



A CSW Industrials Company

pH-Pro

Condensate Neutralizers for
Gas-Fired Condensing Appliances



What Is Condensate Neutralization?

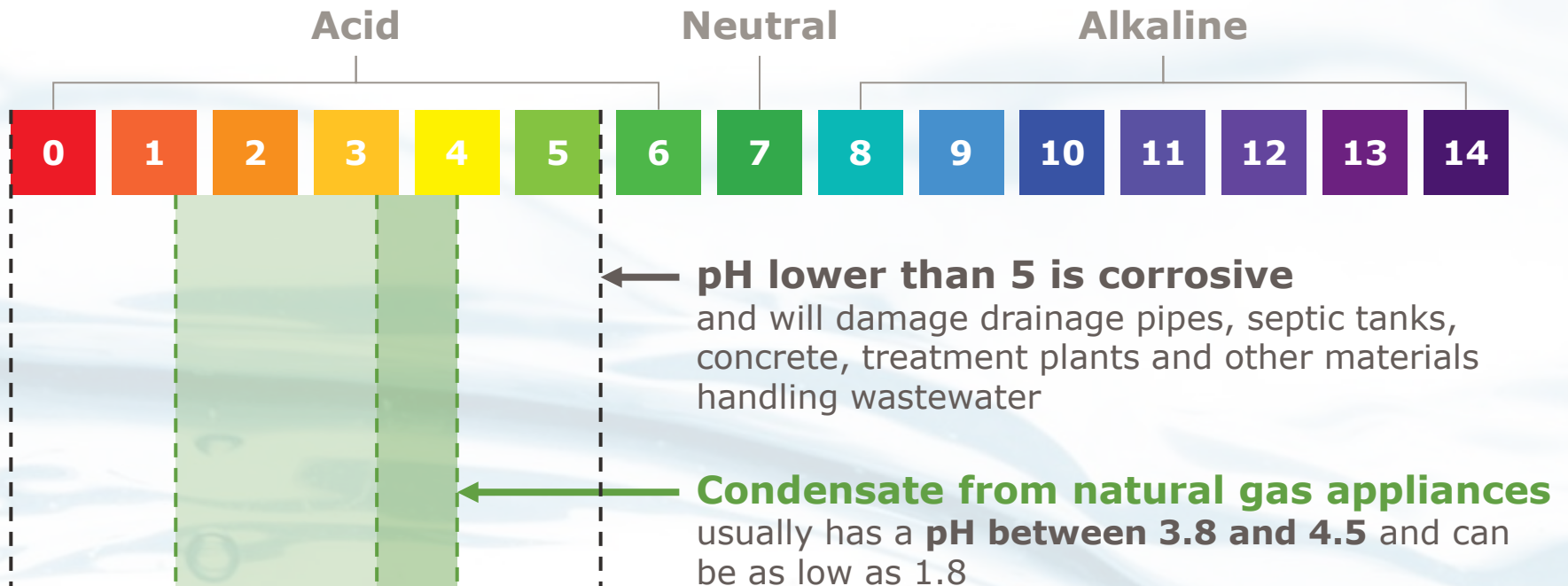
The condensate from a gas-powered boiler, furnace or water heater results in **acidic condensate containing nitric, nitrous, sulfuric, sulfurous and hydrochloric acids.**



Condensate is drained into a neutralizing device containing media that will cause a chemical reaction and **raises the pH of the condensate to safe levels before discharging into the drainage system.**

Why We Need To Neutralize Condensate

Acidic condensate will damage metallic pipe, concrete, and most materials other than certain plastics.



The pH scale is not linear. Each whole number below 7 (Neutral) is 10 times more acidic than the next higher number!

Neutralizers Are Required By Code

All condensing appliances should have a neutralizer to protect property, infrastructure, and the environment.



*International Association of
Plumbing and Mechanical Officials*



**PLUMBING-HEATING-COOLING
CONTRACTORS ASSOCIATION**

9.4.1 Treatment of Corrosive Wastes

Corrosive liquids, spent acids, or other harmful chemicals that may damage a drain, sewer, soil or waste pipe, create noxious or toxic fumes, or interfere with sewage treatment processes **shall not be discharged into the plumbing system without being thoroughly neutralized or treated by passing through a properly constructed and approved neutralizing device.**

Such devices shall be provided automatically with a sufficient supply of neutralizing medium, so as to make its contents non-injurious before

Ensure installation complies with all local codes!

Why pH-Pro?



Performance

pH-Pro's proprietary media blend offers superior condensate neutralization performance. No clumping. No clogging. No bypass required.

Innovation

Patented integrated unions allow quick media replacement. Innovative media and sock design.

Protection

pH-Pro helps prevent acidic condensate from damaging metallic pipe, concrete, and the environment.

pH-Pro's proprietary media blend of calcite (calcium carbonate) and magnesium oxide offers superior condensate neutralization performance.

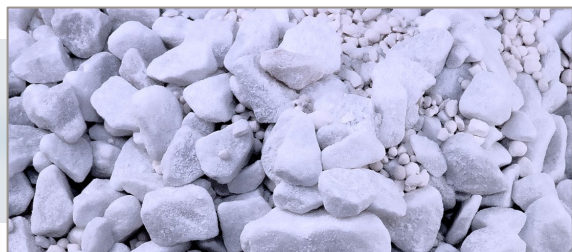
As the media comes into contact with the condensate, portions of it dissolve slowly, creating new avenues for passage. Because of this, the neutralizers do not clog or restrict liquid flow, thereby eliminating the need for a bypass.

**No clumping. No clogging.
No bypass required.**



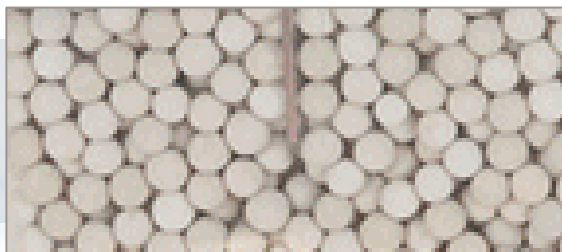
Media Comparison

pH-Pro → Calcite (Calcium Carbonate) & Magnesium Oxide



- Large quantity of calcite never brings pH level above neutral (to alkaline state)
- Small quantity of magnesium oxide functions as a catalyst for neutralization process
- The random geometry of the calcite, along with the integration of small magnesium oxide pearls, ensures acidic condensate always has a path through the neutralizer

Magnesium Oxide or Magnesium Hydroxide



- Too much magnesium and too little condensate creates an alkaline state → damaging as acidic
- Other manufacturers use larger spherical balls of neutralizing media which can arrange in such a way that consistent flow through the neutralizing unit can become restricted, necessitating a need for a bypass which allows acidic condensate through

Limestone w/ Calcium Carbonate & impurities



- Calcite is very effective but once dissolved leaves hard, limestone chips and impurities
- Impurities create a film inside the tube which can cause the build-up of sludge restricting flow and necessitating a need for a bypass which allows acidic condensate through

The patented integrated unions allow for the **removal of the neutralizer tube without cutting piping** or using additional unions.



End cap and lock rings remain connected to the drain piping allowing the neutralizing tube to be easily removed.

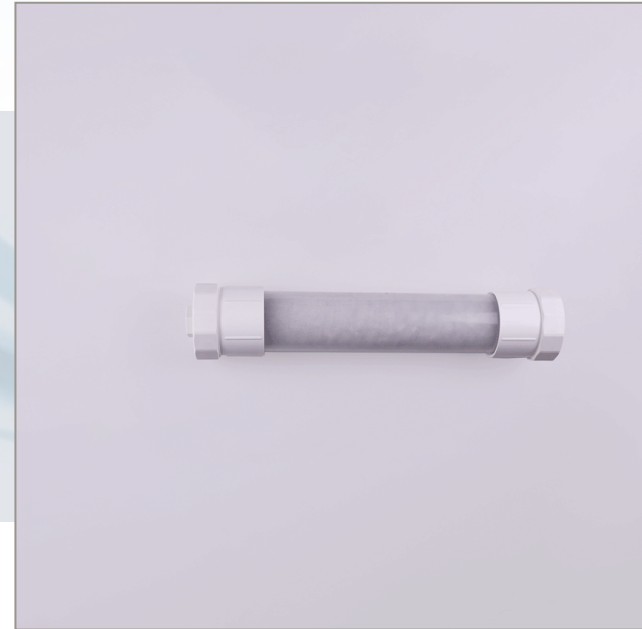
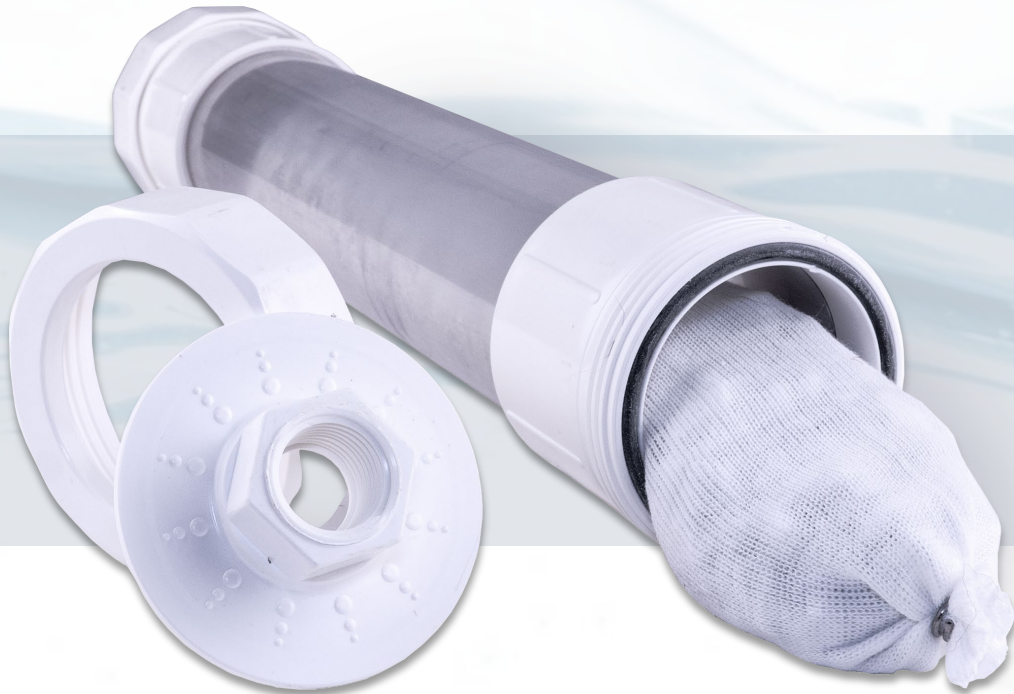


Media Sock Design

Ensures media stays **distributed in the neutralizer tube** allowing condensate to flow through the media, thoroughly neutralizing condensate.

Once media dissolves and the condensate sits above the media, it's time to change. Remove used sock and replace with refill media.

No scooping or manual removal required!



pH-Pro helps prevent acidic condensate from **damaging metallic pipe, concrete, and the environment.**

The extreme effects of untreated condensate:



Neutralizer Tubes



NT2H220

220k clear tube

NT2V220

220k clear tube –
horizontal and vert

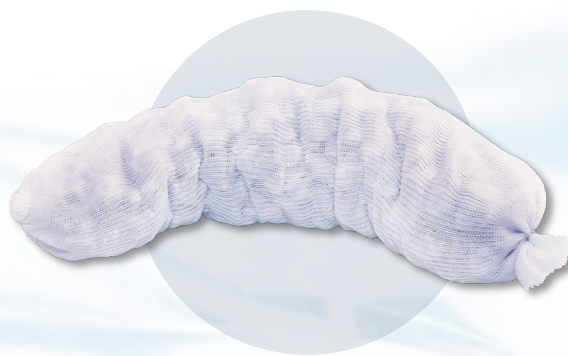
NT2H300B

300k clear tube

NT4H600

600k clear tube

Refill Sock Kits



RFSK220

220k refill

RFSK300

300k refill

RFSK600

600k refill

RFSK500

NSP50 refill kit

Neutralizer Pumps



NSP-500

RTP Tank pump

RTP 110v /24"

+

Neutralizer

500k

Neutralizer Tubes

Patented Integrated Unions

Ease of installation and maintenance without disturbing surrounding pipe

Clear Tube

Allows for visual inspection of media

Clamps & Fittings

Included with all tube models

Vertical Option Available

For applications where space is tight



Neutralizer Tube Installations

Horizontal Installation

Horizontal Compatible Models:

All models (NT2H220, NT2V220, NT2H300B, NT4H600)

- Standard application
- Condensate travels through horizontal tube, passing through media, neutralizing condensate
- Bi-direction design allows the tube to be installed in either direction



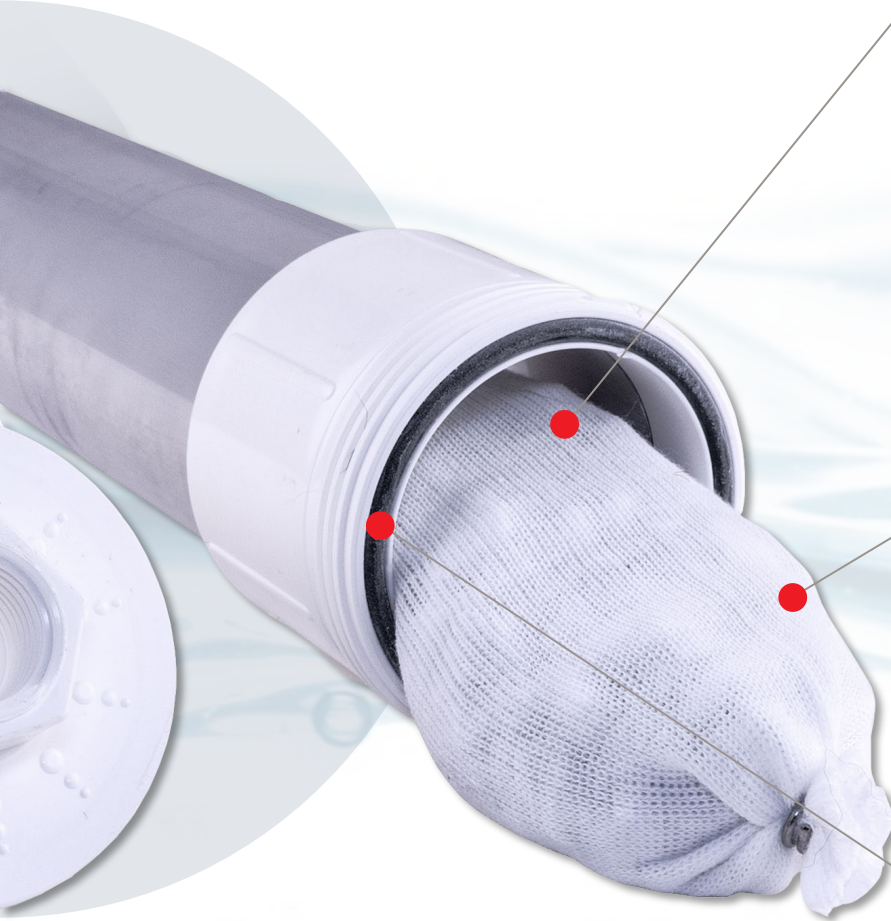
Vertical Installation

Vertical Compatible Model: NT2V220

- Used where space is tight
- Condensate enters through bottom line and flows out through top line, providing maximum soak time for condensate
- Metal stainless steel screen positioned at the bottom of the tube keeps the media sock in place



Refill Sock Kits



Superior Media

Proprietary blend of calcium carbonate and magnesium oxide

No clogging or clumping

Innovate Sock Design

Ensures media stays distributed inside tube, allowing condensate to thoroughly flow through the media, neutralizing condensate

New O-rings

Included with refills

Neutralizer Pumps

RTP Tank Pump

Condensate Neutralizing
Pump for 500,000
BTU/h Appliance

Max. Flow Rate: **153 gph**

Max. Rec. Head: **24'**

Power Supply: **110v AC**

Condensate Sock

Fits within the
patented, serpentine
neutralization chamber
maximizing soak time
which increases
efficiency of
neutralization

Multiple Inlets

Three, $\frac{3}{4}$ " inlet options
for connection

Longer Cord

6' power cord to
easily position pump



Sizing a Condensate Neutralizer

Guidelines

A 200,000 BTU input boiler may be fine with a neutralizer that gives a guideline capacity of 220,000 BTUs.

Sizing guidelines are just that – guidelines.
Each system operates differently!

Guidelines are based on incoming pH of 3.5 or higher and 1,200-1,500 hours of appliance operation annually.



The only sure way to know if the unit is operating properly is to regularly check the pH of the condensate at the outlet with a pH Meter.



Why pH-Pro?



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Innovation

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Protection

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Additional Products: Heating Service Products



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Heating service products are designed to ensure boilers, tankless water heaters, and furnaces **operate at optimum performance.**

Heating service products are also used to **extend the life of older systems and promote safe, clean operating environments.**



Why RectorSeal heating service products?



Performance

Regular maintenance will ensure a properly operating system.

Efficiency

Removing unwanted buildup ensures heating systems are not overworked which saves money on energy and costly repairs.

Protection

Proper treatment protects the system from scale, corrosion, foaming and other forms of damage that can occur over and time.

Product Lineup



Steam Boilers and Hydronic (Hot Water) Boilers



Surgemaster™
Steam Boilers Only



8-Way™



Surgex™
Steam Boilers Only



Soot Remover
Sootspray™

Fuel Oil Neutralizer



Odorgon™
Powder



Odorgon™
Spray



Calci-flush™
Tanked Water Heaters



Calci-free™
Tankless Water Heaters

Visit rs.today/heating for more product information.



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