

J E M S M A R T

Potty Sniffer System Installation Guide



For Sniffer pump model PS25D-12A

Rev 1.2



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Product Specifications

Power Supply Input: 100-240VAC 50/60Hz 1.2A MAX	Pump Noise Level: 62dB @3ft with in-tank install
Power Supply Output: 12VDC 5A	Pump Pressure: ≥ 10 PSI
Pump Voltage: 12VDC (nom.) 10.8 - 13.2VDC (range)	Power Cord: 18AWG CL3 Low Voltage (speaker wire)
Pump Current (nom.): 1.6A – 2.2A	Tubing: 3/8" O.D. 1/4" I.D. Flexible Clear Vinyl
Pump Power Consumption (nom.): ≤ 30W	Airflow – 5' 3/8in tubing: 46L/min
Pump Life: 2,000+ hrs/10+ years with normal use	Airflow – 15' 3/8in tubing: 39L/min
Pump Life Test: 6 min ON/10 sec OFF (repeating)	Airflow – 30' 3/8in tubing: 36L/min
Pump IN/OUT ports: 3/8 in. diameter	Airflow – 45' 3/8in tubing: 34L/min
Pump Timer Adjustment Range: 0 – 999 min	Airflow – 60' 3/8in tubing: 33L/min

For total tubing runs longer than 60' (up to 125') use 1/2" O.D. tubing for the main tubing runs to compensate for increased airflow resistance. Use 1/2" to 3/8" reducer fittings to transition back to 3/8" O.D. tubing for Sniffer pump, air intake, or exhaust fitting connections.

For low voltage power cord runs longer than 45' (up to 80'), increase wire gage to 16AWG

FCC Part 15, Class B Digital Device Compliance Conditions

The Potty Sniffer system has been verified to comply with FCC part 15 rules for a Class B digital device under the following conditions:

- For standard 3/8" O.D., 1/4" I.D. tubing (or pipe) connections:
 - Total combined length must be 75' or less
- For extended length connections using 1/2" O.D., 3/8" I.D. tubing (or pipe):
 - Total combined length must be 125' or less
 - 3/8" O.D. tubing for air pump, air intake, and exhaust fitting connections must comprise less than 25' of the total combined length
 - Reducer fittings used to transition between different diameter tubing must be push-to-connect style fittings. Barbed or other types of connectors that reduce the minimum cross-sectional area of the air conduit must not be used.
- The toilet ventilation system must be set up properly to prevent water from being sucked into the air pump during normal operation

Failure to meet these operating conditions will cause the system to fall out of compliance with the FCC rules.

FCC Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Safety Information

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:

- Only use the Sniffer pump to transfer air. Do not use the Sniffer pump to transfer hazardous or combustible fumes or gases.
- The Sniffer pump can handle accidental water intake but is not designed for liquids. Premature failure of system components will occur if used in this manner.
- Do not expose the Sniffer pump to flammable or hazardous liquids or their vapors.
- Use only the Class II power supply provided with the Potty Sniffer system.
- Do not handle the power supply with wet hands or expose it to wetness. The power supply and Sniffer pump should be located indoors.
- Ensure that the electrical outlet and power supply adapter are not located in a position that could be exposed to wetness or flooding.
- Do not expose the Sniffer pump to an environment where large amounts of dust or large pieces of debris may be sucked into the pump.



WARNING: Use the Potty Sniffer system or any of its components only in the manner intended. If you have any questions, please contact JEMSMART customer service.



WARNING: Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards.



CAUTION: For general ventilating use only. Do not use to exhaust hazardous or explosive gases, vapors, or liquids.

How Does It Work?

Simply press the blue illuminated push button before using the toilet. The button will turn green indicating that the Sniffer pump is running and will automatically turn off after the default 6-minute runtime is complete.

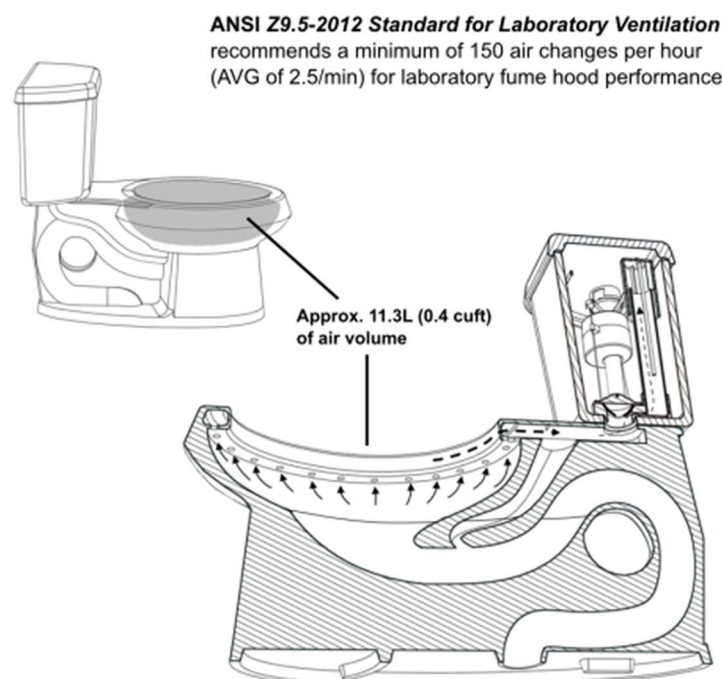
The Potty Sniffer system eliminates toilet odor by capturing it at the source before it has a chance to spread. Odor is drawn from the toilet bowl using existing toilet water flow passages, through a specially designed air intake shroud and vacuum pump, and exhausted into sanitary drainage pipes or directly outside. By capturing odor from a small, enclosed space, the amount of air needed to be removed is greatly reduced. This allows for a small “sniffer” pump, tubing, and existing sanitary pipes to be used for venting odors instead of the high air flow ventilation fan and in-wall air ducts that are normally needed. This makes installation much simpler and allows for the system to be easily installed into existing bathrooms.

Can You Really “Sniff” Away That Much Odor?

Good question! The Potty Sniffer system was designed using performance standards for laboratory fume hoods as a guideline. Laboratory fume hood enclosures require a minimum of 150 air exchanges per hour (ANSI Z9.5-2012) which is 2.5 air exchanges per minute on average. A large toilet bowl has about 11.3 litres (0.4 cubic feet) of air volume between the water surface and the upper rim of the bowl which is an enclosed space when in use. The Sniffer pump is capable of delivering 45 litres per minute (1.6 CFM) of vacuum air extraction¹ – or about 4 air exchanges per minute. In comparison, bathroom exhaust fans range from 50 CFM (1,415 L/min) to 150 CFM (4,247 L/min) depending on the size of the room. So relatively speaking, we are “sniffing” away odors when compared to a regular bathroom fan that moves hundreds of cubic feet of air to achieve the same number of exchanges to clear the air.

But to answer the question; Did you know the lung capacity of an average person is 6 liters? So YES, you literally could sniff away that toilet bowl odor, but why would you when... the Potty Sniffer does the sniffing so you don't have to!!!

1: Airflow with standard 15' length 3/8" O.D. tubing.



Potty Sniffer Kit Contents

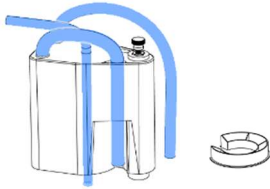
A standard Potty Sniffer kit will contain the following items and is for the customer who wants to be prepared for every air exhaust option in case it's needed.

Custom kits with only items you determine are required for your install are available at www.pottysniffer.com

PS25D-12A Sniffer pump



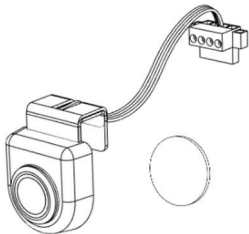
Intake manifold assembly
(STANDARD with optional centering ring)



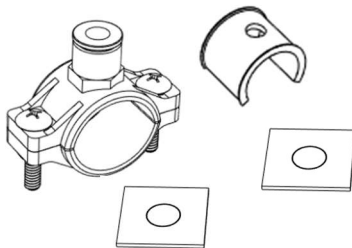
AC/DC power supply
with 5' cord length



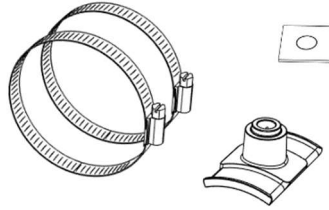
Illuminated LED push button
with optional dbl. sided adhesive mount



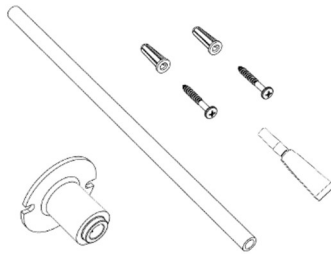
Sink drain connection kit
with 1-1/4" dia. pipe spacer



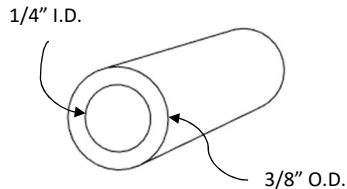
Sanitary drainpipe connection kit



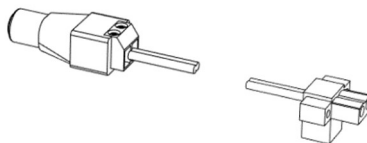
Through wall connection kit



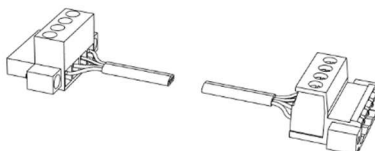
3/8" O.D. Flexible PVC Tubing – 15'



18AWG Power Cable – 15'
with DC screw terminal jack and 2-port connector

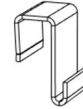


Switch Cable Extension – 15'
with 4-port connectors

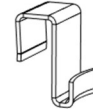


Installation parts kit items:

(2pcs) Sniffer pump clip – FLAT



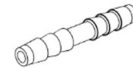
(2pcs) Sniffer pump clip – ROUND



(2pcs) Tank cover spacer



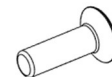
(1pc) 3/16" ID x 3/16" ID hose barb



(1pc) 3/8" Push-to-connect clip



(1pc) 3/8" Push-to-connect plug



(5pcs) 4" Cable tie



(5pcs) 3/4" Cable tie mount sticker



(1pc) Potty Sniffer instruction sticker



Installation Requirements

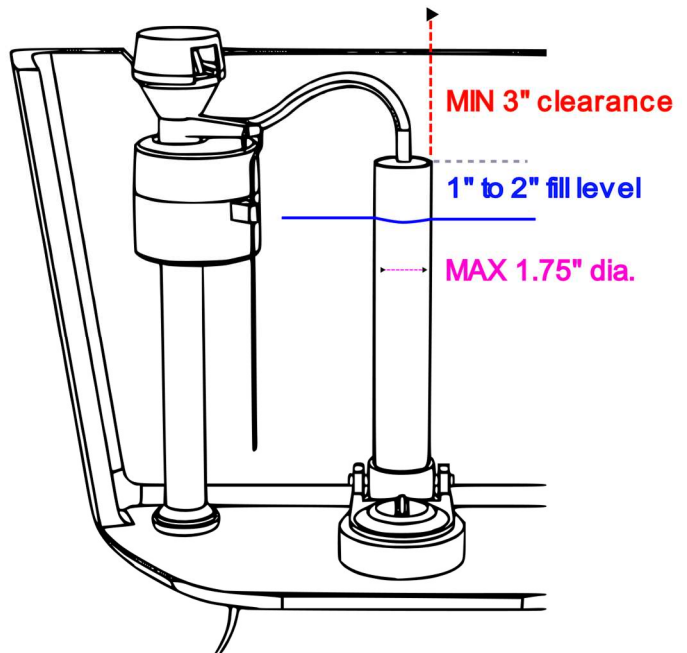
General Requirements

- The Sniffer pump requires a 6-1/4" x 3-1/2" clearance space within the toilet tank for an in-tank installation.
- A compact fill valve assembly is generally required for in-tank Sniffer pump installation. Floating bulb style fill valves do not usually have enough space for an in-tank pump install.
- The Sniffer pump may also be installed remotely outside of the toilet tank.
- Access to a 120VAC outlet, which can be remotely positioned.
- Access to an exhaust point: sink drain pipe (up to 1-1/2") OR sanitary drain pipe (2" to 4") OR outside building wall.

For Standard Overflow Pipe Flush Valve Toilets

- Tank water fill level set to between 1" to 2" below top of overflow pipe
- MIN 3" clearance from top of overflow pipe to underside of tank lid
- MAX 1.75" overflow pipe outer diameter at top inlet

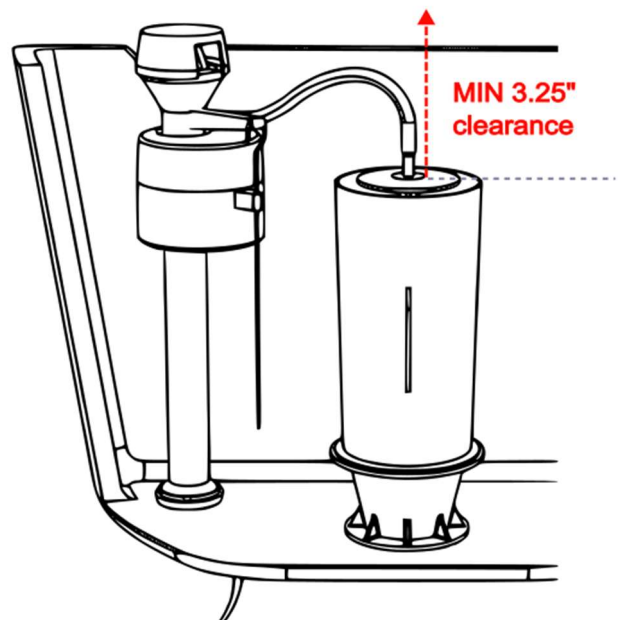
Compact fill valves are available to replace older style floating bulb fill valves at your local home improvement store.



For Canister Flush Valve (KOHLER) Toilets

- MIN 3.75" clearance from top of locking disk to underside of tank lid
- Fits Kohler AquaPiston style (yellow) locking disk equipped flush valves with refill tubing barb connector

KOHLER repair kit #GP1229656 can be installed to replace older (black) locking disks with refill tubing socket with the AquaPiston locking disk. Available at most large home improvement stores.



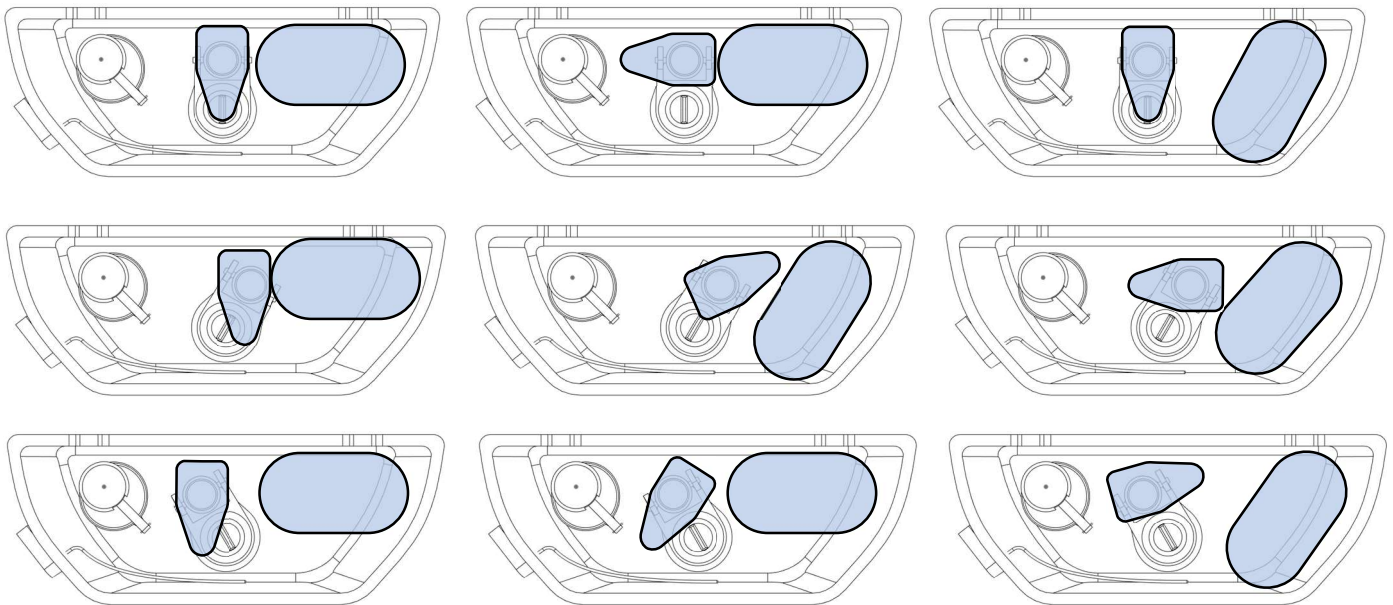
Before Beginning Installation

- Confirm that there is enough space for an in-tank installation of the Sniffer pump and intake shroud.
- If needed, adjust the water fill level of the tank to between 1" to 2" from the top of the overflow pipe
- Determine which exhaust method will be used
- Confirm 120VAC power outlet is available

Sniffer Pump and Intake Manifold Fitment

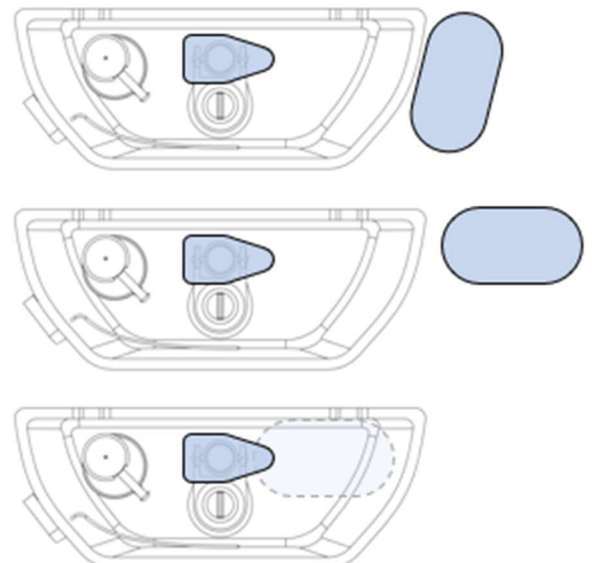
The Sniffer pump and intake manifold should be installed in the tank in the manner that best fits and does not interfere with the normal function of the fill valve float, flush lever, and flapper valve.

- The Sniffer pump can be installed with only a single hanger clip if needed
- The Sniffer pump may partially float due to the water level in the tank. This is normal and the clips will hold the pump in position until the toilet tank cover is put back on.
- The intake manifold lower centering ring may be removed to allow for the manifold to be shifted laterally for better fitment.



The Sniffer pump may also be mounted externally on the outside of the toilet tank, underneath, or on an adjacent wall if there is not enough space available for the pump internally. The mounting location will need to be within reach of the illuminated button switch control cable (standard length is 16", longer options available).

Also consider remote locating the Sniffer pump as an option (see the "Remote Sniffer Pump Installation" section).



Required Skills

Some DIY home improvement skill will be required to install a Potty Sniffer kit.

For simple installs where access to an existing electrical outlet is available you will only need to know how to use small tools and a hand drill to complete. An example of a simple install is a first floor bathroom directly above an unfinished basement with a nearby outlet or lamp holder fixture that can be converted to one with an outlet. In this case, a single 1/2" hole through the floor directly behind the base of the toilet bowl is all that is needed for the exhaust tubing and power cable pass-through.

Installations that require tubing and wire to be routed in-wall or for a new electrical outlet to be installed will require basic electrician skills to complete.

If you do not have the necessary knowledge and experience, we recommend hiring a qualified electrician (or contractor) to complete the install.

Basic Install Tools Needed

- Portable drill/driver
- 3/8" drill bit
- Flathead screwdriver
- Utility knife - for cutting excess flexible tubing and PEX tubing
- Mini flathead screwdriver (<3mm flat) – for screw terminal connectors

Special Tools That May Be Needed Depending On Install

- 1/2" drill bit - for tubing + wire routing
- Wire stripper/cutter (including 18 – 26 AWG range)
- Fishing tape
- Electrical tape - for fastening tubing + wire ends for pulling
- 1" spade bit - for boring holes through wooden studs or drywall
- 3/8" installer drill bit - for through wall holes
- 1/4" drill bit - for wall anchor holes
- Phillips screwdriver

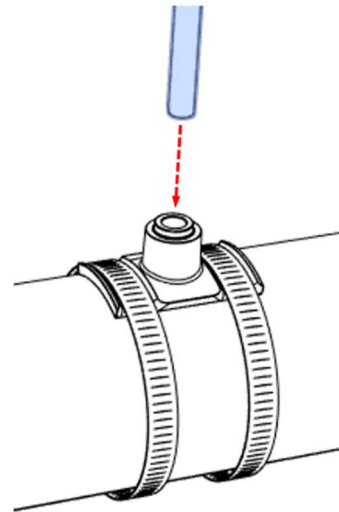
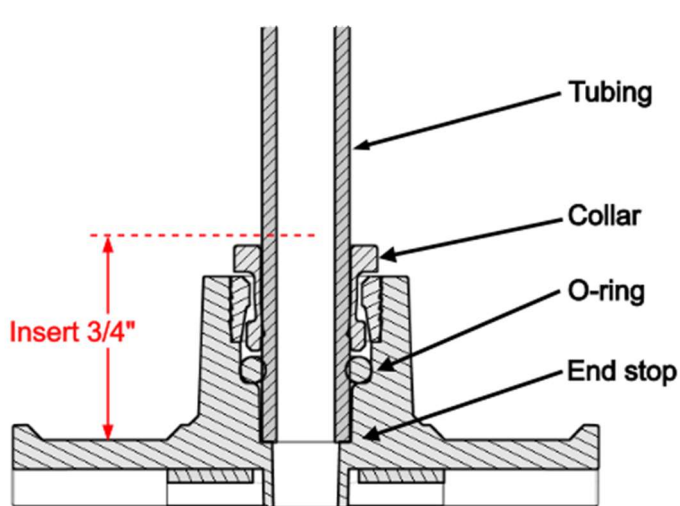
Push-To-Connect Tube Fittings - Insertion And Removal

To INSERT tubing into a push-to-connect port:

1. Push tubing firmly into the port until it “snaps” to the bottom of the hole – approximately 3/4” insertion. You should feel the tube push through the internal o-ring seal.
 - If unsure, mark the tubing 3/4” from the end prior to insertion.
 - When properly inserted, there should be no air or vacuum leaks at the connector
2. After insertion, pull upward on the tube to ensure it is locked in position.
3. Install the retainer clip to reduce the risk of accidental loosening of the collar.
4. If the tubing will not insert fully into the port, lubricate the tip of the tubing with cooking oil and retry.

To REMOVE tubing from a push-to-connect port:

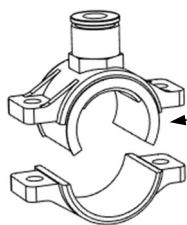
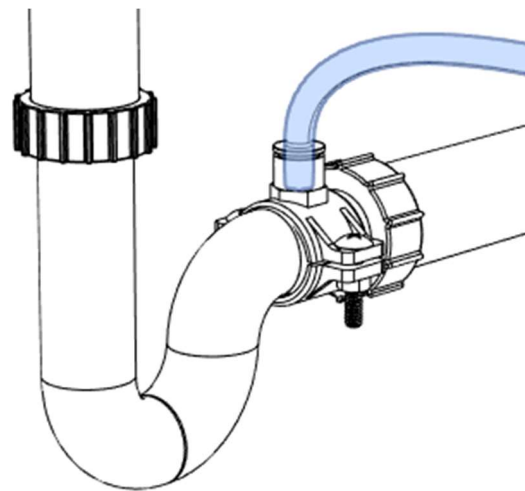
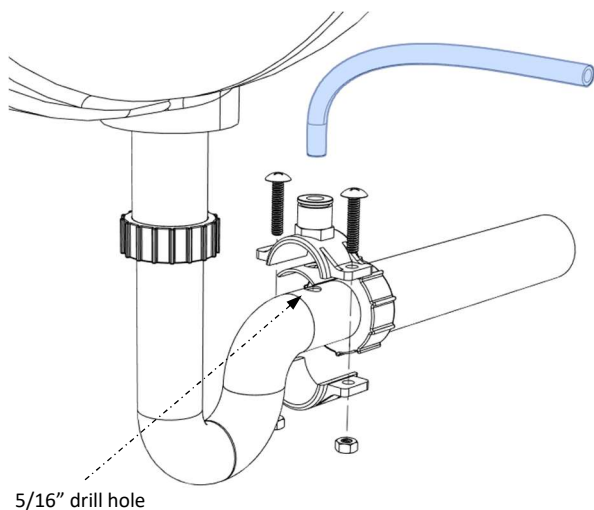
1. If present, remove any retaining clips from under the collar of the connector
2. While pushing down on the collar ring, hold the tube firmly near connector and pull it out of the port



Installation – Exhaust Line Hookup

Option 1 – Sink Drain Exhaust Vent Saddle Kit (1-1/4" to 1-1/2" pipe)

1. Select a location for the saddle kit that is downstream of the P-trap and before the fitting that connects the drain to the main sanitary plumbing pipe
2. Dry fit the vent saddle so that the tubing port is pointed upward on the top half of the pipe and mark the position for the vent hole. Confirm there will be enough clearance for the tubing and 3/8" drill motor as part of the dry fit. If needed, the sink drain pipe being modified may be removed from the drain assembly for easier access.
3. Drill a 3/8" diameter hole at the marked location
4. Apply the rubber gasket sticker to the underside of the upper saddle with the gasket hole aligned with the hole in the fitting
5. Position the upper vent saddle over the hole. Insert a 5/16" drill bit or pencil into the hole to keep the fitting aligned during final assembly
6. Insert (2) nuts into the nut cavities in the lower vent saddle piece and assemble to the upper saddle using the (2) screws. Tighten screws in an alternating pattern until the saddle is fully clamped onto the drain pipe.
7. Remove drill bit/pencil guide



Add saddle spacer for smaller 1-1/4" diameter drainpipes

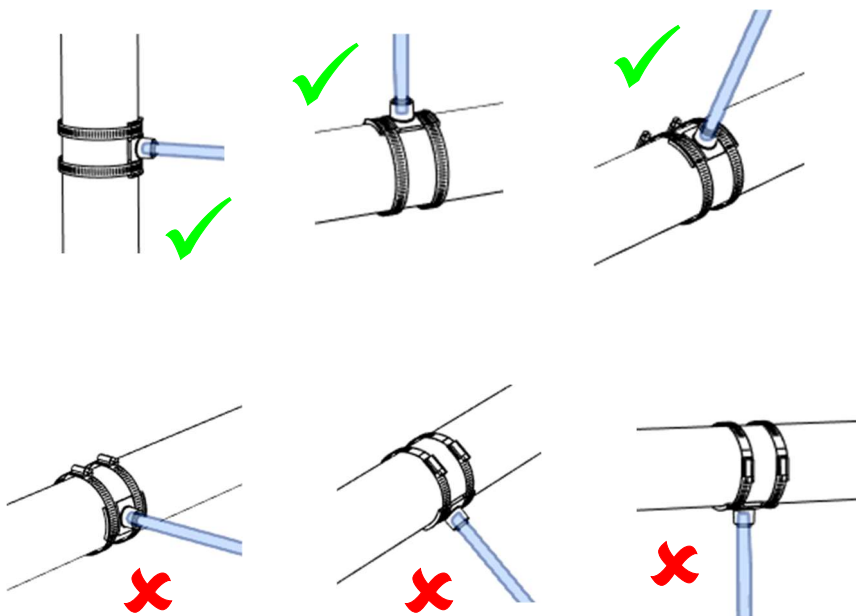
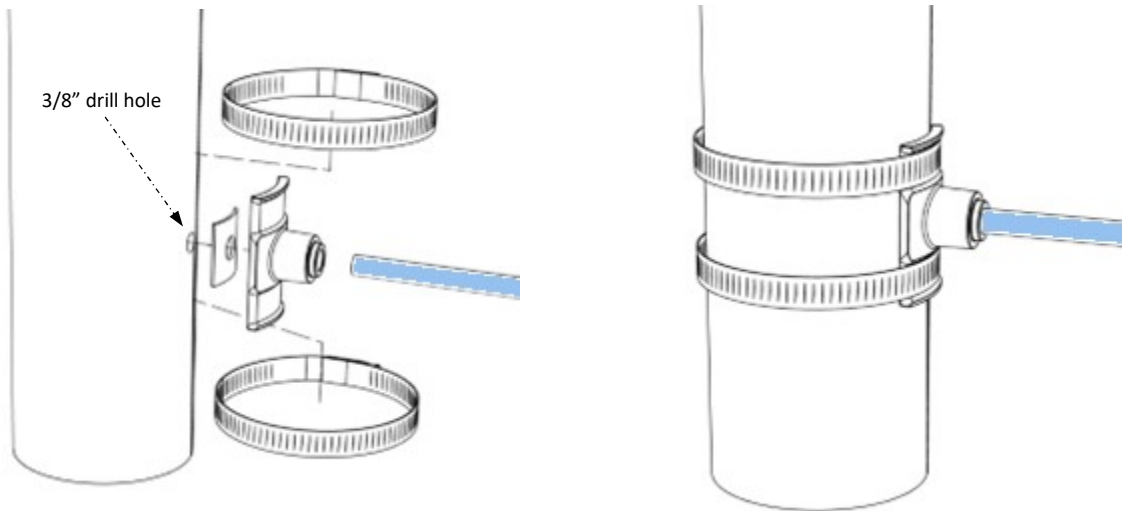
Apply adhesive backed gasket sticker to underside of upper fittings before assembly



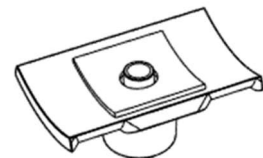
Option 2 – Sanitary Drain Pipe Exhaust Vent Saddle Kit (2" to 3" pipe)

The

1. Select a location for the saddle kit that is on a straight section of pipe and not a fitting.
2. Dry fit the vent saddle and mark the position for the vent hole. For a horizontal pipe location, orient the saddle so that the tubing port is pointed upward on the top half of the pipe. Confirm there will be enough clearance for the tubing and 3/8" drill motor as part of the dry fit.
3. Drill a 3/8" diameter hole at the marked location
4. Apply the rubber gasket sticker to the underside of the vent saddle with the gasket hole fitted on the hole alignment guide pin.
5. Position the vent saddle over the hole using the alignment guide pin.
6. Use (2) hose clamps to fasten the vent saddle fitting in place. Tighten screws in an alternating pattern until the saddle is fully clamped onto the drain pipe.



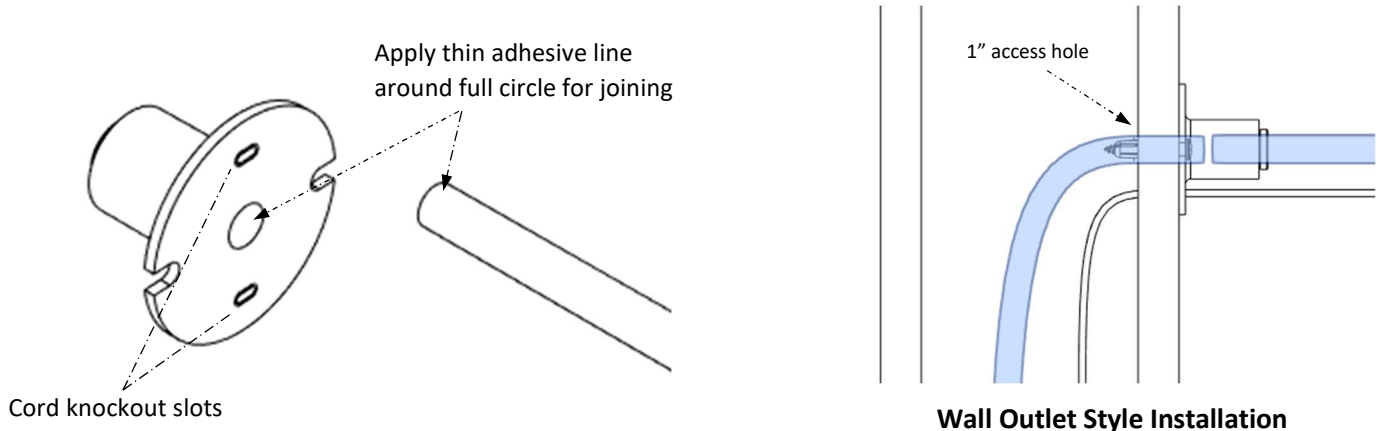
Apply adhesive backed gasket sticker to underside of fitting before assembly



Option 3 – Through Wall Exhaust Fitting (Up to 10” thick)

The through wall exhaust kit is supplied with a flanged end stop fitting with push-to-connect tubing port and 10” length 3/8” O.D. (1/4” I.D.) PEX pipe section that will cover most installations.

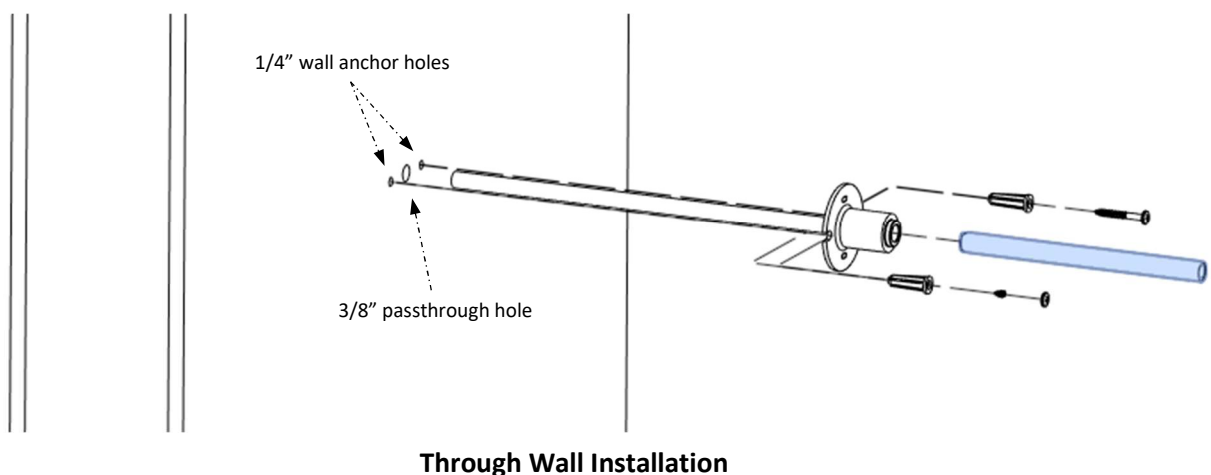
The flanged end stop fitting may also be connected directly to 3/8” O.D. tubing and used as a wall outlet receptacle style fitting. Knockout ports are provided on the flange that can be used for low voltage power cord or button switch control cord. Use a 1” access hole for tubing and cable passthrough.



Cyanoacrylate (super glue) adhesive is included with the connection kit to allow for both connection methods. Verify fitment prior to assembly. Apply adhesive to the flanged end stop socket and on the outside of the pipe or tubing before assembly.

For through wall applications:

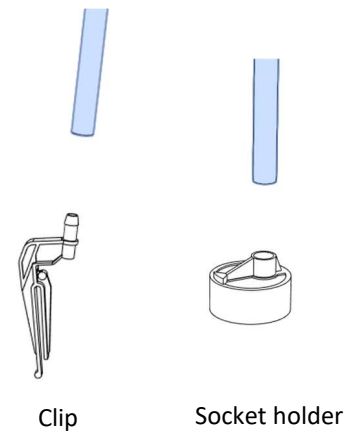
1. Select a suitable location for the Flanged End Stop fitting that is on an outside exterior wall.
2. Drill a 3/8” diameter straight access hole through the wall section using extended length drill bit(s) and drilling tools. Adjust your hole drilling method and approach to accommodate brick, concrete, or other hard building materials. Ensure that no electrical wires, water lines, sanitary pipe, etc. are at risk.
3. Insert the pipe section of the Flanged End Stop fitting into the hole. If necessary, widen the hole slightly for easier insertion.
4. Measure the actual depth of the hole. Trim the pipe extension of the fitting to match the depth of the hole + 3/8” (suggested minimum). The pipe may also be trimmed after installation.
5. Use the supplied wall anchors and screws to fasten the Flanged End Stop fitting in position
6. Apply caulking around the base of the pipe where it extends from the exterior wall.



Installation – Toilet Tank Components

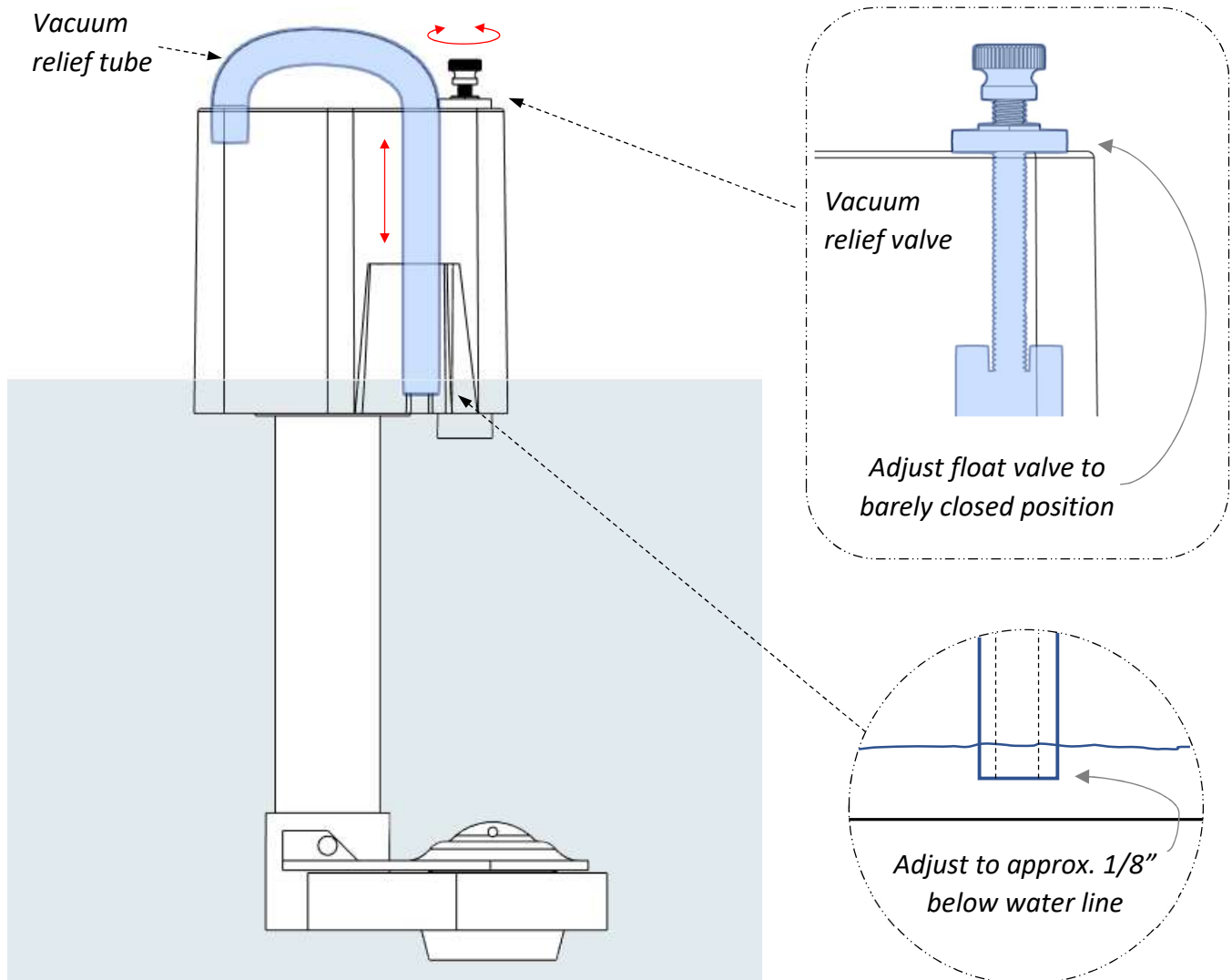
1. Turn OFF the water supply to the toilet.
2. Remove the refill tube from the top of the overflow pipe. The tube will often be attached to a clip or socket holder. The clip or socket holder are typically removable from the top of the overflow pipe.

To remove the tubing, a knife blade or flat head screwdriver may be used to pry the end of the tube away from the hose barb or tube socket.



3. Temporarily mount the air intake shroud onto the overflow pipe and perform an initial setting of the vacuum relief tube and valve.
 - To adjust vacuum relief tube: Slide tube upward or downward inside its retaining pocket
 - To adjust vacuum relief valve: Hold valve cover/nut stationary while turning thumbscrew

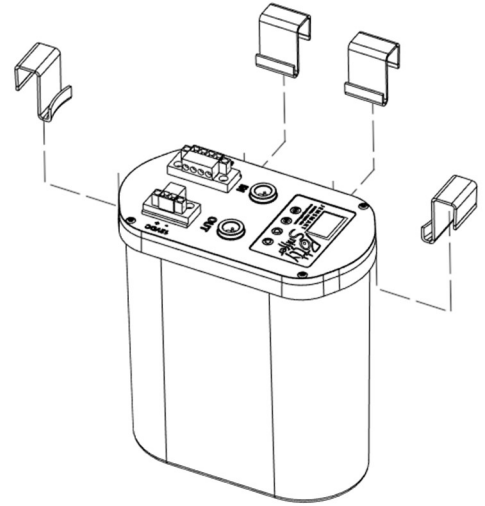
After adjustment, remove the manifold and proceed to the next step.



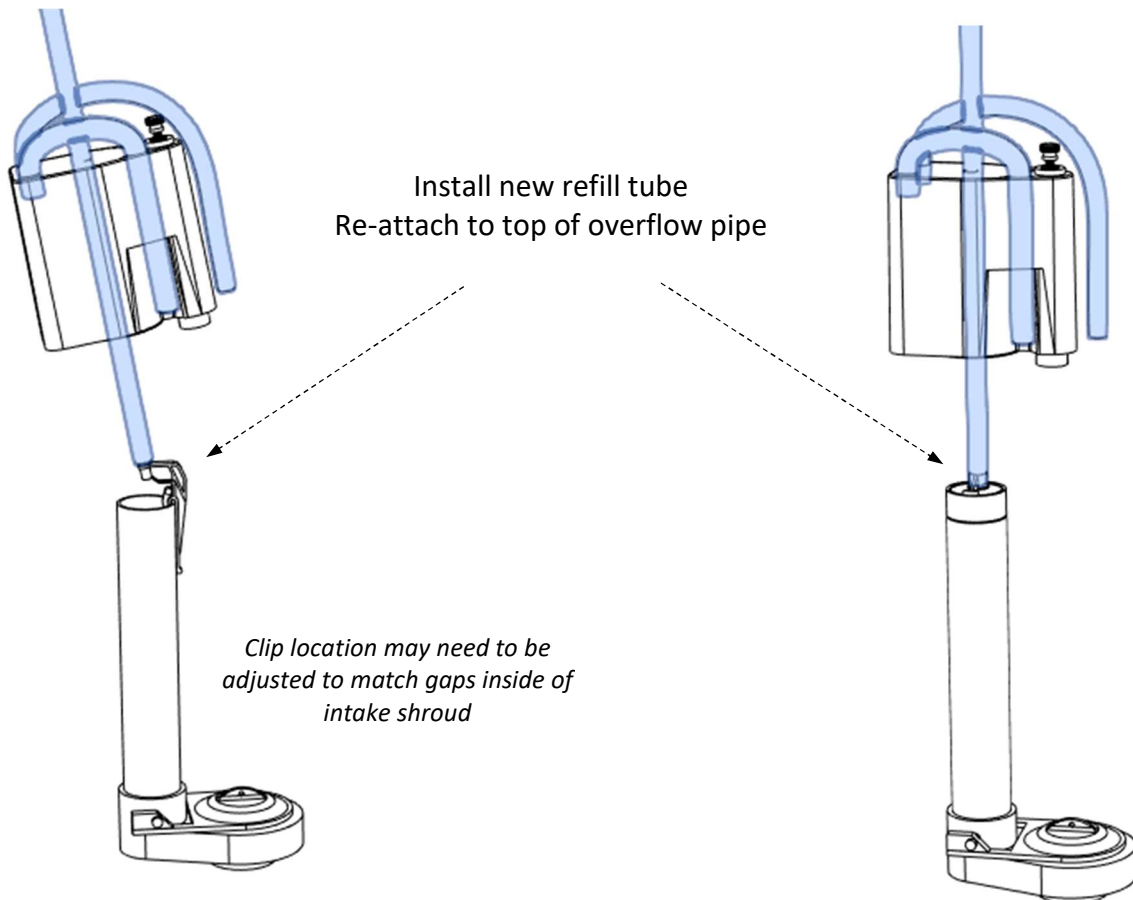
4. Hang the Sniffer pump on the inside of the tank wall using the appropriate mounting clips.

Use two clips if possible, but if only a single clip can be used this is also acceptable.

NOTE: The pump may float slightly if it is partially submerged, but this is OK. It will be positioned more securely once hoses are attached and the toilet tank lid is closed.



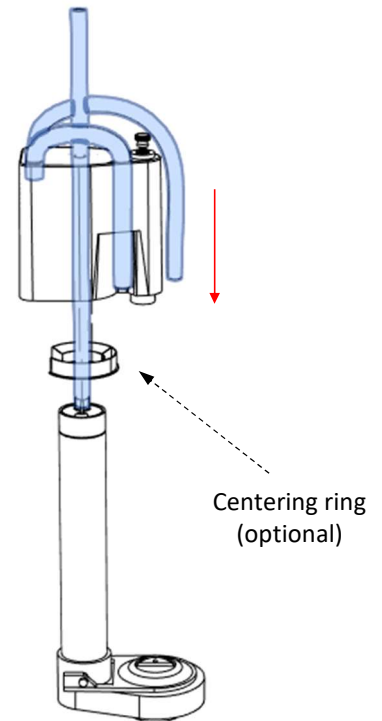
5. Install the new refill tube included with the intake manifold assembly onto the original clip or socket holder and re-attach to the top of the overflow pipe.



6. Slide the intake shroud down the refill tube and onto the overflow pipe and set the orientation of the shroud for best fit.

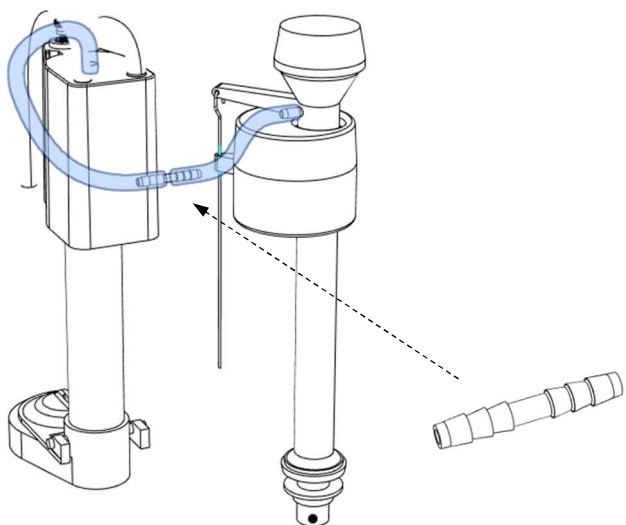
The shroud may be shifted off center and rotated to fit in the available tank space. Position the shroud to avoid interfering with the fill valve, flush lever, flapper, or other moving parts.

The centering ring (optional) may be installed if needed for better fitment with a small diameter overflow pipe.

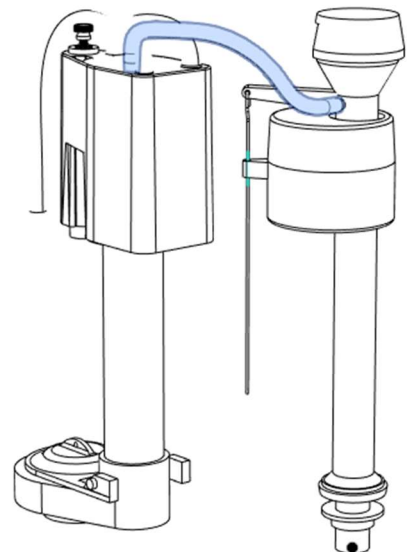


7. Use the 3/16" barb connector to join the new refill tube to the original refill tube to complete the connection. Excess tubing may be trimmed before connection or stowed (out of the way) behind the intake shroud and pump.

The new refill tube may also be connected directly to the fill valve refill tube outlet if the original tube can be easily removed.



Hose barb connection

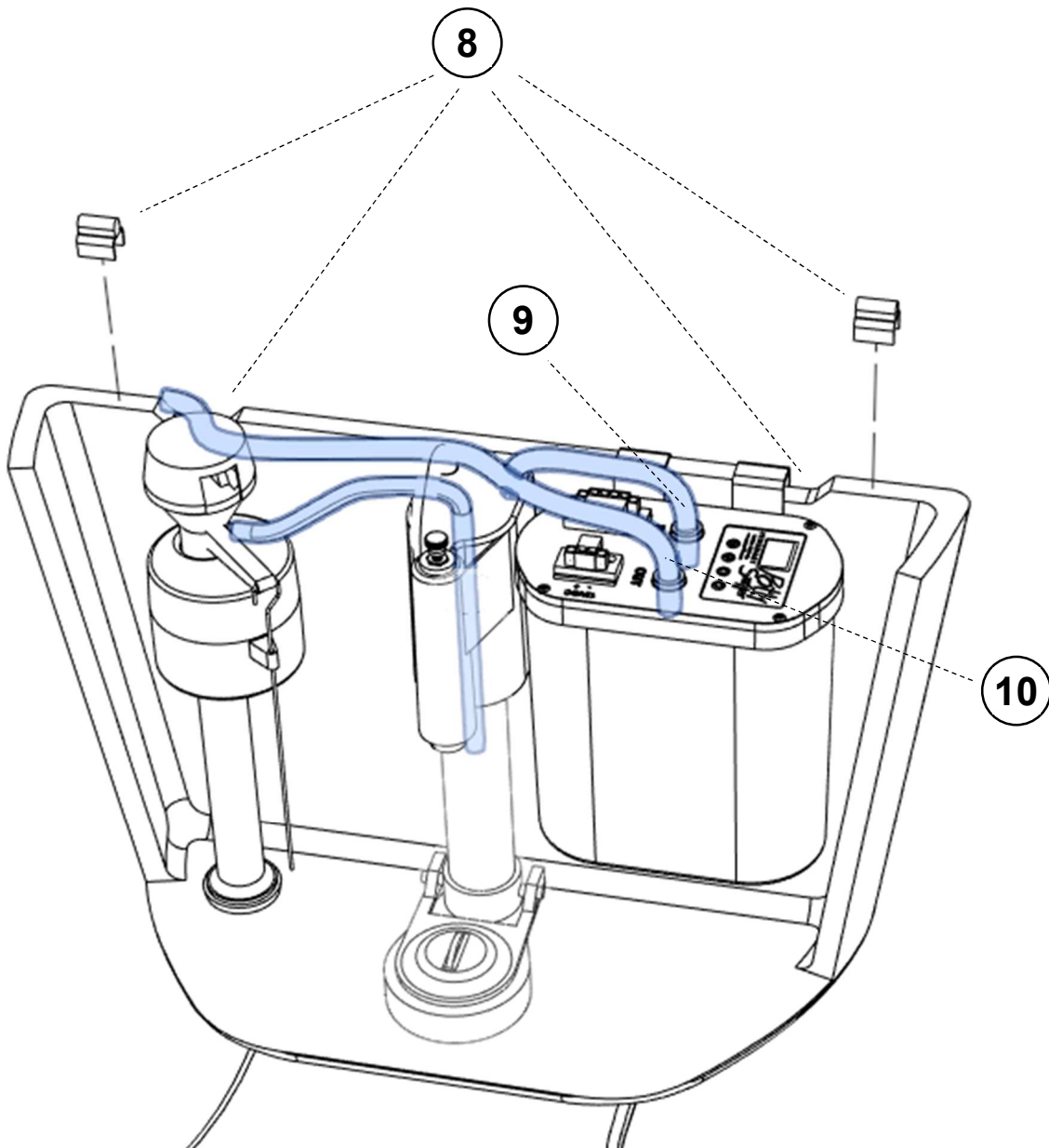


Direct connection

8. Route air exhaust tubing and any cables into the tank through toilet tank air vent cutouts where available.

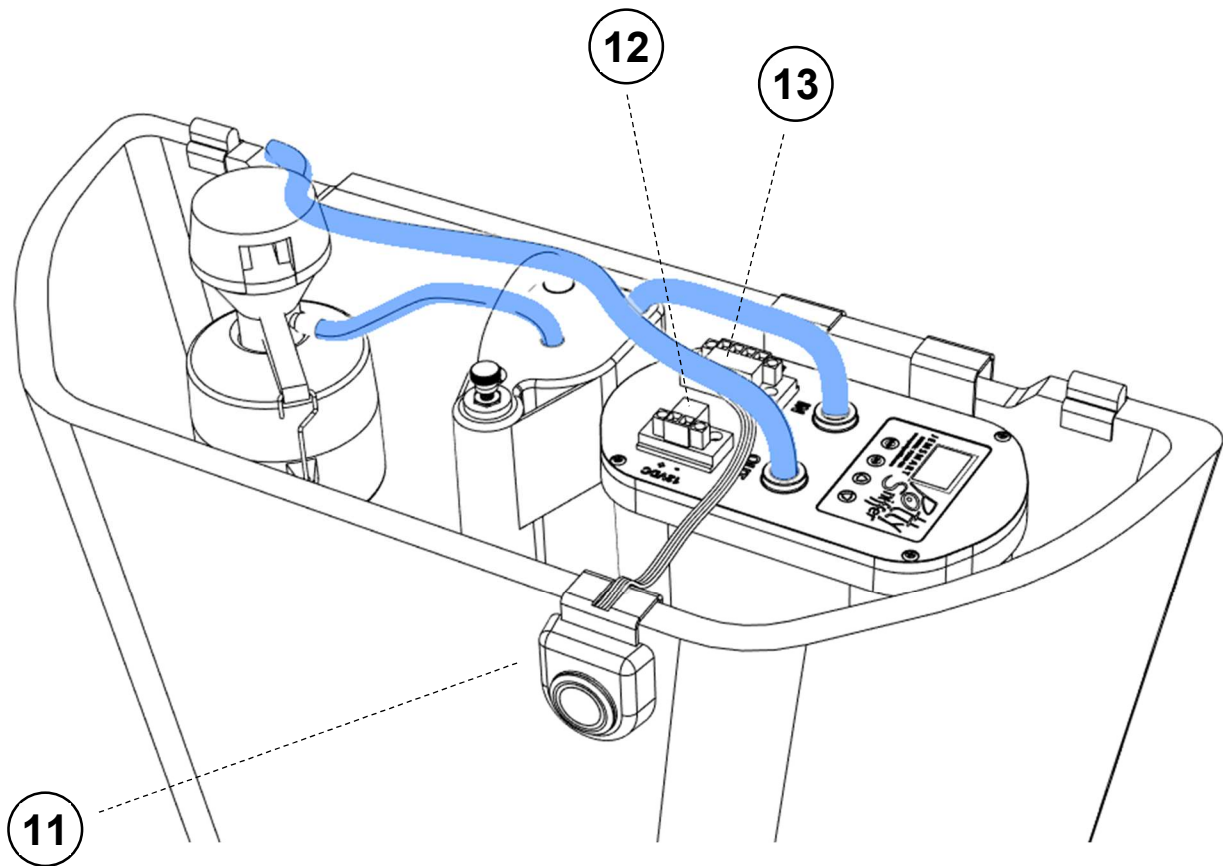
If tank cutouts are not available, install tank cover spacers to provide a passthrough gap.

9. Insert the 3/8" air intake tube coming from the air intake shroud into the Sniffer pump air IN port
10. Insert the 3/8" exhaust tube into the Sniffer pump air OUT port



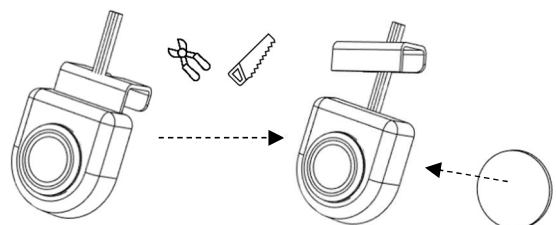
11. Mount the Push Button onto the rim of the toilet tank at the desired position. If the button hanger does not fit the toilet tank the pushbutton may be modified for adhesive mounting
12. Complete the 12VDC power connection from the power adapter to the 2-position main power connector.
13. Plug in the electrical connectors for the button switch and main power into their respective outlets on the Sniffer pump unit.
14. Ensure installed cables and tubing do not interfere with any toilet tank or intake shroud moving parts.
15. Plug in the 120VAC wall adapter. System will power ON.
16. Press the button switch to confirm that the pump will start.
Press button again to stop the pump.
17. Turn ON the water supply to the toilet

Proceed to the next section: *Installation – Vacuum Relief Adjustment*



BUTTON ADHESIVE MOUNTING MODIFICATION

Use wire cutters or saw blade to trim off hanger bracket.
Apply double sided adhesive sticker to the back of the button.

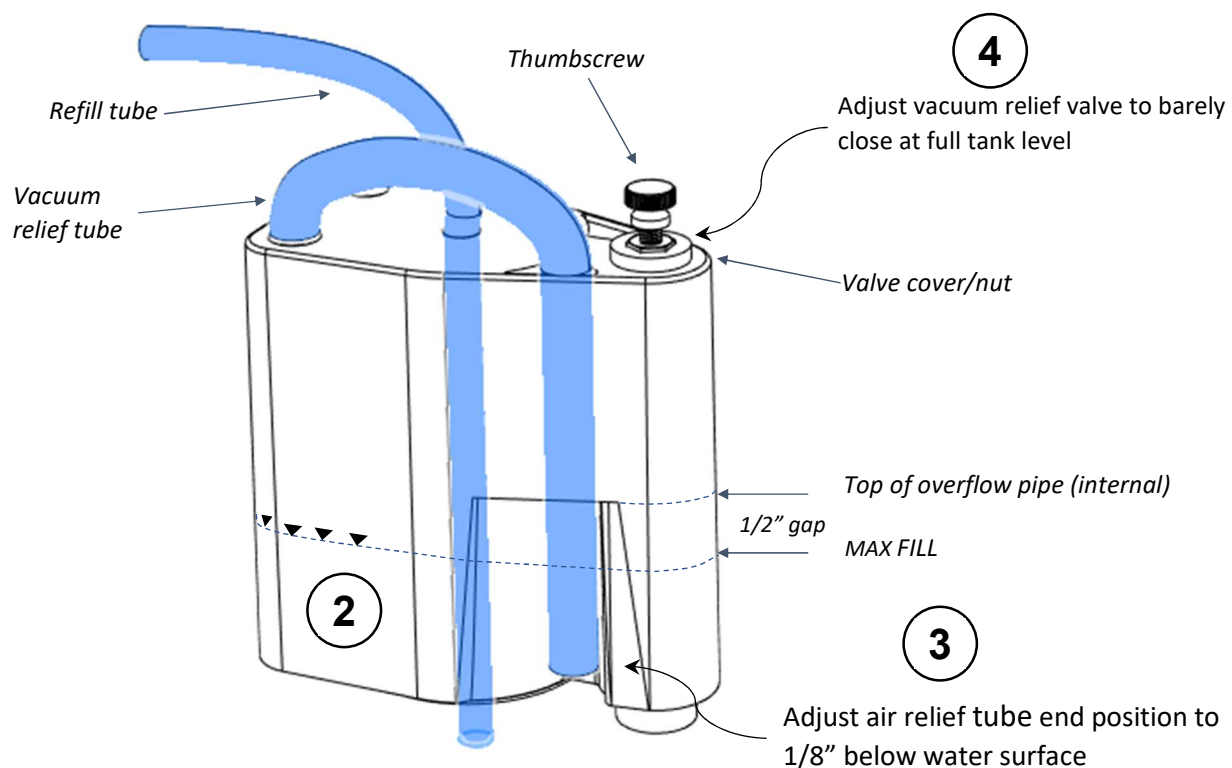


Installation – Vacuum Relief Adjustment

NOTE: During adjustment, water may be accidentally sucked into the Sniffer pump and sent through the exhaust line. Do not worry – the pump will not be damaged by water intake and will generate enough pressure to clear the tubing lines.

1. With the Sniffer pump OFF, flush the toilet and allow the water level to reach its normal tank fill level
2. Verify that the water level is below the MAX LEVEL line of the Intake Shroud but still high enough to enclose the open bottom of the shroud.
3. Adjust the position of the 7/16" vacuum relief tube so that the open end of the tube is slightly submerged below the water line
4. While holding the vacuum relief float valve cover/nut stationary, adjust the position of the valve cover by turning the thumbscrew clockwise or counterclockwise until the valve cover is barely contacting the top surface of the Intake Shroud.
5. With the Sniffer pump ON, flush the toilet and observe the operation of the Intake Shroud as the water level reaches the bottom of the shroud assembly.

If adjusted properly, the water will continue to rise without any issues until the tank fill is completed. There may also be some minor water suction through the vacuum relief tube and the vacuum relief valve cover may open as the toilet tank reaches its final fill level. The vacuum relief valve will close again once the tank fill is completed or after the Sniffer pump shuts OFF.



- IF water is being sucked into Sniffer pump → turn the adjustment screw clockwise (2) rotations and re-test
- IF water is being sucked into the intake shroud and draining out through the overflow pipe, so the tank never stops refilling → turn the adjustment screw clockwise (2) rotations and re-test
- IF after adjustments the vacuum relief valve will not close after the Sniffer pump shuts OFF → turn the adjustment screw counterclockwise to set the valve cover to barely closing and re-test

If adjustments don't seem to be working, try making the following changes in order of priority and repeat the adjustment procedure starting from step 3

- Reduce the fill level of the tank so that it stops closer to the bottom of the intake shroud
- Reduce the rate of water flowing through the refill tube by adjusting the water shutoff valve. If the fill valve has an adjustment for refill flow rate, adjust this instead.

Installation – Main Power

WARNING: When hooking up new electrical outlets, if you are unfamiliar with local electrical codes or do not have sufficient knowledge or experience to perform the required work, enlist the help of a qualified electrician.

A GFCI protected outlet is recommended if it is located in close proximity to water and is at risk of exposure.

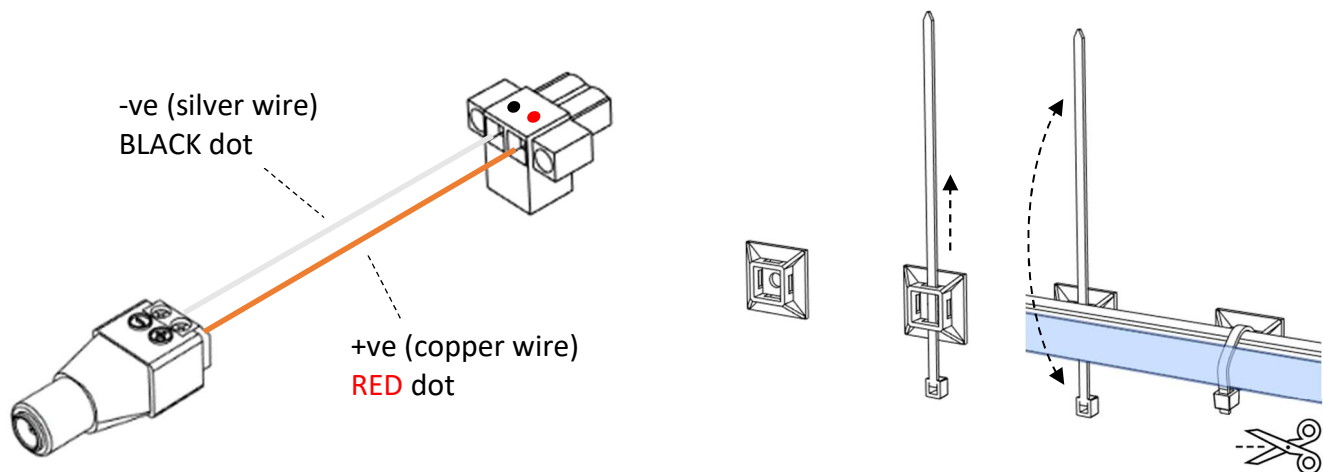
The Potty Sniffer system uses an 120VAC to 12VDC adapter for a low voltage power to greatly reduce the risk of electrical shock. The outlet may be located remotely up to 45ft away using 18AWG speaker cable without experiencing significant performance degradation due to voltage loss.

1. Route the power cable from the toilet to the intended electrical outlet
2. Using the supplied 18AWG power cable, separate and strip the cable ends and complete connections to the + and - terminals of the power adapter. (Use the copper-colored wire for the +ve terminal and silver-colored wire for -ve terminal)

NOTE: For connectors not marked with + or – symbols, RED color coding will indicate +ve terminals and BLACK color coding will indicate -ve terminals.

3. Use the supplied zip ties and adhesive backed zip tie mounts to secure cables and tubing along exposed portions of the routing.

For power cable runs longer than 45', increase to 16AWG wire



Apply sticker, insert zip tie, wrap bundle, and trim

Timer Mode Setup

For normal ON-OFF operation using the push button the Sniffer pump is set to the following factory defaults:

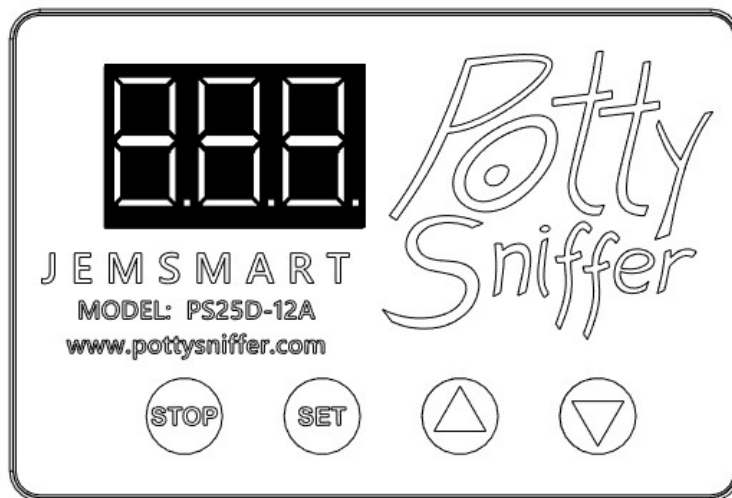
Operating Mode: 1.3 – Timer START/STOP with button switch press

Delay Time: 360 seconds (6 mins)

Sleep Mode: Enabled

TO DISABLE PUMP OPERATION: Pressing the STOP button will toggle the Sniffer pump between ON and OFF mode. In OFF mode, when triggered the timer program will run but the pump will not run.

TO ENABLE SLEEP MODE: Sleep mode will turn off the LCD display after 5 minutes of inactivity. Press and hold the STOP button for 2 seconds to toggle between C-P sleep mode and O-d normal mode.



To modify the settings:

- Press and hold the SETUP button for 2 seconds.
- Press UP and DOWN arrows to toggle between operating modes (default is 1.3)
- Press the SETUP button again to move to the next setting – OP time
- Press UP and DOWN arrows to change the OP time value
 - Press STOP button to toggle between time units:
 - Seconds: 000. → 0 to 999 seconds
 - Milliseconds: 00.0 → 0 to 99.9 seconds
 - Minutes: 0.0.0. → 0 to 999 minutes
- (In other operating modes) pressing SETUP button again will move to the next value setting
- Press and hold the SETUP button for 2 seconds to finalize the changes

NORMAL OPERATION:

The PS25D-12A pump is designed for intermittent operation and not for continuous running.

We recommend a maximum timer setting of 15 minutes for pump running time and operating to a 50% duty cycle rating. Regularly exceeding these values will reduce the life expectancy of the air pump motors.

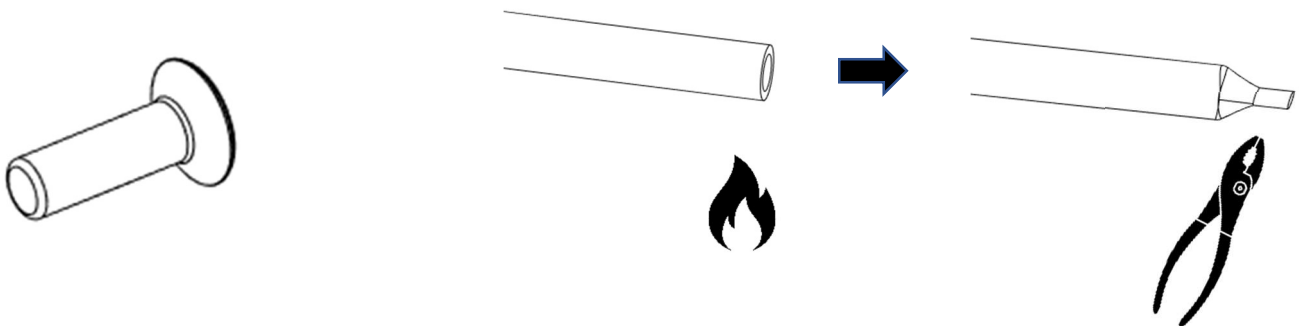
Other available operating modes:

- P1.1 START only, no stopping op timer after button press
- P1.2 START-RESTART. Pushing button after initial start restarts the op timer, no stopping.
- P1.3 START-STOP (default). Pushing button stops and starts the pump and restarts the op timer
- P-2 DELAYED START. Pushing button triggers wait time before start of main op timer.
No stopping cycle after initial trigger.
Set CL value in settings to define the wait time
- P3.1 REPEAT w/TRIGGER. Pushing button starts and stops continuous repeat cycle.
Set OP time for time ON
Set CL time for wait time OFF
Set LOP value for 1 to 999 for the number of times to repeat, or --- for never ending
- P3.2 REPEAT w/MAIN POWER. Same as 3.1, except starts with main power being connected.
Pushbutton has no effect on operation
- P-4 START-HOLD. Same as 1.1 except timing will start only after push button is released

Air Exhaust Port Plug

Use the included push-to-connect port plug to close off the exhaust port either temporarily or permanently.

In case you do not have a port plug available, a short piece of 3/8" tubing or PEX pipe may be modified into a plug by melting one end with a flame and pinching it shut with pliers.



Remote Sniffer Pump Installation

The Potty Sniffer pump can be easily installed remotely outside of the toilet tank. This may be required if there is insufficient space inside of the tank for the Sniffer pump, for easier access to an electrical outlet, or if a silent Potty Sniffer installation is preferred. A switch cable extension with screw terminal connectors and 15' length of 4-conductor flat modular cable is included with all standard Potty Sniffer kits with longer lengths available as an add-on option (up to 105')



The Sniffer pump has been verified to function acceptably with 60' length 3/8" O.D. tubing run and is capable of pumping water (in case of accidental suction) with 15' head height.

For tubing runs longer than 60' (up to 125'), use larger diameter 1/2" O.D. (with 3/8" I.D.) tubing for the main run and 1/2" to 3/8" reducer fittings to transition back to 3/8" tubing for Potty Sniffer system connections. Polyethylene or PEX tubing may also be used for the larger diameter tubing runs between system connections.



NOTE: Do not use push-to-connect or any non-permanent connection methods on any portion of a tubing run that cannot be easily accessed after installation. In-wall portions of tubing runs be of continuous length and utilize engineered connections that are meant to be permanent.

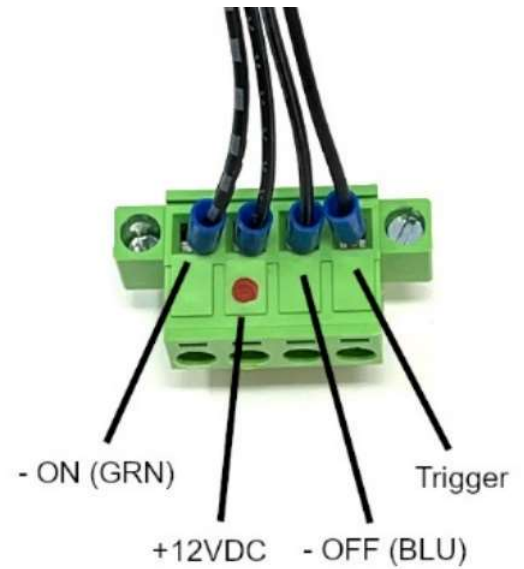
Push Button Switch Cable Extension

4-conductor AWG 26 cable RJ11 telephone cable may be used to extend the push button control cable for remote Sniffer pump installation.

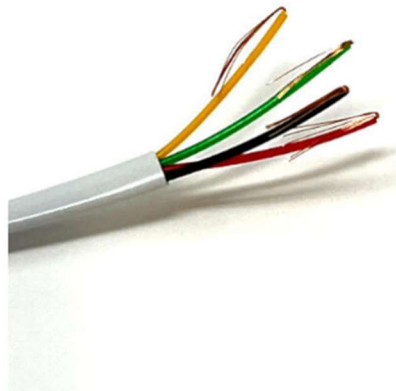
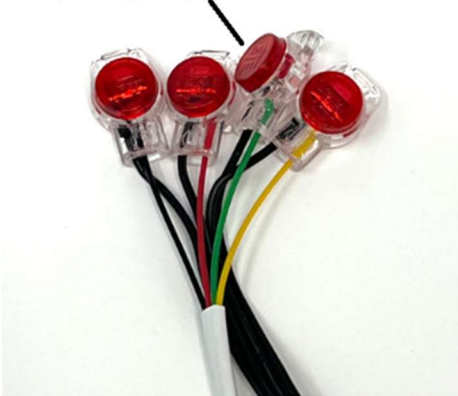
Before modifying the button switch assembly, note the switch wire markings and which terminal position each goes to. Map the switch wires to the colored wires of the extension cable. The red dot represents the +12VDC power wire position.

Use telephone wire splice connectors to join the switch cable to the extension cable. Ensure the cable is disconnected from pump power while completing the splice joints, otherwise "micro" shorting with thin AWG 26 wire will result in a bad connection.

For a stronger grip, strip the extension cable wires 1/4" and fold them back over the conductor jacket before securing them to the screw terminal connector.



Compress red cap to clamp blade and complete splice joint



Troubleshooting

For problems that cannot be resolved through normal troubleshooting contact JEMSMART for technical support, replacement parts, or aftermarket service.

For problems that require the pump casing to be opened while still under warranty, contact JEMSMART customer service for assistance.

PROBLEM	CAUSE	SOLUTION
Sniffer pump digital display not turning ON	+ve and -ve terminals are reversed	Reverse wires on one of the power cord connectors and retry.
	Loose wire connection	Check screw terminal connections for loose wires OR wires on the wrong side of the screw terminal clamping block.
	Short circuit in wiring	Inspect connectors for stray copper strands causing short circuit.
		Inspect power cable for damage.
		Unplug button switch. IF display turns ON after unplugging, check switch assembly for damage or wrong wire connections.
	No power at outlet	IF wall outlet is newly installed, check electrical wiring and breaker. Check GFCI protected outlets for TRIPPED condition and reset.
	Failed power supply	Check power supply for 12VDC output with multimeter. Replace power supply if not operating within specifications.
	Failed DC screw terminal jack	Check continuity through DC screw terminal jack for both poles to verify failure. Replace DC screw terminal jack
Blown internal fuse (usually due to continuous water pumping)	Check for 12VDC at the power connector with the pump plugged in. If voltage is present, remove the four cover screws of the pump and pull out the pump assembly from the case. Inspect the mini-fuse that is connected inline with the +ve (RED) wire attached to the power connector port. Replace the fuse if found to be blown.	
Sniffer pump won't run even though timer is counting down	Pump operation is toggled OFF	Press the OFF button to toggle the pump to ON status. Display will show ON or OFF condition after button is pressed.
Sniffer pump timer function is behaving abnormally	Wrong timer mode is selected	Set timer to mode 1.3 for normal ON-OFF push button behavior. See "Timer Mode Setup" section of manual for setting instructions.
Sniffer pump won't run and digital display shows timer mode (eg. "1.3")	Short circuit in pump motor wiring is causing power supply to trip and reset	Open pump casing and check for wires that may have broken away from connectors or circuit board screw terminals.
Sniffer pump powering off immediately after pressing ON button	Water in tubing line causing motor and power supply overload	Ensure cause of water being sucked into the pump is corrected. After the power supply automatically resets, turn the pump ON to purge water from the line. Repeat until the line is clear. IF cycling the pump doesn't work, drain the line manually by disconnecting the tubing at the air pump push-to-connect fitting.

Pushbutton switch not functioning properly after modifications	Wires connected in wrong position	See “Push Button Switch Cable Extension” section of manual for color code and wire ordering of the 4-wire flat push button cable and RJ11 flat modular cable.
	Loose wire connection or bad “Red Hat” wire splice connection (if used)	IF no BLUE LED – repair the ON status wire #1 connector IF no LEDs and no trigger – repair the +12VDC wire #2 connector IF no GREEN LED – repair the OFF status wire #3 connector IF no trigger – repair the trigger wire #4 connector
Sniffer pump is sucking water into the exhaust line	Intake manifold not properly adjusted	See “Installation – Vacuum Relief Adjustment” section of manual. 1. Raise up vacuum relief tube end to slightly below tank water level 2. Set vacuum relief valve (using thumbscrew) to barely closed position
Toilet tank refill valve doesn’t stop filling until Sniffer pump shuts off	Water level is too high inside of intake manifold and is flowing into the overflow pipe	1. Reduce the refill valve water flow rate. 2. Lower the toilet tank water fill level a small amount by adjusting the fill valve float level setting. Adjust the intake manifold vacuum relief tube and valve for the new water level.
Toilet refill valve keeps turning on briefly in a random manner after installing the Potty Sniffer.	Water is siphoning from the tank through the refill tube and into the overflow pipe and reopening the refill valve	Confirm the siphon condition exists by observing if the refill tube drains after the refill valve shuts off when the tank is re-filled. If it doesn’t drain, it is likely siphoning water. To correct the problem: <ul style="list-style-type: none"> • Connect the new refill tube to the original overflow pipe tube clip or centering retainer that came with the toilet. Adjust the clip position so that the intake manifold can be fitted to contain the clip. • If the original clip or centering retainer can’t be used, adjust the end of the new refill tube upwards in the overflow pipe until it is above than the water tank fill level but still inside of the end of the overflow pipe.
Hissing sound coming from the Sniffer pump	Tubing not fully inserted into the Sniffer pump ports	Confirm the problem by dripping water on the tubing connection to see if bubbles form or if the water is sucked into the port. Push tubing firmly into the port until it reaches the bottom of the socket. (If needed, mark the tubing 3/4" from the end of the tube to confirm the full insert depth is achieved)
Sniffer pump doesn’t seem to be eliminating odors at all AND/OR there is a bad odor coming from the toilet	Tubing is plugged into the wrong Sniffer pump ports	Connect the tubing coming from the intake manifold into the IN port of the Sniffer pump and connect the air exhaust tubing into the OUT port of the Sniffer pump.
Sniffer pump does not seem to be removing odors as effectively as before	Intake manifold: Vacuum relief tube is not sealing completely	Adjust the end of the vacuum relief tube to be 1/8" below the surface of the water.
	Intake manifold: Vacuum relief valve is not closing	Adjust the position of the vacuum relief float valve cover to a barely closed position.
	Disconnected airline tubing	Make sure all socket ports are engaged on top of the intake manifold and on the Sniffer pump.
	Pinched air exhaust line	Inspect the tubing run for any pinched sections of tubing. The pump will sound like it is pushing harder than normal if a significant obstruction has been added.
	Pump mechanism failure	Verify the reduction in airflow by following the “Pump Airflow Test” procedure. Replace the pump if it fails the test.

Pump Airflow Test

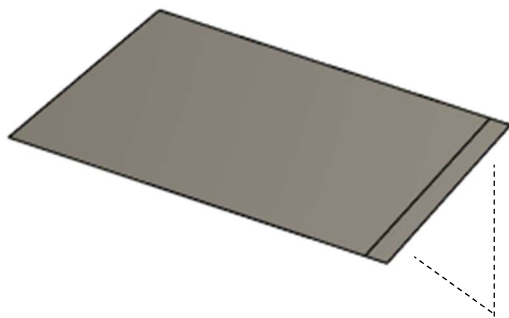
A new Sniffer pump will deliver approximately 47L/min of airflow when used with short lengths of tubing. As total tubing length increases, the system airflow rate will decrease due to the added resistance. To exceed the ANSI Z9.5-2012 Laboratory Fume Hood air exchange minimum of 2.5 times per minute, an average toilet will require an exhaust airflow rate of approximately 30L/min. *Refer to the "Product Specifications" section of the manual for reference flow rates for increasing tubing lengths.*

To verify that the Sniffer pump is providing adequate airflow, an approximate measurement can be made using a plastic bag of known volume. We recommend using a 13-gallon sized polyethylene garbage bag - that we measured to be 15 gallons (or 56.8 liters) actual size when fully ballooned. The bag should be attached at the air exhaust tubing end (normally connected to the exhaust fitting) for the airflow measurement to account for resistance through the entire system.

1. While the bag is still in its unused and flattened state, seal the open end with 2" wide tape and leaving a small opening for 3/8" O.D. tubing to be inserted.
2. Disconnect the air exhaust tubing from the exhaust fitting and seal the push-to-connect socket temporarily with a plug or piece of tape.
3. Insert the air exhaust tubing into bag and hold the bag around the entry opening to prevent leaking
4. Turn on the Sniffer pump and use a timer to determine the number of seconds it takes to fill the bag with air. Stop the timer when the bag is full.
5. Calculate the airflow rate in liters per minute using the following formula:

$$\text{Bag Volume (in liters)} \div \text{Time (in seconds)} \times 60 \text{ (seconds/min)}$$

The calculated value should be greater than 30L/min.



Seal open edge with 2" tape and leaving small opening for tubing



Insert tubing end from air exhaust fitting for airflow measurement

Product Warranty

JEMSMART provides our customers with a 1-Yr Limited Warranty (from date of purchase) that covers full repair or replacement of any item found to be defective through normal use. Contact JEMSMART Support by email or phone for any warranty related concerns and our support staff will be at your service to get your system back up and running as quickly as possible. For full warranty details, visit our website at www.pottysniffer.com/warranty to download our customer warranty agreement.

Contact Us

JEMSMART Support can be reached at (734) 634-6582 during regular business hours Monday to Friday 9:00am – 5:00pm (EST)

We can also be reached by email at info@pottysniffer.com



www.PottySniffer.com