PROLITEC

PERFECTLY SCENTED ENVIRONMENTS

AQ/PS/RZ 1270 TT/WM

AIRQ
BY PROLITEC

Original Instructions

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Contents

About AQ/PS/RZ 1270

Welcome to a whole new world of air treatment from Prolitec, the technology leader in air care with scent. The AQ1270 appliance is the most advanced commercial air-treatment system on the market today. It is the world's first fully adjustable commercial air-treatment system engineered to serve indoor spaces.

AQ1270 is a patented, computer-controlled, always-on system capable of maintaining a constant, uniform and controlled level of scent or odor neutralizer.

The AQ1270 converts fragrances and odor control formulations ("Agents") into ultra-fine droplets for controlled distribution as an aerosol or vapor directly into a room or via the airflow of the HVAC system, either through the central fan unit (CFU) or at suitable locations in the branched ductwork. It is designed for permanent installation on a wall in the area to be treated or integrated with the CFU.

The AQ1270 is managed by an on-board computer that is fully adjustable, enabling intensity settings to match space sizes from 1,800 to 150,000 cubic feet (50-4,200 cubic meters) per appliance. The AQ1270 is programmable, capable of executing 21 distinct start and stop times, repeatable daily or weekly. Utilizing up to 21 programs and the full range of 50 intensity settings allows you to optimize the fragrance levels depending on peak and non-peak occupancy in the space. This new feature can save you money on fragrance AND service visits. Multiple appliances can work together on the same or multiple CFUs to treat the air in the same spaces served by the HVAC. Multiple appliances can work together in the same space.

Typical AQ1270 applications include air treatment to enhance or improve indoor air quality including odor cancelling, and ambient scenting in public spaces such as casinos, malls, hotels, theaters, ballrooms, convention centers, hospitals, retirement and assisted living facilities, schools and restrooms. A single AQ1270 can do both odor control and ambient scenting at the same time.

The AQ1270 with Prolitec odor control formulations and fragrances will cancel a wide range of offensive odors and replace them with pleasant scents available from the Prolitec fragrance catalog or custom developed to meet client requirements.

The AQ1270 works by generating ultra fine, ultra-light droplets approximately 1 micrometer (μm) in diameter. By comparison, a droplet from a typical pressurized aerosol spray can is 50 microns (50000 nanometers) in diameter or 50 times larger than an AQ1270 droplet. In terms of weight and volume of liquid, the comparison is even more dramatic. A 50-micron aerosol droplet is 125,000 times heavier than a 1 μm AirQ droplet.1 (See also Table 1 below.) This tiny AirQ droplet offers many performance benefits over a conventional aerosol including: completely uniform distribution of the treatment agent; 50 times more exposed surface area; and the absence of any liquid deposits on surfaces such as the interior surfaces in an HVAC system.

AQ1270 is simple to install and program for specific room size, airflow conditions, and desired scent intensity. Minimal maintenance is required beyond the periodic change of the disposable fragrance cartridge, inspection and annual replacement of three O-rings, and a simple wipe down or dusting of exterior surfaces. Once installed in the right location, AQ1270 will outperform any other system, providing completely uniform scent distribution.

The AQ1270's advanced technology creates a scent effect with a smaller quantity of fragrance ingredients than any other method. The chemicals employed in making AQ1270 fragrances are fully compliant with the most restrictive air-quality and inhalation standards. AQ1270 generates no

harmful VOCs and uses no ethanol or propellants. Quite simply, used as directed, AQ1270 is the greenest, most eco- friendly way to introduce scent into an interior space with no negative impact on indoor air quality. This is not an accident. The scientists and engineers at Prolitec are committed to the highest ecological and human safety standards.

This user guide is easy to read. It is also important to read. AQ1270 is a high-performance appliance that, installed and used correctly, will meet the most demanding requirements.

Table 1. Prolitec AirQ Technology vs. Aerosol Spray Can Technology		
Parameter	Prolitec AirQ Technology	Aerosol Spray Can
Droplet Diameter, μm	1	50
Volume per Droplet, μm3	0.52	65,450
Surface Area per Droplet, μm2	3	7,854
Relative Volume per Droplet	1	125,000
Relative Weight per Droplet	1	125,000
Number of Droplets per Equivalent Volume	125,000	1
Surface Area/Volume, μm-1	6.00	0.12
Relative Surface Area per Volume	50	1
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Unpacking

Remove AQ1270 from the container. The following items should be included:

1. AQ1270 Appliance

2. HVAC kit

3. Plume kit

MOVING AND STORAGE INSTRUCTIONS

1. Remove the cartridge.

2. Unscrew and remove the long round-head screws in the lower corners.

3. Lift the appliance upward, off the mounting posts.

4. Unplug the appliance.

5. Unscrew the mounting plate.

6. Store at -4°F (-20°C) to 158°F (70°C), 5% to 95% humidity

Cartridge Life & Room Size Table

Estimating Cartridge Life

Estimating how long a cartridge will last and the number of days between services is critical to performing an installation that can be serviced efficiently. This includes determining the number of AQ1270s needed for a space. Please refer to AirQ's 'S3 (Sizing, Service & Success) Tool,' available at AirQ Tools. The chart below can be used as a rough guideline for sizing.

Room-Size Table

Output Level Range	Normal Off-Cycle (NOC) Room Volume Range		Short Off-Cycle (SOC) Room Volume Range		Very Short Off-Cycle (VSOC) Room Volume Range	
	CFT	CM	CFT	CM	CFT	CM
1-5	1800-8100	51-229	6000-25000	170-708	21400-66700	606-1888
6-10	10000-17400	283-492	30000-47100	849-1333	75000-97100	2123-2748
11-15	19300-27700	546-784	51100-66300	1446-1876	101100-114000	2861-3226
16-20	30000-39700	849-1124	70000-83600	1981-2366	116700-125100	3303-3540
21-25	42300-53400	1197-1511	86800-98900	2456-2799	126900-132800	3591-3758
26-30	56300-68600	1593-1941	101600-112700	2875-3170	134000-138300	3792-3914
31-35	71800-812700	2032-2425	114400-123500	3238-3495	139200-142400	3939-4030
36-40	89400-104800	2530-2966	125600-133600	3554-3781	143100-145500	4050-4118
41-45	108900-126200	3082-3571	135400-142300	3832-4027	146100-148000	4135-4188
46-50	130700-150000	3699-4245	143900-150000	4072-4245	148400-150000	4200-4245

These settings are suggested as a starting point. Start on the lower end of the range and adjust after one hour. Fragrance type, room size, number of fresh air changes per hour, temperature, humidity and user preference will determine the final setting. Best practice is to use AirQ's 'S3 Tool' at AirQ Tools.

IMPORTANT SAFETY INSTRUCTIONS

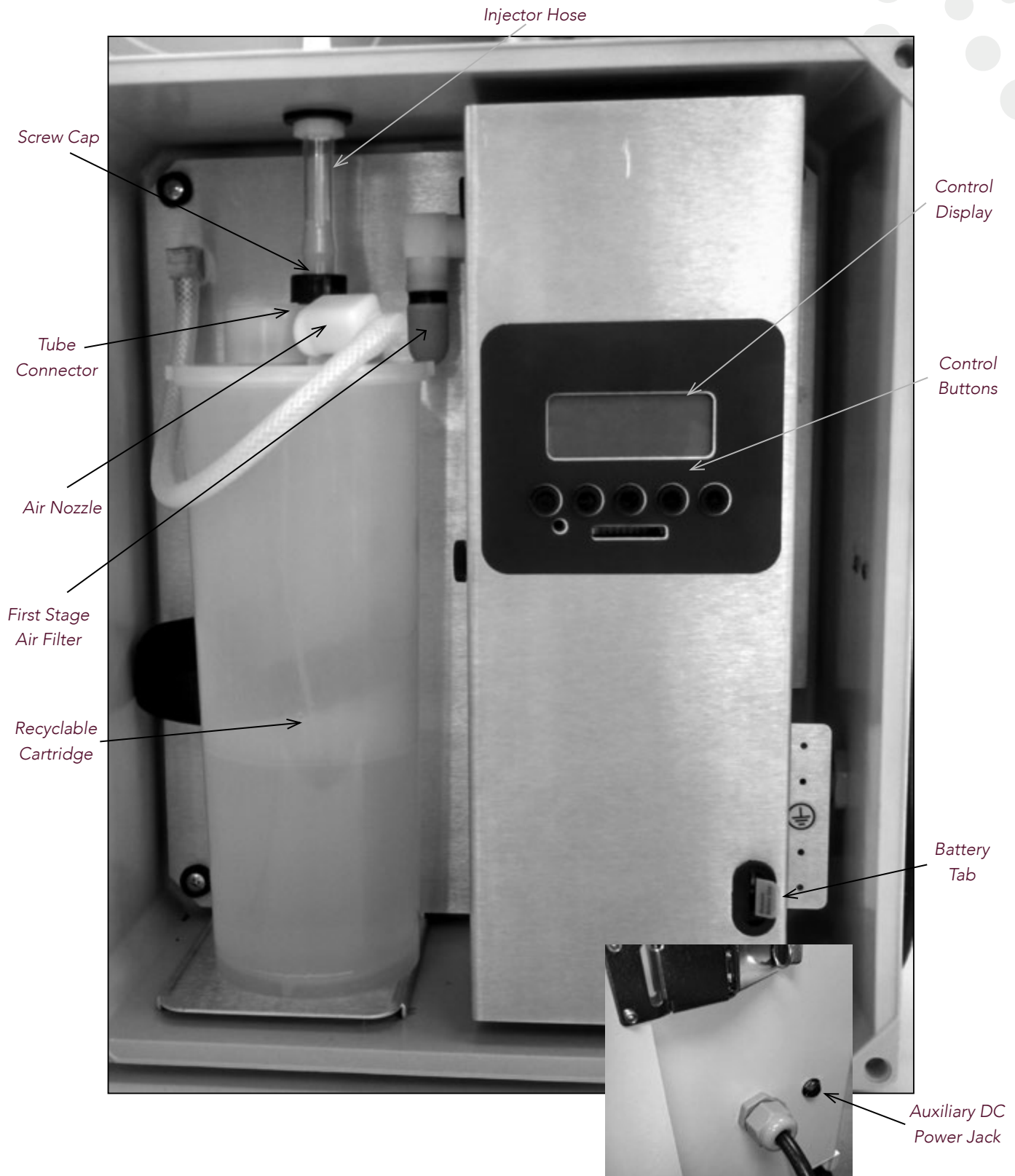## IMPORTANT SAFETY INSTRUCTIONS – SAVE THESE INSTRUCTIONS

Appliance Precautions

1.   WARNING – When using electric products, basic precautions should always be followed, including the following:

- Read all the instructions before using the product.

- Children should be supervised not to play with the appliance.

- Do not put fingers or hands into the product.

- The appliance must be operated in an upright or vertical position.

- The appliance should not be used with the door in the open position. The door is opened only to perform a cartridge or program change.

- Never put your nose to the output of the AQ1270. Within 12 inches of the output, the fragrance is highly concentrated. The improper inhalation of high concentrations of fragrance may cause irritation including watery eyes, headache, cough and upper respiratory discomfort.

- This appliance is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

2.   INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

- The appliance is built to be plugged into an 110VAC or 220VAC power outlet. Must be used only with the approved and included power supply. The UL and CE compliant power supply converts power to 12V DC to power the appliance. The appliance must only be supplied at Safety Extra Low Voltage (SELV).

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a hazard.

- Unplug before cleaning.

- To reduce the risk of electric shock, the appliance should only be plugged into a properly grounded outlet box. If there is any doubt as to whether an outlet box is properly grounded, a qualified electrician should be consulted.

Fragrance Cartridge Precautions

- Use only AirQ by Prolitec fragrance cartridges.

- Read the Consumer Product Safety Information Sheet and the Material Safety Data Sheet provided with each shipment of Cartridges. Insure that these information sheets are available for review by employees.

- Use latex gloves to handle a Cartridge to avoid the liquid getting on hands. The AirQ fragrances are formulated so as to not be harmful in contact with the skin, but the concentrated nature of the fragrances may make the scent difficult to remove from hands and skin.

- Wash your hands after all contact with Cartridges or fragrance.

- While AirQ Air Treatment Agents do not contain ingredients deemed harmful to the skin, if there is skin contact, wash with soap and water. If there is contact with the eyes, irrigate the eye with fresh water for 5 minutes. If there is any eye irritation, consult a physician immediately.

Appliance & Controls

Injector Hose

Screw Cap

Control Display

Tube Connector

Control Buttons

Air Nozzle

First Stage Air Filter

Recyclable Cartridge

Battery Tab

Auxiliary DC Power Jack

USER MAINTENANCE

Changing the Cartridge

1. Unlatch and open the door to access the cartridge: The door should be opened only to perform a cartridge or programming change. When in use, the door must be closed.

2. Press POWER button to turn appliance OFF.

3. Remove air nozzle (located on the side of the cartridge head) by rotating 90 degrees and pulling towards you. (See Fig. 1 below)

4. Detach injector hose and hose connector from the cartridge output port (located on the top of the cartridge head). This is done by unscrewing the hose connector from the cartridge output port and pulling out.

5. Remove cartridge from appliance enclosure.

6. Install new cartridge, place and tighten hose connector firmly on cartridge output port.

7. Insert air nozzle and rotate the handle 90 degrees until secured (by stem retaining tab on cartridge head). (See Fig. 2 below)

8. Turn appliance ON. Verify that the plume is not escaping inside the appliance and that all connections are tight. Close the door when complete.

Fig. 1   *Fig. 2*
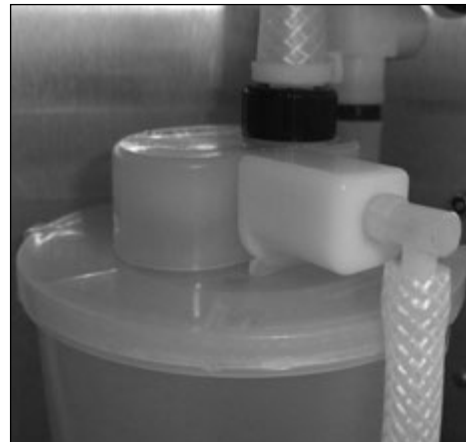
O-Ring Replacement (each year or as needed)

Replace the air nozzle's three O-rings (PN 8212) if worn or damaged. Replace as needed and/or each year for preventative maintenance.

If there is any fragrance that leaks during the cartridge installation, clean it carefully with a paper towel and some ethanol or another alcohol.

Air Filters and check valve
## (every 6 months or sooner depending on use)

AQ1270 is equipped with two stages of air filtration and a check valve system.

The first stage is a sintered filter (PN 10417). It is can be unscrewed and washed with clean water as needed. Replace every six months.

The second stage filter (PN 5251) collects fine dust. Replace every 6 months or sooner depending on use. It is accessible behind the air pump panel. A layer of black dust on top of the filtering media is a sign that the filter should be replaced. To replace it, unscrew the 3 knobs to open the panel and exchange the filter after pulling off the rubber tubing from both sides of the filter. Note the small triangle showing the normal air flow direction and position filter accordingly as shown below.

The check valve (PN 10200) should be replaced every six months. It is also located behind the panel. Note the position of the check valve. Replace check valve accordingly as shown below.

Reinstall the panel and screw the three knobs back in place being careful not to strip the threads. The screws should align and go in easily.
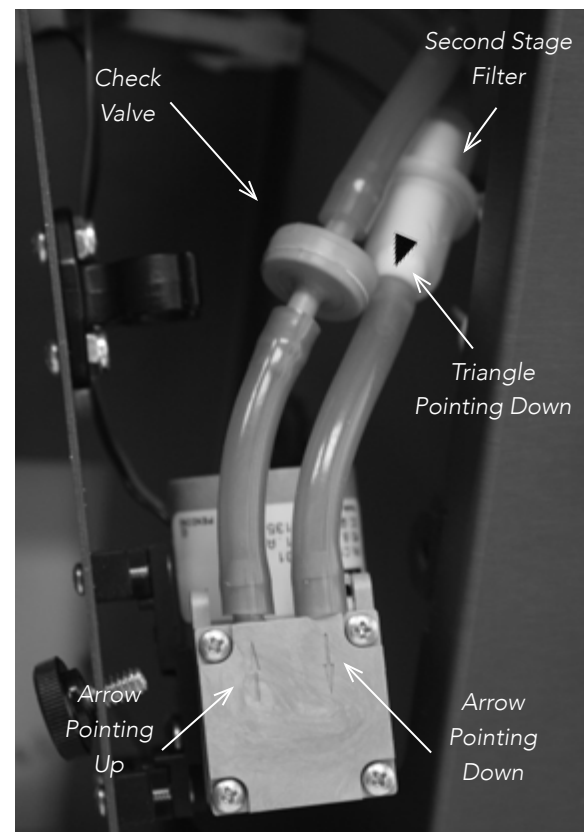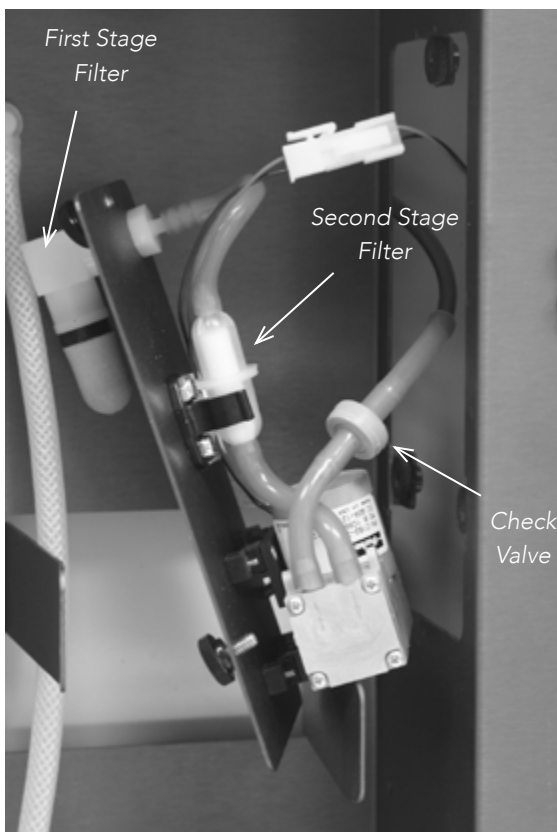
Battery Replacement (approximately every two years)

(Requires 3 Volt CR2032 Lithium Battery, PN 7115)

Unlatch and open the door to access the enclosure.

Using a pair of tweezers or needle-nose pliers, remove battery from the center opening of the battery grommet. The battery is located on the lower front corner of the silver bracket.

Insert the new CR2032 battery. The positive side of the battery should face your right while looking at the front of the appliance. The battery will have a + or – marking on a side.

NOTE: The battery is necessary to safeguard your program and to ensure operation will resume automatically even after several days of a power interruption. The battery should be replaced at least every 2 years for proper reliable system operation.

OPERATING INSTRUCTIONS

Unit Programming

1. Unlock and open the door.

2. Turn on the power by pressing ⏻ on the control panel.

3. Set the Clock.

   - Press ➔ to cycle through the modes to the options mode. The day of the week will blink.

   - Adjust the day forward or backward using ⊕ or ⊖.

   - Press ⊘ to set the day of the week and the hour will blink.

   - Adjust the hour forward or backward using ⊕ or ⊖.

   - Press ⊘ to set the hour and the minute will blink.

   - Adjust the minute forward or backward using ⊕ or ⊖.

   - Press ⊘ to set the minute and the hour and minute will both blink.

   - Change between 24-hour and 12-hour modes using ⊕ or ⊖.

   - Press ⊘ to set the time mode and the off-cycle will blink.

   - Change between normal (NOC, 7 minutes), short (SOC, 2 minutes), and very short (VSOC, 30 seconds) modes using ⊕ or ⊖.

   - Press ⊘ to set the off-cycle and the fan setting will blink.

   - Adjust the fan speed up or down using ⊕ or ⊖.

   - Press ⊘ to set the fan speed and the day of the week will blink.

4. **24/7** Mode.

   - If you want AQ1270 to run continuously — 7 days a week, 24 hours a day — press ➔ until **24/7** is displayed above the time. If not, skip to Step 5.

5. **SET PROGRAM** Mode.

   - Press ➔ until **SET PROGRAM** is displayed above the time. The program number will blink in the lower right corner of the display

   - Adjust the program number forward or backward using ⊕ or ⊖.

   - Press ⊘ to set the program number and the status will blink.

   - Adjust the status between on ("ᴏɴ") and "off" ("ᴏF") using ⊕ or ⊖.

- Press ⊘ to set the status and the intensity will blink.

- Adjust the intensity up or down using ⊕ or ⊖.

- Press ⊘ to set the intensity and the day of the week will blink.

- Adjust the day of the week forward or backward using ⊕ or ⊖.

> HINT: In addition to individual days, you can also set "all days," "week days," or "weekend days."

- Press ⊘ to set the day of the week. Sᴛᴀʀᴛ will display on the far right side and the hour will blink.

- Adjust the start hour forward or backward using ⊕ or ⊖.

- Press ⊘ to set the start hour and the minute will blink.

- Adjust the start minute forward or backward using ⊕ or ⊖.

- Press ⊘ to set the start minute. Sᴛᴏᴘ will display on the far right side and the hour will blink.

- Adjust the stop hour forward or backward using ⊕ or ⊖.

- Press ⊘ to set the stop hour and the minute will blink.

- Adjust the stop minute forward or backward using ⊕ or ⊖.

- Press ⊘ to set the step minute.

The appliance will automatically switch from set program to run program after 30 seconds of inactivity, or you can press ⊛ until SET PROGRAM is displayed above the time. You may review the programs by pressing ⊘ while the appliance is in run program mode.

Using the online SD card programming tool

The online SD card programming tool can be found at http://airqtools.com/sdcard/

1. Multiple programs sets can be created, which are unique to the user, and stored in a list.

2. Create a program set using the CREATE PROGRAM button.

   - Each program set will require a name.

   - Each program set can contain 21 unique programs, which can be turned on or off within the set.

   - Programs, identified by number 1-21, include a day or days, on/off times, and intensity settings.

- The tool will warn the user of overlapping programs.

- Programs sets need to be saved.

3. Edit an existing program set using the EDIT button to the right of the program name.

4. Copy an existing program set using the COPY button to the right of the program name. This can be especially useful for quickly duplicating a very similar set of programs.

5. Delete an existing program set using the DELETE button to the right of the program name.

6. Export an existing program set using the EXPORT button to the right of the program name.

- A .zip file containing your program set (schedule.txt), the latest firmware (discover.hex), and the final instruction for use (readme.txt) will download to your computer.

- Insert an SDHC card and format it FAT32.

- Copy the files needed (schedule.txt for programs, discover.hex for firmware) to the top level directory of the card (not in a folder or .zip file).

7. Insert the SD card into the appliance, with the label side down.

Loading new firmware from an SD card

1. Copy discover.hex to a FAT32 formatted SD card.

2. Insert the SD card, with the label side down.

3. Press the reset button, and the five buttons will light in sequence from left to right.

4. The ⏻ and ⊕ buttons will light alternately.

5. Press and hold ⏻ for one second, and the display will show LOAD for about ten seconds.

6. The five buttons will light in sequence from left to right.

7. Remove the SD card; the display will show the currently loaded firmware version and the pump will run for one second.

8. Press ⏻ to turn on the power.

9. Be sure that the power is on and the appliance is in RUN PROGRAM mode prior to closing and locking the door.

Programming the Appliance from an SD card

1. Copy schedule.txt to a FAT32 formatted SD card.

2. Insert the SD card, with the label side down.

3. Press the reset button, and the five buttons will light in sequence from left to right.

4. The ⏻ and ⊕ buttons will light alternately.

5. Press and hold ⏻ for one second, and the display will show **LOAD** for about ten seconds.

6. The five buttons will light in sequence from left to right.

7. Remove the SD card; the display will show the currently loaded firmware version and the pump will run for one second.

8. Press ⏻ to turn on the power.

9. Press ⊖ to cycle through the modes to the **RUN PROGRAM** mode.

10. Press ⊘ to view the start time for the first program.

11. Press ⊘ again to view the stop time for the first program.

12. Press ⊕ or ⊖ to view the second and third programs.

13. Be sure the power is on and the appliance is in **RUN PROGRAM** mode prior to closing and locking the door.

Copying programs to an SD card

1. Insert a FAT32 formatted SD card, with the label side down.

2. Press the reset button, and the five buttons will light in sequence from left to right.

3. The ⏻ and ⊕ buttons will light alternately.

4. Press and hold ⊕ for one second, and the display will show **SAVE** for about ten seconds.

5. The five buttons will light in sequence from left to right.

6. Remove the SD card; the display will show the currently loaded firmware version and the pump will run for one second.

7. Press ⏻ to turn on the power.

8. Be sure that the power is on and the appliance is in **RUN PROGRAM** mode prior to closing and locking the door.

9. The new file created on the SD card will be called "outsche.txt." Changing it to "schedule.txt" allows the programs to be loaded on another appliance.

Setting Scent Intensity

1. Determine the approximate size of the room in cubic feet or cubic meters by multiplying length x width x ceiling height.

2. Consult the Room-Size Table to give you a level (1 to 50) to set. THIS IS ONLY A STARTING POINT.

> Hint: There are many variables to finding the scent level that works: size, airflow, number of fresh air changes per hour, number of people in the space and, most of all, user preferences. Experiment with different levels until you are satisfied. Utilize the S3 Tool.

Scent Control

If you followed the Room-Size Table or S3 Tool, you have set AQ1270 to the low end of the range for your room size. If after one hour you feel the scent is not detectable, increase the setting by about 10%. For example, if your start setting was 20, increase it by 10%, or to setting 22. Keep increasing until you and others in the space can detect a slight scent throughout the space.

The Last Step

1. Set the appliance to either **24/7** or **RUN PROGRAM.**

2. Make sure the power is on.

3. Close and lock the door, storing the key in a known place.

INSTALLATION: Diffusion via HVAC System

Installation Kits

Installation Kit for Appliance (included)

1. One (1) AQ1270 appliance (not pictured) with:

2. Four (4) drywall anchors for mounting in drywall

3. Four (4) lead anchors for mounting in concrete

4. Four (4) screws and (4) washers for mounting in drywall and concrete

5. Four (4) #10 self-tapping sheet metal screws for mounting in sheet metal

6. Plume connector: A: (1) Tubing assembly; B: (1) Connector; C: (2) Washers; D: (1) Nut; E: (1) Cable Tie
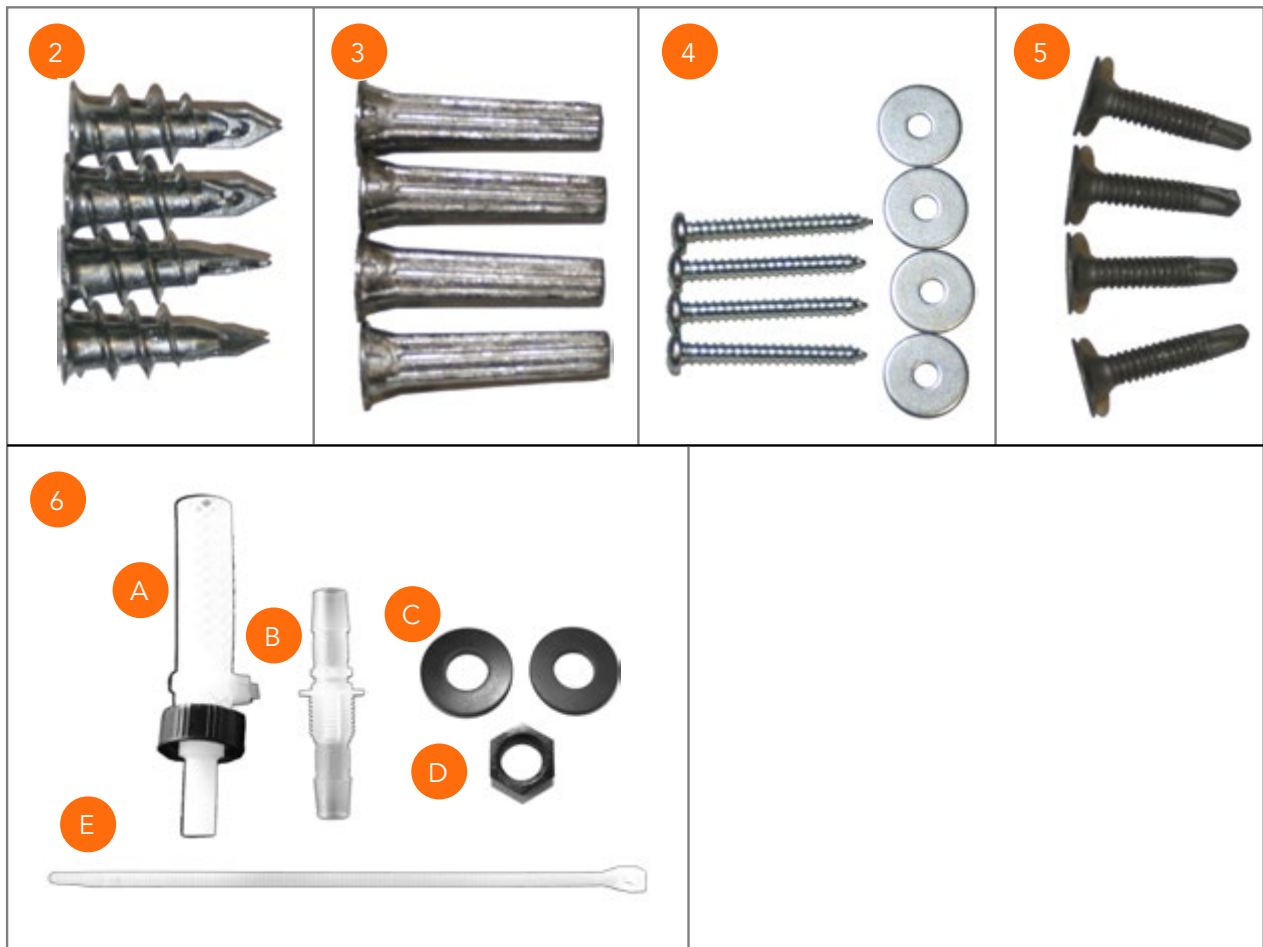
Installation Kit for HVAC System Diffusion (included)

1. One (1) Prolitec injector tube for diffusion into HVAC system

2. Three (3) #10 self-tapping sheet-metal screws for mounting the injector tube in sheet metal

3. Three (3) feet of injector hose

4. Tubing Brace for preventing kinks in tight bends
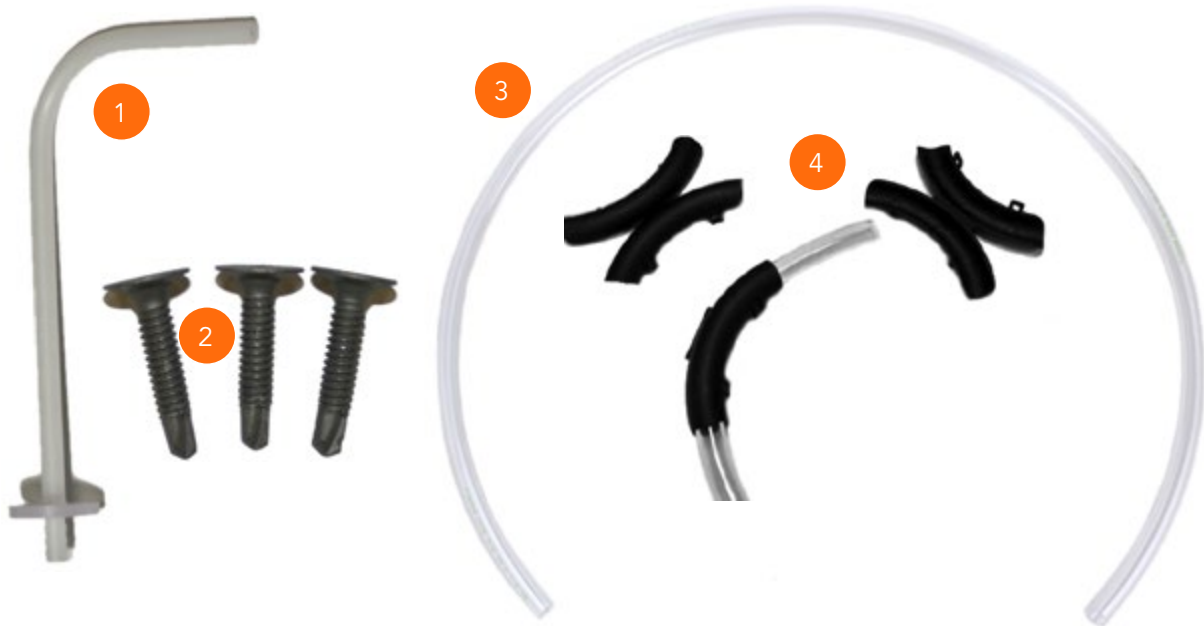
HVAC Pre-installation Checklist

This checklist should be completed before the install date.

1. Confirm the area to be targeted for air treatment.

2. Determine the Air Handling Unit or duct that serves the target area.

3. Make sure the AHU does not use an open gas flame.

4. Find and mark the optimal insertion point for the Injector Tube. (See "Appliance Positioning")

5. Find and mark the exact location for placement of the appliance. (See "Appliance Positioning")

6. Note the distance between the insertion point and the proposed appliance location. (NEVER MORE THAN 3 FEET and there should NEVER be a LOW POINT in the hose run.)

7. Determine and mark the location for the 110 or 220V AC power outlet (NEVER DIRECTLY BELOW THE appliance).

Appliance Positioning

It is important to find an insertion point where the plume output will be smoothly drawn into and mixed with the airflow. This usually means those parts of the AHU where the static pressure is negative. Ideal locations include:

- Before the supply fan with injection through the wall of the AHU. Positioning immediately before the fan and after the coils if possible or in the mixed air chamber.

- Behind the blower with the whole appliance mounted inside the AHU in the mixed air chamber.

- Outside the AHU in the Supply air duct.

Best practice when installing in an AHU is to place the injector tube after the heating and cooling coils. If this is not possible, the Plume output can pass over hot water, steam, chilled water, and DX coils.

Open gas flames should absolutely be avoided. If installation must be over gas heated coils or open gas flames, contact Prolitec Technical Support.

The best location for the Appliance is below the injector tube (Fig. 15). The injector hose should be run upward as short a distance as possible and NEVER MORE THAN 3 FEET. If an upward injector hose run is not possible, care should be taken support the hose to prevent sagging or any low spot in the run to avoid any possibility of condensation and liquid collection which will block the plume output. The injector hose is prone to stretching, so support points should be placed every 6 inches on horizontal runs. Give the hose a slight upward slant along its run (See Fig. 16). The hose must not be run horizontally. A strong tape (such as Venture tape) may be used to support short runs. The hose may be run through PVC pipe for longer distances.

Fig. 15
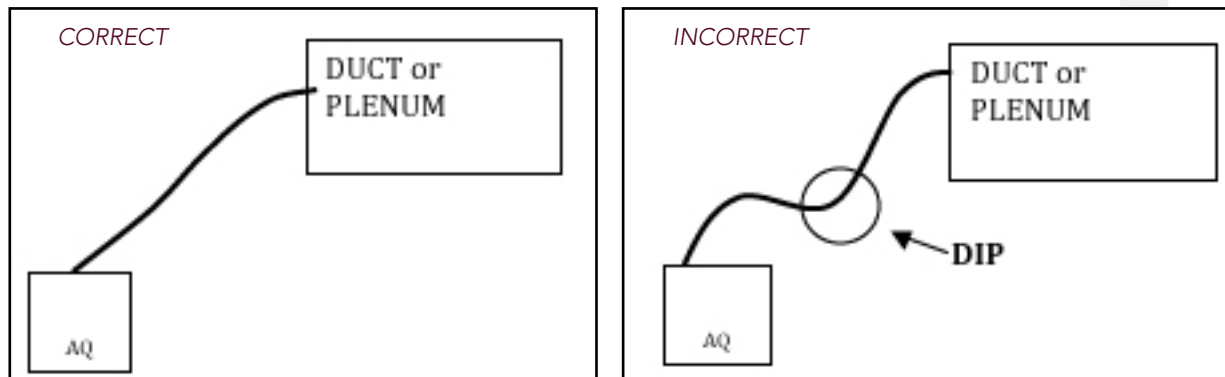
Injector Tube

Injector Hose

Power Junction Box

AQ1270

Fig. 16

Appliance Installation

1. The appliance is wall-mounted. Place the appliance onto the desired location on the wall or AHU and ensure that it is level.

2. Fasten the appliance to the wall or AHU using necessary screws.

3. Connect the power cord to a junction box or attach an AC plug to the cord and connect to a nearby outlet. Open the enclosure door and unscrew the aluminum cap of the waterproof collar located on top of the appliance enclosure. Remove and set aside the grommet (Fig. 1).

4. Assemble the Plume Connector:

   • Insert washer and insert assembly, threaded side first, through hole on top of the appliance (Fig. 17).

   • Insert another washer and secure with nut. Use pliers to ensure a watertight seal (Fig. 18).

   • Push the tubing assembly over the barbed fitting (Fig. 19).

   • Important: Secure with cable tie (Fig. 20).
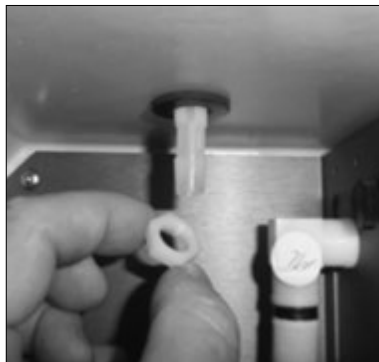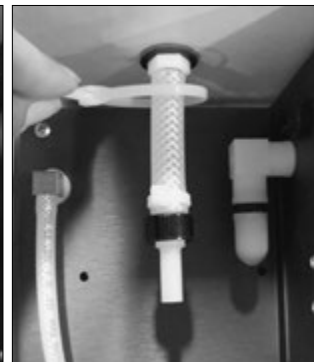
Fig. 17 *Fig. 18* *Fig. 19* *Fig. 20*

Injector Tube Installation

The injector tube is installed directly into the AHU or ductwork. Its orientation can be adjusted relative to airflow.

- For installations into the negative/suction side of the AHU fan, orient the tube with the elbow pointed upwards, so that any plume condensation will drip back down the tube.

- For installations after the supply fan, such as in a supply duct, it is necessary to configure and orient the Injector Tube to obtain a good aspiration of the output into the air stream. The injector tube should be pointed in the direction of the airflow and inclined approximately 45o upward. Turbulence in the airflow can prevent even aspiration of the plume. It is best to place the tube in a straight section of duct, and far away from any turns, branches, or cross-section changes as practical, and not immediately after the supply fan.

1. At the insertion point, drill a hole using a ½" drill bit.

2. Insert the Injector Tube through the hole.

3. Find an orientation of the injector Tube that appears to produce a good draw of air into the end of the barb.

4. Fasten the flange using the three #10 sheet metal screws.

5. Turn the appliance on and verify that a plume is produced.

6. Before attaching the Injector hose to the injector, verify that the plume can flow easily through the injector. This can be done by placing the end of the hose ½ inch away from the injector and verifying that the plume is being drawn in (a flashlight will make the plume easier to see). If the plume does not rise into the hose, adjust the orientation of the Injector Tube until aspiration is achieved.

7. Attach the Injector hose onto the hose barb of the Injector Tube.

For Cartridge Installation – See "Changing the Cartridge"

INSTALLATION: Diffusion via Direct Indoor Fan
(Product# AQ1270-FAN)

Installation Kits

Installation Kit for Appliance (included)

1. One (1) AQ1270 appliance (not pictured) with:

2. Four (4) dry wall anchors for mounting in drywall

3. Four (4) lead anchors for mounting in concrete

4. Four (4) screws and (4) washers for mounting in drywall and concrete

5. Four (4) self-tapping sheet metal screws for mounting in sheet metal

6. Plume connector: A: (1) Tubing assembly; B: (1) Connector; C: (2) Washers; D: (1) Nut; E: (1) Cable Tie
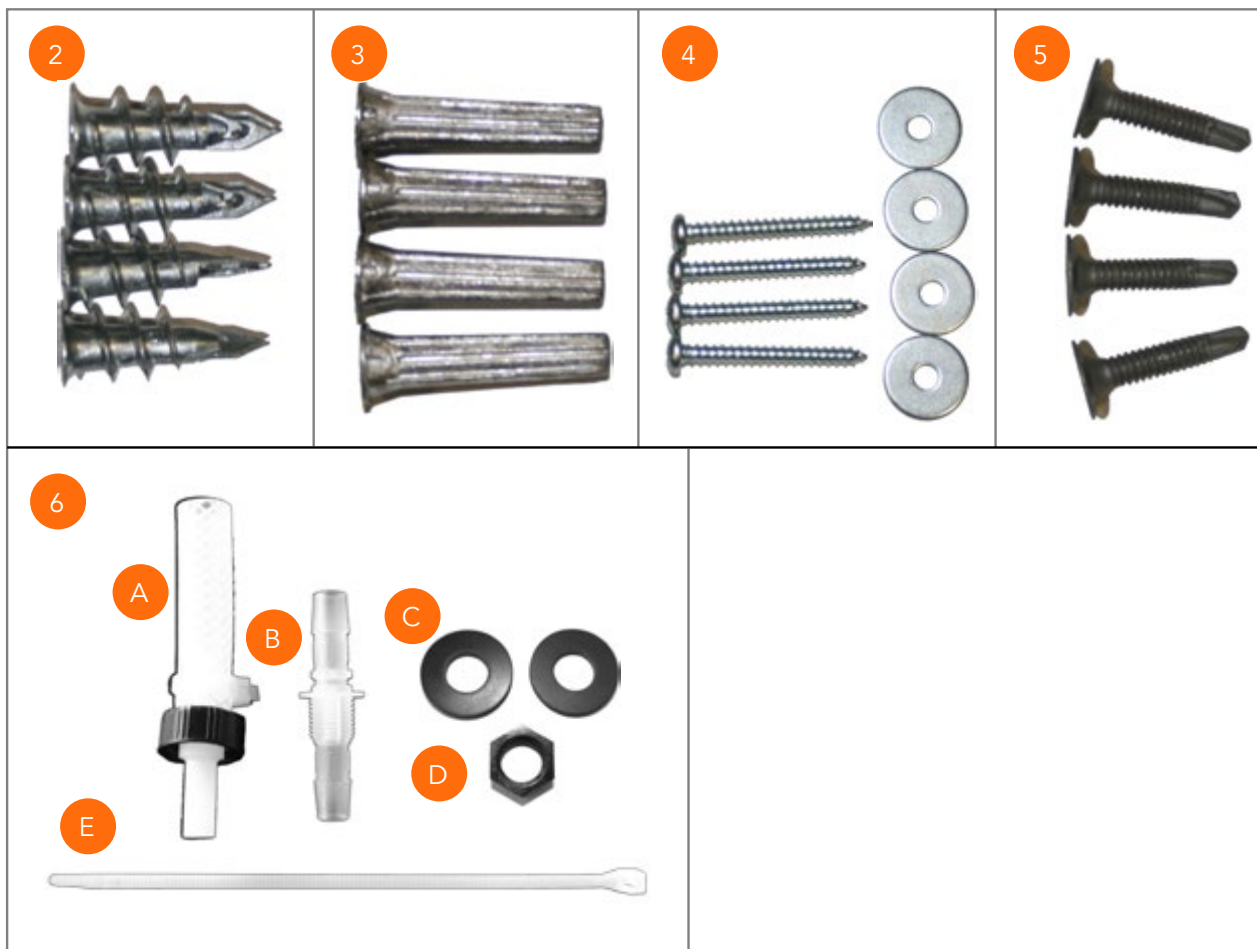
Installation Kit for Fan (accessory sold separately)

1. One (1) Prolitec Diffusion fan and cable for direct indoor diffusion

2. Three (3) drywall anchors for mounting fan onto dry wall

3. Three (3) lead anchors for mounting in concrete

4. Three (3) screws for mounting in drywall and concrete

5. Five (5) feet of small cable raceway for fan cable

6. Three (3) feet of OD injector hose

Pre-installation Checklist

This checklist should be completed before install date.

1. Confirm the area to be targeted for air treatment.

2. Confirm the general direction of ambient air flow in the area and position the machine so that the plume will be more evenly distributed and carried by the natural air flow.

3. Determine the number of machines required, which is the total cubic feet to be served divided by a maximum of 150,000.

4. Based on step 2, determine the wall positions for installation, keeping in mind that the Appliance requires 110/220V AC.

Appliance Positioning

It is important to find a location that is easily accessible for service and cartridge refills.

Appliance Installation

1. The appliance is wall-mounted. Place the appliance onto the desired location on the wall and ensure that it is level.

2. Fasten the appliance to the wall using the necessary anchors, screws and washers provided.

3. Open the enclosure door and unscrew the aluminum cap of the waterproof collar located on top of the appliance enclosure. Remove and set aside the grommet (Fig. 1).

4. Assemble the Plume Connector:

   • Insert washer and insert assembly, threaded side first, through hole on top of the appliance (Fig. 17).

   • Insert another washer and secure with nut. Use pliers to ensure a watertight seal (Fig. 18).

   • Push the tubing assembly over the barbed fitting (Fig. 19).

   • Important: Secure with cable tie (Fig. 20).

5. Assemble hose and hose connector together (Fig. 2). Be sure to leave approximately 1/8 of an inch clearance between the top of the cartridge hose connector and the end of the hose. Then secure with clamp, ensuring that the hose connector is still free to rotate.

6. Connect the power cord to a junction box or connect AC plug to a nearby outlet.

Diffusion Fan Installation
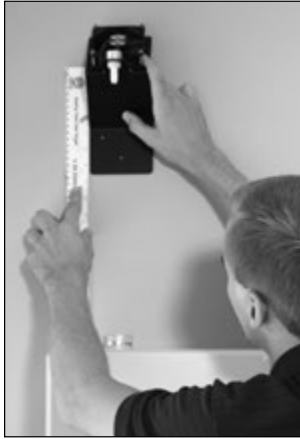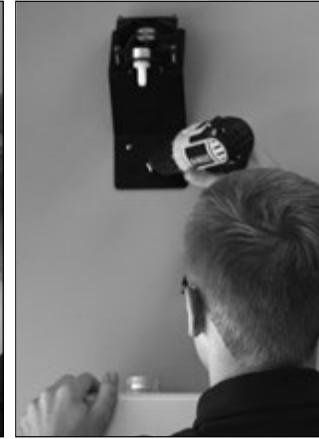
Fig. 3	Fig. 4	Fig. 5	Fig. 6

1. The diffusion fan is positioned directly above the appliance hose output port located on the top left of the appliance but no more than 4-1/2 feet above it. (Fig. 3)

2. Use the diffusion fan assembly as a template to mark the location of the mounting holes. (Fig. 4)

3. For installation on drywall, drill the 3 anchors into drywall and install the 3 screws to secure the diffusion fan to the wall. Use the metal screws provided for installation on sheet metal or appropriate fastening hardware for other wall surfaces. (Figs. 5 & 6)

4. Verify cable connection with diffusion fan. (Fig. 7)

5. Measure the length of cable raceway needed and cut to length using a pair of scissors or a cutting blade (Fig. 8). Fold into an "L" shape and peel off liner (Fig. 9). Fasten adhesive side to the wall between appliance and Diffusion Fan assembly.

Fig. 7
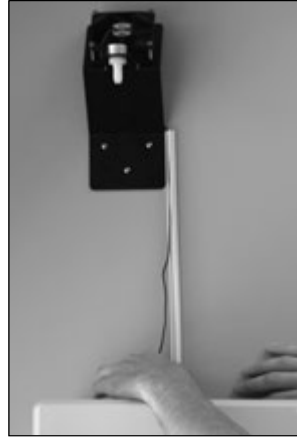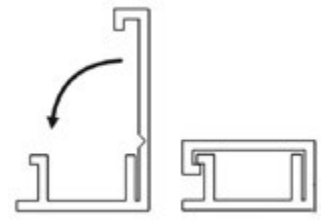
| Fig. 8 | Fig. 9 | Fig. 10 | Fig. 11 |

6. Run Diffusion Fan cable inside the raceway (Fig. 10), fold the raceway into a square and snap the raceway cover closed. (Fig. 11) If needed, use a flat-head screw driver to push in the side wall of the cable raceway.
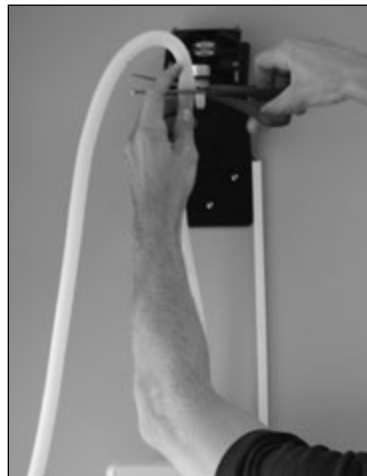
| Fig. 12 | Fig. 13 | Fig. 14 |

7. Insert cable connector into jack located on the right side of the appliance. (Fig. 12)

8. Extend the hose from appliance toward the diffusion fan hose barb, cut to proper length (Fig. 13) and secure to the hose barb of the diffusion fan assembly. (Fig. 14)

9. Turn the APPLIANCE on and verify that a plume is produced.

Troubleshooting

Condition	Causes	Solutions
Power light off.	The Appliance is not plugged in or the plug has no power	Make sure the power connection is operational. Verify that the power button light is blue when pressed.
Unit does not start automatically after a power interruption.	Back-up battery not operational	Verify the protective yellow battery tab has been removed. Verify the battery is positioned with the positive side facing the right. Replace the back-up battery.
The fragrance cannot be detected when coming into the treated area from an untreated area.	The output rate is too low or there is an insufficient number of appliances serving the space.	Increase the output rate by one or two settings and evaluate detection in 30 minutes. Repeat as needed. If consumption requires cartridge change more frequently than each month, install an additional appliance.
	The O-Rings on the stem that fits into the head may be worn out and causing an air leak.	Replace the O-Rings by removing the worn one with a pointy tool and rolling on the new ones
Fragrance intensity is stronger than just detectable.	The output rate is too high.	Lower the output rate in increments of one or two settings or down to the starting rates suggested in the room size chart.
The power light is on but there is no output or you cannot hear the compressor in the appliance.	You are in an "OFF" period in the Timer cycle.	Simply wait a few minutes for the appliance to cycle on. If the real problem is that the scent cannot be detected, increase the output rate as instructed above.

Condition	Causes	Solutions
The power light is on and the compressor can be heard but no fragrance detected.	The output tube may be blocked.	Remove the hose from the output tube leaving the Cartridge in place in the appliance. Turn the appliance on so you can hear the compressor. Use a flashlight to observe the top of the output head for a plume of droplets. If you can see the plume then the blockage may be in the hose or the injector tube into the HVAC. Check these. If there is no plume something is blocking the output tube. Check and remove it.
	The air intake may be blocked.	Another method for clearing obstructions is, while the appliance compressor is running, block the output tube with a finger for a few seconds and then open it by removing your finger.
	The O-Rings on the stem that fits into the head may be worn out and causing an air leak.	Replace the O-Rings by removing the worn one with a pointed tool and rolling on the new ones.
You detect the fragrance when entering the room but after a while you no longer notice it.	This is called olfactory adaptation and is normal.	Leave the area for 5 to 10 minutes. Come back inside, you will smell the fragrance once again. Do not hesitate to repeat this process every time that you doubt the presence of the fragrance in the area.

General Care and Customer Support

- Do not drop AQ1270 on the floor. Do not drop it in or position it near an open basin of water.

- Do not paint or otherwise try to alter the color of the outer cover.

- Always keep the cap and plug on cartridges when stored outside of the AQ1270.

- Do not operate AQ1270 in very dusty areas that may cause the air intake to clog.

- Do not move or transport an appliance with a cartridge installed.

- Please call Prolitec Customer Service at 844-247-7599 for return shipping instructions or questions.

Applications

AQ1270 is used to enhance indoor air quality by neutralizing odors or introducing and maintaining a scent in the air or both at the same time. This is accomplished by blending ultra-low concentrations of odor neutralizers and fragrance ingredients ("Air-Treatment Agents") into the air. In fact, AQ1270 is fully effective with air concentrations of Air-Treatment Agents less than 1 part per million (ppm). This means that for every 1,000,000 molecules of air there is only one molecule of Air-Treatment Agent.

There are four basic applications for AQ1270: ambient scenting, product marketing, odor control and aromatherapy. These applications are different in terms of their objectives, but they all employ the same combination of Prolitec's proprietary air-treatment chemistry and AQ1270 computer-controlled delivery system.

Ambient Scenting

Ambient Scenting is the use of a scent alongside other design elements in a space to help create or enhance its ambience. In this application, scent is comparable to visual elements such as graphics, colors, materials, textures and shapes as well as auditory elements like music. With ambient scenting, a carefully selected fragrance is used to enhance themes, animate visuals, make a tree or a flower smell like a tree or a flower, and many other uses. Major brands are using scent to extend and animate their brand by associating a scent experience with a brand, like a hotel chain using ambient scenting to make all their lobbies smell like the same scent.

Indoor air quality and the overall ambience of a space can be substantially improved with the introduction of a pleasant scent. Scent can cause humans to recall a brand with positive feelings and communicate brand values. Scent can create inviting environments that attract retail customers and cause them to stay longer and shop more, improve employee productivity, and make all the occupants feel positive about their experience in the space.

Of all the senses, the sense of smell is the most powerful trigger of memory. Hotels, casinos, retail establishments and other businesses seeking to provide a positive experience that clients will recall and repeat should use scents to enhance indoor air quality. The use of a signature scent to extend the brand image is a powerful tool for the sophisticated marketer.

Typical areas where Ambient Scenting is used:

- Retail Stores

- Hotel Lobbies

- Malls

- Showrooms

- Clubs and Bars

Product Marketing

Product Marketing is the use of scent as a medium of communication in advertising and promotion of certain products for which scent is a primary element or feature. Presenting the scent of a scented product to customers at the point of sale is the most powerful way to sell any product with a scent including fine fragrances; soaps, detergents and fabric softeners; lotions and potions; scented health and beauty aids; food products like coffee, fruits, and baked goods; and other fresh and aromatic products.

AQ1270 is used as an automated presentation and product-sampling system to deliver the exact aroma of a scented product throughout a store or at the point of sale.For example, enabling the client to experience a fine fragrance, personal care or home fragrance is the most effective way to sell it. Scent is the main feature of these products. Using AQ1270 to present that scent to a customer is the best way to present and sell the product. In this way, AQ1270 delivers a true and complete experience of the scent to clients and passersby without intrusion or sales associate intervention.

Billboards and advertising panels can be equipped with AQ1270 to treat the surrounding air space with the scent that is being advertised on the billboard. This is particularly effective in high-traffic areas such as malls, airports and train and subway stations. This is a multi-sensorial approach that draws customers to the display while simultaneously enhancing the visuals and allowing the prospective customer to experience or "sample" the scent of the product.

Odor Control

One of the most challenging problems in indoor air quality is bad odors. Bad-smelling places have a negative emotional impact on all the occupants of the space. This means both employees and customers.

AQ1270 and Prolitec's proprietary odor-remediation chemistry are capable of blocking the human ability to detect most malodors and replacing these odors with pleasant scents. Prolitec's proprietary air-treatment chemistry and the accompanying computer-controlled delivery system are rapidly becoming the standard solution for difficult odor issues in several industry sectors.

Typical problem areas that can be addressed by AQ1270 include:

- Restrooms
- Garbage-compaction areas
- Areas adjacent to cooking and food preparation
- Swimming pools and adjacent areas
- Workout facilities
- Elevator shafts
- Hotel hallways

The Prolitec approach to odor remediation uses a proprietary and patented neutralizer that inhibits the human olfactory system from detecting the odor and then injecting a small amount of scent to

create an ultra-low concentration in the air of less than 1 ppm. This approach is unique and much more effective than traditional approaches that simply douse the odor with a high concentration of scent.

Aromatherapy and Performance Scenting

It is well known that scent has a powerful impact on human emotion and behavior. The use of scent to influence human emotion is just like Ambient Scenting but with a specific objective for the occupants of the treated space. The use of scent and the essential oils of flowers, herbs and trees to promote health and well being is the well-established branch of alternative medicine known as aromatherapy. It is also recognized that scent can be used to optimize performance in the workplace. The benefits include reduced errors in routine functions, increased employee sense of well being, higher morale, improved customer service and overall improved productivity.

AQ1270 and Prolitec aromatherapy chemistry can help make a workspace a more comfortable and appealing place to be. As examples of the positive effect of aromatherapy on the workplace, below are results of several relevant studies:

- A 1991 study demonstrated that "sustained attention tasks" were performed with greater accuracy by the participants in scented rooms compared to those in the non-scented control rooms.[1]

- Another study found that fragrance had a dramatic and positive effect on a proofreader's efficiency.[2]

- It is commonly known that the Tokyo Stock Exchange diffuses peppermint into the air in the afternoons to make the brokers feel invigorated.

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[1] Dr. Joel Warm and Dr. William Dembar. "Olfactory Stimulation and Sustained Attention." *Compendium of Olfactory Research*, (Dubuque, Iowa: Kendall/Hunt Publishing Co., 1995) p. 47.

[2] Mark Kilauga et al. "Consumer Panel Study on the Effect of Peppermint and Lavender Fragrances on Proofreading." *Compendium of Olfactory Research*, (Dubuque, Iowa: Kendall/Hunt Publishing Co., 1995) p. 131

Frequently Asked Questions (FAQs)

How does AQ1270 work?
AQ1270 uses a patented technology to convert liquid fragrance compounds into tiny droplets less than 1/100th the diameter of a human hair. By comparison, an aerosol droplet is 100 times bigger and 1,000,000 times heavier. AQ1270 droplets present 100 times more surface area to the air being treated, which means much less fragrance is used to create the scent effect. AQ1270's tiny droplets are extremely light so they float easily into the air and disperse throughout a space to create an even scent effect.

What size room will AQ1270 handle?
AQ1270 is fully adjustable for different size rooms. AQ1270 is effective in spaces from 1,800 to 150,000 cubic feet (50 to 4,245 cubic meters). The cubic measure is width x length x ceiling height.

Where can I place AQ1270?
AQ1270 should be placed on a wall where it can take full advantage of the natural air currents in the space as determined by a smoke test or as known by you. Accessory kits can be ordered for placing the unit on a ceiling (track light) or table top.

Do I need to adjust AQ1270?
Yes! AQ1270 is a powerful machine. AQ1270 can handle small and very large rooms. If it is set too high for the room size, it can cause discomfort for some people. Adjusting is simple. Take the time to do it right.

How do I adjust AQ1270?
With the power cord plugged in you can adjust AQ1270 up and down using the $\oplus$ and $\ominus$ buttons just to the right of the LCD screen. You can see the setting levels (1 to 50) on the right side of the LCD. ALWAYS START WITH THE RECOMMENDED SETTING and adjust upward in small steps.

How strong should I make the scent?
Less is more. AQ1270 allows you to erase odors and use only a small amount of scent. Unlike most other air fresheners, AQ1270 is adjustable. Use this important feature. Always start on the lowest settings for the size of the space then adjust upward in small steps.

> IMPORTANT
>
> ALLOW ONE HOUR TO ASSESS the scent strength after starting or adjusting. It is best to assess strength when you first enter the room from another room.

How about safety? Is AQ1270 safe to use with children and pets?
When used as directed, AQ1270 is the safest air freshener available. Of course, it is important to read the Material Safety Data Sheets enclosed with each cartridge, which should be stored in a secure, visible location.

How does AQ1270 differ from aerosol room fresheners?

The more expensive aerosols can produce a very pleasant scent, but only for a few minutes and in very high concentrations just in the area they were sprayed. AQ1270 is what is known as a "continuous action" air freshener. AQ1270 is programmed to deliver an evenly distributed scent throughout the room.

Is AQ1270 eco-friendly?

Yes, AQ1270 is the most eco-friendly air freshener on the market. Unlike aerosols, AQ1270 uses no propellants and produces no harmful volatile organic compounds, or VOCs. Unlike many air fresheners, AQ1270 uses no ethanol or similar solvents to enhance the evaporation of fragrance chemicals.

I only want to scent the room at certain times. Do I have to turn it on and off every time?

AQ1270 has a tiny on-board computer for fully automatic operations. You can set set up to 21 separate start and stop times. (See Unit Programming)

If I want a different scent, can I switch cartridges?

Yes, simply remove the cartridge and replace it with another.

> IMPORTANT
>
> Always keep plugs in cartridges when not in use. If you have misplaced the plugs from the cartridge being removed from AQ1270, you can use the plugs from the new cartridge being inserted.

How do I clean up a drip?

If there is a drip, blot it as quickly as possible and then clean with soap and water.

Specifications

Dimensions
AQ1270 Appliance 15 1/2" x 13 3/8" x 6 3/4" (39.4 cm x 34.0 cm x 17.2 cm)

Weight
13.7 lbs (6.2 kg) with a full 1250mL cartridge

Power Supply
Input — 100 – 240V AC at 0.6A
Frequency — 50/60 Hz
Protection — Switching power supply
Internal Power — 15V DC at 1.2 A
Battery — Lithium 3V, #CR2032

Approvals
FCC part 15, CE, RoHS UL Power Supply

Working Temperature
0˚ to 40˚ C

Working Humidity
85% or less

Liquid Capacity
1250mL cartridges

Service Area
Up to 150,000 cu. ft. (4245 m^3) served

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