

4. PLANNING THE INSTALLATION (CONT'D)

4.1 PLANNING OF THE DUCTWORK

- Keep it simple. Plan for a minimum of bends and joints.
- Keep the length of insulated ducts to the outside of home to a minimum.(not for HEPA Filtration model GSFH1K).
- Do not ventilate crawl spaces or cold rooms.
- If the house has two floors or more, be sure to plan for at least one exhaust register on the highest lived-in level.

Use the table below to plan the flexible ducts length.

FLEXIBLE DUCT LENGTH TABLE		
	Maximum recommended length to reach 105 cfm	Maximum recommended length to reach 95 cfm
Insulated fresh air duct from outside (6" diameter)	up to 10'	from 10' to 20'
Insulated exhaust air duct to outside (6" diameter)	up to 10'	from 10' to 20'
	Recommended maximum length to reach 270 cfm	Recommended maximum length to reach 240 cfm
Stale air duct from inside (8" diameter)	Combined: 40'	Combined: 60' with stale air duct not to exceed 36'
Filtered air duct to inside (8" diameter)		

WARNING

Do not attempt to recover in any ways the exhaust air from a dryer or a range hood. This would cause clogging of the filters and recovery module (if applicable); this is also a fire hazard. Not following this warning will void the warranty.

5. TYPICAL INSTALLATIONS

Installations may vary according to the model number, the product orientation (vertical or horizontal) and the location in the home where the unit is installed. Use the following illustrations as guidelines to help you decide the appropriate installation.

The unit allows for multi positional mounting (vertical or horizontal). It may be hung to the joists (preferred method), or it may be laid down on one of three surfaces, and installed either vertically or horizontally.

NOTE: For more details, see Points 5.3 and 5.4 in Section 5 INSTALL THE UNIT.

In every case, bathroom fans and a range hood should be used as spot ventilation to exhaust stale air. Also, for homes with more than one level, we recommend placing one exhaust register at the highest lived-in level.

There are three installation methods: Stand Alone, Central Draw Point* and Return-to-Return*.

* Different connections to a forced air system.

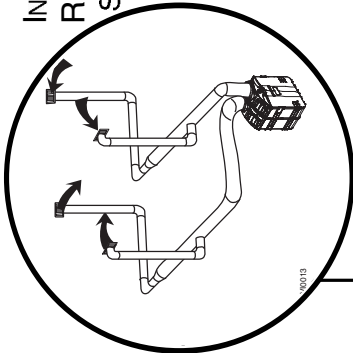
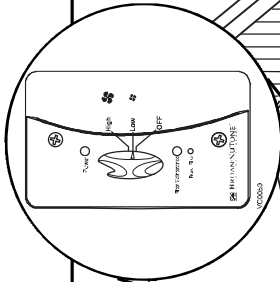
Multiple furnaces or air handlers may require installation of GuardianPlus on each system for maximum IAQ benefit.

NOTE: A grounded three-prong electrical outlet has to be available within 3 feet from the unit.

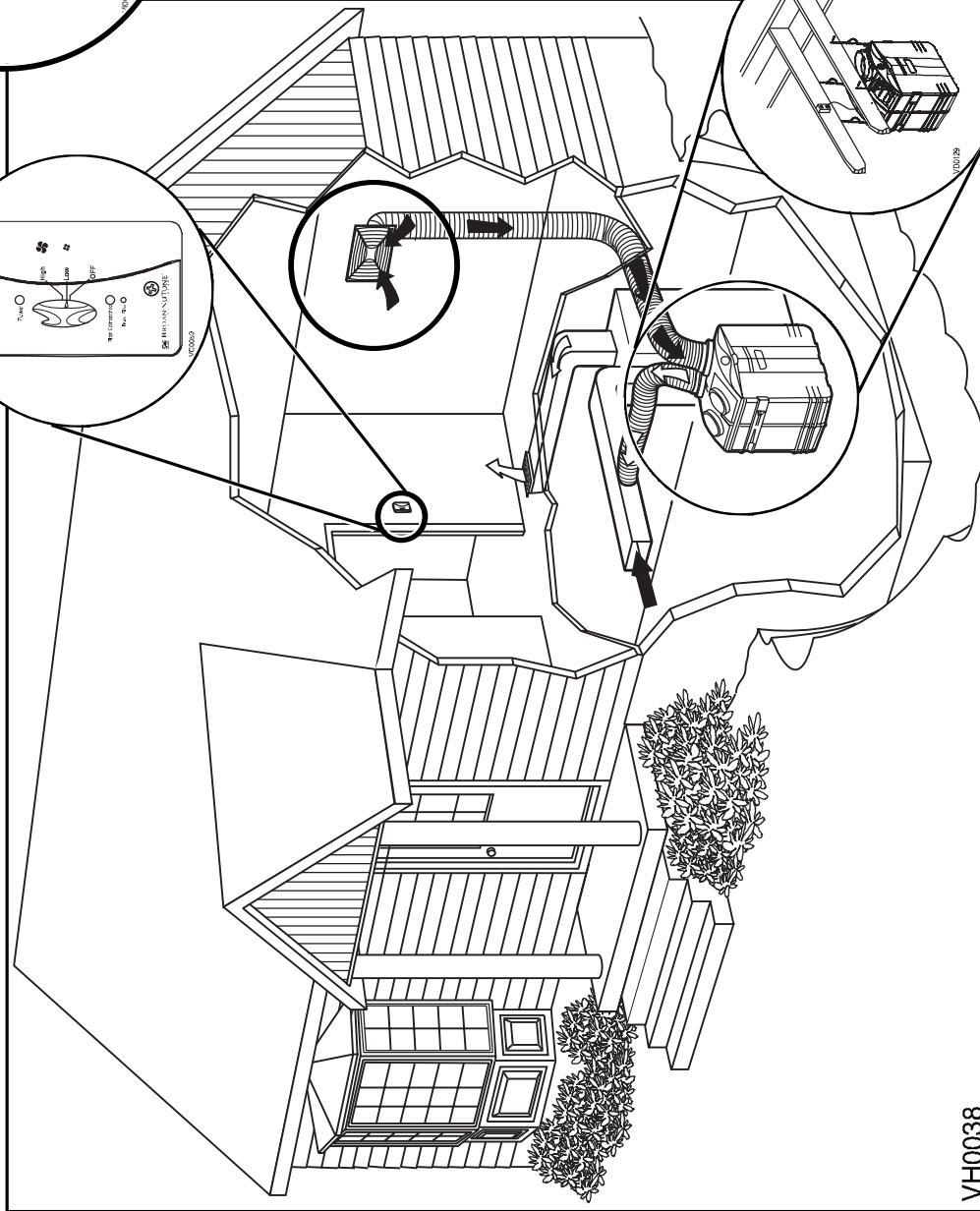
5.1.GSFH1K U NIT INSTALLATION

INSTALLATION TYPE SHOWN: C ENTRAL DRAW POINT
SEE SECTION 5.4.1

SECTION 7:C ONTROLS

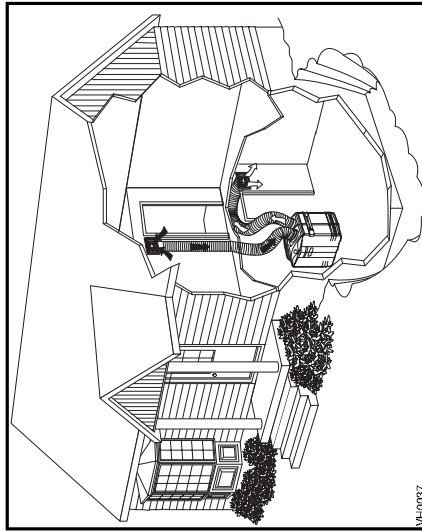


INSTALLING 8" DUCTS AND
REGISTERS
SEE SECTIONS 6.5



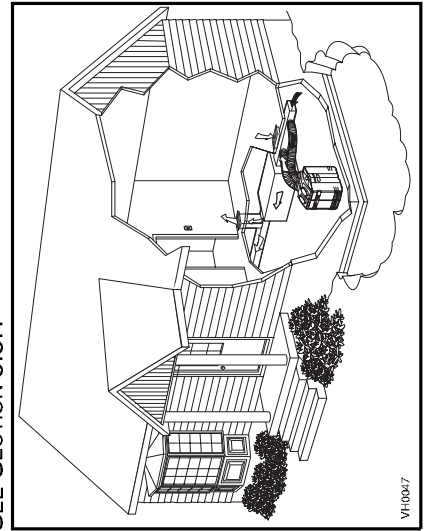
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STAND ALONE INSTALLATION
SEE SECTION 5.3.1



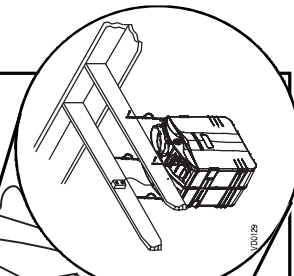
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RETURN-TO-RETURN INSTALLATION
SEE SECTION 5.5.1



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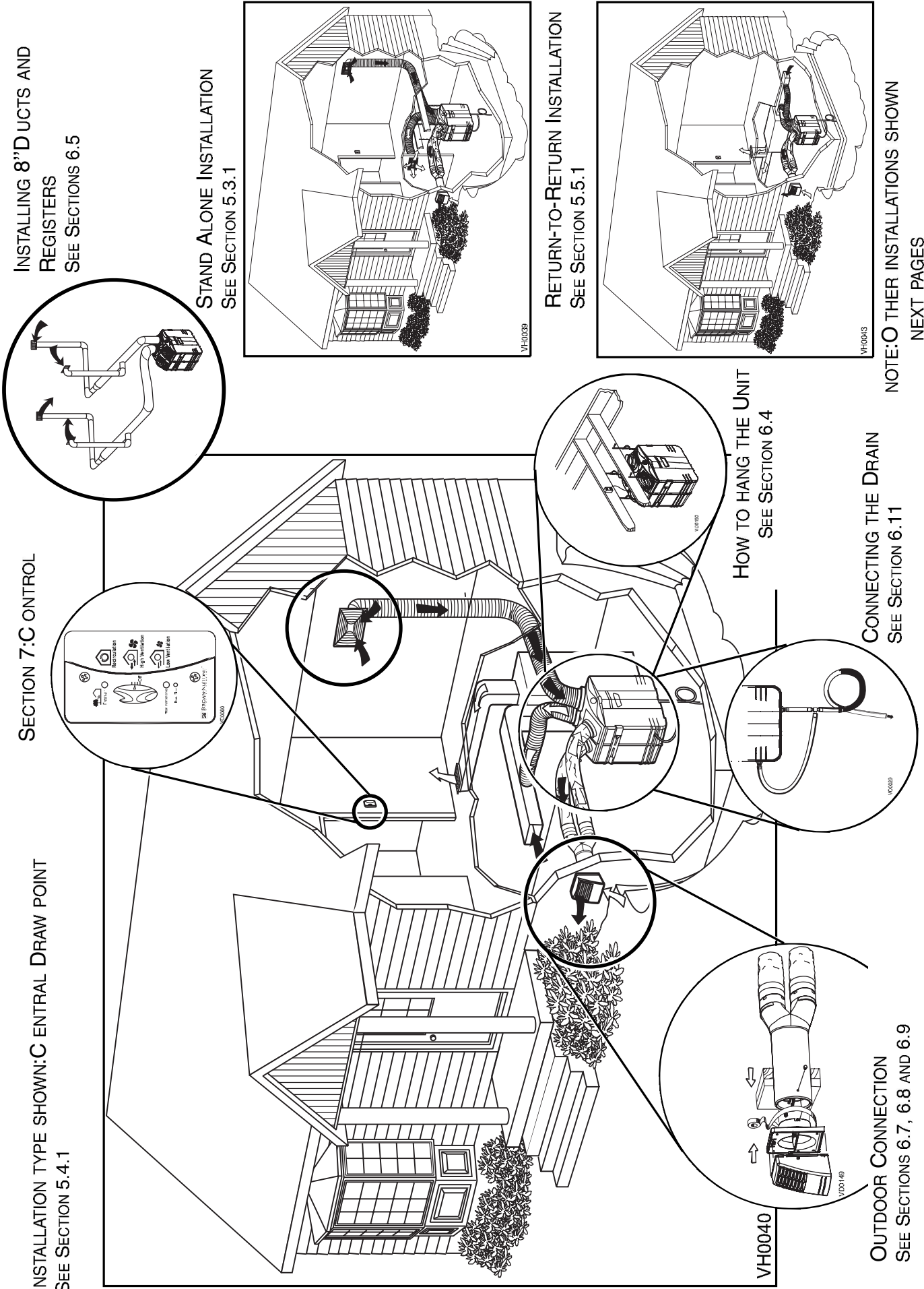
HOW TO HANG THE UNIT
SEE SECTION 6.4



VH0029

NOTE: OTHER INSTALLATIONS SHOWN NEXT PAGES

5.2.GSVH1K, GSHH3K AND GSEH3K UNITS INSTALLATION



INSTALLING 8"DUCTS AND
REGISTERS
SEE SECTIONS 6.5

STAND ALONE INSTALLATION
SEE SECTION 5.3.1

RETURN-TO-RETURN INSTALLATION
SEE SECTION 5.5.1

SECTION 7:C ONTROL

INSTALLATION TYPE SHOWN:C ENTRAL DRAW POINT
SEE SECTION 5.4.1

HOW TO HANG THE UNIT
SEE SECTION 6.4

CONNECTING THE DRAIN
SEE SECTION 6.11

OUTDOOR CONNECTION
SEE SECTIONS 6.7, 6.8 AND 6.9

NOTE: OTHER INSTALLATIONS SHOWN
NEXT PAGES

5. TYPICAL INSTALLATIONS (CONT'D)

5.3 STAND ALONE INSTALLATION

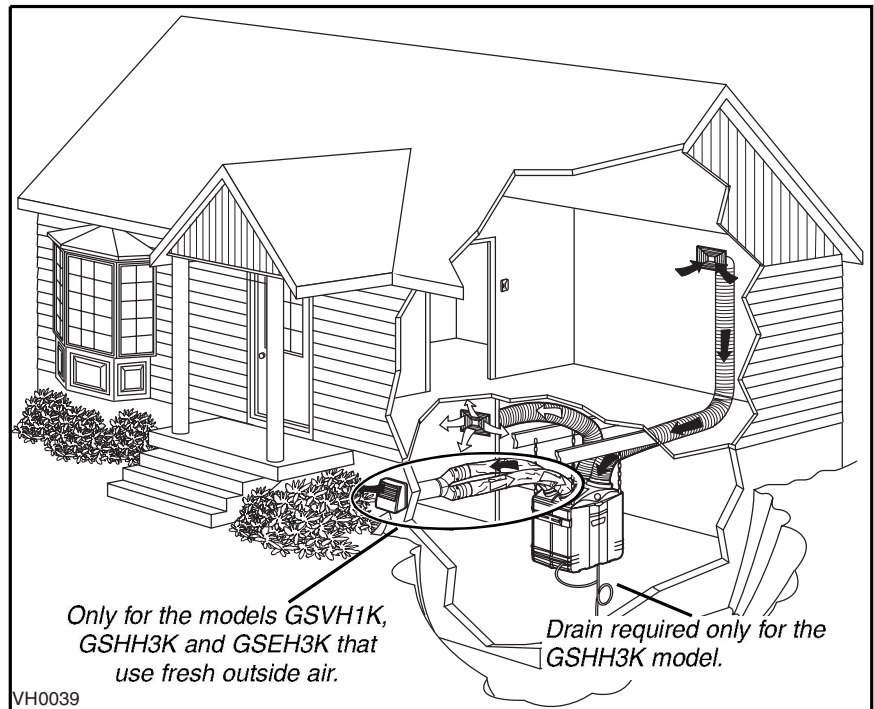
(Primarily for homes with no central air mover or equipped with wall furnaces, radiant hot water or electric baseboard heating.)

5.3.1 BASEMENT

- Ideal for homes without a central furnace in the basement. Allows filtration and a better air circulation throughout the house.
- Easy access to perform the periodic filter maintenance and servicing.
- Offers an ambient temperature above freezing (32°F - 0°C).
- The HEPA Filtration model GSFH1K has no connection to the outside, so all parts encircled are not required.

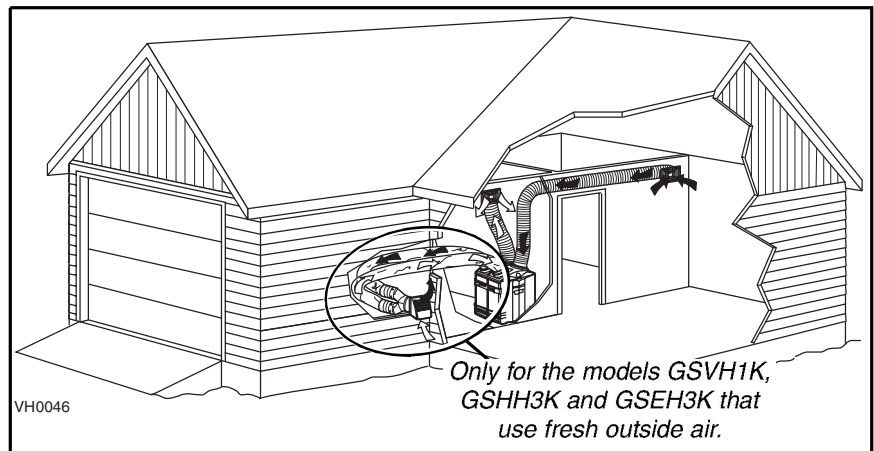
INSTALLATION CONSIDERATIONS:

- Installing the unit near an exterior wall will shorten the length of the insulated ducts (not necessary for HEPA Filtration only model GSFH1K).
- If a HEPA Filtration Fresh Air & Heat Recovery Ventilation model GSHH3K is installed, a water drain must be close to collect the run-off.



5.3.2 GARAGE CLOSET

- Ideal for homes without a central furnace, or limited space applications, allows filtration and a better air circulation throughout the house.
- Easy access to perform the periodic maintenance (twice a year).
- The HEPA Filtration model GSFH1K has no connection to outside, so all parts encircled are not required.



CAUTION

When the ambient temperature for the unit location is below freezing (32°F - 0°C), the unit must run continuously to prevent condensation.

INSTALLATION CONSIDERATIONS:

- Installing the unit near an exterior wall will shorten the length of the insulated ducts (not necessary for HEPA Filtration model GSFH1K).
- If a HEPA Filtration Fresh Air & Heat Recovery Ventilation model GSHH3K is installed, a water drain must be close to collect the run-off.
- All ducts must be insulated.
- For the HEPA Filtration, Fresh Air & Heat Recovery Ventilation (GSHH3K) and the HEPA Filtration, Fresh Air & Energy Recovery Ventilation (GSEH3K) models only, if the ambient temperature around the unit drops below freezing (32°F - 0°C), go to Section 6.12 (Low Temperature Applications) for instructions on drain line protection (GSHH3K only) and other cold environment installation details.

5. TYPICAL INSTALLATIONS (CONT'D)

5.3 STAND ALONE INSTALLATION (CONT'D)

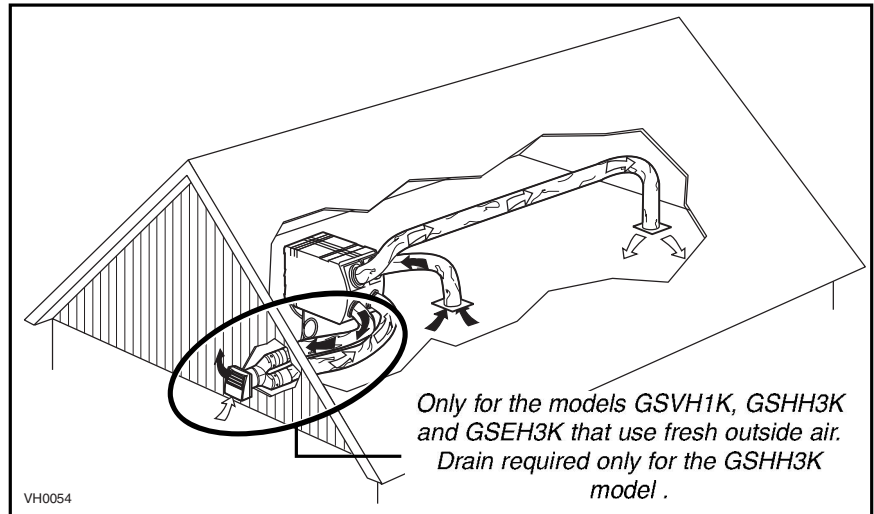
(Primarily for homes with no central air mover or equipped with wall furnaces, radiant hot water or electric baseboard heating.)

5.3.3 ATTIC

- Ideal for homes without a central furnace, or limited space applications, allows filtration and a better air circulation throughout the house.
- Only one partition to go through to install the registers.
- No visible ducts.
- The HEPA Filtration model GSFH1K has no connection to the outside, so all parts encircled are not required.

CAUTION

When the ambient temperature for the unit location is below freezing (32°F - 0°C), the unit must run continuously to prevent condensation.



INSTALLATION CONSIDERATIONS:

- Installing the unit near an exterior wall will shorten the length of the insulated ducts (not necessary for HEPA Filtration only model GSFH1K).
- If a HEPA Filtration Fresh Air & Heat Recovery Ventilation model GSHH3K is installed, a water drain must be close to collect the run-off.
- All ducts must be insulated.
- For the HEPA Filtration, Fresh Air & Heat Recovery Ventilation (GSHH3K) and the HEPA Filtration, Fresh Air & Energy Recovery Ventilation (GSEH3K) models only, if the ambient temperature around the unit drops below freezing (32°F - 0°C), go to Section 6.12 (Low Temperature Applications) for instructions on drain line protection (GSHH3K only) and other cold environment installation details.

5.4 CENTRAL DRAW POINT INSTALLATION

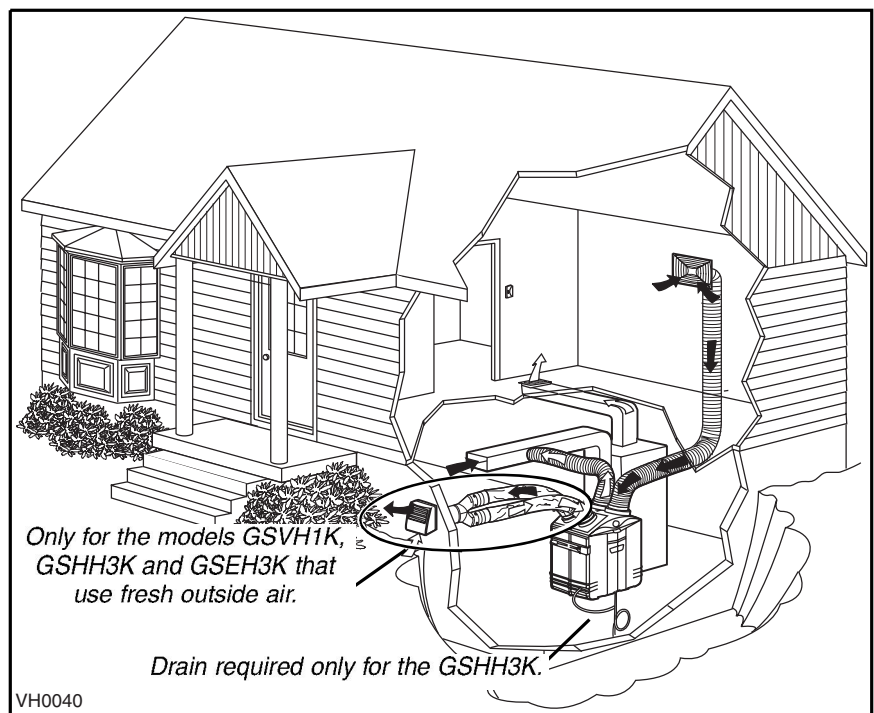
(Connection to a Forced Air System)

5.4.1 BASEMENT

- Simplified installation by using the home existing ductwork to supply filtered air throughout the house.
- The central draw point should be located in the main area where most of the pollutants are produced.
- The furnace/air handler does not need to run continuously.
- Easy access to perform the periodic maintenance (twice a year).
- Offers an ambient temperature above freezing (32°F - 0°C).
- The HEPA Filtration model GSFH1K has no connection to outside, so all parts encircled are not required.

INSTALLATION CONSIDERATIONS:

- Installing the unit near an exterior wall will shorten the length of the insulated ducts (not necessary for HEPA Filtration only model GSFH1K).
- If a HEPA Filtration Fresh Air & Heat Recovery Ventilation model GSHH3K is installed, a water drain must be close to collect the run-off.



5. TYPICAL INSTALLATIONS (CONT'D)

5.5 RETURN-TO-RETURN INSTALLATION (Connection to a Forced Air System)

5.5.1 CRAWL SPACE

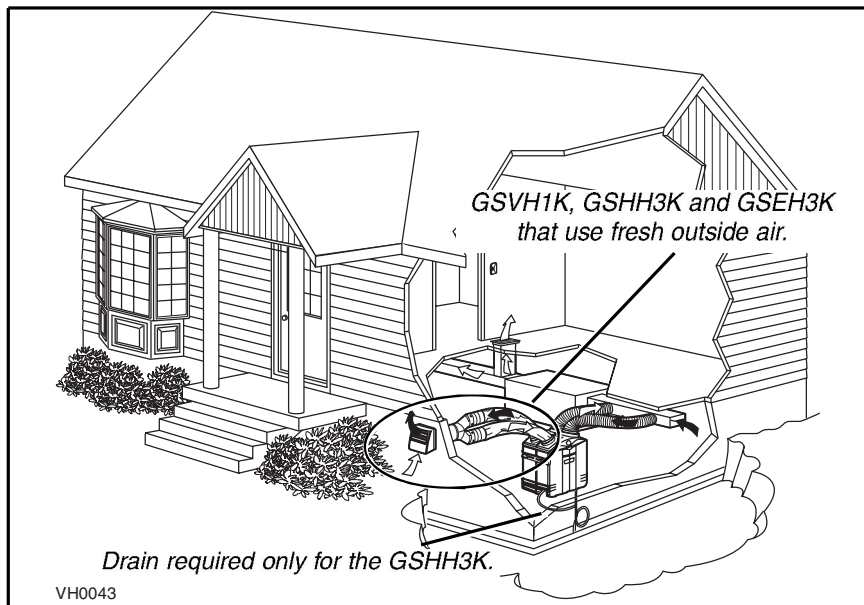
- Simplify the installation by using the existing ductwork.
- Non-visible ducts.
- The HEPA Filtration model GSFH1K has no connection to outside, so all parts encircled are not required.

CAUTION

When the ambient temperature for the unit location is below freezing (32°F - 0°C), the unit must run continuously to prevent condensation.

INSTALLATION CONSIDERATIONS:

- Installing the unit near an exterior wall will shorten the length of the insulated ducts (not necessary for HEPA Filtration model GSFH1K).
- If a HEPA Filtration Fresh Air & Heat Recovery Ventilation model GSHH3K is installed, a water drain must be close to collect the run-off.
- To avoid the cross-contamination and achieve highest efficiencies, the furnace / air handler blower must always be ON (or the efficiency will be affected).
- The HEPA Filtration Fresh Air Ventilation model GSVH1K needs to be ON all the time, since it doesn't have motorized dampers. If this unit is OFF, then the furnace / air handler will draw cold outdoor air inside.
- All ducts must be insulated.
- For the HEPA Filtration, Fresh Air & Heat Recovery Ventilation (GSHH3K) and the HEPA Filtration, Fresh Air & Energy Recovery Ventilation (GSEH3K) models only, if the ambient temperature around the unit drops below freezing (32°F - 0°C), go to Section 6.12 (Low Temperature Applications) for instructions on drain line protection (GSHH3K only) and other cold environment installation details.



5.5.2 ATTIC

- Simplify the installation by using the existing ductwork.
- Non-visible ducts.
- The HEPA Filtration model GSFH1K has no connection to outside, so all parts encircled are not required.

CAUTION

When the ambient temperature for the unit location is below freezing (32°F - 0°C), the unit must run continuously to prevent condensation.

INSTALLATION CONSIDERATIONS:

- If a HEPA Filtration Fresh Air & Heat Recovery Ventilation model GSHH3K is installed, a water drain must be close to collect the run-off.
- All ducts must be insulated.
- For the HEPA Filtration, Fresh Air & Heat Recovery Ventilation (GSHH3K) and the HEPA Filtration, Fresh Air & Energy Recovery Ventilation (GSEH3K) models only, if the ambient temperature around the unit drops below freezing (32°F - 0°C), go to Section 6.12 (Low Temperature Applications) for instructions on drain line protection (GSHH3K only) and other cold environment installation details.

