

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0512939

Insp Area: 4

Thos Bros: 277E6

Site Address: 2441 NORTHGATE BL SAC

Parcel No: 274-0110-044

Sub-Type: COM

Housing (Y/N): N

CONTRACTOR

ROYCE AIR HEATING AND AIR
1400 PLUMBER WAY SUITE 300
ROSEVILLE CA 95678-1919

OWNER

KEN ROYCE MARITAL TRUST
1050 NORTHPOINT ST
SAN FRANCISCO, CA 94109

ARCHITECT

Nature of Work: C/O ROOF MOUNTED HVAC ABOVE FURNITURE STORE

CONSTRUCTION LENDING AGENCY : I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender's Address _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class C20 License Number 608764 Date 8/24/05 Contractor Signature Jessica Joachim

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. _____ B & PC for this reason: _____

Date _____ Owner Signature _____

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 8/24/05 Applicant/Agent Signature Jessica Joachim

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier ASSURANCE COMPANY OF AMERICA Policy Number SCP39713582 Exp Date 04/01/2006

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 8/24/05 Applicant Signature Jessica Joachim

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

036-21335-003-A-0204

YORK[®] CITY COPY

TECHNICAL GUIDE
SPLIT-SYSTEM AIR-COOLED
EVAPORATOR BLOWER
25, 30, 40 & 50 TON
LA300, LB360, 480 & 600

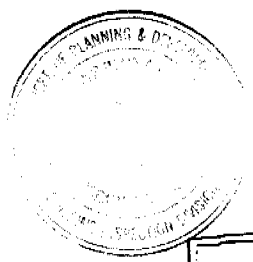
PROVEN PERFORMANCE

GENERAL

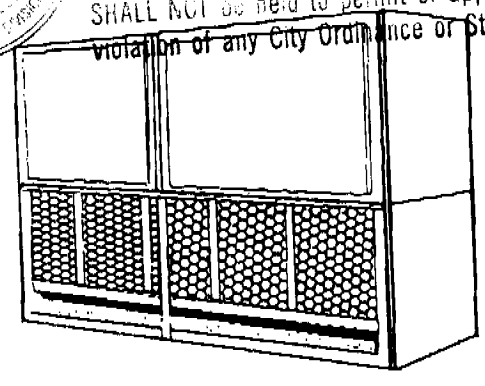
The LA/LB line is a flexible performer. LA300, LB360 & 480 can be positioned in up to 12 different positions and suspended in various positions. The LB600 can be positioned in up to 7 different arrangements and suspended also. The LA/LB line will give you the power to condition large amounts of building space and the ability to conform to almost any situation.

FEATURING

- EASE OF SERVICE
- PUMP-OUT ON START-UP
- BASE SECTIONS (25, 30 & 40 Ton only)
- SUSPENSION PACKAGES
- HOT WATER COILS
- STEAM COILS (LA300 & LB360 only)
- WIDE RANGE OF BLOWER MOTORS
- A VARIETY OF DRIVE PACKAGES
- CONTROL BOX WITH LOW VOLTAGE TRANSFORMER AND MOTOR STARTER (motor, motor drive kit and motor overloads sold separately).



This set of plans and specifications must be kept as a permanent record of the project. The specifications of this unit specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.



The approval of all Plumbing and Mechanical work is subject to field inspection
RSB by [signature]

PROVIDE AIR BALANCE REPORT FOR FINAL MECHANICAL INSPECTION



APPROVED PER 2002
NATIONAL ELECTRICAL CODE
AND CITY OF SACRAMENTO
AMENDMENTS
9-29-05 [signature]
ELECTRICAL DIVISION



ISSUED
City of Sacramento
OCT 17 2005
NORTH PERMIT
CENTER

FOR DISTRIBUTION USE ONLY - NOT TO BE USED AT POINT OF RETAIL SALE

FOR ALL ELECTRICAL WORK
SEE THE FIELD WORKERS.

ATTN CARLA

12000

036-21335-003-A-0204

TABLE 3: CORNER WEIGHTS

| UNIT-MODEL | Unit Weight | | Configuration | A | B | C | D |
|------------|-------------|-----------|---------------|-----|-----|-----|-----|
| | Shipping | Operation | | | | | |
| LA300 | 1180 | 1125 | HORIZONTAL | 278 | 317 | 285 | 247 |
| | | | VERTICAL | 262 | 301 | 301 | 282 |
| LB360 | 1180 | 1146 | HORIZONTAL | 281 | 323 | 290 | 252 |
| | | | VERTICAL | 286 | 307 | 307 | 288 |
| LB480 | 1610 | 1428 | HORIZONTAL | 348 | 414 | 381 | 303 |
| | | | VERTICAL | 292 | 348 | 427 | 359 |
| LB600 | 1572 | 1640 | HORIZONTAL | 451 | 386 | 370 | 433 |
| | | | VERTICAL | 484 | 414 | 342 | 400 |

TABLE 4: ACCESSORY OPERATING WEIGHT DISTRIBUTION (LBS)¹

| ACCESSORY | LA300 | LB360 | LB480 | LB600 |
|-------------------|-------|-------|-------|-------|
| BASE ² | 25 | 25 | 30 | 45 |
| HOT WATER COIL | 35 | 35 | 45 | 35 |
| STEAM COIL 1 ROW | 30 | 30 | 35 | 50 |

1. These weights should be added to each point load in table 3.
2. This accessory can only be applied on units installed in the vertical position.

TABLE 5: UNIT BLOWER MOTOR DATA

| UNIT MODEL | HP | MOTOR KIT MODEL NUMBER | FRAMESIZE | VOLTAGE (3PH-60HZ) |
|-------------|-------------|------------------------|-------------|--------------------|
| LA300 | 5 | 2LR04805032 | 184 | 230/460 |
| | | 2LR04805023 | | 208 |
| | | 2LP04605158 | | 575 |
| | 7.5 | 2LP04607133 | 213 | 230/460 |
| | | 2LP04607158 | | 575 |
| | | 2LR04805032 | | 184 |
| 5 | 2LR04805023 | 208 | | |
| | 2LR04805158 | 575 | | |
| | LB360 | 7.5 | 2LP04607133 | 213 |
| 2LP04607158 | | | 575 | |
| 10 | | 2LP04610133 | 215 | 208/230/460 |
| | | 2LP04610158 | | 575 |
| LB480 | 7.5 | 2LP04607133 | 213 | 208/230/460 |
| | | 2LP04607158 | | 575 |
| | 10 | 2LP04610133 | 215 | 208/230/460 |
| | | 2LP04610158 | | 575 |
| LB600 | 10 | 2LP04610133 | 215 | 208/230/460 |
| | | 2LP04610158 | | 575 |
| | 15 | 2LP04615133 | 254 | 208/230/460 |
| | | 2LP04615158 | | 575 |

TABLE 6: UNIT DRIVE DATA

| UNIT MODEL | DRIVE KIT MODEL NUMBER | BLOWER RPM RANGE | ADJUSTABLE MOTOR PULLEY | | FIXED BLOWER PULLEY | | BELTS | | |
|------------|------------------------|------------------|-------------------------|------------|---------------------|------------|-------|--------------------|-------------|
| | | | PITCH DIA. (IN.) | BORE (IN.) | PITCH DIA. (IN.) | BORE (IN.) | QTY. | PITCH LENGTH (IN.) | DESIGNATION |
| LA300 | 1LD0440 | 600 - 750 | 4.0 - 5.0 | 1 1/8 | 12.0 | 1 3/16 | 2 | 63.3 | A62 |
| | 1LD0407 | 700 - 850 | 4.2 - 5.2 | 1 3/8 | 11.0 | 1 3/16 | 2 | 63.3 | A62 |
| | 1LD0442 | 780 - 840 | 5.3 - 6.3 | 1 3/8 | 12.0 | 1 3/16 | 2 | 63.3 | A62 |
| LB380 | 1LD0415 | 636 - 795 | 4.0 - 5.0 | 1 1/8 | 11.0 | 1 3/16 | 2 | 63.3 | A62 |
| | 1LD0407 | 868 - 827 | 4.2 - 5.2 | 1 3/8 | 11.0 | 1 3/16 | 2 | 59.7 | A59 |
| | 1LD0408 | 827 - 988 | 5.3 - 6.3 | 1 3/8 | 11.0 | 1 3/16 | 2 | 65.1 | B64 |
| LB480 | 1LD0409 | 807 - 778 | 4.3 - 5.5 | 1 3/8 | 12.4 | 1 3/16 | 2 | 66.8 | B85 |
| | 1LD0410 | 778 - 917 | 5.4 - 6.8 | 1 3/8 | 12.4 | 1 3/16 | 2 | 78.6 | B78 |
| LB600 | 1LD0411 | 692 - 833 | 4.8 - 6.0 | 1 3/8 | 12.4 | 1 3/16 | 2 | 76.8 | B75 |
| | 1LD0412 | 762 - 931 | 5.4 - 6.6 | 1 5/8 | 12.4 | 1 3/16 | 2 | | |

TABLE 7: MOTOR OVERLOAD ELEMENTS¹

| MOTOR HP | VOLTAGE | MODEL NUMBER |
|----------|---------|--------------|
| 5 | 208 | 2MP04704800 |
| | 230 | 2MP04704600 |
| | 460 | 2MP04704900 |
| | 575 | 2MP04705000 |
| 7.5 | 208 | 2MP04703700 |
| | 230 | 2MP04704500 |
| | 460 | 2MP04704300 |
| | 575 | 2MP04704000 |
| 10 | 208 | 2MP04701600 |
| | 230 | 2MP04704100 |
| | 460 | 2MP04704200 |
| | 575 | 2MP04704300 |
| 15 | 208 | 2MP04704400 |
| | 230 | 2MP04701700 |
| | 460 | 2MP04704500 |
| | 575 | 2MP04704800 |

¹ These units are equipped from the factory with a correctly sized motor starter; overload elements are not factory supplied.

Note: Three elements required per unit.

▲ CAUTION

Do not operate the supply air blower motor above its nominal HP rating when a unit is equipped with a hot water coil accessory. Do not use steam in hot water coils.

▲ CAUTION

Do not operate the supply air blower above its nominal HP rating when a unit is equipped with a steam coil accessory.

Although these coils are suitable for a much higher pressure, steam above 25 psig provides too much heat that could damage the blower motor.

THE APPROVAL OF ALL ELECTRICAL WORK IS SUBJECT TO FIELD INSPECTIONS.

2441 NORTHGATE JOB

036-21335-003-A-0204

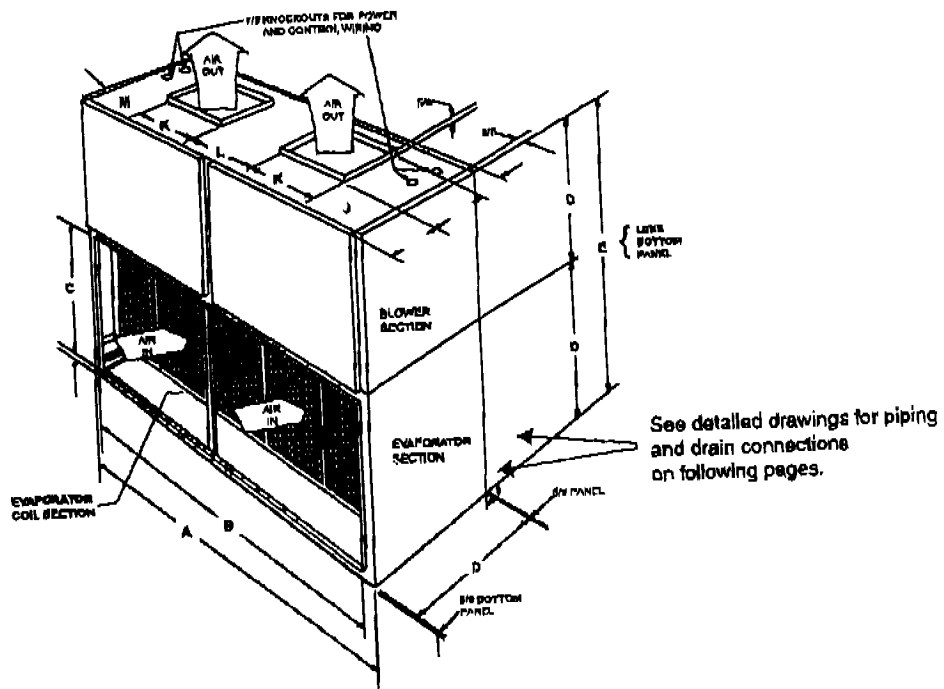


FIGURE 5 - UNIT DIMENSIONS - LA300, LB360 & LB480

TABLE 12: UNIT DIMENSIONS - LA300, LB360, LB480

| MODEL | A | B | C | D | E | F | G | H | J | K | L | M |
|-------|---------|--------|--------|--------|--------|-------|--------|--------|----------|--------|----|----------|
| LA300 | 100-1/8 | 96-5/8 | 33-1/4 | 38-5/8 | 74 | 2-1/2 | 18-7/8 | 16-1/2 | 15-13/16 | 21-7/8 | 18 | 22-8/16 |
| LB360 | 100-1/8 | 95-5/8 | 33-1/4 | 38-5/8 | 74 | 2-1/2 | 18-7/8 | 16-1/2 | 15-13/16 | 21-7/8 | 18 | 22-9/16 |
| LB480 | 103-1/8 | 95-5/8 | 40-5/8 | 44 | 88-5/8 | 2-1/2 | 18-7/8 | 23-7/8 | 20-11/16 | 21-7/8 | 18 | 22-11/16 |

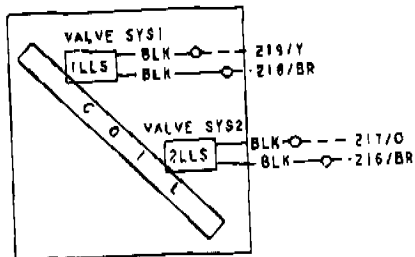


FIGURE 6 - 25 TON LIQUID LINE SOLENOID WIRING

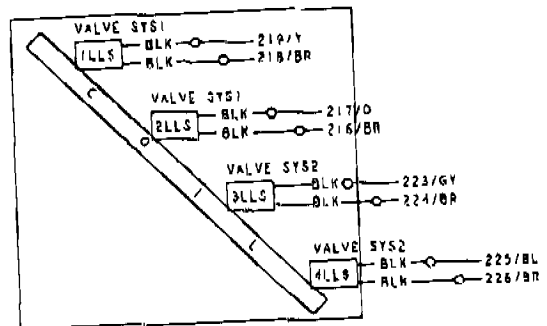


FIGURE 7 - 30, 40 & 50 TON LIQUID LINE SOLENOID WIRING

036-21335-003-A-0204

TABLE 17: PHYSICAL DATA

| DESCRIPTION | | MODEL | | | | |
|------------------|---------------------------------|----------------|-------------|-------------|------------|-----|
| | | LA300 | LB360 | LB480 | LB600 | |
| COMPONENT WEIGHT | Basic Unit (Less Motor & Drive) | 980 | 980 | 1280 | 1474 | |
| | Shipping Weight (lbs) | 1180 | 1180 | 1510 | 1572 | |
| | Operating Weight (lbs) | 1125 | 1146 | 1426 | 1640 | |
| | Accessories | Hot Water Coil | 150 | 150 | 190 | 190 |
| | | Steam Coil | 160 | 160 | - | - |
| | Blower Motor (1750 RPM) | | 117 (5hp) | 117 (5hp) | - | - |
| | | 120 (7.5hp) | 120 (7.5hp) | 120 (7.5hp) | 141 (10hp) | |
| | | - | 141 (10hp) | 141 (10hp) | 217 (15hp) | |

REMOVAL OF THE UNIT FROM THE
 SYSTEM IS REQUIRED FOR REPAIRS.

ATTN CARL

036-21335-003-A-0204

INDOOR

TABLE 18: ELECTRICAL DATA

| UNIT MODEL | HP | FLA | VOLTAGE (3PH-60HZ) | MIN. CIRCUIT AMPACITY | MAX. FUSE SIZE (Amps) |
|------------|-----|------|-----------------------|-----------------------|--------------------------|
| LA300 | 5 | 16.7 | 208 | 21 | 35 |
| | | 15.2 | 230 | 19 | 30 |
| | | 7.6 | 480 | 10 | 15 |
| | | 6.1 | 575 | 8 | 15 |
| | 7.5 | 24.2 | 208 | 30 | 50 |
| | | 22 | 230 | 28 | 45 |
| | | 11 | 480 | 14 | 20 |
| | | 9 | 575 | 11 | 20 |
| LB360 | 5.0 | 16.7 | 208 | 21 | 35 |
| | | 15.2 | 230 | 19 | 30 |
| | | 7.8 | 480 | 10 | 15 |
| | | 6.1 | 575 | 8 | 15 |
| | 7.5 | 24.2 | 208 | 30 | 50 |
| | | 22 | 230 | 28 | 45 |
| | | 11 | 480 | 14 | 20 |
| | | 9 | 575 | 11 | 20 |
| | 10 | 30.8 | 208 | 39 | 60 |
| | | 28 | 230 | 35 | 60 |
| | | 14 | 480 | 18 | 30 |
| | | 11 | 575 | 14 | 20 |
| LB480 | 7.5 | 24.2 | 208 | 30 | 50 |
| | | 22 | 230 | 28 | 45 |
| | | 11 | 480 | 14 | 20 |
| | | 9 | 575 | 11 | 20 |
| | 10 | 30.8 | 208 | 39 | 60 |
| | | 28 | 230 | 35 | 60 |
| | | 14 | 480 | 18 | 30 |
| | | 11 | 575 | 14 | 20 |
| LB600 | 10 | 30.8 | 208 | 39 | 60 |
| | | 28 | 230 | 35 | 60 |
| | | 14 | 480 | 18 | 30 |
| | | 11 | 575 | 14 | 20 |
| | 15 | 48.2 | 208 | 58 | 100 |
| | | 42 | 230 | 53 | 90 |
| | | 21 | 480 | 26 | 45 |
| | | 17 | 575 | 21 | 35 |

→ LB480
→

THE APPROVAL OF ALL ELECTRICAL WORK IS SUBJECT TO FIELD INSPECTIONS.

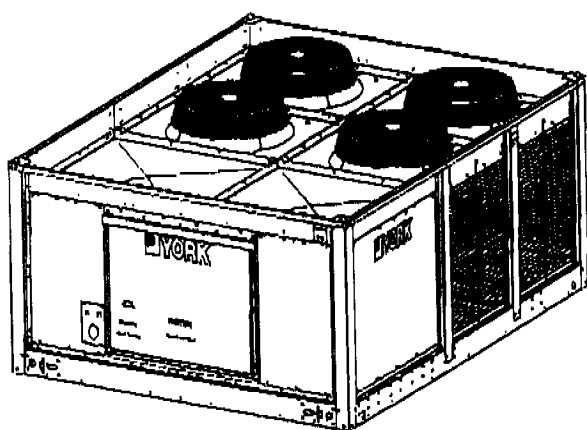


Heating and Air Conditioning

TECHNICAL GUIDE

SPLIT-SYSTEM AIR-COOLED CONDENSING UNITS

HA300, HB360, HB480 & HB600
25 THRU 50 NOMINAL TONS



ISO 9001
Certified Quality
Management System

DESCRIPTION

These units are completely assembled, piped and wired at the factory to provide one-piece shipment and rigging. Each unit is pressurized with a holding charge of Refrigerant-22 for storage and/or shipping.

The compact design, clean styling, low silhouette, and quiet operation make these condensing units suitable for almost any outdoor location. On rooftops . . . because they weigh much less than a single package unit of similar capacity and are much easier to rig and support. At ground level . . . because their ample sub-cooling capacity allows them to be located three or more stories below the evaporator coil.

Every condenser coil is pressurized with air to 325 psig and leak tested under water. After assembly, the unit is pressurized with a combination of Refrigerant-22 and nitrogen to 450 psig for pressure testing and additional leak testing. During this pressure test, the operation of the high pressure control is checked. As the unit is being evacuated and dehydrated, the operation of the low pressure control is checked. Every compressor, condenser fan motor, crankcase heater, and electrical control circuit is checked to assure a trouble-free start-up and years of reliable operation.

The condenser fan guards are vinyl-coated to provide additional rust protection and to enhance the appearance of the unit.

Compressors are mounted on rubber isolators to reduce the transmission of vibration. Vertical discharge condenser fans direct sound upward and away from any surrounding structures.

All sheet metal parts are constructed of commercial grade (G90) galvanized steel. After fabrication, each part is thoroughly cleaned to remove any grease or dirt from its surfaces. The external parts are coated with a powder paint to assure a quality finish for many years. This UL approved coating system has passed the 1000 hour, 20% salt spray test per ASTM Standard B117.

All models include a 1-year limited warranty on the complete unit. An additional 4-year extended compressor warranty is available as an option on all models.

A matching line of Evaporator Blower units is also offered to meet your precise capacity and air handling requirements.

FEATURES

- Meets or exceeds ASHRAE 90.1 standards.
- Scroll compressors provide both high efficiency and reliability.
- Simplicity[®] Controls
- Dual refrigerant circuits on HB models.
- Condenser coils are constructed of copper tubes and aluminum fins for durability and long lasting efficient operation.
- Crankcase heaters that will be de-energized when the compressor is operating.
- Both high and low pressure controls. Since these controls are self-contained, there are no capillary lines to be damaged.
- Solid state or internal line break compressor motor protection.
- Class 2, 24-volt thermostat control circuit.

036-21328-003-C-1004

TABLE 2: PHYSICAL DATA

| Model HA/HB | Compressor* | | Condenser | | | | | | | | | | Unit Weight (Lbs.) | | Charge, R-22 | | | | | | |
|----------------|-------------------------------|--------------------|-----------------|------|---------------|-------------|-----------|------|-------------------------------------|--------------|------------------------|---------------------|-----------------------|----------------|--------------------------------------|-------------------|---------------------|------|------|-------|-----|
| | | | Fan (Propeller) | | | | Fan Motor | | Coil (Copper Tube-Aluminum Fin) | | | | Shp- ping | Opera- tion | Operation [‡] (Lbs.-Oz.) | Holding (Lbs.) | | | | | |
| | Nominal Capacity (tons) | Capacity Stages | Qty. | Dia. | Pitch Deg. | Nom. CFM | RPM | HP | Face Area (Ft. [†]) | Rows Deep | Coil Width (In.) | Tube OD (In.) | | | | | Fins per inch | | | | |
| 300 | 25 | 2 | 4 | 24 | 34 | 23244 | 1140 | 1.25 | 50 | 2 | 80 | 3/8 | 16 | 1608 | 1658 | 49.65 | 1.0 | | | | |
| 360 | | | | | | | | | | | | | | | | | | | | | |
| System 1 | 15 | 2 | 2 | 24 | 36 | 12890 | | 1.25 | 25 | | 80 | | | | | | | 1730 | 1790 | 30.08 | 1.0 |
| System 2 | 15 | 2 | 2 | 24 | 36 | 12690 | | 1.25 | 25 | | 60 | | | | | | | | | 30.08 | |
| → 480 | | | | | | | | | | | | | | | | | | | | | |
| System 1 | 20 | 2 | 2 | 30 | 22 | 15414 | | 1.50 | 32.5 | | 78 | | | | | | | 1961 | 2037 | 37.83 | 1.0 |
| System 2 | 20 | 2 | 2 | 30 | 22 | 15414 | | 1.50 | 32.5 | | 78 | | | | | | | | | 37.83 | |
| 600 | | | | | | | | | | | | | | | | | | | | | |
| System 1 | 25 | 2 | 2 | 30 | 26 | 19388 | | 1.50 | 62 | | 78 | | | | | | | 2470 | 2583 | 46.59 | 1.0 |
| System 2 | 25 | 2 | 2 | 30 | 26 | 19386 | | 1.50 | 52 | | 78 | | | | | | | | | 46.59 | |

* All compressors are Scrolls.

† One of the fan motors is controlled by a pressure switch and will not operate until system pressure reaches 280 psig and drops below 180 psig.

‡ The total operating charge of the condensing unit, matching indoor unit and 25 feet of interconnecting piping.

TABLE 3: UNIT APPLICATION DATA

| | | |
|--|--|---------|
| Voltage Variation [*] Min. / Max. | 208/230-3-60 | 187/252 |
| | 480-3-60 | 432/504 |
| | 575-3-60 | 540/630 |
| Ambient Air on Condenser Coil Min. /Max. | 40°F/125°F† | |
| Suction Pressure at Compressor and Corresponding Temp. at Saturation Min. / Max. | 57.5 psig / 92.6 psig 32.0 °F / 55.0 °F | |

* Utilization range "A" in accordance with ARI Standard 110.

† These units can operate in an ambient temperature of 125°F providing the wet bulb temperature of the air entering the evaporator coil does not exceed 67°F.

NOTE: Unit can operate to 0°F if equipped with a low ambient kit. See product Price Pages for correct Low Ambient Kit.

036-21328-003-C-1D04

TABLE 4: ELECTRICAL DATA

| Unit Model Designation | Compressor | | | | Fan Motor | | | | Unit Ampacity (Amps) | Max. Fuse Size (Amps) | Min. Disconnect Size | |
|------------------------|--------------|--------------|------------|------------|--------------|--------------|------|------------|----------------------|-----------------------|----------------------|-----|
| | Power Supply | Qty. | RLA (each) | LRA (each) | Power Supply | HP | Qty. | FLA (each) | | | | |
| HA300 | 2 | 208/230-3-60 | 2 | 47.1 | 350.0 | 208/230-3-60 | 1.25 | 4 | 4.5/4.3 | 124.8 | 150 | 150 |
| | 4 | 460-3-60 | 2 | 25.0 | 158.0 | 460-3-60 | 1.25 | 4 | 2.15 | 64.9 | 80 | 70 |
| | 5 | 575-3-60 | 2 | 19.9 | 125.0 | 575-3-60 | 1.25 | 4 | 1.7 | 51.6 | 70 | 60 |
| | 7 | 380/415-3-50 | 2 | 25.0 | 158.0 | 380/415-3-50 | 1.50 | 4 | 2.6/2.5 | 66.7 | 90 | 70 |
| HB360 | 2 | 208/230-3-60 | 4 | 32.1 | 195.0 | 208/230-3-60 | 1.25 | 4 | 4.5/4.3 | 154.4 | 175 | 175 |
| | 4 | 460-3-60 | 4 | 16.4 | 95.0 | 460-3-60 | 1.25 | 4 | 2.15 | 78.3 | 90 | 90 |
| | 5 | 575-3-60 | 4 | 12.1 | 80.0 | 575-3-60 | 1.25 | 4 | 1.7 | 58.2 | 70 | 70 |
| | 7 | 380/415-3-50 | 4 | 16.4 | 95.0 | 380/415-3-50 | 1.50 | 4 | 2.6/2.5 | 60.1 | 90 | 90 |
| HB480 | 2 | 208/230-3-60 | 4 | 42.0 | 239.0 | 208/230-3-60 | 1.50 | 4 | 5.8 | 201.7 | 225 | 225 |
| | 4 | 460-3-60 | 4 | 19.2 | 125.0 | 460-3-60 | 1.50 | 4 | 2.9 | 93.2 | 110 | 110 |
| | 5 | 575-3-60 | 4 | 13.8 | 80.0 | 575-3-60 | 1.50 | 4 | 2.2 | 67.5 | 80 | 80 |
| | 7 | 380/415-3-50 | 4 | 19.2 | 125.0 | 380/415-3-50 | 1.50 | 4 | 2.6/2.5 | 92.0 | 110 | 110 |
| HB600 | 2 | 208/230-3-60 | 4 | 47.1 | 350.0 | 208/230-3-60 | 1.50 | 4 | 5.8 | 224.7 | 250 | 250 |
| | 4 | 460-3-60 | 4 | 25.0 | 158.0 | 460-3-60 | 1.50 | 4 | 2.9 | 117.9 | 125 | 150 |
| | 5 | 575-3-60 | 4 | 19.9 | 125.0 | 575-3-60 | 1.50 | 4 | 2.2 | 93.4 | 110 | 110 |
| | 7 | 380/415-3-50 | 4 | 25.0 | 158.0 | 380/415-3-50 | 1.50 | 4 | 2.6/2.5 | 116.7 | 125 | 150 |

Compressor quantity refers to each compressor.

TABLE 5: UNIT COOLING CAPACITIES AND POWER REQUIREMENTS - CONDENSING UNIT ONLY

| Model | Suction Press. & Corresponding Temp. @ Saturation | | Temperature of Air on Condenser Coil, °F | | | | | | | | | | | | | | | | | |
|-------|---|----|--|------|------|-----|------|------|-----|------|------|-----|------|------|-----|------|------|-----|-----|------|
| | | | 65 | | | 75 | | | 85 | | | 95 | | | 105 | | | 115 | | |
| | PSIG | °F | MBH | EER | KW* | MBH | EER | KW* | MBH | EER | KW* | MBH | EER | KW* | MBH | EER | KW* | MBH | EER | KW* |
| HA300 | 61.5 | 35 | 308 | 14.8 | 20.8 | 296 | 13.1 | 22.5 | 282 | 11.5 | 24.5 | 288 | 10.0 | 28.7 | 255 | 9.1 | 28.0 | 241 | 7.5 | 32.2 |
| | 66.5 | 40 | 330 | 15.9 | 21.2 | 322 | 14.1 | 22.9 | 307 | 12.3 | 24.9 | 292 | 10.8 | 27.1 | 277 | 9.5 | 29.3 | 262 | 8.0 | 32.7 |
| | 75.0 | 45 | 366 | 16.9 | 21.7 | 350 | 15.0 | 23.3 | 333 | 13.2 | 25.3 | 317 | 11.5 | 27.5 | 300 | 10.1 | 28.7 | 264 | 8.6 | 33.1 |
| | 84.0 | 50 | 399 | 17.9 | 22.1 | 379 | 15.9 | 23.7 | 361 | 14.1 | 25.7 | 343 | 12.3 | 28.0 | 325 | 10.8 | 30.1 | 307 | 9.1 | 33.6 |
| HB360 | 61.5 | 35 | 377 | 14.4 | 26.2 | 358 | 12.7 | 28.2 | 340 | 11.1 | 30.5 | 321 | 9.7 | 33.2 | 302 | 8.3 | 38.2 | 283 | 7.1 | 38.8 |
| | 66.5 | 40 | 409 | 15.3 | 28.8 | 389 | 13.5 | 28.8 | 370 | 11.9 | 31.2 | 350 | 10.4 | 33.9 | 330 | 9.0 | 36.8 | 310 | 7.7 | 40.3 |
| | 75.0 | 45 | 442 | 16.1 | 27.4 | 422 | 14.8 | 29.5 | 401 | 12.6 | 31.8 | 380 | 11.0 | 34.5 | 360 | 9.8 | 37.5 | 339 | 8.3 | 41.0 |
| | 84.0 | 50 | 476 | 18.9 | 28.1 | 455 | 15.1 | 30.1 | 433 | 13.3 | 32.5 | 412 | 11.7 | 35.2 | 390 | 10.2 | 38.2 | 368 | 8.8 | 41.7 |
| HB480 | 61.5 | 35 | 502 | 14.7 | 34.2 | 479 | 13.0 | 36.9 | 456 | 11.4 | 40.0 | 432 | 9.9 | 43.5 | 409 | 8.6 | 47.6 | 385 | 7.4 | 52.1 |
| | 66.5 | 40 | 543 | 15.5 | 35.1 | 518 | 13.7 | 37.8 | 494 | 12.1 | 40.9 | 469 | 10.8 | 44.4 | 444 | 9.2 | 48.5 | 419 | 7.9 | 53.0 |
| | 75.0 | 45 | 585 | 16.2 | 36.1 | 559 | 14.4 | 38.8 | 533 | 12.7 | 41.8 | 507 | 11.2 | 46.4 | 481 | 9.7 | 48.4 | 455 | 8.4 | 54.0 |
| | 84.0 | 50 | 628 | 16.9 | 37.1 | 601 | 15.1 | 39.8 | 574 | 13.4 | 42.8 | 548 | 11.8 | 48.5 | 519 | 10.3 | 50.5 | 491 | 8.9 | 55.0 |
| HB600 | 61.5 | 35 | 609 | 15.4 | 38.8 | 583 | 13.5 | 43.0 | 556 | 11.6 | 47.1 | 529 | 10.2 | 51.7 | 503 | 8.9 | 58.9 | 478 | 7.6 | 62.9 |
| | 66.5 | 40 | 683 | 16.4 | 40.3 | 634 | 14.4 | 44.0 | 604 | 12.6 | 48.0 | 575 | 10.9 | 52.7 | 545 | 9.4 | 58.0 | 515 | 8.1 | 64.0 |
| | 75.0 | 45 | 719 | 17.3 | 41.5 | 687 | 15.8 | 45.0 | 655 | 13.4 | 49.0 | 623 | 11.8 | 53.7 | 590 | 10.0 | 59.1 | 558 | 8.6 | 65.2 |
| | 84.0 | 50 | 777 | 18.2 | 42.6 | 743 | 16.1 | 46.0 | 708 | 14.1 | 50.0 | 673 | 12.3 | 54.8 | 638 | 10.6 | 60.2 | 603 | 9.1 | 66.4 |

*These power requirements include the following condenser fan motor KW.

| Model | HA300 | HB360 | HB480 | HB600 |
|-------|-------|-------|-------|-------|
| KW | 3.4 | 4.3 | 4.3 | 3.8 |

**See Table 1 for condensing unit only EER ratings.

OF ALL FIELD INSTALLATIONS

036-21328-003-C-1004

TABLE 6: SUCTION LINES

| Model Designation | | | Nominal Capacity (Tons) | Refrigerant Flow Rate (Lbs./Min.) | Copper Tubing (Inches, O.D.) | Refrigerant Gas Velocity (Ft./Min.) | Friction Loss (PSI/100 Ft.) | |
|-------------------|-----------|---------------|-------------------------|-----------------------------------|------------------------------|-------------------------------------|-----------------------------|-----|
| HA300 | System #1 | Full Capacity | 25 | 80 | 2 1/8 | 1945 | 1.2 | |
| | | | | | 2 5/8 | 1500 | 0.6 | |
| | | | | | 3 1/8 | 1040 | 0.3 | |
| | System #1 | Half Capacity | 12.5 | 40 | 2 1/8 | 1110 | 0.5 | |
| | | | | | 2 5/8 | 750 | 0.2 | |
| | | | | | 3 1/8 | 520 | 0.1 | |
| HB380 | System #1 | Full Capacity | 15 | 47 | 1 3/8 | 2873 | 4.1 | |
| | | | | | 1 5/8 | 2030 | 1.8 | |
| | | | | | 2 1/8 | 1167 | 0.5 | |
| | | System #1 | Half Capacity | 7.5 | 23.5 | 1 3/8 | 1437 | 1.1 |
| | | | | | | 1 5/8 | 1015 | 0.5 |
| | | | | | | 2 1/8 | 850 | 0.2 |
| | System #2 | Full Capacity | 15 | 47 | 1 3/8 | 2873 | 4.1 | |
| | | | | | 1 5/8 | 2030 | 1.8 | |
| | | | | | 2 1/8 | 1167 | 0.5 | |
| | | System #2 | Half Capacity | 7.5 | 23.5 | 1 3/8 | 1437 | 1.1 |
| | | | | | | 1 5/8 | 1015 | 0.5 |
| | | | | | | 2 1/8 | 850 | 0.2 |
| HB480 | System #1 | Full Capacity | 20 | 64 | 1 5/8 | 3120 | 4.3 | |
| | | | | | 2 1/8 | 1800 | 1.2 | |
| | | | | | 2 5/8 | 1200 | 0.4 | |
| | | System #1 | Half Capacity | 10 | 32 | 1 5/8 | 1560 | 1.2 |
| | | | | | | 2 1/8 | 900 | 0.3 |
| | | | | | | 2 5/8 | 600 | 0.1 |
| | System #2 | Full Capacity | 20 | 64 | 1 5/8 | 3120 | 4.3 | |
| | | | | | 2 1/8 | 1800 | 1.2 | |
| | | | | | 2 5/8 | 1200 | 0.4 | |
| | | System #2 | Half Capacity | 10 | 32 | 1 5/8 | 1580 | 1.2 |
| | | | | | | 2 1/8 | 1800 | 1.2 |
| | | | | | | 2 5/8 | 1200 | 0.4 |
| HB600 | System #1 | Full Capacity | 25 | 76 | 1 5/8 | 3384 | 4.5 | |
| | | | | | 2 1/8 | 1945 | 1.2 | |
| | | | | | 2 5/8 | 1500 | 0.6 | |
| | | System #1 | Half Capacity | 12.5 | 38 | 1 5/8 | 1710 | 1.4 |
| | | | | | | 2 1/8 | 983 | 0.4 |
| | | | | | | 2 5/8 | 750 | 0.2 |
| | System #2 | Full Capacity | 25 | 76 | 1 5/8 | 3384 | 4.5 | |
| | | | | | 2 1/8 | 1945 | 1.2 | |
| | | | | | 2 5/8 | 1500 | 0.6 | |
| | | System #2 | Half Capacity | 12.5 | 38 | 1 5/8 | 1710 | 1.4 |
| | | | | | | 2 1/8 | 983 | 0.4 |
| | | | | | | 2 5/8 | 750 | 0.2 |



036-21328-003-C-1004

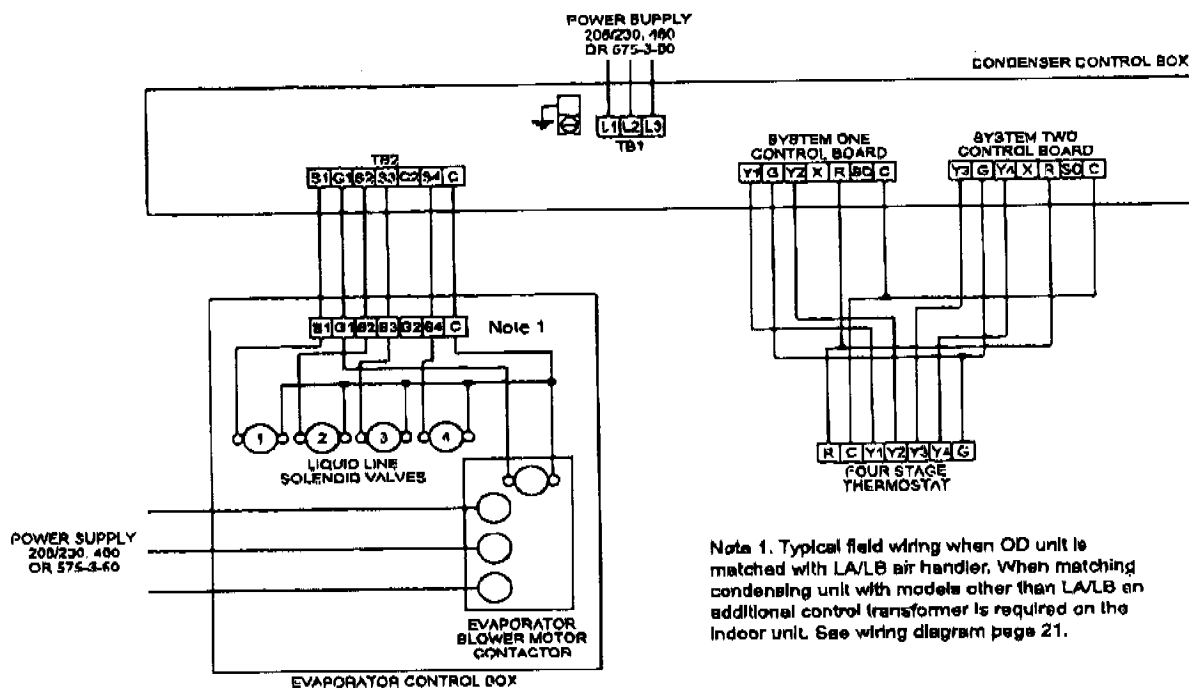


FIGURE 2 - TYPICAL FIELD WIRING FOR HB360, 480, 600 & LB360, 480, 600

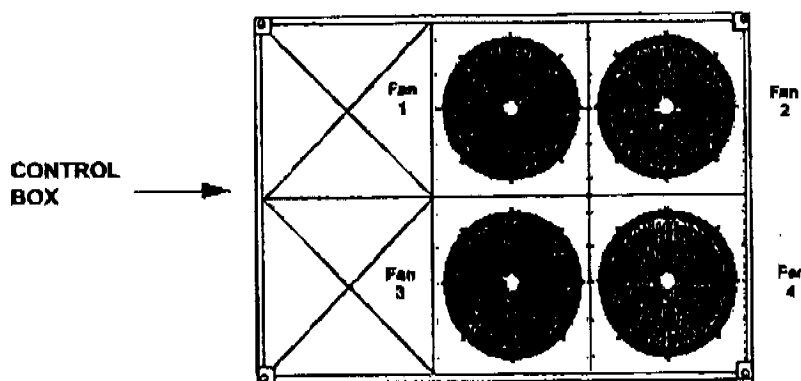


FIGURE 3 - FAN ORIENTATION CONTROL BOX END

See Fan Operation on page 23 of Installation Instruction.

036-21328-003-C-1004

TABLE 14: CORNER WEIGHTS & CENTER OF GRAVITY (INCHES)

| Unit Model | Unit Weight (Lbs.) | | Unit Dimensions (Inches) | | A | B | C | D | Dim X | Dim Y | Weight A to D | Weight B to C |
|------------|--------------------|-----------|--------------------------|-------|-----|-----|-----|-----|-------|-------|---------------|---------------|
| | Shipping | Operation | Length | Width | | | | | | | | |
| HA300 | 1608 | 1658 | 110.48 | 88.48 | 337 | 412 | 472 | 388 | 49.7 | 47.7 | 723.5 | 884.5 |
| HB360 | 1730 | 1790 | 110.48 | 88.48 | 363 | 531 | 497 | 339 | 44.8 | 42.8 | 701.6 | 1028.4 |
| HB480 | 1961 | 2037 | 128.46 | 88.48 | 393 | 598 | 585 | 385 | 51.0 | 43.8 | 778.5 | 1182.5 |
| HB600 | 2470 | 2583 | 128.48 | 88.48 | 470 | 767 | 787 | 476 | 49.2 | 44.5 | 946.0 | 1524.0 |

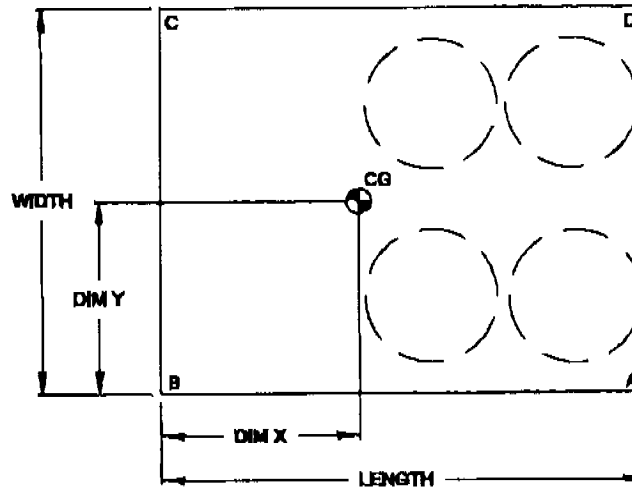


FIGURE 4 - CORNER WEIGHTS & CENTER OF GRAVITY