



Heating and Air Conditioning

TECHNICAL GUIDE

SPLIT-SYSTEM AIR CONDITIONERS

10 SEER 50 Hz

H*RA018S78 THRU H*RA036S78 (1 PH)

H*RA036S50 THRU H*RA060S50 (3PH)

(1.5 THRU 5 NOMINAL TONS)



Due to continuous product improvement, specifications are subject to change without notice.

Visit us on the web at www.york.com for the most up-to-date technical information.

DESCRIPTION

The HRA Series condensing unit is the outdoor part of a versatile system of air conditioning. It is designed to be custom matched with one of UPG's complete line of evaporator sections, each designed to serve a specific function. Matching Air Handlers are available for upflow, downflow or horizontal applications to provide a complete system. Electric Heaters are available if required. Add-On coils are available for use with upflow, downflow or horizontal furnaces and air handlers.

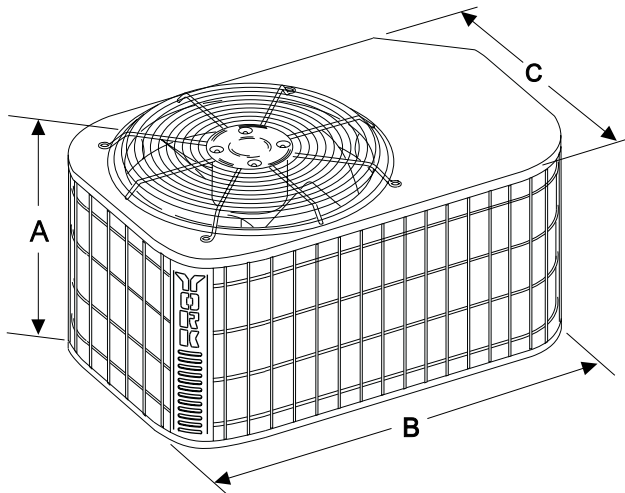
FEATURES

- **QUALITY CONDENSER COILS** - The coil is constructed of enhanced copper tube and aluminum fins.
- **COIL PROTECTION** - Coils are protected from damage by a polymer mesh applied between the coil face, and a PVC coated steel coil guard.
- **PROTECTED COMPRESSOR** - The compressor is internally protected against high pressure and temperature. This is accomplished by the simultaneous operation of high pressure relief valve and a temperature sensor which protects the compressor if undesirable operating conditions occur. A liquid line filter-drier further protects the compressor.
- **DURABLE FINISH** - Cabinet is made of pre-painted steel. The pre-treated flat galvanized steel provides a better paint to steel bond, which resists corrosion and rust creep. Special primer formulas and matted-textured finish insure less fading when exposed to sunlight.
- **LOWER INSTALLED COST** - Installation time and costs are reduced by easy power and control wiring connections. Discharge line heat exchanger knockouts are provided, if required. Available in sweat connect models only. The unit contains enough refrigerant for matching indoor coils and 15 feet of interconnecting piping. The small base dimension means less space is required on the ground or roof.
- **TOP DISCHARGE** - The warm air from the top mounted fan is blown up away from the structure and any landscaping. This allows compact location on multi-unit applications.
- **LOW OPERATING SOUND LEVEL** - The upward air flow carries the normal operating noise up away from the living area. The rigid top panel effectively isolates any motor sound. Isolator mounted compressor and the rippled fins of the condenser coil muffle the normal fan motor and compressor operating sounds.
- **LOW MAINTENANCE** - Long life permanently lubricated motor-bearings need no annual servicing.
- **EASY SERVICE ACCESS** - Fully exposed refrigerant connections, a single panel covering the electrical controls and the molex plug in the control box connecting the condenser fan, make for easy servicing of the unit.
- **SECURED SERVICE VALVES** - Secured re-usable service valves are provided on both the liquid and vapor sweat connections for ease of evacuating and charging.
- **FACTORY TESTED** - to verify system operation and control functioning before shipment.

PHYSICAL AND ELECTRICAL DATA - 1 & 3 Phase

| MODEL | | H1RA018S78 | H1RA024S78 | H1RA030S78 | H1RA036S78 | H1RA036S50 | H1RA048S50 | H1RA060S50 |
|---|-------------------|--------------|------------|------------|------------|------------------|------------|------------|
| Unit Supply Voltage | | 230 – 1 – 50 | | | | 380/415 – 3 – 50 | | |
| Normal Voltage Range ¹ | | 207 to 253 | | | | 342 to 455 | | |
| Minimum Circuit Ampacity | | 9.8 | 14.6 | 20.4 | 20.8 | 7.3 | 10.8 | 13.3 |
| Max. Overcurrent Device Amps ² | | 15 | 25 | 35 | 35 | 15 | 15 | 20 |
| Compressor Type | | Recip | Recip | Recip | Recip | Recip | Recip | Recip |
| Compressor Amps | Rated Load | 7.4 | 11.3 | 15.2 | 15.5 | 5.2 | 7.2 | 9.2 |
| | Locked Rotor | 53 | 65 | 90 | 82 | 39 | 53 | 79 |
| Crankcase Heater | | No | No | No | No | No | No | No |
| Fan Motor Amps | Rated Load | .5 | .5 | 1.8 | 1.8 | .8 | 1.8 | 1.8 |
| Fan Diameter Inches | | 18 | 18 | 18 | 18 | 18 | 22 | 22 |
| Fan Motor | Rated HP | 1/12 | 1/12 | 1/4 | 1/4 | 1/4 | 1/3 | 1/3 |
| | Nominal RPM | 970 | 970 | 900 | 900 | 1,100 | 1,075 | 1,075 |
| | Nominal CFM | 1,650 | 1,650 | 2,350 | 2,350 | 2,250 | 3,200 | 3,300 |
| Coil | Face Area Sq. Ft. | 8.00 | 8.00 | 9.15 | 9.15 | 9.15 | 15.72 | 23.58 |
| | Rows Deep | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Fin / Inches | 14 | 14 | 16 | 16 | 18 | 18 | 18 |
| Liquid Line OD | | 3/8 | 3/8 | 3/8 | 3/8 | 3/8 | 3/8 | 3/8 |
| Vapor Line OD | | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 7/8 | 7/8 |
| Unit Charge (Lbs. - Oz.) ³ | | 3 - 13 | 3 - 14 | 3 - 15 | 4 - 11 | 4 - 11 | 7 - 10 | 9 - 12 |
| Charge Per Foot, Oz. | | 0.66 | 0.66 | 0.68 | 0.68 | 0.68 | 0.70 | 0.70 |
| Operating Weight Lbs. | | 118 | 123 | 135 | 137 | 137 | 206 | 228 |

1. Rated in accordance with ARI Standard 110, utilization range "A".
2. Dual element fuses or HACR circuit breaker.
3. The Unit Charge is correct for the outdoor unit, matched indoor coil and 15 feet of refrigerant tubing. For tubing lengths other than 15 feet, refer to publication 035-15893-60*



All dimensions are in inches. They are subject to change without notice. Certified dimensions will be provided upon request.

| UNIT MODEL H1RA | DIMENSIONS (INCHES) | | | REFRIGERANT CONNECTION LINE SIZE | |
|--------------------|------------------------|----|----|--|-------|
| | A ¹ | B | C | Liquid | Vapor |
| 018S78 | 17 | 35 | 23 | 3/8" | 3/4" |
| 024S78 | 17 | 35 | 23 | | |
| 030S78 | 19 | 35 | 23 | | |
| 036S78 | 19 | 35 | 23 | | |
| 036S50 | 19 | 35 | 23 | | |
| 048S50 | 27 | 37 | 27 | 7/8" | |
| 060S50 | 39 | 37 | 27 | | |

1. Including fan guard

Additional R-22 Charge / Orifice Size for Various Matched Systems - 1 & 3 Phase

| Additional R-22 Charge / Orifice Size for Various Matched Systems | | | | | | | | |
|---|---------------------------|--|--------|--------|--------|--------|--------|--------|
| Outdoor Unit (H1RA) | | 018S78 | 024S78 | 030S78 | 036S78 | 036S50 | 048S50 | 060S50 |
| Unit Orifice(s) ¹ | | 51 | 57 | 69 | 71 | 71 | 84 | |
| Factory R-22 Charge, lbs-oz | 3 - 13 | 3 - 14 | 3 - 14 | 4 - 11 | 4 - 11 | 7 - 10 | 9 - 12 | |
| Indoor Coil | Coil Orifice ² | System Orifice + Additional Charge, Oz | | | | | | |
| G2FD024S14,17 | 61 | 51 + 0 | | | | | | |
| G2FD030S17 | 65 | | 57 + 0 | 69 + 0 | | | | |
| G2FD036S17 | 75 | | | 69 + 3 | 71 + 0 | 71 + 0 | | |
| G2FD036S21 | 75 | | | | 71 + 2 | 71 + 2 | | |
| G2FD042S21 | 78 | | | | | 71 + 4 | | |
| G2FD048S21,24 | 78 | | | | | | 84 + 0 | |
| G2FD060S24 | 90 | | | | | | | 90 + 0 |

COOLING CAPACITY - With Air Handler Coils

| UNIT MODEL | AIR HANDLER | | | COIL ³ MODEL | COOLING | | | | | | |
|---|-------------|-------------------------------|----|-------------------------|-----------|---------|-------|------|------|-----------------------|-----|
| | MODEL | ELECTRIC ² HEAT KW | W | | RATED CFM | NET MBH | | KW | SEER | SEER/TXV ¹ | EER |
| | | | | | | TOTAL | SENS. | | | | |
| 1 PHASE HRA / NAH | | | | | | | | | | | |
| H1RA018S78 | N1AHB1293 | 5,8,10,15,18 | 17 | G2FD024S17 | 650 | 18.1 | 12.9 | 1.86 | -- | -- | -- |
| H1RA024S78 | N1AHB1293 | 5,8,10,15,18 | 17 | G2FD030S17 | 850 | 23.4 | 16.8 | 2.87 | -- | -- | -- |
| H1RA030S78 | N1AHB1293 | 5,8,10,15,18 | 17 | G2FD030S17 | 1000 | 28.9 | 20.0 | 3.45 | -- | -- | -- |
| | N1AHB1293 | 5,8,10,15,18 | 17 | G2FD036S17 | 1000 | 29.6 | 20.6 | 3.57 | -- | -- | -- |
| H1RA036S78 | N1AHB1293 | 5,8,10,15,18 | 17 | G2FD036S17 | 1250 | 33.5 | 25.2 | 3.83 | -- | -- | -- |
| 3 PHASE HRA / NAH | | | | | | | | | | | |
| H1RA036S50 | N1AHB1293 | 5,8,10,15,18 | 17 | G2FD036S17 | 1200 | 33.6 | 24.9 | 3.81 | -- | -- | -- |
| | N1AHB1293 | 5,8,10,15,18 | 17 | G2FD036S21 | 1200 | 34.4 | 25.5 | 3.87 | | | |
| | N1AHC1693 | 5,8,10,15,20 | 21 | G2FD042S21 | 1250 | 35.1 | 25.9 | 3.93 | | | |
| H1RA048S50 | N1AHC1693 | 5,8,10,15,18 | 21 | G2FD048S21 | 1600 | 48.8 | 35.9 | 4.82 | -- | -- | -- |
| H1RA060S50 | N1AHD2093 | 5,8,10,15,18 | 24 | G2FD060S24 | 1900 | 60.5 | 43.0 | 6.29 | -- | -- | -- |
| 1 PHASE HRA / FRP (SINGLE PHASE) | | | | | | | | | | | |
| H1RA018S78 | F2RP024N93 | 5,7.5,10 | 18 | -- | 650 | 18.1 | 12.9 | 1.86 | -- | -- | -- |
| H1RA024S78 | F2RP024N93 | 5,7.5,10 | 18 | -- | 850 | 23.4 | 16.8 | 2.87 | -- | -- | -- |
| H1RA030S78 | F2RP036N93 | 5,7.5,10,15 | 21 | -- | 1000 | 29.6 | 20.6 | 3.57 | -- | -- | -- |
| H1RA036S78 | F2RP036N93 | 5,7.5,10,15 | 21 | -- | 1250 | 34.3 | 25.6 | 3.86 | -- | -- | -- |
| 3 PHASE HRA / FRP (SINGLE PHASE) | | | | | | | | | | | |
| H1RA036S50 | F2RP036N93 | 10,15 | 21 | -- | 1200 | 34.4 | 25.5 | 3.87 | -- | -- | -- |
| H1RA048S50 | F2RP048N93 | 10,15 | 24 | -- | 1600 | 48.8 | 35.9 | 4.82 | -- | -- | -- |
| H1RA060S50 | F2RP060N93 | 10,15 | 24 | -- | 1900 | 60.5 | 43.0 | 6.29 | -- | -- | -- |

Cooling MBH based on 80°F entering air temperature, 50% RH, and rated air flow.

KW includes compressor, outdoor fan and indoor blower motor watts. Add-on coils include 365 watts/1000 CFM for blower motor.

EER (Energy Efficiency Ratio) is the total cooling output in BTU's at a 95°F outdoor ambient divided by the total electric power in watt-hours at those conditions.

SEER (Seasonal Energy Efficiency Ratio) is the total cooling output in BTU's during a normal annual usage period for cooling divided by the total electric power input in watt-hours during the same period.

¹. TXV = Thermal Expansion Valve kit required. Use 1TV700 series kit.

². Single phase units require single phase 2HK heaters — Three phase units require three phase 2HK heaters. (29) indicates 460 volt use only.

³. G2FD coils available with a factory installed horizontal drain pan. Replace "S" with "H" in the model number.

— = Not Applicable.

COOLING PERFORMANCE

| MODEL | SUCTION T/P @ COMPRESSOR | | AIR TEMP ON CONDENSER | | | | | | | |
|------------|-----------------------------|------|-----------------------|------|------|------|-------|------|-------|------|
| | | | 75°F | | 95°F | | 115°F | | 125°F | |
| | TEMP. | PSIG | MBH | KW | MBH | KW | MBH | KW | MBH | KW |
| H1RA018S78 | 35 | 61.5 | 13.1 | 1.36 | 13.1 | 1.36 | 10.6 | 1.46 | 9.3 | 1.52 |
| | 40 | 68.5 | 14.8 | 1.42 | 14.8 | 1.42 | 12.8 | 1.55 | 10.6 | 1.61 |
| | 45 | 76.0 | 16.5 | 1.48 | 16.5 | 1.48 | 13.7 | 1.62 | 12.2 | 1.69 |
| | 50 | 84.0 | 18.4 | 1.55 | 18.4 | 1.55 | 15.2 | 1.71 | 13.7 | 1.78 |
| H1RA024S78 | 35 | 61.5 | 21.3 | 1.59 | 17.7 | 1.93 | 14.7 | 2.14 | 13.3 | 2.23 |
| | 40 | 68.5 | 24.1 | 1.68 | 20.1 | 2.04 | 16.7 | 2.27 | 15.1 | 2.38 |
| | 45 | 76.0 | 26.7 | 1.77 | 22.3 | 2.16 | 18.9 | 2.40 | 17.1 | 2.53 |
| | 50 | 84.0 | 29.6 | 1.85 | 24.9 | 2.27 | 21.1 | 2.55 | 19.4 | 2.67 |
| H1RA030S78 | 35 | 61.5 | 28.0 | 2.31 | 24.4 | 2.65 | 20.1 | 2.86 | 18.0 | 2.96 |
| | 40 | 68.5 | 31.5 | 2.44 | 27.5 | 2.78 | 22.8 | 3.02 | 23.4 | 3.31 |
| | 45 | 76.0 | 35.1 | 2.52 | 30.7 | 2.91 | 25.9 | 3.17 | 23.4 | 3.48 |
| | 50 | 84.0 | 38.9 | 2.62 | 34.2 | 3.04 | 28.8 | 3.34 | 26.3 | 3.48 |
| H1RA036S78 | 35 | 61.5 | 30.6 | 3.14 | 27.0 | 3.48 | 23.1 | 3.79 | 21.0 | 3.89 |
| | 40 | 68.5 | 34.4 | 3.28 | 30.4 | 3.64 | 26.1 | 3.98 | 23.7 | 4.10 |
| | 45 | 76.0 | 38.3 | 3.42 | 33.9 | 3.81 | 29.1 | 4.17 | 26.6 | 4.30 |
| | 50 | 84.0 | 38.9 | 2.62 | 34.2 | 3.04 | 28.8 | 3.34 | 26.3 | 3.48 |
| H1RA036S50 | 35 | 61.5 | 29.6 | 3.24 | 27.8 | 3.52 | 25.1 | 3.73 | 23.4 | 3.78 |
| | 40 | 68.5 | 33.2 | 3.37 | 31.2 | 3.68 | 28.2 | 3.91 | 26.4 | 3.97 |
| | 45 | 76.0 | 36.9 | 3.51 | 34.7 | 3.84 | 31.4 | 4.10 | 29.3 | 4.16 |
| | 50 | 84.0 | 40.7 | 3.65 | 38.2 | 4.00 | 34.6 | 4.28 | 32.4 | 4.36 |
| H1RA048S50 | 35 | 61.5 | 43.2 | 4.17 | 39.1 | 4.87 | 34.4 | 5.50 | 31.9 | 5.87 |
| | 40 | 68.5 | 48.1 | 4.37 | 43.6 | 5.11 | 38.5 | 5.80 | 35.8 | 6.22 |
| | 45 | 76.0 | 53.2 | 4.58 | 48.3 | 5.35 | 42.8 | 6.11 | 39.8 | 6.57 |
| | 50 | 84.0 | 58.4 | 4.79 | 53.2 | 5.60 | 47.2 | 6.41 | 44.0 | 6.91 |
| H1RA060S50 | 35 | 61.5 | 50.6 | 5.23 | 48.7 | 5.73 | 45.2 | 6.11 | 42.7 | 6.24 |
| | 40 | 68.5 | 55.6 | 5.37 | 54.1 | 5.97 | 50.8 | 6.44 | 48.4 | 6.61 |
| | 45 | 76.0 | 60.9 | 5.48 | 59.7 | 6.19 | 56.7 | 6.76 | 54.5 | 6.98 |
| | 50 | 84.0 | 66.3 | 5.58 | 65.6 | 6.40 | 62.8 | 7.08 | 60.8 | 7.35 |

1. For condensing unit only. Does not include effect of evaporator motor power or heat.

2. Performance based on 15" superheat and 15" sub-cooling at condensing unit.

a. Increase capacity 1% for each 2...increase in sub-cooling.

b. Decrease capacity 1% for each 2 decrease in sub-cooling.

3. Sub-cooling in excess of 20...may result in excessively high condensing temperature with air on condenser above 115° Maximum recommended condensing temperature is 140..F.

ACCESSORIES

Refer to Price Manual for specific model numbers.

Compressor Blanket - Designed to further reduce the normal operating sound.

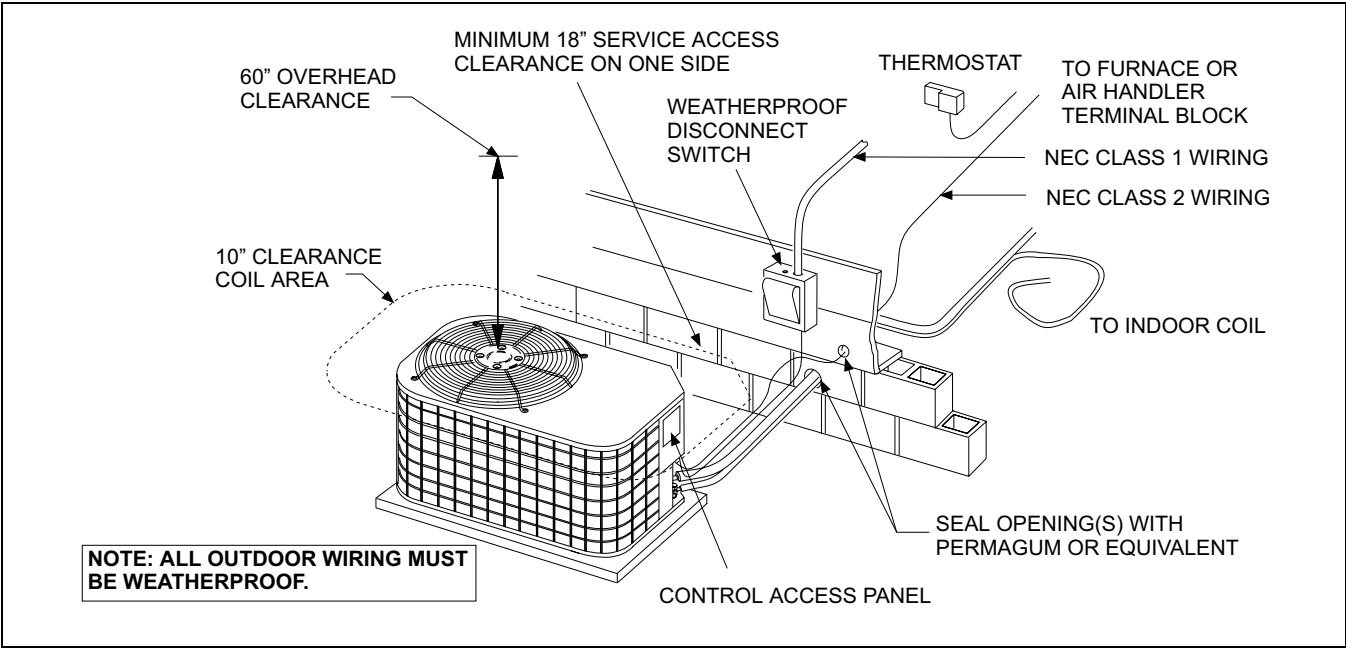
Hard Start Kit (Single Phase Units) - provides required starting torque for use with thermal expansion valve.

Outdoor Thermostat - 2TD06700124 - Consists of an adjustable outdoor thermostat and relay in a vented enclosure. It provides additional second stage control of the supplemental resistance heat.(Balance Point Control)

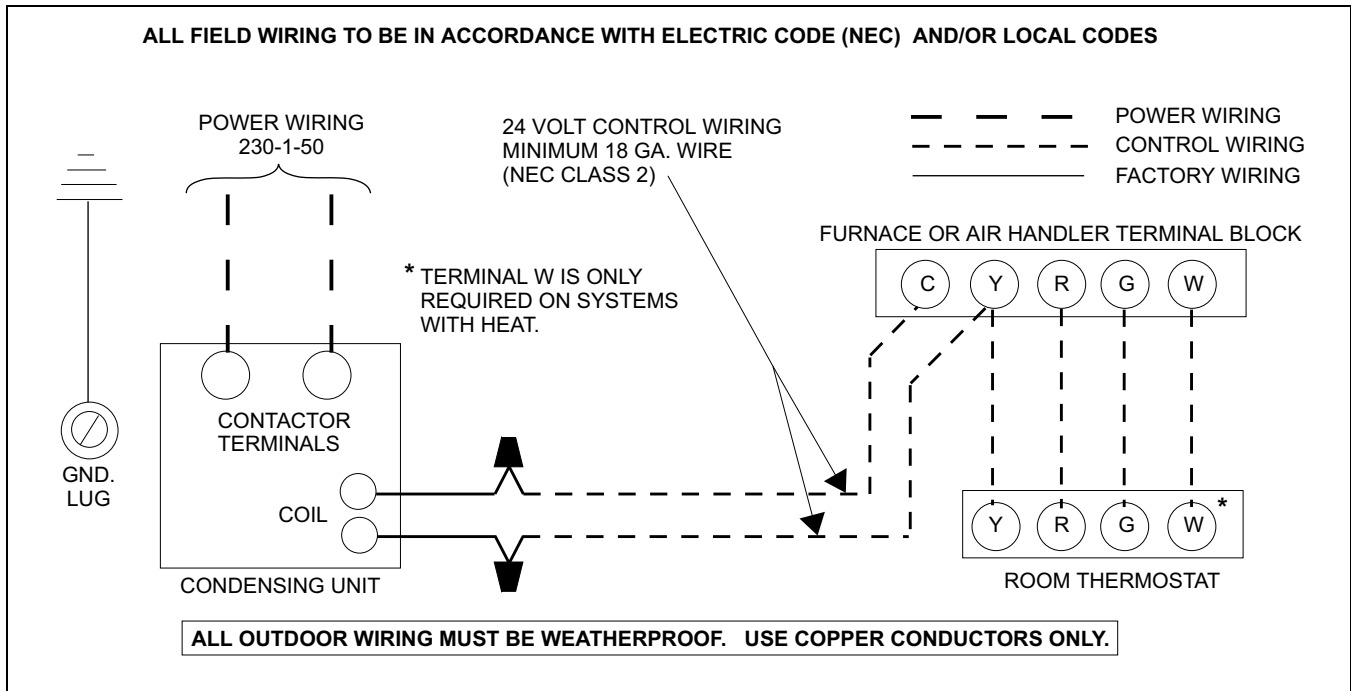
SOUND RATINGS

| UNIT MODEL | SOUND RATINGS DECIBELS |
|------------|------------------------|
| 018 | 76 |
| 024 | 78 |
| 030 | 82 |
| 036 | 82 |
| 048 | 82 |
| 060 | 80 |

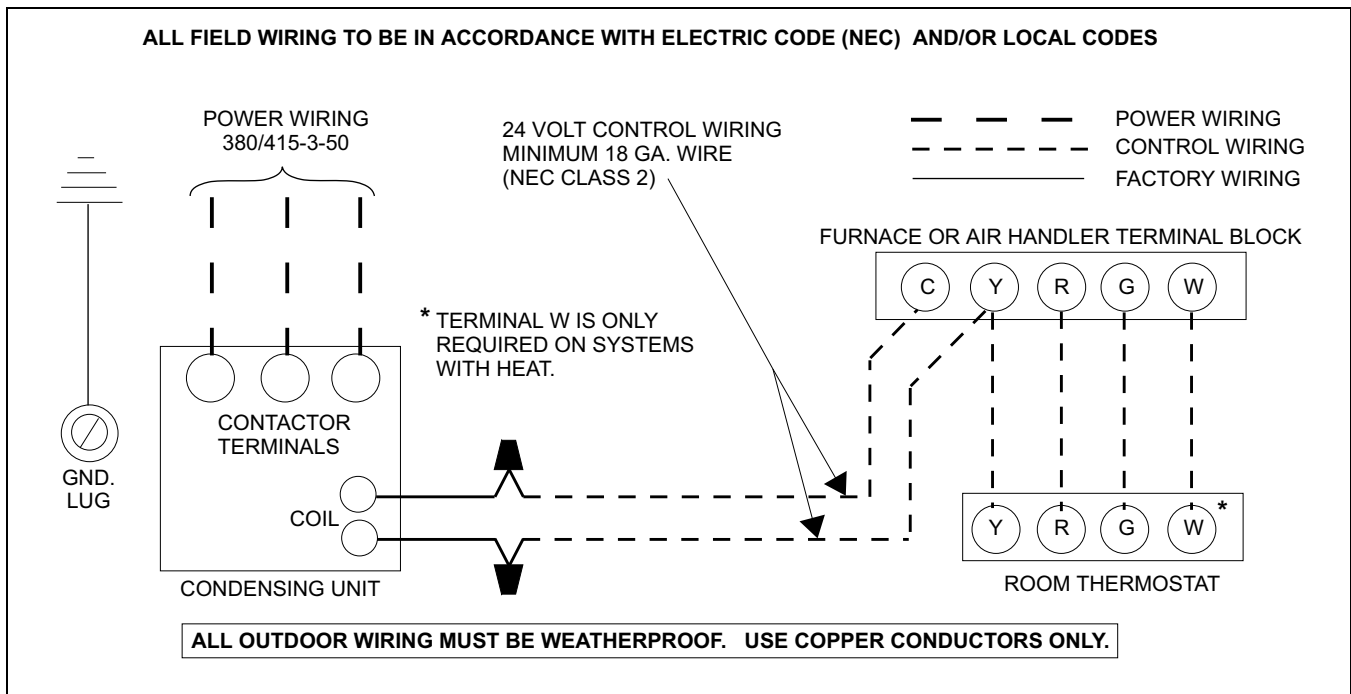
TYPICAL INSTALLATION - H*RA018S78 THRU 036S78 (1 PH) & H*RA 036S50 THRU 060S50 (3 PH)



TYPICAL FIELD WIRING - 1 PH APPLICATION (018S78 - 036S78)



TYPICAL FIELD WIRING - 3 PH APPLICATION (036S50 - 060S50)



| COOLING PERFORMANCE DATA | | | | | | | | | | |
|--|------------|--------------------|------|------|------|------|------|------|------|------|
| AIR CONDITIONER MODEL NO. | | H1RA018S78A | | | | | | | | |
| INDOOR COIL MODEL NO. | | G2FD024S17 | | | | | | | | |
| CONDENSING ENTERING AIR TEMPERATURE | IDCFM | 500 | | | 650 | | | 800 | | |
| | ID DB (°F) | 85 | 80 | 70 | 85 | 80 | 70 | 85 | 80 | 70 |
| | ID WB (°F) | 72 | 67 | 57 | 72 | 67 | 57 | 72 | 67 | 57 |
| 75 | T.C. | 18.3 | 18.1 | 16.5 | 18.4 | 18.2 | 17.2 | 18.4 | 18.3 | 17.8 |
| | S.C. | 10.6 | 10.8 | 10.5 | 11.0 | 11.6 | 11.9 | 11.4 | 12.4 | 13.3 |
| | K.W | 1.55 | 1.55 | 1.53 | 1.71 | 1.71 | 1.69 | 1.68 | 1.67 | 1.66 |
| 85 | T.C. | 17.8 | 17.2 | 15.4 | 18.0 | 17.5 | 16.1 | 18.2 | 17.8 | 16.8 |
| | S.C. | 10.6 | 10.7 | 10.2 | 11.3 | 11.7 | 11.6 | 12.0 | 12.8 | 13.1 |
| | K.W | 1.76 | 1.74 | 0.95 | 1.95 | 1.93 | 1.90 | 1.95 | 1.93 | 1.90 |
| 95 | T.C. | 17.3 | 16.3 | 14.2 | 17.6 | 16.8 | 15.0 | 17.9 | 17.3 | 15.8 |
| | S.C. | 10.6 | 10.5 | 9.8 | 11.6 | 11.8 | 11.4 | 12.5 | 13.1 | 12.9 |
| | K.W | 1.79 | 1.75 | 1.71 | 1.95 | 1.92 | 1.88 | 1.92 | 1.89 | 1.85 |
| 105 | T.C. | 16.0 | 14.7 | 12.6 | 16.5 | 15.3 | 13.3 | 17.0 | 15.9 | 14.1 |
| | S.C. | 10.0 | 10.0 | 9.2 | 11.4 | 11.4 | 10.7 | 12.7 | 12.8 | 12.2 |
| | K.W | 1.99 | 1.94 | 1.90 | 2.19 | 2.14 | 2.09 | 2.19 | 2.14 | 2.09 |
| 115 | T.C. | 14.6 | 13.1 | 11.0 | 15.3 | 13.8 | 11.7 | 16.0 | 14.4 | 12.3 |
| | S.C. | 9.4 | 9.5 | 8.5 | 11.2 | 11.0 | 10.0 | 12.9 | 12.5 | 11.5 |
| | K.W | 2.01 | 1.94 | 1.90 | 2.18 | 2.12 | 2.07 | 2.16 | 2.10 | 2.04 |
| 125 | T.C. | 13.0 | 11.1 | 9.3 | 13.7 | 11.6 | 9.9 | 14.3 | 12.1 | 10.4 |
| | S.C. | 9.4 | 8.5 | 7.8 | 11.1 | 10.0 | 9.2 | 12.7 | 11.5 | 10.6 |
| | K.W | 2.11 | 2.04 | 1.98 | 2.28 | 2.21 | 2.15 | 2.26 | 2.19 | 2.13 |

NOTE: ALL CAPACITIES ARE NET WITH INDOOR FAN HEAT ALREADY DEDUCTED AT 1250 BTUH/1000 CFM.

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.

| Air Handler | Coil | T.C. | S.C. | KW |
|--------------------|-------------|-------------|-------------|-----------|
| N1AHB1293 | G2FD024S17 | 1.00 | 1.00 | 1.00 |
| F2RP024N93 | | 1.00 | 1.00 | 1.00 |

| COOLING PERFORMANCE DATA | | | | | | | | | | |
|--|------------|--------------------|------|------|------|------|------|------|------|------|
| AIR CONDITIONER MODEL NO. | | H1RA024S78A | | | | | | | | |
| INDOOR COIL MODEL NO. | | G2FD030S17 | | | | | | | | |
| CONDENSER ENTERING AIR TEMPERATURE | IDCFM | 650 | | | 850 | | | 1050 | | |
| | ID DB (°F) | 85 | 80 | 70 | 85 | 80 | 70 | 85 | 80 | 70 |
| | ID WB (°F) | 72 | 67 | 57 | 72 | 67 | 57 | 72 | 67 | 57 |
| 75 | T.C. | 26.4 | 25.3 | 24.0 | 26.6 | 25.7 | 24.6 | 26.7 | 26.1 | 25.2 |
| | S.C. | 15.4 | 15.6 | 15.4 | 16.2 | 16.7 | 16.8 | 16.9 | 17.8 | 18.2 |
| | K.W | 2.15 | 2.11 | 2.08 | 2.17 | 2.13 | 2.10 | 2.18 | 2.15 | 2.12 |
| 85 | T.C. | 25.4 | 23.9 | 21.8 | 25.7 | 24.6 | 22.8 | 26.1 | 25.2 | 23.7 |
| | S.C. | 15.3 | 15.1 | 14.4 | 16.4 | 16.6 | 16.2 | 17.4 | 18.2 | 18.1 |
| | K.W | 2.31 | 2.26 | 1.16 | 2.33 | 2.28 | 2.23 | 2.36 | 2.31 | 2.26 |
| 95 | T.C. | 24.4 | 22.5 | 19.6 | 24.9 | 23.4 | 20.9 | 25.4 | 24.3 | 22.2 |
| | S.C. | 15.3 | 14.6 | 13.4 | 16.6 | 16.6 | 15.7 | 17.9 | 18.5 | 17.9 |
| | K.W | 2.47 | 2.40 | 2.31 | 2.50 | 2.44 | 2.35 | 2.53 | 2.47 | 2.39 |
| 105 | T.C. | 22.5 | 20.1 | 17.6 | 23.2 | 21.1 | 18.6 | 23.9 | 22.1 | 19.6 |
| | S.C. | 14.7 | 13.8 | 12.7 | 16.4 | 15.9 | 14.7 | 18.1 | 17.9 | 16.8 |
| | K.W | 2.62 | 2.53 | 2.44 | 2.66 | 2.57 | 2.47 | 2.70 | 2.61 | 2.51 |
| 115 | T.C. | 20.6 | 17.7 | 15.6 | 21.5 | 18.8 | 16.3 | 22.4 | 19.8 | 16.9 |
| | S.C. | 14.2 | 13.0 | 11.9 | 16.3 | 15.2 | 13.8 | 18.3 | 17.3 | 15.6 |
| | K.W | 2.76 | 2.65 | 2.56 | 2.81 | 2.70 | 2.59 | 2.86 | 2.74 | 2.62 |
| 125 | T.C. | 17.8 | 15.2 | 13.3 | 18.7 | 15.9 | 14.0 | 19.5 | 16.7 | 14.7 |
| | S.C. | 13.3 | 12.4 | 11.4 | 15.4 | 14.3 | 13.1 | 17.4 | 16.1 | 14.7 |
| | K.W | 2.89 | 2.78 | 2.69 | 2.94 | 2.82 | 2.72 | 2.99 | 2.85 | 2.75 |

NOTE: ALL CAPACITIES ARE NET WITH INDOOR FAN HEAT ALREADY DEDUCTED AT 1250 BTUH/1000 CFM.

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.

| Air Handler | Coil | T.C. | S.C. | KW |
|-------------|------------|------|------|------|
| N1AHB1293 | G2FD030S17 | 1.00 | 1.00 | 1.00 |
| F2RP024N93 | | 1.00 | 1.00 | 1.00 |

| COOLING PERFORMANCE DATA | | | | | | | | | | |
|--|------------|--------------------|------|------|------|------|------|------|------|------|
| AIR CONDITIONER MODEL NO. | | H1RA030S78A | | | | | | | | |
| INDOOR COIL MODEL NO. | | G2FD030S17 | | | | | | | | |
| CONDENSER ENTERING AIR TEMPERATURE | IDCFM | 650 | | | 850 | | | 1050 | | |
| | ID DB (°F) | 85 | 80 | 70 | 85 | 80 | 70 | 85 | 80 | 70 |
| | ID WB (°F) | 72 | 67 | 57 | 72 | 67 | 57 | 72 | 67 | 57 |
| 75 | T.C. | 26.4 | 25.3 | 24.0 | 26.6 | 25.7 | 24.6 | 26.7 | 26.1 | 25.2 |
| | S.C. | 15.4 | 15.6 | 15.4 | 16.2 | 16.7 | 16.8 | 16.9 | 17.8 | 18.2 |
| | K.W | 2.39 | 2.35 | 2.32 | 2.53 | 2.49 | 2.46 | 2.56 | 2.53 | 2.50 |
| 85 | T.C. | 25.4 | 23.9 | 21.8 | 25.7 | 24.6 | 22.8 | 26.1 | 25.2 | 23.7 |
| | S.C. | 15.3 | 15.1 | 14.4 | 16.4 | 16.6 | 16.2 | 17.4 | 18.2 | 18.1 |
| | K.W | 2.67 | 2.62 | 1.40 | 2.82 | 2.76 | 2.71 | 2.93 | 2.88 | 2.83 |
| 95 | T.C. | 24.4 | 22.5 | 19.6 | 24.9 | 23.4 | 20.9 | 25.4 | 24.3 | 22.2 |
| | S.C. | 15.3 | 14.6 | 13.4 | 16.6 | 16.6 | 15.7 | 17.9 | 18.5 | 17.9 |
| | K.W | 2.71 | 2.64 | 2.55 | 2.86 | 2.80 | 2.71 | 2.91 | 2.85 | 2.77 |
| 105 | T.C. | 22.5 | 20.1 | 17.6 | 23.2 | 21.1 | 18.6 | 23.9 | 22.1 | 19.6 |
| | S.C. | 14.7 | 13.8 | 12.7 | 16.4 | 15.9 | 14.7 | 18.1 | 17.9 | 16.8 |
| | K.W | 2.98 | 2.89 | 2.80 | 3.14 | 3.05 | 2.95 | 3.27 | 3.18 | 3.08 |
| 115 | T.C. | 20.6 | 17.7 | 15.6 | 21.5 | 18.8 | 16.3 | 22.4 | 19.8 | 16.9 |
| | S.C. | 14.2 | 13.0 | 11.9 | 16.3 | 15.2 | 13.8 | 18.3 | 17.3 | 15.6 |
| | K.W | 3.00 | 2.88 | 2.80 | 3.17 | 3.05 | 2.95 | 3.24 | 3.12 | 3.00 |
| 125 | T.C. | 17.8 | 15.2 | 13.3 | 18.7 | 15.9 | 14.0 | 19.5 | 16.7 | 14.7 |
| | S.C. | 13.3 | 12.4 | 11.4 | 15.4 | 14.3 | 13.1 | 17.4 | 16.1 | 14.7 |
| | K.W | 3.13 | 3.02 | 2.93 | 3.30 | 3.18 | 3.08 | 3.37 | 3.23 | 3.13 |

NOTE: ALL CAPACITIES ARE NET WITH INDOOR FAN HEAT ALREADY DEDUCTED AT 1250 BTUH/1000 CFM.

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.

| Air Handler | Coil | T.C. | S.C. | KW |
|-------------|------------|------|------|------|
| N1AHB1293 | G2FD030S17 | 1.00 | 1.00 | 1.00 |
| N1AHB1293 | G2FD036S17 | 1.02 | 1.03 | 1.03 |
| F2RP036N93 | | 1.02 | 1.03 | 1.03 |

| COOLING PERFORMANCE DATA | | | | | | | | | | |
|--|------------|--------------------|------|------|------|------|------|------|------|------|
| AIR CONDITIONER MODEL NO. | | H1RA036S50A | | | | | | | | |
| INDOOR COIL MODEL NO. | | G2FD036S17 | | | | | | | | |
| CONDENSER ENTERING AIR TEMPERATURE | IDCFM | 1100 | | | 1250 | | | 1400 | | |
| | ID DB (°F) | 85 | 80 | 70 | 85 | 80 | 70 | 85 | 80 | 70 |
| | ID WB (°F) | 72 | 67 | 57 | 72 | 67 | 57 | 72 | 67 | 57 |
| 75 | T.C. | 38.6 | 36.0 | 33.4 | 39.0 | 36.4 | 33.9 | 39.4 | 36.8 | 34.3 |
| | S.C. | 26.0 | 25.7 | 25.3 | 25.8 | 26.4 | 27.1 | 25.6 | 27.2 | 28.8 |
| | K.W | 3.20 | 3.12 | 3.04 | 3.30 | 3.34 | 3.38 | 2.99 | 3.15 | 3.31 |
| 85 | T.C. | 36.4 | 33.7 | 31.0 | 36.9 | 34.2 | 31.4 | 37.5 | 34.7 | 31.9 |
| | S.C. | 24.8 | 24.5 | 24.2 | 25.2 | 25.5 | 25.9 | 25.5 | 26.5 | 27.5 |
| | K.W | 3.56 | 3.48 | 1.88 | 3.75 | 3.75 | 3.75 | 3.53 | 3.61 | 3.69 |
| 95 | T.C. | 34.2 | 31.3 | 28.5 | 34.8 | 31.9 | 28.9 | 35.5 | 32.5 | 29.4 |
| | S.C. | 23.6 | 23.3 | 23.0 | 24.5 | 24.6 | 24.7 | 25.4 | 25.9 | 26.3 |
| | K.W | 3.52 | 3.44 | 3.36 | 3.74 | 3.70 | 3.66 | 3.55 | 3.55 | 3.55 |
| 105 | T.C. | 31.9 | 29.0 | 26.0 | 32.8 | 29.6 | 26.5 | 33.6 | 30.3 | 27.0 |
| | S.C. | 22.5 | 22.2 | 21.9 | 23.9 | 23.7 | 23.5 | 25.3 | 25.2 | 25.1 |
| | K.W | 3.88 | 3.80 | 3.72 | 4.19 | 4.11 | 4.03 | 4.09 | 4.01 | 3.93 |
| 115 | T.C. | 29.7 | 26.6 | 23.5 | 30.7 | 27.4 | 24.0 | 31.7 | 28.1 | 24.5 |
| | S.C. | 21.3 | 21.0 | 20.7 | 23.2 | 22.8 | 22.3 | 25.2 | 24.5 | 23.9 |
| | K.W | 3.84 | 3.76 | 3.68 | 4.18 | 4.06 | 3.94 | 4.11 | 3.95 | 3.79 |
| 125 | T.C. | 27.6 | 24.3 | 21.0 | 28.1 | 24.9 | 21.7 | 28.6 | 25.5 | 22.4 |
| | S.C. | 20.6 | 20.0 | 19.4 | 22.7 | 21.6 | 20.5 | 24.8 | 23.2 | 21.7 |
| | K.W | 3.92 | 3.92 | 3.92 | 4.38 | 4.26 | 4.14 | 4.43 | 4.19 | 3.95 |

NOTE: ALL CAPACITIES ARE NET WITH INDOOR FAN HEAT ALREADY DEDUCTED AT 1250 BTUH/1000 CFM.

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.

| Air Handler | Coil | T.C. | S.C. | KW |
|-------------|------------|------|------|------|
| NAHB1293 | G2FD036S17 | 1.00 | 1.00 | 1.00 |
| NAHB1293 | G2FD036S21 | 1.02 | 1.02 | 1.02 |
| NAHC1693 | G2FD042S21 | 1.04 | 1.04 | 1.03 |
| F2RP036N93 | | 1.02 | 1.02 | 1.02 |

| COOLING PERFORMANCE DATA | | | | | | | | | | |
|--|------------|--------------------|------|------|------|------|------|------|------|------|
| AIR CONDITIONER MODEL NO. | | H1RA036S78A | | | | | | | | |
| INDOOR COIL MODEL NO. | | G2FD036S17 | | | | | | | | |
| CONDENSER ENTERING AIR TEMPERATURE | IDCFM | 1050 | | | 1250 | | | 1450 | | |
| | ID DB (°F) | 85 | 80 | 70 | 85 | 80 | 70 | 85 | 80 | 70 |
| | ID WB (°F) | 72 | 67 | 57 | 72 | 67 | 57 | 72 | 67 | 57 |
| 75 | T.C. | 38.7 | 36.8 | 35.0 | 39.1 | 34.7 | 35.6 | 39.4 | 32.5 | 36.2 |
| | S.C. | 23.4 | 23.5 | 23.4 | 24.4 | 24.8 | 24.8 | 25.4 | 26.1 | 26.2 |
| | K.W | 3.30 | 3.25 | 3.21 | 3.59 | 3.54 | 3.50 | 3.48 | 3.43 | 3.39 |
| 85 | T.C. | 37.4 | 34.8 | 31.9 | 37.7 | 34.1 | 32.6 | 38.1 | 33.4 | 33.4 |
| | S.C. | 23.5 | 24.0 | 22.2 | 24.7 | 25.2 | 23.9 | 25.9 | 26.4 | 25.5 |
| | K.W | 3.74 | 3.65 | 1.95 | 4.06 | 4.00 | 3.90 | 4.00 | 3.94 | 3.84 |
| 95 | T.C. | 36.0 | 32.7 | 28.7 | 36.4 | 33.5 | 29.6 | 36.7 | 34.3 | 30.5 |
| | S.C. | 23.6 | 24.5 | 21.0 | 25.0 | 25.6 | 22.9 | 26.4 | 26.7 | 24.8 |
| | K.W | 3.80 | 3.67 | 3.51 | 4.09 | 3.99 | 3.83 | 3.99 | 3.92 | 3.76 |
| 105 | T.C. | 32.6 | 29.1 | 25.5 | 33.2 | 29.9 | 26.3 | 33.9 | 30.7 | 27.2 |
| | S.C. | 22.6 | 22.1 | 19.6 | 24.3 | 23.6 | 21.5 | 26.1 | 25.2 | 23.3 |
| | K.W | 4.17 | 4.00 | 3.85 | 4.53 | 4.36 | 4.21 | 4.49 | 4.32 | 4.17 |
| 115 | T.C. | 29.2 | 25.5 | 22.3 | 30.1 | 26.3 | 23.1 | 31.0 | 27.0 | 23.8 |
| | S.C. | 21.5 | 19.6 | 18.2 | 23.6 | 21.6 | 20.0 | 25.7 | 23.6 | 21.8 |
| | K.W | 4.16 | 3.95 | 3.81 | 4.50 | 4.27 | 4.12 | 4.45 | 4.19 | 4.04 |
| 125 | T.C. | 25.5 | 22.4 | 19.6 | 26.2 | 22.8 | 20.0 | 26.9 | 23.1 | 20.4 |
| | S.C. | 20.3 | 18.8 | 17.4 | 22.3 | 20.5 | 18.9 | 24.3 | 22.2 | 20.3 |
| | K.W | 4.29 | 4.12 | 3.99 | 4.65 | 4.43 | 4.29 | 4.61 | 4.35 | 4.20 |

NOTE: ALL CAPACITIES ARE NET WITH INDOOR FAN HEAT ALREADY DEDUCTED AT 1250 BTUH/1000 CFM.

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.

| Air Handler | Coil | T.C. | S.C. | KW |
|--------------------|-------------|-------------|-------------|-----------|
| N1AHB1293 | G2FD036S17 | 1.00 | 1.00 | 1.00 |
| F2RP036N93 | | 1.02 | 1.02 | 1.01 |

| COOLING PERFORMANCE DATA | | | | | | | | | | |
|--|------------|--------------------|------|------|------|------|------|------|------|------|
| AIR CONDITIONER MODEL NO. | | H1RA048S50A | | | | | | | | |
| INDOOR COIL MODEL NO. | | G2FD048S21 | | | | | | | | |
| CONDENSER ENTERING AIR TEMPERATURE | IDCFM | 1400 | | | 1450 | | | 1500 | | |
| | ID DB (°F) | 85 | 80 | 70 | 85 | 80 | 70 | 85 | 80 | 70 |
| | ID WB (°F) | 72 | 67 | 57 | 72 | 67 | 57 | 72 | 67 | 57 |
| 75 | T.C. | 66.1 | 57.0 | 47.9 | 63.5 | 55.8 | 48.1 | 61.0 | 54.6 | 48.3 |
| | S.C. | 34.2 | 34.3 | 34.3 | 34.7 | 35.1 | 35.6 | 35.1 | 36.0 | 36.8 |
| | K.W | 4.49 | 4.83 | 4.70 | 4.99 | 5.09 | 4.96 | 4.98 | 4.84 | 4.70 |
| 85 | T.C. | 58.8 | 51.6 | 44.5 | 57.7 | 51.2 | 44.7 | 56.5 | 50.8 | 45.0 |
| | S.C. | 33.2 | 33.1 | 32.9 | 33.9 | 34.0 | 34.1 | 34.6 | 34.9 | 35.2 |
| | K.W | 4.93 | 5.03 | 4.80 | 5.60 | 5.57 | 5.42 | 5.50 | 5.34 | 5.18 |
| 95 | T.C. | 51.5 | 46.3 | 41.1 | 51.8 | 46.6 | 41.4 | 52.1 | 46.9 | 41.7 |
| | S.C. | 32.1 | 31.9 | 31.6 | 33.1 | 32.9 | 32.6 | 34.1 | 33.8 | 33.6 |
| | K.W | 5.36 | 5.22 | 5.08 | 5.67 | 5.51 | 5.35 | 5.47 | 5.29 | 5.11 |
| 105 | T.C. | 44.2 | 40.9 | 37.7 | 45.9 | 42.0 | 38.0 | 47.6 | 43.0 | 38.4 |
| | S.C. | 31.1 | 30.7 | 30.2 | 32.4 | 31.7 | 31.1 | 33.6 | 32.8 | 32.0 |
| | K.W | 5.82 | 5.67 | 5.53 | 6.16 | 5.99 | 5.81 | 5.99 | 5.79 | 5.59 |
| 115 | T.C. | 36.9 | 35.6 | 34.3 | 40.0 | 37.4 | 34.7 | 43.1 | 39.1 | 35.1 |
| | S.C. | 30.1 | 29.5 | 28.9 | 31.6 | 30.6 | 29.6 | 33.1 | 31.7 | 30.3 |
| | K.W | 5.76 | 5.61 | 5.46 | 6.12 | 5.93 | 5.75 | 5.96 | 5.74 | 5.52 |
| 125 | T.C. | 39.5 | 35.3 | 31.1 | 39.6 | 35.4 | 31.3 | 39.7 | 35.6 | 31.6 |
| | S.C. | 28.2 | 27.9 | 27.5 | 27.1 | 28.8 | 30.5 | 25.9 | 29.7 | 33.6 |
| | K.W | 6.11 | 5.93 | 5.75 | 6.43 | 6.23 | 6.03 | 6.23 | 6.01 | 5.79 |

NOTE: ALL CAPACITIES ARE NET WITH INDOOR FAN HEAT ALREADY DEDUCTED AT 1250 BTUH/1000 CFM.

Multipliers for determining the performance with other indoor sections.

NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.

| Air Handler | Coil | T.C. | S.C. | KW |
|-------------|------------|------|------|------|
| NAHC1693 | G2FD048S21 | 1.00 | 1.00 | 1.00 |
| F2RP048N93 | | 1.00 | 1.00 | 1.00 |

| COOLING PERFORMANCE DATA | | | | | | | | | | |
|--|------------|--------------------|------|------|------|------|------|------|------|------|
| AIR CONDITIONER MODEL NO. | | H1RA060S50A | | | | | | | | |
| INDOOR COIL MODEL NO. | | G*FD060S24A | | | | | | | | |
| CONDENSER ENTERING AIR TEMPERATURE | IDCFM | 1650 | | | 1900 | | | 2150 | | |
| | ID DB (°F) | 85 | 80 | 70 | 85 | 80 | 70 | 85 | 80 | 70 |
| | ID WB (°F) | 72 | 67 | 57 | 72 | 67 | 57 | 72 | 67 | 57 |
| 75 | T.C. | 65.0 | 62.4 | 59.6 | 65.8 | 62.8 | 60.0 | 66.6 | 63.3 | 60.5 |
| | S.C. | 41.8 | 41.5 | 41.0 | 44.7 | 44.0 | 43.6 | 47.5 | 46.5 | 46.1 |
| | K.W | 5.40 | 5.36 | 5.28 | 5.81 | 5.76 | 5.69 | 5.62 | 5.56 | 5.50 |
| 85 | T.C. | 63.9 | 60.7 | 56.5 | 64.7 | 61.4 | 57.5 | 65.4 | 62.1 | 58.5 |
| | S.C. | 41.8 | 41.1 | 39.8 | 44.7 | 43.7 | 42.5 | 47.5 | 46.4 | 45.3 |
| | K.W | 6.11 | 6.04 | 5.91 | 6.57 | 6.49 | 6.38 | 4.41 | 4.34 | 4.27 |
| 95 | T.C. | 62.8 | 59.1 | 53.5 | 63.5 | 60.0 | 55.0 | 64.3 | 60.8 | 56.5 |
| | S.C. | 41.8 | 40.7 | 38.6 | 44.6 | 43.5 | 41.5 | 47.5 | 46.2 | 44.4 |
| | K.W | 6.21 | 6.12 | 5.94 | 6.63 | 6.53 | 6.39 | 6.45 | 6.33 | 6.23 |
| 105 | T.C. | 60.6 | 55.3 | 49.3 | 61.5 | 56.6 | 50.7 | 62.4 | 58.0 | 52.2 |
| | S.C. | 40.9 | 39.4 | 36.8 | 44.0 | 42.4 | 39.8 | 47.1 | 45.3 | 42.9 |
| | K.W | 6.92 | 6.74 | 6.57 | 7.38 | 7.22 | 7.05 | 7.24 | 7.10 | 6.93 |
| 115 | T.C. | 58.5 | 51.5 | 45.1 | 59.6 | 53.3 | 46.5 | 60.6 | 55.1 | 47.9 |
| | S.C. | 40.1 | 38.2 | 35.0 | 43.4 | 41.3 | 38.2 | 46.8 | 44.4 | 41.4 |
| | K.W | 7.03 | 6.76 | 6.59 | 7.44 | 7.22 | 7.02 | 7.25 | 7.08 | 6.84 |
| 125 | T.C. | 52.9 | 47.7 | 40.4 | 54.2 | 48.5 | 41.9 | 55.5 | 49.4 | 43.5 |
| | S.C. | 38.7 | 36.7 | 32.8 | 42.0 | 39.4 | 35.8 | 45.4 | 42.1 | 38.9 |
| | K.W | 7.31 | 7.09 | 6.84 | 7.78 | 7.53 | 7.29 | 7.64 | 7.36 | 7.13 |

NOTE: ALL CAPACITIES ARE NET WITH INDOOR FAN HEAT ALREADY DEDUCTED AT 1250 BTUH/1000 CFM.

Multipliers for determining the performance with other indoor sections.

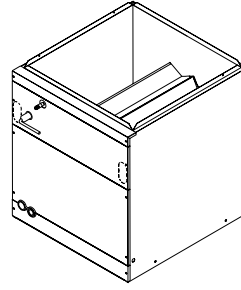
NOTE: For dry bulb temperatures different than those listed (between 73-87 F), sensible capacity increases by 1060 BTUH per 1000 CFM per degree above the listed temperature and decreases by 1060 BTUH per 1000 CFM per degree below the listed temperature.

| Air Handler | Coil | T.C. | S.C. | KW |
|--------------------|-------------|-------------|-------------|-----------|
| NAHD2093 | G2FD060S24 | 1.00 | 1.00 | 1.00 |
| F2RP060N93 | | 1.00 | 1.00 | 1.00 |

MATCHING INDOOR COMPONENTS

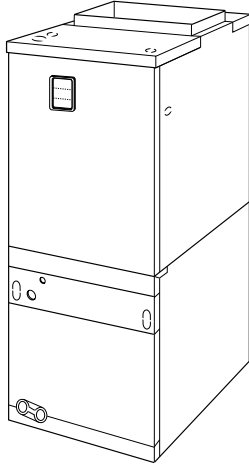
ADD-ON COILS - FOR FURNACE APPLICATION

G2FD*
MULTI-POSITION
(UPFLOW, HORIZONTAL
AND DOWNFLOW)



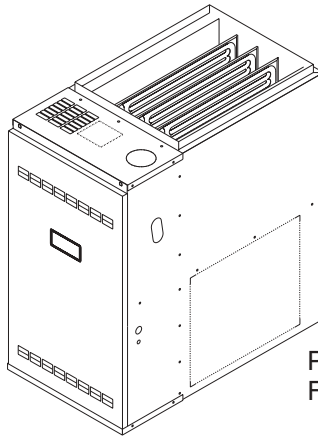
AIR HANDLERS

N1AH
MODULAR
BLOWER

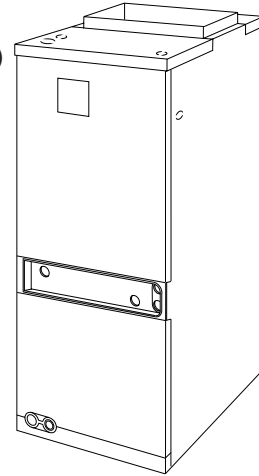


G2FD*
COIL

F2RP
FAN COIL UNITS
(UPFLOW, HORIZONTAL)



P6UH
FURNACE



NOTES

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036-21103-003 Rev. A (0403)
Supersedes: 036-21103-002 Rev. A (1101)

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**5005
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73069**