American Standard
NEW STANDARDS FOR LIVING™

Application Guide

ALG-APG04-EN

American Standard 10 through 14 SEER single phase Allegiance and Heritage cooling units and heat pumps

Low Outdoor Operating Temperature
Unit Mounting
Minimum Clearances

American Standard Heritage 12 Heat Pump

The purpose of this bulletin is to provide cumulative application criteria as related to the American Standard 10 through 14 SEER Allegiance / Heritage single phase cooling units and heat pumps.

This bulletin discusses:

I. Off Season Cooling Operation
II. Unit Mounting
III. Minimum Operating Clearances

ISSUED BY:
Product Training and Application Department
American Standard
Tyler, Texas

Section I - Off Season Cooling Operation

American Standard Allegiance / Heritage cooling units and heat pumps may be operated in the cooling mode to 45°F as shipped from the factory. In general, all units that utilize refrigerant HFCF-22 are approved for use with head pressure control. Units that utilize refrigerant HFC-410A are not approved for operation with head pressure control.

Please refer to the table on the following page when determining if the unit will operate at the specified conditions as well as required accessories.

Evaporator Defrost Coil: EDC

AY28X079 - Cooling only
AY28X084 - Heat pumps

Compressor Sump Heaters: BAYCCHT

Reciprocating Compressor:	BAYCCHT300
Scroll Compressor:	BAYCCHT301

Compressor Hard Start Kits: BAYKSKT

Reciprocating Compressor:	BAYKSKT257
Scroll Compressor:	BAYKSKT260

Head Pressure Controller: BAYLOAM

BAYLOAM103:	Approved for heat pumps and cooling units

Windshields:

Windshields may be required, please refer to page 17 of this document for information regarding the installation of wind barriers. For all applications where cooling operation @ 0F outdoor ambient is specified, windshields are required in order to prohibit cross winds from affecting operation. In applications where cooling operation is required above 30F, windshields are not a requirement unless the unit is placed in an area where cross winds are prevalent.

More Information:

As noted in the table on the following page, American Standard Allegiance cooling units and Heritage heat pump units may be operated in the cooling mode to 0°F if necessary, by applying the BAYLOAM103 head pressure controller and other required accessories. The BAYLOAM103 is a newly developed head pressure controller that cycles the OD fan as needed to maintain liquid line temperature as set by the DIP switches located on the control. There is no need to change the outdoor fan motor on approved products since the controller does not vary the frequency to the motor. For more information please refer to publication number 18-HE46D1-1or latest version.

	Ambient Temperature in Cooling Mode Operation									
Model Family	**55 F**	**45 F**	**30 F**			**0 F**				
4A7A4	As Shipped	TXV	AY28X079	TXV	CCHT	Not Approved				
4A7A2	As Shipped	TXV	AY28X079	TXV	CCHT	Not Approved				
2A7A4	As Shipped	TXV	AY28X079	TXV	CCHT	BAYLOAM103	Non Bleed TXV	CCHT*	Quick Start Accessory*	Solenoid Valve**
2A7A2	As Shipped	TXV	AY28X079	TXV	CCHT	BAYLOAM103	Non Bleed TXV	CCHT*	Quick Start Accessory*	Solenoid Valve**
2A7A1018-1024	As Shipped	TXV	AY28X079	TXV	CCHT	BAYLOAM104	Non Bleed TXV	CCHT	Included with BAYLOAM104	Solenoid Valve**
2A7A1030A - 060A	As Shipped	TXV	AY28X079	TXV	CCHT	BAYLOAM103	Non Bleed TXV	CCHT*	Quick Start Accessory*	Solenoid Valve**
2A7A0	As Shipped	TXV	AY28X079	TXV	CCHT	BAYLOAM103	Non Bleed TXV	CCHT*	Quick Start Accessory*	Solenoid Valve**
2A7C2	As Shipped	TXV	AY28X079	TXV	CCHT	BAYLOAM103	Non Bleed TXV			Solenoid Valve**
2A7C0	As Shipped	TXV	AY28X079	TXV	CCHT	BAYLOAM103	Non Bleed TXV			Solenoid Valve**
4A6H4	As Shipped	TXV	AY28X084	TXV	CCHT	Not Approved				
4A6H2	As Shipped	TXV	AY28X084	TXV	CCHT	Not Approved				
2A6H4	As Shipped	TXV	AY28X084	TXV	CCHT	BAYLOAM103	Non Bleed TXV	CCHT*	Quick Start Accessory*	n/a
2A6H2	As Shipped	TXV	AY28X084	TXV	CCHT	BAYLOAM103	Non Bleed TXV	CCHT*	Quick Start Accessory*	n/a
2A6H1	As Shipped	TXV	AY28X084	TXV	CCHT	BAYLOAM103	Non Bleed TXV	CCHT*	Quick Start Accessory*	n/a
2A6C2	As Shipped	TXV	AY28X084	TXV	CCHT	BAYLOAM103	Non Bleed TXV			n/a
2A6C0	As Shipped	TXV	AY28X084	TXV	CCHT	BAYLOAM103	Non Bleed TXV			n/a

* Unit requires start accessory only if it is not factory installed. Check general specifications located in product data to determine if unit is equipped with factory installed quick start components.

* *Solenoid valve required if:

1. Liquid line is one size larger than factory connection. (example: factory connection is 3/8" and the existing liquid line is 1/2") Please refer to publication 32-3009-03 or latest edition for approved line sizes.
2. Off cycle time will be longer than 30 minutes during low ambient cooling operation.

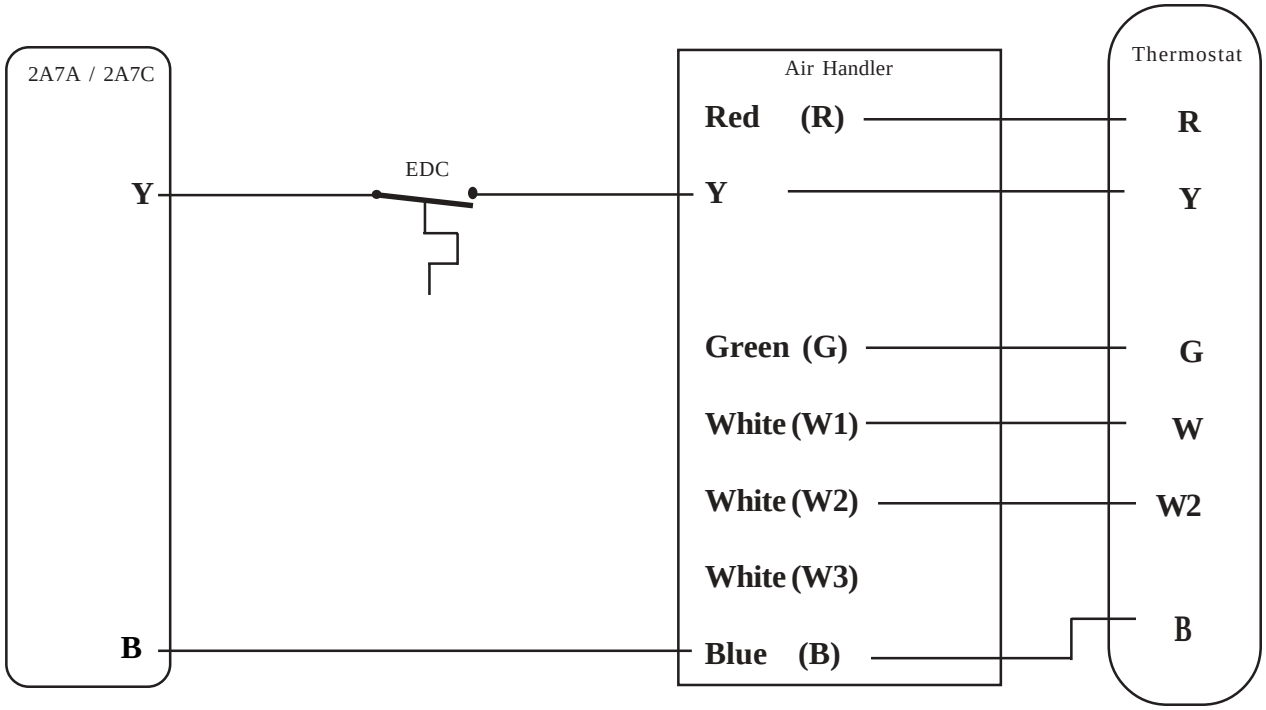
Field Installed Accessories

Refer to page 5 in order to determine if the specified system requires additional field installed accessories.

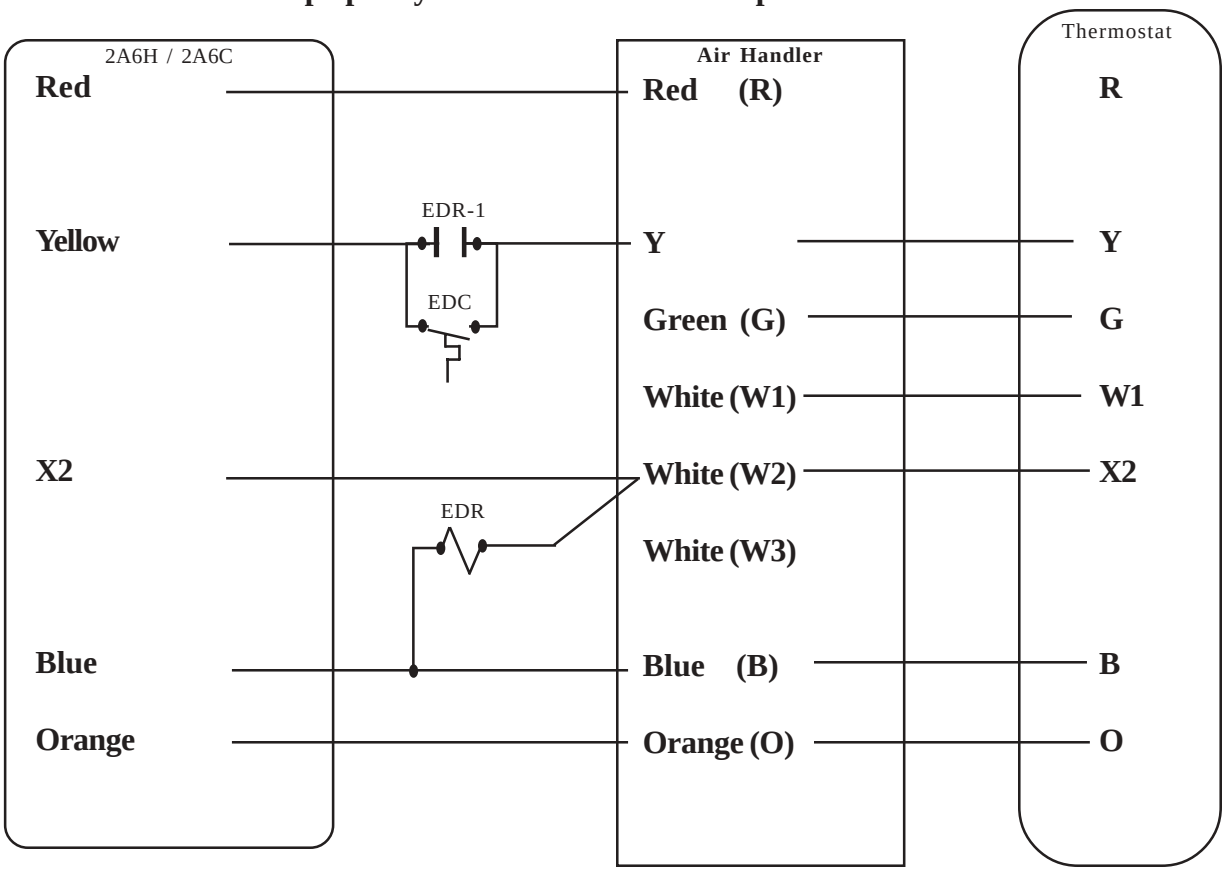
Unit Model	Required CCHT	Required Hard Start Kit		Unit Model	Required CCHT	Required Hard Start Kit
4A7A4018A	Factory Installed	Factory Installed		4A6H4018A	Factory Installed	Factory Installed
4A7A4024A	Factory Installed	Factory Installed		4A6H4024A	Factory Installed	Factory Installed
4A7A4030A	BAYCCHT301	BAYKSKT260		4A6H4030A	Factory Installed	BAYKSKT260
4A7A4036A	BAYCCHT301	BAYKSKT260		4A6H4036A	Factory Installed	BAYKSKT260
4A7A4042A	BAYCCHT301	BAYKSKT260		4A6H4042A	Factory Installed	BAYKSKT260
4A7A4048A	BAYCCHT301	BAYKSKT260		4A6H4048A	Factory Installed	BAYKSKT260
4A7A4060A	BAYCCHT301	Factory Installed		4A6H4060A	Factory Installed	Factory Installed
4A7A2018A	BAYCCHT300	Factory Installed		4A6H2018A	Factory Installed	Factory Installed
4A7A2024A	BAYCCHT300	Factory Installed		4A6H2024A	Factory Installed	Factory Installed
4A7A2030A	BAYCCHT301	BAYKSKT260		4A6H2030A	BAYCCHT301	BAYKSKT260
4A7A2036A	BAYCCHT301	BAYKSKT260		4A6H2036A	BAYCCHT301	BAYKSKT260
4A7A2042A	BAYCCHT301	BAYKSKT260		4A6H2042A	BAYCCHT301	BAYKSKT260
4A7A2048A	BAYCCHT301	BAYKSKT260		4A6H2048A	BAYCCHT301	BAYKSKT260
4A7A2060A	BAYCCHT301	Factory Installed		4A6H2060A	Factory Installed	Factory Installed
2A7A4018A	Factory Installed	Factory Installed		2A6H4018A	Factory Installed	Factory Installed
2A7A4024A	Factory Installed	Factory Installed		2A6H4024A	Factory Installed	Factory Installed
2A7A4030A	BAYCCHT301	BAYKSKT260		2A6H4030A	Factory Installed	BAYKSKT260
2A7A4036	BAYCCHT301	BAYKSKT260		2A6H4036A	Factory Installed	BAYKSKT260
2A7A4042A	Factory Installed	BAYKSKT260		2A6H4042A	Factory Installed	BAYKSKT260
2A7A4048A	Factory Installed	BAYKSKT260		2A6H4048A	Factory Installed	BAYKSKT260
2A7A4060A	Factory Installed	Factory Installed		2A6H4060A	Factory Installed	Factory Installed
2A7A2018A	BAYCCHT300	Factory Installed		2A6H2018A	Factory Installed	Factory Installed
2A7A2024A	BAYCCHT300	Factory Installed		2A6H2024A	Factory Installed	Factory Installed
2A7A2030A	BAYKSKT301	BAYKSKT260		2A6H2030B	BAYCCHT301	BAYKSKT260
2A7A2036A	BAYKSKT301	BAYKSKT260		2A6H2036A	BAYCCHT301	BAYKSKT260
2A7A2042B	BAYKSKT301	BAYKSKT260		2A6H2042A	BAYCCHT301	BAYKSKT260
2A7A2048A	BAYKSKT301	BAYKSKT260		2A6H2048A	Factory Installed	BAYKSKT260
2A7A2060B	BAYKSKT301	BAYKSKT260		2A6H2060A	Factory Installed	BAYKSKT260
2A7A1018A	BAYCCHT300	BAYKSKT257		2A6H1018A	Factory Installed	BAYKSKT257
2A7A1024A	BAYCCHT300	BAYKSKT257		2A6H1024A	Factory Installed	BAYKSKT257
2A7A1030A	BAYCCHT300	BAYKSKT257		2A6H1030A	Factory Installed	BAYKSKT257
2A7A1036A	BAYCCHT300	BAYKSKT257		2A6H1036A	Factory Installed	BAYKSKT257
2A7A1042A	BAYCCHT300	BAYKSKT257		2A6H1042A	Factory Installed	BAYKSKT257
2A7A1048A	BAYCCHT300	BAYKSKT257		2A6H1048A	Factory Installed	BAYKSKT257
2A7A1060A	BAYCCHT300	BAYKSKT257		2A6H1060A	Factory Installed	BAYKSKT257
2A7A0060A	BAYCCHT300	BAYKSKT257				

Typical wiring when using the evaporator defrost control (EDC) for operation as specified on page 3.

Cooling Split System and AY28X079 Evaporator Defrost Control



Heat Pump Split System and AY28X084 Evaporator Defrost Control



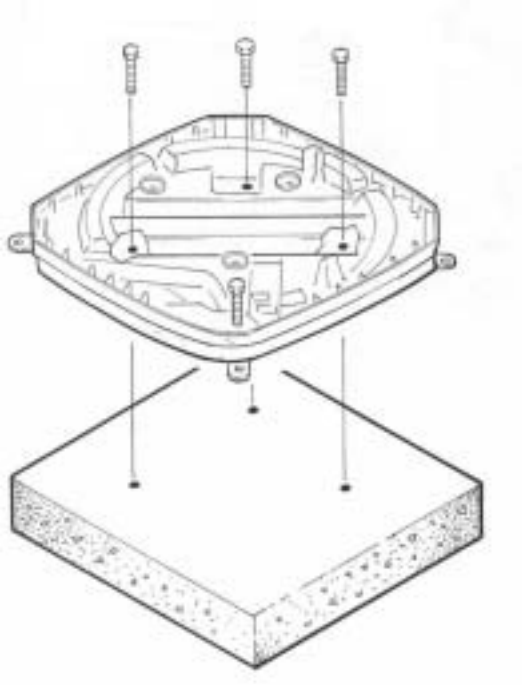
SECTION II - Unit Mounting:

This section describes appropriate methods for mounting and securing Allegiance cooling units and Heritage heat pump units. However, if these units are to be mounted in a region where seizmic loads or high winds are an issue, please refer to the American Standard BAYECMT001 extreme conditions mounting kit installation instructions publication Number #18-HE44D1-* (* latest verstion)

When mounting or securing American Standard 1 - 6 ton condensing units and heat pumps please observe the following.

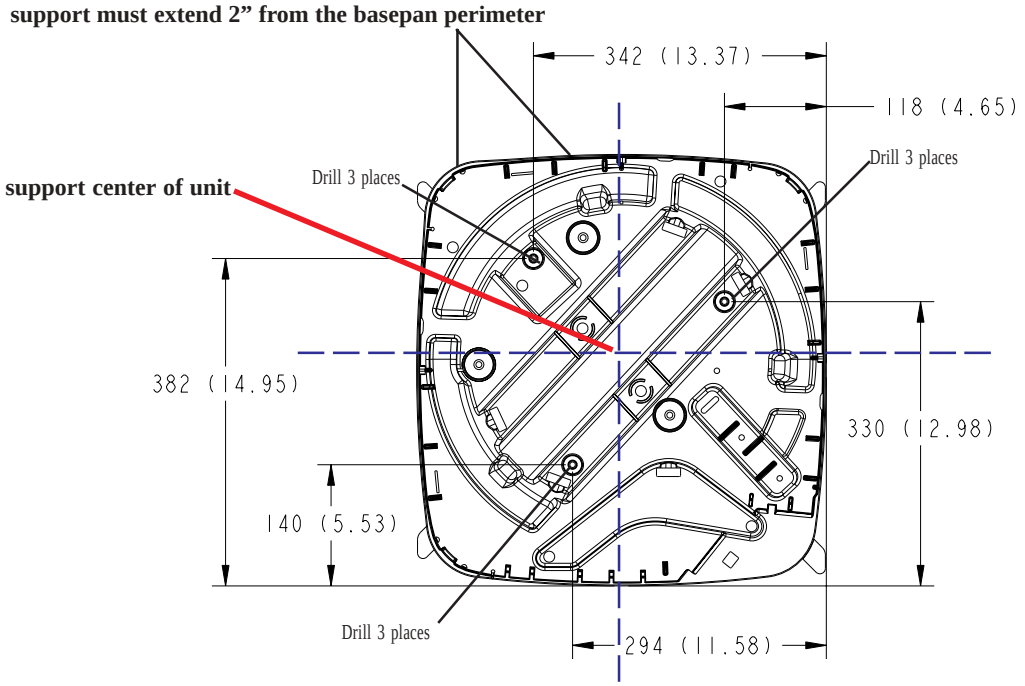
1. Anytime the unit is to be supported from the edge, the supporting material shall extend minimum two inches under the perimeter of the unit's base.
2. The mounting hole locations are molded in the basepan, however, they must be drilled through.
   a) Hole locations are identified on page 6.
   b) Hole diameter is 5/16"
3. Washers should be placed in between the fastener head and the basepan.
4. American Standard recommends supporting the center of the unit.
5. Base 4 pans have four mounting holes.

Refer to the dimension tables for actual unit size.
Please refer to the following illustrations for dimensions and general information.

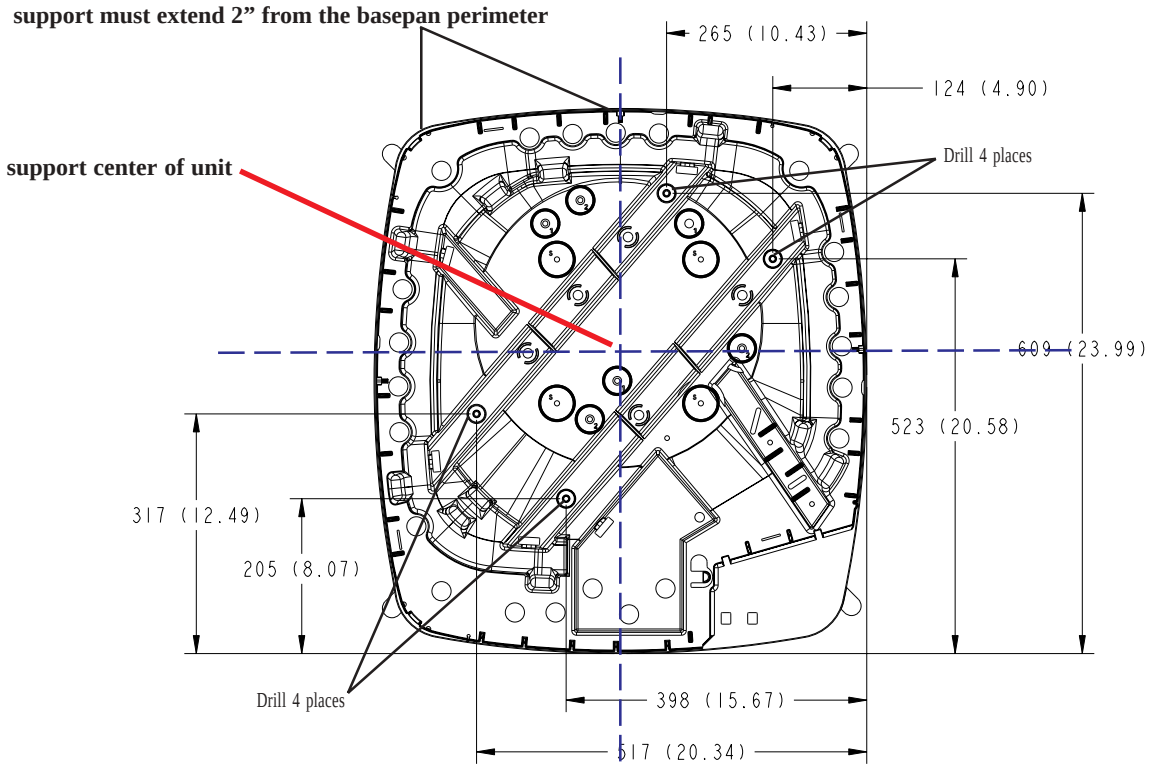


Drawing for illustration purposes only.

BASE PAN MOUNTING HOLE LOCATIONS
(location only, holes must be drilled)



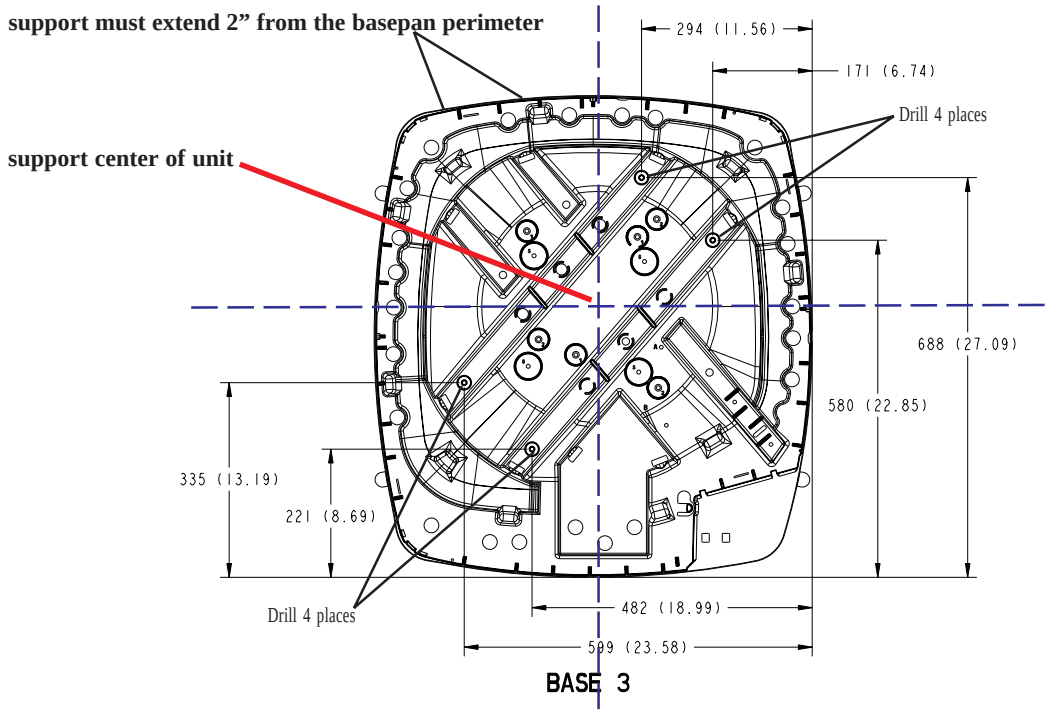
BASE 1

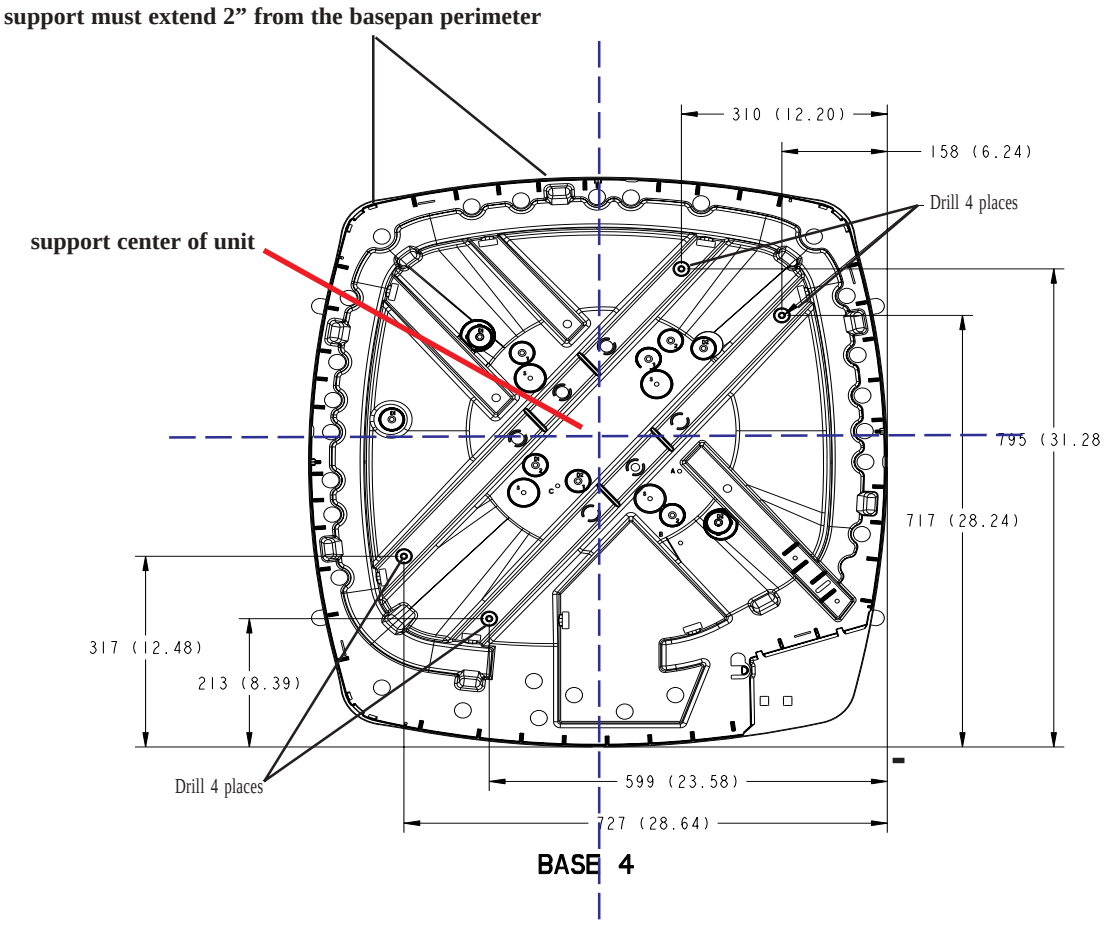


BASE 2

If supporting the base pan from the perimeter, the support must extend under the base pan at least 2”. American Standard recommends supporting the middle of the base pan with a cross member.

BASE PAN MOUNTING HOLE LOCATIONS
(location only, holes must be drilled)





If supporting the base pan from the perimeter, the support must extend under the base pan at least 2”. American Standard recommends supporting the middle of the base pan with a cross member.

Section III - Minimum Operating Clearances

This section discusses applying a condensing unit / heat pump in installations where there are space constraints. **The reduced clearances described in this document are for operation purposes only. Local Codes prevail for servicing and sefety.**

These concerns must be addressed:

1. System Operation - Adequate airflow must be provided to the condensing unit / heat pump in order to enable appropriate heat transfer. If this is accomplished, head pressure will remain within an effective operating range.
2. System Servicability - Proper space must be allowed for the HVAC service technician to properly maintain the condensing unit / heat pump. Furthermore, space must be allowed for major component change out in the event of a failure. Working space is determined by the National Electric Code
3. Space Maintenance - Appropriate area must be allowed in order maintain the ground area where the units are positioned to prohibit debris from collecting on the panels, thus further providing unobstructed airflow to the condensing unit.
4. State, Local Codes, and National Codes shall prevail. Check with the local jurisdiction before installation to assure compliance.

Numerous projects require reduced clearances between outdoor units and adjacent walls, fences and other units. The obstruction in question is usually one of the following:

1. One or more walls of an adjacent building.
2. Fences or barriers provided to reduce sound transmission or visually screen the equipment.
3. Other outdoor units in a multi-unit installation.
4. Overhangs
5. A combination of the above.

The prime considerations involved in establishing minimum clearances are:

1. Adequate airflow to the outdoor coil with minimum recirculation.
2. Service access to the equipment.
3. Compliance with the National Electric Code and other applicable codes.
4. Design temperature - Design temperatures greater than 105F require additional consideration.

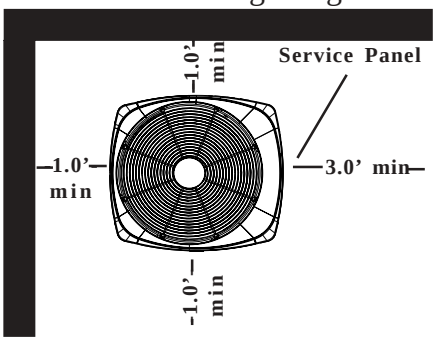
I. In order to assure that adequate airflow reaches the Allegiance 18 condensing unit, size free air passages at 300 feet per minute maximum velocity (FPM). See condensing unit airflow performance on page 16 of this document; or, for the most current information, consult the unit's product data manual.

II. The importance of providing sufficient access for maintenance and service to equipment cannot be overemphasized. The HVAC service technician's job may be performed with greater ease and at lower cost if adequate space is allowed.

III. Knowledge of the National Electric Code and other applicable codes for the job sight location is a necessity in order to satisfy local inspectors. These codes are in place for service as well as safety.

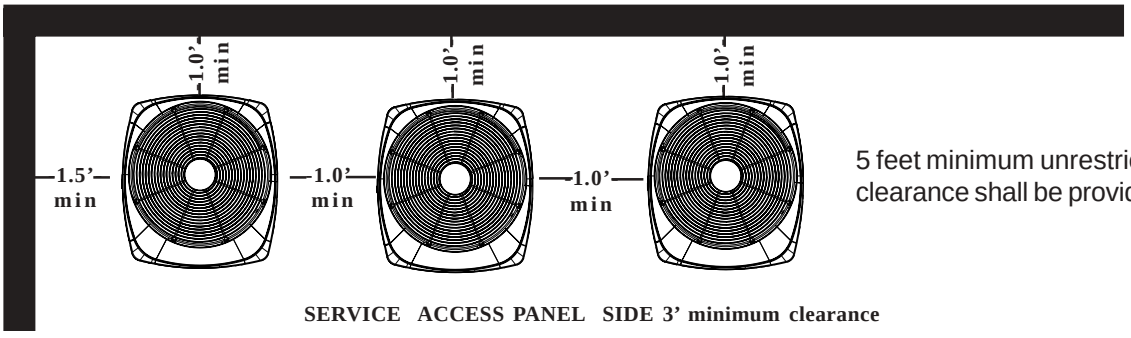
IV. Be sure to read all provisions and footnotes contained in this document. When ambient temperatures exceed 105F, more space may be required for minimum operating clearances.

1. **Installation of a single Allegiance / Heritage condensing unit / heat pump in a corner with unrestricted top clearance.**
   A) For locations where the design ambient temperature is below 105F:
      1) 1.0 feet clearance on 2 sides - If shrubbery is to be placed by the unit other side, then allow 1.0 Feet minimum clearance from the unit
      2) Service access side minimum 3'. Consult Local, State, and National Electric Codes for minimum service clearance.
   B) For locations where the design ambient temperature exceeds 105F:
      1) 1.5 feet clearance on 2 walls. - If shrubbery is to be placed by the unit other side, then allow 1.0 Feet minimum clearance from the unit.
      2) Service access side minimum 3'
   C) If unit is located in such a way that service panel is facing the wall
      1) NEC requires minimum 3 feet between the unit and the wall
         a) This space may be increased to 3 1/2 feet. Consult the National Electric Code for more information regarding minimum clearances for working spaces.



5 feet minimum unrestricted top clearance shall be provided.

2. **Installation of two or more Allegiance / Heritage units where two adjacent walls form a corner and unrestricted top clearance.**
   A) For locations where the design ambient temperature is below 105F:
      1) Corner unit shall have1.5 feet clearance from side wall and 1.0 feet clearance from back wall.
      2) 1 feet clearance in between units, unless service panels face each other. (if service panels face each other, this clearance may be increased to 4 feet per NEC)
   B) **For locations where the design ambient temperature exceeds 105F:**
      1) 2.0 feet clearance from both walls.
      2) 2 feet clearance in between units, unless service panels face each other. (if service panels face each other, this clearance may be increased to 4 feet per NEC)
   C) If unit's are located in such a way that the service panels are facing the wall
      1) NEC requires minimum 3 feet between the unit and the wall
         a) This space may be increased to 3 1/2 feet. Consult the most current edition of the National Electric Code for more information regarding minimum clearances for working spaces.



5 feet minimum unrestricted top clearance shall be provided.

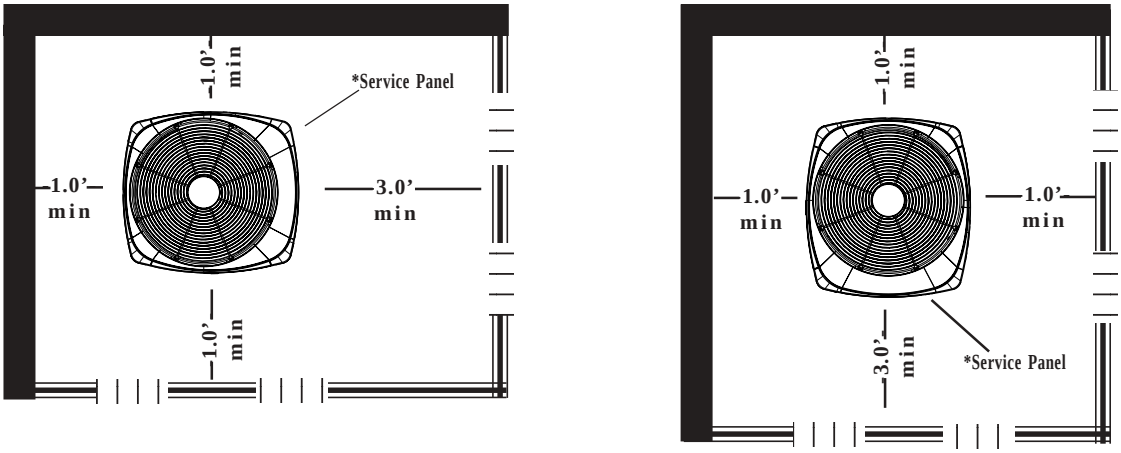
SERVICE ACCESS PANEL SIDE 3' minimum clearance

3. Single Allegiance / Heritage condensing unit / heat pump in a fenced corner with unrestricted top clearance

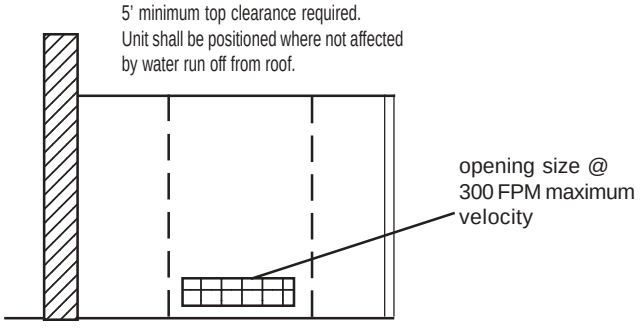
A) For locations where the design ambient temperature is below 105F:
1) 1.0 feet clearance from both walls.
2) 1.0 feet fence clearance - openings shall be provided to allow free air passage to unit. (Free air passage shall be sized @ 300 FPM Velocity)
3) Service access shall be 3.0 feet minimum

B) For locations where the design ambient temperature exceeds 105F:
1) 1.5 feet clearance from both walls.
3) 1.5 feet clearance from fence. openings shall be provided to allow free air passage to unit. (Free air passage shall be sized @ a maximum of 300 FPM Velocity)
2) Service access shall be 3.0 feet minimum.

C) If unit is located in such a way that service panel is facing the wall
1) NEC requires minimum 3 feet between the unit and the wall
a) This space may be increased to 3 1/2 feet. Consult the National Electric Code for more information regarding minimum clearances for working spaces.



* If removable panels are used and acceptable to local inspection agency, the clearance to the removable panel may be reduced to 2.0 feet



SIngle Unit - Solid Fence

Solid Fence: Fence height not to exceed top of unit. Provide openings in fence that will allow maximum 300 FPM air velocity. These openings shall be located at the lower portion of the fence. If acceptable, the lower portion of the fence may be cut to provide open bottom clearance provided that debris, grass and vegetation will not obstruct air passageway.

5. Installation of two or more Allegiance / Heritage units where two adjacent walls form a fenced corner with unobstructed top clearance.

A) **For locations where the design ambient temperature is below 105F:**

1) Corner unit shall have1.5 feet clearance from one wall and 1.0 feet clearance from the other wall.

2) 1.5 feet clearance in between units.

3) NEC requires 3 feet clearance for service. This may be reduced to 2.0 feet if removable panels are used.

4) Free air passage shall be cut in order to allow maximum 300 FPM air velocity

B) **For locations where the design ambient temperature exceeds 105F:**

1) Corner unit shall have 2.0 feet clearance from one wall and 1.5 feet clearance from the other wall.

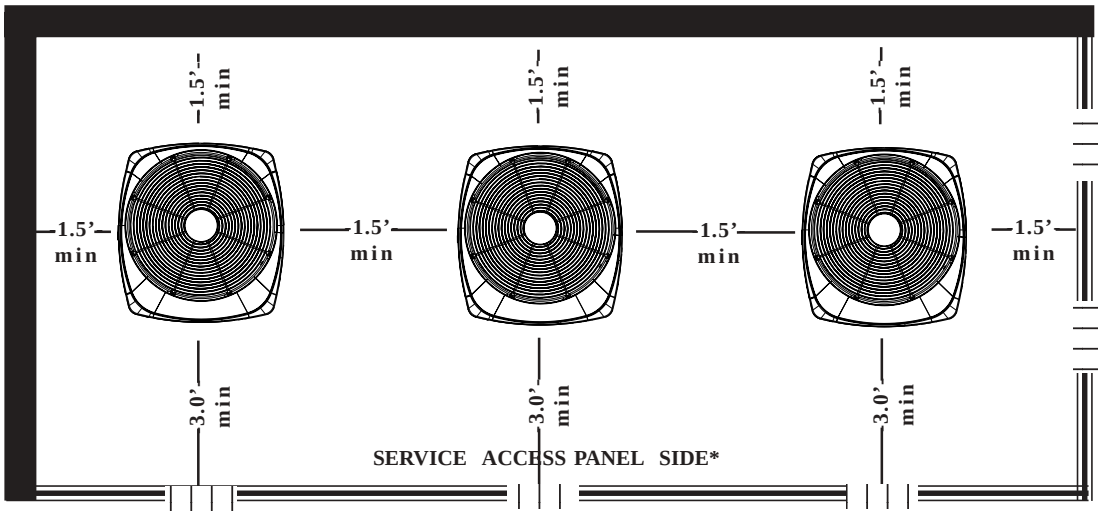
2) 2.0 feet clearance in between units.

3) NEC requires 3 feet clearance for service. This may be reduced to 2.5 feet if removable panels are used.

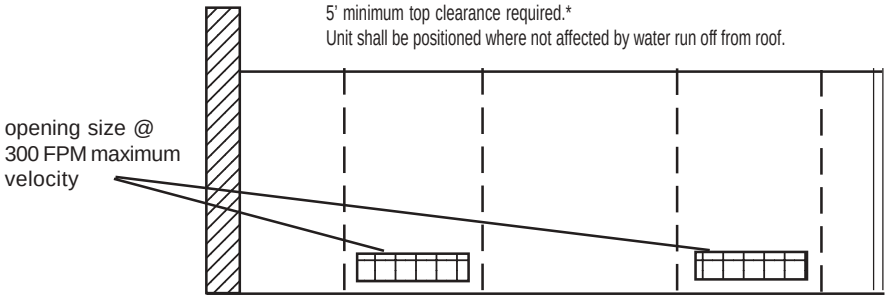
C) **If unit's are located in such a way that the service panels are facing the wall**

1) NEC requires minimum 3.0 feet between the unit and the wall

a) This space may be increased to 3 1/2 feet. Consult the most current edition of the National Electric Code for more information regarding minimum clearances for working spaces.



* If removable panels are used and acceptable to local inspection agency, the clearance to the removable panel may be reduced to 2.0 feet



Multiple Units Solid Fence

Solid Fence: Fence height not to exceed top of unit. Provide openings in fence that will allow maximum 300 FPM air velocity. These openings shall be located at the lower portion of the fence. If acceptable, the lower portion of the fence may be cut to provide open bottom clearance provided that debris, grass and vegetation will not obstruct air passageway.

*For best performance, it is recommended to not construct cover over the unit's in this type of multiple unit application.

6. Installation of a single Allegiance / Heritage style condensing unit / heat pump next to one wall with unrestricted top clearance where property line space is critical.

A) For locations where the design ambient temperature is below 105F:

1) 6" clearance on 1 side.

2) 3' clearance on other three sides.

3) If fence or barrier is constructed around unit, 3' clearance is required on three sides. The fence / barrier height shall not exceed the height of the unit.

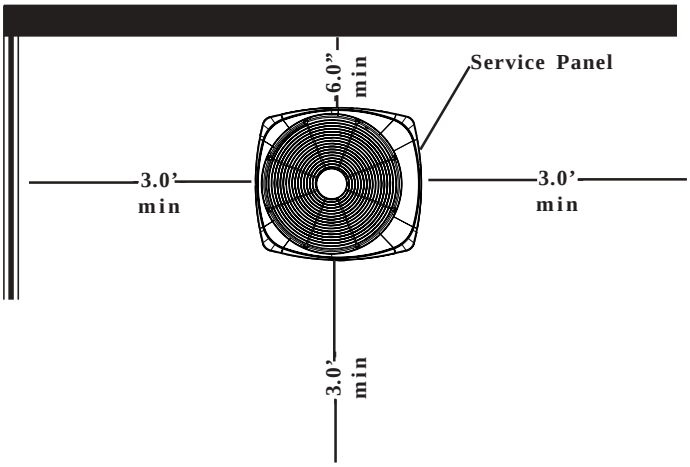
4) Free air passage shall be cut in order to allow maximum 300 FPM air velocity if fence / barrier is constructed.

5) Service access side minimum 3'

C) If unit is located in such a way that service panel is facing the wall

1) NEC requires minimum 3 feet between the unit and the wall

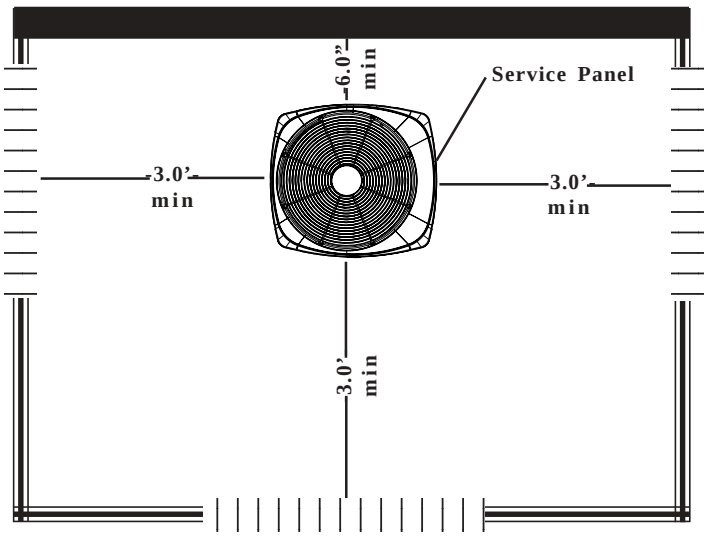
a) This space may be increased to 3 1/2 feet. Consult the National Electric Code for more information regarding minimum clearances for working spaces.



5 feet minimum unrestricted top clearance shall be provided.

3 feet minimum clearance on 3 sides. Unit to be positioned where not affected by roof run off water.

Local code prevails. Unit will operate if installed in this manner, however, all installations must meet local code.



5 feet minimum unrestricted top clearance shall be provided.

3 feet minimum clearance on 3 sides. Unit to be positioned where not affected by roof run off water.

Louvers / Free area shall be cut in fence / barrier to provide maximum 300 FPM air velocity. Lower portion of fence / barrier may be undercut to allow free air passage to unit providing that vegetation and debris will not block air passage.

It is recommended to allow minimum 12" clearance from any wall or surrounding shrubbery on two sides if at all possible. Clearance may be reduced to 6" on one wall only if required by code to meet required distance.

4. Installation of multiple units on a pad or rooftop with unobstructed top clearance.

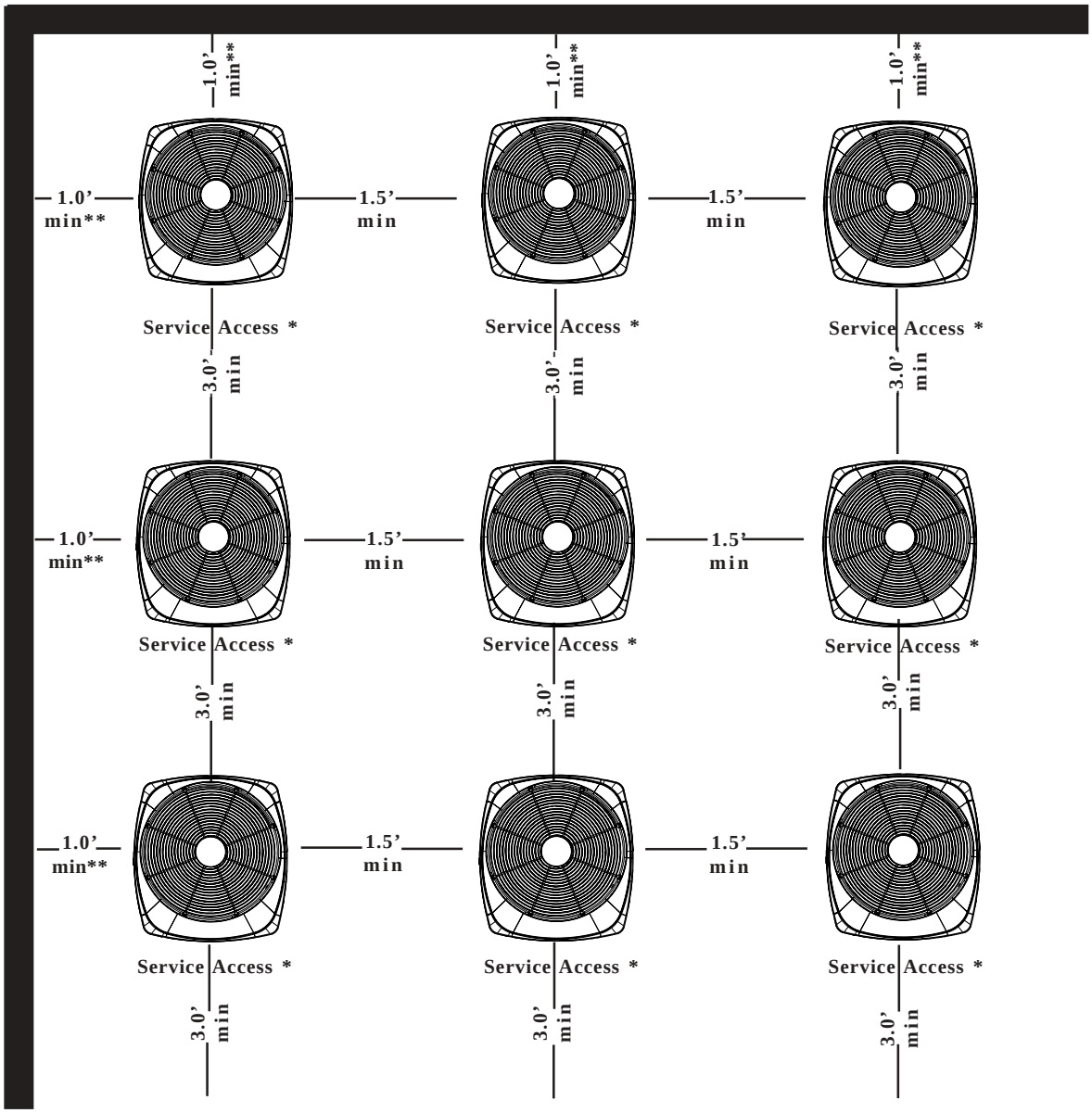
A) Refer to drawing for minimum clearances.

1) Do not construct cover over units in this application.

B) National Electric Code requires 3 feet minimum (4 feet if certain conditions are present) clearance between service access panel and adjacent unit. If service access panel faces the wall, the required space between the the wall and the unit shall be minimum 3 feet. (May require as much as 3 1/2 feet)

C) Walls shall not be higher than top of units.

D) National, State, and Local Codes must be observed.



*** Units may be rotated, as shown on the following page, in order that service access sides face each other provided that 3 feet minimum clearance be maintained between the units. In order to comply with NEC, this may increase to 4 feet minimum clearance.**

**** If wall or fence is to be constructed around the entire perimeter of the mechanical yard, Maintain minimum 1.5 feet clearance from the units. The fence height shall not exceed that of the unit. It is recommended to install louvers in the fence to allow no greater than 300 feet per minute velocity. Consult the table on page 18 for unit airflow. Place louvers in the lower section of the fence by each unit in order to provide air access to each unit located by the fence. The lower portion of the fence may also be cut in order to equal the calculated free area.**

Clearances apply to geographical areas where the design outdoor dry bulb = 105 F or less

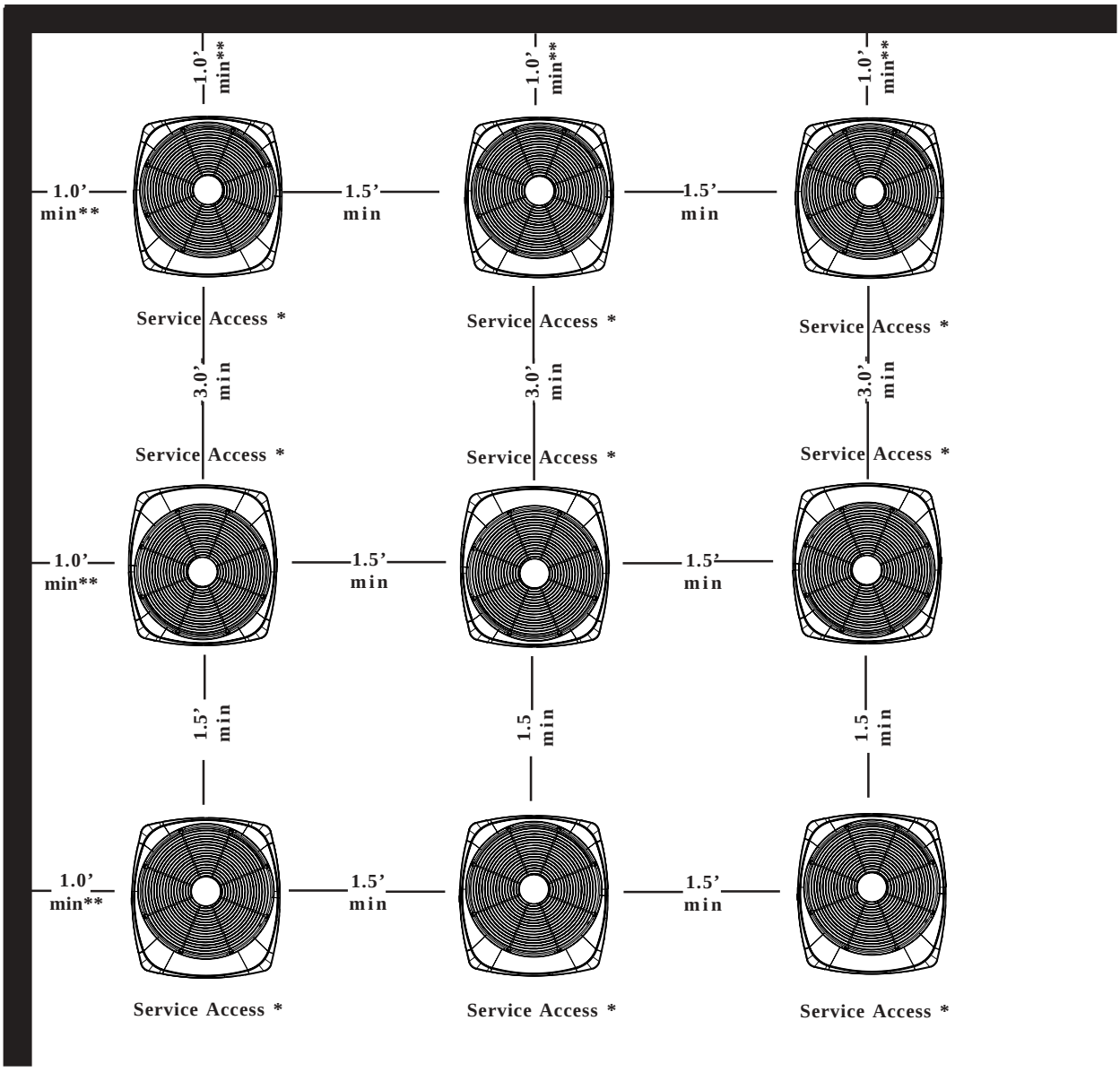
4. Installation of multiple units on a pad or rooftop where the top clearance is open.

A) Refer to minimum clearance table in the lower corner of this page for required clearances

B) National Electric Code requires 3 feet minimum (4 feet if certain conditions are present) clearance between service access panel and adjacent unit. If service access panel faces the wall, the required space between the wall and the unit shall be minimum 3 feet. (May require as much as 3 1/2 feet)

C) Walls / Fence height shall not be higher than top of units.

D) National, State, and Local Codes must be observed.



*** Units may be rotated as shown on above, in order that service access sides face each other provided that 3 feet minimum clearance be maintained between the units. In order to comply with NEC, this may increase to 4 feet minimum clearance.**

**** If wall or fence is to be constructed around the entire perimeter of the mechanical yard, Maintain minimum 1.5 feet clearance from the units. The fence height shall not exceed that of the unit. It is recommended to install louvers in the fence to allow no greater than 300 feet per minute velocity. Consult the table on page 18 for unit airflow. Place louvers in the lower section of the fence by each unit in order to provide air access to each unit located by the fence. The lower portion of the fence may also be cut in order to equal the calculated free area.**

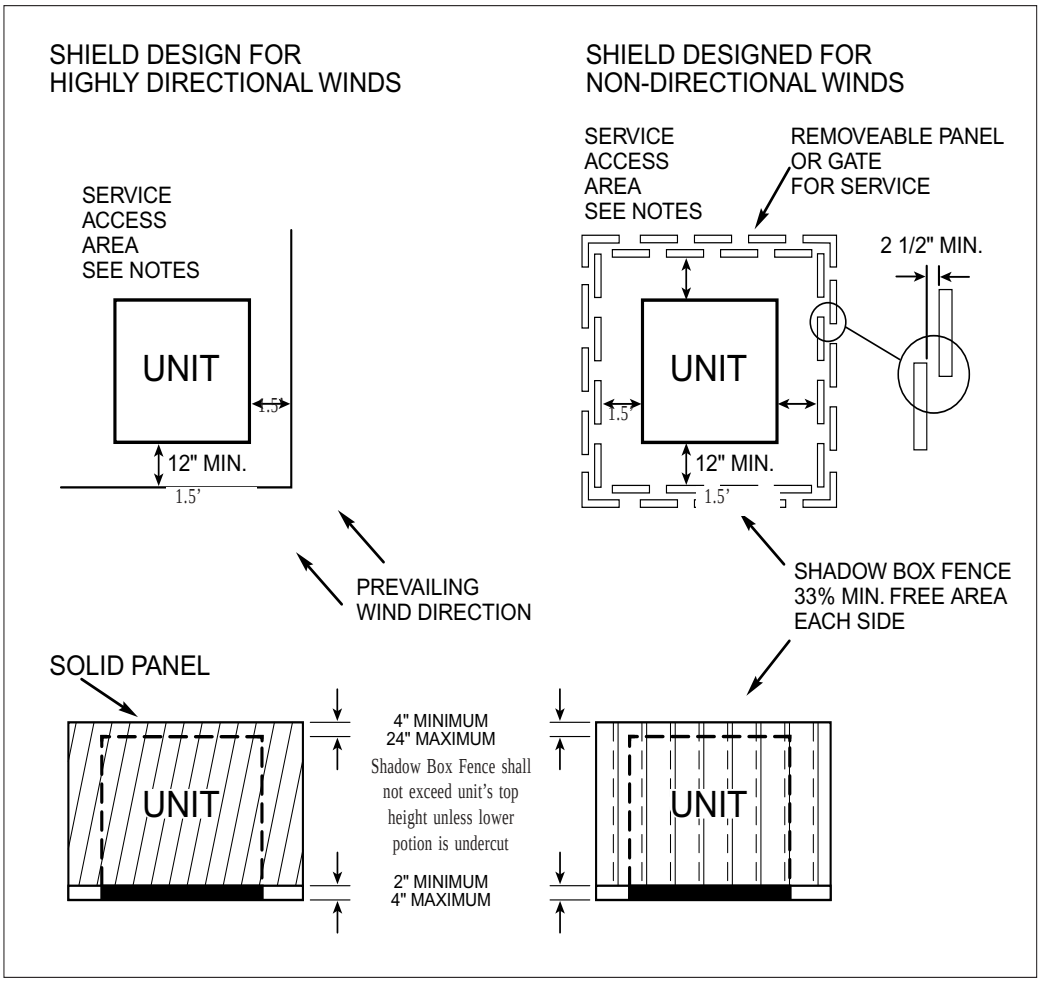
Clearances apply to geographical areas where the design outdoor dry bulb = 105 F or less

D) Fence construction.

1) Height shall not exceed the top of the unit.
2) Free air passages shall be size at no greater than 300 FPM velocity.
3) Free air passages shall be cut at the lower portion of the fence.
4) Fence may also be undercut to allow free air passage provided grass, vegetation, or debris will not obstruct the free air passage.
5) Shrubbery shall not be planted within one foot of the fence.
6) If removable panel is utilized, the distance from the unit's service panel to the removable panel may be reduced to 2.0 feet. (3.0 feet if geographical location's design outdoor dry bulb is greater than 105^0 F.

E) Windshields:

If low ambient operation to 30F or lower is required, windshields may be required to block prevailing winds from impacting system performance at low outdoor temperatures.



Note:

Minimum working clearance must be in compliance with the National Electric Code. Currently, the minimum clearance between a wood or suitable grounding material type fence requires minimum 3 feet. If other material is used to form the windshield, the minimum space may be increased to 3.5 feet. Please consult the 2002 or current Edition of the National Electric Code, Article 110 for the most up to date information

Electrical Code Information

Compliance with Local, State, and National Codes is a must on every HVAC Installation. This page discusses the criteria regarding minimum working spaces as defined in the 2002 National Electric Code. The main concern is the safety of the HVAC service / maintenance person. Minimum working clearances are specified in the National Electric Code (NEC) Article 110.26

For electrical equipment that from ground to power the voltage is 600 volts or less:
The National Electric Code specifically states that service area around electrical equipment shall provide sufficient access, and shall be properly maintained in order to permit safe operation and maintenance of the equipment. Table 110.26 as well as the figures beside the table describe the minimum clearance for proper service and access to electrical equipment.

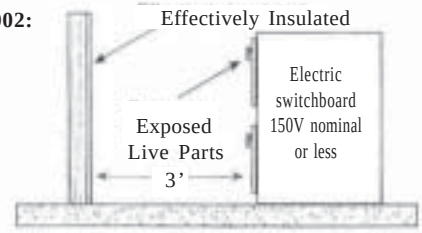
American Standard residential and light commercial condensing units ranging from 1 to 6 ton require access to the side service panel as indicated on the previous pages to gain access to the electrical controls.

The table and figure below are excerpts from the National Electric Code 2002:

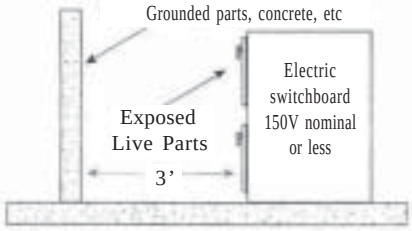
Table 110.26(A)(1) Working Clearances

Nominal Voltage to Ground	Minimum Clear Distance		
	Condition 1	Condition 2	Condition 3
0-150	900 mm (3 FT)	900 mm (3 FT)	900 mm (3FT)
151-600	900 mm (3FT)	1 M (3.5FT)	1.2 mm (4FT)

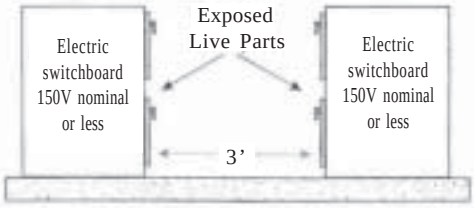
Note: Where the conditions are as follows
Condition 1 - Exposed live parts on one side and no live or grounded parts on the other side of the working space, or exposed live parts on both sides effectively guarded by suitable wood or other insulating materials. Insulated wire or insulated busbars operating at not over 300 volts to ground shall not be considered live parts
Condition 2 - Exposed live parts on one side and grounded parts on the other side. Concrete, brick, or tile walls shall be considered as grounded.
Condition 3 - Exposed live parts on both sides of the work space (not guarded as provided in Condition 1) with the operator between.



Condition 1
(3 ft min. for 151 - 600 V)



Condition 2
(Space would increase to 3 1/2 ft for 151 - 600 V)



Condition 3
(Space would increase to 4 ft for 151 - 600 V)

Allegiance / Heritage Outdoor Unit Airflow Table							
Cooling Units				Heat Pump Units			
Unit Model Number	CFM	Unit Model Number	CFM	Unit Model Number	CFM	Unit Model Number	CFM
4A7A4018A	2100	2A7A4018A	2000	4A6H4018A1	2200	2A6H4018A1	2100
4A7A4024A	2700	2A7A4024A	2800	4A6H4024A1	2700	2A6H4024A1	2875
4A7A4030A	3100	2A7A4030A	3100	4A6H4030A1	3250	2A6H4030A1	4200
4A7A4036A	3100	2A7A4036A	3100	4A6H4036A1	4000	2A6H4036A1	4250
4A7A4042A	4400	2A7A4042A	4400	4A6H4042A1	4200	2A6H4042A1	4250
4A7A4048A	4400	2A7A4048A	4400	4A6H4048A1	4200	2A6H4048A1	4250
4A7A4060A	4400	2A7A4060A	4400	4A6H4060A1	4400	2A6H4060A1	4250
4A7A2018A	2700	2A7A2018A	1600	4A6H2018A1	2700	2A6H2018A1	1600
4A7A2024A	2700	2A7A2024A	2500	4A6H2024A1	2700	2A6H2024A1	2000
4A7A2030A	3350	2A7A2030A	2500	4A6H2030A1	3300	2A6H2030B1	2500
4A7A2036A	3250	2A7A2036A	2500	4A6H2036A1	3300	2A6H2036A1	3325
4A7A2042B	3200	2A7A2042B	2700	4A6H2042A1	3800	2A6H2042A1	3325
4A7A2048A	3400	2A7A2048A	3400	4A6H2048A1	4300	2A6H2048A1	3700
4A7A2060B	4250	2A7A2060B	4275	4A6H2060A1	4400	2A6H2060A1	4400
2A7A1018A	1450	2A7A1042A	2475	2A6H1018A	1575	2A6H1042A	3325
2A7A1024A	1475	2A7A1048A	2475	2A6H1024A	2175	2A6H1048A	3700
2A7A1030A	2550	2A7A1060A	3400	2A6H1030A	2475	2A6H1060A	4400
2A7A1036A	2500	2A7A0060A	3700	2A6H1036A	2475		

***Table produced June 2003. For the most current information, please refer to specific equipment Product Data.**

Required Opening = CFM / 300 FPM (Maximum)

Example:

Given:

Qty of 2 units in an area surrounded by a fence on two sides and solid walls on the other two sides. Units are 2A7A2060B1000A -

Required:

Determine free air opening space required in fence -

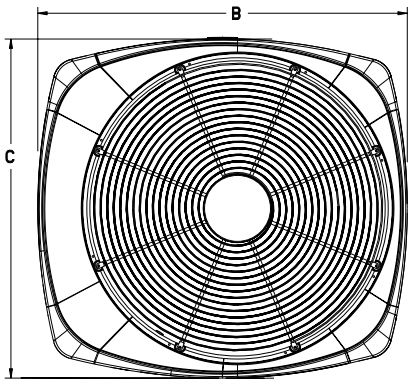
Solution:

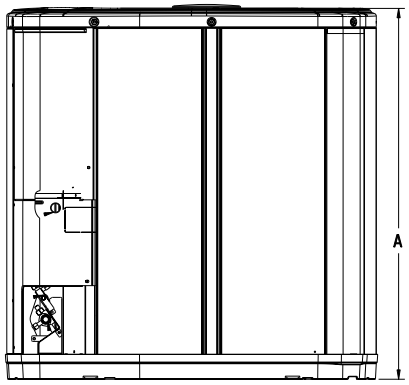
4275CFM X Qty of 2 = 8550 CFM

8550 CFM / 300 FPM = 28.5 square feet

Round 28.5to 29 square feet of free air opening in the fence sections surrounding the units. It is recommended to place these opening equally on all four sides, however, if one or two of the sides are sections of the building structure, it is acceptable to place them on two sides.

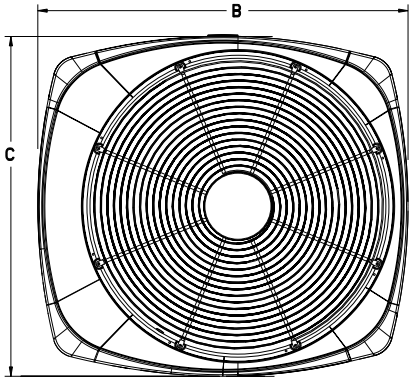
Allegiance / Heritage unit dimensions
HFC - 410A Models

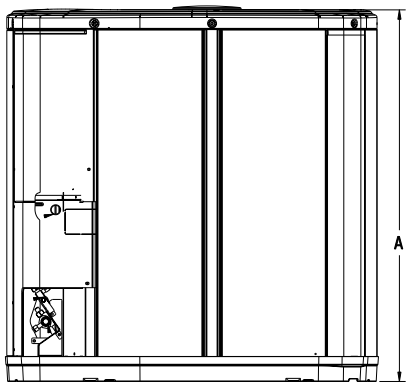




Unit Model	Base	A	B	C		Unit Model	Base Size	A	B	C
4A7A4018A	3	32 3/4"	32 5/8"	29 3/4"		4A6H4018A1	3	32 3/4"	32 5/8"	29 3/4"
4A7A4024A	3	32 3/4"	32 5/8"	29 3/4"		4A6H4024A1	3	32 3/4"	32 5/8"	29 3/4"
4A7A4030A	3	32 3/4"	32 5/8"	29 3/4"		4A6H4030A1	4	41 1/8"	37 1/4"	34 1/4"
4A7A4036A	3	36 3/4"	32 5/8"	29 3/4"		4A6H4036A1	4	37 1/8"	37 1/4"	34 1/4"
4A7A4042A	4	37 1/8"	37 1/4"	34 1/4"		4A6H4042A1	4	41 1/8"	37 1/4"	34 1/4"
4A7A4048A	4	41 1/8"	37 1/4"	34 1/4"		4A6H4048A1	4	41 1/8"	37 1/4"	34 1/4"
4A7A4060A	4	41 1/8"	37 1/4"	34 1/4"		4A6H4060A1	4	41 1/8"	37 1/4"	34 1/4"
4A7A2018A	3	32 3/4"	32 5/8"	29 3/4"		4A6H2018A1	3	32 3/4"	32 5/8"	28 3/4"
4A7A2024A	3	32 3/4"	32 5/8"	29 3/4"		4A6H2024A1	3	32 3/4"	32 5/8"	28 3/4"
4A7A2030A	3	32 3/4"	32 5/8"	29 3/4"		4A6H2030A1	3	32 3/4"	32 5/8"	28 3/4"
4A7A2036A	3	32 3/4"	32 5/8"	29 3/4"		4A6H2036A1	3	40 3/4"	32 5/8"	28 3/4"
4A7A2042A	3	36 3/4"	32 5/8"	29 3/4"		4A6H2042A1	3	40 3/4"	32 5/8"	28 3/4"
4A7A2048A	3	40 3/4"	32 5/8"	29 3/4"		4A6H2048A1	4	32 3/4"	37 1/4"	34 1/4"
4A7A2060A	4	32 3/4"	37 1/4"	34 1/4"		4A6H2060A1	4	41 1/8"	37 1/4"	34 1/4"

Allegiance / Heritage unit dimensions
HCFC - 22 Models





Unit Model	Base	A	B	C		Unit Model	Base Size	A	B	C
2A7A4018A	3	32 3/4"	32 5/8"	29 3/4"		2A6H4018A	3	32 3/4"	32 5/8"	29 3/4"
2A7A4024A	3	32 3/4"	32 5/8"	29 3/4"		2A6H4024A	3	36 3/4"	32 5/8"	29 3/4"
2A7A4030A	3	32 3/4"	32 5/8"	29 3/4"		2A6H4030A	4	33 1/8"	37 1/4"	34 1/4"
2A7A4036A	3	36 3/4"	32 5/8"	29 3/4"		2A6H4036A	4	37 1/8"	37 1/4"	34 1/4"
2A7A4042A	4	37 1/8"	37 1/4"	34 1/4"		2A6H4042A	4	41 1/8"	37 1/4"	34 1/4"
2A7A4048A	4	41 1/8"	37 1/4"	34 1/4"		2A6H4048A	4	41 1/8"	37 1/4"	34 1/4"
2A7A4060A	4	41 1/8"	37 1/4"	34 1/4"		2A6H4060A	4	41 1/8"	37 1/4"	34 1/4"
2A7A2018A	2	25 5/8"	28 1/2"	25 5/8"		2A6H2018A	2	25 5/8"	28 1/2"	25 5/8"
2A7A2024A	2	28 3/4"	28 1/2"	25 5/8"		2A6H2024A	2	28 3/4"	28 1/2"	25 5/8"
2A7A2030A	2	28 3/4"	28 1/2"	25 5/8"		2A6H2030B	2	32 3/4"	28 1/2"	25 5/8"
2A7A2036A	2	32 3/4"	28 1/2"	25 5/8"		2A6H2036A	3	32 3/4"	32 5/8"	28 3/4"
2A7A2042B	3	32 3/4"	32 5/8"	29 3/4"		2A6H2042A	3	32 3/4"	32 5/8"	28 3/4"
2A7A2048A	3	36 3/4"	32 5/8"	29 3/4"		2A6H2048A	3	36 3/4"	37 1/4"	34 1/4"
2A7A2060B	4	41 1/8"	37 1/4"	34 1/4"		2A6H2060A	4	41 1/8"	37 1/4"	34 1/4"
2A7A1018A	1	25 1/2"	19 3/4"	18 3/4"		2A6H1018A	2	25 5/8"	28 1/2"	25 5/8"
2A7A1024A	1	25 1/2"	19 3/4"	18 3/4"		2A6H1024A	2	25 5/8"	28 1/2"	25 5/8"
2A7A1030A	2	25 5/8"	28 1/2"	25 5/8"		2A6H1030A	2	28 3/4"	28 1/2"	25 5/8"
2A7A1036A	2	25 5/8"	28 1/2"	25 5/8"		2A6H1036A	2	28 3/4"	28 1/2"	25 5/8"
2A7A1042A	2	28 3/4"	28 1/2"	25 5/8"		2A6H1042A	3	32 3/4"	32 5/8"	29 3/4"
2A7A1048A	2	28 3/4"	28 1/2"	25 5/8"		2A6H1048A	3	32 3/4"	32 5/8"	29 3/4"
2A7A1060A	3	36 3/4"	32 5/8"	29 3/4"		2A6H1060A	4	33 1/8"	37 1/4"	34 1/4"
2A7A0060A	3	32 3/4"	32 5/8"	29 3/4"						

NOTES

NOTES

American Standard
NEW STANDARDS FOR LIVING™

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6200 Troup Highway
Tyler, Texas 75711

Literature Order Number		
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Stocking Location		