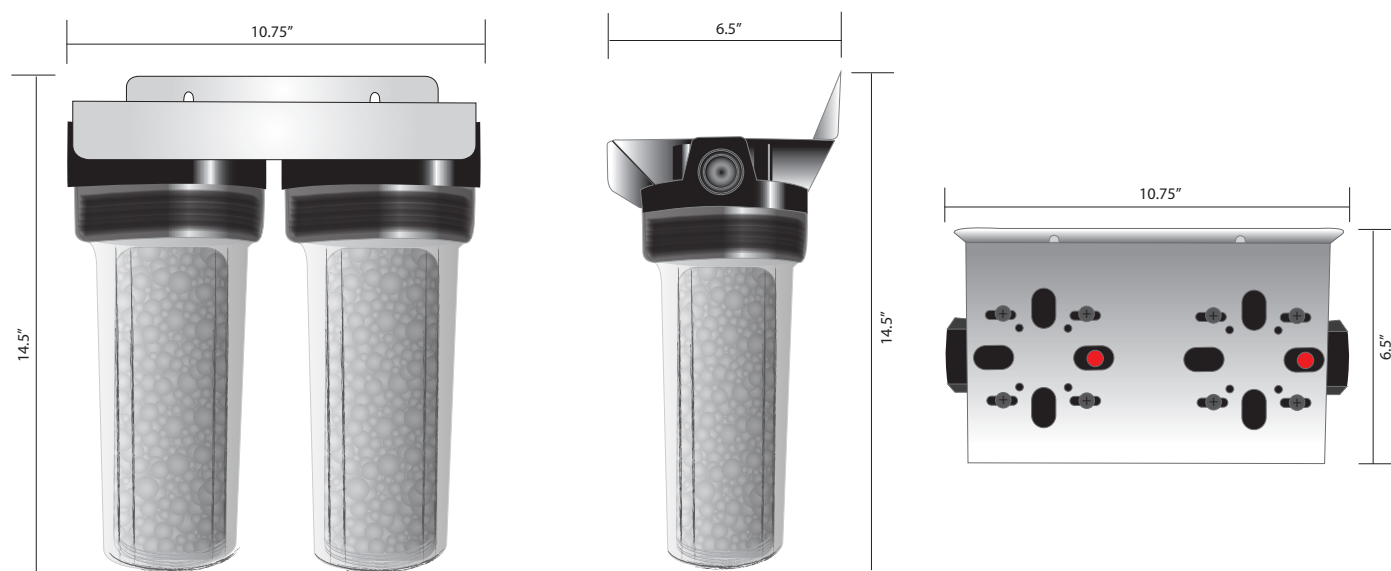


Figure 11 V-253 dimensions

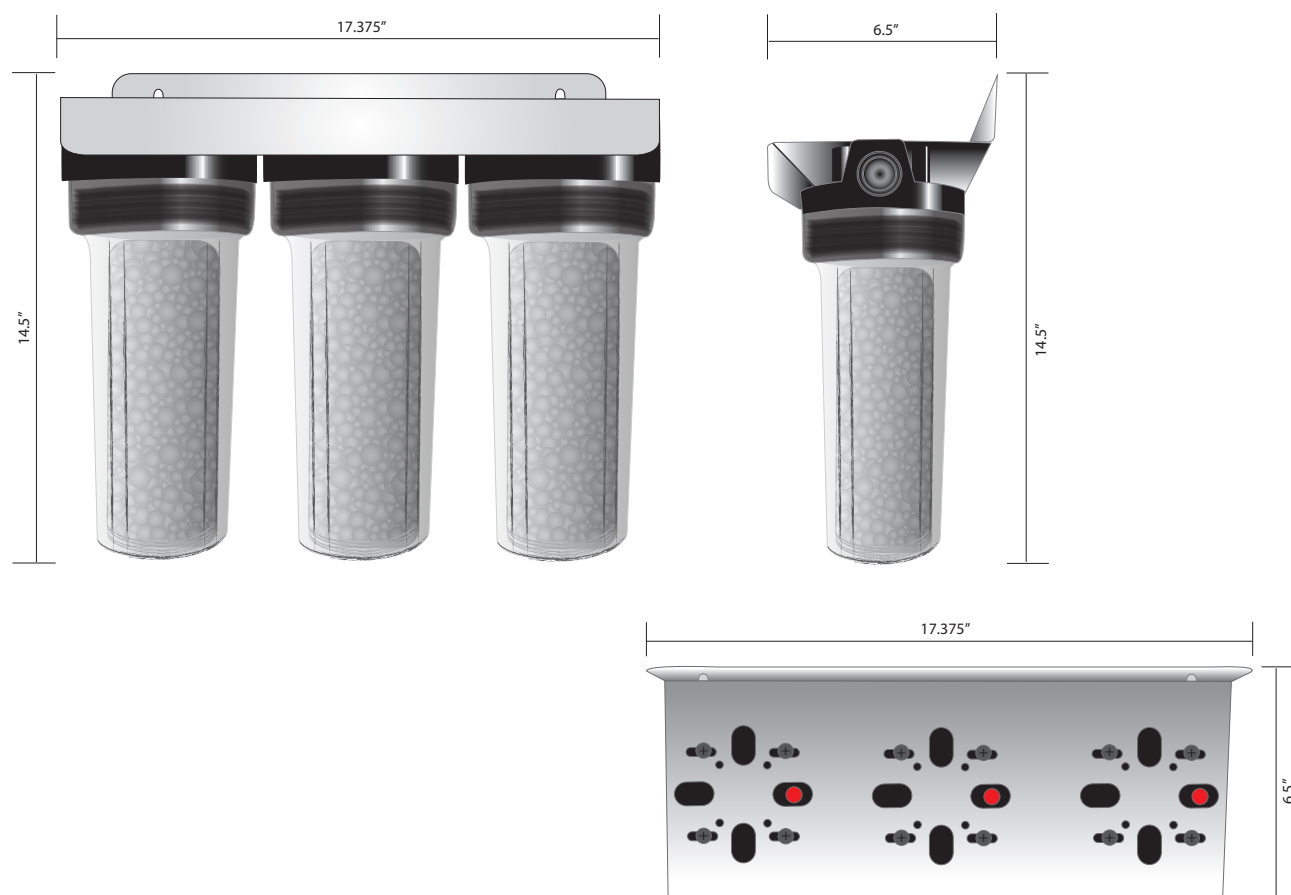
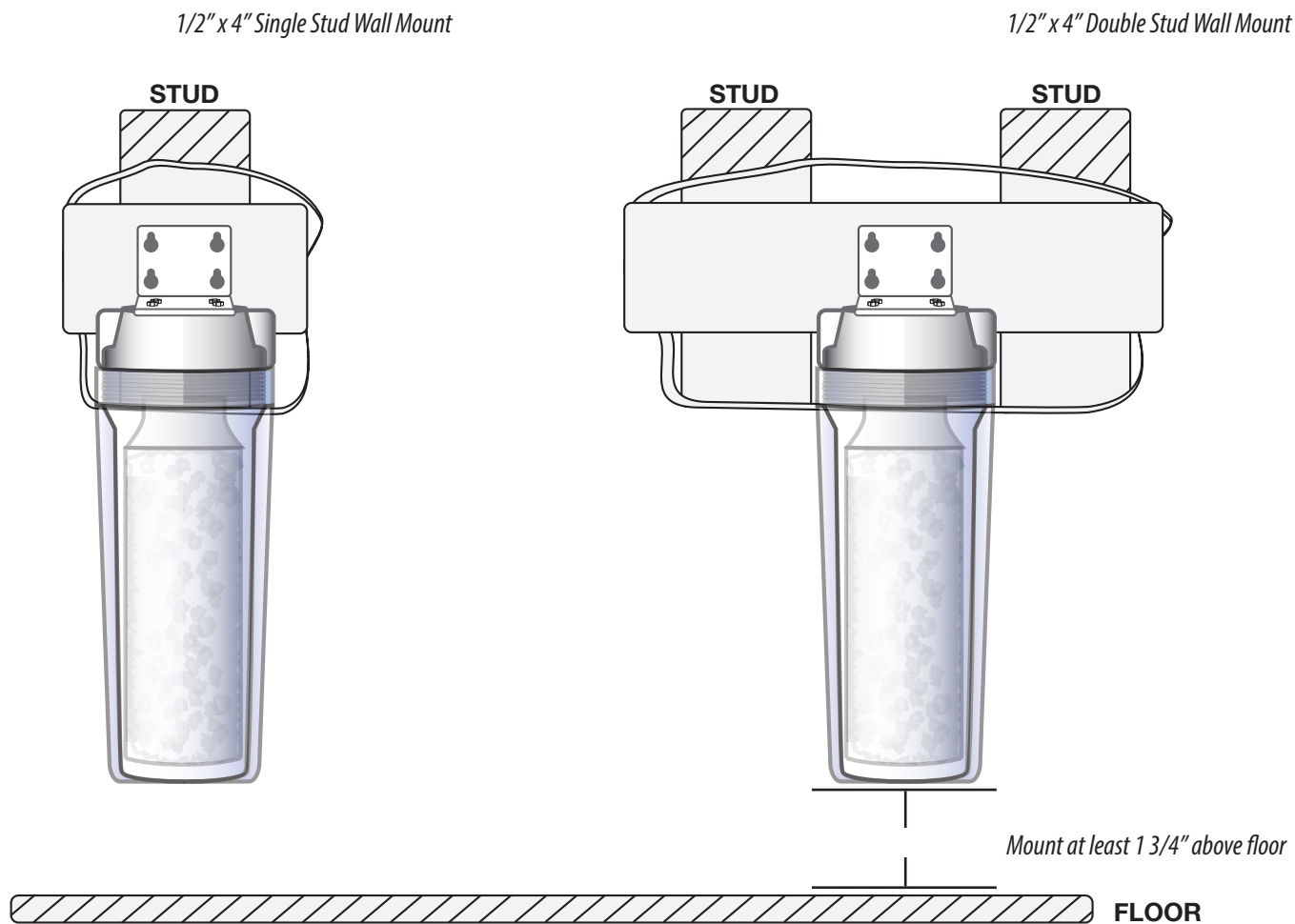


Figure 12 V-125, V-250, V-252 & V-253 / Wall Mounting



Install all electrical wiring in accordance with the **National Electrical Code** and local requirements.

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Maintenance Procedures

Getting the most out of your JJM® Neutralizer

Acidic wastewater neutralizers like all filtering devices need both maintenance and replacing. The average pH level of acidic wastewater produced by today's condensing boilers, hot water heaters, furnaces, flue stack drains, and stack economizers is 3.2pH. When using a passive Inline Tube, Tank, or Canister the range of pH modification will fall in between 5.0 and 9.5 pH.

When the pH falls below 5.0 at the outlet port of any neutralizer the active ingredient must be replaced. **Media replacement schedule will depend on several factors including Operating Hours, Efficiency, System Design, and Neutralizer Piping Scheme.** The active ingredient in the case of JJM® products is Magnesium Hydroxide Pellets. The trade name is pH Power Pellets®.

Before changing the pellets when the pH level falls below 5.0 you can get the most out of your neutralizer by first agitating the pellets. In the case of an **inline tube products** try lightly tapping the outer sides of the tube with a rubber mallet several times and then check the pH level once again at the outlet port. You may find that your pH level has risen back into the 5.0 to 9.5pH range.

When your **neutralizer is a tank product with loose pellets** you can simply use a wooded dowel to stir the pellets and again use fresh tap water to flush out the tank.

If your **neutralizer pellets are incased in a porous pellet bag** there are three methods to agitating the pellets:

1. Remove the pellet bag or bags from the tank and using your hands move the pellets around inside the bags.
2. Using a five gallon bucket filled with fresh tap water, use step one with the bag under water.
3. Using a fresh water hose slowly pour fresh water over both sides of the pellet bag and also use method one.

If the pH level is has not risen back into the safe range of 5.0 to 9.5 pH the pellets must be replaced.

If you have our **Model V-250 or V-250 Combi vertical canisters** try the following method:

1. Twist off the outer canister to get access to the inner pellet cartridge and over a five gallon pail shake the Cartridge several times to agitate the pellets.
2. Again using a five gallon pail filled with fresh tap water let the cartridge soak for five minutes under water and then drain and hand shake the cartridge to agitate the pellets. Also clean out any sediment which may be held within the outer canister.

DURING ALL OF THE ABOVE PROCEDURES THE FOLLOWING SAFETY ITEMS MUST BE USED:

1. WEAR SAFETY GLASSES
2. WEAR RUBBER OR LATEX PROTECTIVE GLOVES
3. SHUT OFF ALL ELECTRICAL POWER TO THE HEATING UNIT OR UNITS BEFORE SERVICING YOUR NEUTRALIZERS.

The pellets are **Non-Hazardous** and can be disposed of in your normal refuge.

MSDS sheets can be found online at www.jjmboilerworks.com.

Any questions can be directed to JJM Boiler Works, Inc. at

413-527-1893 or at www.jjmboilerworks.com

George Carney, President, JJM Boiler Works, Inc.