



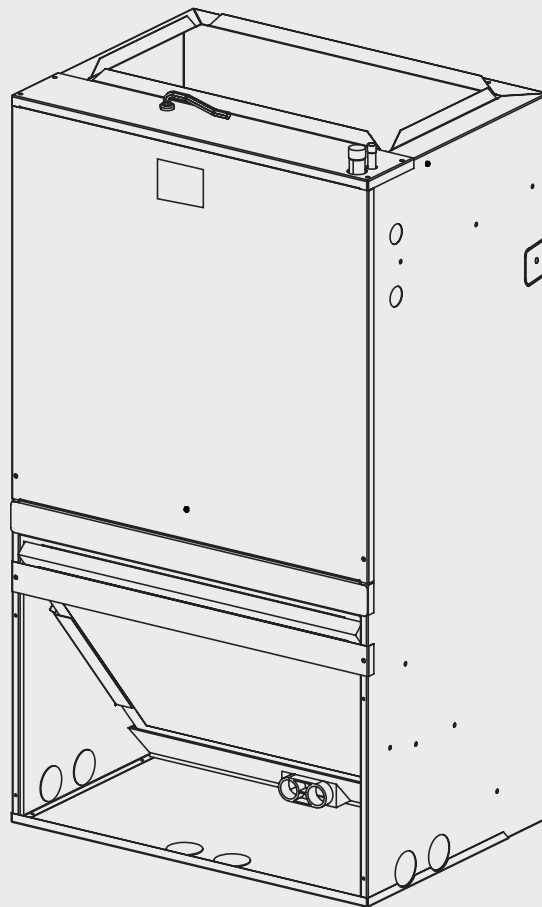
# BOSCH

Installation Instructions

## Split System Heat Pump

### **Bosch BWA Series**

Wall Mounted Air Handler Units | 1.5-3 Ton Capacity | R410A



BTC 761703105 A / 03.2023





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# 1 Key to Symbols and Safety Instructions

## 1.1 Key to Symbols

### Warnings

Warnings in this document are identified by a warning triangle printed against a grey background.

Keywords at the start of a warning indicate the type and seriousness of the ensuing risk if measures to prevent the risk are not taken.

The following keywords are defined and can be used in this document:

- ▶ **DANGER:** indicates a hazardous situation which, if not avoided, will result in death or serious injury.
- ▶ **WARNING:** indicates a hazardous situation which, if not avoided, could result in death or serious injury.
- ▶ **CAUTION:** indicates a hazardous situation which, if not avoided, could result in minor to moderate injury.
- ▶ **NOTICE:** is used to address practices not related to personal injury.

### Important information

This symbol indicates important information where there is no risk to people or property.

## 1.2 Safety

Please read before proceeding

**WARNING:**

These instructions are intended as an aid to qualified, licensed service personnel for proper installation, adjustment and operation of this unit. Read these instructions thoroughly before attempting installation or operation. Failure to follow these instruction may lead to improper installation, adjustment, service or maintenance possibly resulting in fire, electrical shock, property damage, personal injury or death.

This document is customer property and is to remain with this unit. These instructions do not cover all the different variations of systems nor does it provide for every possible contingency to be met in connection with installation.

**WARNING: FIRE, ELECTRICAL SHOCK, PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH**

All phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES. If additional information is required please contact your local distributor.

**WARNING: ELECTRICAL SHOCK**

Disconnect all power to unit before installing or servicing. More than one disconnect switch may be required to deenergize the equipment. Hazardous voltage can cause severe personal injury or death.

**WARNING: ELECTRICAL SHOCK**

If removal of the blower assembly is required, all disconnect switches supplying power to the equipment must be deenergized and locked (if not in sight of unit) so the field power wires can be safely removed from the blower assembly. Failure to do so can cause electrical shock resulting in personal injury or death.

**WARNING: FIRE, ELECTRICAL SHOCK, PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH**

Because of possible damage to equipment or personal injury, installation, service, and maintenance should be performed by trained, qualified service personnel. Consumer service is recommended only for filter cleaning / replacement. Never operate the unit with the access panels removed.



**WARNING:**

This product can expose you to chemicals including Lead and Lead components, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).



**WARNING: ELECTRICAL SHOCK**

The unit must be permanently grounded. Failure to do so can result in electrical shock causing personal injury or death.



**CAUTION: FIRE HAZARD**

The material of plenum and ductwork must meet the latest edition of the NFPA 90B standard.

**NOTICE:**

Make sure the blower motor support is tight (3-motor mounting bolts - Fig. 1). Then check if wheel is tightly secured to motor shaft before operating unit.

Blower Motor  
Mounting Bolt

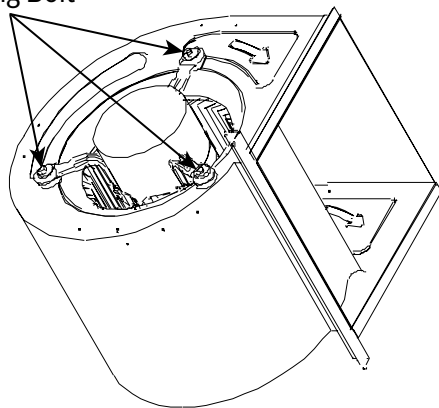


Figure 1

## 2 General

The unit is intended to be paired with IDS Light BOVA15 Condensers. The unit can be positioned for front return or converted to bottom air return in the upflow position only.

Adjust the motor speed by adjusting the motor wiring at the blower motor plug. Select correct air flow according to airflow performance table in Section 6. Please refer to wiring diagram for motor speed selection instructions.

Please refer to Figure 2 for high and low voltage wiring connections.

To ensure the proper installation, select a solid and level site. Ensure enough clearance is maintained for installation and maintenance.

**NOTICE:**

The installed unit must have the required clearances as shown in Section 3. Failure to follow these instructions may result in equipment damage and/or premature equipment failure.

**WARNING: FIRE HAZARD**

Keep flammable material and vapors, such as gasoline, away from the air handler. Failure to follow these instructions can result in death, explosion, or fire.

### 2.1 Installations in High Humidity Environments

When the unit is installed in a hot and humid place, if the humidity inside the installation space exceeds 86°F and RH 80%, it is recommended to insulate the cabinet exterior. Use glass wool or polyethylene foam as insulation; the thickness should be more than 2 in. and it must fit inside the installation space opening.

Condensation may come from the surface of the insulation. Be sure to use insulation that is designed for use with HVAC Systems. Condensation may be produced on surface during cooling operation. It is also recommended to use auxiliary drain pan and secure the unit firmly to prevent it from falling.



Refer to local code requirements for usage of auxiliary drain pans.

### 3 Dimensional Data

#### 3.1 Unit Dimensions

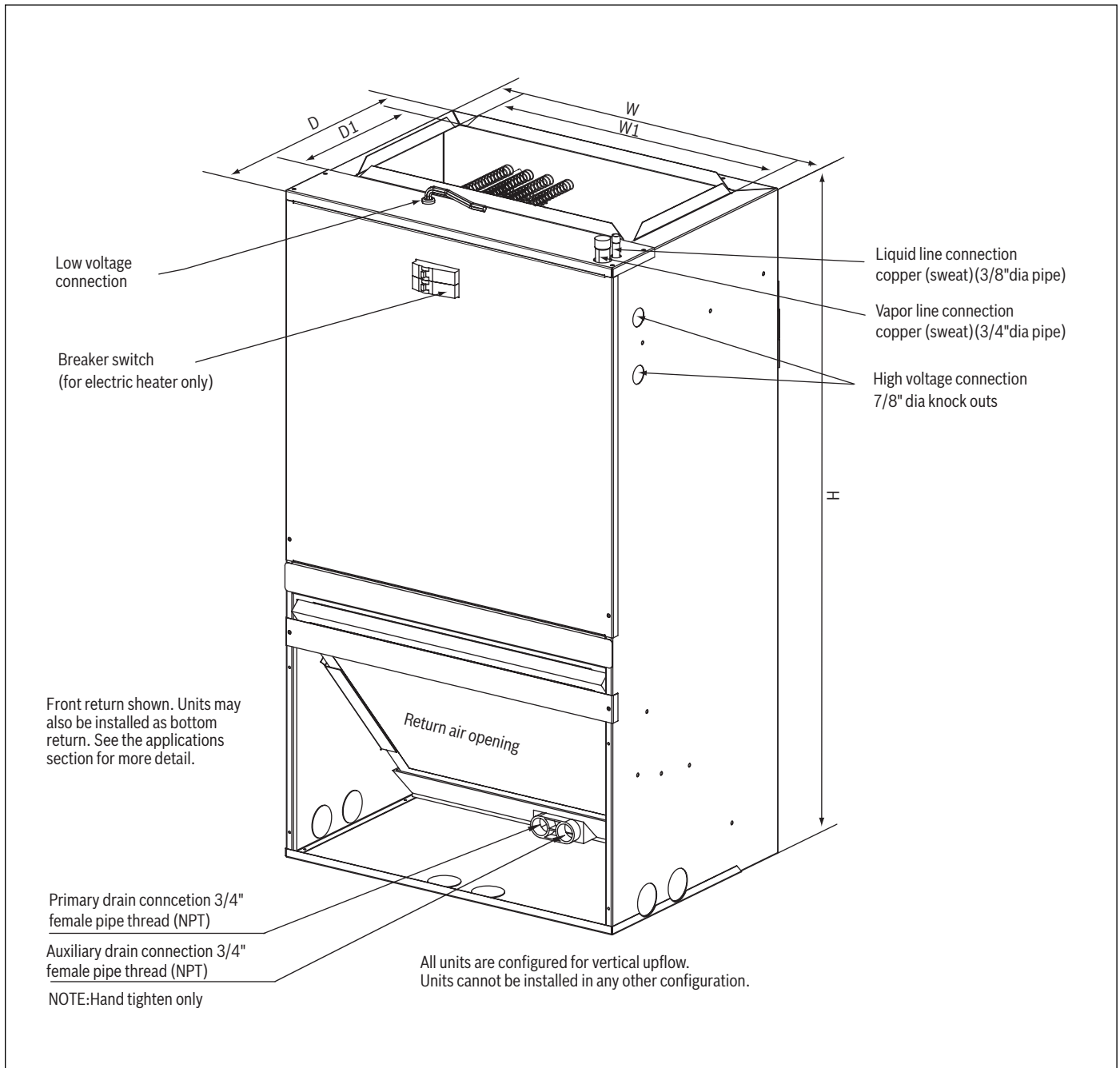


Figure 2 Unit dimensions

Model Size	Dimensions Inch [mm]					
	Unit Height "H"	Unit Width "W"	Unit Length "D"	Supply Duct Width "W1"	Supply Duct Length "D1"	Liquid Line/ Vapor Line
18	36-1/2 (928)	20-1/2 (521)	15 (381)	17-2/5 (442)	9-1/2 (242)	3/8 / 3/4 (9.5) / (19)
24	36-1/2 (928)	20-1/2 (521)	15 (381)	17-2/5 (442)	9-1/2 (242)	3/8 / 3/4 (9.5) / (19)
30	39-1/2 (1004)	22 (559)	19 (483)	18-4/5 (478)	9-1/2 (242)	3/8 / 3/4 (9.5) / (19)
36	39-1/2 (1004)	22 (559)	19 (483)	18-4/5 (478)	9-1/2 (242)	3/8 / 3/4 (9.5) / (19)

Table 1

### 3.2 Unit Back Dimensions

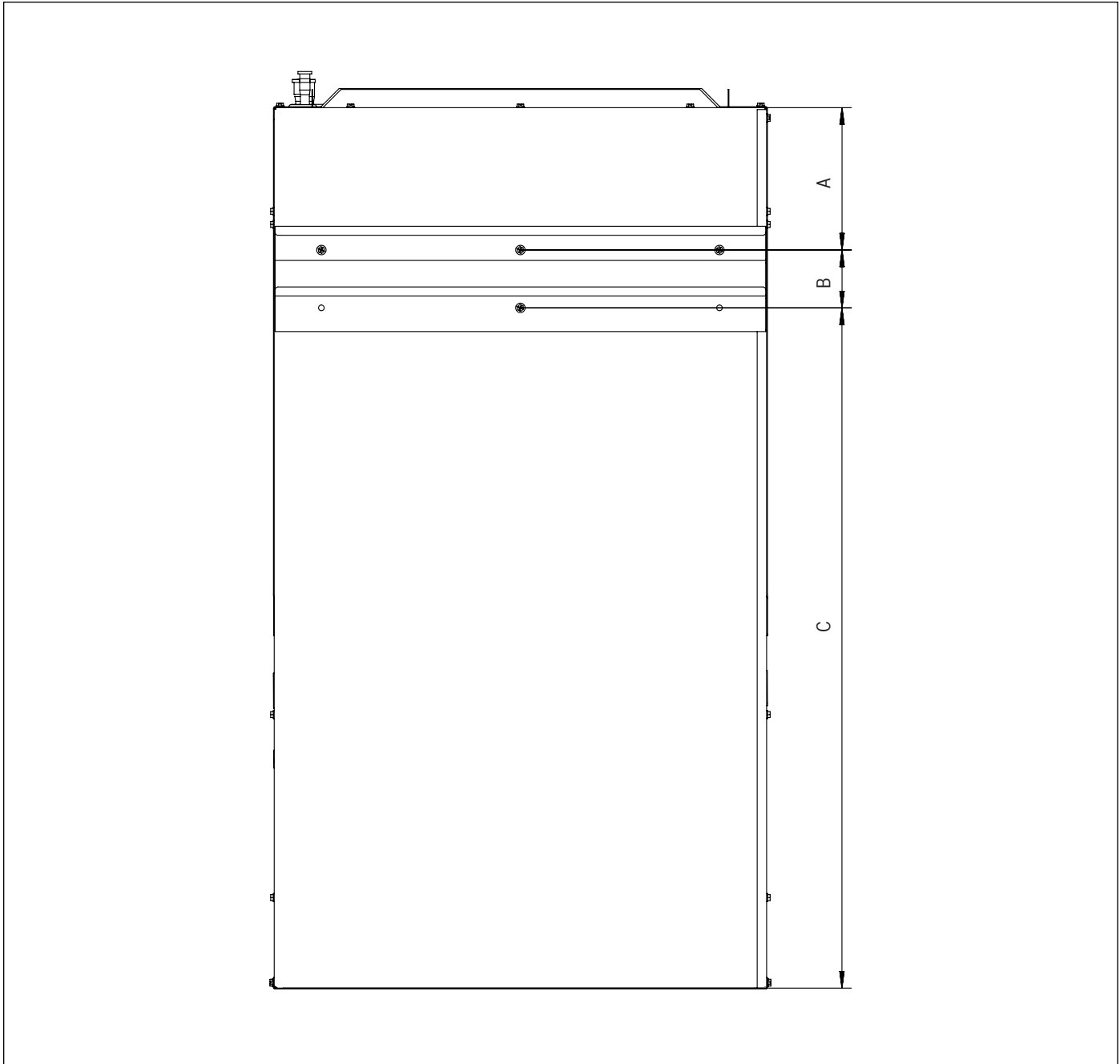


Figure 3 Unit back dimensions

Model Size	Dimensions Inch [mm]		
	A	B	C
18	24-9/10" [150]	10-1/8" [61]	119-1/20" [717]
24	24-9/10" [150]	10-1/8" [61]	119-1/20" [717]
30	24-9/10" [150]	10-1/8" [61]	132" [795]
36	24-9/10" [150]	10-1/8" [61]	132" [795]

Table 2



## 4 Applications

The small air handler should be centrally located and may be installed in a closet, alcove, utility room, or basement. Minimum clearances must be met.

The air handler comes standard with two different options for mounting, wall mount or frame mount. Both mounting options require the unit to be level from side to side and from front to back in order to allow condensate to properly drain from the unit. Failure to do this will result in condensate leaking out from the unit, potentially causing structural damage to the surrounding support structures, dry wall, carpet, etc. Also, both mounting structures require the ability to accommodate a minimum of 150 lb load. Failure to do this will cause damage to the support structure and potentially damage the unit.

### 4.1 Wall Mount

The air handler comes standard with a wall mounting bracket and air handler mounting bracket. Reference Figures 4 & 5 for more detail.

1. Remove lower wall mounting bracket from the back of the unit by removing one screw which attaches the bracket to the air handler. Note: Discard the screw after you have removed the wall mounting bracket.
2. Install bracket on the wall by using 3 wood screws (not provided). Make sure the bracket is level in order to provide proper drainage from the unit. Note: Do not attach the wall mounting bracket into unsupported dry wall. Make sure that the wood screws are going into a structure that can support a minimum load of 150 lb.
3. Lift the air handler above the wall mounting bracket and attach the unit to the installed bracket. Reference Figures 4 & 5. Install the additional bottom support plate for extra support for this type mounting (see Figure 5).

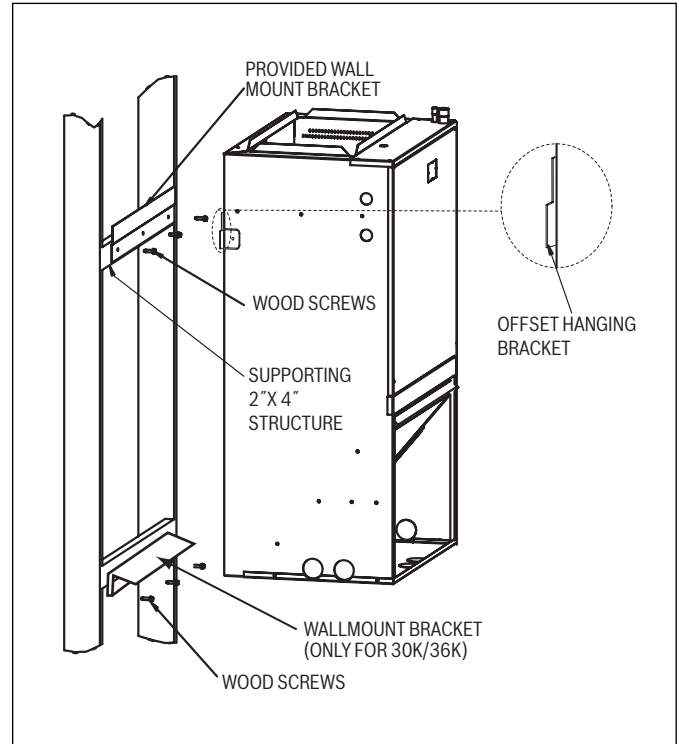


Figure 5 Wall Mounting



The additional plate is shipped in the bottom of the shipping carton.

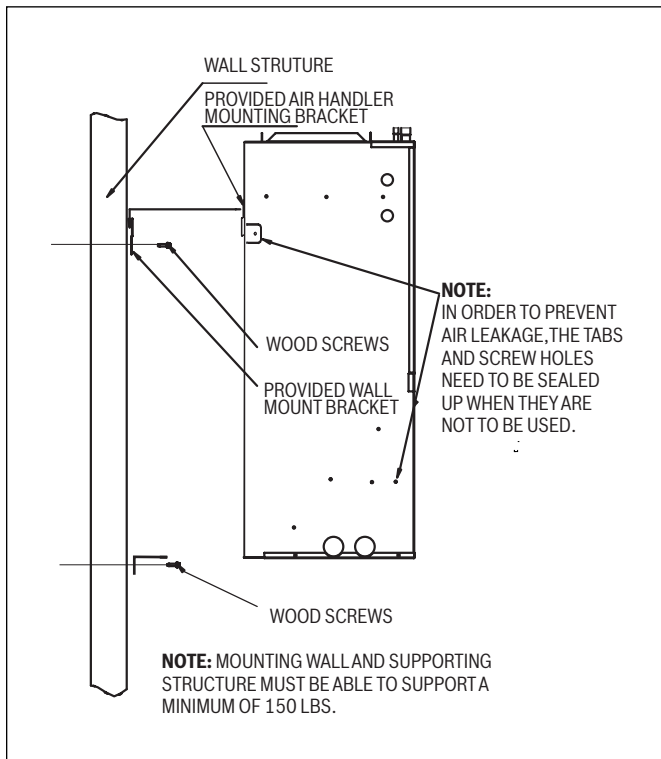


Figure 4 Wall Mounting Side View

### 4.2 Frame Mount

The air handler comes with 6 clearance holes (3 on each side). These holes are used to mount the air handler inside of a frame structure (see Figure 6). When mounting in this fashion, make sure that the wood screws are mounted from within the air handler and not from outside the unit in order to avoid damaging the coil. If the frame does not provide support in the front of the unit and additional support is needed, open up the tabs and fix the unit to the frame or other support structure with screws. Select a solid and level site to ensure proper installation of the frame mount. Verify that there is sufficient space for installation and maintenance (see Figure 7).



**CAUTION: PERSONAL INJURY, PRODUCT DAMAGE, PROPERTY DAMAGE**

The (6) wood screws are not provided with the unit. #12 x 1 1/2" wood screws are recommended. When the unit is installed on a wood frame, the screws should be used to fix the unit to the studs. If they are not used, the unit may fall down or cause other damage. See Figure 6 for frame mount installation.

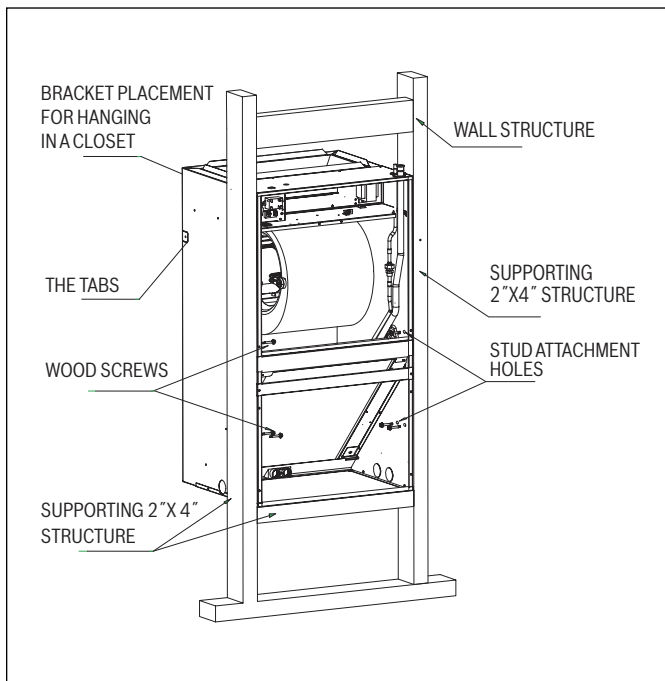


Figure 6 Frame Mount

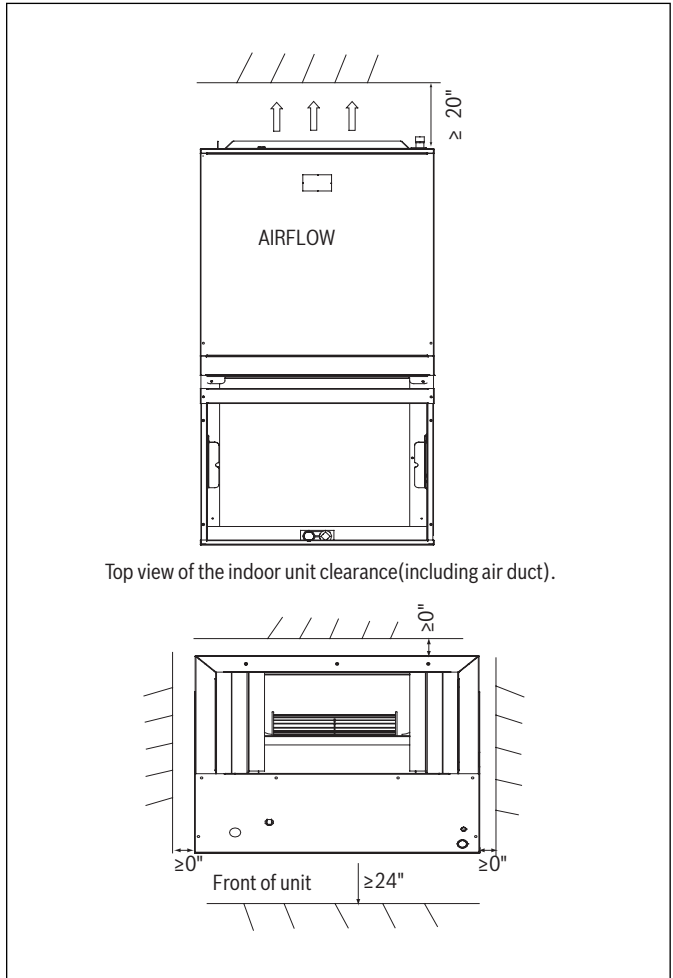


Figure 7 Space for frame mount

**i** The installed unit must have the required clearances as shown in Figure 7. Failure to follow these instructions may result in equipment damage and/or premature equipment failure.

### 4.3 Return Air Panel Configuration

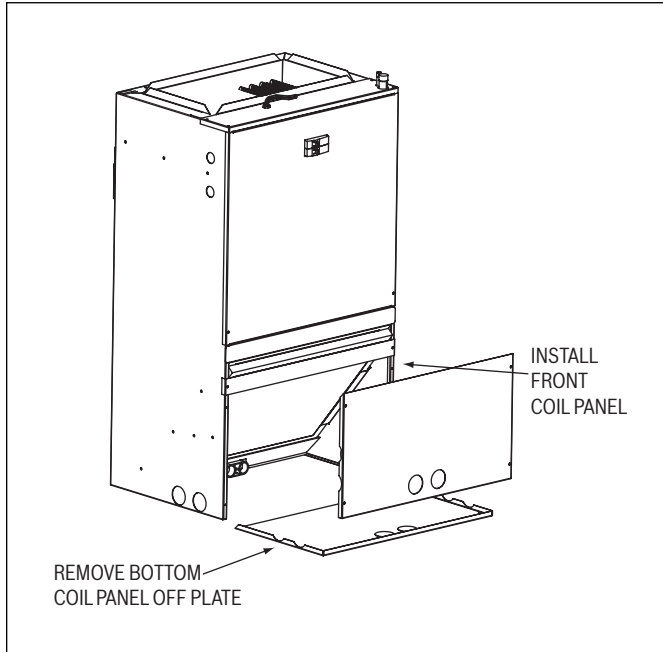


Figure 8 Different return air configuration

**Bottom Return Conversion:**

Divert the return air from the factory standard front return to a bottom return. Remove the cross brace when converting cabinet to bottom return.

## 5 Electrical wiring

Field wiring must comply with the National Electric Code (C.E.C. in Canada) and any applicable local ordinances.



**WARNING: ELECTRICAL SHOCK**

Disconnect all power to unit before installing or servicing. More than one disconnect switch may be required to deenergize the equipment. Hazardous voltage can cause severe personal injury or death.

### 5.1 Power Wiring

It is important that proper electrical power is available for connection to the unit being installed. See the unit nameplate, wiring diagram, and electrical data in the installation instructions for more detailed requirements.

- ▶ If required, install a branch circuit disconnect of adequate size, located within sight, and readily accessible from the unit.



When the Electric Heater is installed, units may be equipped with one 60 amp. circuit breaker. These breaker(s) protect the internal wiring in the event of a short circuit and serve as a disconnect. Circuit breakers installed within the unit do not provide over-current protection of the supply wiring and therefore may be sized larger than the branch circuit protection.

- ▶ Supply circuit power wiring must be 167°F minimum copper conductors only. See Electrical Data In this section for ampacity, wire size and circuit protector requirements. Supply circuit protection devices may be either fuses or “HACR” type circuit breakers.
- ▶ High voltage wiring may be run through knockout holes on the right, left or top of the unit.
- ▶ Two 7/8" dia. concentric knockouts are provided for running high voltage wiring to the unit. Refer to Figure 2 for High Voltage knock out locations.
- ▶ High voltage wiring must be connected to the red and black wiring in the control section of the air handler.

## 5.2 Control Wiring



Low voltage control wiring should not be run in conduit with high voltage wiring. Keep distance between the two conduits per local codes.

- ▶ 18 AWG. color-coded low voltage wire should be used for lengths less than 100ft. For wire lengths longer than 100 ft., 16 AWG. wire should be used.
- ▶ Low voltage wire connections are made to low voltage pigtails extending from top of air handler (see Figure 2). Connections for control wiring are made with wire nuts. Control wiring knockouts (7/8") are also provided on the right and left side of the unit for side connection.
- ▶ See wiring diagram located on inside of blower access panel of air handler for proper wiring instruction.
- ▶ After installation, ensure separation of low voltage and high voltage wiring is maintained.

## 5.3 Grounding



### **DANGER: ELECTRICAL SHOCK**

The unit must be permanently grounded. Failure to do so can result in electrical shock causing personal injury or death.

- ▶ The ground may consist of electrical wire or metal conduit when installed in accordance with existing electrical codes.
- ▶ Grounding may also be accomplished by attaching ground wire(s) to ground lug provided in the unit wiring compartment.
- ▶ Use of multiple supply circuits require grounding of each circuit to lug provided in unit.
- ▶ Ground lugs are located close to wire entrance on left side of unit. Lugs may be moved to marked locations near wire entrance on right side of unit if alternate location is more convenient.

## 5.4 Electrical Data

Model	Voltage	Hertz	HP	Speeds	Blower Motor FLA	Maximum Circuit Protector
18	208/230	60	1/3	5	1.9	15(A)
24	208/230	60	1/3	5	1.9	15(A)
30	208/230	60	1/2	5	2.7	15(A)
36	208/230	60	1/2	5	2.7	15(A)

Table 3

## 5.5 Electric Heat Kit MCA/MOP Data

### 5.5.1 EHK Without Unit

Heat Kit Model	Air Handler Model	Electric Heat (kW)	Heat kit FLA (A)		MIN.Circuit Ampacity (A)		MAX.Fuse or Breaker (HACR) Ampacity		Fan speed				
			208 VAC	240 VAC	208 VAC	240 VAC	208 VAC	240 VAC	1	2	3	4	5
EHK-05W	18/24/30/36	5	18.1	20.8	23	26	25	30	●	●	●	●	●
EHK-08W		7.5	27.1	31.3	34	40	35	40	X	X	●	●	●
EHK-10W		10	36.1	41.7	46	53	50	60	X	X	●	●	●

Table 4 Suitable heat kits for AHU installation

[● means available, X means not available]

### 5.5.2 EHK With Unit

Heat Kit Model	Air Handler Model	Unit Motor FLA (A)	Electric Heat (kW)	Heat kit FLA (A)		MIN.Circuit Ampacity (A)		MAX.Fuse or Breaker (HACR) Ampacity	
				208 VAC	240 VAC	208 VAC	240 VAC	208 VAC	240 VAC
EHK-05W	18	1.9	5	18.1	20.8	25	29	25	30
EHK-08W			7.5	27.1	31.3	37	42	40	45
EHK-10W			10	36.1	41.7	48	55	50	60
EHK-05W	24	1.9	5	18.1	20.8	25	29	25	30
EHK-08W			7.5	27.1	31.3	37	42	40	45
EHK-10W			10	36.1	41.7	48	55	50	60
EHK-05W	30	2.7	5	18.1	20.8	26	30	30	30
EHK-08W			7.5	27.1	31.3	38	43	40	45
EHK-10W			10	36.1	41.7	49	56	50	60
EHK-05W	36	2.7	5	18.1	20.8	26	30	30	30
EHK-08W			7.5	27.1	31.3	38	43	40	45
EHK-10W			10	36.1	41.7	49	56	50	60

Table 5 Suitable heat kits for AHU installation

- Heat pump systems require a specified airflow. Each ton of cooling requires between 350 and 450 cubic feet of air per minute (CFM), or 400 CFM nominally
- All electric heat kits include breaker(s) for each heater element for short circuit protection
- EHK-05W, EHK-08W, and EHK-10W are single circuit (contain 1 heater element)
- Blower motor load is included in MCA and MAX Fuse/Breaker size

### Heater Kit Accessories

Model	Description	18	24	30	36
EHK-05W	5 kW Heat Kit, Double Pole Breaker	●	●	●	●
EHK-08W	7.5 kW Heat Kit, Double Pole Breaker	●	●	●	●
EHK-10W	10 kW Heat Kit, Double Pole Breaker	●	●	●	●

Table 6

[● means available, X means not available]

## 6 Airflow Performance

Airflow performance data is based on cooling performance with a coil and no filter in place. Check the performance table for appropriate unit size selection. External static pressure should stay within the minimum and maximum limits shown in the table below in order to ensure proper operation of both cooling, heating, and electric heating operation.

MODEL SIZE	BLOWER SPEEDS	SCFM									
		EXTERNAL STATIC PRESSURE-Inches w.c. [kPa]									
		0[0]	0.1[.02]	0.18[.04]	0.2[.05]	0.3[.07]	0.4[.10]	0.5[.12]	0.6[.15]	0.7[.17]	0.8[.20]
18	Tap(5)	913	881	848	848	818	792	763	731	691	650
	Tap(4)	825	787	756	753	717	682	650	617	580	540
	Tap(3)	737	700	666	663	630	589	550	511	474	436
	Tap(2)-Factory	675	632	598	596	555	521	480	440	399	366
	Tap(1)	590	548	512	499	455	430	368	338	309	263
24	Tap(5)	913	881	848	848	818	792	763	731	691	650
	Tap(4)-Factory	825	787	756	753	717	682	650	617	580	540
	Tap(3)	737	700	666	663	630	589	550	511	474	436
	Tap(2)	675	632	598	596	555	521	480	440	399	366
	Tap(1)	590	548	512	499	455	430	368	338	309	263
30	Tap(5)	1362	1325	1280	1266	1238	1197	1159	1119	1080	1040
	Tap(4)	1282	1242	1195	1176	1151	1111	1071	1028	975	936
	Tap(3)	1267	1225	1178	1143	1120	1078	1036	993	942	897
	Tap(2)-Factory	1157	1111	1061	1052	1016	971	929	884	842	802
	Tap(1)	1077	1028	978	965	932	886	850	804	768	732
36	Tap(5)	1362	1325	1280	1266	1238	1197	1159	1119	1080	1040
	Tap(4)-Factory	1282	1242	1195	1176	1151	1111	1071	1028	975	936
	Tap(3)	1267	1225	1178	1143	1120	1078	1036	993	942	897
	Tap(2)	1157	1111	1061	1052	1016	971	929	884	842	802
	Tap(1)	1077	1028	978	965	932	886	850	804	768	732

Table 7 Air Performance

**□** Bold outlined areas represent airflow outside of the required 300-450 cfm/ton range.

**NOTES:**

1. Airflow based upon dry coil at 230V with no electric heat, no filter. For 24,30 and 36 sizes, airflow at 208V is approximately the same as 230V because the multi-tap ECM motor is a constant torque motor. The torque doesn't drop off at the speeds in which the motor operates.
2. Airflow is equivalent for front or bottom return configurations.
3. SCFM is nearly the same with cooling performance airflow, the gap is in the 1 to 2%.

---

## 7 Ductwork

Field ductwork must comply with the National Fire Protection Association NFPA 90A, NFPA 90B and any applicable local ordinance(s).

**WARNING: FIRE HAZARD AND CARBON MONOXIDE**

Do not, under any circumstances, connect return ductwork to any other heat producing device such as fireplace insert, stove, etc. Unauthorized use of such devices may result in fire, carbon monoxide poisoning, explosion, personal injury or property damage.

Sheet metal ductwork run in unconditioned spaces must be insulated and covered with a vapor barrier. Fibrous ductwork may be used if constructed and installed in accordance with SMACNA Construction Standard on Fibrous Glass Ducts. Ductwork must comply with National Fire Protection Association as tested by U/L Standard 181 for Class I Air Ducts. Check local codes for requirements on ductwork and insulation.

- ▶ Duct system must be designed within the range of external static pressure the unit is designed to operate against. It is important that the system airflow be adequate. Make sure supply and return ductwork, grills, special filters, accessories, etc. are accounted for in total resistance. See airflow performance tables in Section 6 of this manual.
- ▶ Design the duct system in accordance with "ACCA" Manual "D" Design for Residential Winter and Summer Air Conditioning and Equipment Selection. Latest editions are available from: "ACCA" Air Conditioning Contractors of America, 1513 16th Street, N.W., Washington, D.C. 20036. If duct system incorporates flexible air duct, be sure pressure drop information (straight length plus all turns) shown in "ACCA" Manual "D" is accounted for in system.
- ▶ Supply plenum should be attached to the 3/4" duct flanges supplied with the unit. Attach flanges around the blower outlet.



If an elbow is included in the plenum close to the unit, it must not be smaller than the dimensions of the supply duct flange on the unit.



The front flange on the return duct (if connected to the blower casing must not be screwed into the area where the power wiring is located. Drills or sharp screw points can damage insulation on wires located inside unit.

- 
- ▶ Secure the supply and return ductwork to the unit flanges, using proper fasteners for the type of duct used and tape the duct-to-unit joint as required to prevent air leaks.

## 8 Refrigerant Connections

- ▶ Keep the coil connections sealed until refrigerant connections are made. Refer to the Bosch IDS Condenser Section Installation, Operation, and Maintenance Manual for details on line sizing, tubing installation, and charging information.
- ▶ Coil is factory charged with Nitrogen. Evacuate the system before charging with refrigerant.
- ▶ Install refrigerant lines so that they do not block service access to the front of the unit.
- ▶ Nitrogen should flow through the refrigerant lines while brazing.
- ▶ Use a brazing shield to protect the cabinet's paint and a wet rag to protect the rubber grommet and input pipe's piston seal ring from being damaged by torch flames. Use a wet rag or an approved heat paste to protect the TXV sensing bulb during the brazing process. Refer to Figure 9.
- ▶ After the refrigerant line connections are made, seal the gap around the connections with pressure sensitive gasket.

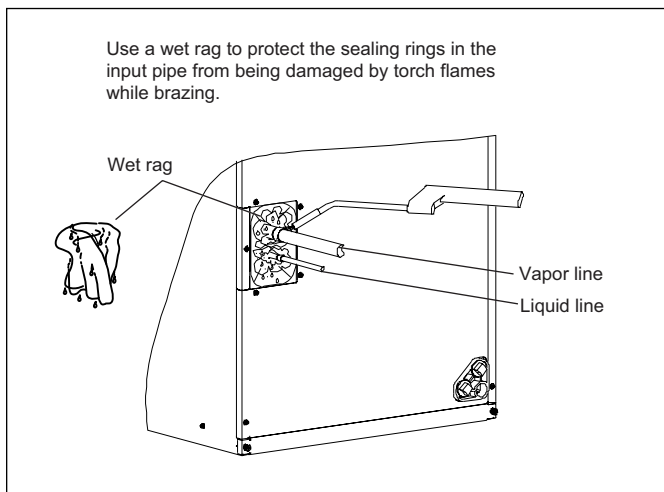


Figure 9 Protection during the brazing process

After the brazing work is finished, make sure to check that there is no refrigerant leakage. After checking for vapor leaks, be sure to insulate the pipe connections, refer to Figure 10.

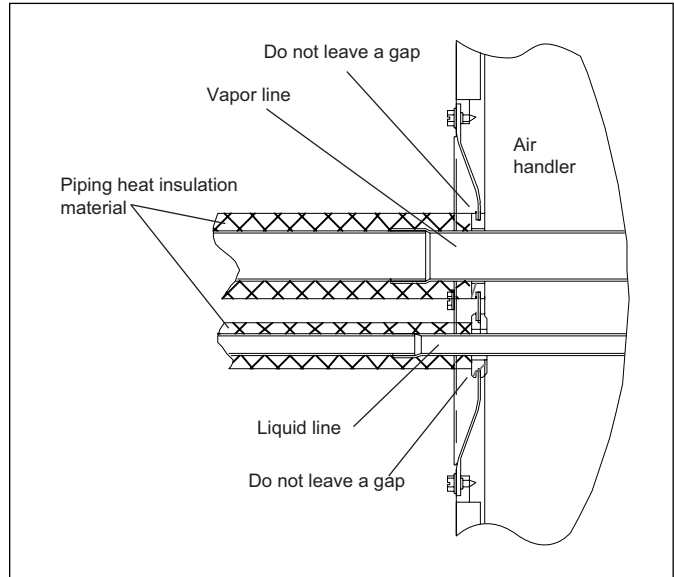


Figure 10 Insulation of pipe connections

### 8.1 Condensate Drain Connection

The unit is supplied with primary and auxiliary condensate drains that have 3/4" NPT connections. Both drains must be trapped outside the unit and piped in accordance with applicable materials and building codes. Do not reduce the drain line size less than the connection size on the drain pan. Condensate should be piped to an open drain or to the outside. All drains must pitch downward away from the unit a minimum of 1/4" per foot of line to ensure proper drainage. Insulate the primary drain line to prevent sweating where dew point temperatures may be met. (Insulation is optional depending on climate and application needs.)



If cleanout tee is used, standpipe must be sealed/capped.



## 9 Air Filter (Not Factory-Installed)

Filters are not included with the unit and must be field supplied.

An air filter must be installed before air enters the evaporator coil in order to protect the coil, blower, and other internal parts from excessive dirt and dust. Consult the filter manufacturer for proper sizing and maximum velocity requirements.

Filter application and placement are critical to airflow, which may affect the heating and cooling system performance. Reduced airflow can shorten the life of the system's major components, such as motor, elements, heat relays, evaporator coil or compressor. Consequently, we recommend that the return air duct system have only one filter location. For systems without a return air filter grill, multiple filter grills can be installed at each of the return air openings.



Do not double filter the return air duct system. Do not filter the supply air duct system. This will change the performance of the unit and reduce airflow.



**WARNING: FIRE HAZARD**

Do not operate the system without filters. A portion of the dust suspended in the air may temporarily lodge in the duct runs and at the supply registers. Any circulated dust particles could be heated and charred by contact with the air handler elements. This residue could soil ceilings, walls, drapes, carpets and other articles in the house. Soot damage may occur with filters in place, when certain types of candles, oil lamps or standing pilots are burned.

## 10 Filter Installation Dimensions



Filters are not included with the unit and must be field supplied.

### Dimensional data

Model	Filter Size In. [mm]
18/24	16x20 [406x508]
30/36	20x20 [508x508]

Table 8

### Air filter removal / installation

- ▶ Hold the edge of the air filter and pull out.
- ▶ Install new filter so that the arrow on the filter is in the same direction as airflow.
- ▶ If reusable filter is being used, please clean according to the manufacturer's specification prior to re-installation.

## 11 Maintenance



For continuing high performance and to minimize possible equipment failure, annual maintenance must be performed on this equipment.

### 11.1 Cleaning Precautions



**WARNING: PERSONAL INJURY, PRODUCT DAMAGE**

Any unit repairs must be performed by qualified service personnel only.



**WARNING: ELECTRICAL SHOCK**

Always turn off your heat pump and disconnect its power supply before cleaning or maintenance.



**WARNING: FIRE HAZARD**

Do not use chemicals or chemically treated cloths to clean the unit.

Do not use benzene, paint thinner, polishing powder or other solvents to clean the unit.

Do not operate the system without a filter in place



**CAUTION: PERSONAL INJURY**

When removing filter, do not touch metal parts in the unit. The sharp metal edges can cut you.

### 11.2 Regular Maintenance

Your heat pump must be inspected annually by a qualified service technician. Your annual system inspection must include:

1. Inspect the air filter every thirty days or as often as needed. If blocked or obstructed, clean or replace at once.
2. Inspection and/or cleaning of the blower wheel housing and motor. The blower motor is permanently lubricated for normal operating conditions.
3. Inspection and cleaning of indoor and outdoor coils as required.
4. Inspection and/or cleaning of the indoor coil drain pan and drain lines, as well as auxiliary drain pan and lines.
5. Check all electrical wiring and connections. Correct as needed, referring to the wiring diagram.
6. Inspect outdoor unit to make sure that no debris or vegetation is within the required clearance distances.

## 12 Wiring Diagrams



**WARNING: ELECTRICAL SHOCK**

Disconnect all power before servicing or installing this unit. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death.



**DANGER: ELECTRICAL SHOCK**

This unit must be properly grounded and protected by a circuit breaker or fuse.



**WARNING: ELECTRICAL SHOCK**

These units must be wired and installed in accordance with all National and Local Safety Codes.

- ▶ To avoid electrical shock, please ensure:
  - The heat pump is properly grounded
  - The main power plug to the heat pump has been joined with the ground wiring (DO NOT ALTER THIS).
- ▶ Do not strain the power wiring.



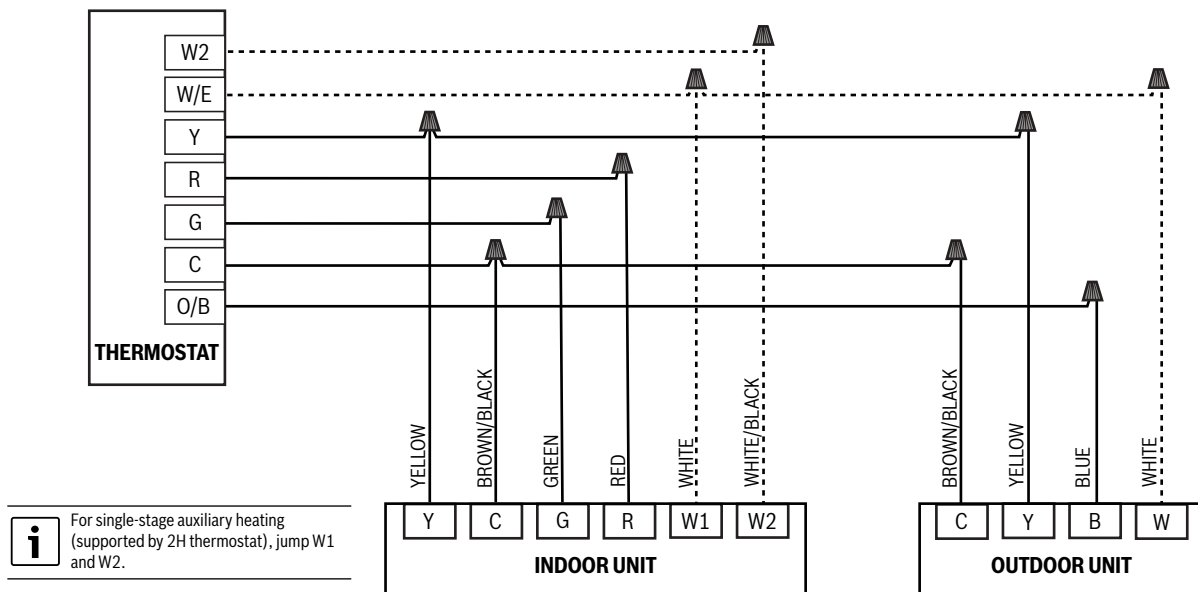
Dashed lines in the following thermostat wiring diagrams refer to optional wiring (wiring for Electric Heat). For thermostat wiring please refer to the Owner's Manual of the thermostat.

### Electric wiring gauge for H/P systems

		Model(Btu/h)				
		18	24	30	36	
	Power	Phase	Single			
		Voltage/frequency	208/230VAC, 60Hz			
Line Gauge	Input Current Fuse	Indoor unit (A)	15A	15A	15A	15A
		Indoor Unit Power Line	Line Quantity	3	3	3
	Line Diameter (AWG)		14	14	14	14
	Outdoor Unit Power Line	Line Quantity	3	3	3	3
		Line Diameter (AWG)	14	14	12	12
	Outdoor -Indoor Signal Line	Line Quantity	4	4	4	4
		Line Diameter (AWG)	18	18	18	18
	Thermostat Signal Line	Line Quantity	5	5	5	5
		Line Diameter (AWG)	18	18	18	18

Table 9

**Wiring for 3H and 1C thermostat**



**i** For single-stage auxiliary heating (supported by 2H thermostat), jump W1 and W2.

Figure 11 Thermostat wiring diagram for BOVA 15 with BWA

### 12.1 Unit Wiring

For 24/36k Models

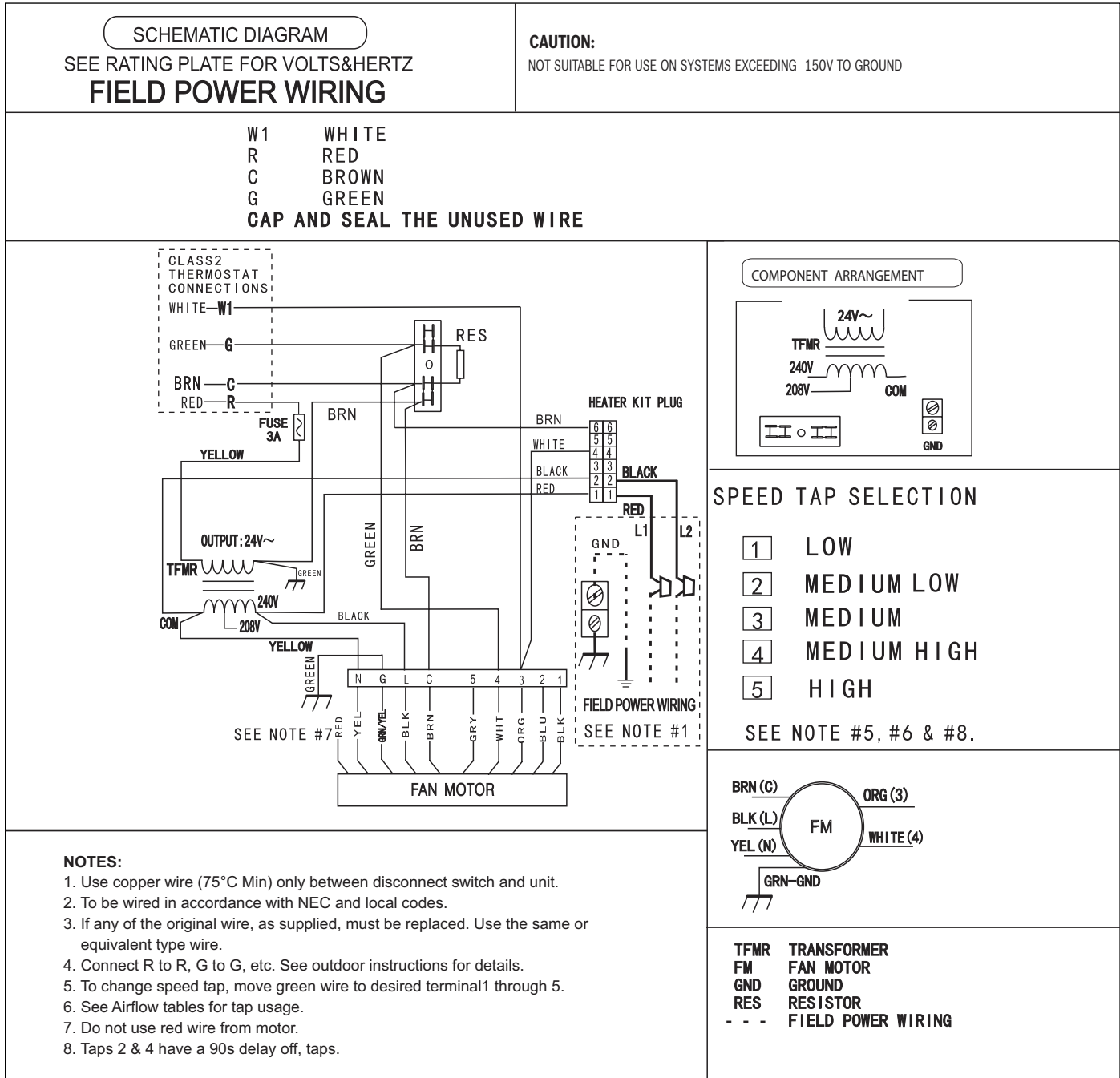


Figure 12 Indoor Unit Wiring Diagram for 24k and 36k Models

Tap	Delay - Off Time(s)	18	24	30	36
Tap 1	30	—	—	—	—
Tap 2	90	Default	—	Default	—
Tap 3	30	—	—	—	—
Tap 4	90	—	Default	—	Default
Tap 5	30	—	—	—	—

Table 10 Blower Motor Speed Taps

For 18/30k Models

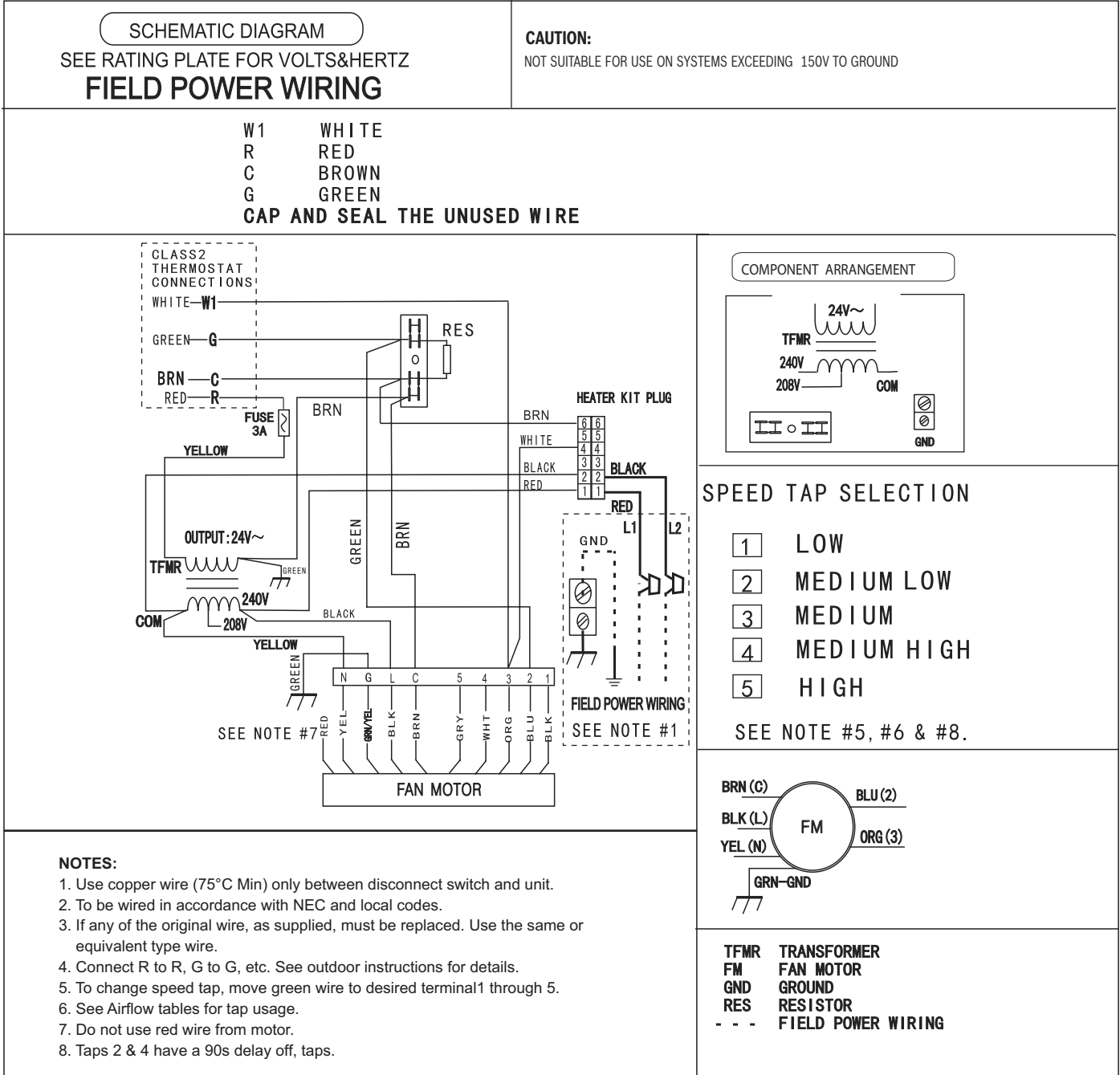


Figure 13 Indoor Unit Wiring Diagram for 18k and 30k Model

### 12.2 Electric Heat Kit Wiring

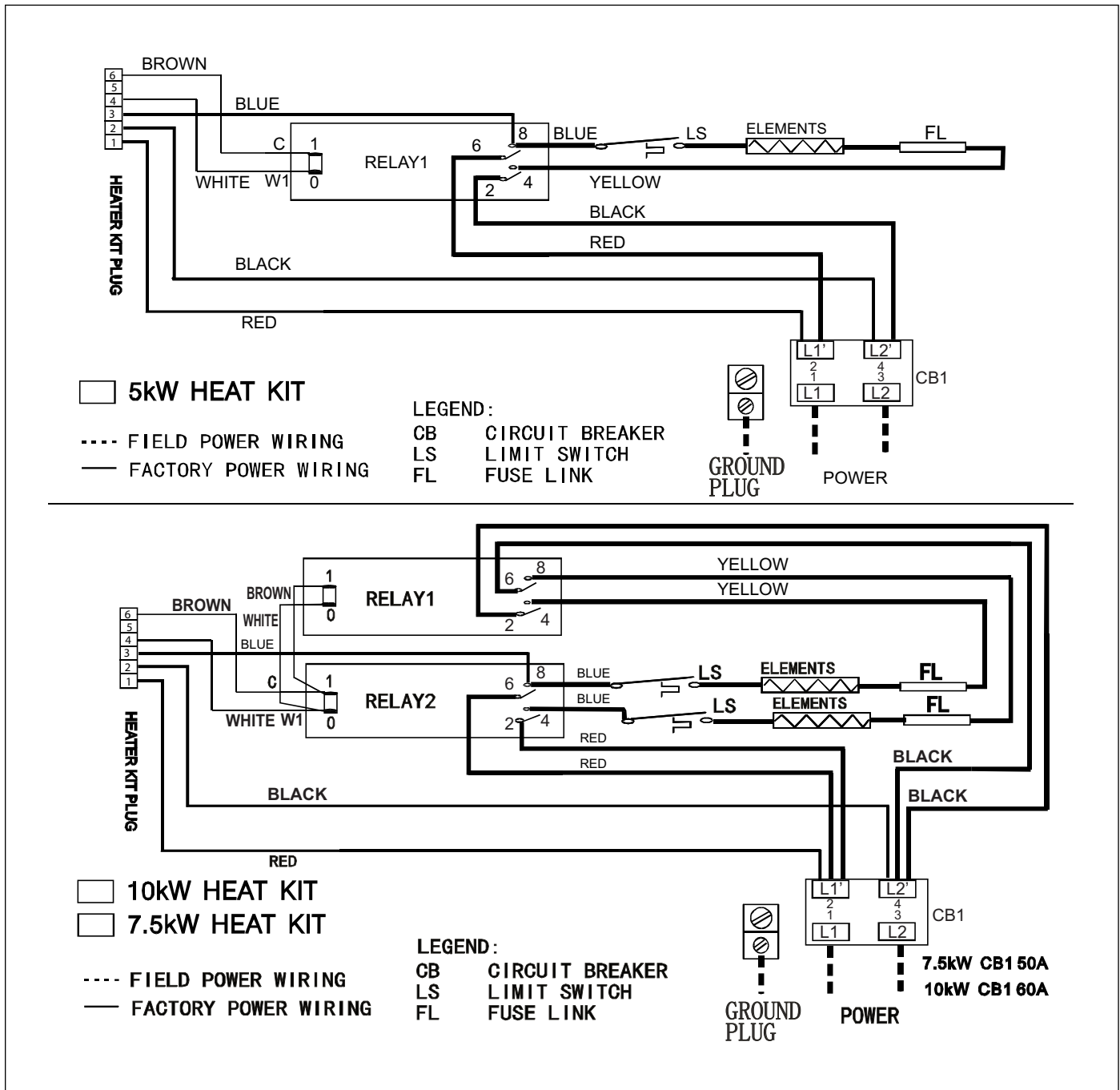


Figure 14 Electric Heat Kit Wiring Diagram

**Online Help Resources**

Alternatively, please visit our Service & Support webpage to find FAQs, videos, service bulletins, and more; [www.boschheatingcooling.com/service](http://www.boschheatingcooling.com/service) or use your cellphone to scan the code below.

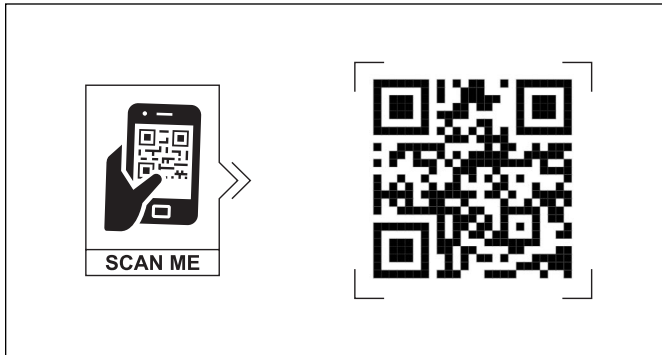


Figure 15

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