
Comfort-Cire®

Century®

Installation & Operation Manual

VFH-B Series

Inverter Multi Zone Ductless Mini-Split

A-VFH30QB-1

A-VFH36QB-1

A-VFH42PB-1



Preface

(1) To guarantee personal safety when operating this system, please strictly follow the instructions listed in the manual.

(4) The total capacity of the indoor units which run at the same time can not exceed that of the outdoor units; otherwise, the cooling (heating) capacity of each indoor unit will be reduced.

Model	A-VFH30QB-1	A-VFH36QB-1	A-VFH42PB-1
Minimum number of connectable indoor units	2	2	2
Maximum number of connectable indoor units	4	5	5
Minimum capacity of connectable indoor units	18KBtu	18KBtu	18KBtu
Maximum capacity of connectable indoor units	42KBtu	48KBtu	56KBtu

(5) Switch the main power on 8 hours before starting the unit, helpful for a successful startup.

(6) It is a normal phenomenon that the indoor unit fan will still run for 20~70 seconds after the indoor unit receives the “stop” signal so as to make full use of after-heat for the next operation.

(7) When the running modes of the indoor and outdoor units conflict, it will be indicated on the display of the wired controller in five seconds and then the indoor unit will stop. In this case, they can return to normal condition by harmonizing their running modes: the cooling mode is compatible with the dehumidifying mode and the fan mode can go with any other mode. If the supply power fails when the unit is running, then the indoor unit will send the “start” signal to the outdoor unit three minutes after power recovery.

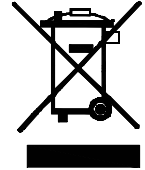
(8) Cautions for the repair and Maintenance Personnel:

During repair and maintenance, prior to the startup of the compressor make sure the crankcase heater has been energized for at least eight hours! Once the compressor is started, it should be observed for at least 30 minutes to confirm satisfactory operation.

User Notice

This appliance is not intended for use by persons (including children) 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. Children should be supervised to ensure that they do not play with the appliance.

DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.





Comfort Aire **Century**
1900 Wellworth Ave. • Jackson, MI 49203
517-787-2100

Attention

**ALL INVERTER MINI-SPLITS REQUIRE 14-4 STRANDED
WIRE BETWEEN THE INDOOR AND OUTDOOR UNITS**

(NO EXCEPTIONS)

14 AWG 4/C TRAY CABLE

A14/4SRBTHHNBK

14 AWG (19/0147) BC 4/C, THHN CONDUCTORS POWER & CONTROL

**TRAY CABLE TYPE TC CABLE FOR INSTALLATION IN
ACCORDANCE WITH ARTICLE 336 AND OTHER APPLICABLE PARTS
OF THE NATIONAL ELECTRIC CODE. 600V (UL) E123517 DIRECT
BURIAL SUNLIGHT RESISTANT PVC JACKET**

10/25/16

RoHS Compliant

MADE IN USA BLACK

MARS part:

7603-900: 30'

7603-901: 55'

7603-902: 250'

Contents

1 Safety Precautions	1
2 Product Introduction.....	4
2.1 Name of Main Parts.....	4
2.2 Combinations for outdoor and indoor units	5
2.3 Rated working condition.....	6
2.4 The range of production working temperature.....	6
3 Preparation before Installation	7
3.1 Standard parts	7
3.2 Selecting installation site	7
3.3 Piping Connection	8
4 Installation Instruction.....	9
4.1 Outline and dimension of the outdoor unit	9
4.2 Installation of the Connection Pipe.....	10
4.3 Air Purging and Refrigerant Charge.....	12
4.4 Electric Wiring.....	13
5 Troubleshooting	15
6 The conditions listed below are not classified into errors.....	16
7 Troubleshooting	18
8 Maintenance	19
8.1 Outdoor heat exchanger.....	19
8.2 Drain Pipe	19
8.3 Notice before Seasonal Use	19
8.4 Maintenance after Seasonal Use	19
9 After-sales Service	20

Inverterflex Series

1 Safety Precautions

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
▲WARNING	This mark indicates procedures which, if improperly performed, might lead to the death or serious injury of the user.
▲CAUTION	This mark indicates procedures which, if improperly performed, might possibly result in personal harm to the user, or damage to property.
NOTICE	NOTICE is used to address practices not related to personal injury.

▲ WARNING	
1)	Instructions for installation and use of this product are provided by the manufacturer and accompany each unit. The instruction of installation, maintenance and operating and safety instructions shall be included.
2)	Installation must be performed in accordance with the requirements of NEC and CEC by authorized personnel only.
3)	Before installation, please check if the power supply is in accordance with the requirements specified on the nameplate. And also take care of the power safety.
4)	Make sure the unit can is grounded properly and soundly so as to avoid electric shock. Please do not connect the ground wire to gas pipe, water pipe, lightning rod or telephone line.
5)	Be sure to use Comfort-Aire and Century accessories and parts to prevent the water leakage, electric shock and fire.
6)	If refrigerant leakage happens during installation, please ventilate immediately. Poisonous gas will generate if the refrigerant gas meets fire.
7)	Wire size of power cord should be large enough. A damaged power cord and connection wire should be replaced per installation manual
8)	After connecting the power cord, please fix the electric box cover properly in order to avoid accidents.
9)	Always comply with the nitrogen charge requirements. Charge nitrogen when welding pipes.
10)	Never short-circuit or cancel the pressure switch to prevent unit damage.
11)	Please firstly connect the wired controller before energization, otherwise wired controller can not be used.
12)	Before using the unit, please check if the piping and wiring are correct to avoid water leakage, refrigerant leakage, electric shock, or fire etc.
13)	Do not insert fingers or objects into air outlet/inlet grille.
14)	Open the door and window and keep good ventilation in the room to avoid oxygen deficit when unvented gas/oil supplied heating equipment is used.
15)	Never start up or shut off the air conditioner by means of disconnect switch.
16)	Allow unit to run at least five minutes; otherwise it will influence oil return of the compressor.
17)	Do not allow children operate this unit.
18)	Do not operate this unit with wet hands.
19)	Turn off the unit or cut off the power supply before cleaning the unit, otherwise electric shock or injury may happen.
20)	Never spray or flush water towards unit, otherwise malfunction or electric shock may happen.
21)	Do not expose the unit to moist or corrosive environment.
22)	Electrify the unit 8 hours before operation. Please switch on for 8 hours before operation. Do not cut off the power when 24 hours short-time halting (to protect the compressor).
23)	Volatile liquid, such as gasoline will damage the unit appearance. Only use soft cloth with a little neutral detergent to clean the outer casing of unit.
24)	If anything abnormal happens (such as burning smell), please power off the unit and cut off the main power supply, and then immediately contact service center. If abnormality continues, the unit might be damaged and lead to electric shock or fire.
25)	User is not allowed to repair the unit. Fault service may cause electric shock or fire accidents. Please contact service center for help.

Inverterflex Series

MARS is not responsible for personal injury or equipment damage caused by improper installation and commission, unnecessary service and inability to follow the rules and instructions listed in this manual.

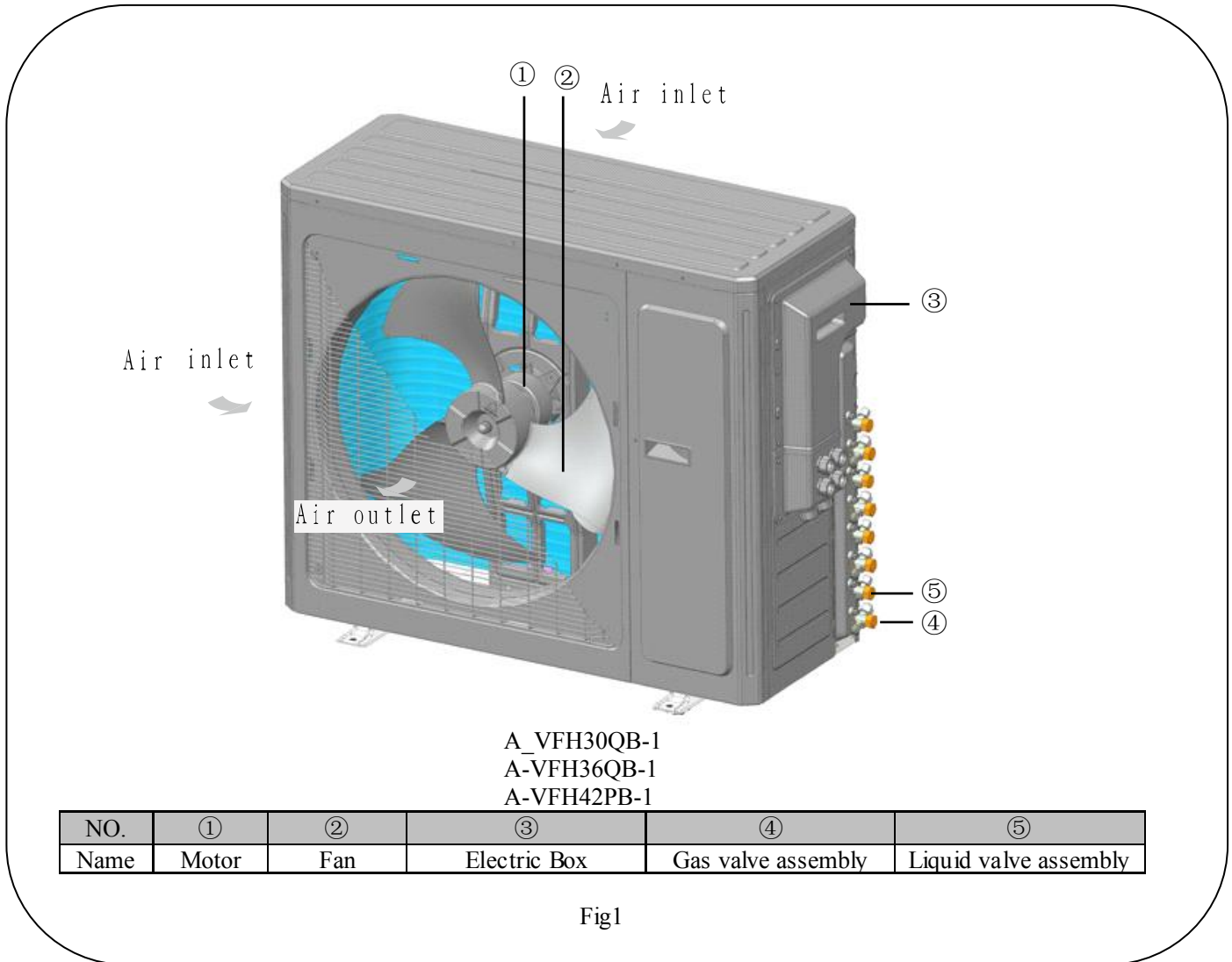
ATTENTION

**When using a mini-split condensate pump
on a multi-head system,
the pump must be on a separate electrical circuit.
Do not access power from the indoor unit.**

Inverterflex Series

2 Product Introduction

2.1 Name of Main Parts



Inverterflex Series

2.2 Combinations for outdoor and indoor units

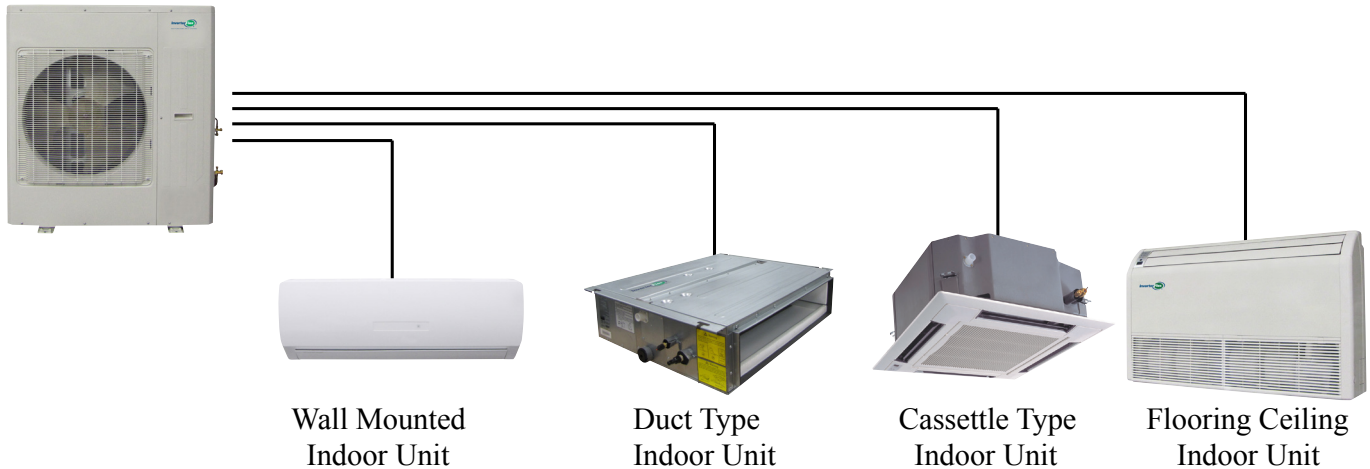


Fig 2

See Fig.2 for Combinations for Outdoor and Indoor Units. For the Inverterflex series air conditioning system, one outdoor unit is able to drive up to five indoor units which can be cassette type, duct type, wall-mounted or floor ceiling type. The outdoor unit will run as long as any one indoor unit receives the running command, and all indoor units stop once the outdoor unit is turned off.

Table 1 Energy Level and Capacity Code of the Indoor

Indoor unit	Model	Capacity Code	Outdoor unit
Wall mounted	B-VFH09MB-1	9K	A-VFH18DB-1 A-VFH24TB-1 A-VFH30QB-1 A-VFH36QB-1 A-VFH42PB-1
	B-VFH12MB-1	12K	
	B-VFH18MB-1	18K	
	B-VFH24MB-1	24K	
Flooring ceiling	B-VFH09UA-1	9K	
	B-VFH12UA-1	12K	
	B-VFH18UA-1	18K	
	B-VFH24UA-1	24K	
Duct type	B-VFH09DA-1	9K	
	B-VFH12DA-1	12K	
	B-VFH18DA-1	18K	
	B-VFH21DA-1	21K	
	B-VFH24DA-1	24K	
Cassette type	B-VFH12CA-1	12K	
	B-VFH18CA-1	18K	
	B-VFH24CA-1	24K	
Console	B-VFH09FA-1	9K	
	B-VFH12FA-1	12K	
	B-VFH18FA-1	18K	

Inverterflex Series

2.3 Rated working condition

Table 2

	Indoor temperature		Outdoor temperature	
	Dry bulb temp. °F	Wet bulb temp. °F	Dry bulb temp. °F	Wet bulb temp. °F
Rating cooling	80.06	66.92	95	75.02
Rating Heating	69.98	60.08	47	43.00

NOTICE

- 1) The parameters below are tested under rated working condition. If there is any change to them, please refer to the nameplate.
- 2) The parameters of heating capacity of indoor unit for heat pump.
- 3) The performance parameters below are tested according to standard ANSI/AHRI 1230-2010.

2.4 Operational temperatures

Table 3

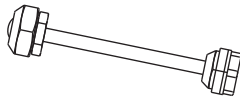
Cooling Working range	Outdoor temperature 0~118°F
Heating Working range	Outdoor temperature -4~86°F

Inverterflex Series

3 Preparation before Installation 3.1 Standard parts

Please use the following standard parts supplied by Comfort-Aire /Century

Table 4

CY. Pars of Outdoor Unit				
Number	name	picture	Quantity	Remark
1	Owner's manual		1	
2	Tube adapter subassembly		30K:8 36K:8 42K:9	

3.2 Selecting installation site

⚠ WARNING

- 1) Install the unit in a place that is adequate to withstand the weight of the unit and make sure the unit will not shake or fall off.
- 2) Try to avoid exposing the unit to direct sunshine and rainfall.
- 3) Try to keep the unit away from combustible, flammable and corrosive gas or exhaust gas.
- 4) Leave some space for heat exchanging and servicing so as to guarantee normal operation.
- 5) Keep the indoor and outdoor units close to each other as much as possible within design parameters.
- 6) Never allow children to approach the unit and take measures to prevent children touching the unit.

When the outdoor unit is totally surrounded by walls, the installation space of the unit should be installed per clearances in Fig.3.

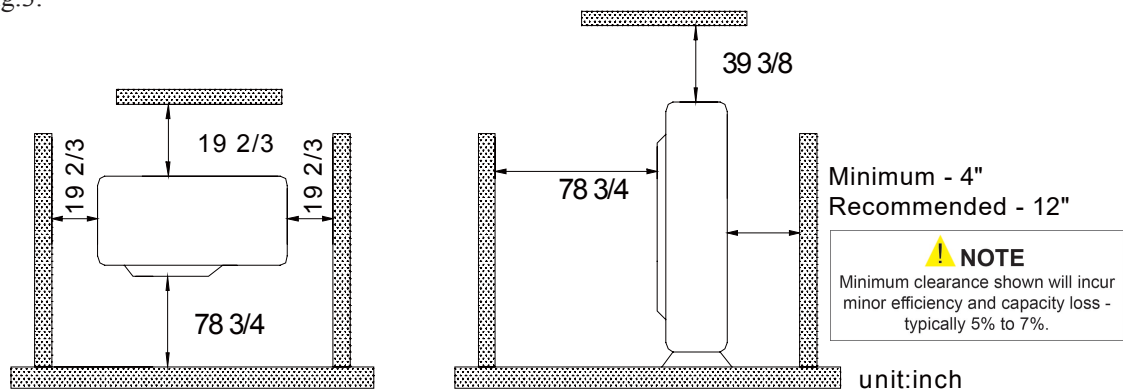


Fig 3

Inverterflex Series

3.3 Piping Connection

The maximum pipe length is shown in the following table. When the distance between units (piping length) is out of the range listed below, normal operation of the unit can not be guaranteed.

Table 5

Model	Connecting Pipe (inch)		Max. Pipe length(ft)	Max. Height Difference between Indoor Unit and Outdoor Unit (ft)
	Liquid	Gas		
A-VFH30QB-1	Φ 1/4	Φ 3/8	229.6	When the outdoor unit is above, maximum height difference between indoor and outdoor units is up to 49.2ft; When the indoor unit is above, maximum height difference between indoor and outdoor units is 49.2ft;
A-VFH36QB-1	Φ 1/4	Φ 3/8	246.1	
A-VFH42PB-1	Φ 1/4	Φ 3/8	246.1	

NOTICE

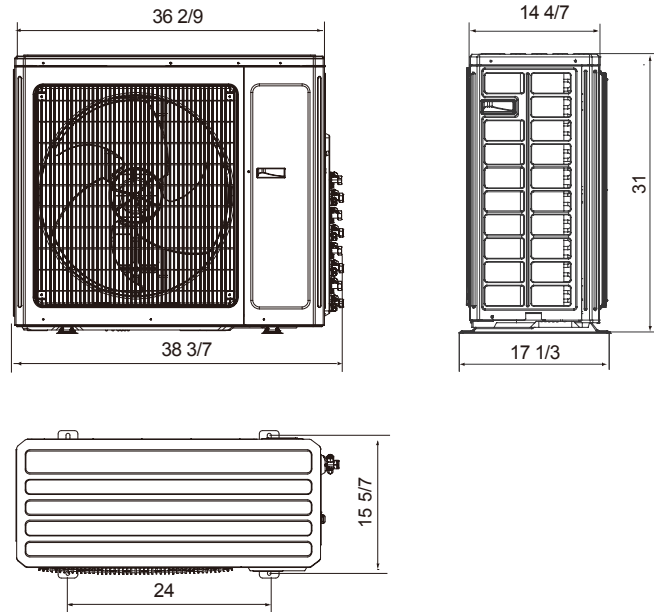
- 1) Use water-proof pipe insulation.
- 2) Wall thickness of pipe: 0.019-0.039 inch; bearing pressure: 3.0MPa
- 3) The longer the connection pipe is, the more cooling and heating capacity will decrease.

Inverterflex Series

4 Installation Instruction

4.1 Outline and dimensions of the outdoor unit

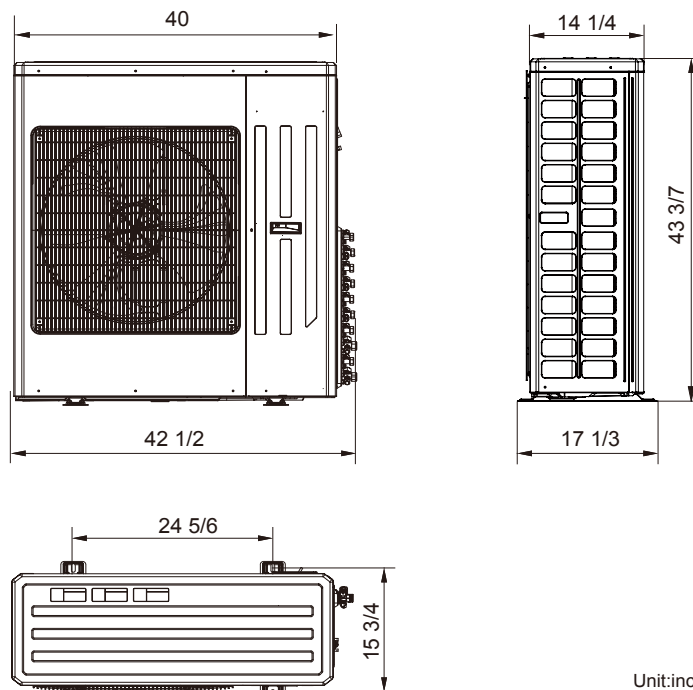
A-VFH30QB-1
Dimensions and Mounting holes



Unit:inch

Fig 4

A-VFH36QB-1 A-VFH42PB-1
Dimensions and Mounting holes



Unit:inch

Fig 5

Inverterflex Series

4.2 Refrigerant Lines

Refrigerant lines for indoor unit and outdoor unit in manifold mode. (As shown below).

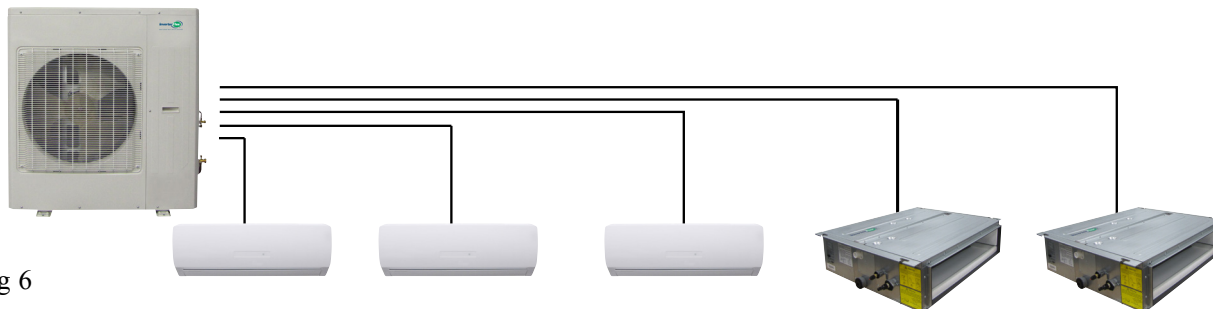
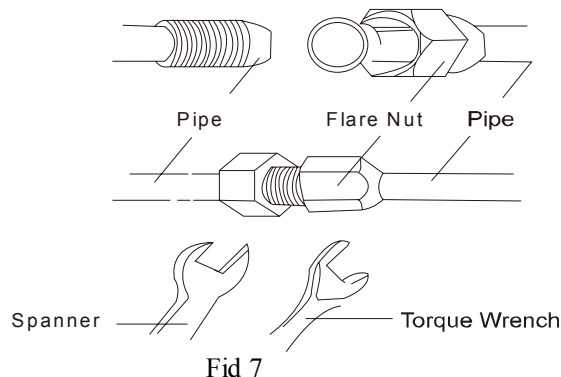


Fig 6

4.2.1 Piping between the Indoor and Outdoor Units

- (1) If the liquid and gas shut off valves A , B, C, D or E have not been connected to the indoor units, please remove the cap.
- (2) Refer to Fig.7 for the moments of torque for tightening screws.
- (3) Tighten the flare nut by hand.
- (4) After that, tighten the screw by the torque wrench until it clicks (as shown in Fig.7).
- (5) The bending degree of the pipe can not be too small; otherwise it will crack. Please use a pipe bender to bend the pipe.
- (6) Wrap the exposed refrigerant pipe and the joints by with insulation, then with seal plastic tape.



Pipe diameter	Thickness of copper tube	Tightening torque
Φ1/4 inch	≥0.0315 inch	11~22 ft·lbf
Φ3/8 inch	≥0.0315 inch	26~29 ft·lbf
Φ1/2 inch	≥0.0315 inch	33~37 ft·lbf
Φ5/8 inch	≥0.0394 inch	44~48 ft·lbf

Fid 7

CAUTION

- 1) During the connection of the indoor unit and the refrigerant pipe, never pull any joints of the indoor unit by force; otherwise the capillary pipe or other pipe may crack, which would then result in leakage.
- 2) The refrigerant pipe should be supported by brackets.
- 3) If the piping connection size of outdoor unit does not match the piping connection size of indoor unit, use the piping connection dimension of indoor adapter. Pipe adapters ship with indoor and outdoor units.
- 4) For the Inverterflex system, each pipe should be labeled to identify the indoor system to avoid mistaken connections.

4.2.2 Allowable pipe length and rise between indoor and outdoor units

If the total refrigerant pipe length (liquid pipe) is shorter than that listed in the table below, no additional refrigerant will be charged.

Table 6

Model	A-VFH30QB-1	A-VFH36QB-1	A-VFH42PB-1
Total Liquid Pipe Length (a+b+c+d+e)	131.2ft	131.2ft	131.2ft

Inverterflex Series

Allowable Length and Height Fall of the Refrigerant Pipe

Table 7

		Allowable Value		Fitting Pipe
		A-VFH30QB-1	A-VFH36QB-1 A-VFH42PB-1	
Total length (actual length) of fitting pipe		229.6ft	246.1ft	$L_1+L_2+\dots+L_M (M \leq 5)$
Length of farthest fitting pipe (ft)		82ft	82ft	$L_X (X=1, 2, 3, 4, 5)$
Height difference between outdoor unit and indoor unit	Outdoor unit at upper	49.2ft	49.2ft	H1
	Outdoor unit at lower	49.2ft	49.2ft	H3
Height difference between indoor units (ft.)		24.6ft	24.6ft	H2

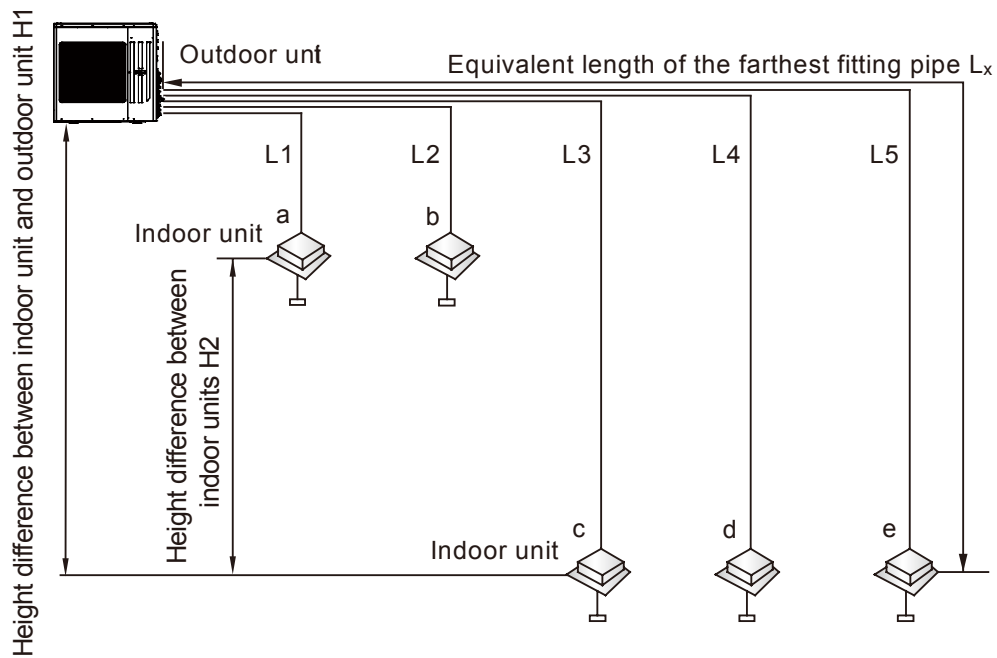


Fig 8

4.2.3 Installation of the pipe insulation

- (1)The refrigerant pipe should be insulated in order to prevent condensation and water leakage.
- (2)The joints of the indoor unit should be wrapped with insulating material and no gap is allowed on the joint of the indoor unit, as shown in Fig.9.

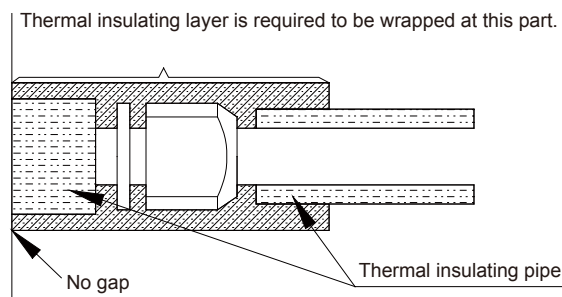


Fig 9

Inverterflex Series

⚠ CAUTION

After the pipe is insulated, never bend it to form a small angle; otherwise it will crack or break.

(3) Wrap the Pipe with Tape:

- a. Bundle the refrigerant pipe and electric wire together with tape, and separate them from the drain pipe to prevent the condensate water overflowing.
- b. Wrap the pipe from the bottom of the outdoor unit to the top of the pipe where it enters the wall. During the wrapping, the later circle should cover half of the former one.
- c. Fix the wrapped pipe on the wall with clamps.

⚠ CAUTION

- 1) Do not wrap the pipe too tightly; otherwise the insulation effect will be weakened. Additionally, make sure the drain hose is separated from the pipe.
- 2) After that, fill the hole on the wall with sealing material to prevent wind and rain coming into the room.

4.2.4 Support and protection for pipeline

Support should be made for hanging refrigerant pipe. Distance between each support can not be over 3 ft..

4.3 Air Purging and Refrigerant Charge

4.3.1 Air purging

- (1) Refrigerant has been charged into the outdoor unit before shipment, though additional refrigerant may still need be charged into the refrigerant pipe during the field installation.
- (2) Check that the liquid valve and the gas valve of the outdoor unit are closed fully.
- (3) As shown in the following figure (Fig.10), evacuate the indoor unit and refrigerant pipe using a vacuum pump.

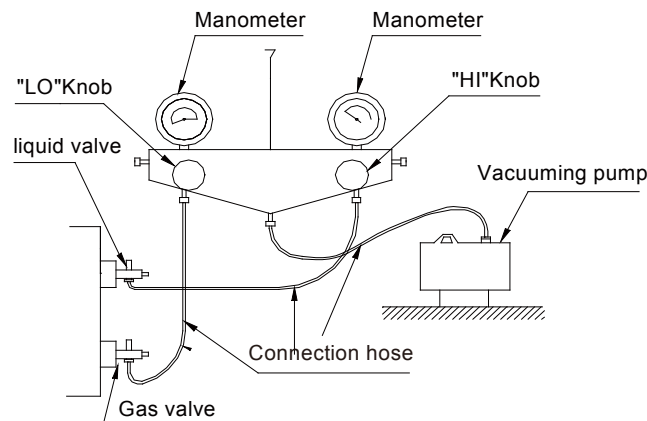


Fig 10

- (4) When the compressor is not running, charge the R410A refrigerant into the refrigerant pipe from the liquid valve of the outdoor unit (do not do it from the gas valve).

4.3.2 Additional refrigerant charging

(1) Refrigerant Charge in the Outdoor Unit before Shipment

NOTICE

- 1) Outdoor unit has been charged with refrigerant before delivery. No refrigerant charge is included in the indoor unit or the refrigerant pipe.
- 2) The amount of the additional refrigerant charge is dependent on the diameter and length of the liquid refrigerant pipe which is decided by the actual installation requirement.
- 3) Record the additional refrigerant charge for future maintenance.

Inverterflex Series

(2) Calculation of the Additional Refrigerant Charge

Additional Refrigerant Charge=

$$(\sum \text{Length of Liquid Pipe } \phi 0.375 \times 54 + \sum \text{Length of Liquid Pipe } \phi 0.25 \times 22) - 880$$

The biggest additional refrigerant charge value is 28 oz. It means that if the calculated value exceed 28 oz., the additional refrigerant charge takes 28 oz., while the calculated value less than 28 oz., the additional refrigerant charge takes the calculated value.

4.4 Electric Wiring

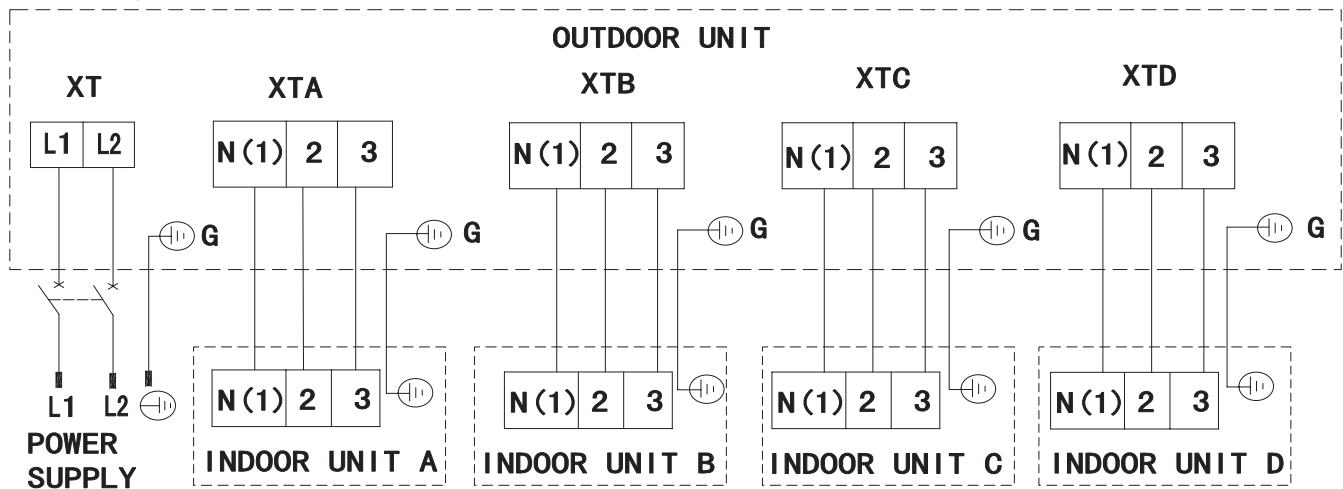
4.4.1 Wiring precautions

- (1) The installation must be done in accordance with the national wiring regulations.
- (2) Only the power cord with the rated voltage and exclusive circuit for the air conditioning can be used.
- (3) Do not pull the power cord by force.
- (4) The electric installation should be carried out by the technician as instructed by the local laws, regulations and also this manual.
- (5) The diameter of the power cord should be large enough and once it is damaged it must be replaced with same value.
- (6) The grounding should be reliable and the earth wire should be connected to the dedicated ground of the building by the technician. The breaker coupled with the leakage current protection switch must be equipped, which is of enough capacity and of both magnetic or thermal tripping functions in case of short circuit or overload.

Table 8

Models	Power Supply	Capacity of the breaker (A)	Recommended Cord (pieces × sectional area)
A-VFH30QB-1	208/230V~60Hz	30	3 × 0.0062 sq in
A-VFH36QB-1	208/230V~60Hz	35	3 × 0.0062 sq in
A-VFH42PB-1	208/230V~60Hz	40	3 × 0.0062 sq in

A-VFH30QB-1



Inverterflex Series

A-VFH42PB-1 A-VFH36QB-1

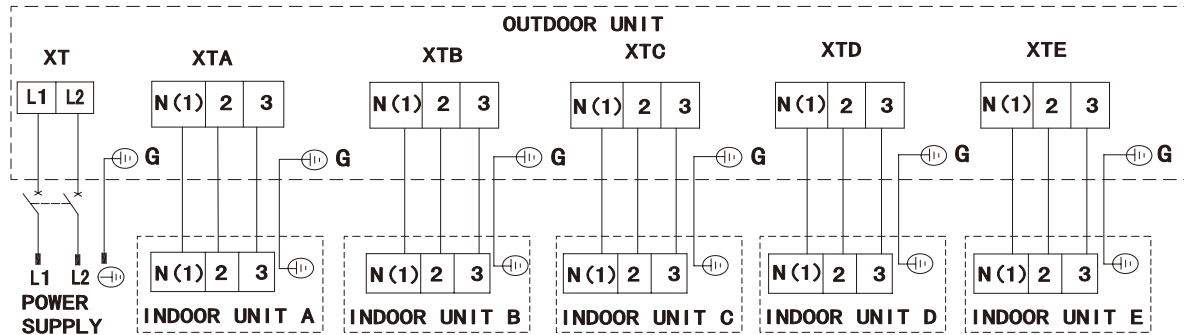


Fig 12

4.4.2 Grounding Requirements

- (1) This air conditioner is classified into the Class I appliances. Its grounding must be reliable.
- (2) The yellow-green line of the air conditioner is the ground line and can not be used for any other purpose, cut off or attached by tapping screw; otherwise it will cause hazard of electric shock.
- (3) (3) A ground terminal should be provided and the ground wire can not be connected to any of the following places.
 1. Running water pipe
 2. Sewage pipe
 3. Gas pipe
 4. Other places where the professional personnel think unreliable.

⚠ CAUTION
1) Mi-wiring will result in malfunction. After the electrical wiring work, ensure the wire between the connection and the fixed point has a small amount of slack.
2) Please follow all piping and wiring instructions.
3) The electric installation should be carried out by the technician as instructed by the local laws, regulations and also this manual.
4) The installation location should be dry, and not exposed to direct sunlight or strong winds.
5) Install a breaker in the circuit that can shut off the main power supply of the system, coupled with current leakage protection.

4.4.4 Wiring of the Power Cord

- (1). Open the side plate.
- (2). Connect the power cord to the terminals “L1”, “L2” and also the ground screw, and then connect the wiring terminals “N(1),2,3” of the indoor unit to those of the outdoor unit correspondingly. Please use the green bonding screw to connect the grounding wire. The location is shown in figure 13.
- (3). Fix the power cord with wire clips.
- (4). Feed the power cord through the rubber ring.

⚠ CAUTION

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

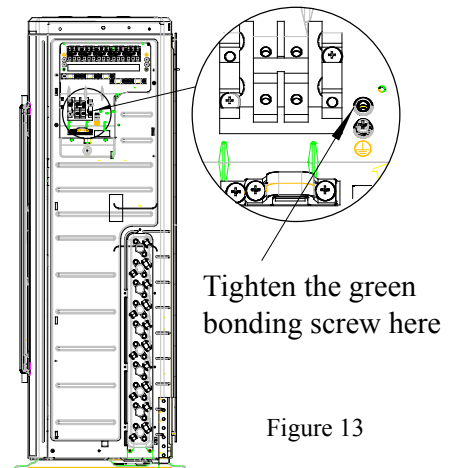



Figure 13

Inverterflex Series

5 Troubleshooting

 WARNING
1) In the event of abnormal conditions (smells), please shut off the main power supply immediately and then contact the service center; otherwise the continuous abnormal running may damage the air conditioning unit and also could cause electric shock or fire hazard etc.
2) Do not repair the air conditioning personally. Contact professionally skilled personnel. Incorrect repair could cause electric shock or fire hazard etc.

Check before Contacting Service Center.

Table 9

Check Items	Conditions Might Happen	Check
Has the unit been mounted firmly?	The unit may drop, shake or emit noise.	
Have you performed the gas leakage test?	It may cause insufficient cooling/heating capacity, and damage unit.	
Did you provide proper thermal insulation?	It may cause condensation and dripping.	
Does the unit drain well?	It may cause condensation and dripping.	
Is the voltage in accordance with the rated voltage specified on the nameplate?	It may cause malfunction or damage the unit.	
Is the electric wiring and piping connection installed correctly and securely?	It may cause malfunction or damage the unit.	
Has the unit been grounded securely?	It may cause electrical leakage.	
Is the power cord specified?	It may cause malfunction or damage the part.	
Has the inlet and outlet been blocked?	It may cause insufficient cooling/heating capacity.	

NOTICE!

If the air conditioner still runs abnormally after the above checks, please contact appointed service center and give a description of the error as well as the model of the unit.

Inverterflex Series

6 The conditions listed below are not classified into errors.

Table 10

Conditions		Causes
The unit does not run	Won't restart	The overload protection switch of the unit causes startup delay for three minutes.
	As soon as power is on.	The unit will stand by for approximately one minute.
The unit blows out mist	When the cooling operation starts.	The hi-humidity air indoor is cooled quickly.
The unit generates noise	The unit “clatters” as soon as it starts running.	It is the sound generated during the initialization of the electronic expansion valve.
	The unit “swishes” during the cooling operation.	It is the sound of the refrigerant gas running inside the unit.
	The unit “swishes” when it is started or stopped.	It is the sound of the refrigerant gas stops running.
	The unit “squeaks” when it is in and after the running.	Expansion and contraction due to the temperature change.
The unit blows out dust.	When the unit restarts after it hasn't been used for a long time.	The dust inside the unit is blown out.
The unit emits odors.	When the unit is running.	The odors absorbed from the environment are blown out again.

NOTICE!

If your problem can not be solved after checking the above items, please contact your service center and show phenomena and models.

Following circumstance are not a malfunction

Table 11

Malfunction		Reason
Unit doesn't run	When unit is started immediately after it is just turned off	Overload protection switch makes it run after a 3 minute delay
	When power is turned on	Standby operation for about 1 minute
Mist comes from the unit	Under cooling	Indoor high humidity air is cooled rapidly
Noise is emitted	Slight clicking sound is heard when just turned on	Noise during electronic expansion valve initialization
	There is swooshing sound when cooling	Sound when gas refrigerant flowing in unit
	There is sound when unit starts or stops	Sound when gas refrigerant starts and stops to flowing.
	Cracking sound is heard when unit is operating and after operating	That's sound caused by expansion of panel and other parts due to temperature change
The unit blows out dust	When unit runs after no operation for a long period	Dust in indoor unit is blown out
The unit emits odor	Operating	The room odor absorbed by the unit blows out again
Indoor unit still runs after switch off	After every indoor unit receives "stop" signal, fan will continue to run for a short time	Indoor fan motor will keep running 20-70s so as to take good use of excess cooling and heating and prepare for next cycle.

Inverterflex Series

Mode conflict	COOL and HEAT mode can not be operated at the same time	When multiple indoor units run conflicting modes (HEAT vs. COOL) the unit with the first call will take priority. Any other indoor unit requesting a conflicting mode will display the mode conflict code until the first unit is finished. At that time these units will take control and the conflict code on the display or wired controller will cease. COOL mode does not conflict with DRY mode and FAN mode does not conflict with any mode.

Inverterflex Series

7 Troubleshooting

The error code will be displayed on the wired controller and the main board of the outdoor unit
The meaning of each error, as shown in table 13.

Table 12

Name of malfunction	The indicator display		
	Yellow light	Red light	Green light
Compressor runs	Flash once		
Defrost	Flash twice		
Anti-freezing protection	Flash 3 times		
IPM protection	Flash 4 times		
AC over-current protection	Flash 5 times		
Over-burden protection	Flash 6 times		
Compressor exhaust high temperature protection	Flash 7 times		
Compressor overload protection	Flash 8 times		
Power protection	Flash 9 times		
EEPROM reads and write protection	Flash 11 times		
Low PN voltage protection	Flash 12 times		
Over voltage protection for PN	Flash 13 times		
PFC protection	Flash 14 times		
PFC module temperature protection	Flash 15 times		
Low pressure protection	Flash 17 times		
High pressure protection	Flash 18 times		
Limit/decline frequency(electric current)		Flash 1 times	
Frequency limit (exhaust)		Flash 2 times	
Frequency limit (Over-burden)		Flash 3 times	
Outdoor ambient sensor malfunction		Flash 6 times	
Outdoor tube sensor malfunction		Flash 5 times	
Exhaust sensor malfunction		Flash 7 times	
Attain the temperature of switch on		Flash 8 times	
Frequency limit(power)		Flash 13 times	
Outdoor fan malfunction		Flash 14 times	
Frequency limit(PFC module temperature)		Flash 15 times	
PFC module sensor malfunction		Flash 16 times	
Liquid pipe temperature sensor malfunction of A		Flash 17 times	
Gas pipe temperature sensor malfunction of A		Flash 18 times	
Liquid pipe temperature sensor malfunction of B		Flash 19 times	
Gas pipe temperature sensor malfunction of B		Flash 20 times	
Liquid pipe temperature sensor malfunction of C		Flash 21 times	
Gas pipe temperature sensor malfunction of C		Flash 22 times	
Liquid pipe temperature sensor malfunction of D		Flash 23 times	
Gas pipe temperature sensor malfunction of D		Flash 24 times	
Liquid pipe temperature sensor malfunction of E		Flash 25 times	
Gas pipe temperature sensor malfunction of E		Flash 26 times	
Exit of the condenser tube sensor malfunction		Flash 27 times	
Correspondence is normal			Flash n times (n=indoor unit number)
Communication failure between indoor unit and outdoor unit			Often bright (indoor unit all Communication failure)

Inverterflex Series

8 Maintenance

Regular maintenance and care should be performed by professional personnel, which will prolong the unit life span.

8.1 Outdoor heat exchanger

Outdoor heat exchanger is required to be cleaned once every two months. Use vacuum cleaner with nylon brush to clean up dust and sundries on the surface of heat exchanger. Blow away dust by compressed air if it is available. Never use water to wash the heat exchanger.

8.2 Drain Pipe

Regularly check if the drain pipe is clogged in order to drain condensate smoothly.

8.3 Notice before Seasonal Use

- (1) Check if the inlet/outlet of the indoor/outdoor unit is clogged.
- (2) Check if the ground wire is earthed reliably.
- (3) Check if battery of remote wireless controller has been replaced.
- (4) Check if the filter screen has been set soundly.
- (5) After long period of shutdown, open the main power switch 8 hours before re-operating the unit so as to preheat the compressor crankcase.
- (6) Check if the outdoor unit is installed firmly. If there is something abnormal, please contact your service center.

8.4 Maintenance after Seasonal Use

- (1) Cut off main power supply of the unit.
- (2) Clean filter screen and indoor and outdoor units.
- (3) In the event of rusting, use anti-rust paint to stop spreading of rust.

NOTICE!

During leakage tests, never mix oxygen, or other dangerous gases into refrigeration circuit. To avoid hazards, please use nitrogen or refrigerant.

Inverterflex Series

9 After-sales Service

In case the air-conditioning unit you bought has any quality issues or you have an inquiry, please contact your installer.

Warranty should meet the following requirements:

- (1) First run of the unit should be operated by professional personnel.
- (2) Only Comfort-Aire/Century manufactured accessories can be used on this machine.
- (3) All the instructions listed in this manual should be followed.
- (4) Warranty will be automatically invalid if the end user, installer, or servicer fails to obey any item mentioned above.



LIMITED EXPRESS WARRANTY

Please visit www.marsdelivers.com
to register your new product

Congratulations on purchasing your new HVAC equipment. It's been designed for long life and reliable service, and is backed by one of the strongest warranties in the industry. Your unit automatically qualifies for the warranty coverage listed below, providing you keep your proof of purchase (receipt) for the equipment and meet the warranty conditions.

LIMITED FIVE (5) YEAR EXPRESS WARRANTY

MARS warrants all parts of the VFH Series Ductless Mini-Split to be free from defects in workmanship and materials for normal use and maintenance for five (5) years from the date of purchase by the original consumer for the original installation. This Express Limited Warranty applies only when the Ductless Mini-Split is installed as a complete matched system: outdoor unit and indoor unit, and only when the system is installed per MARS installation instructions and in accordance with all local, state and national codes for normal use.

LIMITED 6th to 7th YEAR EXPRESS WARRANTY

The compressor only is warranted to be free from defects in workmanship and materials for normal use and maintenance for two (2) additional years, for a total of seven (7) years from the date of purchase by the original consumer for the original installation. This Express Limited Warranty applies only when the Ductless Mini-Split is installed as a complete matched system: outdoor unit and indoor unit, and only when the system is installed per MARS installation instructions and in accordance with all local, state and national codes for normal use.

EXCEPTIONS

The Limited Express Warranty does not cover normal maintenance—MARS recommends that regular inspection/maintenance be performed at least once a season and proof of maintenance be kept. Additionally, labor charges, transportation charges for replacement parts, replacement of refrigerant or filters, any other service calls/repairs are not covered by this Limited Warranty. It also does not cover any portion or component of the system that is not supplied by MARS, regardless of the cause of failure of such portion or component.

CONDITIONS FOR WARRANTY COVERAGE

- Unit must be operated according to MARS operating instructions included with the unit and cannot have been subjected to accident, alteration, improper repair, neglect or misuse, or an act of God (such as a flood)
- Installation was done by a trained, licensed or otherwise qualified HVAC dealer/contractor
- Performance cannot be impaired by use of any product not authorized by MARS, or by any adjustments or adaptations to components
- Serial numbers and/or rating plate have not been altered or removed
- Damage has not been a result of inadequate wiring or voltage conditions, use during brown-out conditions, or circuit interruptions
- Air flow around any section of the unit has not been restricted
- Unit remains in the original installation
- Unit was not purchased over the internet

DURATION OF WARRANTY & REGISTRATION

The warranty begins on the date of purchase by the original consumer. The consumer must retain a receipted bill of sale as proof of warranty period. Without this proof, the express warranty begins on the date of shipment from the factory.

REMEDY PROVIDED BY THE LIMITED EXPRESS WARRANTY

The sole remedy under the Limited Warranty is replacement of the defective part. If replacement parts are required within the period of this warranty, MARS replacement parts shall be used; any warranty on the replacement part(s) shall not affect the applicable original unit warranty. Ready access to the unit for service is the owner's responsibility. Labor to diagnose and replace the defective part is not covered by this Limited Express Warranty. If for any reason the replacement part/product is no longer available during the warranty period, MARS shall have the right to allow a credit in the amount of the current suggested retail price of the part/product instead of providing repair or replacement.

LIMITATION OF LIABILITY

1. There are no other express or implied warranties. MARS makes no warranty of merchantability. We do not warrant that the unit is suitable for any particular purpose or can be used in buildings or rooms of any particular size or condition except as specifically provided in this document. There are no other warranties, express or implied, which extend beyond the description in this document.
2. All warranties implied by law are limited in duration to the seven-year term of the parts warranty. Your exclusive remedy is limited to the replacement of defective parts. **We will not be liable for any consequential or incidental damages caused by any defect in this unit.**
3. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. Some states do not allow limitation on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.
4. No warranties are made for units sold outside the continental United States and Canada. Your distributor or final seller may provide a warranty on units sold outside these areas.
5. MARS will not be liable for damages if our performance regarding warranty resolution is delayed by events beyond our control including accident, alteration, abuse, war, government restrictions, strikes, fire, flood, or other acts of God.

HOW TO OBTAIN WARRANTY SERVICE OR PARTS

If you have a warranty claim, notify your installer promptly. If the installer does not remedy your claim, write to MARS, 1900 Wellworth Ave., Jackson MI 49203. Enclose a report of inspection by your installer or service person. Include model number, serial number, and date of purchase.

Owner responsibilities are set forth in the instruction manual—read it carefully.



KEEP THIS INFORMATION AS A RECORD OF YOUR PURCHASE

Outdoor Unit: Model No. _____ Serial No. _____

Indoor Unit 1: Model No. _____ Serial No. _____

Indoor Unit 2: Model No. _____ Serial No. _____

Indoor Unit 3: Model No. _____ Serial No. _____

Indoor Unit 4: Model No. _____ Serial No. _____

Indoor Unit 5: Model No. _____ Serial No. _____

Date of Purchase _____

THIS PAGE IS INTENTIONALLY LEFT BLANK

Due to ongoing product improvements, specifications and dimensions are subject to change and correction without notice or incurring obligations. Determining the application and suitability for use of any product is the responsibility of the installer. Additionally, the installer is responsible for verifying dimensional data on the actual product prior to beginning any installation preparations.

Incentive and rebate programs have precise requirements as to product performance and certification. All products meet applicable regulations in effect on date of manufacture; however, certifications are not necessarily granted for the life of a product. Therefore, it is the responsibility of the applicant to determine whether a specific model qualifies for these incentive/rebate programs.



1900 Wellworth Ave., Jackson, MI 49203 • Ph. 517-787-2100 • www.marsdelivers.com

