



HSA5

DXC 1600

Product Specifications

14/15 SEER SINGLE STAGE AIR CONDITIONER WITH OBSERVER® COMMUNICATING CONTROL SYSTEM

1½ THRU 5 TONS SPLIT SYSTEM — 208 / 230 Volt, 1-phase, 60 Hz

REFRIGERATION CIRCUIT

- Copeland Scroll® compressors on select models
- Filter- drier supplied with every unit for field installation
- External high and low refrigerant service ports
- Copper tube / aluminum fin coil

PERFORMANCE

- Communicating, self- configuring operation when used with Observer® Wall Control (TSTAT0201CW)
- Outdoor temperature sensor factory installed
- Compressor sound blanket standard
- Isolation compressor grommets

EASY TO INSTALL AND SERVICE

- Text based diagnostics with Observer Communicating Wall Control
- Easy access service valves on all models
- Innovative control box design
- High and low pressure switches
- Only two screws to access control panel
- Factory charged with R- 410A refrigerant

BUILT TO LAST

- High gloss, baked- on powder coat finish over galv. steel
- Post- painted (black) coil fins
- Coated, weather- resistant cabinet screws
- Coated inlet grille with 3/8” (10mm) spacing for extra protection
- Corner posts for extra strength and style

WARRANTY*

- 3- year No Hassle Replacement™ limited warranty
- 5- year parts limited warranty (include compressor & coil)
 - With timely registration, an additional 5- year parts limited warranty (including compressor and coil)



TSTAT0201CW
Recommended
(sold separately)



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.

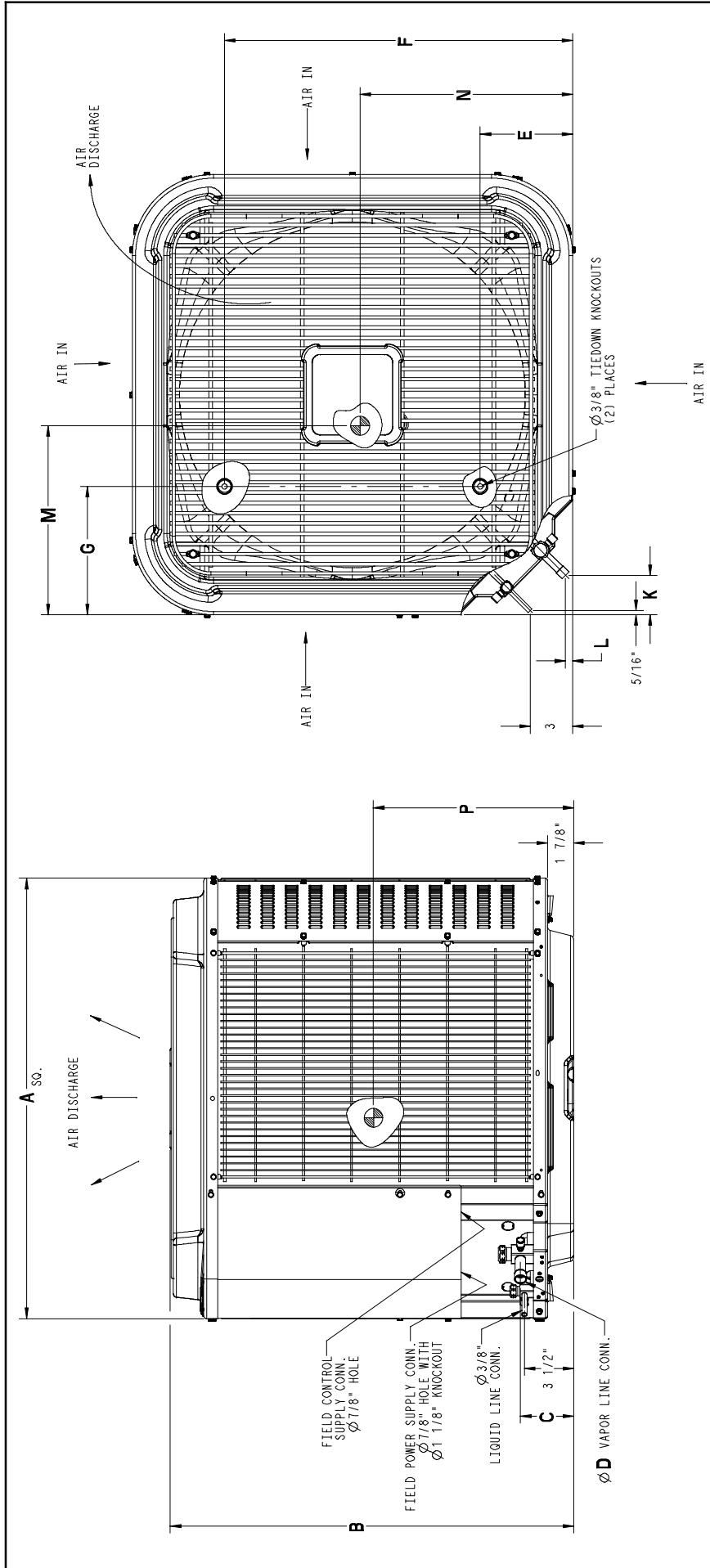
* Applies to original purchaser/homeowner, some limitations may apply. See Warranty certificate for complete details.

| Model Number | Size (tons) | Nominal Btu/hr | Min. Circuit Ampacity | Max. Fuse or Breaker | Operating Dimensions depth x width x height in. (mm) | Ship / Operating Weight lbs. (kg) |
|--------------|-------------|----------------|-----------------------|----------------------|--|-----------------------------------|
| HSA518GKA | 1½ | 18,000 | 11.8 | 20 | 31- 3/16 x 31- 3/16 x 28- 11/16 (792.5 x 792.5 x 729.3) | 213 / 176 (97 / 80) |
| HSA524GKA | 2 | 24,000 | 17.6 | 25 | 31- 3/16 x 31- 3/16 x 28- 11/16 (792.5 x 792.5 x 729.3) | 213 / 176 (97 / 80) |
| HSA530GKA | 2½ | 30,000 | 16.8 | 25 | 31- 3/16 x 31- 3/16 x 32- 1/8 (792.5 x 792.5 x 815.6) | 199 / 165 (90 / 75) |
| HSA536GKA | 3 | 36,000 | 18.1 | 30 | 31- 3/16 x 31- 3/16 x 35- 1/2 (792.5 x 792.5 x 902.0) | 211 / 177 (96 / 80) |
| HSA542GKA | 3½ | 42,000 | 22.3 | 35 | 31- 3/16 x 31- 3/16 x 28- 11/16 (792.5 x 792.5 x 729.3) | 237 / 203 (108 / 92) |
| HSA548GKA | 4 | 48,000 | 20.8 | 35 | 31- 3/16 x 31- 3/16 x 28- 11/16 (792.5 x 792.5 x 729.3) | 238 / 204 (108 / 93) |
| HSA560GKA | 5 | 60,000 | 27.5 | 40 | 31- 3/16 x 31- 3/16 x 32- 1/8 (792.5 x 792.5 x 815.6) | 257 / 225 (117 / 102) |

Specifications subject to change without notice.

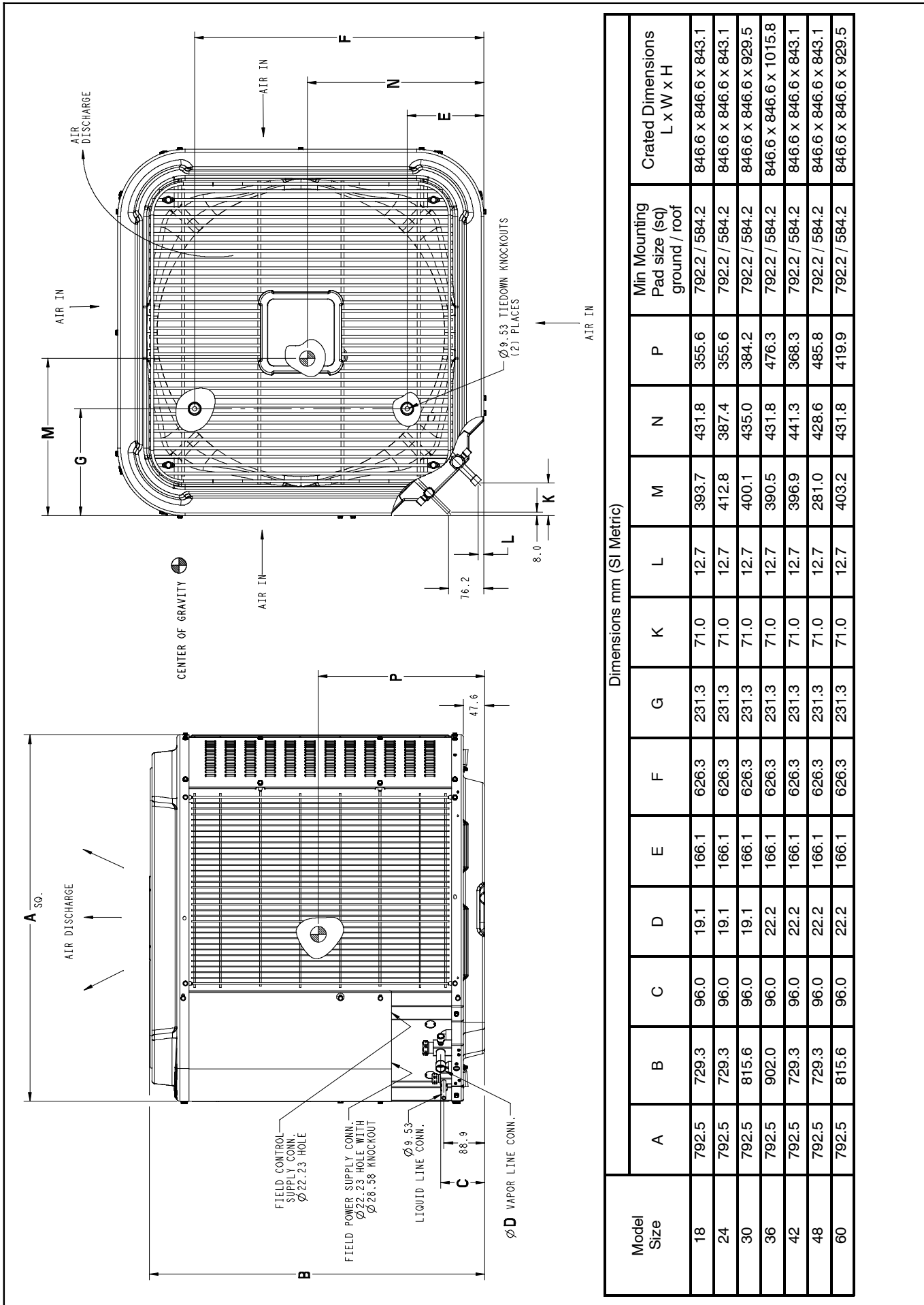
| OUTDOOR UNIT MODEL NUMBER IDENTIFICATION GUIDE (single phase) | | | | | | | | | | | |
|--|----------|---------------------------|----------|---------------------------|-----------|-----------------|----------|----------------|----------|----------|----------|
| Digit Position: | 1 | 2 | 3 | 4 | 5, 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Example Part Number: | H | S | A | 5 | 18 | G | K | A | 1 | 0 | 1 |
| H = Airquest Mainline | | BRANDING | | | | | | | | | |
| S = Single Stage Communicating | | KEY CHARACTERISTIC | | | | | | | | | |
| A = Air Conditioner | | | | | | | | | | | |
| H = Heat Pump | | | | TYPE | | | | | | | |
| 3 = 13 SEER | | | | | | | | | | | |
| 4 = 14 SEER | | | | | | | | | | | |
| 5 = 15 SEER | | | | | | | | | | | |
| 6 = 16 SEER | | | | | | | | | | | |
| 7 = 17 SEER | | | | | | | | | | | |
| 8 = 18 SEER | | | | NOMINAL EFFICIENCY | | | | | | | |
| 18 = 18,000 BTUH = 1½ tons | | | | | | | | | | | |
| 24 = 24,000 BTUH = 2 tons | | | | | | | | | | | |
| 30 = 30,000 BTUH = 2½ tons | | | | | | | | | | | |
| 36 = 36,000 BTUH = 3 tons | | | | | | | | | | | |
| 42 = 42,000 BTUH = 3½ tons | | | | | | | | | | | |
| 48 = 48,000 BTUH = 4 tons | | | | | | | | | | | |
| 60 = 60,000 BTUH = 5 tons | | | | NOMINAL CAPACITY | | | | | | | |
| A = Standard Grille | | | | | | | | | | | |
| G = Coil Guard Grille | | | | | | | | | | | |
| C = Coastal | | | | | | FEATURES | | | | | |
| K = 208/230- 1- 60 | | | | | | | | VOLTAGE | | | |
| Sales Code | | | | | | | | | | | |
| Engineering Revision | | | | | | | | | | | |
| Extra Digit | | | | | | | | | | | |
| Extra Digit | | | | | | | | | | | |

| ACCESSORIES PART NUMBER IDENTIFICATION GUIDE | | | | | | | | | |
|---|----------|----------------------|----------|---------------------|----------|--------------------|-----------|-----------|--|
| Digit Position: | 1 | 2 | 3 | 4 | 5 | 6, 7 | 8, 9 | 10, 11 | |
| Example Part Number: | N | A | S | A | 0 | 01 | 01 | CH | |
| N = Non- Branded | | PRODUCT GROUP | | | | | | | |
| A = Accessory | | | | KIT USAGE | | | | | |
| S = Split System (AC & HP) | | | | | | | | | |
| A = Original | | | | | | | | | |
| B = 2nd Generation | | | | MAJOR SERIES | | | | | |
| 0 = Generic or Not Applicable | | | | | | | | | |
| 4 = R- 410A | | | | | | REFRIGERANT | | | |
| Product Identifier Number | | | | | | | | | |
| Package Quantity | | | | | | | | | |
| Type of Kit (Example: CH = Crankcase Heater) | | | | | | | | | |



Dimensions Inches (English)

| Model Size | A | B | C | D | E | F | G | K | L | M | N | P | Min Mounting Pad size (sq) ground / roof | Crated Dimensions L x W x H |
|------------|---------|----------|-------|-----|--------|----------|-------|---------|-----|--------|--------|--------|--|-----------------------------|
| 18 | 31-3/16 | 28-11/16 | 3-3/4 | 3/4 | 6-9/16 | 24-11/16 | 9-1/8 | 2-13/16 | 1/2 | 15-1/2 | 17 | 14 | 31-3/16 / 23 | 33-5/16 x 33-5/16 x 33-3/16 |
| 24 | 31-3/16 | 28-11/16 | 3-3/4 | 3/4 | 6-9/16 | 24-11/16 | 9-1/8 | 2-13/16 | 1/2 | 16-1/4 | 15-1/4 | 14 | 31-3/16 / 23 | 33-5/16 x 33-5/16 x 33-3/16 |
| 30 | 31-3/16 | 32-1/8 | 3-3/4 | 3/4 | 6-9/16 | 24-11/16 | 9-1/8 | 2-13/16 | 1/2 | 15-3/4 | 17-1/8 | 15-1/8 | 31-3/16 / 23 | 33-5/16 x 33-5/16 x 36-5/8 |
| 36 | 31-3/16 | 35-1/2 | 3-3/4 | 7/8 | 6-9/16 | 24-11/16 | 9-1/8 | 2-13/16 | 1/2 | 15-3/8 | 17 | 18-3/4 | 31-3/16 / 23 | 33-5/16 x 33-5/16 x 40 |
| 42 | 31-3/16 | 28-11/16 | 3-3/4 | 7/8 | 6-9/16 | 24-11/16 | 9-1/8 | 2-13/16 | 1/2 | 15-5/8 | 17-3/8 | 14-1/2 | 31-3/16 / 23 | 33-5/16 x 33-5/16 x 33-3/16 |
| 48 | 31-3/16 | 28-11/16 | 3-3/4 | 7/8 | 6-9/16 | 24-11/16 | 9-1/8 | 2-13/16 | 1/2 | 15 | 16-7/8 | 19-1/8 | 31-3/16 / 23 | 33-5/16 x 33-5/16 x 33-3/16 |
| 60 | 31-3/16 | 32-1/8 | 3-3/4 | 7/8 | 6-9/16 | 24-11/16 | 9-1/8 | 2-13/16 | 1/2 | 15-7/8 | 17 | 16-1/2 | 31-3/16 / 23 | 33-5/16 x 33-5/16 x 36-5/8 |



Dimensions mm (SI Metric)

| Model Size | A | B | C | D | E | F | G | K | L | M | N | P | Min Mounting Pad size (sq) ground / roof | Crated Dimensions L x W x H |
|------------|-------|-------|------|------|-------|-------|-------|------|------|-------|-------|-------|--|-----------------------------|
| 18 | 792.5 | 729.3 | 96.0 | 19.1 | 166.1 | 626.3 | 231.3 | 71.0 | 12.7 | 393.7 | 431.8 | 355.6 | 792.2 / 584.2 | 846.6 x 846.6 x 843.1 |
| 24 | 792.5 | 729.3 | 96.0 | 19.1 | 166.1 | 626.3 | 231.3 | 71.0 | 12.7 | 412.8 | 387.4 | 355.6 | 792.2 / 584.2 | 846.6 x 846.6 x 843.1 |
| 30 | 792.5 | 815.6 | 96.0 | 19.1 | 166.1 | 626.3 | 231.3 | 71.0 | 12.7 | 400.1 | 435.0 | 384.2 | 792.2 / 584.2 | 846.6 x 846.6 x 929.5 |
| 36 | 792.5 | 902.0 | 96.0 | 22.2 | 166.1 | 626.3 | 231.3 | 71.0 | 12.7 | 390.5 | 431.8 | 476.3 | 792.2 / 584.2 | 846.6 x 846.6 x 1015.8 |
| 42 | 792.5 | 729.3 | 96.0 | 22.2 | 166.1 | 626.3 | 231.3 | 71.0 | 12.7 | 396.9 | 441.3 | 368.3 | 792.2 / 584.2 | 846.6 x 846.6 x 843.1 |
| 48 | 792.5 | 729.3 | 96.0 | 22.2 | 166.1 | 626.3 | 231.3 | 71.0 | 12.7 | 281.0 | 428.6 | 485.8 | 792.2 / 584.2 | 846.6 x 846.6 x 843.1 |
| 60 | 792.5 | 815.6 | 96.0 | 22.2 | 166.1 | 626.3 | 231.3 | 71.0 | 12.7 | 403.2 | 431.8 | 419.9 | 792.2 / 584.2 | 846.6 x 846.6 x 929.5 |

| PHYSICAL DATA (1-phase) | | | | | | | |
|-----------------------------------|------------------------------|------------|------------|------------|------------|------------|------------|
| Model Size | 18 | 24 | 30 | 36 | 42 | 48 | 60 |
| Nominal Cooling Capacity (BTU/hr) | 18,000 | 24,000 | 30,000 | 36,000 | 42,000 | 48,000 | 60,000 |
| Nominal SEER | 14.0 | | | | | | |
| Compressor Type | Scroll | | | | | | |
| REFRIGERANT | R-410A | | | | | | |
| Charge - lb(kg) | 5.25(3.28) | 6.00(2.72) | 5.67(2.57) | 6.40(2.90) | 7.46(3.38) | 8.31(3.77) | 9.39(4.26) |
| Required Subcooling °F (°C) | 10 (5.5) | 10 (5.5) | 12(6.6) | 11 (6) | 11 (6) | 11 (6) | 13 (7.2) |
| COND FAN | Propeller Type, Direct Drive | | | | | | |
| Air Discharge | Vertical | | | | | | |
| Air Qty (CFM) | 1600 | 1881 | 2614 | 3365 | 3700 | 3454 | 3700 |
| Motor HP | 1/12 | 1/10 | 1/10 | 1/5 | 1/4 | 1/4 | 1/4 |
| Motor RPM | 1100 | 1100 | 1100 | 1100 | 1110 | 1110 | 1100 |
| COND COIL | | | | | | | |
| Face Area (Sq ft) | 8.4 | 9.9 | 17.24 | 20 | 21.6 | 15.1 | 17.25 |
| Fins per In. | 25 | 25 | 25 | 25 | 25 | 20 | 25 |
| Rows | 1 | 1 | 1 | 1.75 | 1 | 2 | 2 |
| Circuits | 3 | 4 | 4 | 6 | 7 | 6 | 8 |
| VALVE CONNECT. (In. ID) | | | | | | | |
| Vapor - in. (mm) | 3/4 (19) | 3/4 (19) | 3/4 (19) | 7/8 (22) | 7/8 (22) | 7/8 (22) | 7/8 (22) |
| Liquid - in. (mm) | 3/8 (10) | | | | | | |
| REFRIGERANT TUBES* (In. OD) | | | | | | | |
| Rated Vapor in. (mm) | 3/4 (19) | 3/4 (19) | 3/4 (19) | 7/8 (22) | 7/8 (22) | 7/8 (22) | 1 1/8 (29) |
| Rated Liquid in. (mm) | 3/8 (10) | | | | | | |

* Units are rated with 25 ft (7.6 m) of lineset length. See Vapor Line Sizing and Cooling Capacity Loss Table when using other sizes of lineset. NOTE: See unit Installation Instructions for proper installation.

| ELECTRICAL DATA (208/230- 1- 60, voltage range 197V - 253V) | | | | | | | |
|---|------|------|------|------|-------|-------|-------|
| Model Size | 18 | 24 | 30 | 36 | 42 | 48 | 60 |
| Minimum Circuit Ampacity - MCA (amps) | 11.8 | 17.6 | 16.8 | 18.1 | 22.3 | 20.8 | 27.5 |
| Maximum OverCurrent Protective device - MOCP (amps) | 20 | 25 | 25 | 30 | 35 | 35 | 40 |
| Compressor RLA (Rated Load Amps) | 9 | 13.5 | 12.8 | 13.6 | 16.7 | 15.5 | 20.8 |
| LRA (Locked Rotor Amps) | 48.0 | 58.3 | 67.8 | 79.0 | 109.0 | 105.5 | 127.1 |
| Fan Motor FLA (Full Load Amps) | .50 | .70 | .75 | 1.10 | 1.40 | 1.40 | 1.52 |

| A-Weighted Sound Power Level - With Sound Jacket | | | | | | | | |
|--|-----------------------|--|-----|-----|------|------|------|------|
| Unit Size | Standard Rating (dBA) | TYPICAL OCTAVE BAND SPECTRUM (without tone adjustment) | | | | | | |
| | | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 18 | 71 | 44 | 51 | 58 | 64 | 58 | 53 | 43 |
| 24 | 69 | 43 | 51 | 59 | 60 | 56 | 52 | 43 |
| 30 | 73 | 48 | 56 | 63 | 64 | 60 | 58 | 53 |
| 36 | 72 | 49 | 55 | 61 | 63 | 60 | 57 | 53 |
| 42 | 74 | 53 | 65 | 64 | 63 | 61 | 57 | 51 |
| 48 | 76 | 55 | 63 | 64 | 65 | 61 | 58 | 49 |
| 60 | 73 | 54 | 59 | 63 | 63 | 60 | 56 | 48 |

Note: Tested in accordance with AHRI Standard 270-2008 (not listed in AHRI).

REFRIGERANT PIPING LENGTH LIMITATIONS

Liquid Line Sizing and Maximum Total Equivalent Lengths[†] for Cooling Only Systems with R-410A Refrigerant:

The maximum allowable length of a residential split system depends on the liquid line diameter and vertical separation between indoor and outdoor units.

See Table below for liquid line sizing and maximum lengths :

Maximum Total Equivalent Length Outdoor Unit BELOW Indoor Unit

| Size | Liquid Line Connection | Liquid Line Diam. w/ TXV | AC with R-410A Refrigerant Maximum Total Equivalent Length [†] : Outdoor unit BELOW Indoor Vertical Separation ft (m) | | | | | | | | |
|----------------------|------------------------|--------------------------|--|----------------|-----------------|-----------------|------------------|-------------------|-------------------|-------------------|-------------------|
| | | | 0-5 (0-1.5) | 6-10 (1.8-3.0) | 11-20 (3.4-6.1) | 21-30 (6.4-9.1) | 31-40 (9.4-12.2) | 41-50 (12.5-15.2) | 51-60 (15.5-18.3) | 61-70 (18.6-21.3) | 71-80 (21.6-24.4) |
| 18 AC with R-410A | 3/8 | 1/4 | 150 | 150 | 125 | 100 | 100 | 75 | -- | -- | -- |
| | | 5/16 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 225* | 150 |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 24 AC with R-410A | 3/8 | 1/4 | 75 | 75 | 75 | 50 | 50 | -- | -- | -- | -- |
| | | 5/16 | 250* | 250* | 250* | 250* | 250* | 225* | 175 | 125 | 100 |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 30 AC with R-410A | 3/8 | 1/4 | 30 | -- | -- | -- | -- | -- | -- | -- | -- |
| | | 5/16 | 175 | 225* | 200 | 175 | 125 | 100 | 75 | -- | -- |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 36 AC with R-410A | 3/8 | 5/16 | 175 | 150 | 150 | 100 | 100 | 100 | 75 | -- | -- |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 42 AC with R-410A | 3/8 | 5/16 | 125 | 100 | 100 | 75 | 75 | 50 | -- | -- | -- |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 150 |
| 48 AC with R-410A | 3/8 | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 230 | 160 | -- |
| 60 AC with R-410A | 3/8 | 3/8 | 250* | 250* | 250* | 225* | 190 | 150 | 110 | -- | -- |

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

-- = outside acceptable range

Maximum Total Equivalent Length Outdoor Unit ABOVE Indoor Unit

| Size | Liquid Line Connection | Liquid Line Diam. w/ TXV | AC with R-410A Refrigerant Maximum Total Equivalent Length [†] : Outdoor unit ABOVE Indoor Vertical Separation ft (m) | | | | | | | | |
|----------------------|------------------------|--------------------------|--|------------------|-------------------|--------------------|---------------------|---------------------|---------------------|---------------------|------|
| | | | 25 (7.6) | 26-50 (7.9-15.2) | 51-75 (15.5-22.9) | 76-100 (23.2-30.5) | 101-125 (30.8-38.1) | 126-150 (38.4-45.7) | 151-175 (46.0-53.3) | 176-200 (53.6-61.0) | |
| 18 AC with R-410A | 3/8 | 1/4 | 175 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| | | 5/16 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 24 AC with R-410A | 3/8 | 1/4 | 100 | 125 | 175 | 200 | 225* | 250* | 250* | 250* | 250* |
| | | 5/16 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 30 AC with R-410A | 3/8 | 1/4 | 30 | -- | -- | -- | -- | -- | -- | -- | -- |
| | | 5/16 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 36 AC with R-410A | 3/8 | 5/16 | 225* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 42 AC with R-410A | 3/8 | 5/16 | 175 | 200 | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| | | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 48 AC with R-410A | 3/8 | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |
| 60 AC with R-410A | 3/8 | 3/8 | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* | 250* |

* Maximum actual length not to exceed 200 ft (61 m)

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

-- = outside acceptable range

CHARGING SUBCOOLING (TXV- TYPE EXPANSION DEVICE)

| UNIT SIZE-SERIES | REQUIRED SUBCOOLING °F (°C) |
|------------------|-----------------------------|
| 18 | 10 (5.5) |
| 24 | 10 (5.5) |
| 30 | 12 (6.6) |
| 36 | 11 (6.0) |
| 42 | 11 (6.0) |
| 48 | 11 (6.0) |
| 60 | 13 (7.2) |

REFRIGERANT CHARGE ADJUSTMENTS

| Liquid Line Size | R-410A Charge oz/ft (g/m) |
|------------------|--|
| 3/8 | 0.60 (17.74) (Factory charge for lineset = 9 oz / 266.16 g) |
| 5/16 | 0.40 (11.83) |
| 1/4 | 0.27 (7.98) |

Units are factory charged for 15 ft (4.6 m) of 3/8" liquid line. The factory charge for 3/8" lineset 9 oz. When using other length or diameter liquid lines, charge adjustments are required per the chart above.

Charging Formula:

[(Lineset oz/ft x total length) – (factory charge for lineset)] = charge adjustment

Example 1: System has 15 ft of line set using existing 1/4" liquid line. What charge adjustment is required?

Formula: (.27 oz/ft x 15ft) – (9 oz) = (-4.95) oz.

Net result is to remove 4.95 oz of refrigerant from the system

Example 2: System has 45 ft of existing 5/16" liquid line. What is the charge adjustment?

Formula: (.40 oz/ft. x 45ft) – (9 oz.) = 9 oz.

Net result is to add 9 oz of refrigerant to the system

LONG LINE APPLICATIONS

An application is considered Long Line, when the refrigerant level in the system requires the use of accessories to maintain acceptable refrigerant management for systems reliability. See Accessory Usage Guideline table for required accessories. Defining a system as Long Line depends on the liquid line diameter, actual length of the tubing, and vertical separation between the indoor and outdoor units.

For Air Conditioner systems, the charts below show when an application requires a TXV and long-line accessories due to lineset length.

AC WITH R-410A REFRIGERANT LONG LINE DESCRIPTION ft (m)
Beyond these lengths, a TXV is required

| Liquid Line Size | Units On Same Level | Outdoor Below Indoor | Outdoor Above Indoor |
|------------------|--|--|----------------------|
| 1/4 + TXV | No accessories needed within allowed lengths | No accessories needed within allowed lengths | 175 (53.3) |
| 5/16 + TXV | 120 (36.6) | 50 (15.2) vertical or 120 (36.6) total | 120 (36.6) |
| 3/8 + TXV | 80 (24.4) | 35 (10.7) vertical or 80 (24.4) total | 80 (24.4) |

Note: See Long Line Guideline for details

VAPOR LINE SIZING AND COOLING CAPACITY LOSS

Acceptable vapor line diameters provide adequate oil return to the compressor while avoiding excessive capacity loss. The suction line diameters shown in the chart below are acceptable for AC systems with R-410A refrigerant:

Vapor Line Sizing and Cooling Capacity Losses — R-410A Refrigerant 1-Stage Air Conditioner Applications

| Unit Nominal Size (Btuh) | Maximum Liquid Line Diameters (In. OD) | Vapor Line Diameters (In. OD) | Cooling Capacity Loss (%) | | | | | | | | |
|---|--|-------------------------------|--------------------------------------|------------------------|-------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | | | Total Equivalent Line Length ft. (m) | | | | | | | | |
| | | | 26- 50 (7.9- 15.2) | 51- 80 (15.5- 24.4) | 81- 100 (24.7- 30.5) | 101- 125 (30.8- 38.1) | 126- 150 (38.4- 45.7) | 151- 175 (46.0- 53.3) | 176- 200 (53.6- 61.0) | 201- 225 (61.3- 68.6) | 226- 250 (68.9- 76.2) |
| 018 1 Stage AC with R- 410A | 3/8 | 1/2 | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 11 |
| | | 5/8 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 |
| | | 3/4 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 024 1 Stage AC with R- 410A | 3/8 | 5/8 | 0 | 1 | 2 | 2 | 3 | 3 | 4 | 5 | 5 |
| | | 3/4 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 |
| | | 7/8 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 030 1 Stage AC with R- 410A | 3/8 | 5/8 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 7 | 8 |
| | | 3/4 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 3 |
| | | 7/8 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 036 1 Stage AC with R- 410A | 3/8 | 5/8 | 1 | 2 | 4 | 5 | 6 | 8 | 9 | 10 | 12 |
| | | 3/4 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 |
| | | 7/8 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 |
| 042 1 Stage AC with R- 410A | 3/8 | 3/4 | 0 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 6 |
| | | 7/8 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 3 |
| | | 1 1/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 048 1 Stage AC with R- 410A | 3/8 | 3/4 | 0 | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 7 |
| | | 7/8 | 0 | 0 | 1 | 1 | 2 | 2 | 2 | 3 | 3 |
| | | 1 1/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 060, 061 1 Stage AC with R- 410A | 3/8 | 3/4 | 1 | 2 | 4 | 5 | 6 | 7 | 9 | 10 | 11 |
| | | 7/8 | 0 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 5 |
| | | 1 1/8 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

Applications in this area may be long line and may have height restrictions. See the Residential Piping and Long Line Guideline.

TESTED AHRI COMBINATION RATINGS*

NOTE: Ratings contained in this document are subject to change at any time.

For AHRI ratings certificates, please refer to the AHRI directory. www.ahridirectory.org

Additional ratings and system combinations can be accessed via the Airquest database:

<http://www.icpeqp.com/AHRIratings/ratings.aspx?Brand=Airquest>

Or scan this QR code:



| Unit Size | Indoor Model | AHRI Standard Ratings | | | | | |
|-----------|-------------------|-----------------------|---------------------|--------------|----|--|------|
| | | Cooling 95° F (35° C) | | | | | |
| | | Capacity | Factory Enhancement | SEER | | | EER |
| Standard | W/ Field TDR | | | W/ Field TXV | | | |
| HSA518GKA | *EN(A,D)4X19*17** | 18,800 | TXV | | 14 | | 12.2 |
| HSA524GKA | *EN(A,D)4X31*17** | 23,600 | TXV | | 14 | | 12.2 |
| HSA530GKA | EA*4X37L21A | 29,600 | TXV | | 14 | | 12.2 |
| HSA536GKA | EA*4X37L21A | 34,600 | TXV | | 14 | | 12.2 |
| HSA542GKA | EA*4X43L21A | 40,000 | TXV | | 14 | | 11.7 |
| HSA548GKA | EA*4X61L24A | 45,000 | TXV | | 14 | | 11.7 |
| HSA560GKA | EA*4X60L24A | 56,500 | TXV | | 14 | | 11.7 |

† For coils not listed with a matching furnace or blower, coil rating applies with any indoor blower device.

| ACCESSORY USAGE GUIDELINES | | |
|------------------------------------|--|--------------------------------------|
| Accessory | REQUIRED FOR LOW- AMBIENT APPLICATIONS {Below 55°F (13°C)} | REQUIRED FOR LONG LINE APPLICATIONS* |
| Crankcase Heater | Yes | Yes |
| Evaporator Freeze Thermostat | Yes | No |
| Winter Start Control | Yes | No |
| Hard Start Kit (Capacitor & Relay) | Yes | Yes |
| Low Ambient Kit (Pressure Switch) | Yes | No |
| Support Feet, 4" (102mm) tall | Recommended | No |
| TXV * | Yes | Yes |

* .TXV required beyond 20 ft (6.1 m) vertical separation, or 50 ft (15.2 m) total length.

| ACCESSORIES | | |
|-------------|---|--------------------|
| Part Number | Description | Used On Model Size |
| NASA003CH | Crankcase Heater for Scroll Compressor (208/230 V) | 24, 30, 36 |
| NASA001CH | Crankcase Heater for Scroll Compressor (208/230 V) | 42 |
| NASA00501CH | Crankcase Heater for Scroll Compressor (208/230 V) | 48, 60 |
| NASA001SC | Start Component - PTC Device | ALL |
| NASA00201FS | Evaporator Freeze Thermostat | ALL |
| NASA401LS | Liquid Line Solenoid Valve, R- 410A | ALL |
| NASA001TD | Time Delay Relay, Indoor Blower | ALL |
| NASA001WS | Winter Start Control | ALL |
| NASA001AC | Anti- Cycle Timer (5 minute delay) | ALL |
| NASA014SC | Hard Start Kit (Capacitor & Relay) | ALL |
| NASA401LA | Low Ambient Kit (Pressure Switch), R- 410A | ALL |
| NASA00201SF | Support Feet, 4" (102mm) tall, 5 included | ALL |
| NAEA40501TX | TXV Kit, R- 410A - for use with copper or tin fan coils | 18, 24, 30 |
| NAEA40601TX | TXV Kit, R- 410A - for use with copper or tin fan coils | 36, 42 |
| NAEA40701TX | TXV Kit, R- 410A - for use with copper or tin fan coils | 48, 60 |
| NAEB40501TX | TXV Kit, R- 410A - for use with aluminum fan coils | 18, 24, 30 |
| NAEB40601TX | TXV Kit, R- 410A - for use with aluminum fan coils | 36, |
| NAEB40701TX | TXV Kit, R- 410A - for use with aluminum fan coils | 42, 48, 60 |
| TSTAT0201CW | Observer® Self Configuring Communicating Wall Control | ALL |

