

**ALLEGIANCE® 20**  
**MODELS 4A7Z0024, 036, 048, & 060**  
with AccuLink™ and Charge Assist™

## Features and Benefits

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- Two **DURATION™** compressors deliver 50% or 100% capacity modulation
- Efficiency up to **20 SEER**
- All aluminum **SPINE FIN™** coil
- **QUICK-SESS™** cabinet, service access and refrigerant connections with full coil protection
- **DURATUFF™** base, fast complete drain, weather proof
- **COMFORT-R™** mode approved
- **ACCULINK™** system, only two wire control connection
- **CHARGE ASSIST™** fast/accurate charging every time
- Glossy corrosion resistant finish
- Internal compressor high/low pressure & temperature protection
- Start kit standard
- 50% or 100% capacity modulation
- Compressor sump heat
- Electronic compressor control
- Liquid line filter/drier
- Attractive warm gray cabinet with accent Grill, Badge and Grill Caps
- Low sound with advanced fan system and compressor sound insulator
- Variable speed fan motor
- Seacoast shield
- Service valve cover
- R-410A refrigerant
- S.E.E.T. design testing
- 100% line run test
- Low ambient cooling to 55°F as shipped
- **Extended warranties available**

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# General Data

## Product Specifications

Model No. ①	4A7Z0024A1	4A7Z0036B1	4A7Z0048B1	4A7Z0060A1
Electrical Data V/Ph/Hz ②	200/230/1/60	208/230/1/60	200/230/1/60	200/230/1/60
Min Cir Ampacity	14	19	26	31
Max Fuse Size (Amps)	20	30	40	50
Compressors	2 - DURATION™	2 - DURATION™	2 - DURATION™	2 - DURATION™
RL AMPS - LR AMPS	8.7 - 58	13.2 - 60.0	18.6 - 93.4	22.8 - 128.7
Outdoor Fan FL Amps	2.80	2.80	2.80	2.80
Fan HP	1/3	1/3	1/3	1/3
Fan Dia (inches)	27.5	27.6	27.6	27.6
Coil	Spine Fin™	Spine Fin™	Spine Fin™	Spine Fin™
Refrigerant R-410A	10/10-LB/OZ	10/08-LB/OZ	15/7-LB/OZ	13/15-LB/OZ
Line Size - (in.) O.D. Gas ③	3/4	3/4	7/8	7/8
Line Size - (in.) O.D. Liquid ③	3/8	3/8	3/8	3/8
Dimensions H x W x D (Crated)	51 x 35.1 x 38.7			
Weight - Shipping	375	375	460	460
Weight - Net	325	325	410	410
Start Components	YES	YES	YES	YES
Sound Enclosure	YES	YES	YES	YES
Compressor Sump Heat	YES	YES	YES	YES
<b>Optional Accessories: ④</b>				
Rubber Isolator Kit	BAYISLT101	BAYISLT101	BAYISLT101	BAYISLT101
Snow Leg - Base & Cap 4" High	BAYLEGS002	BAYLEGS002	BAYLEGS002	BAYLEGS002
Snow Leg - 4" Extension	BAYLEGS003	BAYLEGS003	BAYLEGS003	BAYLEGS003
Extreme Condition Mounting Kit	BAYECMT023	BAYECMT004	BAYECMT004	BAYECMT004
Auto Charge Solenoid Kit	BAYCAKT001	BAYCAKT001	BAYCAKT001	BAYCAKT001
24 Volt Wiring Harness	BAYACHP024A	BAYACHP024A	BAYACHP024A	BAYACHP024A
Refrigerant Lineset ⑤	TAYREFLN7*	TAYREFLN7*	TAYREFLN3*	TAYREFLN3*

① Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program which is based on AHRI Standard 210/240.

② Calculated in accordance with N.E.C. Only use HACR circuit breakers or fuses.

③ Standard line lengths - 80'. Standard lift - 25' Suction and Liquid line.

For Greater lengths and lifts refer to refrigerant piping software Pub# 32-3312-01. (\*denotes latest revision)

④ For accessory description and usage, see page 5.

⑤ \* = 15, 20, 25, 30, 40 and 50 foot lineset available.

## A-weighted Sound Power Level [dB(A)]

MODEL	SOUND POWER LEVEL [dB(A)]		A-WEIGHTED FULL OCTAVE SOUND POWER LEVEL dB - [dB(A)] High Stage							
	Low Stage Overall	High Stage Overall	63	125	250	500	1000	2000	4000	8000
4A7Z0024A1	59	68	44.8	54.4	60.5	57.7	61.4	61.9	55	49.1
4A7Z0036B1	67	72	50.8	55.3	64.6	67.8	64.3	63.2	57.6	51.5
4A7Z0048B1	68	76	51.3	56	68.3	71.3	65.6	69	58.9	49.6
4A7Z0060A1	70	76	51.4	59.8	67.3	68	69.6	70.1	61	51.5

Note: Tested in accordance with ARI Standard 270.95. (Not listed with ARI)

# General Data

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## Accessory Description and Usage

**24 Volt Wiring Harness** — Used to wire a communicating outdoor unit to an existing 24 Volt indoor section.

**Charge Assist™ Solenoid Kit** — fast/accurate charging every time.

**Rubber Isolators** — 5 large rubber donuts to isolate condensing unit from transmitting energy into mounting frame or pad. Use on any application where sound transmission needs to be minimized.

**Extreme Condition Mount Kit** — Bracket kits to securely mount condensing unit to a frame or pad without removing any panels. Use in areas with high winds, or on commercial roof tops, etc.

**Low Ambient Cooling** — For low ambient cooling below 55° see Application Guide SSC-APG008-EN.

## AHRI Standard Capacity Rating Conditions

### AHRI STANDARD 210/240 RATING CONDITIONS —

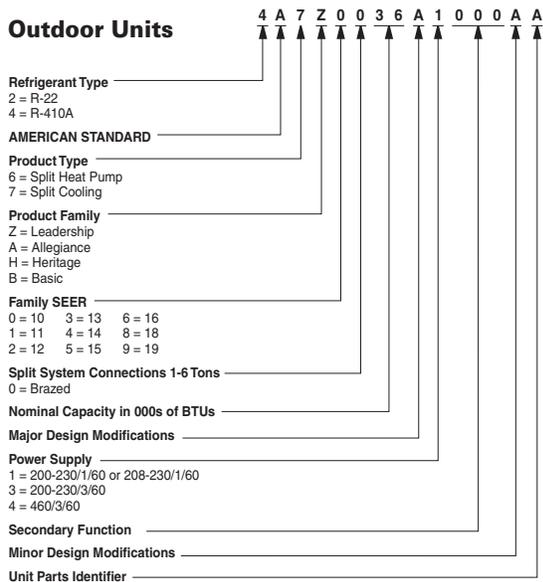
- (A) Cooling 80°F DB, 67°F WB air entering indoor coil, 95°F DB air entering outdoor coil.
- (B) High Temperature Heating 47°F DB, 43°F WB air entering outdoor coil, 70°F DB air entering indoor coil.
- (C) Low Temperature Heating 17°F DB, 15°F WB air entering outdoor coil, 70°F DB air entering indoor coil.
- (D) Rated indoor airflow for heating is the same as for cooling.

**AHRI STANDARD 270 RATING CONDITIONS** — (Noise rating numbers are determined with the unit in cooling operation.) Standard Noise Rating number is at 95°F outdoor air.

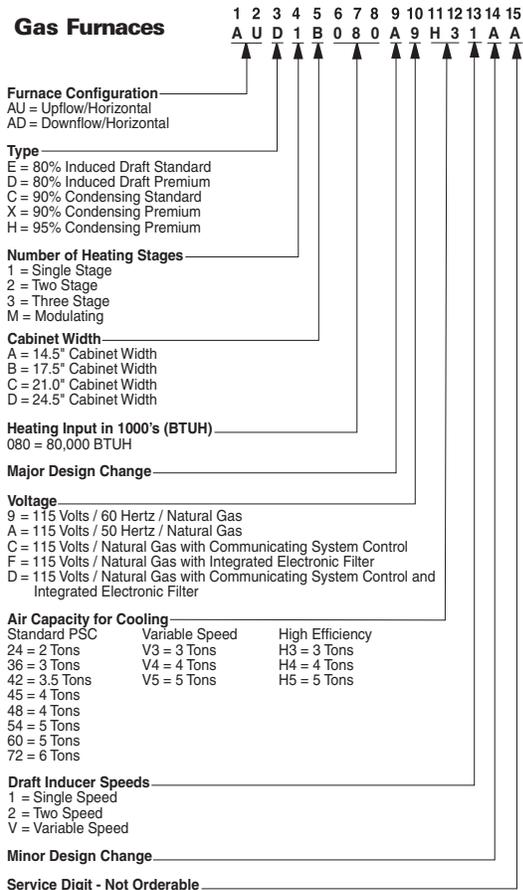


# Model Nomenclature

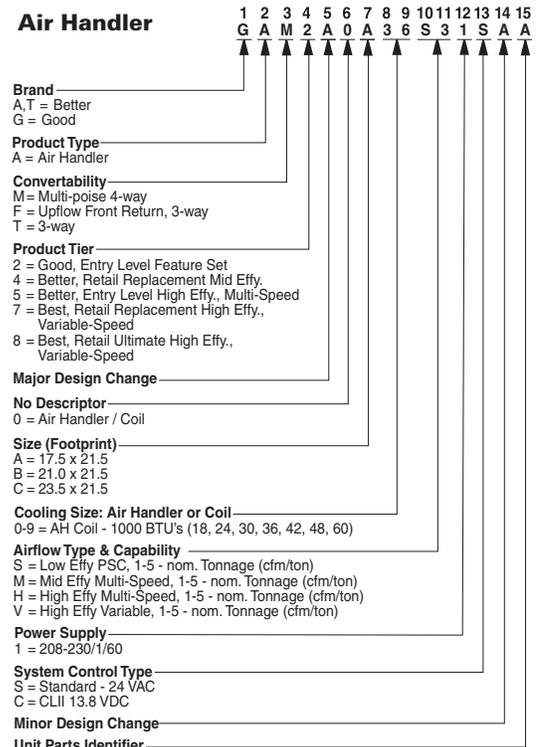
## Outdoor Units



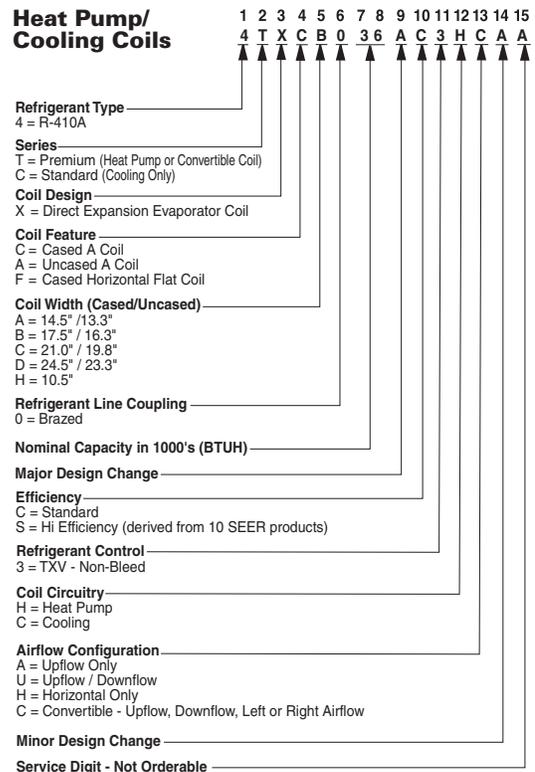
## Gas Furnaces



## Air Handler



## Heat Pump/ Cooling Coils

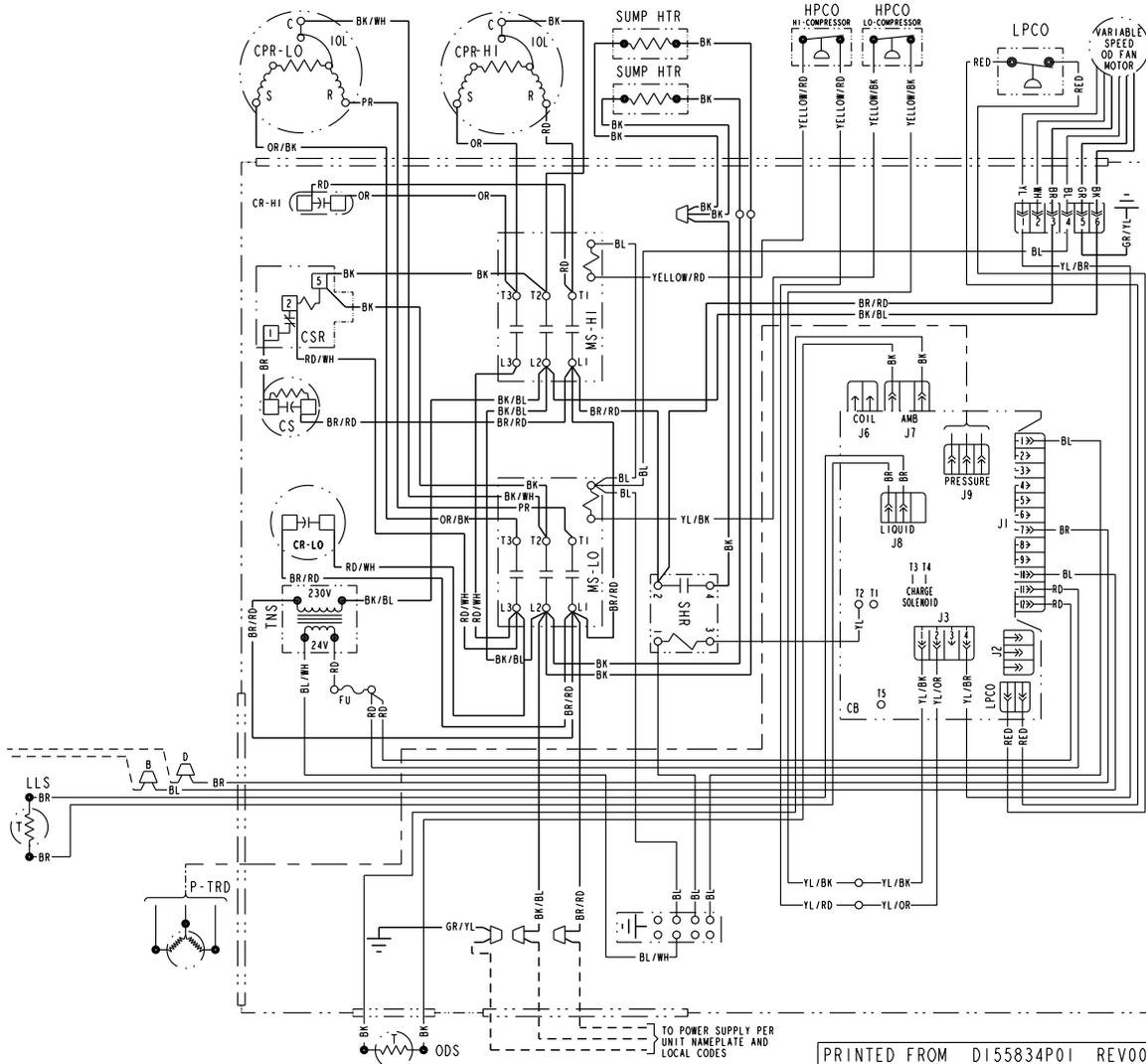


# Electrical Data

## Schematic Diagrams

(SEE LEGEND)

4A7Z0024, 4A7Z0036, 4A7Z0048, 4A7Z0060

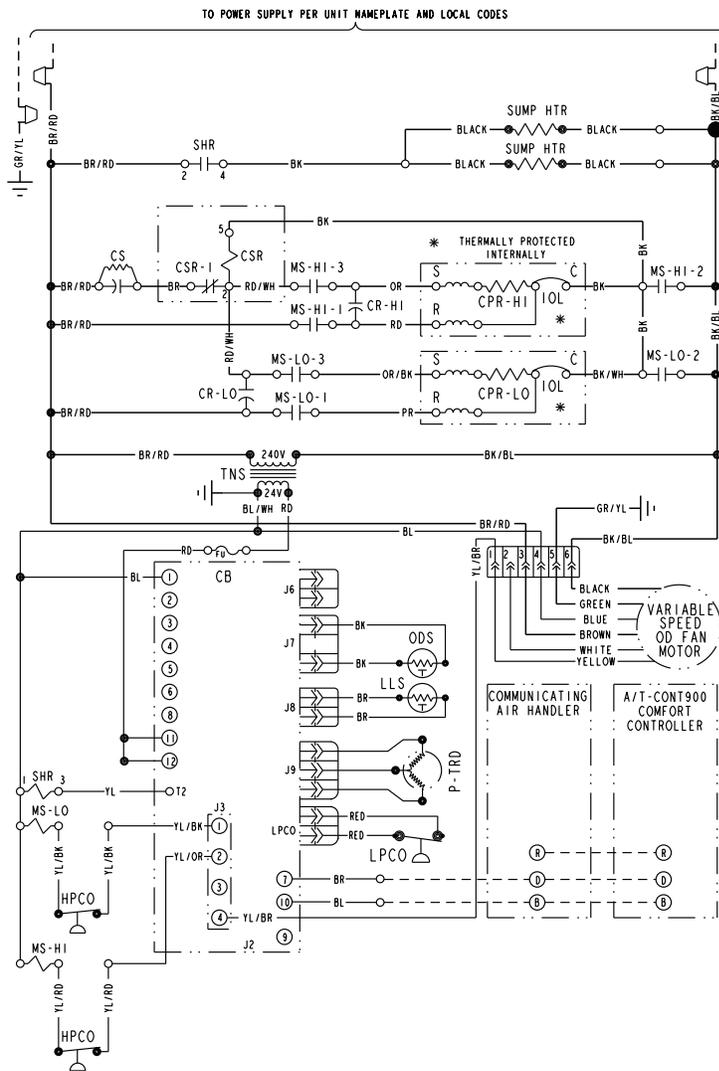


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# Electrical Data

## Schematic Diagrams (SEE LEGEND)

### 4A7Z0024, 4A7Z0036, 4A7Z0048, 4A7Z0060



- |      |                             |       |                            |
|------|-----------------------------|-------|----------------------------|
| CA   | COOLING ANTICIPATOR         | LPCO  | LOW PRESSURE CUTOFF SW.    |
| CB   | CONTROL BOARD               | MS    | COMPRESSOR MOTOR CONTACTOR |
| CBS  | COIL BOTTOM SENSOR          | ODA   | OUTDOOR ANTICIPATOR        |
| CF   | FAN CAPACITOR               | OFT   | OUTDOOR FAN THERMOSTAT     |
| CN   | WIRE CONNECTOR              | ODS   | OUTDOOR TEMPERATURE SENSOR |
| CPR  | COMPRESSOR                  | ODT   | OUTDOOR THERMOSTAT         |
| CR   | RUN CAPACITOR               | P-TRD | PRESSURE TRANSDUCER        |
| CS   | STARTING CAPACITOR          | RHS   | RESISTANCE HEAT SWITCH     |
| CSR  | CAPACITOR SWITCHING RELAY   | SC    | SWITCHOVER VALVE SOLENOID  |
| DFC  | DEFROST CONTROL             | SHR   | SUMP HEAT RELAY            |
| F    | INDOOR FAN RELAY            | SM    | SYSTEM "ON-OFF" SWITCH     |
| FU   | FUSE                        | TDL   | DISCHARGE LINE THERMOSTAT  |
| HA   | HEATING ANTICIPATOR         | TNS   | TRANSFORMER                |
| HPCO | HIGH PRESSURE CUTOFF SW.    | TS    | HEATING-COOLING THERMOSTAT |
| IOL  | INTERNAL OVERLOAD PROTECTOR | TSH   | HEATING THERMOSTAT         |
| LLS  | LIQUID LINE SENSOR          |       |                            |

**WARNING**  
HAZARDOUS VOLTAGE!  
DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.  
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH!

**CAUTION**  
USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.  
FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT!

- COLOR OF WIRE**  
BR/BL BLACK WIRE WITH BLUE MARKER  
COLOR OF MARKER
- |    |       |    |        |    |        |
|----|-------|----|--------|----|--------|
| BK | BLACK | OR | ORANGE | YL | YELLOW |
| BL | BLUE  | RD | RED    | GR | GREEN  |
| BR | BROWN | WH | WHITE  | PR | PURPLE |

NOTES:  
1. LOW VOLTAGE FIELD WIRING MUST BE 18 AWG MIN.

**NOTE**  
THREE PHASE MOTOR (S) FACTORY SUPPLIED IN THIS EQUIPMENT PROTECTED UNDER PRIMARY SINGLE-PHASE CONDITIONS.

#### LEGEND-EQUIPMENT DIAGRAM

- |       |                                       |                  |
|-------|---------------------------------------|------------------|
| —     | LOW V.                                | } FACTORY WIRING |
| —     | LINE V.                               |                  |
| - - - | LOW V.                                | } FIELD WIRING   |
| - - - | LINE V.                               |                  |
| ⊥     | GROUND                                |                  |
| •     | JUNCTION                              |                  |
| △     | WIRE NUT OR CONNECTOR                 |                  |
| ⊃     | COIL                                  |                  |
| ⊃     | CAPACITOR                             |                  |
| ⊃     | RELAY CONTACT (N.O.)                  |                  |
| ⊃     | RELAY CONTACT (N.C.)                  |                  |
| ⊃     | THERMISTOR                            |                  |
| ⊃     | INTERNAL OVERLOAD PROTECTOR           |                  |
| ⊃     | PRESSURE ACTUATED SWITCH              |                  |
| ⊃     | TEMP. ACTUATED SWITCH                 |                  |
| ⊃     | POL. PLUG FEMALE HOUSING (MALE TERM.) |                  |
| ⊃     | POL. PLUG MALE HOUSING (FEMALE TERM.) |                  |
| ⊃     | RESISTOR OR HEATING ELEMENT           |                  |
| ⊃     | MOTOR WINDING                         |                  |
| ○     | TERMINAL                              |                  |

# Electrical Data

## Schematic Diagrams

### LEGEND

	COLOR OF WIRE				
BK/BL	BLACK WIRE WITH BLUE MARKER				
	COLOR OF MARKER				
BK	BLACK	OR	ORANGE	YL	YELLOW
BL	BLUE	RD	RED	GR	GREEN
BR	BROWN	WH	WHITE	PR	PURPLE

### SYMBOLS

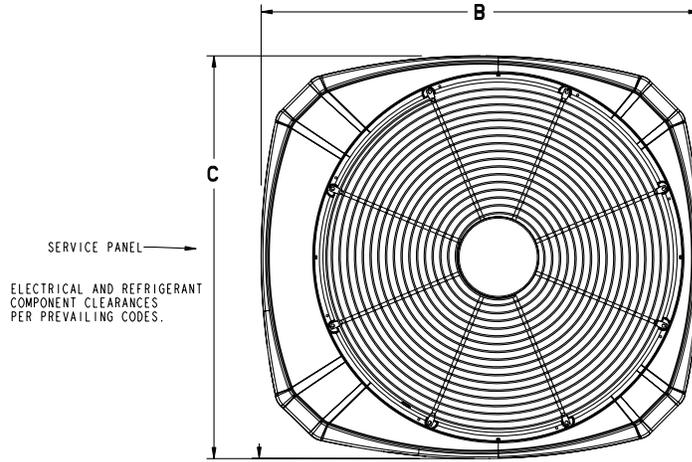
	24 V.	} FACTORY WIRING
	LINE V.	
	24 V.	} FIELD WIRING
	LINE V.	
	FIELD INSTALLED FACTORY WIRING	
	GROUND	
	JUNCTION	
	WIRE NUT OR CONNECTOR	
	COIL	
	CAPACITOR	
	RELAY CONTACT (N.O.)	
	RELAY CONTACT (N.C.)	
	THERMISTOR	
	INTERNAL OVERLOAD PROTECTOR	
	PRESSURE ACTUATED SWITCH	
	TEMP. ACTUATED SWITCH	
	POL. PLUG FEMALE HOUSING (MALE TERM.)	
	POL. PLUG MALE HOUSING (FEMALE TERM.)	
	RESISTOR OR HEATING ELEMENT	
	MOTOR WINDING	
	TERMINAL	

CA	COOLING ANTICIPATOR	LPCO	LOW PRESSURE CUTOUT SW.
CBS	COIL BOTTOM SENSOR	MS	COMPRESSOR MOTOR CONTACTOR
CF	FAN CAPACITOR	ODA	OUTDOOR ANTICIPATOR
CN	WIRE CONNECTOR	OFT	OUTDOOR FAN THERMOSTAT
CPR	COMPRESSOR	ODS	OUTDOOR TEMPERATURE SENSOR
CR	RUN CAPACITOR	ODT	OUTDOOR THERMOSTAT
CS	STARTING CAPACITOR	RHS	RESISTANCE HEAT SWITCH
CSR	CAPACITOR SWITCHING RELAY	SC	SWITCHOVER VALVE SOLENOID
DFC	DEFROST CONTROL	SM	SYSTEM "ON-OFF" SWITCH
F	INDOOR FAN RELAY	TDL	DISCHARGE LINE THERMOSTAT
HA	HEATING ANTICIPATOR	TNS	TRANSFORMER
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IOL	INTERNAL OVERLOAD PROTECTOR	TSH	HEATING THERMOSTAT

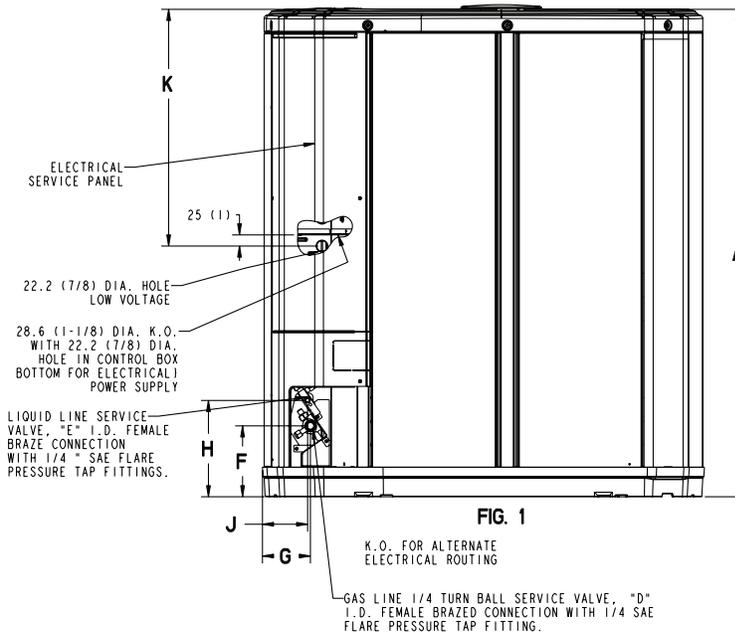
# Dimensions

## 4A7Z0 Outline Drawing

Note: All dimensions are in MM (Inches).



TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR AT LEAST 1524 (5 FEET) ABOVE UNIT. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR DIRECTLY ON UNIT, AND SHOULD BE AT LEAST 305 (12") FROM WALL AND ALL SURROUNDING SHRUBBERY ON TWO SIDES. OTHER TWO SIDES UNRESTRICTED.



MODELS	BASE	A	B	C	D	E	F	G	H	J	K
4A7Z0024A	4	1147 (45 1/8)	946 (37-1/4)	870 (34-1/4)	5/8	3/8	152 (6)	98 (3-7/8)	219 (8-5/8)	86 (3-3/8)	831 (32)
4A7Z0036B 4A7Z0048B 4A7Z0060A	4	1147 (45 1/8)	946 (37-1/4)	870 (34-1/4)	3/4	3/8	152 (6)	98 (3-7/8)	219 (8-5/8)	86 (3-3/8)	831 (32)

From Dwg. 21D152862 Rev. 21

# Mechanical Specification Options

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## General

The 4A7Z0 is fully charged from the factory for matched indoor section and up to 15 feet of piping. This unit is designed to operate at outdoor ambient temperatures as high as 115°F. Cooling capacities are matched with a wide selection of air handlers and furnace coils that are A.R.I. certified. The unit shall be certified to UL 1995. Exterior is designed for outdoor application.

## AccuLink™

This outdoor unit contains the AccuLink™ digital communication with 2 wire connection to outdoor and Plug-n-Play set up.

## Charge Assist™

The Charge Assist™ indicates system Charge Status.

## Casing

Unit casing is constructed of heavy gauge, G60 galvanized steel and painted with a weather-resistant powder paint on all louvers, panels, prepaint on all other panels. Corrosion and weather-proof CMBP-G30 DuraTuff™ base.

## Refrigerant Controls

Refrigeration system controls include condenser fan, compressor contactor and high and low pressure switches. High and low pressure controls are inherent to the compressor. A factory installed liquid line drier is standard.

## Compressor

Two Duration™ compressors deliver 50% or 100% capacity modulation and feature internal over temperature and pressure protection and total dipped hermetic motor. Other features include: roto lock suction and discharge refrigerant connections, centrifugal oil pump and low vibration and noise.

## Condenser Coil

The outdoor coil provides low airflow resistance and efficient heat transfer. The coil is protected on all four sides by louvered panels.

## Low Ambient Cooling

As manufactured, this unit has a cooling capability to 55°F. For low ambient cooling below 55° see Application Guide SSC-APG008-EN.

## Comfort Control

AccuLink™ Control with Plug-n-Play set up and 3 wire connection.



*American Standard*  
HEATING & AIR CONDITIONING

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04/12

*American Standard Heating & Air Conditioning* has a policy of continuous product and product data improvement **and** it reserves the right to change design and specifications without notice.