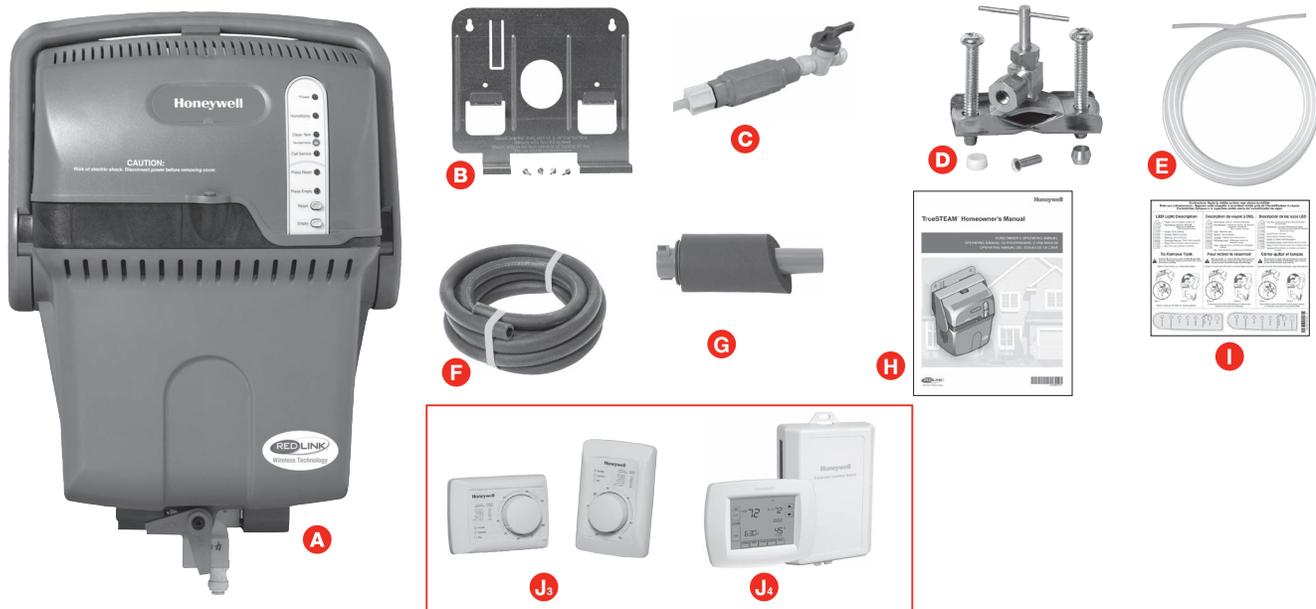


TrueSTEAM™

PROFESSIONAL INSTALLATION GUIDE

INCLUDED IN THIS HUMIDIFIER BOX



Tools needed to install TrueSTEAM

- ▶ Wire cutter/stripper
- ▶ 1-3/4-in. diameter hole saw
- ▶ 1/8-in. drill bit
- ▶ Standard screwdriver
- ▶ 18-gauge wire (up to 5 conductor)
- ▶ Torx driver T-20 and T-30

Other Requirements

- ▶ TrueSTEAM flushes water at or above 140°F (60°C). Refer to local codes for proper draining practices for hot water.
- ▶ Condensate pump rating of 212°F (100°C) if used.
- ▶ Drip pan with water sensor shut-off required underneath TrueSTEAM if installed in or above finished space.

- A** TrueSTEAM
 - B** Mounting bracket and hardware
 - C** Backflow preventer
 - D** Saddle valve
 - E** Water supply hose
 - F** Drain hose (10 feet)
 - G** Duct nozzle and gasket
 - H** Owner's manual
 - I** Service label
 - J₃** Humidity control*
 - J₄** VisionPRO IAQ control*
- * Control based on model ordered.



Remote installation requires separate purchase of the Honeywell Remote Mounting Kit (#50024917)



Critical Installation Information	2	Reverse Osmosis Filter	23
Water Quality and Hardness	2	Parts of the RO Filter	23
Testing Water Quality and Interpreting Results	2	Setting up the RO Filter	24
Choosing the Filter	2	Maintaining the RO Filter	25
Set the Automatic Flush Cycle Timing	3	Before Wiring TrueSTEAM	26
Proper Sizing of a TrueSTEAM Humidifier	5	Using the DIP Switches	26
TrueSTEAM Pre-Install Information	6	STEP ONE: Remove the TrueSTEAM Cover	26
Safety Definitions and Precautions	7	STEP TWO: Understand the DIP Switches	26
Safety Definitions	7	Deciding on the Wiring Configuration	28
Safety Precautions	7	STEP ONE: Make Power Monitoring Decision	28
Setting Homeowner Expectations	8	STEP TWO: Make System Fan Regulation Decision	30
Important Installation Requirements	9	STEP THREE: Make Add-On Air Proving Decision	32
Personal Safety	9	Using the Terminals	33
Mounting Location	9	Routing the Wires	33
Duct Nozzle	9	Using the Correct Control Diagram	34
Water Drainage	9	Startup and Checkout	45
Choosing a Mounting Method	10	Routine Maintenance	46
Which is right for you?	10	Automatic Cleaning Cycle.....	46
Duct Mounting	11	STEP ONE: Initiate a Flush Cycle	46
STEP ONE: Select a Mounting Location	11	STEP TWO: Remove the Water Tank	48
STEP TWO: Connect the Duct Nozzle	11	STEP THREE: Clean the Tank	49
STEP THREE: Install Mounting Bracket to the Duct.....	12	STEP FOUR: Replace the Water Level Sensor.....	49
STEP FOUR: Install TrueSTEAM onto the		Changing the Water Filter	50
Mounting Bracket.....	12	Water Level Sensor Troubleshooting Steps	51
Water Supply and Drain Connections	13	Test Setup	51
STEP ONE: Connect the Cold Water Supply	13	Test Pins	51
STEP TWO: Tap into a Water Line	13	Testing for Shorts	51
STEP THREE: Connect TrueSTEAM to the		Good Water Sensor	51
Cold Water Pipe.....	14	Bad Water Sensor.....	51
STEP FOUR: Connect to the Water Drain.....	14	STEP FIVE: Reinstall the Tank	52
Other Plumbing Options	15	Troubleshooting	53
For All Options Shown:	15	A: Specifications	58
Connect to TrueSTEAM.....	15	B: Parts List	59
Remote Installation	18		
Proper Hose Installation	20		



NEED HELP? For assistance with this product please visit <http://yourhome.honeywell.com> or call Honeywell Customer Care toll-free at 1-800-468-1502.

Read and save these instructions.

© U.S. Registered Trademark. Patents pending. Copyright © 2009 Honeywell International Inc. All rights reserved.

Critical Installation Information

Water Quality and Hardness

Proper filtration is critical for the operation of the TrueSTEAM humidifier. Failure to address water quality can potentially lead to drastically increased maintenance requirements and premature failure of the TrueSTEAM humidifier and its components. Be sure to complete the following procedure well in advance of installation to ensure any additional costs are documented and understood.

It is imperative to fully understand the quality and hardness of the water that will be used on each individual TrueSTEAM humidifier. Water quality and water hardness can vary greatly from home to home, and even between two homes on the same street. Water test kits are included with every TrueSTEAM model and are also available for purchase separately (50044721-001). Proper use of these kits will help determine which filtration option is right for each particular installation.

Testing Water Quality and Interpreting Results

The color block will recommend the best water filtration method for the home.

1 Fill the plastic tube with water directly from the TrueSTEAM input water source.

Note: It is important to test the specific input to TrueSTEAM, as it may differ from the faucet taps in the home.

2 Dip the colored end of one of the test strips into the tube's water for 3 seconds.

3 Remove the test strip. Do not shake the strip.

4 Wait 20 seconds and then match the test strip's color to the closest color block on the water hardness scale.

Note: Strip color results are no longer valid after one minute.

Honeywell Recommends

RANGE 1
Polyphosphate Filter Part No. 50028044

RANGE 2
RO Filter Part No. 50045947

RANGE 3
Water Softener

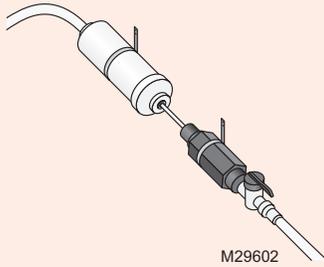
MCR32902

Choosing the Filter

If the water tests in range 3 then the TrueSTEAM humidifier will require the use of a whole house water softener for optimal performance. Failure to use softened water in this situation can potentially lead to drastically increased maintenance requirements and premature failure of the TrueSTEAM and its components. Water hardness in this range negatively affects all facets of a home including shower heads, faucets, laundry machines (as well as TrueSTEAM).

In applications with softened water, use of the in-line polyphosphate filter is recommended.

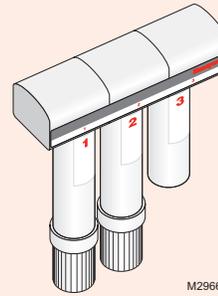
If water hardness is in range 1:



Honeywell recommends using the polyphosphate filter (sold separately).

Proceed to “Water Supply and Drain Connections” on page 13.

If water hardness is in range 2:

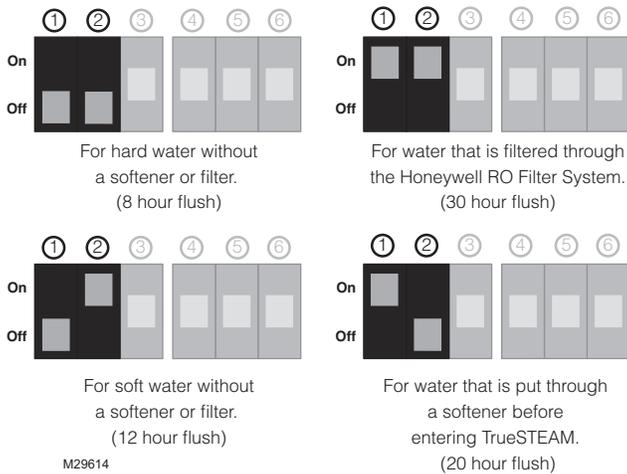


Honeywell recommends using the RO Filtration system (sold separately).

Note: If the RO Filtration System is not used, set the homeowner’s expectation that additional cleaning beyond once per season will be necessary.

Proceed to “Water Supply and Drain Connections” on page 13. See “Appendix F: Reverse Osmosis Filter” on page 23 to install the filter.

Set the Automatic Flush Cycle Timing



- Use DIP 1 and DIP 2 to configure how often TrueSTEAM will automatically flush the tank. Timing for the automatic flush is based on hours of active heating element time.
- The home’s water hardness determines how often automatic flushing should be performed.
- The automatic flush timing can be changed any time after installation by setting the DIP 1 and DIP 2 positions, as shown at left. See “Automatic Cleaning Cycle” on page 46 for a description of the automatic flushing process.



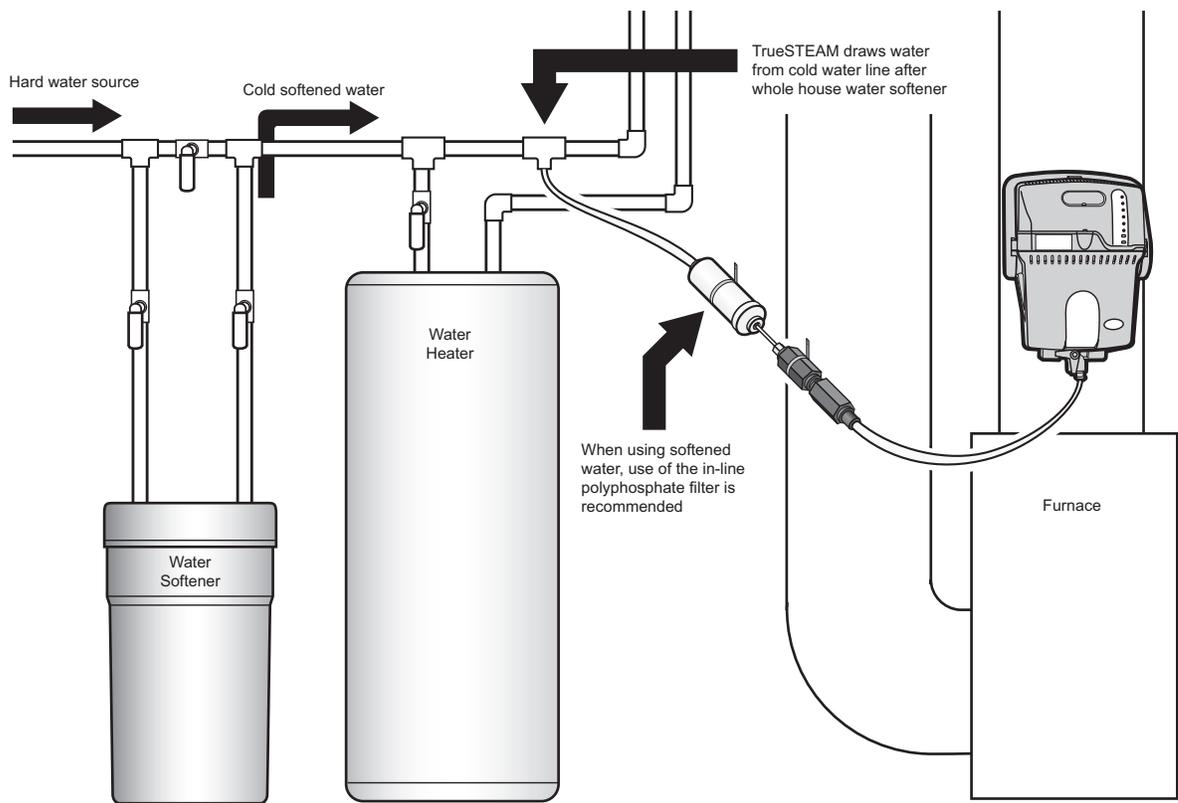
BEST PRACTICE

Use TrueSTEAM with water that is less than 1 grain per gallon hardness. A properly functioning water softener will accomplish this.

While the TrueSTEAM and its available filtration options help to address the issue of water quality and hardness, homes with extreme hard water problems should consider using a whole house water softener as the primary filtration device. Use of a whole house water softener will help protect the humidifier from excessive maintenance requirements as well as undue wear and tear in homes with hard water.

In applications with a water softener, it is critical for the TrueSTEAM to draw its water supply from the cold water line after the water softener.

Note: Be sure to check all local plumbing codes before beginning installation.



M32903

Proper Sizing of a TrueSTEAM Humidifier

The Air-Conditioning, Heating and Refrigeration Institute (AHRI) has set guidelines for determining humidification capacity requirements. The recommendation is based on the square footage and type of home construction – assuming typical conditions. It is important to realize many homes will have humidification requirements that differ from the guidelines depending on how the circumstances differ from standard conditions.

- Geographic Area
- Elevation
- Ventilation type
- Number of people living in the home
- Ceiling height (i.e. cubic volume)
- Window type (i.e. structure type)
- Insulation type (i.e. structure type)
- Equipment type

Converting square footage to cubic volume requires multiplying the square footage by the ceiling height (i.e. 2000 square foot space with 10 foot ceilings is 20,000 cubic feet). In general, the higher the ceilings, the smaller the square footage space each TrueSTEAM model will cover since it must humidify the additional air volume.

AHRI defines structure type as follows:

- **Tight construction:** Well insulated with vapor retarders, tight storm doors, windows with weather stripping, dampered fireplace, and using ½ air change per hour of air infiltration.
- **Average construction:** Insulated with vapor retarders, loose storm doors and windows, dampered fireplace with 1 air change per hour of air filtration.
- **Loose construction:** Generally built before 1930 with little or no insulation, no storm doors, no insulated windows, no weather stripping, no vapor retarders, undampered fireplace, and with 1-1/2 air changes per hour of air infiltration.

It is vital to take all of these factors into account when sizing a TrueSTEAM humidifier for a particular home. Undersizing the humidifier will not only reduce the potential to meet the a desired humidity set point, it may also lead to extensive system fan run time or higher operating costs as the system tries to deliver to the control's setting. While oversizing the humidifier may lead to higher amp draw, the system run time will be less, which in some situations may be less expensive at the bottom line.



In the event that a service technician needs to call in to the TrueSTEAM support techline, the following information is typically required for the Honeywell tech support specialist to accurately evaluate each situation. Failure to have this information ready may result in resolution delays or a potentially incomplete diagnosis.

Honeywell recommends completing the below questionnaire and leaving a copy behind at the home along with the TrueSTEAM installation guide with every TrueSTEAM installation.

Honeywell TrueSTEAM techline: 800-814-9452

TrueSTEAM Pre-Install Information

Model Number of TrueSTEAM Unit					
Date Code (xxxx)					
Water Quality Test	1	2	3	(circle one)	
Water Pressure Test (psi)					
Flush Cycle Setting	DIP 1	OFF	ON	OFF	ON (circle one)
	DIP 2	OFF	ON	ON	OFF (circle one)
Duct Static Pressure Test (in.wc.) <i>(Maximum static pressure is 0.5 in.wc.)</i>					
Condensate Pump or Drain	Pump	Drain	(circle one)		
If Drain - PVC or Standard	PVC	Standard	N/A	(circle one)	
Supply Voltage to Unit (V)					
Monitoring Air Flow/System Power/None	DIP 4	ON	OFF	(circle one)	
	DIP 5	ON	OFF	(circle one)	
Control - Wireless or Wired	Wireless	Wired	(circle one)		
Fan Control - TrueSTEAM or Controller	TrueSTEAM	Controller	(circle one)		
Other (any additional relevant information)					

.....

Safety Definitions and Precautions

Safety Definitions

These safety terms identify information you must read.

-  **CAUTION:** Indicates a hazardous situation which, if not avoided, could cause bodily injury or property damage.
-  **WARNING:** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Safety Precautions

Make sure you read and understand the following safety hazards before installing, using, or working with the TrueSTEAM humidifier:

- Do not direct the steam nozzle at people.
- Water inside tank can be very hot. Explain this to homeowner and emphasize the warning label on TrueSTEAM.
- Scalding danger from draining water. When the water tank drains, the water can be hot enough to cause injury. Make sure the homeowner understands the danger of hot water and steam.

-  **CAUTION:** Voltage Hazard.
Can cause electrical shock or equipment damage.
Disconnect HVAC equipment before beginning installation.
-  **WARNING:** Electrocution, Heavy Equipment, and Water Hazard.
Can cause death, blindness, and water damage to home, and heating element failure.
-  **CAUTION:** Steam Condensation, Fire, and Freezing Water Hazard.
Can cause failure of fan or limit control or result in water damage to home.

Setting Homeowner Expectations

Make sure the homeowners know what to expect from their TrueSTEAM humidifier. Discuss the following points with the homeowners and answer any questions they have.

- **Achieving Humidity Setpoint.** It may take up to a week of continuous operation to achieve the humidity setpoint. This depends on such factors as weather, size of home, furnishings in the home, and insulation.
- **Plastic or Rubber Odor.** At startup, it is normal to smell a slight plastic odor in the home. If the remote hose is used, there may be a slight rubber odor. These odors will go away within a few days.
- **Ideal Humidity.** 35% relative humidity in typical winter weather is considered ideal by industry experts. Homeowners can adjust to their own comfort or until there is condensation on the windows. Lower the setpoint if condensation appears.
- **Unit Not Humidifying.** If TrueSTEAM is not running but the humidity is below the setpoint, the humidity control may have a frost protection setting. TrueSTEAM will not humidify while in a drain cycle mode.
- **Setpoint Not Reached.** If humidity doesn't reach the setpoint, TrueSTEAM may be undersized for the home. This can be due to factors such as insulation, windows, and arid climate. Also, the outdoor temperature may be too low to maintain the humidity level. Wait for the outdoor temperature to warm closer to 20°F (-6°C). If the desired humidity is still not reached, then a larger capacity TrueSTEAM may be needed.
- **Home Ventilation.** Excessive ventilation sends moist air outside and replaces it with dry air. This can make it hard to maintain the humidity setpoint. If installing a ventilator, use a solution that retains moisture. An Energy Recovery Ventilator (ERV) is recommended.
- **Cleaning Required Light.** If the Cleaning Required light is on, clean TrueSTEAM using the steps found in the "Routine Maintenance" section on page 46, or in the *Homeowner's Operating Manual*. TrueSTEAM will continue to run normally while this light is on.
- **Hard Water.** The home's water hardness determines how often TrueSTEAM must be cleaned. A water hardness test kit is provided with your TrueSTEAM. It will help you determine the cleaning interval and filter requirements for your TrueSTEAM.
- **Energy Consumption.** There may be a slight increase in overall energy consumption when operating any humidifier. However, TrueSTEAM will make the home feel warmer. This allows the homeowner to lower the temperature setting on the thermostat. Every degree lower on the thermostat can save up to 3% on heating costs.

Important Installation Requirements

Failure to comply with these requirements will result in voided warranty, improper installation, and service callbacks.

Personal Safety

- Wear safety glasses while installing TrueSTEAM.
- Do not cut into any air conditioning or electrical line.
- Follow professional safety standards and all local regulations.

Mounting Location

- Mount TrueSTEAM in a level position to avoid water damage or heating element failure.
- Install TrueSTEAM on the supply duct. Use the Remote Mounting Kit if duct mounting is not possible.
- Do not install TrueSTEAM where the ambient temperature is lower than 34°F (1.1°C) or higher than 104°F (40°C).
- Mounting area must be strong enough to support TrueSTEAM's weight when full of water (up to 15 lbs.).
- Choose a location that is well ventilated. Do not install TrueSTEAM in completely enclosed spaces, such as a cabinet or unventilated closet.
- Allow at least 1 foot clearance to ventilation holes in the TrueSTEAM cover. Do not cover the holes. Covering them can increase the temperature inside TrueSTEAM and shorten its life.
- Do not mount directly to duct board. The remote mount nozzle attachment is allowed only with a Honeywell duct board adapter kit. See "Appendix B: Parts List" on page 59.
- If used near a pool or spa, make sure TrueSTEAM can not fall into the water or be splashed. Also, ensure TrueSTEAM is plugged into a ground fault interrupted (GFI) outlet.

Duct Nozzle

- Do not install the duct nozzle into a supply duct with static pressure exceeding 0.5 in. w.c.
- Do not install the duct nozzle through wooden sidewalls (e.g., floor joist).
- If the duct has exposed insulation on the interior, be sure the nozzle extends beyond the insulation. Clear away excess insulation at the insertion point, or replace a section of insulated duct (approximately 6 in. x 6 in.) with rigid, non-insulated sheet metal.
- Allow at least 4 in. clearance between nozzle outlet and any interior duct to avoid water condensation.
- Mount TrueSTEAM where the nozzle outlet has a minimum 24 in. of downstream open air space.

Water Drainage

- Consult local plumbing codes for drain size, material, and maximum temperature allowed.

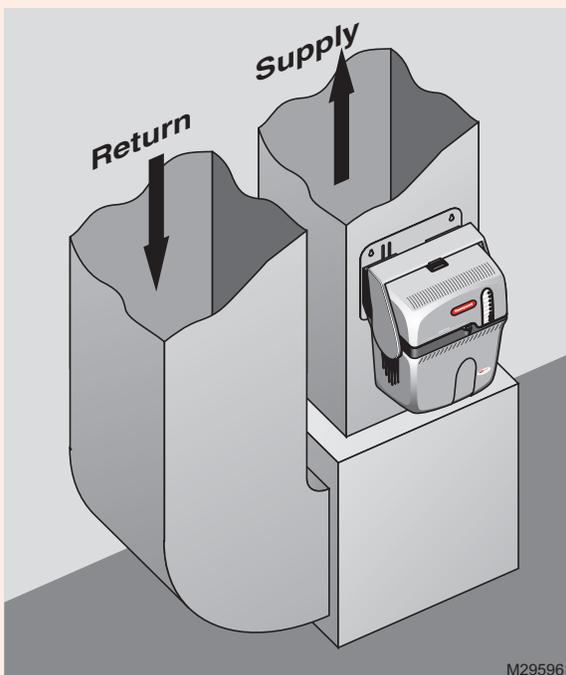
Choosing a Mounting Method

Before installing TrueSTEAM in a home, you must decide which mounting method you want to use:

Which is right for you?

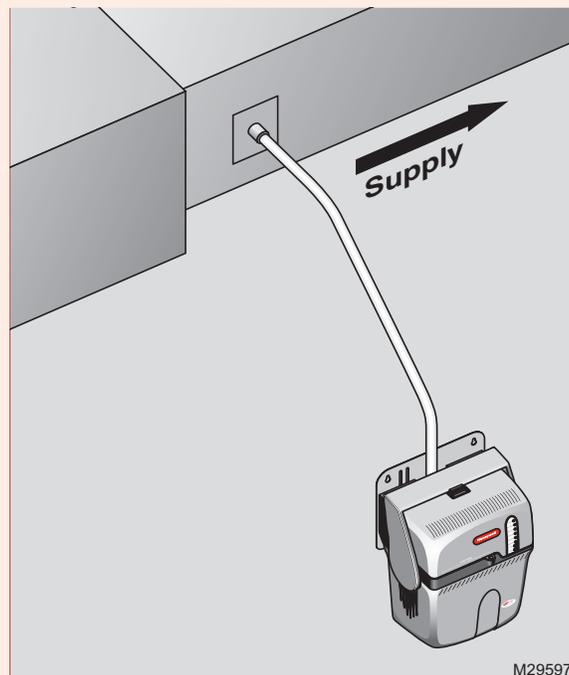
DUCT MOUNTING – if you can mount TrueSTEAM onto the supply duct of the HVAC system:

- The generated steam goes directly into the supply duct.
- This is the simplest type of installation, but it requires that a suitable mounting location can be found on the supply duct.



REMOTE MOUNTING – if a suitable mounting location can not be found on the supply duct:

- The TrueSTEAM can be mounted up to 20 feet away from the supply duct for select models.
- A remote hose must be installed to carry steam from TrueSTEAM to the supply duct.
- You will need to use a remote mounting kit (see “Appendix B: Parts List” on page 59).



This manual covers duct mounting of TrueSTEAM. For Remote Mounting Instructions, see “Remote Installation” on page 18 or “Document 69-2317” (included with Remote Mounting Kit).

Before proceeding:

I have decided to use: Duct Mounting Remote Mounting

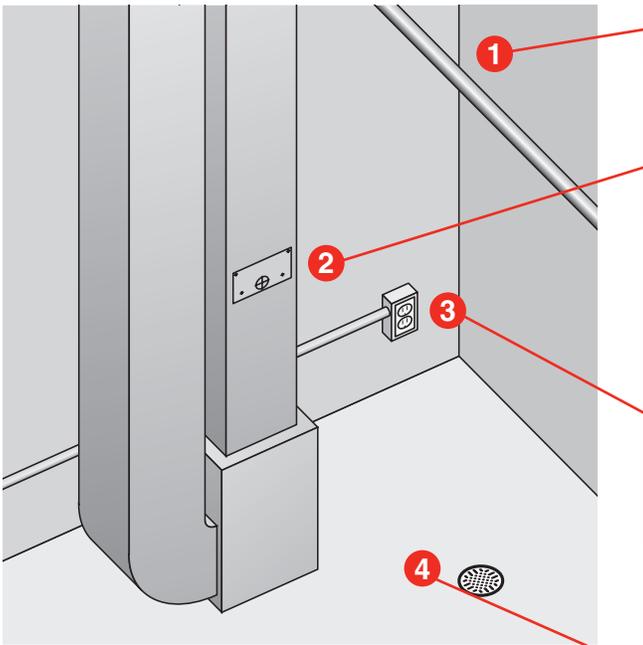
Duct Mounting

Before beginning Duct Mounting:

- I have confirmed local codes for proper draining practices for hot water
- I have chosen an installation location that meets the requirements on page 10

Follow these steps to mount TrueSTEAM directly to the supply duct of the homeowner's HVAC equipment.

STEP ONE: Select a Mounting Location



1 Choose a location that has access to a cold water supply pipe.

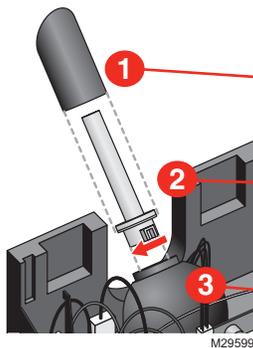
2 Select a vertical or horizontal surface on the HVAC supply duct, with adequate clearances, where TrueSTEAM can be mounted.

3 Make sure there is a 120 VAC electrical outlet rated for the TrueSTEAM model being installed.

TrueSTEAM Model:	Required Minimum Circuit Capacity:
HM506	7 Amps
HM509	10 Amps
HM512	12 Amps

4 Ensure the location is near a drain with a high-temperature water rating. Consult local plumbing codes for proper drainage. If no main floor drain is available, see "Other Plumbing Options" on page 15.

STEP TWO: Connect the Duct Nozzle

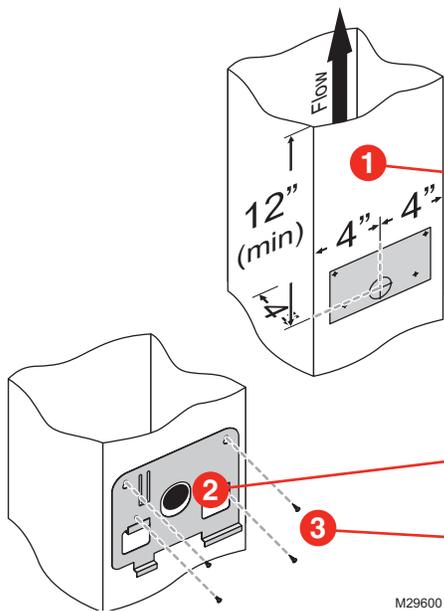


1 Slide the foam gasket over the nozzle.

2 Make sure the o-ring gasket is properly seated in the groove.

3 Insert the duct nozzle into TrueSTEAM. Twist clockwise to ensure a tight seal.

STEP THREE: Install Mounting Bracket to the Duct



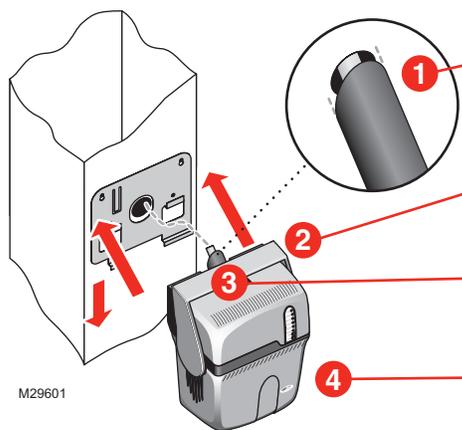
Position the template on the supply duct:

- Make sure the template is level and in the desired position on the duct.
- Ensure proper clearances from A-coil.
- Make sure the duct nozzle will have proper clearances from duct walls.
- Minimum 4-inch clearance from nozzle outlet to any duct wall.
- Minimum 24 inches of downstream open duct air space. (Needed to prevent water condensation.)

Drill the 1-3/4 inch hole.

Secure the mounting bracket to the duct, using four self-drilling sheet metal screws provided.

STEP FOUR: Install TrueSTEAM onto the Mounting Bracket



Make sure the foam gasket is positioned correctly over the nozzle.

Lift TrueSTEAM into place against the mounting bracket. Insert the nozzle directly into the duct hole.

Check the foam gasket – it must form a tight seal in the duct hole.

Push down to secure TrueSTEAM to the bracket arms.

Before proceeding to Plumbing:

- I selected a duct mounting location
- I connected the duct nozzle
- I installed the mounting bracket to the duct
- I installed the TrueSTEAM onto the mounting bracket

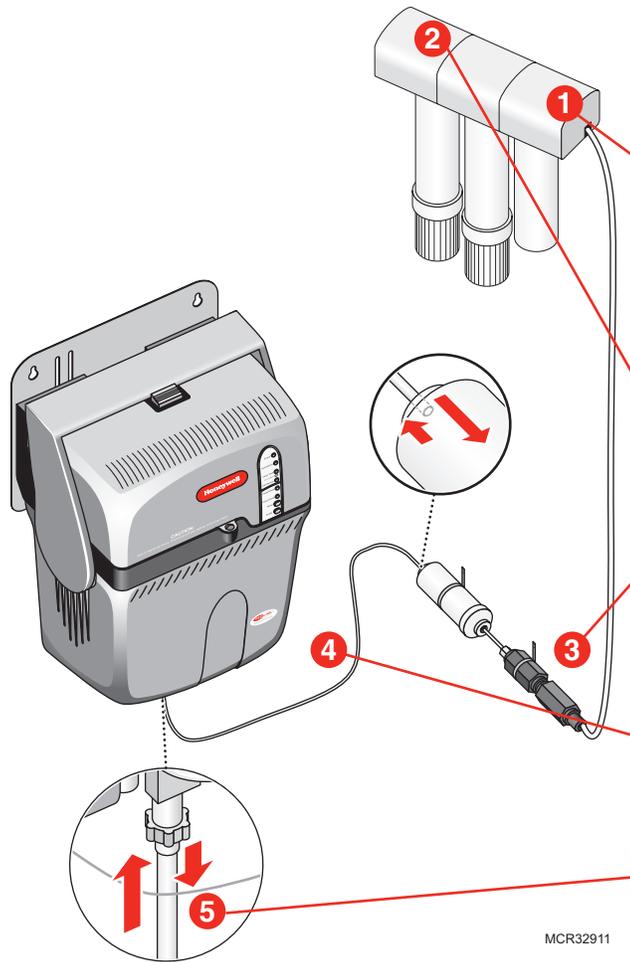


BEST PRACTICE

Use a manual shutoff valve when tapping into a water line.

Water Supply and Drain Connections

STEP ONE: Connect the Cold Water Supply



Do not use hot water supply. Cold water is required to cool boiling water to safe draining temperatures.

Insert one end of the water line into the water filter or reverse osmosis kit. Use the 1/4-inch plastic water line provided or a 1/4-inch copper water line. Apply a modest pull to ensure a tight fit.

Use clamps or ties to secure the water filter in a location that allows for removing and replacing it in the future. Honeywell recommends changing the water filter or RO canisters 1 & 2 annually, or as needed based on water conditions.

Install the provided backflow preventer, as required by code. See "Appendix F: Reverse Osmosis Filter" if using the Reverse Osmosis Filter.

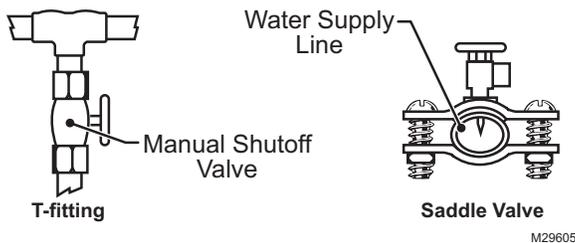
Cut the water line so it is long enough to reach from the water filter to the supply fitting on the bottom of the TrueSTEAM.

Insert the water line into the TrueSTEAM supply fitting.

Note: Failure to check for a tight fit with plastic water line could result in the line coming loose in the future. Apply modest pull to ensure water line is properly seated and secure.

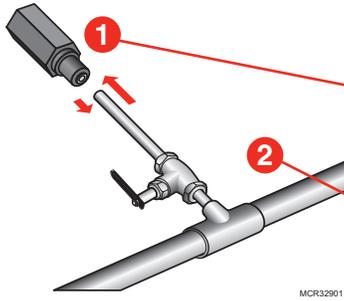
PLUMBING

STEP TWO: Tap into a Water Line



- Consult local codes for proper plumbing.
- Use the saddle valve provided or a T-fitting and manual shutoff valve to tap into a cold water line.
- Refer to the literature included with the valve you chose and the local plumbing codes. Use proper technique for the valve.

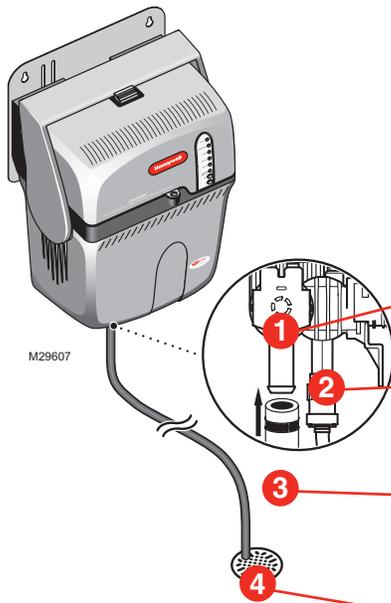
STEP THREE: Connect TrueSTEAM to the Cold Water Pipe



Connect one end of the remaining length of water line to the backflow preventer. Apply a modest pull to ensure a tight fit. See “Reverse Osmosis Filter” on page 23 if using the Reverse Osmosis Filter.

Connect the other end of this line to the saddle valve or T-fitting and manual shutoff valve.

STEP FOUR: Connect to the Water Drain



- Consult and follow local plumbing codes for drain pipe size and maximum temperature requirement.
- The ideal installation is directly to the main floor drain using the rubber hose provided.
- If direct floor drain access is not available, see “Other Plumbing Options” on page 15.

Connect the 1/2-inch drain hose provided to the drain fitting on the bottom of the TrueSTEAM.

Use the hose clamp provided to secure the drain hose to the barbed fitting.

Route the drain hose to the floor drain. The hose must have a continuous downward slope.

Direct the hose outlet into the floor drain. Secure the hose to reduce the risk of hot water pooling or splashing.



CAUTION: Scalding Hazard.

During operation, hot water may exit drain and can cause burns from scalding. Make sure the hose is securely connected to the drain.

Before proceeding to Wiring:

- I have confirmed minimum required circuit capacity
- I have connected the water supply using cold water
- I have installed the drain connection

Other Plumbing Options

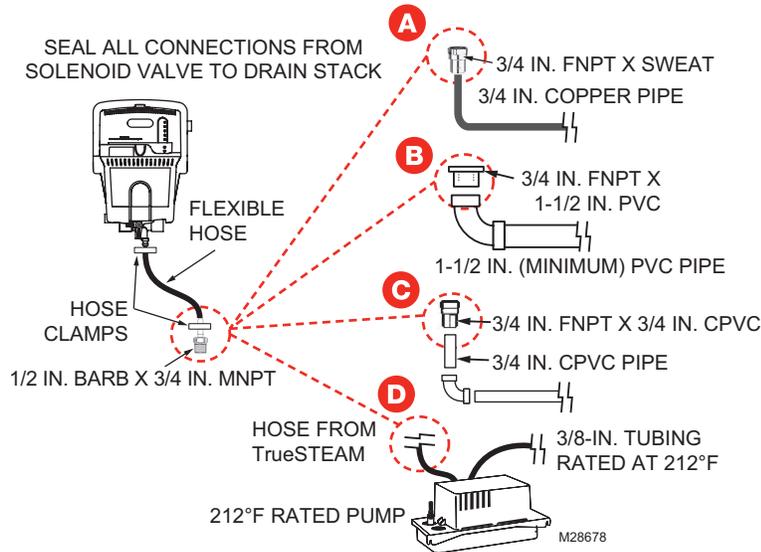
The following diagrams are for applications where standard draining to a floor drain is not available. Choose the plumbing option that suits your installation. Use A, B, C, or D based on type of pipe or condensate pump. Consult and follow local plumbing codes in addition to these instructions.

For All Options Shown:

- Support rubber hose every 6 in.
- PVC must be schedule 40 or higher rating.
- All plastic pipe joints are welded.
- Drain into a P-trap that will remain wetted at all times.

Connect to TrueSTEAM

Common to all plumbing options.



Option 1: Plumbing to drain with condensate pump.

ALTERNATIVE

3/4 IN. FNPT X 3/4 IN. CPVC

3/4 IN. CPVC PIPE

TO PUMP

HOSE FROM TrueSTEAM

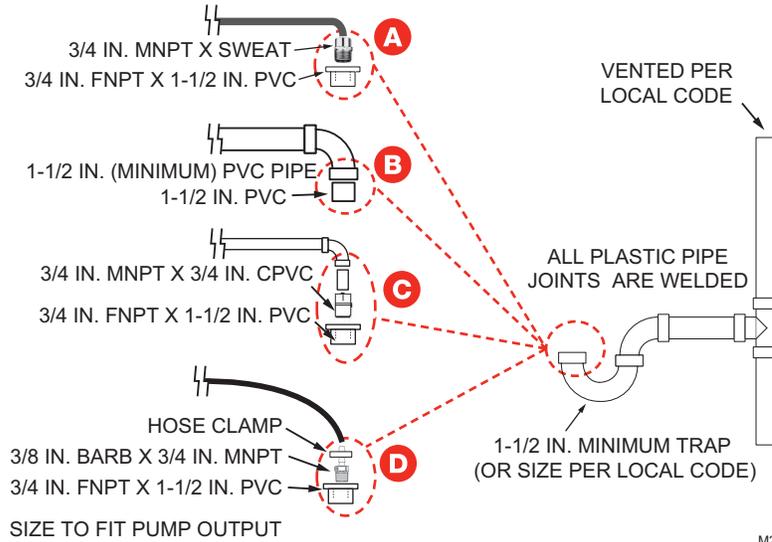
3/8-IN. TUBING RATED AT 212°F

HOSE CLAMPS AT

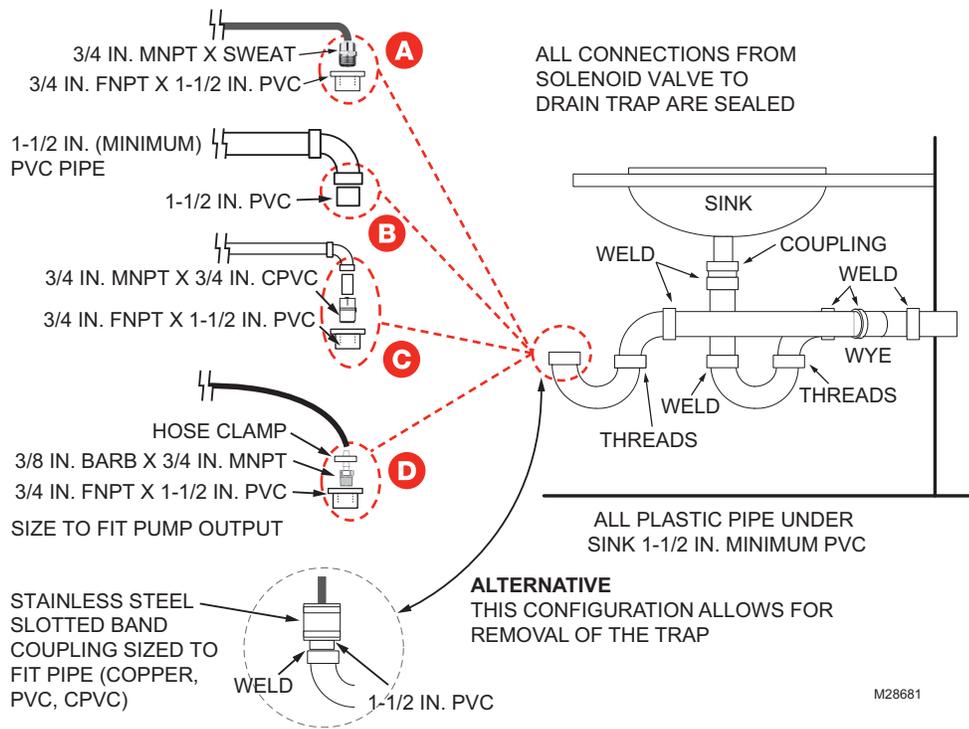
M28713

- Use Hartell A3X-115 condensate pump or equivalent (212°F temperature rating, > 1 GPM pump flow rate).
- Pump must be powered when TrueSTEAM is operating.
- Use a pump with a built-in overflow sensor or install the pump in a drip pan with wet switch wired to turn off TrueSTEAM.

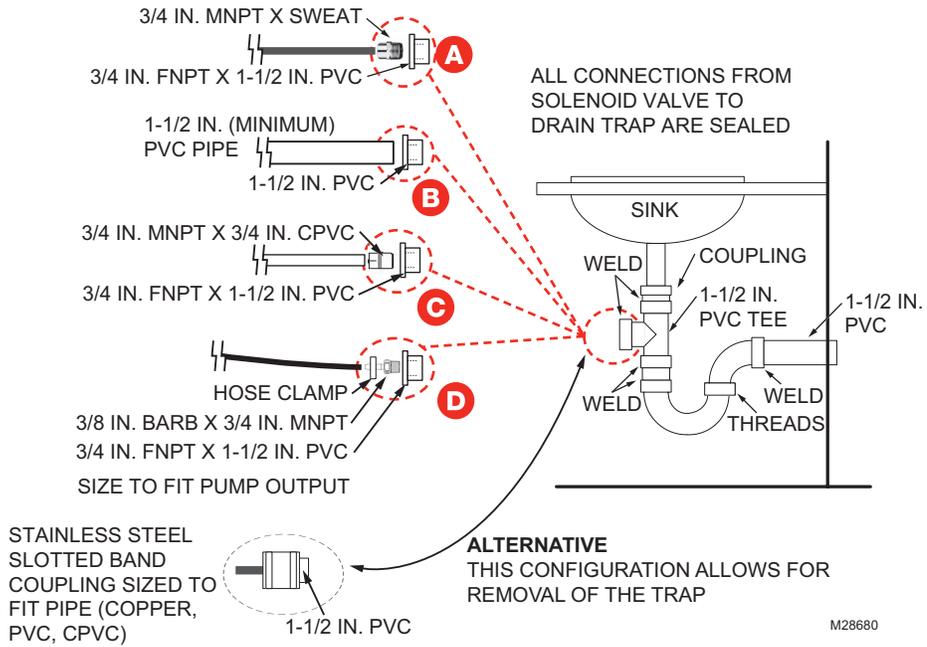
Option 2: Plumbing to a dedicated trap.



Option 3: Plumbing to sink with a dedicated trap.



Option 4: Plumbing to sink trap.



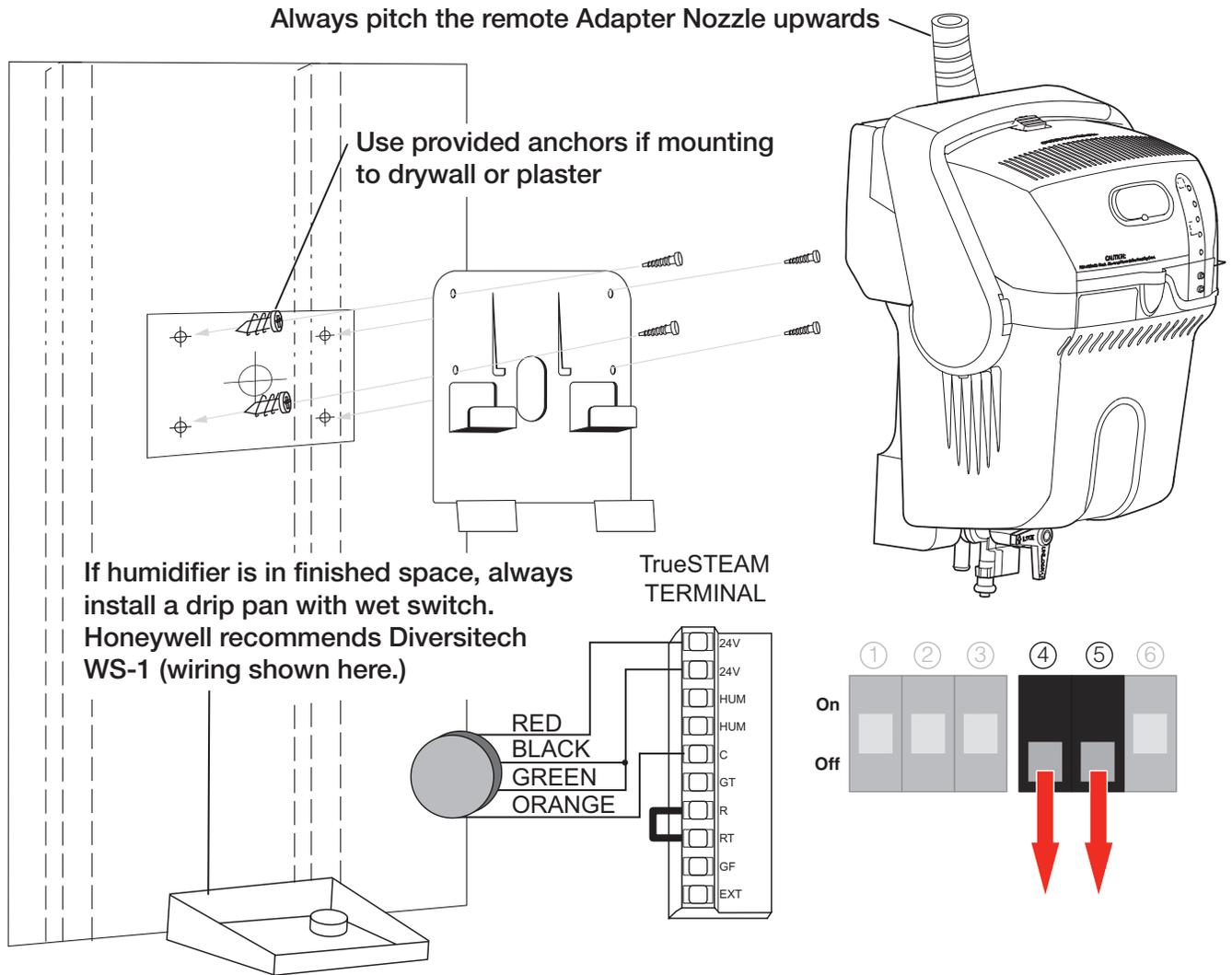


BEST PRACTICE

If humidifier is in finished space, always install a drip pan with wet switch. Honeywell recommends Diversitech WS-1 (wiring shown here).

Remote Installation

Use remote installation when no suitable duct mounting location can be found on the homeowner's HVAC system. For detailed instructions on remote installation, see the TrueSTEAM Remote Mount Kit Installation Instructions (69-2317).



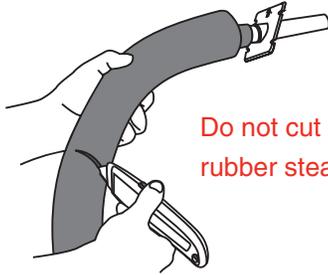
M28708



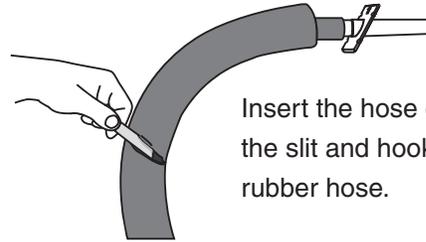
BEST PRACTICE

Always inspect the hose installation after at least 1 hour of steam production to confirm that there are no sags in the hose or leaks at the connection points.

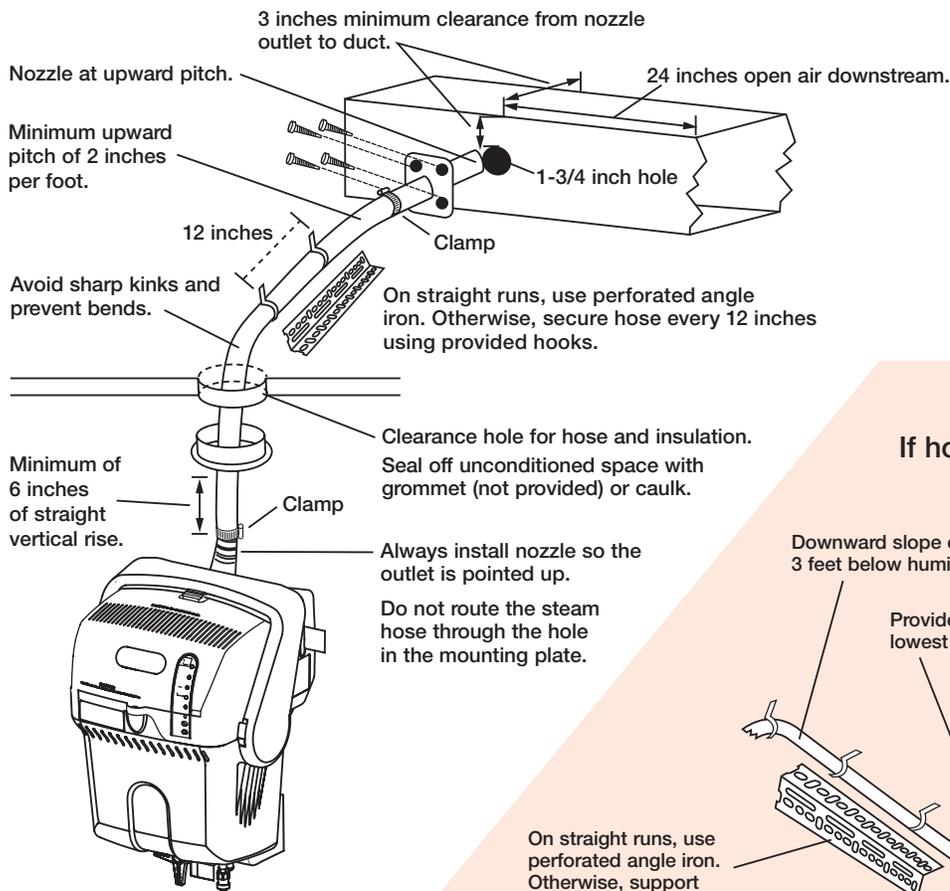
Cut a slit in the insulation half way around the hose.



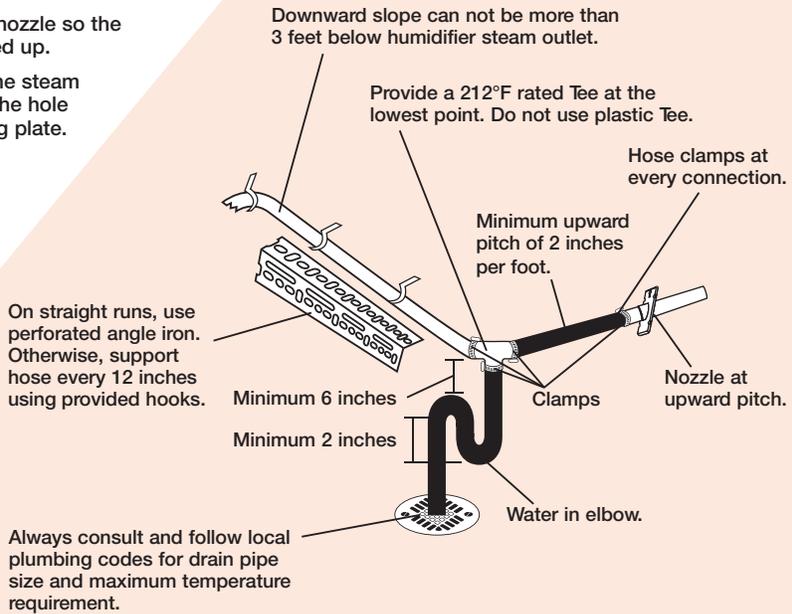
Do not cut into the rubber steam hose.



Insert the hose clamp into the slit and hook it onto the rubber hose.



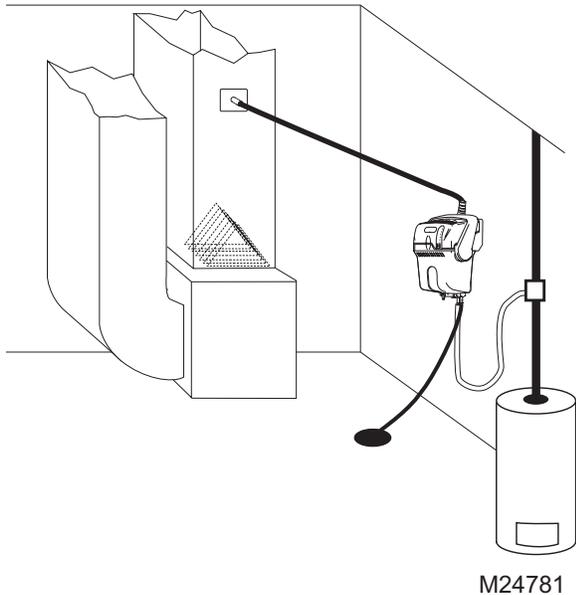
If hose slopes downhill...



M29636

Proper Hose Installation

Furnace or Mechanical Room Remote



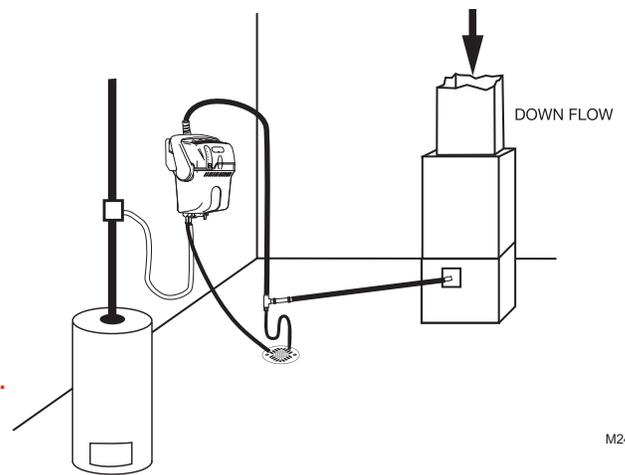
Note: If air handler location temperatures will drop below freezing at any time, TrueSTEAM must be mounted in a conditioned space, running a remote hose to the duct.



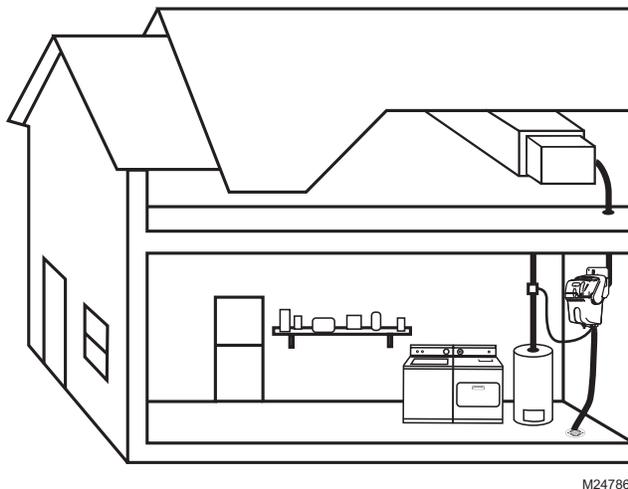
CAUTION

Hot water temperature above 140°F (60°C) can cause burns from scalding.

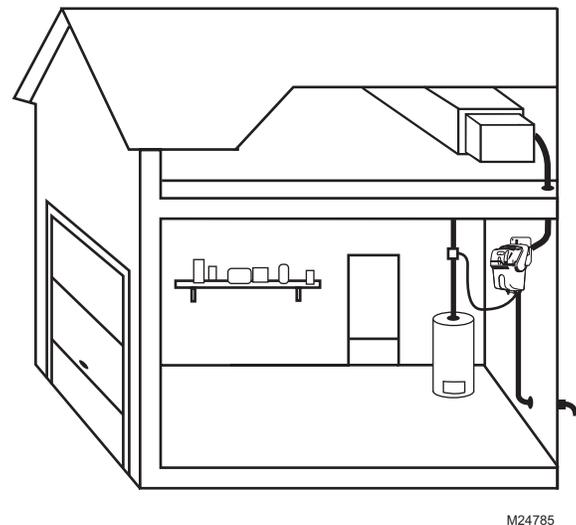
Duct Mount Remote



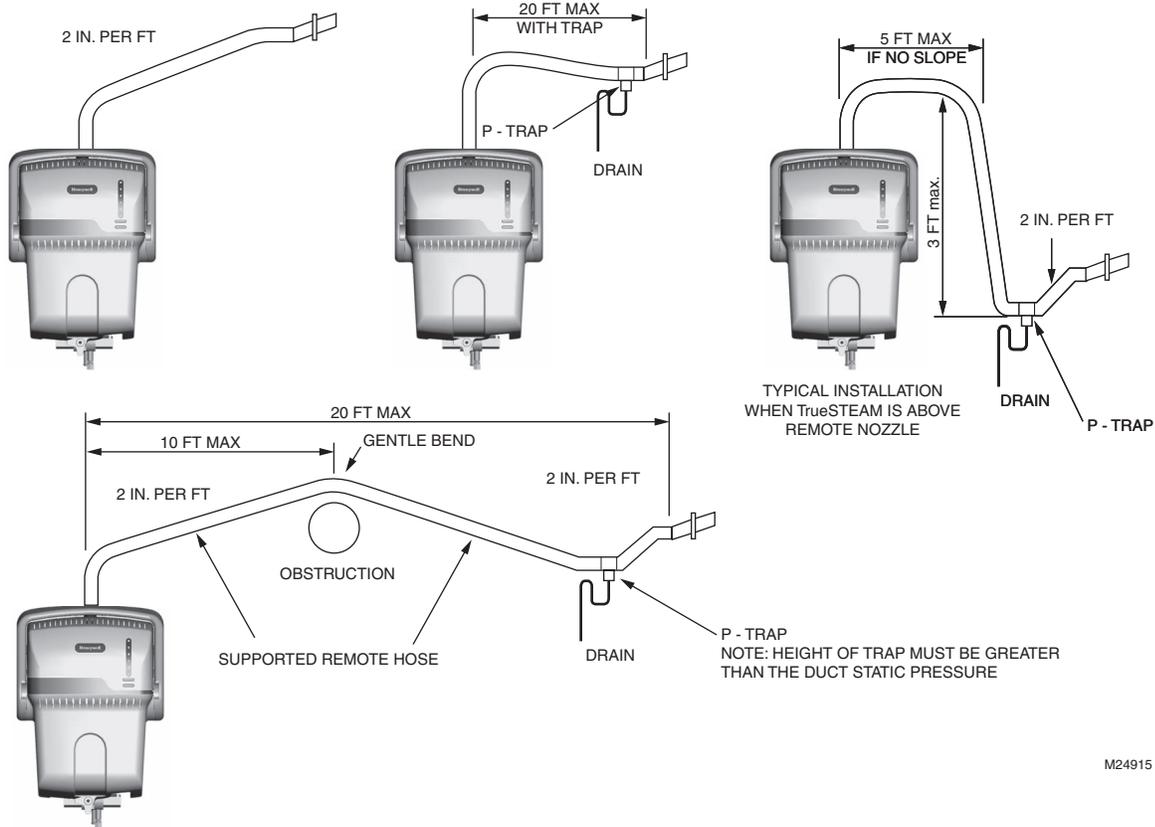
Living Area Remote Options



Garage Remote



Draining water may be hot. Ensure drain outlet not exposed.



M24915

NOTES:

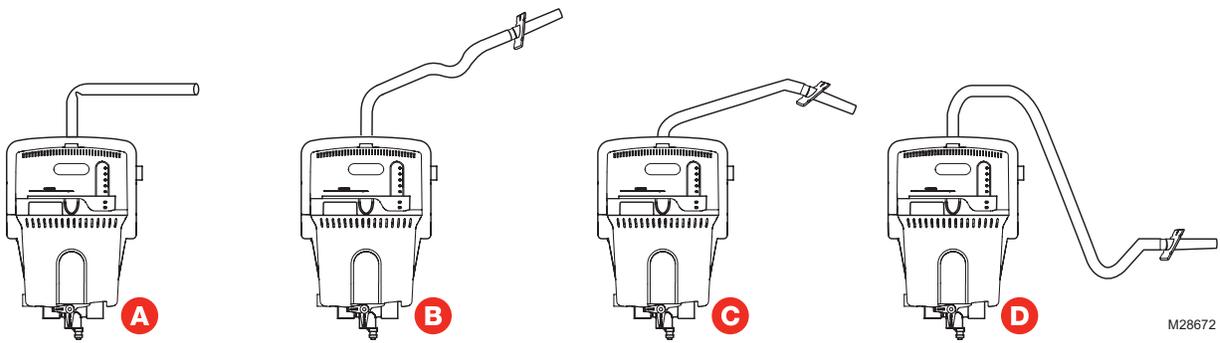
- Slope hose up in direction of steam flow at 2 in. per foot;
- Slope hose down in direction of steam flow at 3/4 in. per foot;
- Maximum length of remote steam hose is 20 ft.
- Height of P-traps must be greater than the duct static pressure. (Typical 3 in. will suffice.)
- Minimize sharp bends and elbows.
- Insulating the remote hose in unconditioned spaces will sustain efficiency better than not insulating the hose.



Never support the hose by attaching it to materials that could potentially sag over time (such as PVC) or cannot support the remote hose weight.



AVOID THESE COMMON MISTAKES



- A** Sharp hose bends. Horizontal run does not have minimum pitch of 2 in. per ft.
- B** Sharp hose bends. Hose not continuously supported at least every 12 in., resulting in hose sag.
- C** Sharp hose bends. Does not have at least 6 in. vertical rise immediately out of humidifier, and nozzle is not pitched up.
- D** Horizontal run does not have minimum pitch of 2 in. per ft. Sharp hose bends. Downward pitch does not have trap at its lowest point.

Reverse Osmosis Filter

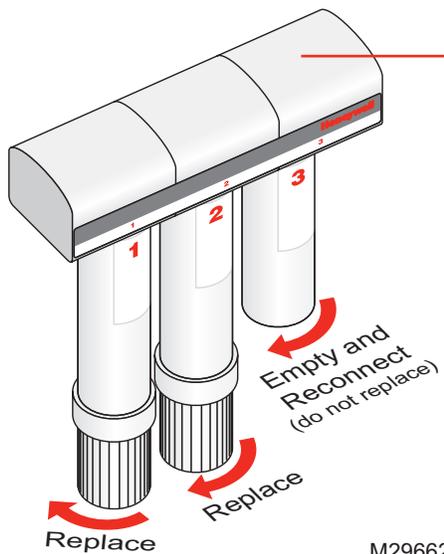
If the TrueSTEAM owner's home has water tested in range 2 on the water test strip, the Honeywell Reverse Osmosis (RO) Filtration System (#S0045947) should be installed in the water supply line. Failure to use the RO kit in these situations can potentially lead to drastically increased maintenance requirements and premature failure of the TrueSTEAM and its components.

The RO Filtration System consists of a base chassis, with three filter cylinders:

- Water first passes through the #1 sediment removal filter.
- Then it passes through the #2 reverse osmosis filter.
- Clean water fills the #3 clean water staging tank and the storage tank reserve.

Finally, this reserve flows into the TrueSTEAM tank when the tank runs low and the solenoid valve opens. A drain line carries reject water from the RO Filtration System to a suitable drainage point in the home.

Parts of the RO Filter

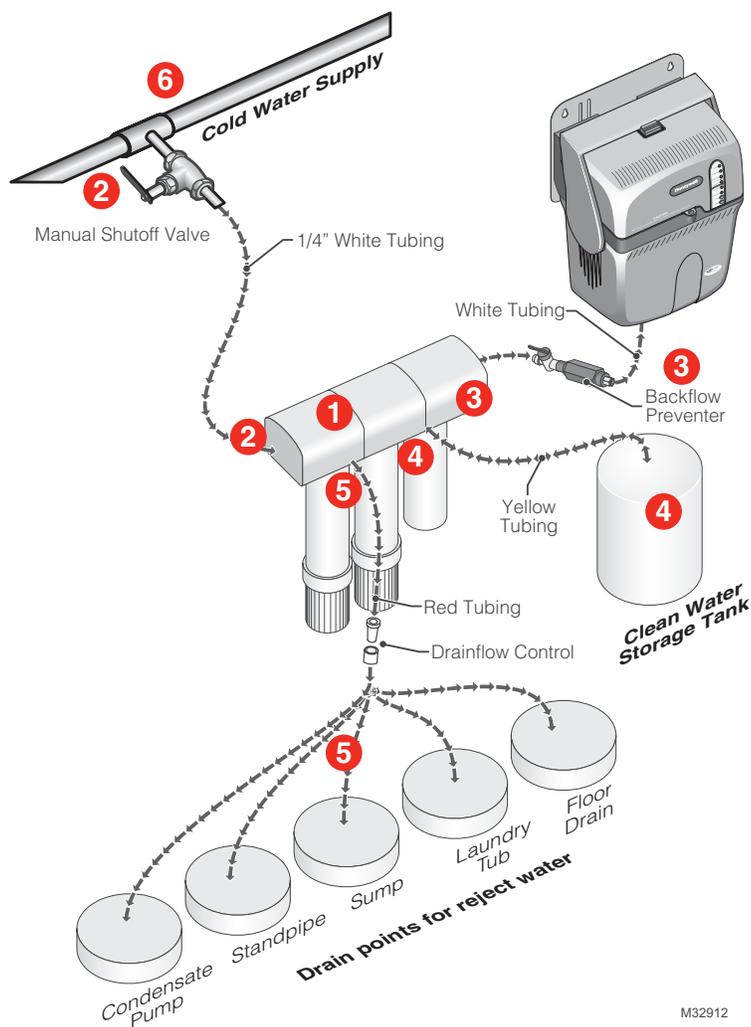


Base Chassis

1. **Sediment Removal Filter** – Replace at least once each humidification season.
2. **Reverse Osmosis Filter** – Replace at least once each humidification season.
3. **Clean Water Staging Tank** – Not necessary to replace, but unscrew and empty water at the end of a humidification season.

Setting up the RO Filter

See the instruction sheet packaged with the RO Filtration System for complete installation instructions.

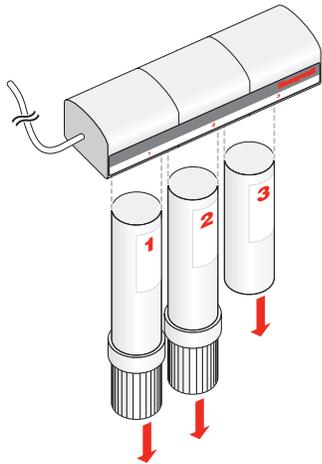


1. Mount the base chassis to a surface capable of holding up to 7 pounds between the home's cold water line and the TrueSTEAM location. (Mounting hardware is provided.)
2. Connect the 1/4-inch white water line to the home's main cold water supply. Connect the other end to the inlet port on the base chassis.
3. Connect the 1/4-inch white water line to the outlet on the base chassis. Connect the other end to the backflow preventer. Connect another water line between the backflow preventer and the TrueSTEAM supply fitting.
4. Connect the yellow water line to the outlet port on the clean water storage tank. Connect the other end to the yellow inlet port on the RO Filter System.
5. Connect the red tubing to the reject water port on the base chassis, and to a suitable drain on the other end.

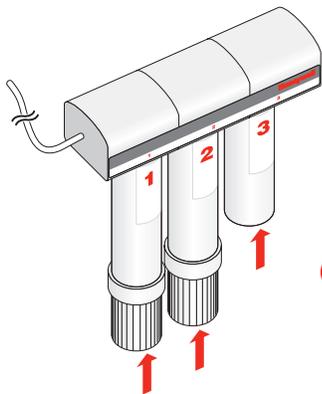
IMPORTANT: Refer to and follow local codes for proper drain installation. Refer to additional drain requirements in the TrueSTEAM installation guide when coupling the RO Filter drain with the TrueSTEAM drain.

Maintaining the RO Filter

Honeywell recommends the following maintenance steps be performed at least once each humidification season.



Remove filters #1, #2, and #3, in this order.



Reconnect filters in this order:

- Empty water from the #3 filter and reconnect to the RO System. (Do not replace.)
- Connect a new #2 filter.
- Connect a new #1 filter.

M29663

Before Wiring TrueSTEAM

Before wiring the TrueSTEAM:

- I will read the section “Understand the DIP Switches” beginning on this page
- I will read the section “Deciding on the Wiring Configuration” beginning on page 28

Using the DIP Switches

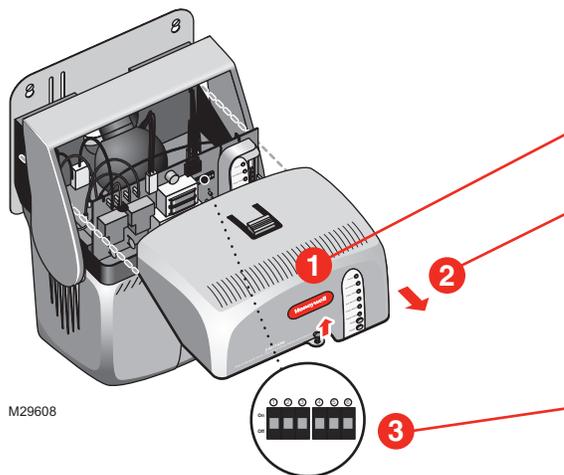
The wiring features are configured by DIP settings, which are described under the TrueSTEAM cover.

STEP ONE: Remove the TrueSTEAM Cover



CAUTION: Voltage Hazard.

Be sure TrueSTEAM is not plugged in when removing the cover.

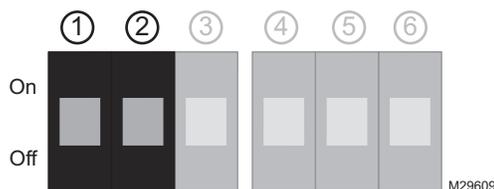


Loosen the cover screw.

Slide cover out from front.

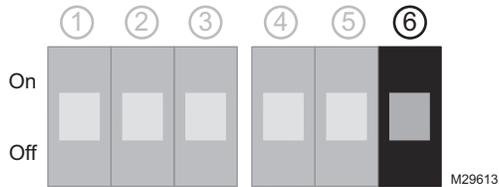
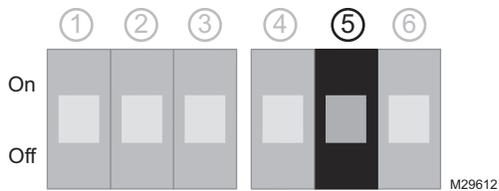
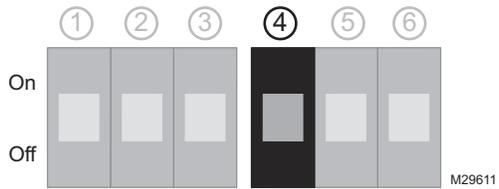
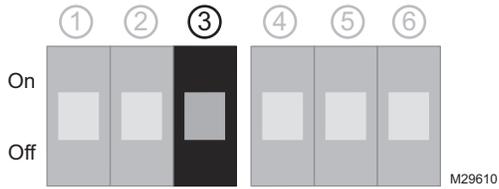
With the cover removed, you will see six DIP switches to the left of the user interface panel. This manual refers to DIPs 1–6 from left to right.

STEP TWO: Understand the DIP Switches



DIPS 1 and 2 are used for maintenance.

DIP 1 and DIP 2: Together, these two DIPs specify how often the automatic flush cycle is performed. See “Routine Maintenance” on page 46.



DIPS 3, 4, and 5 are used for humidifying.

DIP 3: Used to enable wireless operation.

- If DOWN (default), wireless terminal is disabled.
- If UP, wireless terminal is enabled.

DIP 4: Used to configure power monitoring.

- If DOWN (default), TrueSTEAM looks for R input before allowing humidity.
- If UP, TrueSTEAM does not look for R Input before allowing humidity. Power is still allowed to pass through if R is wired. See *“Make Power Monitoring Decision” on page 28.*

DIP 5: Used to configure back-up air proving (optional).

- If DOWN (default), TrueSTEAM does not look for air movement through an air proving device.
- If UP, TrueSTEAM looks for C connection before allowing humidity. Wire an air proving device between TrueSTEAM C and System C. See *“Make Add-On Air Proving Decision” on page 32.*

Note: Setting DIP 5 up requires DIP 4 to be down. If DIP 4 is up, DIP 5 position will not be used.

DIP 6: Not used at this time.

Deciding on the Wiring Configuration

Before making decisions about wiring configurations:

- I understand when to use the DIP switches and how to set them for the humidity control.

TrueSTEAM wiring is different from evaporative pad humidifier wiring. In addition to solenoid water valve actuation, TrueSTEAM can monitor system power and regulate system fan operation.

You need to decide on the configurations you will use before wiring the TrueSTEAM, These decisions will affect how the connections are made, how the DIP switches are set, and how TrueSTEAM operates for the homeowner.

STEP ONE: Make Power Monitoring Decision

Power Monitoring is a configuration that allows TrueSTEAM to humidify only when it has confirmation that the HVAC system transformer has power. This helps prevent steam from entering the supply duct when the HVAC system is not operating. There are two ways to configure power monitoring, depending on the humidity control used:

- **CONFIGURATION 1** – Using a thermostat with integrated humidity control
- **CONFIGURATION 2** – Using a humidistat separate from the thermostat

CONFIGURATION 1 — using a thermostat with an integrated humidity control such as VisionPRO IAQ or Prestige — is ideal for contractors who:

- Want simplified wiring – TrueSTEAM only needs to be connected to the HUM terminals from the control.
- Provide integrated system and accessory control in the living space.
- Are using VisionPRO IAQ or Prestige thermostat.

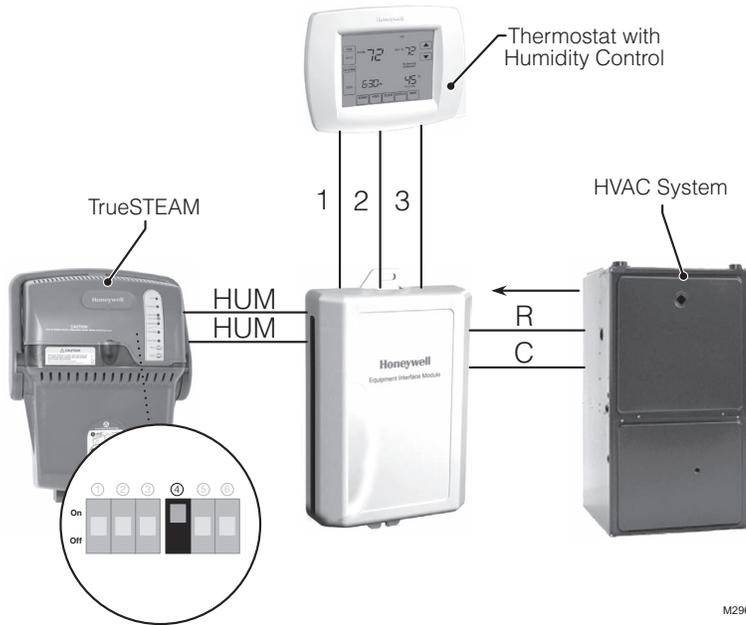
Proceed to “Wiring Basics: Configuration 1” illustration at top of next page.

CONFIGURATION 2 — using a humidistat separate from the thermostat such as H8908 or TrueIAQ — is ideal for contractors who:

- Use a humidity control separate from the thermostat.
- Wish to locate the humidity control on the return duct.

Proceed to “Wiring Basics: Configuration 2” illustration at bottom of next page.

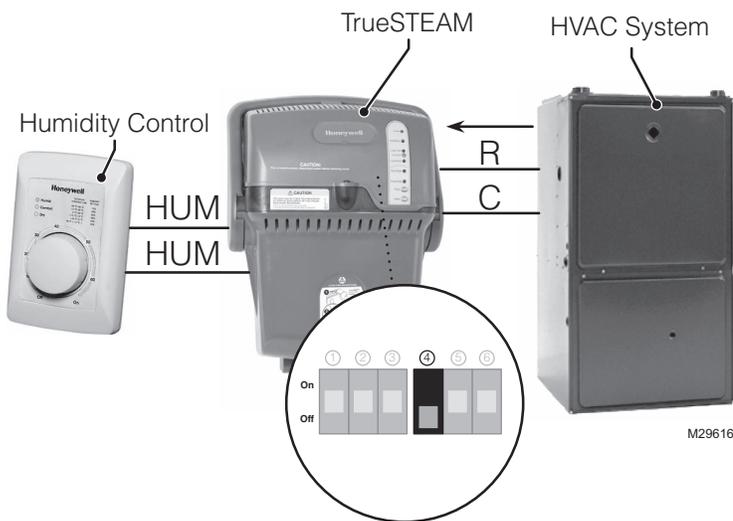
IMPORTANT NOTE: This images below are not complete wiring diagram. It only depicts power monitoring and is not meant to be a stand alone diagram. Please refer to the “Wiring the TrueSTEAM” section in the following pages for complete wiring diagrams.



WIRING BASICS: CONFIGURATION 1

When using a thermostat with integrated humidity control (such as VisionPRO IAQ or Prestige):

- The thermostat is powered by the system transformer. In this configuration, the thermostat must have power or TrueSTEAM will not be able to produce steam.
- Because the thermostat knows when the system transformer has power, set DIP 4 to UP, so that it is not looking for an R input from the system R.



WIRING BASICS: CONFIGURATION 2

When using a humidistat separate from the thermostat (such as H8908 or TrueIAQ):

- TrueSTEAM generally supplies power to the humidistat. In this configuration, TrueSTEAM must monitor HVAC system power to determine if humidity is allowed.
- Leave DIP 4 in the DOWN position (factory setting), and wire the HVAC system R and C to the TrueSTEAM R and C. TrueSTEAM will verify power is present before allowing steam production.

STEP TWO: Make System Fan Regulation Decision

System Fan Regulation is a configuration that requires TrueSTEAM to monitor the HVAC system fan and make sure the fan is on if humidity is needed. This helps ensure that airflow will distribute humidity into the living space, and prevents water condensation in the duct. There are two ways to configure system fan regulation, depending on the humidity control used:

- **CONFIGURATION 1** – Using a thermostat with integrated humidity control
- **CONFIGURATION 2** – Using a humidistat separate from the thermostat

Which is right for you?

CONFIGURATION 1 — using a thermostat with an integrated humidity control such as VisionPRO IAQ or Prestige — is ideal for contractors who:

- Want integrated control of the humidifier and HVAC system in the living space.
- Want the system fan to turn on immediately upon a call for humidity.

Proceed to “Wiring Basics: Configuration 1” illustration at top of next page.

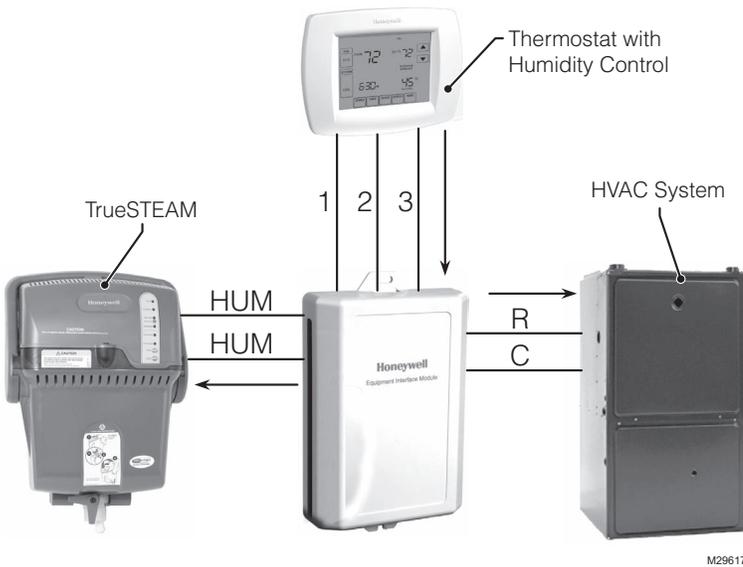
CONFIGURATION 2 — using a humidistat separate from the thermostat such as H8908 or TrueIAQ — is ideal for contractors who:

- Use a humidity control separate from the thermostat.
- Wish to avoid excessive air circulation in the home. TrueSTEAM fan calls will not be sent out of the TrueSTEAM GF terminal until the water temperature reaches 176°F (just before boiling).

Note: This feature can be used with VisionPRO IAQ as well. See page 35, 42.

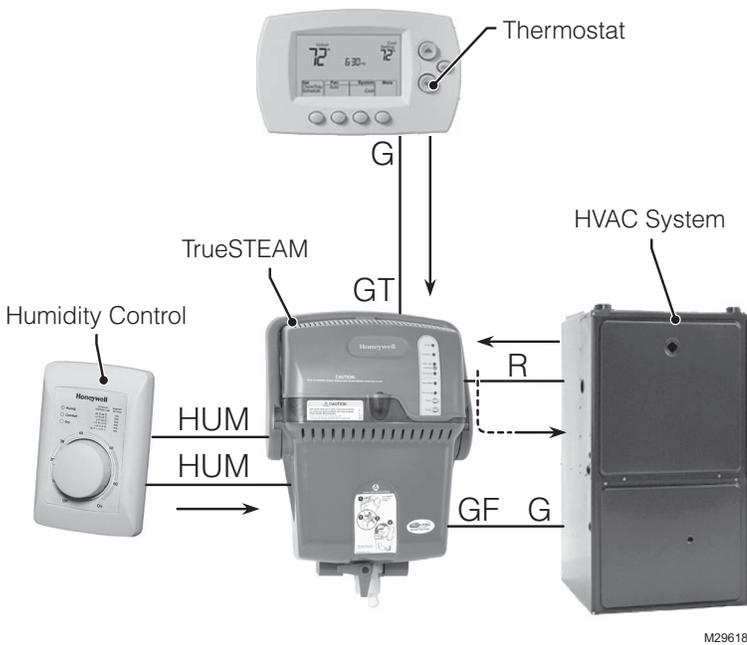
Proceed to “Wiring Basics: Configuration 2” illustration at bottom of next page.

IMPORTANT NOTE: The images below are not complete wiring diagrams. It only depicts power monitoring and is not meant to be a stand alone diagram. Please refer to the “Wiring the TrueSTEAM” section in the following pages for complete wiring diagrams.



WIRING BASICS: CONFIGURATION 1
When using a thermostat with integrated humidity control (such as VisionPRO IAQ or Prestige):

- A thermostat controls the fan and TrueSTEAM. The control will not allow steam production unless the system fan is on.
- Wire Thermostat G to the HVAC system G as normal.
- Wire TrueSTEAM HUM terminals to the system HUM terminals.



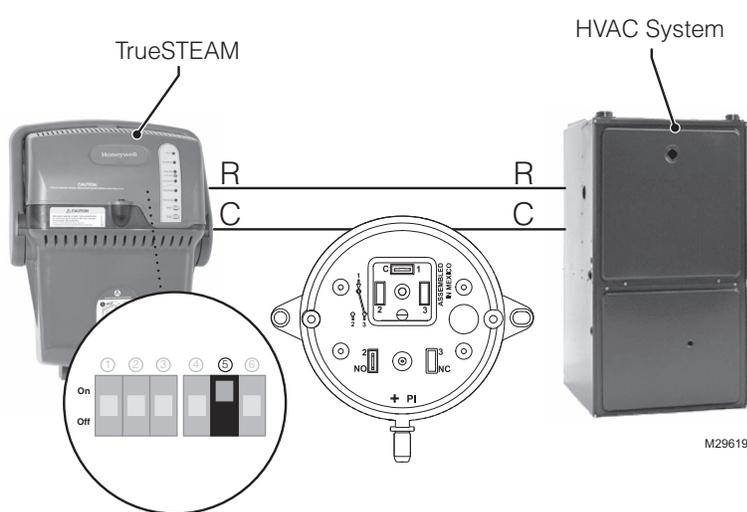
WIRING BASICS: CONFIGURATION 2
When using a humidistat separate from the thermostat (such as H8908 or TrueIAQ):

- The external humidity control does not monitor or control the system fan. TrueSTEAM must confirm that the fan has power before allowing humidity.
- Break the thermostat G to HVAC system G connection. Wire thermostat G to TrueSTEAM GT. Wire TrueSTEAM GF to HVAC system G.
- Thermostat G calls will pass directly through TrueSTEAM. If this signal is not present, and humidity is needed, TrueSTEAM will relay power from its RT terminal to GF and out to HVAC system G to ensure the fan has power for humidity calls.

STEP THREE: Make Add-On Air Proving Decision

In addition to monitoring system power and fan regulation, TrueSTEAM can monitor physical air movement through an optional add-on air proving device. If an air proving device is added, TrueSTEAM can create steam only if the fan is moving air through the supply duct.

IMPORTANT NOTE: The images below are not a complete wiring diagrams. It only depicts power monitoring and is not meant to be a stand alone diagram. Please refer to the “Wiring the TrueSTEAM” section in the following pages for complete wiring diagrams.



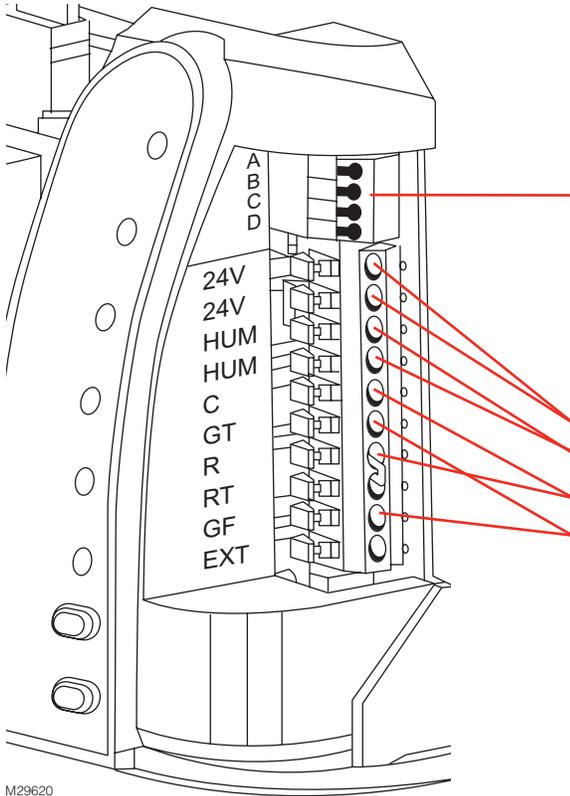
WIRING BASICS

- Wire TrueSTEAM R and C to HVAC system R and C with an air proving device in-line on C.
- Configure air proving through DIP 5 on TrueSTEAM. Set DIP 5 up and keep DIP 4 down.
- TrueSTEAM will look for physical air movement through its C connection before steam enters the duct.

Wiring the TrueSTEAM

You will need to wire TrueSTEAM using the diagram that applies to your humidity control. Remember to include the wiring and DIP settings required for power monitoring, system fan regulation, and add-on air proving (if used).

Using the Terminals



M29620

Use the terminals (found inside the cover) to wire TrueSTEAM to the humidity control and the HVAC system.

RedLINK Wireless Terminals

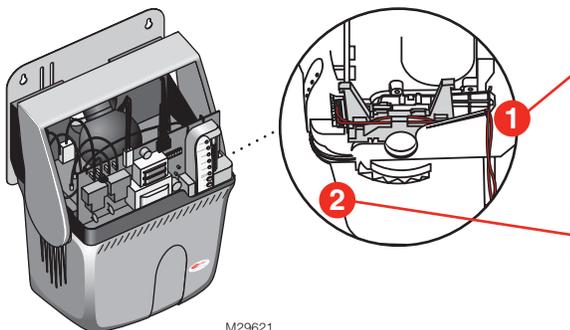
- A – Hot
- B – Send signal
- C – Receive signal
- D – Common

Note: If using wireless control, set DIPs 3 and 4 to the UP position.

Low-voltage Terminals

- 24V – Output voltage
- HUM – Low-voltage terminals for humidity control.
- C, R – Inputs from HVAC system transformer.
- GT, GF – GT input is from thermostat G. GF output goes to HVAC system G.
- RT – Connects to thermostat R terminal, which is normally switched to call for fan.
- EXT – When a 24-vac fan board is not used to control blower (hydronic or cooling-only applications), this connection with GF provides dry-contact closure for fan calls. EXT/GF may be wired to a low-voltage relay control center to provide line-voltage fan control.

Routing the Wires



M29621

Route wires through the raised tabs and out the notch at the rear of the chassis.

Make sure the wires are secure and do not interfere with the cover assembly.

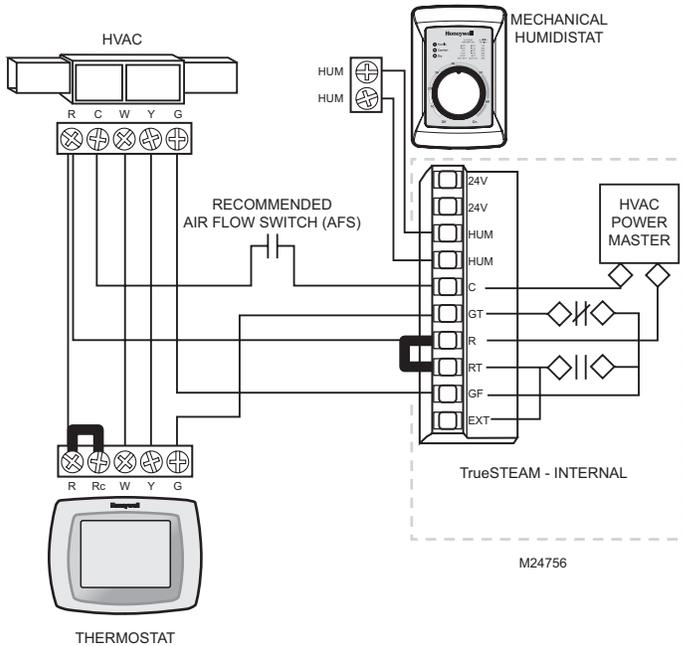
Using the Correct Control Diagram



CAUTION: Voltage Hazard.

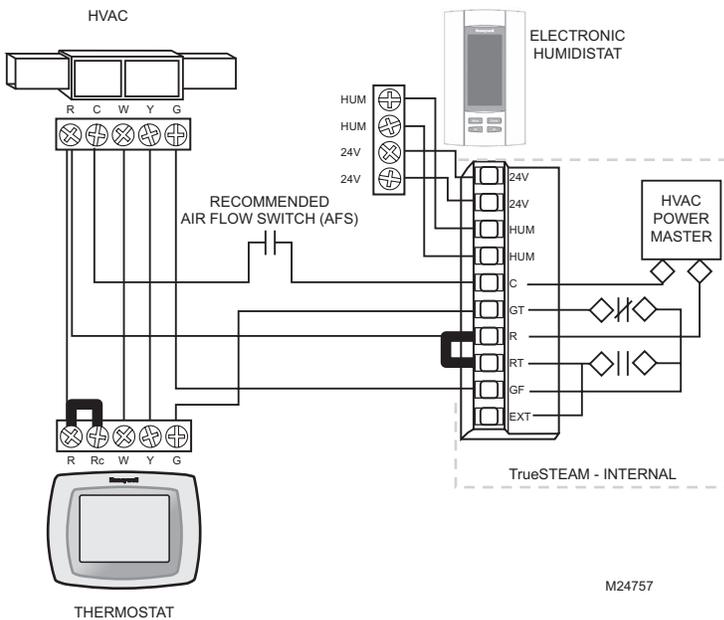
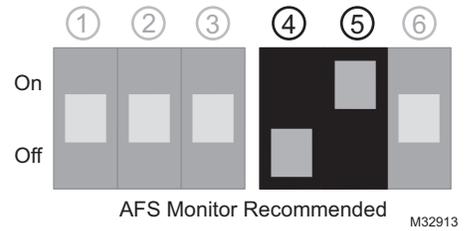
Before wiring to HVAC terminals, disconnect HVAC equipment power. Make sure TrueSTEAM is not plugged in.

Follow the diagram for control options 1 through 14 to wire the TrueSTEAM. Refer to the installation manual provided with the control for additional instructions if needed.



OPTION 1: Dry-contact Mechanical Humidistat Wiring

⚠ Make sure that the thermostat used isolates Y from G. All Honeywell Prestige, VisionPRO IAQ, VisionPRO, and Focus Pro thermostats do this.



OPTION 2: TrueIAQ Wiring

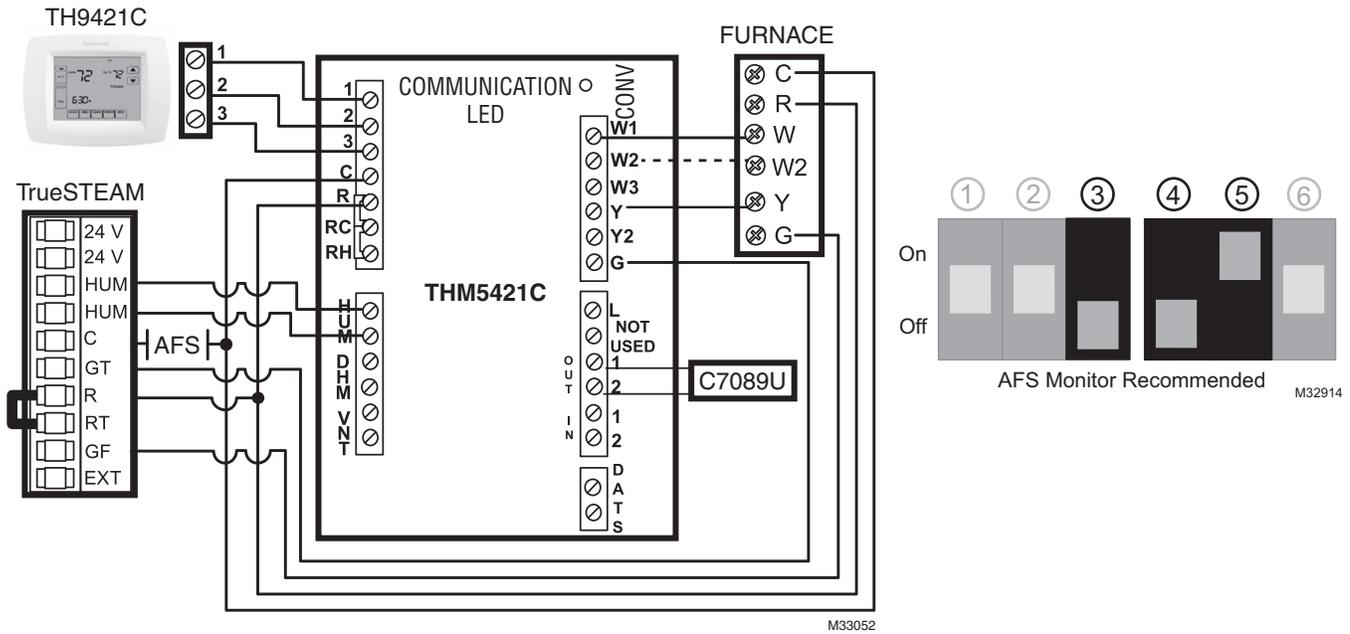
⚠ Make sure that the thermostat used isolates Y from G. All Honeywell Prestige, VisionPRO IAQ, VisionPRO, and Focus Pro thermostats do this.

⚠ For the TrueIAQ Installer Setup, set ISU #25 to 3.



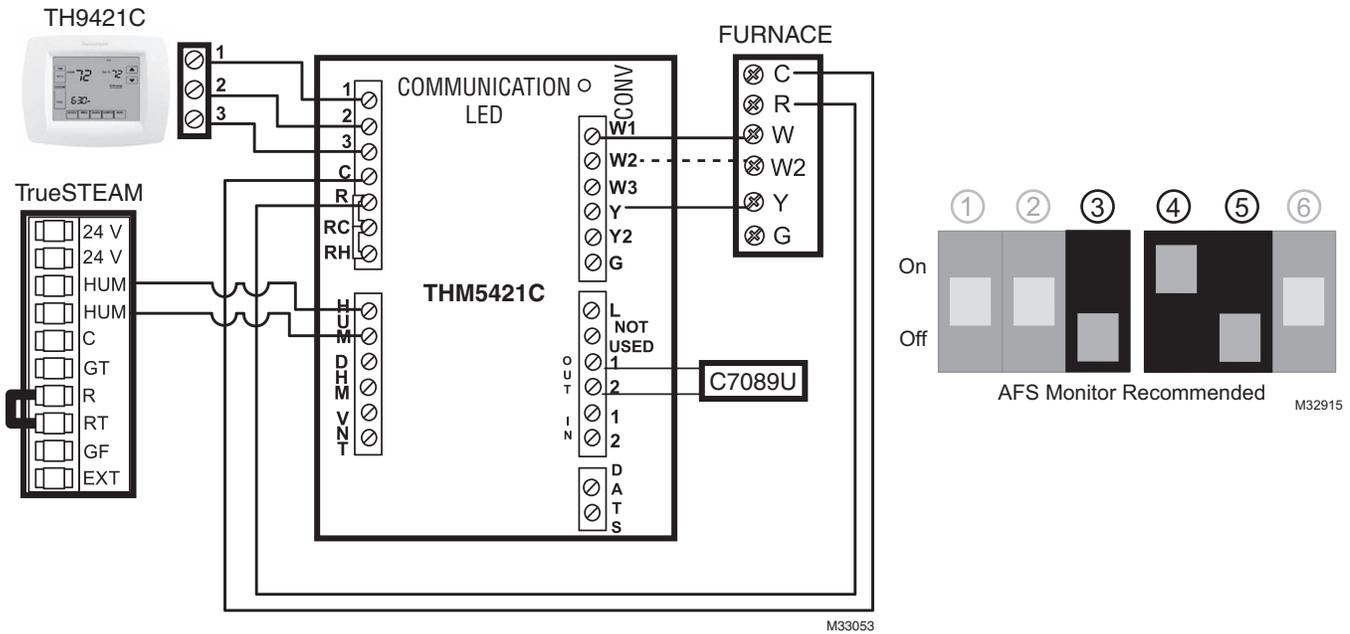
OPTION 3: VisionPRO IAQ Wiring with Fan Delay

- Follow this diagram if you are using VisionPRO IAQ with TrueSTEAM's fan-delay feature.
 - The system fan will turn on when the water temperature reaches 176°F (80°C).
- ⚠ Set installer setup #0374 to 3.



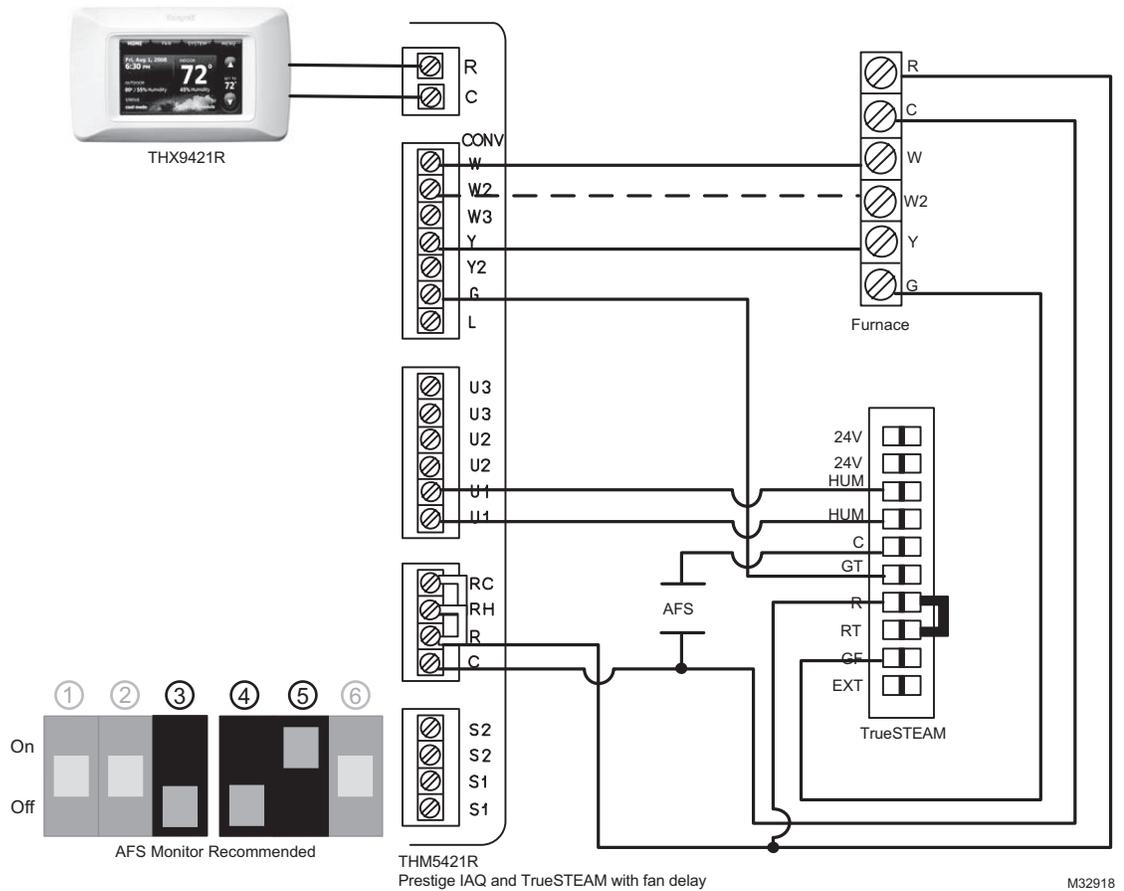
OPTION 4: VisionPRO IAQ without Fan Delay

- Follow this diagram if using VisionPRO IAQ to turn system fan on immediately with humidity call.
- ⚠ Set installer setup #0374 to 1.



OPTION 5: Prestige IAQ with fan delay

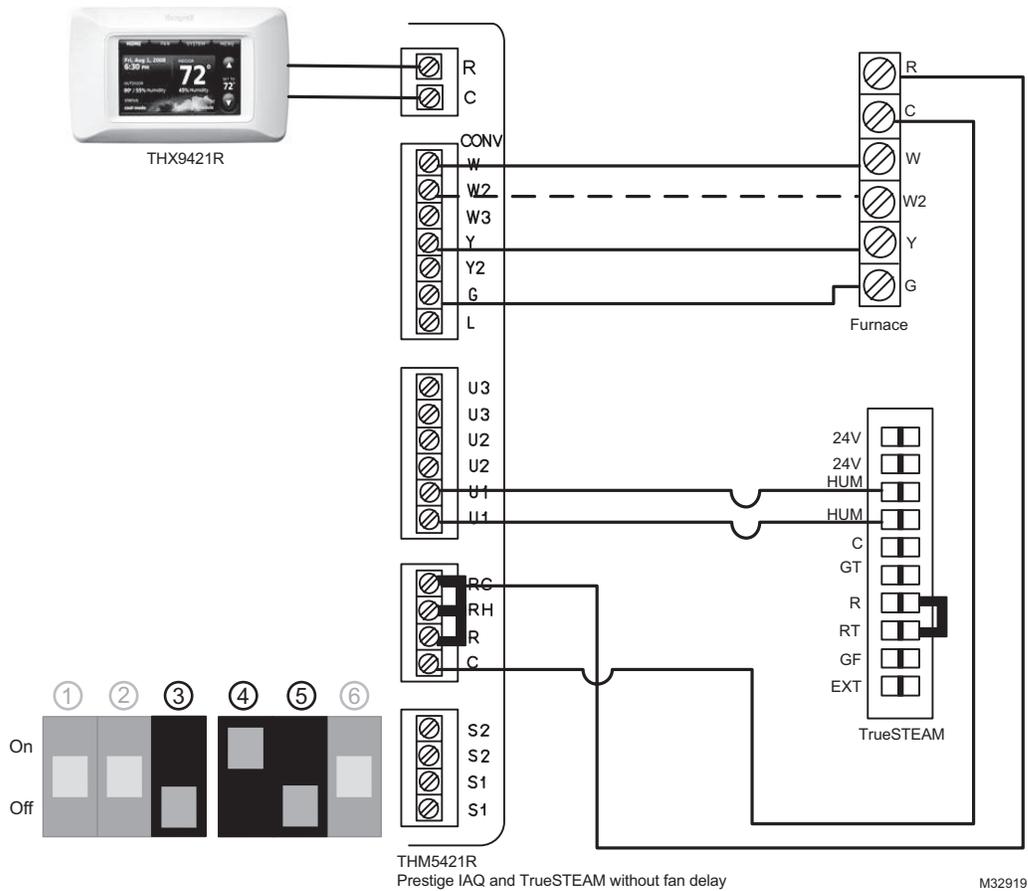
- Follow this diagram if you are using Prestige IAQ with TrueSTEAM's fan-delay feature.
- The system fan will turn on when the water temperature reaches 176°F (80°C).



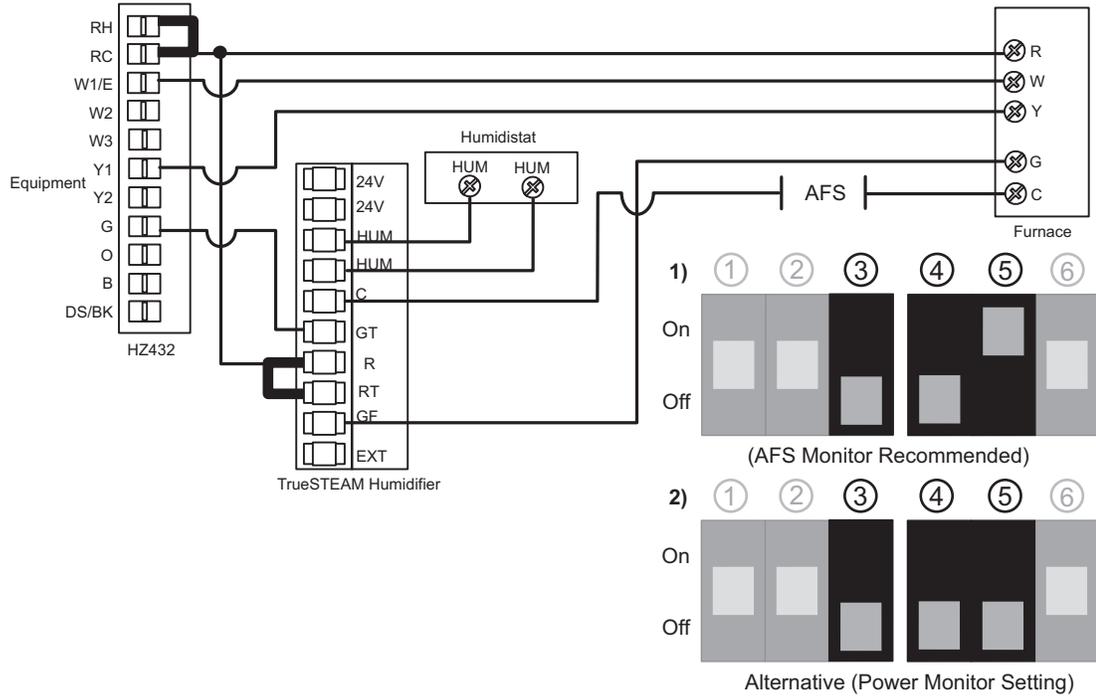
WIRING

OPTION 6: Prestige IAQ without fan delay

- Follow this diagram if you are using Prestige IAQ to turn system fan on immediately with humidity call.

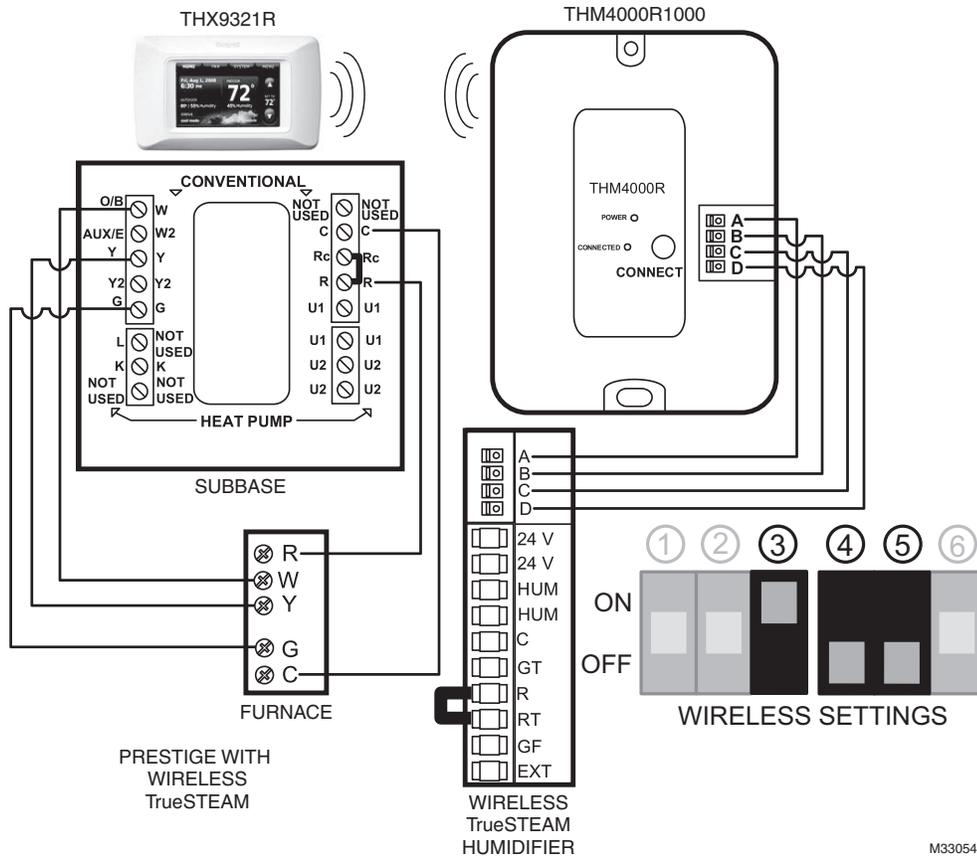


OPTION 7: Wiring TrueSTEAM with zoning



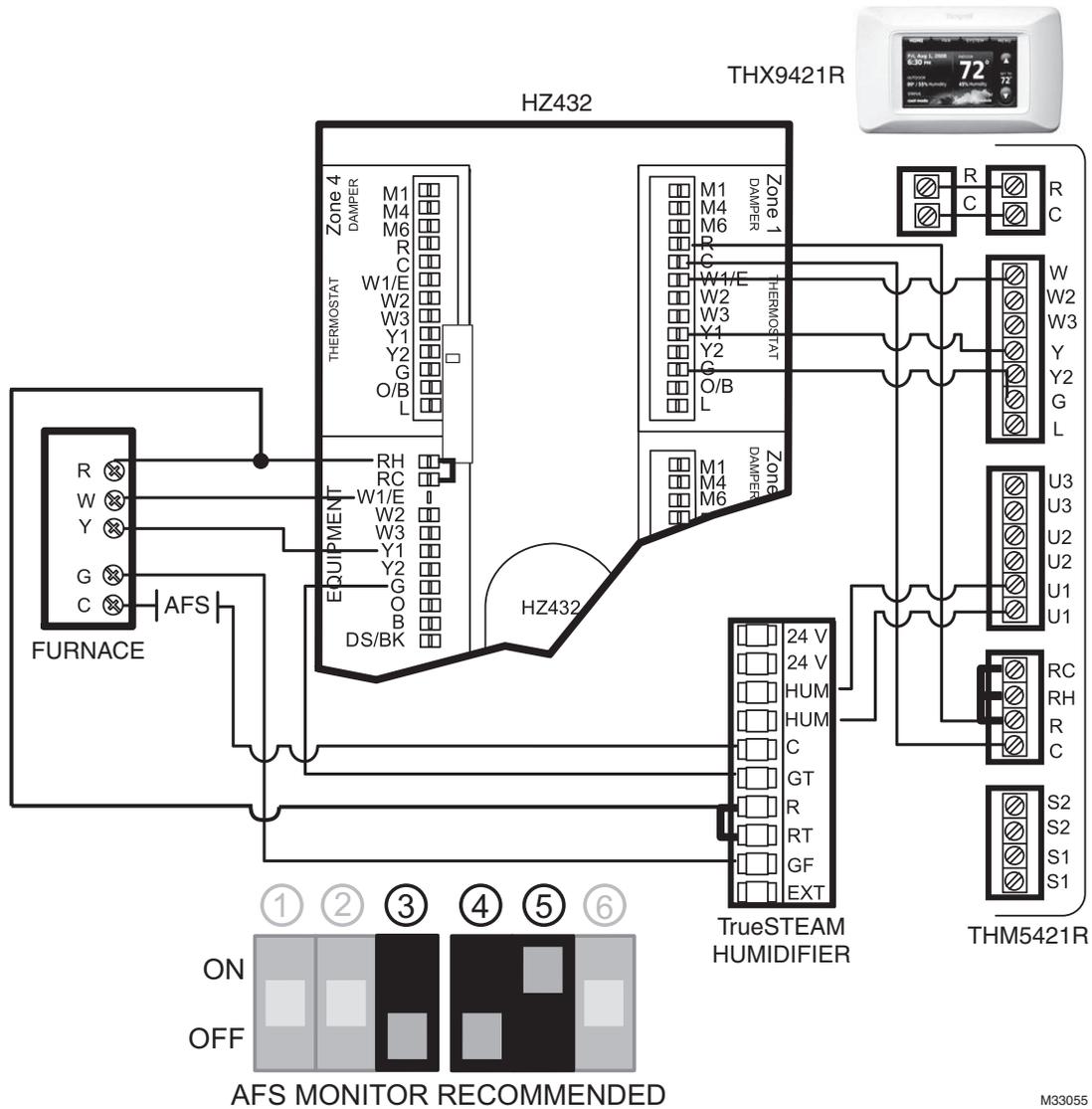
M32920

OPTION 8: Wiring Prestige with wireless TrueSTEAM



M33054

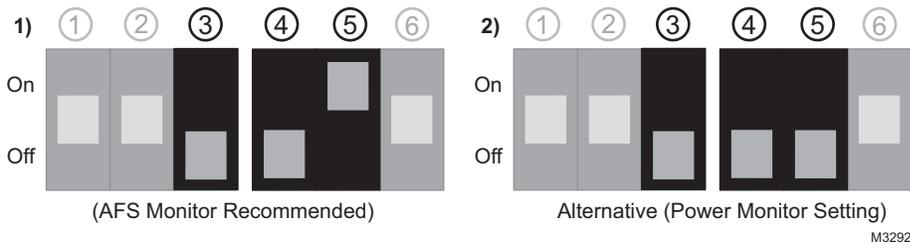
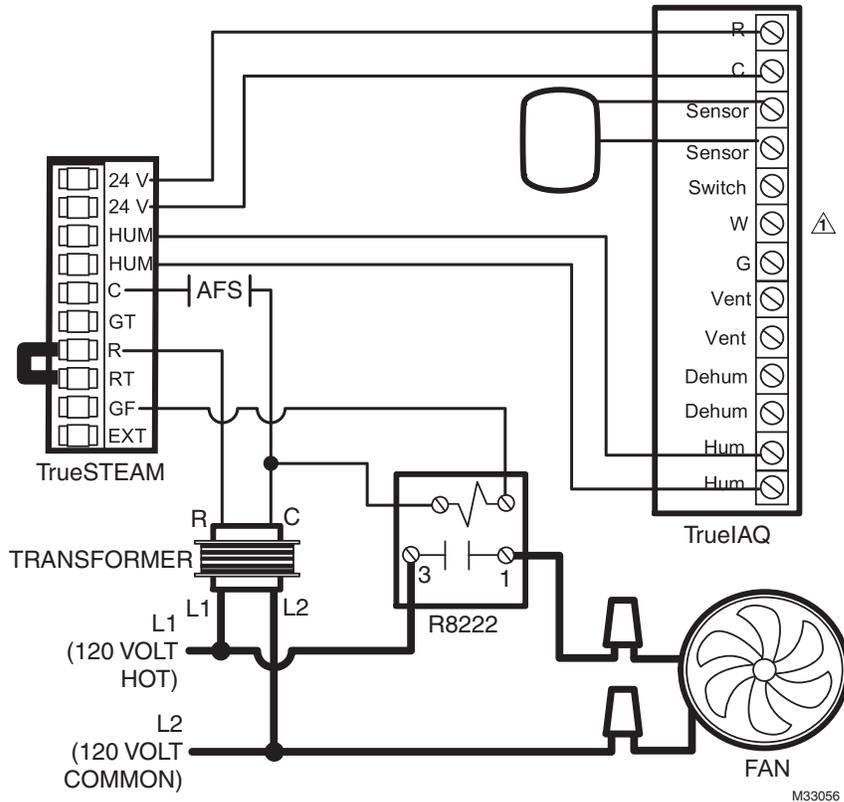
OPTION 9: Prestige IAQ controlling TrueSTEAM with zoning with fan delay (recommended)



WIRING

M33055

OPTION 10: TrueSTEAM wired to a dedicated fan/blower

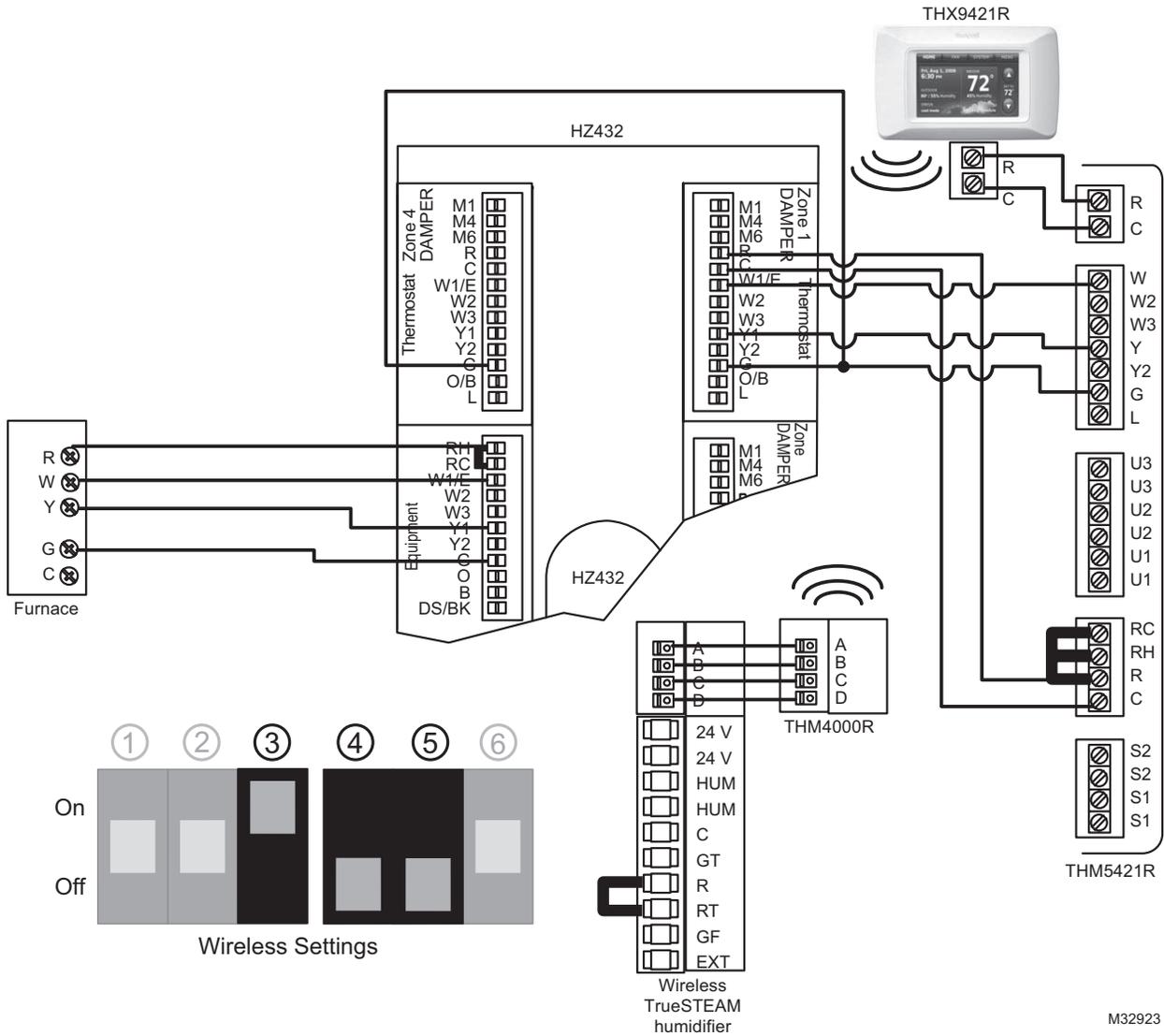


⚠ ISU 25 must be set to 3

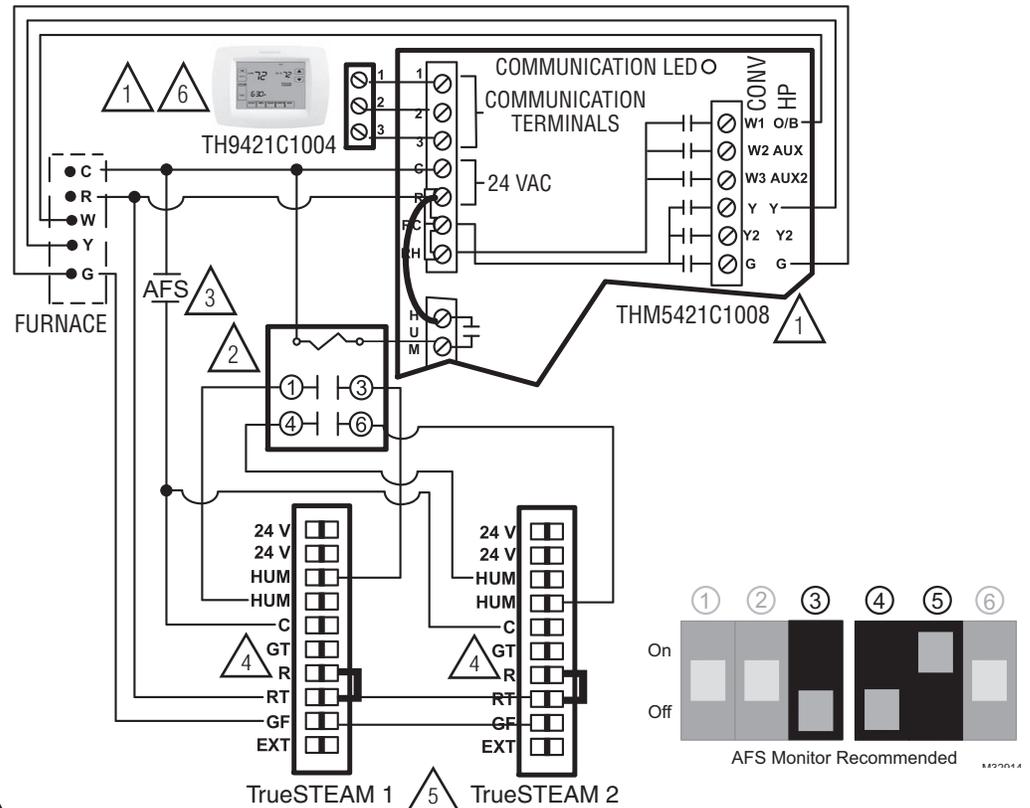
WIRING

OPTION 11: Prestige IAQ controlling Redlink wireless TrueSTEAM with zoning

NOTE: To get air humidity to all zones in idle mode you would need to jump the G on all zones being used and verify that the thermostat does not have a Y/G interconnect. FocusPro, VisionPro, and Prestige models would work for this application.



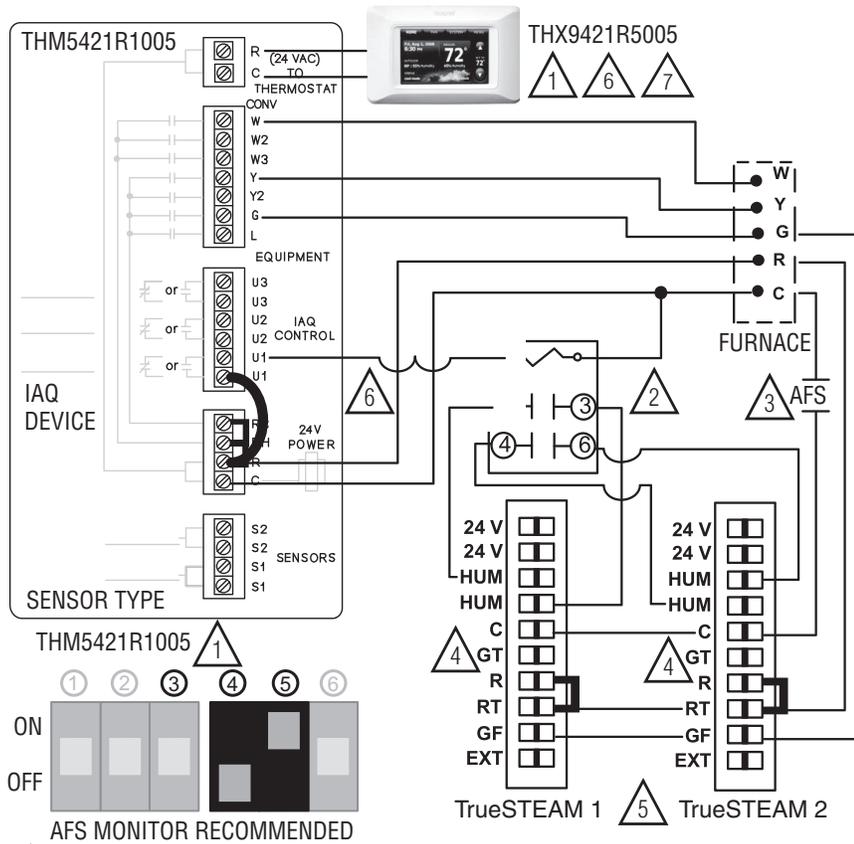
OPTION 12: VisionPRO IAQ controlling 2 TrueSTEAM humidifiers



- 1 THE YTH9421C1002 KIT INCLUDES THE TH9421C1004 VISION-PRO IAQ THERMOSTAT AND THE THM5421C1008 EQUIPMENT INTERFACE MODULE. THE YTH9421C1010 KIT INCLUDES THE TH9421C1004 VISION-PRO IAQ THERMOSTAT, THM5421C1008 EQUIPMENT INTERFACE MODULE, AND C7089U1006 OUTDOOR SENSOR.
- 2 A DOUBLE-POLE RELAY SUCH AS THE R8228D1018 IS REQUIRED.
- 3 AN AIR-FLOW SWITCH IS RECOMMENDED. IF AN AIR FLOW SWITCH IS NOT USED THERE DOES NOT NEED TO BE A WIRE ATTACHED TO C ON THE TrueSTEAM AND THE #4 DIP SWITCH NEEDS TO BE SET TO "ON".
- 4 GT IS NOT REQUIRED FOR THIS APPLICATION. SINCE THE VISIONPRO IAQ THERMOSTAT DOES NOT HAVE A Y/G INTERCONNECT, PARALLEL WIRING CAN BE DONE (AS SHOWN).
- 5 HM506, HM509, OR HM512 TrueSTEAM HUMIDIFIERS CAN BE USED.
- 6 CONFIGURE THE THERMOSTAT TO HUMIDIFY INDEPENDENT OF FAN (INSTALLER SETUP 374 SET TO 3).

M33057

OPTION 13: Prestige IAQ controlling 2 TrueSTEAM humidifiers



1 THE YTH9421R5002 KIT INCLUDES THE THX9421R5005 PRESTIGE IAQ THERMOSTAT AND THE THM5421R1005 EQUIPMENT INTERFACE MODULE. THE YTHX9421R5010 KIT INCLUDES THE THX9421R5005 PRESTIGE IAQ THERMOSTAT, AND THE THM5421R1005 EQUIPMENT INTERFACE MODULE, REM5000R1001 PORTABLE COMFORT CONTROL, AND C7089R1013 WIRELESS OUTDOOR SENSOR.

2 A DOUBLE-POLE RELAY SUCH AS THE R8228D1018 IS REQUIRED.

3 AN AIR-FLOW SWITCH IS RECOMMENDED. IF AN AIR FLOW SWITCH IS NOT USED THERE DOES NOT NEED TO BE A WIRE ATTACHED TO C ON THE TrueSTEAM AND THE #4 DIP SWITCH NEEDS TO BE SET TO "ON".

4 GT IS NOT REQUIRED FOR THIS APPLICATION. SINCE THE PRESTIGE IAQ THERMOSTAT DOES NOT HAVE A Y/G INTERCONNECT, PARALLEL WIRING CAN BE DONE (AS SHOWN).

5 HM506, HM509, OR HM512 TrueSTEAM HUMIDIFIERS CAN BE USED.

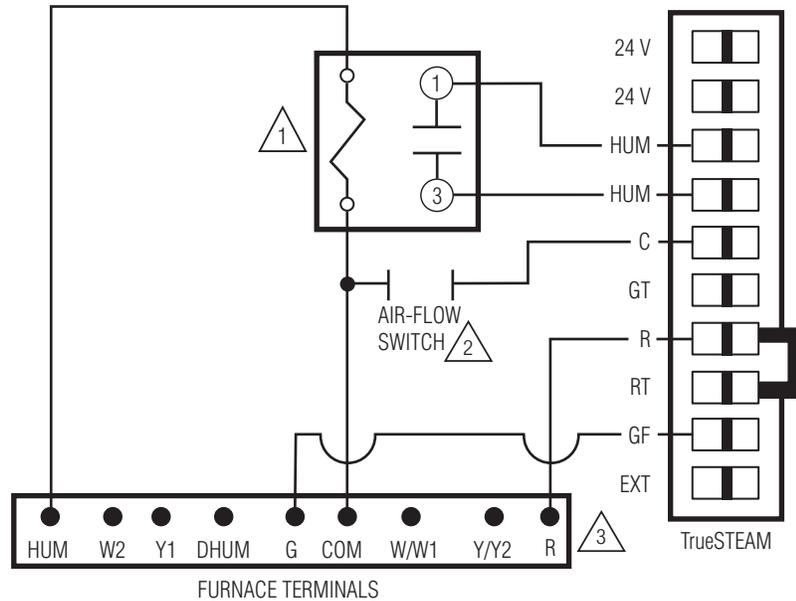
6 THE U1, U2, OR U3 CONTACTS CAN BE CONFIGURED TO CONTROL A HUMIDIFIER. IN THIS DIAGRAM THE 1 TERMINALS ARE USED.

7 CONFIGURE THE THERMOSTAT TO HUMIDIFY INDEPENDENT OF FAN (INSTALLER SETUP 374 SET TO 3).

M33058



OPTION 14: TrueSTEAM humidifier wired to equipment with powered terminals with TrueSTEAM controlling the fan



NOTES:

- 1 YOU MUST ADD A 24VAC ISOLATION RELAY BETWEEN THE TRUESTEAM HUMIDIFIER AND THE AIR HANDLER. AN R8222B1067 COULD BE USED.
- 2 THE 50027910-001 AIR-FLOW SWITCH (AFS) IS RECOMMENDED TO ENSURE THERE IS AIR-FLOW WHEN THE HUMIDIFIER IS RUNNING. IF THE AFS IS NOT USED, THE 4 DIPSWITCH MUST BE SET TO THE ON POSITION AT THE HUMIDIFIER (UP).
- 3 INFINITY/EVOLUTION CONFIGURATION
 1. IN SETUP UNDER THE INSTALL/SERVICE MENU:
 - A. SELECT ACCESSORIES AND CHOOSE YES FOR HUMIDIFIER AND SET THE OPTION HUMIDIFY WITH FAN TO YES.
 - B. SELECT FURNACE SETUP. UNDER THE G TERMINAL SET UP, SELECT THE FAN OPTION AND SET THE FAN SPEED TO LOW.

A 24VAC ISOLATION RELAY MUST BE USED BETWEEN THE FURNACE AND THE HUMIDIFIER TO ISOLATE THE TWO TRANSFORMERS. EQUIPMENT DAMAGE WILL OCCUR IF NOT USED.

THE HUMIDIFY WITH FAN OPTION MUST BE SELECTED. THIS WILL ALLOW THE SYSTEM TO CALL FOR HUMIDIFICATION WITHOUT A HEAT CALL.

THE G TERMINAL MUST BE SET TO FAN. THIS WILL ALLOW THE HUMIDIFIER TO CONTINUE TO RUN THE FAN AFTER THE HUMIDIFICATION CALL IS SATISFIED. THE TRUESTEAM HUMIDIFIER REQUIRES THE FAN TO CONTINUE TO RUN UNTIL THE WATER TEMPERATURE IN THE RESERVOIR IS COOLED TO 170 DEG TO PREVENT STEAM FROM CONDENSING IN THE DUCTWORK.

THE INFINITY SYSTEM WILL RUN ITS FAN AT LOW SPEED WHEN IT HAS A CALL FOR HUMIDIFICATION WITHOUT A HEATING CALL. THIS AIRFLOW IS 50% OF HEATING OR COOLING AIRFLOW (WHICHEVER IS GREATER). MAKE SURE AIRFLOW SATISFIES ANY MINIMUM REQUIREMENT FOR YOUR TRUESTEAM HUMIDIFIER.

FURNACE SET UP IS SHOWN. FAN COIL SET UP WILL BE SIMILAR.

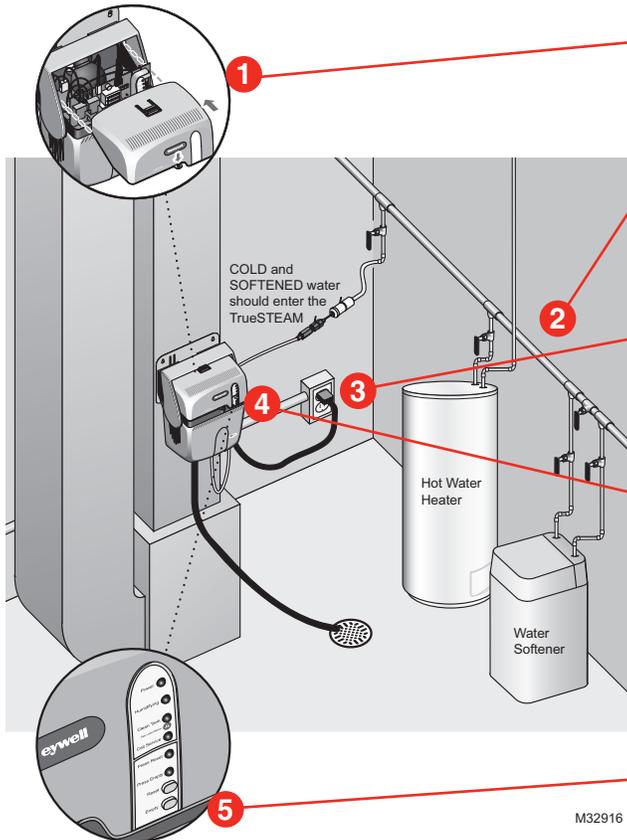


AFS Monitor Recommended

M33044

Startup and Checkout

When installation is complete, plug TrueSTEAM in and turn the humidity control on. Make sure it is running properly before turning the system over to the homeowner. Once TrueSTEAM is running, day-to-day operation is hands-free, except for occasional cleaning. The homeowner can use the control to adjust the humidity setpoint, adjust the frost setting (if used), or turn TrueSTEAM off as desired.



Slide the cover into place and secure with the cover screw.

Turn on the water supply at all valves. Cold water will flow to the TrueSTEAM but will not fill the tank until the unit is turned on and a call for humidity is made.

Plug in the TrueSTEAM power cord.

- The Power light will turn on, indicating that TrueSTEAM has power.

Turn the humidity control to On.

- The Humidifying light will start blinking. This means TrueSTEAM is in Stand-by.

Press/release the Go button to prepare TrueSTEAM for use. TrueSTEAM will automatically reset if the Go button is not pressed after 5 minutes.

- The tank will fill with cold water and the humidifier light will be blinking. Water flow stops automatically when the tank is full.
- The Humidifying light will be solidly on — it will stop blinking — when TrueSTEAM is heating water for steam production.

Wait until TrueSTEAM produces steam, then check the following:

- Make sure air is blowing from furnace. Typically, the blower turns on 10 –15 minutes after the call for humidity if TrueSTEAM is controlling the fan.
- Check all water line connections to ensure there are no leaks before leaving the job site.
- Turn the setpoint to the desired level when testing is complete. If humidity is not needed, set the control to Off.

Routine Maintenance

TrueSTEAM automatically flushes the tank throughout the humidifying season. This lowers the water hardness concentrated in the tank, and slows the accumulation of solid minerals.

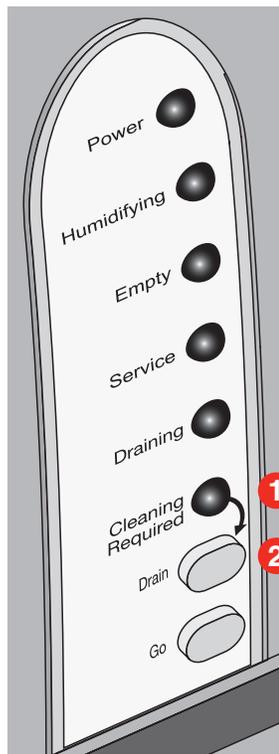
Automatic Cleaning Cycle

- The automatic cleaning cycle takes about 45 minutes. During this time, TrueSTEAM will not produce any steam.
- Cold water will enter the tank to lower water temperature below 140°F (60°C) before draining.
- At the end of the cycle, TrueSTEAM refills the tank with fresh water and automatically returns to normal operation.

Manual Cleaning Cycle

Honeywell recommends that TrueSTEAM be manually cleaned and the water filter be changed at least once each humidification season. The manual cleaning is necessary to remove solid mineral deposits left behind during operation.

STEP ONE: Initiate a Flush Cycle



Solid material deposits in the tank are normal. The homeowner should expect to see some buildup in the tank and on the heating element.

- When the Cleaning Required light is on, manual cleaning is needed. TrueSTEAM will still operate as normal while this light is on.
- Before removing the TrueSTEAM tank, it must be completely drained.

To begin draining the tank, press and hold the Drain button until the Draining light blinks.

Manual Drain Procedure

Press and hold the Drain and Go buttons simultaneously to interrupt the water cooling cycle and immediately drain the tank.



CAUTION: Burn and Scalding Hazard.

Use extreme caution when using the manual drain procedure. The water exiting the TrueSTEAM may be as hot as 212°F. Make sure the drain outlet can handle up to 212°F (100°C), or wait at least 45 minutes to allow the water to cool before using this feature.



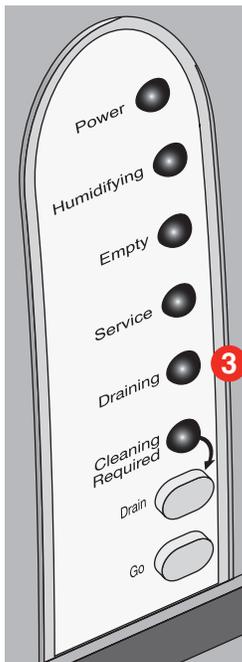
BEST PRACTICE

Perform all cleaning steps at least once per humidification season.



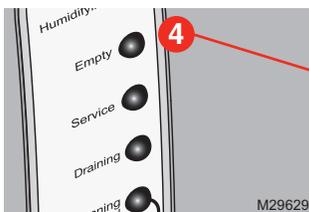
CAUTION: Scalding hazard.

- If you override the cooling action of the flush cycle, the tank will empty immediately, regardless of water temperature. Make sure the drain can handle up to 212°F (100°C) if you do this.
- During manual drain, initial water temperature may be above 140°F (60°C). Scalding water could splash out of the drain. Use caution when pressing the Drain button.



M29628

The cleaning flush cycle is initiated when the Draining light begins blinking. The cycle will take about 45 minutes to complete. It will take longer if using RO filters.



M29629

When the Empty light is on, the tank is empty. The tank may now be removed for cleaning or other service.

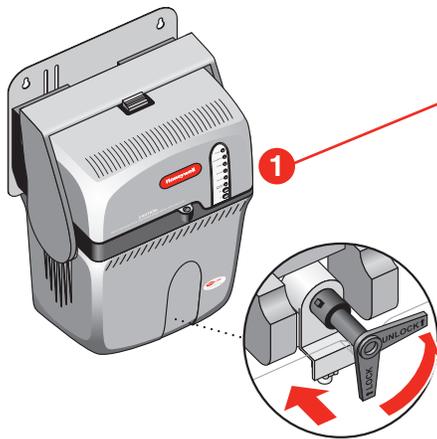
Be sure to disconnect the TrueSTEAM from power before beginning the cleaning procedure



CAUTION: Scalding hazard.

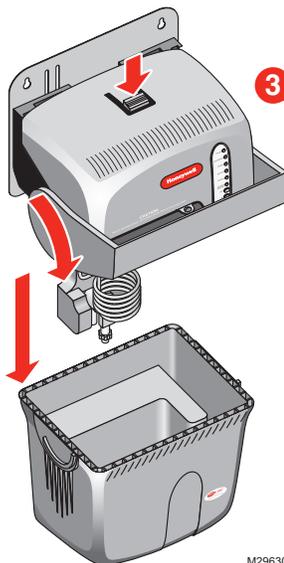
Do not attempt to remove TrueSTEAM from the mounting bracket during operation or when the tank is full of water. The heating element could be hot when tank is removed. Failure to comply could result in severe scalding.

STEP TWO: Remove the Water Tank



Make sure the tank is empty. The Empty light turns on when it is.

Turn the manual shutoff valve to the “Unlock” position. Grip the white water valve arm and slide it back to disengage from the tank’s black spool.

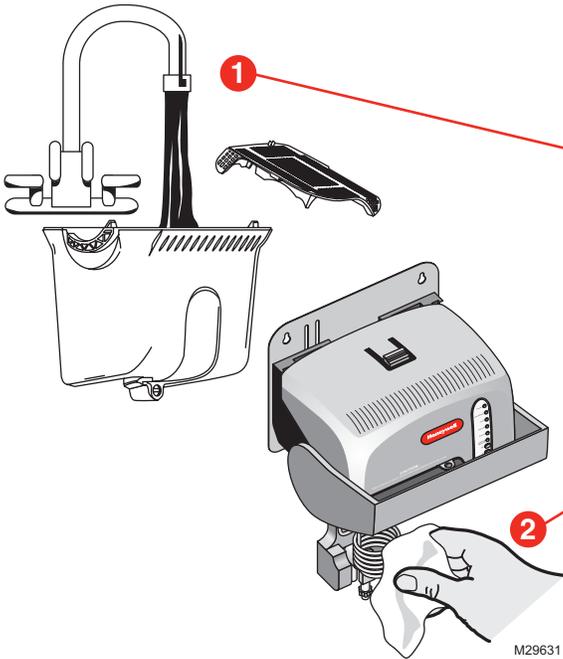


Grip the tank bottom firmly. Push down the safety release button and pull the latch forward to release the tank.

Note: The latch remains attached to TrueSTEAM and is not removed with the tank.

M29630

STEP THREE: Clean the Tank



Use tap water to flush loose minerals from the tank:

- Sediment screen at tank's bottom is removable.
- For a more thorough cleaning, soak tank in water with CLR®, LimeAway® or white vinegar. Then rinse clean.
- Tank is dishwasher safe.
- Do not use hydrocarbon-based cleaners.

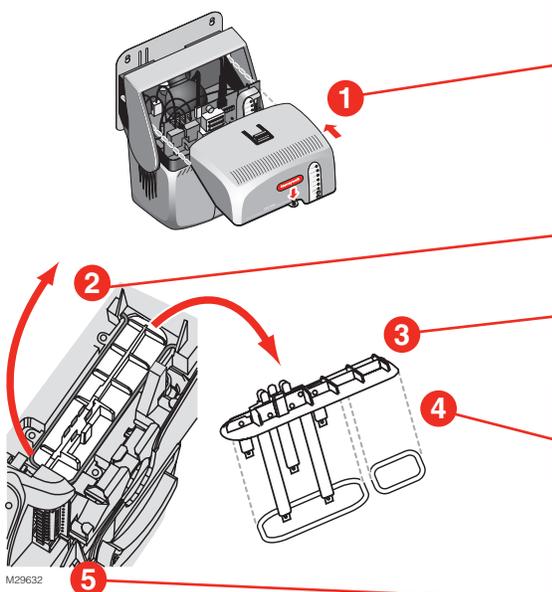
Unplug the power cord and carefully rub minerals off of the heating element and tank walls. Clear the sensor compartment holes of debris, if present.

STEP FOUR: Replace the Water Level Sensor (if necessary)



WARNING: Electrocutation Hazard.

TrueSTEAM must be unplugged before removing the cover. Hazardous voltage could cause death or serious injury.



Remove TrueSTEAM cover and inspect water level sensor. If debris buildup is present, clean with recommended cleaning agent. If cracks or visible discoloration is noticed, replace sensor (see below).

Remove T-30 Torx screw and lift clamp.

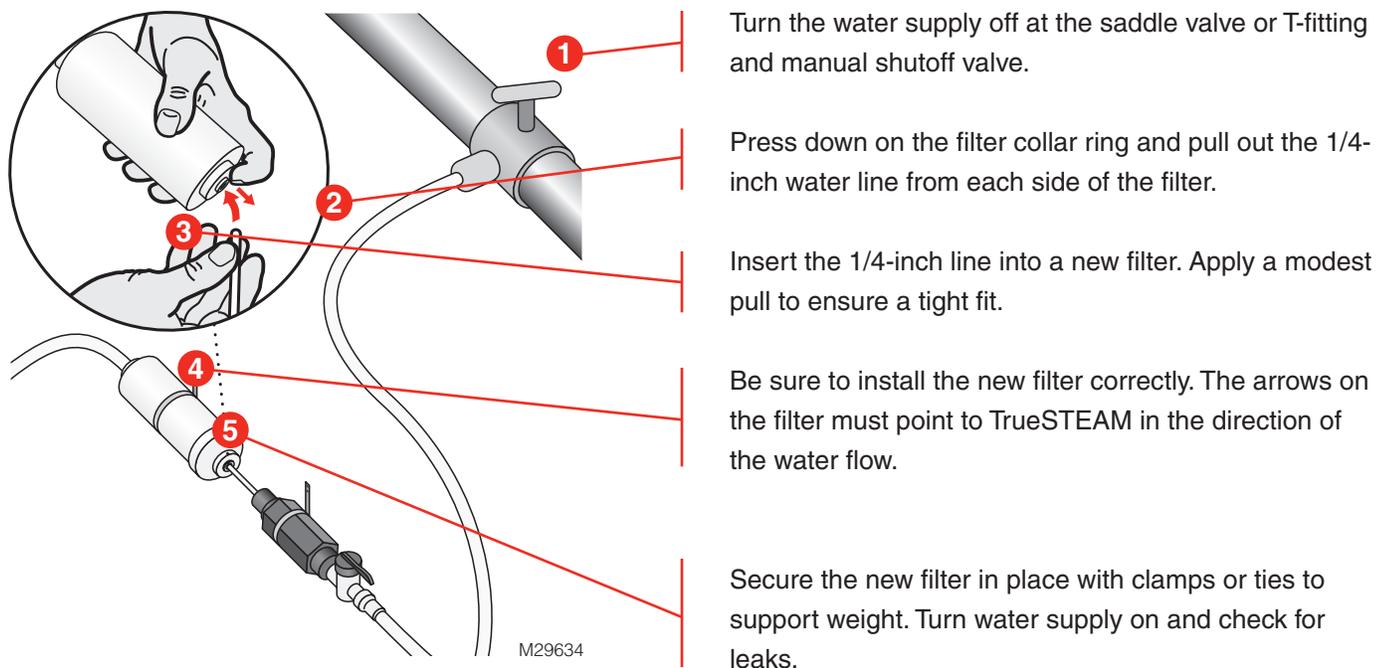
Remove the sensor.

Ensure sensor gaskets are seated properly and are in good condition (no cracks). If cracks are noticed, replace water sensor assembly (including gaskets).

Install a new sensor if excessive mineral deposits are present, or if gaskets are in poor condition. See "Parts List" on page 59.

Changing the Water Filter

Replace the polyphosphate water filter at least once every humidification season.



If the optional reverse osmosis filter is used instead of the polyphosphate filter, there are two filter cartridges to be replaced. Replace the cartridges once every humidification season or when the Cleaning Required or Service light starts blinking due to water fill/drain issues. See “Reverse Osmosis Filter” on page 23.

Water Level Sensor Troubleshooting Steps



WARNING: Electrocutation Hazard.

This test should be done when current is not present on pins. Always unplug the humidifier before testing.

Test Setup

- Remove and drain the tank. The tank must be empty.
- Remove the connector from the water level sensor.

Test Pins

Test is done in 5 pins as shown in the figure below.

Testing for Shorts

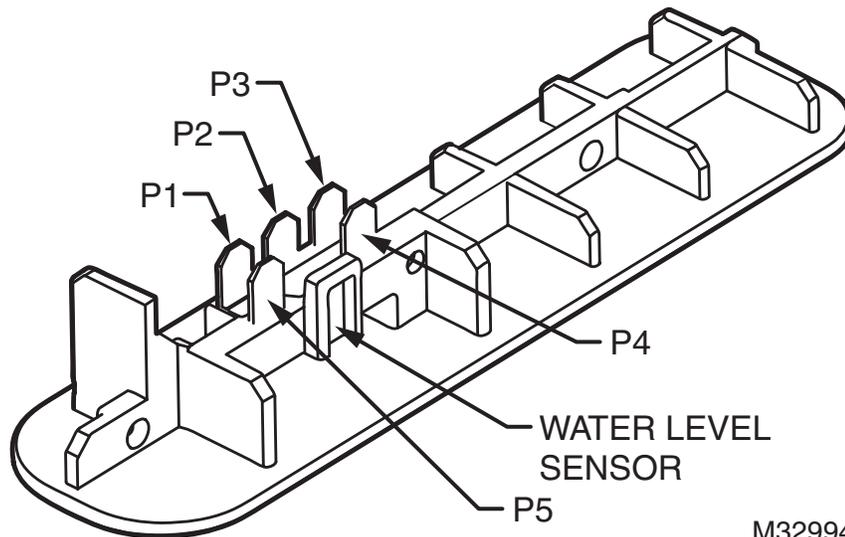
- Use an OHM METER and set it to the highest setting.
- Place the OHM METER PROBES on top of sensor probes.
- Measure the resistance between the following locations:
 - Between P1 and P3
 - Between P1 and P4
 - Between P2 and P4
 - Between P4 and P5

Good Water Sensor

The water sensor is good if all pins show an infinite reading.

Bad Water Sensor

The water sensor is bad if any pins show Ohms reading. This water sensor should be replaced.



STEP FIVE: Reinstall the Tank



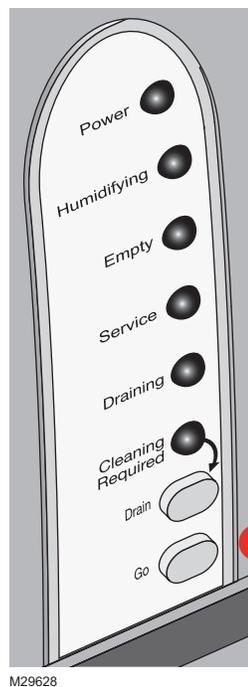
Before reinstalling the tank and cover, perform these checks:

- Clear any dust from the ventilation holes in the cover.
- Clear any debris from the water drain tube.
- Make sure the water tank gasket seal is seated properly in the TrueSTEAM base. Make sure the gasket is in good condition (no cracks or tears) before attaching the tank.

Attach tank by securing the latch and plug in TrueSTEAM.

If the control is calling for humidity, the Humidifying light will blink at startup. TrueSTEAM waits 5 minutes to complete the tank reconnection before acting on this call.

Engage the white water valve to the tank's black spool, then turn the manual shutoff valve to the "Lock" position and plug in the power cord.



Check that TrueSTEAM is still mounted level and is securely in place on the mounting bracket.

Press the Go button once the tank is completely reconnected. This will ready TrueSTEAM to act on the control's call for humidity (if present).

Troubleshooting

TrueSTEAM has internal system diagnostics that monitor operation, maintenance schedules, and faults. If a system fault is detected, TrueSTEAM will attempt to recover up to five times in a 24-hour period.

- If TrueSTEAM is unable to recover by itself within 24 hours, the red Service light blinks in a series that indicates the fault detected.
- Refer to the table below for the fault indicated, along with the steps to fix TrueSTEAM.
- Press and hold the Go button until the Service light turns off.

No. of Service LED Blinks	Fault Description	Auto-Recoverable?	Steps to Fix (Performed Only By Professional HVAC Technician)
1	Water Heater temperature sensor is out of range.	Yes, TrueSTEAM will reset if fault no longer exists in one hour.	<ol style="list-style-type: none"> 1. Unplug TrueSTEAM & remove cover 2. Check Water sensor connection to board. Remove and plug back in. 3. Press the Go button. 4. If fault returns, replace TrueSTEAM
2	Water sensors failed.	Yes, TrueSTEAM will reset if fault no longer exists in one hour.	<ol style="list-style-type: none"> 1. Unplug TrueSTEAM and remove cover. 2. Disconnect water level sensor wiring. 3. Ohm out water sensor 4. Readings between P1 & P3, P1 & P4, P2 & P4 and P4 & P5 should all show infinite resistance. If they do not replace the sensor.
3	Failure to fill tank with water.	Yes, system will return to "Ready" if fault no longer exists in three hours.	<ol style="list-style-type: none"> 1. Ensure inlet water is on. 2. Check for voltage on the fill terminals for the solenoid valve (should be approx. 120vac) 3. Check for leaks around the tank seal and solenoid. 4. If using an RO filter make sure the flush timer is set for 30 hours 5. If using an RO filter, follow troubleshooting information as outlined in RO install guide. 6. If not using an RO filter, turn off water supply and replace any in line water filter. 7. Press and hold the go button until res Service light turns off. 8. If tank still fails to fill, press the Drain button. 9. If tank fails to drain, unplug TrueSTEAM (and make sure water in tank is cool before proceeding). 10. Follow the tank cleaning steps. 11. Ensure you have a firm grip on the tank before releasing the tank, especially if water is present. 12. Clear any excess debris from the tank's bottom orifice to the solenoid. 13. Reassemble tank and plug TrueSTEAM back in. Press the button to reset. If water still fails to fill into the tank, replace the solenoid valve

No. of Service LED Blinks	Fault Description	Auto-Recoverable?	Steps to Fix (Performed Only By Professional HVAC Technician)
4	Heating element overheated.	No	<p>If this is a new install:</p> <ol style="list-style-type: none"> 1. Reset the error code and power cycle the unit. 2. If the error code comes back, replace the unit. <p>If the unit has been in service while:</p> <ol style="list-style-type: none"> 1. Troubleshoot the water sensor 2. If troubleshooting indicates a sensor issue, replace the sensor. 3. If that does not resolve the issue the entire unit will need to be replaced.
5	Input voltage insufficient.	Yes, system will return to "Ready" if fault no longer exists in one hour.	<ol style="list-style-type: none"> 1. Verify the electrical circuit is not overloaded. 2. Unplug and replug TrueSTEAM in to see if the fault returns. 3. If the fault returns, unplug TrueSTEAM and remove cover. 4. Ensure wiring connections are secure and attached. 5. If the fault returns, replace TrueSTEAM. (Field service is not recommended if line voltage is lost.)
6	Water overflow sensed.	Yes, system will return to "Ready" if fault no longer exists in one hour.	<p>Overflow error code is usually caused by one of two things:</p> <ol style="list-style-type: none"> 1. Back pressure on the nozzle or remote hose. 2. Back pressure on the drain tube. <p>Ensure that static duct pressure is not above .5" wc.</p> <p>If this is a remote install:</p> <ol style="list-style-type: none"> 1. Make sure the remote hose has a minimum rise of 2" per foot. Flat, or downhill pitches, even a sharp bend can contribute to back pressure. 2. Ensure that remote hose rises 6" from the TrueSTEAM before it angles to the remote mount location. 3. Ensure that the remote nozzle is not pointing in to the airflow. <p>Drain Tube:</p> <ol style="list-style-type: none"> 1. Ensure that the has s steady downhill pitch with no flat or uphill areas. 2. Ensure drain hose is not kinked or submerged in water at the drain. 3. Check functionality of condensate pump, if used. <p>If the above does not resolve the issue:</p> <ol style="list-style-type: none"> 1. Follow the tank cleaning steps listed in the manual. 2. After cleaning, if the fault returns, unplug TrueSTEAM 3. Loosen cover screw & remove cover. 4. Troubleshoot water sensor. 5. Replace sensor if infinite resistance is not shown from P1 & P3, P1 & P4, P2 & P4 and P4 & P5 6. Press button to Reset unit.

No. of Service LED Blinks	Fault Description	Auto-Recoverable?	Steps to Fix (Performed Only By Professional HVAC Technician)
7	HVAC power not present.	Yes, system will return to "Ready" if fault no longer exists in one hour.	<ol style="list-style-type: none"> 1. Unplug and replug TrueSTEAM in to see if power returns. 2. If power does not return, ensure HVAC equipment has power. 3. Check circuit breaker or replace fuse if circuit is tripped. 4. Unplug TrueSTEAM and remove cover. Check DIP 4 position and verify correct wiring based on DIP 4 position. Check install guide section on Power monitoring Information. 5. Plug in TrueSTEAM and press the Go button. <p>If the fault reappears, ensure the circuit being used has the rating to support the TrueSTEAM. Unplug any additional equipment plugged into this circuit. If fault disappears, the circuit capacity is not properly sized to your unit.</p> <p>If the fault returns, replace TrueSTEAM.</p>
8	The weld monitor input is active when the heater relay is off.	No	<ol style="list-style-type: none"> 1. Press and hold the Go button to clear the fault. 2. Initiate a humidity call. 3. If the fault returns, replace TrueSTEAM.
10	The heater relay failed to turn on.	No	<ol style="list-style-type: none"> 1. Check for voltage on the heater terminals/leads. There should be 120Vac. 2. If there is not, press the Go button to clear the fault. 3. Initiate a call for humidity 4. If the fault returns, replace TrueSTEAM
12	Temperature of the electronic circuit board is too high.	Yes, system will return to "Ready" if fault no longer exists in one hour.	<ol style="list-style-type: none"> 1. Make sure ventilation holes in the cover are clear of obstruction. Make sure 1 foot of clearance is maintained around the cover's vent holes. 2. Ensure TrueSTEAM is installed in a location with conditioned air 34°F to 104°F (1.1°C to 40°C). 3. Turn humidistat off and allow time for electronic board to cool. This could take up to 2 hours. 4. Turn humidistat on and press the Go button to reset. 5. Confirm humidity call starts by checking if Humidifying light is on. 6. Allow TrueSTEAM to run. Check for steam leaks around tank and ventilation holes. 7. If the fault returns, replace TrueSTEAM.

No. of Service LED Blinks	Fault Description	Auto-Recoverable?	Steps to Fix (Performed Only By Professional HVAC Technician)
13	Tank failed to drain.	No	 CAUTION: Water in tank may be hot (>140°F [60°C]). 1. Press the Drain button. 2. If tank fails to drain, wait for water in tank to cool. 3. Ensure tank water is cool. Once it is, follow tank cleaning steps under “Manual Cleaning Cycle” in manual. 4. Ensure drain tube is not pinched, clogged or blocked 5. Reassemble tank, reinstall tank and press the “GO” button to reset. 6. If tank fault persists, replace solenoid valve. (#50027997-001)
14	Heater failed to boil water.	Yes, system will return to “Ready” if fault no longer exists in one hour.	1. Follow the tank cleaning steps. “Manual Cleaning Cycle” 2. Ensure entire tank, heating element and reservoir area are clean. 3. Reassemble & reinstall tank 4. Press GO button to reset. 5. Ensure that there is 120 Vac at heating element terminals. 6. If fault returns, replace the TrueSTEAM
15	No airflow sensed in supply duct.	Yes, system will return to “Ready” if fault no longer exists in one hour.	1. Ensure optional add-on air proving device is installed and wired correctly. 2. Unplug TrueSTEAM, and remove cover. 3. Ensure DIP switches are set correctly. (DIP 4 down, DIP 5 up.) 4. Reconnect cover and plug in TrueSTEAM. 5. Press and hold the Go button to clear the fault. 6. If the fault persists, replace the air proving device being used.
17	Power to the wireless adapter overloaded.	Yes, system will return to “Ready” if fault no longer exists in one hour.	1. Verify wiring between TrueSTEAM and the wireless adapter. 2. Ensure DIP switches are set correctly. (DIP 3 up. Also DIP 4 up if TrueSTEAM R and C aren’t wired.) 3. If the fault persists, replace the wireless adapter.
18	Wireless communication from wireless adapter failed.	Yes, system will return to “Ready” after one minute.	1. Verify wiring between TrueSTEAM and the wireless adapter. 2. Verify the Prestige control is operating correctly. 3. If the fault persists, replace wireless adapter and re-enroll connection to Prestige.
Cleaning Required light is on.	Tank was slow to drain during last automatic flush cycle or 12-month cleaning interval time has expired.	N/A	Follow the tank cleaning steps. See “Manual Cleaning Cycle” on page 46.

A: Specifications

Humidifying Capacity

HM506: up to 6 gallons per day (gpd)

(23 liters per day [lpd])

HM509: up to 9 gpd (34 lpd)

HM512: up to 12 gpd (45 lpd)

Humidified Area

HM506: 4,000–14,400 cubic feet

HM509: 8,000–18,400 cubic feet

HM512: 12,000–24,000 cubic feet

Note: Higher volumes require more TrueSTEAM run time.

Weight

	Empty	Filled with Water
HM506:	8 lbs.	12 lbs.
HM509:	8 lbs.	15 lbs.
HM512:	9 lbs.	15 lbs.

Dimensions

11-1/4 in. W x 19 in. H x 9 in. D

Operating Temperature Range

- TrueSTEAM Humidifier: 34°F–104°F (1.1°C–40°C)
- Remote Hose/Nozzle: -50°F–250°F (-46°C–121°C)
- Operating Humidity Range: 0–95% RH, non-condensing

Drain Operation

- Automatic Flush Schedule: Configurable to 8, 12, 20, or 30 hours of operational time (heating element active)
- Automatic Flush Cycle Time: Flush cycle takes approximately 45 minutes to empty the tank completely
- Draining Temperature Range: 34°F–212°F (1.1°C–100°C)

Electrical Ratings and Tolerances

Input Ratings

- Power Supply: 120VAC +10-15%, 60Hz
 - HM506: 840W at 120VAC at full load
 - HM509: 1200W at 120VAC at full load
 - HM512: 1440W at 120VAC at full load
- HM506: 7A, 120VAC
- HM509: 10A, 120VAC
- HM512: 12A, 120VAC
- 15A, 120VAC interlock switch
- Thermostat/HVAC power monitor (R to C): 10mA resistive at 24VAC
- Field wiring terminals: 18–22 ga. Solid
- HVAC power/airflow monitor: 10 mA resistive at 24 VAC

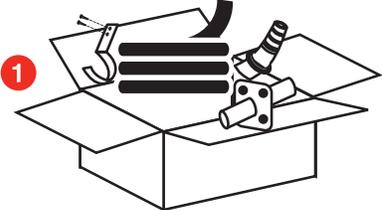
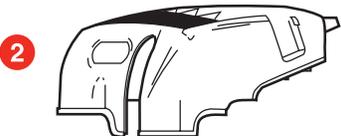
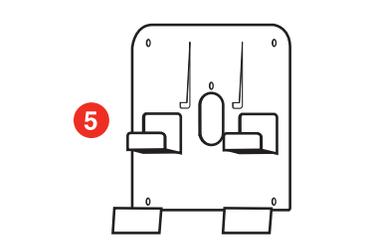
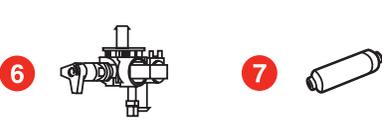
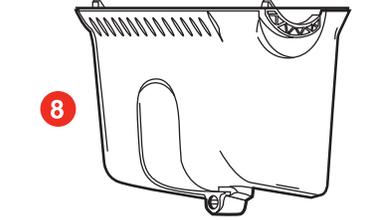
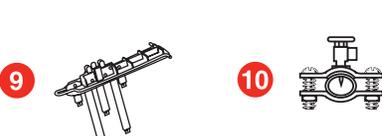
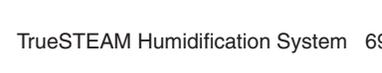
Output Ratings

- Relay output contacts:
 - Fan: 1.5A full load, 7.5A locked rotor at 24VAC
 - Heat and backup: 15A resistive at 120VAC
- Fill Solenoid: 0.1A at 120VAC, 0.5 PF
- Drain Solenoid: 0.1A at 120VAC, 0.5PF
- Humidistat output contacts: 10mA resistive at 24VAC
- Humidistat power supply: 100mA at 24VAC

Standards and Approval Body Requirements

- Underwriters Laboratories: UL998, File no. E185662
- Federal Communications Commission: Class B compliance, File no. YU555
- Intended to be used in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and the rules of the Canadian Electrical Code (CEC), Part 1, C22.1

B: Parts List

Figure Reference	Part Number	Part Description		
1	50024917-001	Remote Mounting Kit (with 10-foot hose)		
1	50024917-002	Remote Mounting Kit (with 20-foot hose)		
2	50028004-001	Cover		
3	50028003-001	Duct Nozzle		
4	50028001-001	Remote Nozzles		
5	50020012-001	Mounting Bracket		
6	50027997-001	Solenoid Valve		
7	50028044-001	Polyphosphate Filter		
8	50033181-001	HM512/HM509 Water Tank		
8	50033182-001	HM506 Water Tank		
9	50027998-001	Water Level Sensor Assembly		
10	32001616-001	Saddle Valve		
11	50027910-001	Differential Pressure Switch for Air Proving		
12	50042822-001	Water Level Sensor Assembly and Polyphosphate Filter		
-	50043683-001	Shutoff Valve and Backflow Preventer		
-	S866A1007	Sail Switch for Air Proving (optional)		
-	THX9321R5000	Prestige HD Control		
-	THM4000R1000	RedLINK Wireless Adapter		
-	C7089R1013	RedLINK Wireless Outdoor Sensor		
-	YTH9421C1010	VisionPRO IAQ		
-	DG115EZIAQ	TrueIAQ		
-	H8908ASPST	Manual Humidistat		
-	32005530-001	Ductboard Adapter Kit		
-	50045947-001	RO System with Storage Tank		
-	50045947-002	RO System with Storage Tank and Pump		
-	50046083-001	#1 Sediment Filter		
-	50046084-001	#2 RO Filter		
-	50046086-001	#1 Sediment Filter and #2 RO Filter		
-	50046089-001	#3 Staging Filter		
-	50034043-001/U	Qty. 1 Tank Sediment screen		
-	50024921-002/U	Qty. 1 TrueSTEAM handle		
-	50032048-002/U	Qty. 25 Resident Humidifier quick connect adapter		
-	50043771-001/U	Qty. 25 TrueSTEAM filter for Solenoid Valve		
-	32001647-001/U	Qty. 25 Residential Humidifier cone screen filter		
-	50044721-001	Qty. 12 water hardness test kit		
-	50051144-001	Tank gasket		

M29665

Automation and Control Solutions

Honeywell International Inc.

1985 Douglas Drive North

Golden Valley, MN 55422

<http://customer.honeywell.com>

© U.S. Registered Trademark.
© 2011 Honeywell International Inc.
69-2285—01 M.S. 07-11
Printed in U.S.A.

Honeywell