Comfort. . .

where you need it,
when you need it

DUCTLESS MINI-SPLIT SYSTEMS

Comfort-Aire®
by HEAT CONTROLLER LLC

Comfort. . .
it's what we're all about

At Comfort-Aire, we're in the business of making you comfortable, whether at home, work, school, or at play. We offer a broad product selection for both residential and commercial use—products that are efficient, effective and designed to add value.

We've been in the comfort business since our founding in 1933, and our roots go back even further. We can trace our beginnings to the Wingert Furnace Co. which began building coal, gas and oil furnaces in 1907. We moved to our new headquarters in Jackson, Michigan, in 1955, and this facility has been expanded several times—most recently in 2006—to accommodate our growth.

Comfort-Aire is known throughout the heating and air conditioning industry for efficient, reliable products and in-season availability. Whether for heating or cooling, these products meet or exceed industry standards for energy efficiency. The line is constantly being updated to add the features and new technology that customers demand.

Ductless mini-split systems are one of our fastest growing product groups, and there are many reasons for this increasing popularity—but overall, the key is flexibility. They allow air conditioning (and heating with heat pump models) to be added quickly, conveniently and economically—often in locations where installing such comfort systems didn't seem possible or practical.

Read on to find out how a ductless mini-split system can make you comfortable, and do it efficiently and economically.

Comfort-Aire®

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This guide to ductless mini-splits is designed to explain how units work, the advantages they bring, and to show you the entire Comfort-Aire line. With single zone, multi-zone, and ceiling cassette models, there's a mini-split in the size and type you need to add comfort to just about any location!

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Ductless Mini-Splits
The Comfort Solution

Ductless mini-split systems are a great solution to a wide variety of installation challenges, giving contractors the ability to put air conditioning (and heat with heat pump models) in locations that previously seemed impossible. They're ideal when installing ductwork is difficult, prohibitively expensive, or simply impractical. Both residential and commercial structures, new construction and existing buildings, are candidates for mini-splits.

Basically a mini-split does away with the need for ductwork. Like a regular split system A/C or heat pump, the condenser is located outdoors; one or more air handlers are placed indoors. The two are connected by electrical, refrigerant, and condensate drain lines that run through a small hole in an exterior wall, generally 3" in diameter or less.

In addition to eliminating the need for ducting, one of the other big advantages of mini-split systems is true zone control. The air handler is dedicated to the room being conditioned and is controlled by a wireless remote. That room can be kept at a temperature and humidity level different from the rest of the house or building.

Multi-zone systems for up to four rooms (or one large space) feature a single condenser that handles one, two, three or four air handlers. Each air handler is independently controlled, with its own remote and electronics-based climate controls to regulate temperature and humidity levels, as well as air flow. Units in a bedroom and a home office, for instance, can be programmed for different hours of operation with the 24-hour timer, or two classrooms situated side by side can be set at different temperatures. (although units cannot operate in heating and cooling modes simultaneously).

Mini-split systems have the flexibility to fit virtually anywhere and with SEER ratings up to 19.3, they're also economical to operate.

Where can you use a mini-split?

Common applications include:

- Historic homes (*the aesthetics of the exterior are maintained*)
- Homes with hydronic heat
- Residential additions such as a sunroom or bedroom
- Vacation homes and cabins
- Schools (*individual classroom control*)
- Church sanctuaries and fellowship halls
- Nursing homes and hospitals
- Restaurants
- Remote offices such as those inside a warehouse or factory
- Utility transfer stations
- Arena sky boxes
- ATMs and office lobbies

There's more to comfort than just temperature. . .

Advantages of a ductless mini-split system

Quiet Operation—The operational sound of the compressor and fan is kept outside with the condensing unit, and the indoor air handler is designed to be exceptionally quiet with balanced airflow

Easy Installation—All it takes to connect the outdoor condenser and the indoor air handler is a hole about 3" in diameter to run refrigerant lines, condensate drain and electrical wires between the two components

Efficiency—Units are designed to be energy efficient with high SEER ratings that meet or exceed government mandated standards; and only the room or area being used is conditioned, potentially decreasing electricity usage when compared to traditional systems

Attractive Appearance—High wall models feature a low profile indoor unit in a neutral color that blends with any décor; ceiling cassettes panels come in a neutral color that virtually disappears in ceiling installations

Security—With a room air conditioner, there's always the worry that access to the home can be gained through the window where the unit is mounted; that worry is eliminated with a ductless system

Consistent Comfort—Electronic climate controls regulate operation to maintain a preset temperature level; random swing airflow (on most units) continually adjusts the fan speed and air direction for a gentle, breeze-like effect preferred by most people

Simple Operation—One fully featured remote is included for each indoor air handler, making it simple to select the mode, set the temperature and the timer, and change the airflow direction

Mini-Splits and Indoor Air Quality

According to the EPA, the air inside our homes is often more polluted than outside air. What's needed to protect yourself from airborne contaminants is a high quality filtration system, and that's just what you get with all ductless mini-splits from Comfort-Aire.

In fact, our "V" Series inverter high wall mount units are equipped with triple filtration:

- Ionizer—removes microscopic particles from the air
- Active carbon and dust filter—removes dust, smoke, and pollen
- Air freshening filter—helps freshen the air

Additionally, the units can be operated in the dehumidification mode without cooling or heating. This removes excess humidity from the indoor air, one of the keys to preventing the growth of mold, mildew and other contaminants.

How does a **mini-split** *work?*

Cooling without Ductwork

A ductless mini-split air conditioner works the same way central air conditioning does with one big difference—there's no ductwork.

Both the central system and the mini-split can be classified as split systems because they consist of an outdoor condensing unit and an indoor air handler. With a central A/C system, the indoor components include a cooling coil and an air handler (the furnace's blower or a separate air handler) that circulate the conditioned air throughout the structure by way of the ductwork.

The mini-split indoor unit functions as both the indoor coil and the air handler, delivering conditioned air directly into a single room without sending it through any ductwork.

Heat Pump Models

A heat pump mini-split operates in basically the same manner, but adds heating capability. In the summer it transfers heat from inside the home to the outdoors. A reversing valve makes it possible for the unit to reverse this procedure during cold weather, absorbing heat from the outdoors and transferring it indoors (yes, there is warm air outside, even when it's below freezing).

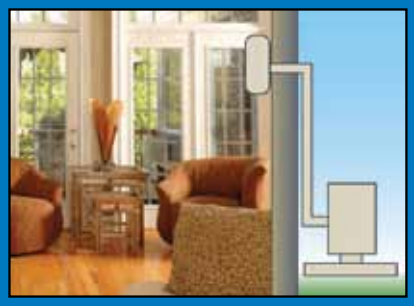
Heat Gain/Loss

One of the advantages this "ductless" operation provides is efficiency. In a central system, the cooled air absorbs heat as it travels through the ductwork. The longer the duct run, the greater the temperature gain. In winter, heat can also be lost as the conditioned air travels through the ducts.

Don't forget that it takes air pressure to move the conditioned air through the ducting system and that involves some noise from the fan and the actual movement of air. A mini-split system, however, is ultra-quiet because it doesn't have to push the air through many feet of ductwork.

Indoor Air Handler

Outdoor Condenser



This diagram shows a typical single zone installation:

- The condensing unit is installed outdoors while the air handler is mounted inside on an exterior wall or in the ceiling (ceiling cassette). A hole approximately 3" in diameter is drilled through the wall. The lines that carry refrigerant from the air handler to the condensing unit and back run through this hole.
- A communication wire runs between the two components: power is supplied by the outdoor unit so there are no cords and plugs visible on the interior. A bracket mounted to the wall supports the high wall mount air handler.
- A drain line runs from the air handler to the outside to carry condensate away; ceiling cassettes have a built-in condensate pump.

Inverter Technology:
Taking comfort and efficiency to the next level

Comfort-Aire's "V" Series ductless mini-split heat pumps maximize comfort by reducing temperature fluctuations and at the same time save an estimated 40% or more on energy consumption, compared with traditional mini-split systems.

What's different about the "V" Series?
It uses state-of-the-art inverter technology.

An inverter is an electrical device that varies the frequency of the power going to the compressor. This allows the compressor to run at variable speeds so that it can precisely match the power output with the load requirement.

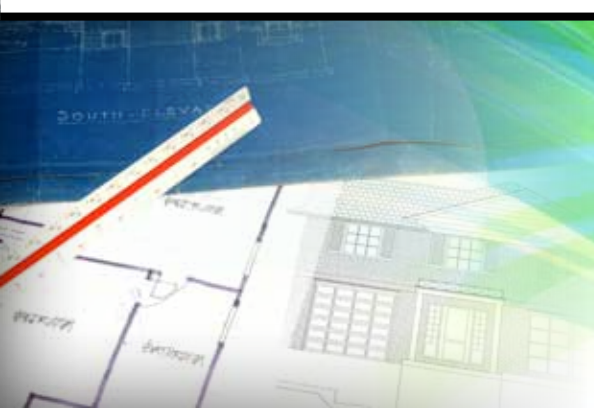
A microprocessor adjusts the compressor speed by sampling the ambient air temperature in the room or space being cooled or heated. At start up, the compressor runs at high frequency to quickly reach the desired temperature in the room. Then it slows down to a low frequency to maintain the temperature. However, during times of high demand such as weather extremes, or even a large gathering in the room, the compressor ramps up to a greater frequency to meet the demand.

Compare this to a traditional system which cools/heats by running the compressor until the setpoint is reached and then turns off, turning on again when the temperature falls below the setting. This on-off cycling results in temperature fluctuations that affect comfort, and also adds to wear and tear of the components.

Temperature isn't the only contributor to comfort: humidity is critical. Dehumidification, especially during hot, muggy weather, is an integral component of cooling. When the compressor in a traditional system cycles off, dehumidification also stops. With an inverter system, excess moisture in the air is removed all the time because the unit runs constantly, although mostly at "economy" speed.

Advantages of Inverter Technology

- Reaches the desired temperature quickly
- Provides precise temperature control and continuous dehumidification (cooling mode)
- Extends component life by eliminating on-off cycling
- Operates exceptionally quietly because the DC compressor runs mostly at low speed, which also reduces any vibration and associated noise
- Saves energy by matching the compressor speed to the demand; rated at up to 19.3 SEER
- Delivers extra heating capacity even at low ambient temperatures



Ductless mini-splits can save you money when it comes to adding on to your house. If your current HVAC system is correctly sized to your existing structure, it may not have the capacity to handle the new square footage. Rather than replacing the entire system, you can cool and heat your new space with a mini-split—and save the cost of installing ductwork.

Multi-Zone
Flexibility

You can see how one outdoor condenser is used in conjunction with multiple indoor air handlers in a single structure. Air handlers can be installed up to 82' (depending on model) from the condenser, so you can place the condenser in the best location for your landscaping.

When you need to condition more than one space, it's not necessary to install separate systems. You can choose multi-zone models that let you cool and heat multiple rooms, and with our InverterFlex models, you can mix and match 1 to 4 air handlers to best match your room requirements. Each system uses one outdoor condensing unit tied to multiple indoor units, and each of the indoor units is independently controlled to meet specific comfort requirements.

InverterFlex units make zoning practical and economical. No complicated systems and controls are required to cool and heat individual rooms. Setting the desired comfort level is a snap, using the wireless remote that comes with each indoor air handler.

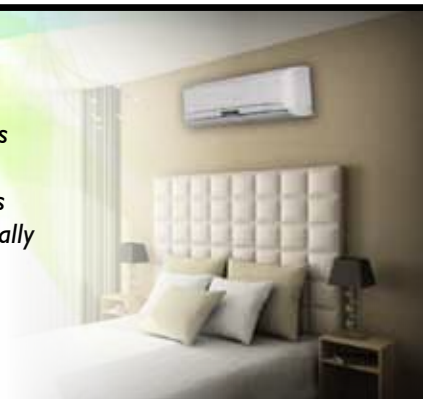
This makes mini-splits ideal not just for residential use, but also for nursing homes, classrooms, anywhere individual comfort control is preferred. Also, high wall mount and ceiling cassette air handlers can be mixed for installation flexibility.

The multi-zone design is also ideal for large spaces. One or more InverterFlex systems can be effective (and quiet) for a church sanctuary or fellowship hall, school commons area, even a warehouse setting, for example. As with all mini-splits, there's minimal disruption for installation and the sleek indoor units blend into the décor.

As for operating costs, the units use inverter technology for efficiency, but you may choose to heat/cool only the room or space being used, saving even more on utility bills.

Capacities for InverterFlex models range from 9,000 BTUH to 36,000 BTUH, with indoor air handlers sized from 9,000 to 18,000 BTUH per zone.

A ductless mini-split can contribute to a better night's rest by making your bedroom more comfortable. You can control the temperature and humidity levels separately from the rest of the home and select Sleep Mode, if you choose. For most people, body temperature drops as they sleep so the room setting that was comfortable at bedtime is too cool by early morning. The Sleep Mode automatically adjusts the temperature during the night so you don't wake up looking for a blanket or have to get up to change the thermostat.



Energy efficient and environmentally sound

All Comfort-Aire ductless mini-splits come charged with R-410A, an environmentally friendly refrigerant.

Why is this important? Because R-410A doesn't contribute to depletion of the earth's vital ozone layer.

environmentally friendly R-410A

The ozone layer is located in the stratosphere, providing a protective barrier against the sun's harmful ultraviolet rays which can cause skin cancer and cataracts in people. UV rays can also affect animals and crop yields.

In the past, most refrigerants were compounds that contained chlorine—chlorofluorocarbons or hydrochlorofluorocarbons. You don't have to remember these long names, but you should be aware that when these kinds of refrigerants are released to the atmosphere, the chlorine molecule combines with one of the ozone's oxygen molecules, destroying ozone at a faster rate than it can be replenished.

Soon all CFC and HCF refrigerants used around the world will be replaced by non-ozone depleting types such as the R-410A that's already in use in all our mini-split models.

What do we mean by 'Energy Efficient'?

In recent years, heating and cooling manufacturers have made significant advances in the efficiency of their systems in terms of energy usage. This is an especially important purchase consideration as fuel prices continue to rise.

Cooling efficiency is measured by a Seasonal Energy Efficiency Ratio (SEER) rating. The higher the number, the more efficient the equipment. All Comfort-Aire systems meet or exceed the federally mandated 13.0 SEER rating, and the 'V' Series Inverters are rated as high as 19.3!

For heat pump models, efficiency is shown by a Heating Season Performance Factor (HSPF). This is an estimate calculated by dividing the seasonal heating output by the seasonal power consumption in watts. The federal minimum is 7.7; the most efficient heat pumps have an HSPF between 8 and 10. Our units are rated as high as 9.6 in the 'V' series.

All heating and cooling equipment comes with an Energy Guide label which shows the estimated energy usage—you can use these labels to compare equipment efficiency. Your dealer can help you determine which system is best for you, taking into account a number of factors including the average number of yearly cooling and heating days in your area of the country, in addition to your individual needs.

Comfort-Aire®

Mini-Split Systems

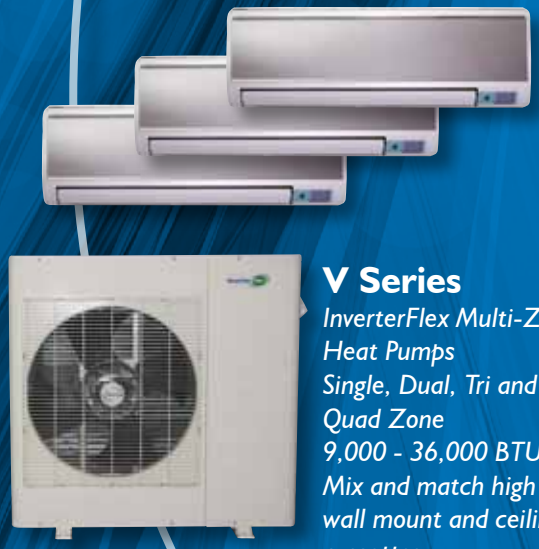
See complete descriptions and specifications beginning on page 10.

V Series

Single Zone Heat Pumps
9,000 - 36,000 BTUH
Inverter Technology

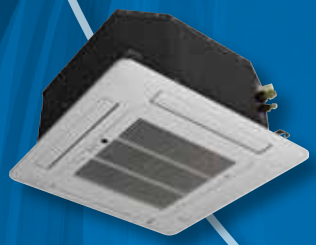
S Series

Single Zone
Cooling only and Heat Pumps
9,000 - 24,000 BTUH



V Series

InverterFlex Multi-Zone® Heat Pumps
Single, Dual, Tri and Quad Zone
9,000 - 36,000 BTUH
Mix and match high wall mount and ceiling cassettes



Quick Reference Guide

Use this handy guide to check on the features of each type of unit. You can find more detail on the product pages that follow.

		SEER	EER	HSPF	Auto Operation	Turbo Mode	Sleep Mode	24 Hour Timer	Auto Louver Swing	Louver Setting	Multi-Stage Filtration	Auto Restart	Low Ambient Op.	Wireless Remote	Self Diagnositics	Ionizer
"S" Series Single Zone	SMA09SC-0	13.00	12.00	-	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
	SMA12SC-0	13.00	11.00	-	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
	SMA18SC-0	13.00	11.65	-	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
	SMA24SC-0	13.00	11.00	-	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
	SMH09SC-0	13.00	12.00	7.70	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
	SMH12SC-0	13.00	11.00	7.70	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
	SMH18SC-0	13.00	11.00	7.70	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
	SMH24SC-0	13.00	12.10	8.60	✔	✔	✔	✔	✔	✔	-	✔	✔	✔	✔	-
"V" Series Single-Zone with Inverter Technology (VMH09, 12, 18)	VMH09SC-1*	18.30	13.00	8.60	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	VMH12SC-1*	19.30	12.00	8.90	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	VMH18SC-1*	17.00	12.00	9.00	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	VMH24SC-1	17.00	10.00	8.40	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	VMH30SC-1	16.00	10.00	9.60	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	VMH36SC-1	14.50	8.80	9.00	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
"V" Series Multi-Zone with Inverter Technology	VMH18DC-1[1]	16.00	10.00	8.00	✔	✔	✔	✔	✔	✔	✔[2]	✔	✔	✔	✔	✔[2]
	VMH27TC-1[1]	16.00	9.50	8.00	✔	✔	✔	✔	✔	✔	✔[2]	✔	✔	✔	✔	✔[2]
	VMH36QC-1[1]	14.50	9.00	8.00	✔	✔	✔	✔	✔	✔	✔[2]	✔	✔	✔	✔	✔[2]

[1] All ratings are based on using 9K indoor air handlers only
[2] Does not apply to ceiling cassettes
* Energy Star models
Both high wall mounts and ceiling cassettes can be matched with InverterFlex outdoor units.

Design, specifications and performance data subject to change without notice.

Classrooms in schools and churches are ideal candidates for ductless mini-splits, especially multi-zone models. They allow each room to be individually controlled to meet specific requirements and the units can be turned off when the room is not in use for additional energy savings

Mini-Splits *are packed with comfort features*

Ultra-Quiet Operation
High tech multi-speed fan provides balanced air flow that's so quiet, you may not realize the unit is turned on

Attractive Appearance
The low profile of wall mount indoor units, along with sleek grille design, results in an attractive, unobtrusive installation; ceiling cassettes have a neutral panel that blends with ceiling tiles; outdoor units can be installed close to the building to preserve landscaping and exterior appearance

Random Swing
The unit randomly changes the louver direction for a natural breeze-like effect that is preferred by most people; this feature can be selected in most modes

Airflow Direction Control
The vertical louvers can be set for desired airflow direction; ceiling cassettes have 360° airflow for comfort

Multi-Stage Filtration
Triple filtration in our "V" Series high wall mounts helps improve indoor air quality: an active carbon and dust filter removes pollen, dust and smoke; an ionizer removes microscopic particles from the air, and a freshening filter helps freshen the air

Auto Restart
The unit resumes operation when power is restored after a temporary outage, reverting to the last-used setting

24-Hour Timer
Turns the unit on and off during the day for comfort when you're home and energy savings when you're away

Low Ambient Operation
All high wall mini-splits can operate when the outside temperature is as low as 5°F without installing a separate low ambient kit

Environmentally Friendly Refrigerant
All Comfort-Aire mini-split systems use R-410A which does not contribute to depletion of the earth's vital ozone layer

Self-Diagnostics
Makes it easy to identify any operational problems

All features not available on all models: see reference guide or individual series for specific features

You can operate Comfort-Aire mini-splits in a variety of modes to suit your needs and your personal comfort level:

- **Auto Operation**—Climate controls sense the temperature in the room and adjust the fan speed and operation as needed to maintain the desired temperature
- **Cooling Mode**—Choose this mode when cooling is needed
- **Turbo Mode**—To quickly bring the room to the desired temperature, the fan operates at super high speed until the setting is reached
- **Heat Mode**—For heat pumps, the condenser extracts heat from outside air for economical comfort
- **Dehumidification Mode**—The unit automatically adjusts the air flow and temperature setting according to current room conditions for comfort even in the most humid conditions
- **Auto Sleep Mode**—Because our body temperature cools down as we sleep, the unit automatically adjusts the setting for all-night comfort
- **Air Circulation**—The fan circulates air without heating or cooling and can be set at low, medium or high speed

Operation is controlled by a fully featured wireless remote. Intuitive design makes it easy to select the operational mode. For multi-zone units, one remote is included for each indoor unit.

Comfort-Aire®

'S' Series

Single zone cooling only and heat pump models

Our "S" Series, rated at 13 SEER, offers economical zone control because only the room or area being used is conditioned. Also, no energy is used to force air through a duct system.

Since the unit is independent of any other heating or cooling system, specific comfort requirements can be set for the space. A wireless remote makes it easy to select both temperature and mode.

The indoor air handler features a sleek design that extends just 9" or less into the room, depending on the model. For installation flexibility, the indoor section can be located up to 82 feet from the outdoor section.

Not only is the air handler visually unobtrusive, it's also so quiet you'll forget it's even there. Fan speed and mode can be selected so the air flow provides the comfort needed without being disruptive. All models feature three fan speeds.

Built with quality components, the system includes a three minute delay at start-up to protect the compressor from short cycling.

Ambient operating temperature: cooling 5° to 109.4° F, heating 19.4° to 75.2° F.

Indoor Unit

9,000 to 24,000 BTUH

Outdoor Unit

Includes a fully featured wireless remote

Features

- ***Whisper Quiet***—High tech fan in the indoor unit delivers balanced air flow
- ***Temperature Compensation***—Indoor unit adjusts automatically as needed to eliminate stratification between ceiling and floor temperature
- ***Random Swing***—Continually adjusts air direction for a gentle, breeze-like effect
- ***Multiple Modes***—Cooling, dehumidification only, air circulation (heating in heat pump models) plus:
  - Sleep mode
  - 24-hour timer
  - Turbo mode
- ***Auto Operation***—Automatically adjusts to maintain a constant temperature/humidity level
- ***Air Filtration***—An air filter helps trap dust, pollen, and other particles in the air; this permanent filter is designed to be washed on a regular basis and re-installed
- ***Auto Restart***—Reverts to the last setting following a power failure
- ***Low Ambient Operation***—Crankcase heater allows operation to 5° F (cooling)
- ***Defrost***—On heat pump models

Owners of historic homes will appreciate the comfort and convenience of ductless mini-splits. Adding air conditioning to older homes can be expensive and difficult, while window units destroy the exterior appearance of the home. But with a mini-split, the outdoor condenser can be located where it doesn't detract from the curb appeal, and simple conduit containing refrigerant and electrical lines is inconspicuous. Remodelers and renovators will appreciate these same qualities.

'S' Series

13 SEER Single Zone Ductless Mini-Splits Systems

	Cooling Only				Heat Pump Models			
FEATURES	**SMA09SC-0**	**SMA12SC-0**	**SMA18SC-1**	**SMA24SC-1**	**SMH09SC-0**	**SMH12SC-0**	**SMH18SC-1**	**SMH24SC-1**
Power Supply	115-1-60	115-1-60	208/230-1-60	208/230-1-60	115-1-60	115-1-60	208/230-1-60	208/230-1-60
Cooling Capacity (BTUH)	9,000	12,000	18,000	23,000	9,000	12,000	17,500	24,000
EER	12.00	11.00	11.65	11.00	12.00	11.00	11.00	12.10
HSPF	N/A	N/A	N/A	N/A	7.70	7.70	7.70	8.60
Cooling Amps	7.3	10.0	7.4/6.8	8.8/8.8	7.3	10.0	7.4/6.8	9.3/8.8
Dehumidification (Pts/Hr.)	2.1	2.5	3.8	5.3	2.1	2.5	3.8	5.3
Heating Capacity (BTUH)	N/A	N/A	N/A	N/A	10,000	12,000	17,500	24,000
Heating Amps	N/A	N/A	N/A	N/A	7.6	10.0	7.8/7.0	9.3/8.8
INDOOR UNIT								
Air flow (CFM)	342/271/218	471/412/371	618/589/547	795/689/624	342/271/218	500/430/394	618/589/547	795/689/624
Fan Speeds (Cool/Heat/Fan)	3/-/3	3/-/3	3/-/3	3/-/3	3/3/3	3/3/3	3/3/3	3/3/3
Sound Level (dBa) H-M-L	42/36/29	47/43/40	48/45/42	52/49/46	42/39/36	47/44/41	48/45/42	52/49/46
AIR DIRECTION								
Vertical Adjustment	Remote	Remote	Remote	Remote	Remote	Remote	Remote	Remote
Horizontal (left/right)	Manual	Manual	Manual	Manual	Manual	Manual	Manual	Manual
Random Swing	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
INDICATOR LAMPS								
ON/OFF	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
24 Hr. Timer/Sleep Mode	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard
Defrost	N/A	N/A	N/A	N/A	Standard	Standard	Standard	Standard
Temperature Setting	Remote Temperature Set Range: 62°F to 88°F				Remote Temperature Set Range: 62°F to 88°F			
INDOOR UNIT DIMENSIONS								
Width (inches)	31 1/8	36 1/4	42 1/2	49 3/16	31 1/8	36 1/4	42 1/2	49 3/16
Height (inches)	10 7/16	11 1/2	13	12 13/16	10 7/16	11 1/2	13	12 13/16
Depth (inches)	7 11/16	8 7/8	9	9 1/16	7 11/16	8 7/8	9	9 1/16
Net Wt/Shipping Wt (lbs.)	16.5/19.8	28.7/33.0	33.0/46.3	39.7/55.1	16.5/19.8	28.7/33.0	33.0/46.3	39.7/55.1
OUTDOOR UNIT DIMENSIONS								
Width (inches)	30 11/16	29 15/16	33 1/4	35 1/4	30 11/16	29 15/16	33 1/4	35 1/4
Height (inches)	21 5/8	23 1/4	27 3/8	33 7/8	21 5/8	23 1/4	27 3/8	33 7/8
Depth (inches)	9 7/8	11 1/4	13 3/16	13	9 7/8	11 1/4	13 3/16	13
Net Wt/Shipping Wt (lbs.)	70.5/77.1	79.3/86.0	116.9/125.7	141.1/150.0	68.3/74.9	83.8/90.4	116.9/125.7	143.3/152.1
ELECTRICAL DATA OUTDOOR UNIT*								
Main Power Connection	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit
Min. Circuit Ampacity	13.6	17.2	12.7	16.5	13.6	17.2	12.7	16.5
Max. Fuse/HACR Circuit Breaker	15A	20A	15A	20A	15A	20A	15A	20A
Recommended Indoor/ Outdoor Connecting Cable Type*	14 AWG / 4 conductor 600V THHN unshielded bare copper				14 AWG / 4 conductor 600V THHN unshielded bare copper			
LINE SETS O.D. (inch)								
Liquid Connection (flare) (inch)	1/4	1/4	1/4	3/8	1/4	1/4	1/4	3/8
Suction Connection (flare) (inch)	3/8	1/2	1/2	5/8	3/8	1/2	1/2	5/8
Maximum Line Set Length[1]	65.5 feet	65.5 feet	82 feet	82 feet	65.5 feet	65.5 feet	82 feet	82 feet
Maximum Elevation (outdoor)[2]	26 feet	26 feet	32 feet	32 feet	26 feet	26 feet	32 feet	32 feet

* Always follow local, state and national electrical codes.

[1] Min. 10 ft. line set recommended.

[2] Oil traps should be installed every 16.5 to 23 feet (5-7m) when the outdoor unit is installed above the indoor unit.

Design, specifications and performance data subject to change without notice.

Warranty—5 years on compressor, 1 years on parts

(Some limitations apply; see printed warranty for details.)

‘V’ Series

Inverter technology in a wide range of capacities

Comfort and energy efficiency combine in these attractive wall mount mini-splits. Rated as high as 19.3 SEER, they include all the advantages of advanced inverter technology.

You’ll find that your room reaches the preset temperature quickly and that the temperature is constant, without the variations that occur in other types due to on-off cycling. Because the units run at low frequency most of the time, energy usage is kept to a minimum. However, during weather extremes (or when you have a room full of people), the compressor ramps up automatically to reach the set point and maintain the comfort level.

“V” Series units are exceptionally quiet. Heavy duty compressors in the condensers are not just efficient, but they also reduce noise and vibration. Inside, the balanced fan circulates large volumes of air at minimal noise levels.

Applications

Single zone models are especially suited to one room residential installations such as bedrooms, sunrooms, additions and workshops. For large spaces up to 1550 square feet such as offices, conference rooms, common areas, etc., the 30,000-36,000 BTUH models deliver big capacity with exceptional efficiency. The inverter technology automatically matches the power delivered with the load requirements for precise temperature control.

Low Ambient Operation

The low ambient feature allows cooling when outdoor temperature falls below freezing—great for temperature/humidity sensitive environments. Additionally, a factory installed crankcase heater keeps compressor oil warm and reduces heat loss to ambient air.
Low Ambient Operation: cooling 5° – 122° F, heating 5° – 93.2° F.

Indoor Unit

208-230V
9,000 to 24,000 BTUH

Outdoor Unit

Indoor Unit

208-230V
30,000 to 36,000 BTUH

Outdoor Unit

Features

- ***Attractive Cabinet***—Indoor units feature a slim profile with rounded corners and sleek grilles in a subtle silver metallic color; 30-36K models are light beige color
- ***Multiple Modes***—Cooling, dehumidification only, and heating
  - Sleep mode
  - Turbo mode
  - 24-hour timer
  - Auto mode
- ***Random Swing***—Continually adjusts fan speed and air direction for a gentle, breeze-like effect that’s preferred by most people
- ***Remote Control***—Makes it easy to program and operate the unit
- ***Multi-Stage Filtration***—Includes ionizer to remove microscope particles, active carbon and dust filter, and freshening filter for improved indoor air quality
- ***Defrost Control***—Automatically removes any frost accumulation on the coil as needed
- ***Auto Restart***—Reverts to the last setting following a power failure

Inverter

'V' Series

Single Zone Ductless Mini-Split Systems with Inverter Technology

	Heat Pump Models					
FEATURES	**VMH09SC-1****	**VMH12SC-1****	**VMH18SC-1****	**VMH24SC-1**	**VMH30SC-1**	**VMH36SC-1**
Power Supply	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60	208/230-1-60
Cooling Capacity (BTUH)	9,000	12,000	17,500	23,000	30,000	36,000
SEER	18.30	19.30	17.00	17.00	16.00	14.50
EER	13.00	12.00	12.00	10.00	10.00	8.80
HSPF	8.60	8.90	9.00	8.40	9.60	9.00
Cooling Amps	3.5	4.7	6.7	9.7	14	15.7
Dehumidification (Pts/Hr.)	2.3	2.5	3.6	4.7	6.3	8.0
Heating Capacity (BTUH)	9,900	13,300	17,400	23,600	30,000	36,000
Heating Amps	3.8	5.4	6.3	9.5	11.0	14.0
INDOOR UNIT						
Air flow (CFM)	400/318/288	430/341/312	624/589/506	736/677/589	971/842/736	971/842/736
Fan Speeds (Hi/Med/Lo)	3	3	3	3	3	3
Sound Level (dBa) H-M-L	39/34/29	39/35/31	48/45/42	48/45/42	50/47/43	50/46/42
AIR DIRECTION						
Vertical Adjustment	Remote	Remote	Remote	Remote	Remote	Remote
Horizontal (left/right)	Manual	Manual	Manual	Manual	Manual	Manual
Random Swing	Standard	Standard	Standard	Standard	Standard	Standard
INDICATOR LAMPS						
ON/OFF	Yes	Yes	Yes	Yes	Yes	Yes
24 Hr. Timer/Sleep Mode	Yes	Yes	Yes	Yes	Yes	Yes
Defrost or Hot Start	Yes	Yes	Yes	Yes	Yes	Yes
Temperature Setting	On Remote: 62°F - 86°F temperature setting range			On Remote: 62°F - 86°F temperature setting range		
INDOOR UNIT DIMENSIONS						
Width (inches)	33 1/4	33 1/4	42 5/8	42 5/8	56 7/8	56 7/8
Height (inches)	11 1/4	11 1/4	12 5/8	12 5/8	13 3/8	13 3/8
Depth (inches)	6 1/2	6 1/2	8 3/16	8 3/16	10 7/8	10 7/8
Net Wt/Shipping Wt (lbs.)	19.8/24.3	19.8/24.3	32/44.0	32/44.0	53/70.6	53/70.6
OUTDOOR UNIT DIMENSIONS						
Width (inches)	29 15/16	29 15/16	33 1/4	35 7/16	35 7/16	39
Height (inches)	23 1/4	23 1/4	27 9/16	33 7/8	33 7/8	38
Depth (inches)	11 1/4	11 1/4	12 5/8	12 7/16	12 7/16	13 9/16
Net Wt/Shipping Wt (lbs.)	84.9/90.4	87/92.6	110.2/119.0	136.7/147.7	156.5/165.4	180.8/189.6
ELECTRICAL DATA OUTDOOR UNIT*						
Main Power Connection	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit	Outdoor Unit
Min. Circuit Ampacity	15	15	15	15	16	20
Max. Fuse/HACR Circuit Breaker	20A	20A	20A	20A	25A	30A
Recommended Indoor/Outdoor Connecting Cable Type	14 AWG / 4 conductor 600V THHN unshielded stranded bare copper			14 AWG / 4 conductor 600V THHN unshielded stranded bare copper		
LINE SETS O.D. (inch)						
Liquid Connection (flare) (inch)	1/4	1/4	1/4	3/8	3/8	3/8
Suction Connection (flare) (inch)	3/8	1/2	1/2	5/8	5/8	5/8
Maximum Line Set Length[1]	66 feet	66 feet	82 feet	82 feet	82 feet	98 feet
Maximum Elevation (outdoor)[2]	26 feet	26 feet	33 feet	33 feet	33 feet	49 feet

* Always follow local, state and national electrical codes. Main power connection is 208-230V.

** Energy Star compliant models.

[1] Min. 10 ft. line set recommended.

[2] Oil traps should be installed every 16.5 to 23 feet (5-7m) when the outdoor unit is installed above the indoor unit.

Design, specifications and performance data subject to change without notice.

Warranty—6 years on compressor, 2 years on parts

(Some limitations apply; see printed warranty for details.)

R-410A

VERIFIED CSA Energy Performance Rendement Énergétique VÉRIFIÉ

AHRI CERTIFIED

‘V’ Series

InverterFlex® Systems

Our InverterFlex multi-zone units let you condition one to four rooms with just one outdoor unit. The contractor can design a system that best meets the load requirements of each room being conditioned because indoor air handlers can be mixed and matched—including high wall mount units and ceiling cassettes in the same installation.

A single outdoor condenser is sized for multiple indoor air handlers. These 9,000, 12,000 and 18,000 BTUH indoor units can be mixed, up to the point that their combined capacity reaches the total system capacity—see the chart on the following page. All units must operate in the same mode except fan only can always be selected. Indoor units are a subtle silver-gray color; ceiling cassettes have an off-white panel.

InverterFlex models incorporate all the advantages of inverter technology. The compressor speed is variable, depending on the load demand. Most of the time the unit runs at low frequency, saving energy while maintaining comfort, but ramping up to higher frequency when needed. Temperature fluctuations and compressor on/off cycling are eliminated, and indoor air quality is enhanced because air is constantly being pulled through the filters and dehumidified.

True zone control is possible because each air handler operates independently. InverterFlex systems are also great for larger spaces such as fellowship halls and commons areas: install one or more units for quiet, efficient, easily controlled comfort.

Includes a fully featured wireless remote per indoor unit.

InverterFlex®

Dual Zone 18,000 to 36,000 BTUH

Cool and heat two rooms or separate areas. Includes two indoor air handlers and two wireless remotes, one for each air handler.

Tri/Quad-Zone 27,000 to 36,000 BTUH

Cool and heat three or four rooms/separate areas. Includes three or four air handlers and one wireless remote for each air handler.

Features

- ***Zone Control***—Each air handler is independently controlled, can be set for individual preferences or turned off when the room isn’t being used
- ***Random Swing***—Continually adjusts air direction for a gentle, breeze-like effect preferred by most people
- ***Multiple Modes***—Cooling, heating, fan only, dehumidification only, plus: sleep mode / 24-hour timer / turbo mode
- ***Low Ambient Operation***—cooling 5° – 122° F, heating 5° – 93.2° F
- ***Auto Operation***—Automatically selects the mode required to maintain a constant temperature/humidity level
- ***Multi-Stage Filtration***—Includes ionizer to remove microscope particles, active carbon and dust filter, and freshening filter for improved indoor air quality (high wall mount)
- ***Auto Restart***—Reverts to the last setting following a power failure

'V' Series InverterFlex

Multi-Zone Ductless Mini-Split Heat Pumps

Mix and match indoor units up to the maximum BTUHs for each system. Order outdoor and indoor units separately: "A" indicates outdoor unit, "B" and "C" indicate indoor units.

For instance, to order a 33,000 BTUH tri-zone with two ceiling cassettes and one high wall mount unit, specify one A-VMH36 QC, two B-VMC12FC-1 and one B-VMH09FC.
Chart at right shows possible matches.

OUTDOOR UNITS			
FEATURES	A-VMH18DC-1	A-VMH27TC-1	A-VMH36QC-1
Power Supply	208/230-1-60	208/230-1-60	208/230-1-60
System Cooling Capacity (BTUH)	18,000	25,400	34,400
SEER	16.00	16.00	14.50
EER	10.00	9.50	9.00
HSPF	8.00	8.00	8.00
Cooling Amps	7.5	11.0	15.0
High Heating Cap. (BTUH) @ 47°F	19,000	25,400	38,000
Low Heating Cap. (BTUH) @ 17°F	8,200	13,800	19,100
Heating Amps	7.6	11.2	15.0
OUTDOOR UNIT DIMENSIONS			
Width (inches)	33 1/4	33 1/4	39
Height (inches)	27 3/8	27 3/8	37
Depth (inches)	13 3/16	13 3/16	13
Net Wt/Shipping Wt (lbs.)	117.9/125.7	125.7/133.4	189.6/198.4
ELECTRICAL DATA OUTDOOR UNIT*			
Main Power Connection	Outdoor Unit	Outdoor Unit	Outdoor Unit
Min. Circuit Ampacity	11.0	15.0	23.0
Max. Fuse/HACR Circuit Breaker	15	20	35
Recommended Indoor/Outdoor Connecting Cable (SJOW)	14 AWG / 4 conductor 600V THHN unshielded stranded bare copper		
LINE SETS O.D. (inch) / REFRIGERANT			
Refrigerant	R-410A	R-410A	R-410A
Liquid (flare) (inch)	1/4	1/4	1/4
Suction (flare) (inch)	3/8	3/8	3/8
Maxi/ Line Set Length[1]	50 feet per each indoor unit		
Maximum Elevation (outdoor)[2]	33 feet	33 feet	33 feet

* Always follow local, state and national electrical codes. Main power connection is 208-230V.

[1] Min. 10 ft. line set length recommended. Max. is total length of all indoor section line sets combined.

[2] Oil traps should be installed every 16.5 to 23 feet (5-7m) when the outdoor unit is installed above the indoor unit.
Ambient Operating Temperature: 5° - 122° F (cooling); 5° - 93.2° F (heating)

Design, specifications & performance data subject to change without notice.

Warranty—6 years on compressor, 2 years on parts
(Some limitations apply; see printed warranty for details.)

InverterFlex Outdoor/Indoor Combinations			
OUTDOOR UNIT	ZONES	INDOOR UNITS	NOM. BTUH
A-VMH18DC-1	Single	9K or 12K or 18K	9,000 to 18,000
	Dual	9K + 9K	18,000
A-VMH27TC-1	Single	9K or 12K or 18K	9,000 to 18,000
	Dual	9K + 12K	21,000
	Dual	12k + 12K	24,000
	Dual	9K + 18K	27,000
	Tri	9K + 9K + 9K	27,000
A-VMH36QC-1	Single	9K or 12K or 18K	9,000 to 18,000
	Dual	12k + 18K	30,000
	Dual	18k + 18K	36,000
	Tri	9K + 9K + 12K	30,000
	Tri	9K + 12K + 12K	33,000
	Tri	12K + 12K + 12K	36,000
	Tri	9K + 9K + 18K	36,000
	Quad	9K + 9K + 9K + 9K	36,000

9K = Model B-VMH09FC (wall mount)
12K = Model B-VMH12FC (wall mount) or B-VCH12FC (ceiling cassette)
18K = Model B-VMH18FC (wall mount) or B-VCH18FC (ceiling cassette)

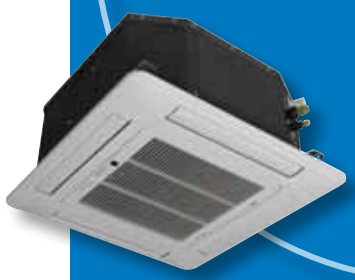
HIGH WALL MOUNT INDOOR UNITS			
FEATURES	B-VMH09FC-1	B-VMH12FC-1	B-VMH18FC-1
Nom. Capacity BTUH	9,000	12,000	18,000
Air flow (CFM)	335/283/206	412/306/247	471/412/353
Dehumidification (Pts/Hr)	2.3	2.5	3.09
Fan Speeds	3	3	3
Sound Level (dBa)	37/34/27	40/35/28	42/37/33
AIR DIRECTION			
Vertical Adjustment	Manual	Manual	Manual
Horizontal Modulating	Yes	Yes	Yes
Random Swing	Yes	Yes	Yes
INDICATOR LAMPS			
ON/OFF	Yes	Yes	Yes
24 Hr. Timer/Sleep Mode	Yes	Yes	Yes
Defrost	Yes	Yes	Yes
Temperature Setting	On Remote: 62°F - 88°F		
INDOOR UNIT DIMENSIONS			
Width (inches)	31 5/16	33 1/4	39 3/4
Height (inches	10 5/8	11 1/4	11 5/8
Depth (inches)	6 1/4	6 1/4	7 5/8
Net Wt/Shipping Wt (lbs)	22/26.5	22/26.5	27.56/34.17
Liquid (flare) (inch)	1/4	1/4	1/4
Suction (flare) (inch)	3/8	1/2*	1/2*

*Flare nut adapter 3/8" FFL to 1/2" MFL included with indoor section.

Ceiling cassette specifications on page 16

‘V’ Series

InverterFlex® Ceiling Cassette Systems



208-230V/60/1

Our indoor ceiling cassettes fit flush in the ceiling with an attractive panel incorporating airflow louvers. A small light display on the indoor unit shows operation and if the timer is in use; built-in condensate pump transfers collected moisture to exterior. A full featured wireless remote and a wired wall remote to control operation and program the unit are both included. These heat pump models can be mixed and matched with high wall mount InverterFlex units for installation flexibility.

Features

- **Zone Control**—Each air handler is independently controlled, can be set for individual preferences or turned off when the room isn’t being used
- **Multiple Modes**—Cooling, heating, fan only, dehumidification only, 24 hour timer
- **Electrical Control Box**—Built into the unit for convenient installation and maintenance
- **Auto Operation**—Automatically selects the mode required to maintain a constant temperature/humidity level for the room (however, heating and cooling modes cannot run simultaneously among indoor units)
- **Attractive Appearance**—Low profile panel attaches quickly to cabinet (order panel separately)
- **360° Air Flow**—Distributes air evenly throughout the room, louvers adjust direction automatically for comfort
- **Automatic Defrost**—When required in heating mode, units defrosts as needed

12,000 and 18,000 BTUH

CEILING CASSETTES		
FEATURES	**B-VCH12FC-1**	**B-VCH18FC-1**
Nom. Cooling Capacity BTUH	12,000	18,000
Nom. Heating Capacity BTUH	11,500	21,000
Air flow (CFM)	353/324/259	412/376/300
Dehumidification (Pts/Hr)	2.5	3.0
Fan Speeds	3	3
Sound Level (dBa)	40/37/33	40/37/34
AIR DIRECTION		
Louver Adjustment	Automatic	Automatic
Random Swing	Yes	Yes
INDICATOR LAMPS		
ON/OFF	Yes	Yes
24 Hr. Timer/Sleep Mode	Yes	Yes
Defrost	Yes	Yes
Temperature Setting	Yes	Yes
DIMENSIONS		
CASSETTE		
Width x Height x Depth (in.)	$22^{7}/_{16}$ x $10^{1}/_{4}$ x $22^{7}/_{16}$	$22^{7}/_{16}$ x $10^{1}/_{4}$ x $22^{7}/_{16}$
Net Wt/Shipping Wt (lbs)	32.3/41.9	39.7/46.3
PANEL—C-VCH12/18FC-1		
Width x Height x Depth (in.)	$25^{1}/_{2}$ x 2 x $25^{1}/_{2}$	$25^{1}/_{2}$ x 2 x $25^{1}/_{2}$
Net Wt/Shipping Wt (lbs)	5.5/9.9	5.5/9.9
LINE SETS O.D. (inch)		
Liquid (flare) (inch)	1/4	1/4
Suction (flare) (inch)	1/2*	1/2*

*Flare nut adapter 3/8” FFL to 1/2” MFL included with indoor section. Main power connection is 208/230V.

Low Ambient Operation—Cooling 5° - 122° F; heating 5° - 93.2° F

Warranty—6 years on compressor, 2 years on parts
(Some limitations apply; see printed warranty for details.)

Offices are ideal locations for ceiling cassettes... the overhead location allows conditioned air to reach cubicles and work areas within a single space. Units can be programmed on a weekly basis for comfort during working hours and energy savings in the evenings or on weekends.

Ready to buy?

Here are some things to consider:

When you buy Comfort-Aire products, you're purchasing the peace of mind that comes from dealing with a company that has a long track record of success. We have a well-deserved reputation not only for quality products, but also for standing behind these products with excellent warranty and support programs. Experienced technicians are available to handle telephone inquiries about operation, installation and maintenance. Our web site is another resource: owners' manuals can be downloaded and your installer can access technical information and service manuals.

Warranty Coverage

Comfort-Aire stands behind its mini-splits with some of the strongest warranties in the industry. All our ductless mini-split systems are covered by a limited five year warranty on the compressor and one year on other parts, and our "V" Series is covered by a 6 year compressor, 2 year parts limited warranty. (Some limitations apply, see our web site for full warranty details).

Consumer Financing Program

Your Comfort-Aire dealer makes it easy for you to purchase a ductless mini-split system for residential use. Our ComfortPlus™ Financing Program gives you the credit you need for a system, installation and any related equipment—with no long wait and no credit hassle. Program Representatives are available by phone seven days a week and, in most cases, they can give you an answer within minutes. There's no annual fee and a variety of payment options is available. Talk to your Comfort-Aire dealer about the advantages of ComfortPlus™ financing.

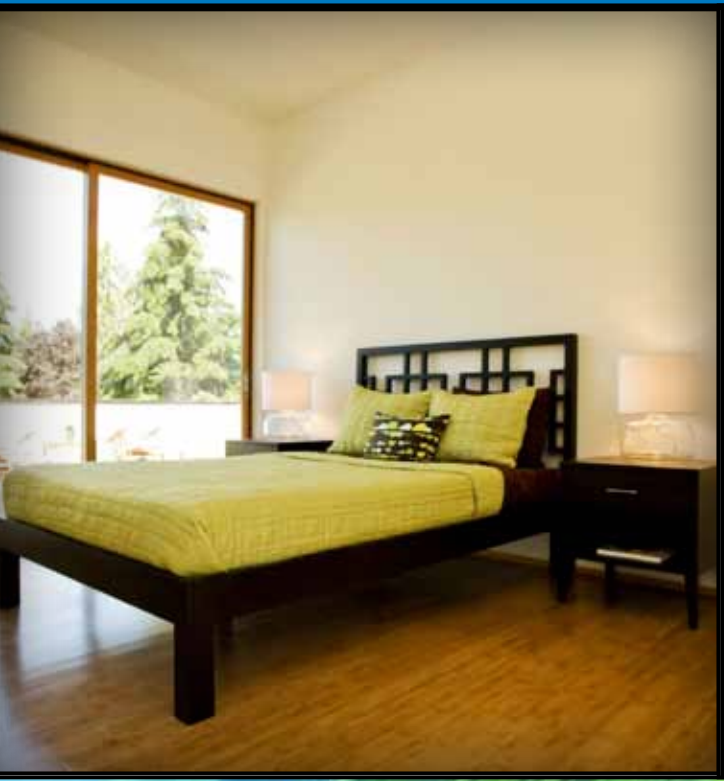
Extended Service Agreements

We stand behind our products with exceptionally strong warranties, but as with any product containing mechanical and electronic components, service is sometimes needed. Our AssurancePlus® program gives you an extra measure of protection that extends beyond the standard warranty coverage. It protects you against unexpected problems that require service and/or replacement parts. AssurancePlus® extended service agreements allow you to extend coverage beyond the original warranty, and there is a variety of plans to choose from, offering parts and labor coverage, parts only or labor only. Your Comfort-Aire dealer has all the details on the AssurancePlus® program.

Talk to your Comfort-Aire dealer about the advantages of ductless mini-split systems and if one is right for your location and situation. He should also make an on-site inspection to measure and evaluate the space so that your system is sized correctly.

Comfort-Aire®

Comfort-Aire offers a full line of ductless mini-split systems that are quality constructed and energy efficient to keep your family comfortable throughout the year. With single zone, multi-zone, and ceiling cassette models, there's a system in the size and type you need to add comfort to just about any location. All our mini-splits are backed by strong warranty coverage and after-sales support. Your dealer can give you recommendations on which models best suit your needs and lifestyle.



Comfort-Aire®

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