MANUAL 2100-001F

# INSTALLATION INSTRUCTIONS

# MODELS

## 18ECQ2, 24ECQ2, 30ECQ2, 31ECQ, 36ECQ4, 37ECQ, 42ECQ1, 48ECQ2, 60ECQ1

# SPLIT AIR CONDITIONER OUTDOOR SECTIONS

**FOR USE WITH:**
**MATCHING INDOOR BLOWER COIL UNITS AND MATCHING ADD ON COIL ONLY UNITS**

# APPLICATION AND INSTALLATION INSTRUCTIONS

## GENERAL

These instructions explain the recommended method to install the pre-charged air cooled remote type condensing unit, the inter-connecting pre-charged refrigerant tubing and the electrical wiring connections to the unit.

The condensing units are to be used in conjunction with the matching pre-charged evaporator coils or pre-charged evaporator blower units for comfort cooling applications as shown in the specification sheet.

These instructions and any instructions packaged with any separate equipment required to make up the entire air conditioning system should be carefully read before beginning the installation. Note particularly "Connecting Quick-Connect Couplings, Starting Procedure" and any tags and/or labels attached to the equipment.

While these instructions are intended as a general recommended guide, they do not supersede any national and/or local codes in any way. Authorities having jurisdiction should be consulted before the installation is made.

## SHIPPING DAMAGE

Upon receipt of equipment, the carton should be checked for external signs of shipping damage. If damage is found, the receiving party must contact the last carrier immediately, preferably in writing, requesting inspection by the carrier's agent.

## INSTALLATION

Size of unit for a proposed installation should be based on heat loss calculation made according to methods of National Warm Air Heating and Air Conditioning Association. The air duct should be installed in accordance with the Standards of the National Fire Protection Association for the Installation of Air Conditioning and Ventilating Systems of Other Than Residence Type, NFPA No. 90A, and Residence Type Warm Air Heating and Air Conditioning Systems, NFPA No. 90B. Where local regulations are at a variance with instructions, installer should adhere to local codes.

## LOCATION

The condensing unit (outdoor unit) must be located in an area having good air circulation and set where the hot discharge air from the unit will not be recirculated into the condensing coil. Figure 1 illustrates the recommended clearances for unrestricted airflow and service access.

## MOUNTING UNIT OUTSIDE ON SLAB

A solid level base or platform, capable to support the unit's weight, must be set at the outdoor unit predetermined location. The base should be at least two inches larger than the base dimensions of the unit and at least two inches higher than the surrounding grade level. The required unit minimum installed clearances must be maintained as called out in Figure 1 when locating and setting the base.

Remove the unit from its shipping carton and position the unit on the prepared base or platform.

Do not attach the unit or its base to the building structure to avoid the transmission of noise into the occupied area.

NOTE: These units employ internally sprung compressors; therefore, it is not necessary to remove or loosen the base mounting bolts on the compressor prior to operation.

Consideration should be given to the electrical and tubing connections when placing the unit to avoid unnecessary bends or length of material.

## WIRING

All wiring must be installed in accordance with the National Electrical Code and local codes. Power supply voltage must conform to the voltage shown on the unit serial plate. A wiring diagram of the unit is attached to the inside of the electrical cover. The power supply shall be sized and fused according to the specifications supplied. A ground lug is supplied in the control compartment for equipment ground.

The control circuit is a 24 volt circuit. "Typical" wiring diagrams illustrating some of the various circuits which could be encountered can be found later in the manual.

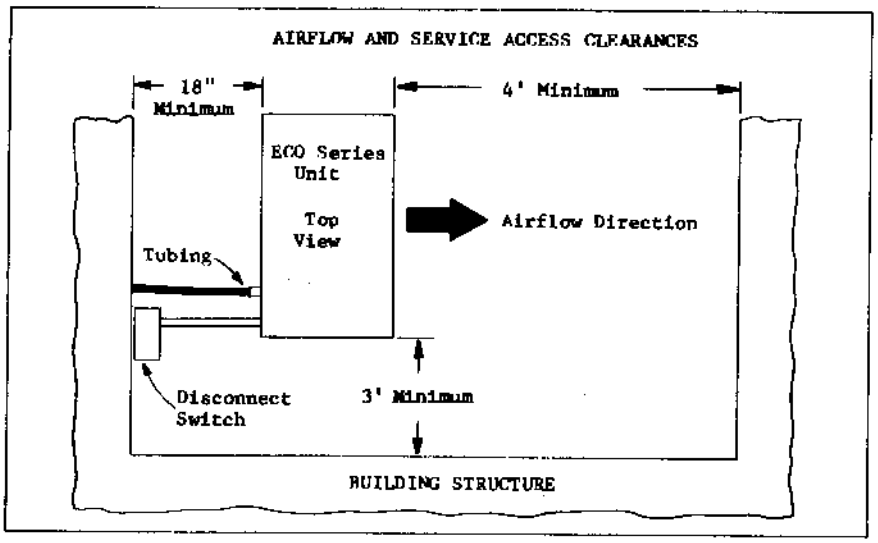



Figure 1

The unit rating plate lists a "Maximum Time Delay Fuse" or "HACR Type" circuit breaker that is to be used with the equipment. The correct size must be used for proper circuit protection and also to assure that there will be no nuisance tripping due to the momentary high starting current of the compressor motor.

When matching with a B-model blower coil unit, refer to the installation instructions with that indoor unit for 24V wiring information.

## PRESSURE SERVICE PORTS

High and low pressure service ports are installed on all units so that the system operating pressures can be observed. Pressure curves can be found later in the manual covering all models. It is imperative to match the correct pressure curve to the unit by model number.

The pressure service ports on the split system air conditioners are located on the inter-connecting tubing quick connect fittings.

## CRANKCASE HEATERS

All units are provided with some form of compressor crankcase heat. Some single phase units utilize the compressor motor start winding in series with a portion of the run capacitor to generate heat within the compressor shell to prevent liquid refrigerant migration.

Some three phase units utilize a wraparound type of crankcase heater that warms the compressor oil from the outside.

Some single and three phase models have an insertion well-type heater located in the lower section of the compressor housing. This is a self-regulating type heater that draws only enough power to maintain the compressor at a safe temperature.

Some form of crankcase heat is essential to prevent liquid refrigerant from migrating to the compressor, causing oil pump out on compressor start-up and possible valve failure due to compressing a liquid.

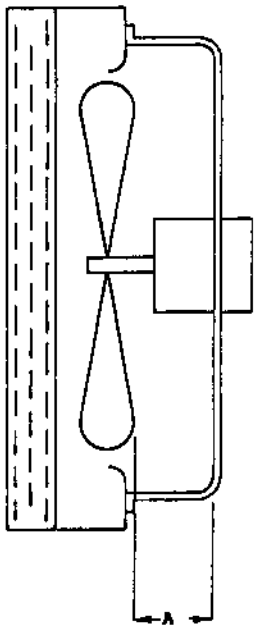
Refer to unit wiring diagram to find exact type of crankcase heater used.

The following decal is affixed to all outdoor units detailing start-up procedure. This is very important. Please read carefully.

## FAN BLADE SETTING DIMENSIONS

Shown in the drawing below are the correct fan blade setting dimensions for proper air delivery across the outdoor coil.

Any service work requiring removal or adjustment in the fan and/or motor area will require that the dimensions below be checked and blade adjusted in or out on the motor shaft accordingly.




| MODEL | DIM. A |
|---|---|
| All | 1/2" |

IMPORTANT INSTALLER NOTE:

1. For improved start-up performance, wash the indoor coil with a dishwasher detergent.

**IMPORTANT**

**THESE PROCEDURES MUST BE FOLLOWED AT INITIAL START-UP AND AT ANY TIME POWER HAS BEEN REMOVED FOR 12 HOURS OR LONGER.**

TO PREVENT COMPRESSOR DAMAGE WHICH MAY RESULT FROM THE PRESENCE OF LIQUID REFRIGERANT IN THE COMPRESSOR CRANKCASE

1. MAKE CERTAIN THE ROOM THERMOSTAT IS IN THE OFF POSITION (THE COMPRESSOR IS NOT TO OPERATE).
2. APPLY POWER BY CLOSING THE SYSTEM DISCONNECT SWITCH. THIS ENERGIZES THE COMPRESSOR HEATER WHICH EVAPORATES THE LIQUID REFRIGERANT IN THE CRANKCASE.
3. ALLOW 4 HOURS OR 60 MINUTES PER POUND OF REFRIGERANT IN THE SYSTEM AS NOTED ON THE UNIT RATING PLATE, WHICHEVER IS GREATER.
4. AFTER PROPERLY ELAPSED TIME THE THERMOSTAT MAY BE SET TO OPERATE THE COMPRESSOR.
5. EXCEPT AS REQUIRED FOR SAFETY WHILE SERVICING — DO NOT OPEN SYSTEM DISCONNECT SWITCH.

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ELECTRICAL DATA

| MODEL | ELECTRICAL RATING | OPERATING VOLTAGE RANGE | TOTAL UNIT AMPS (1) | MINIMUM CIRCUIT AMPACITY | MAXIMUM (2) OVERCURRENT PROTECTION | 60°C COPPER WIRE SIZE | COPPER GROUND WIRE SIZE |
|---|---|---|---|---|---|---|---|
| 18ECQ2 | 230/208-60-1 | 197-253 | 11.6 | 15 | 20 | #14 | #14 |
| 24ECQ2 | 230/208-60-1 | 197-253 | 12.1 | 15 | 25 | #14 | #14 |
| 30ECQ2 | 230-60-1 | 207-253 | 17.6 | 22 | 35 | #10 | #10 |
| 31ECQ | 230/208-60-1 | 197-253 | 14.6 | 18 | 30 | #12 | #12 |
| 36ECQ4 | 230-60-1<br>230-60-3<br>460-60-3 | 197-253<br>187-253<br>414-506 | 25.6<br>13.8<br>7.0 | 32<br>17<br>15 | 50<br>25<br>15 | #8<br>#12<br>#14 | #10<br>#12<br>#14 |
| 37ECQ | 230-208-60-1 | 197-253 | 19.6 | 24 | 40 | #10 | #10 |
| 42ECQ1 | 230/208-60-1<br>230/208-60-3<br>460-60-3 | 197-253<br>187-253<br>414-506 | 24.3<br>16.8<br>9.4 | 30<br>21<br>15 | 50<br>30<br>20 | #10<br>#10<br>#14 | #10<br>#10<br>#14 |
| 48ECQ2 | 230/208-60-1<br>230/208-60-3<br>460-60-3 | 197-253<br>187-253<br>414-506 | 25.8<br>19.3<br>11.4 | 32<br>24<br>16 | 50<br>35<br>25 | #8<br>#10<br>#12 | #10<br>#10<br>#12 |
| 60ECQ1 | 230/208-60-1<br>230/208-60-3<br>460-60-3 | 197-253<br>187-253<br>414-506 | 31.8<br>22.8<br>9.2 | 39<br>28<br>15 | 60<br>45<br>15 | #8<br>#10<br>#14 | #10<br>#10<br>#14 |

(1) Compressor and outdoor motor.

(2) Time Delay Fuse or HACR Type Circuit Breaker.

| RATED CFM AND AIRFLOW DATA (WET COIL — COOLING) | | | | | |
|---|---|---|---|---|---|
| OUTDOOR UNIT MODEL | INDOOR COIL MODEL | RATED CFM | PRESSURE DROP IN. $H_2O$ ⚠1 | RATED E.S.P ⚠2 | RECOMMENDED AIR FLOW RANGE |
| 18ECQ2 | 18QS3 | 600 | .30 | | 540 - 660 |
| | 2ACQ1 | 640 | .20 | | 575 - 705 |
| | B18EHQ1 | 650 | | .30 | 585 - 715 |
| | B24EHQ1 | 650 | | .30 | 585 - 715 |
| 24ECQ2 | 24QS1 | 870 | .30 | | 780 - 960 |
| | 2ACQ1 | 870 | .30 | | 780 - 960 |
| | B24EHQ1 | 800 | | .10 | 720 - 880 |
| | B18EHQ1 | 800 | | .10 | 720 - 880 |
| 30ECQ2 | 3ACQ3 | 1100 | .28 | | 990 - 1210 |
| | 3HCQ | 925 | .30 | | 830 - 1020 |
| | B36EHQ1 | 1080 | | .30 | 970 - 1190 |
| 30ECQ2 | B30EHQ | 800 | | .10 | 720 - 880 |
| | H30QS | 760 | .30 | | 680 - 840 |
| 31ECQ | 3ACQ3 | 1050 | .28 | | 940 - 1160 |
| | 3ACQ5 | 1100 | .27 | | 990 - 1210 |
| | 3HCQ | 925 | .30 | | 930 - 1020 |
| | B36EHQ1 | 1000 | | .30 | 900 - 1100 |
| 31ECQ | B30EHQ | 800 | | .10 | 720 - 880 |
| | H30QS | 760 | .30 | | 680 - 840 |
| 36ECQ4 | 3ACQ3 | 1150 | .30 | | 1035 - 1265 |
| | 3HCQ | 925 | .30 | | 830 - 1020 |
| | B36EHQ1 | 1275 | | .25 | 1150 - 1400 |
| 37ECQ | 3ACQ3 | 1150 | .30 | | 1035 - 1265 |
| | 3ACQ5 | 1150 | .30 | | 1035 - 1265 |
| | 3HCQ | 925 | .30 | | 830 - 1020 |
| | B36EHQ1 | 1295 | | .20 | 1165 - 1425 |
| 42ECQ1 | 4ACQ2 | 1450 | .25 | | 1300 - 1600 |
| | 5ACQ1 | 1600 | .14 | | 1440 - 1760 |
| | 4HCQ | 1500 | .30 | | 1350 - 1650 |
| | B48EHQ | 1575 | | .40 | 1420 - 1730 |
| 48ECQ2 | 4ACQ2 | 1690 | .30 | | 1520 - 1860 |
| | 5ACQ1 | 1800 | .18 | | 1620 - 1980 |
| | 4HCQ | 1600 | .30 | | 1440 - 1760 |
| | B48EHQ | 1725 | | .30 | 1550 - 1900 |
| 60ECQ1 | 5ACQ1 | 1990 | .28 | | 1790 - 2190 |
| | 5HCQ | 1650 | .30 | | 1485 - 1815 |
| | B48EHQ | 1625 | | .30 | 1460 - 1790 |

⚠1 Measured across the evaporator coil assembly, including drain pan.

⚠2 External static pressure available for the duct system—supply and return. All blower coil models have multi-speed motors, and value shown is at recommended speed. Consult specification airflow charts for complete information as to other speeds available.

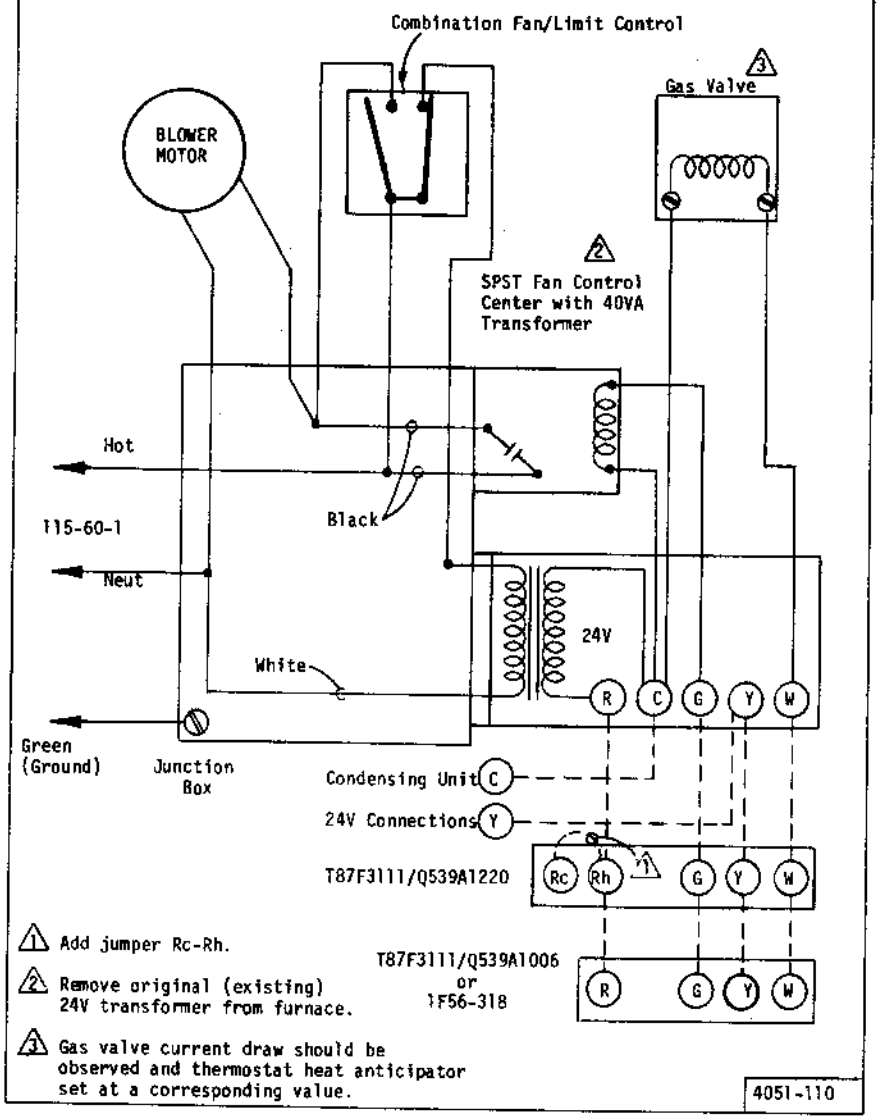
## REFRIGERANT CHARGE

The correct system R-22 charge is shown on the unit rating plate. Optimum unit performance will occur with a refrigerant charge resulting in a suction line temperature (6" from compressor) as shown in the following table:

| OUTDOOR UNIT | INDOOR UNIT | 95°F O.D. TEMP. | 82°F O.D. TEMP. |
|---|---|---|---|
| 18ECQ2 | 18QS3 | 62 - 64 | 66 - 68 |
| | 2ACQ1 | 48 - 50 | 57 - 59 |
| | B18EHQ1 | 58 - 60 | 63 - 65 |
| | B24EHQ1 | 58 - 60 | 62 - 64 |
| 24ECQ2 | 24QS1 | 57 - 59 | 64 - 66 |
| | 2ACQ1 | 44 - 46 | 50 - 52 |
| | B24EHQ1 | 59 - 61 | 63 - 65 |
| | B18EHQ1 | 51 - 53 | 61 - 63 |
| 30ECQ2 | 3ACQ3 | 51 - 53 | 59 - 61 |
| | 3HCQ | 60 - 62 | 66 - 68 |
| | B36EHQ1 | 61 - 63 | 66 - 68 |
| 30ECQ2 | B30EHQ | 47 - 49 | 52 - 54 |
| | H30QS | 46 - 48 | 49 - 51 |
| 31ECQ | 3ACQ3 | 53 - 55 | 61 - 63 |
| | 3ACQ4 | 49 - 51 | 54 - 56 |
| | 3HCQ | 58 - 60 | 74 - 76 |
| | B36EHQ1 | 63 - 65 | 72 - 74 |
| 31ECQ | B30EHQ | 59 - 61 | 62 - 64 |
| | H30QS | 56 - 59 | 56 - 58 |
| 36ECQ4 | 3ACQ3 | 49 - 51 | 40 - 42 |
| | 3HCQ | 52 - 54 | 53 - 55 |
| | B36EHQ1 | 54 - 56 | 58 - 60 |
| 37ECQ | 3ACQ3 | 54 - 56 | 62 - 64 |
| | 3ACQ5 | 49 - 51 | 62 - 64 |
| | 3HCQ | 58 - 60 | 66 - 68 |
| | B36EHQ1 | 64 - 66 | 70 - 72 |
| 42ECQ1 | 4ACQ2 | 47 - 49 | 59 - 61 |
| | 5ACQ1 | 50 - 52 | 53 - 55 |
| | 4HCQ | 55 - 57 | 63 - 65 |
| | B48EHQ | 51 - 53 | 55 - 57 |
| 48ECQ2 | 4ACQ2 | 59 - 61 | 64 - 66 |
| | 5ACQ1 | 50 - 52 | 52 - 54 |
| | 4HCQ | 69 - 71 | 72 - 74 |
| | B48EHQ | 53 - 55 | 60 - 62 |
| 60ECQ1 | 5ACQ1 | 61 - 63 | 67 - 69 |
| | 5HCQ | 49 - 51 | 58 - 60 |
| | B48EHQ | 55 - 57 | 63 - 65 |

The above suction line temperatures are based upon 80°F dry bulb/67°F wet bulb (50% R.H.) temperature and rated airflow across the evaporator during cooling cycle.

TYPICAL APPLICATION — GAS FURNACE WITH SINGLE SPEED MOTOR




1 Add jumper Rc-Rh.

2 Remove original (existing) 24V transformer from furnace.

3 Gas valve current draw should be observed and thermostat heat anticipator set at a corresponding value.

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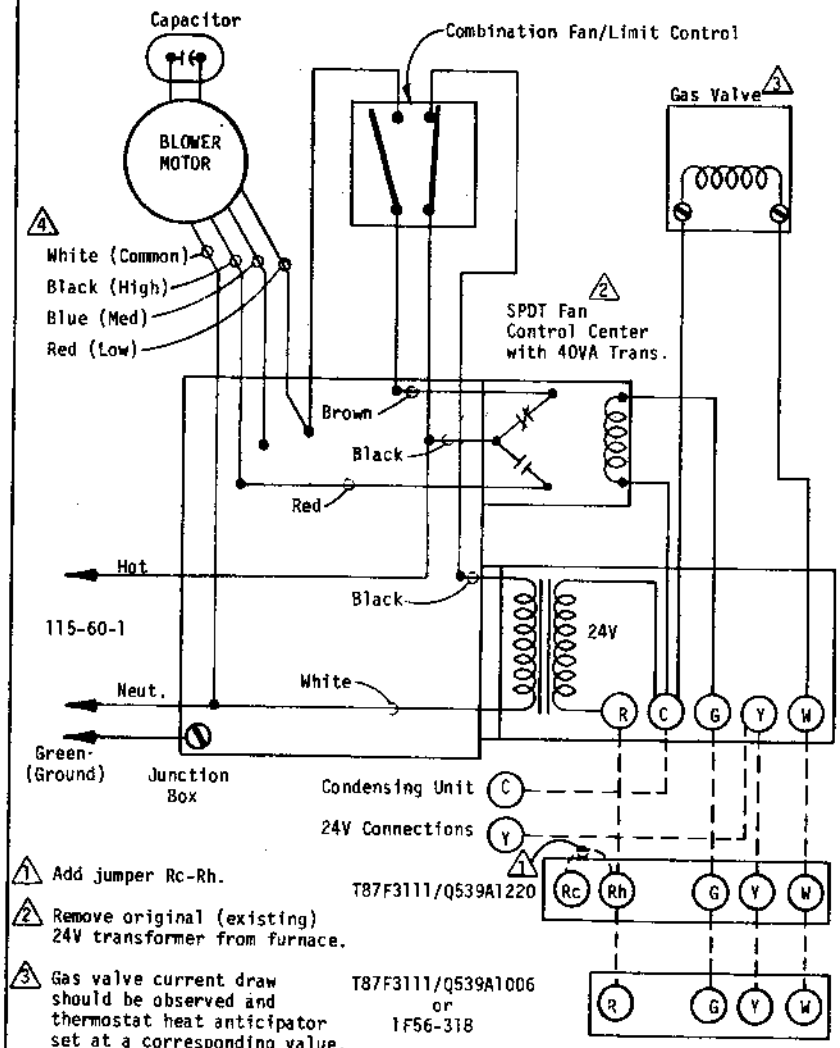
TYPICAL APPLICATION — GAS FURNACE WITH MULTI-SPEED MOTOR




1 Add jumper Rc-Rh.

2 Remove original (existing) 24V transformer from furnace.

3 Gas valve current draw should be observed and thermostat heat anticipator set at a corresponding value.

4 Any combination of speeds can be used. Be sure to connect only one speed to any one point and that all unused speeds are taped off separately.

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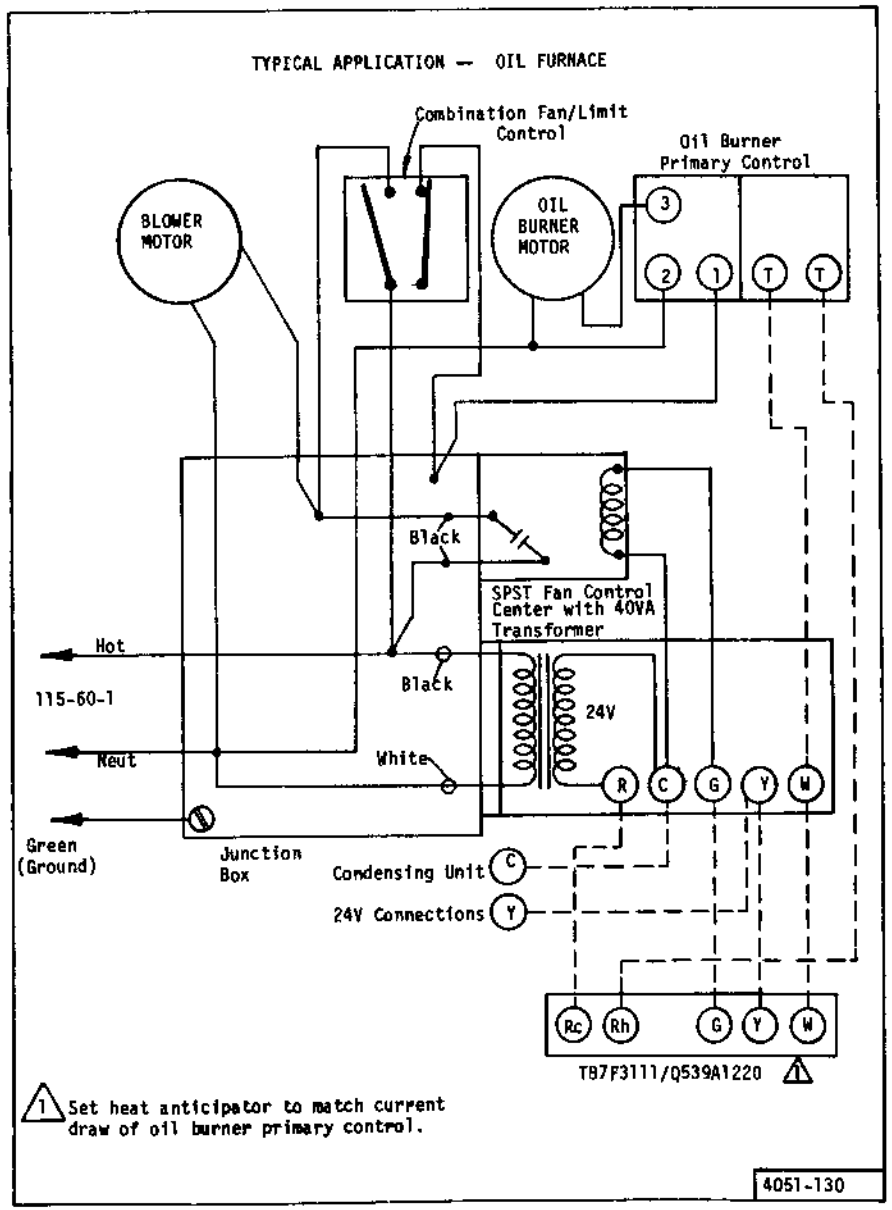



PARTS LIST
SPLIT SYSTEM CONDENSING UNITS

| PART NO. | DESCRIPTION | 18ECQ2 | 24ECQ2 | 30ECQ2 | 31ECQ | 36ECQ4 | 36ECQ4-3 | 37ECQ | 42ECQ1 | 42ECQ1-3 | 48ECQ2 | 48ECQ2-3 | 60ECQ1 | 60ECQ1-3 | 36ECQ4-3 460V | 42ECQ1-3 460V | 48ECQ2-3 460V | 60ECQ1-3 460V |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8552-044 | Capacitor 15/10-370V | x | | | | | | | | | | | | | | | | |
| 8552-027 | Capacitor 25/370V | | | | x | | | x | | | | | | | | | | |
| 8552-007 | Capacitor 20/15-370V | | x | x | | | | | | | | | | | | | | |
| 8552-030 | Capacitor 40/440V | | | | | | | | x | | | | | | | | | |
| 8552-036 | Capacitor 70/370V | | | | | | | | | | x | | | | | | | |
| 8552-031 | Capacitor 45/440V | | | | | | | | | | | | x | | | | | |
| 8552-026 | Capacitor 15/370V | | | | | | | | x | x | x | x | x | x | | x | x | x |
| 8552-033 | Capacitor 20/370V | | | | x | | | | | | | | | | | | | |
| 8552-035 | Capacitor 40/370V | | | | | | | x | | | | | | | | | | |
| 8552-002 | Capacitor 5/370V | x | x | x | x | x | x | x | | | | | | | | | | |
| 8000-061 | Compressor RES3-0175-PFV | x | | | | | | | | | | | | | | | | |
| 8000-071 | Compressor AB225HT | | x | | | | | | | | | | | | | | | |
| 8000-006 | Compressor AH152GT | | | x | | | | | | | | | | | | | | |
| 8000-050 | Compressor H2EA253AB | | | | x | | | | | | | | | | | | | |
| 8000-008 | Compressor AH301FT | | | | | x | | | | | | | | | | | | |
| 8000-051 | Compressor H2EA363AB | | | | | | | x | | | | | | | | | | |
| 8000-009 | Compressor AH302RT | | | | | | x | | | | | | | | | | | |
| 8000-063 | Compressor CRK1-0325-PFV | | | | | | | | x | | | | | | | | | |
| 8000-064 | Compressor CRK1-0325-TF5 | | | | | | | | | x | | | | | | | | |
| 8000-067 | Compressor AG112ET | | | | | | | | | | x | | | | | | | |
| 8000-030 | Compressor AG111RT | | | | | | | | | | | x | | | | | | |
| 8000-027 | Compressor AG122ET | | | | | | | | | | | | x | | | | | |
| 8000-031 | Compressor AG122RT | | | | | | | | | | | | | x | | | | |
| 8000-010 | Compressor AH302TT | | | | | | | | | | | | | | x | | | |
| 8000-065 | Compressor CRK1-0325-TFD | | | | | | | | | | | | | | | x | | |
| 8000-047 | Compressor AG111UT | | | | | | | | | | | | | | | | x | |
| 8000-048 | Compressor AG122UT | | | | | | | | | | | | | | | | | x |
| 5051-011 | Condenser Coil | x | | | | | | | | | | | | | | | | |
| 5051-013 | Condenser Coil | | x | | | | | | | | | | | | | | | |
| 5051-001 | Condenser Coil | | | x | | x | x | | | | | | | | x | | | |
| 5051-023 | Condenser Coil | | | | x | | | x | | | | | | | | | | |
| 5051-009 | Condenser Coil | | | | | | | | x | x | x | x | | | | x | x | |
| 5051-024 | Condenser Coil | | | | | | | | | | | | x | x | | | | x |
| 8401-007 | Contactor - Comp.25A | x | x | x | x | | | x | | | | | | | | | | |
| 8401-003 | Contactor - Comp.30A | | | | | x | | | x | | x | | | | | | | |
| 8401-002 | Contactor - Comp.25A | | | | | | x | | | x | | x | | x | x | x | x | x |
| 8401-016 | Contactor - Comp.35A | | | | | | | | | | | | x | | | | | |
| 8605-001 | Crankcase Heater | | | | | | x | | | | | | | | | | | |
| 8605-002 | Crankcase Heater | | | | | | | | | | | | | | x | | | |
| 5151-001 | Fan Blade TF1839 | x | x | | | | | | | | | | | | | | | |
| 5151-007 | Fan Blade TP2029 | | | x | x | x | x | x | | | | | | | x | | | |
| 5151-017 | Fan Blade FA2430-4B | | | | | | | | x | x | x | x | x | x | | x | x | x |
| 8103-008 | Motor - Fan 1/5 hp | x | x | | | | | | | | | | | | | | | |
| 8103-009 | Motor - Fan 1/5 hp | | | x | x | x | x | x | | | | | | | x | | | |
| 8105-021 | Motor - Fan 1/3 hp | | | | | | | | x | x | x | x | x | x | | x | x | x |
| 8200-001 | Motor Mount - Fan | x | x | x | x | x | x | x | | | | | | | x | | | |
| 8200-004 | Motor Mount - Fan | | | | | | | | x | x | x | x | x | x | | x | x | x |
| 8607-002 | Terminal Block 230V | | | | | | | | | | | | | | x | | | |
| 8407-003 | Transformer-Stepdown | | | | | | | | | | | | | | x | x | x | x |
| 7051-010 | Wire Grille - Inlet | x | x | | | | | | | | | | | | | | | |
| 7051-009 | Condenser Grille | x | x | | | | | | | | | | | | | | | |
| 7051-003 | Wire Grille - Inlet | | | x | x | x | x | x | | | | | | | x | | | |
| 7051-001 | Condenser Grille | | | x | x | x | x | x | | | | | | | x | | | |
| 7051-004 | Wire Grille - Inlet | | | | | | | | x | x | x | x | x | x | | x | x | x |
| 7051-005 | Condenser Grille | | | | | | | | x | x | x | x | x | x | | x | x | x |
| 8552-028 | Capacitor 35/440V | | | | | | x | | | | | | | | | | | |

# INSTALLING REFRIGERANT TUBING

PRE-CHARGED TUBING - Examine carefully the two lengths of pre-charged tubing furnished with the Unit. The larger is the suction line. The smaller is the liquid line. The end of the tubing with the hex nut and gauge port is to be attached to the Condensing Unit.

Unroll the tubing, being careful not to kink, and install it between the Condensing Unit and the Evaporator Coil.

CAUTION: Be careful not to tear the insulation when pushing it through holes in masonry or frame walls.

When sealing tube opening in house wall use a soft material to prevent tube damage and vibration transmission.

Before fastening either end, use a tubing bender to make any necessary bends in the tubing. (AVOID EXCESSIVE BENDING IN ANY ONE PLACE TO AVOID KINKING).

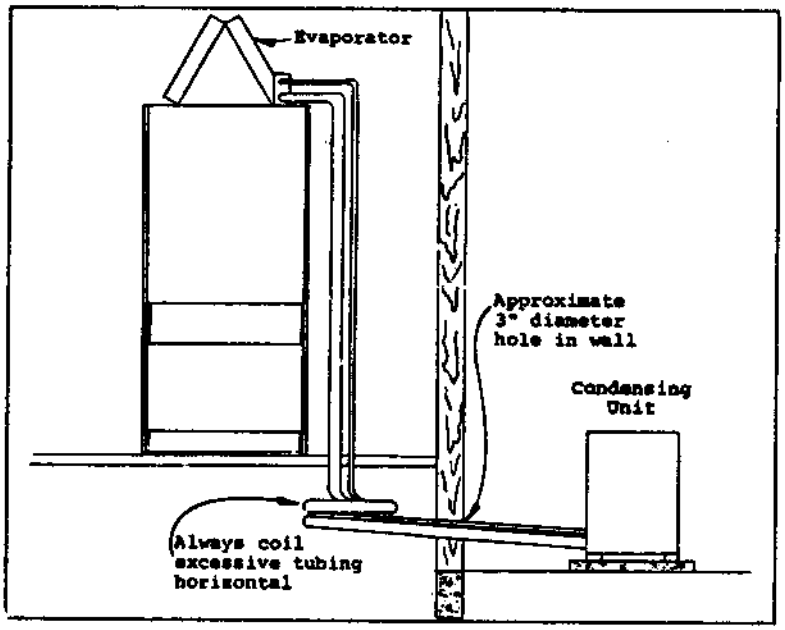
Start connecting the tubing at the Evaporator coil end, first remove the protective caps and plugs from the quick-connect fittings on the Evaporator Coil and the pre-charged tubing. Inspect fittings and clean if necessary, making sure they are clear of foreign materials. If you clean the fittings, lubricate them with refrigeration oil. Connect both tubes to the fittings on the coil and draw up by hand.

When necessary to bend the insulated tube, suction line, cut the insulation around its circumference at a distance far enough beyond the point of the bend so as to clear the tubing bender.

Slip the insulation back together and vapor seal the joint with tape.

NOTE: The maximum distance for pre-charge tubing between the Condenser and the Evaporator is 45 feet.

CAUTION: Prior to connecting the pre-charged tubing to the Evaporator Coil or Condensing Unit, be sure all bends have been made, then coil any excess tubing in a horizontal plane, with the slope of the tubing toward the Condensing Unit.




CAUTION: Be sure to hold the coupling firmly to prevent movement of the coupling and tubing. Failure to do so could tear out the diaphram causing a blockage of the system.

CAUTION: After starting to tighten up the fitting never try to back it off or take it apart.

For connecting the tubing at the condensing unit end, first remove the protective caps and plugs from the quick-connect fittings on the condensing unit and the pre-charged tubing. Inspect fittings and clean if necessary, making sure they are clear of foreign materials. If you clean the fittings, lubricate them with refrigeration oil. Connect both tubes to the fittings on the coil and draw up by hand.

Locate the Gauge Port in a 45° angle from a vertical up position so as to be accessible for gauge connections.

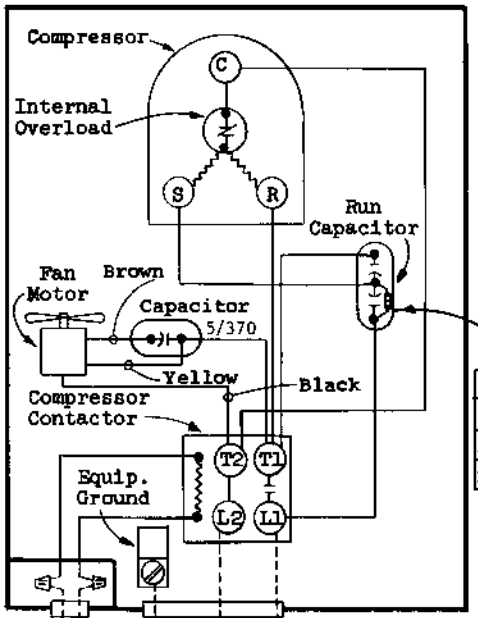
Use a wrench on the hex nut of the female fitting backing up the fitting with another wrench to keep tube from turning. Tighten the fittings together until they bottom out then tighten for an additional 1/4 turn so that coupling will seat properly.

Check the gauge port cap to make sure it is tight. If loose, tighten, being careful not to tighten too much as it will damage the valve in the gauge port.

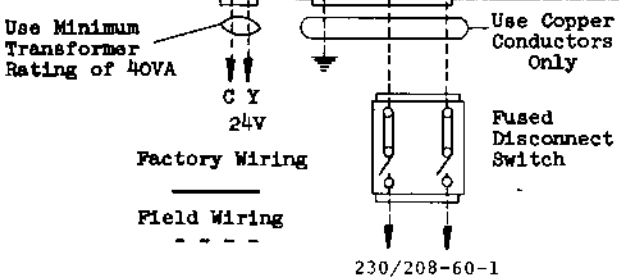
Leak test all connections using an Electronic Leak Detector or a Halide Torch.

When tubing is installed in attics or drop ceiling, insulate the quick connect fitting on the larger tube thoroughly with 3/8" wall thickness, closed cell sponge tube insulation or equivalent. Failure to insulate will result in water damage to ceiling since the fitting will "sweat" and drop water on the ceiling.

SPLIT SYSTEM AIR CONDITIONERS
18ECQ2 and 24ECQ2
230/208V 60 Hz 1-Ph

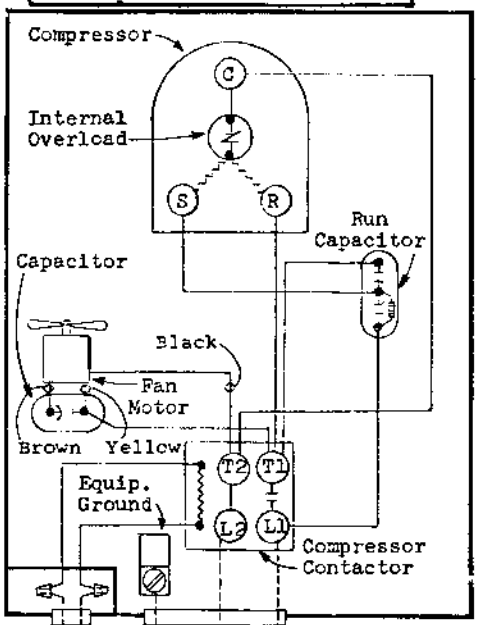


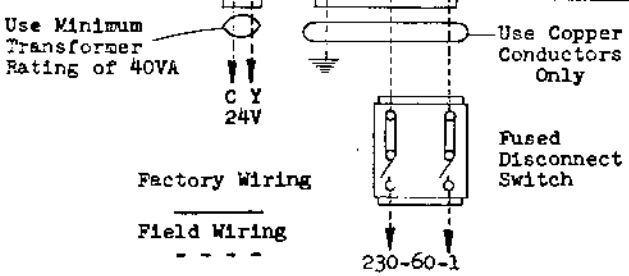

| CAPACITOR | |
|---|---|
| Model | Size |
| 18ECQ2 | 15/10-370 |
| 24ECQ2 | 20/15-370 |



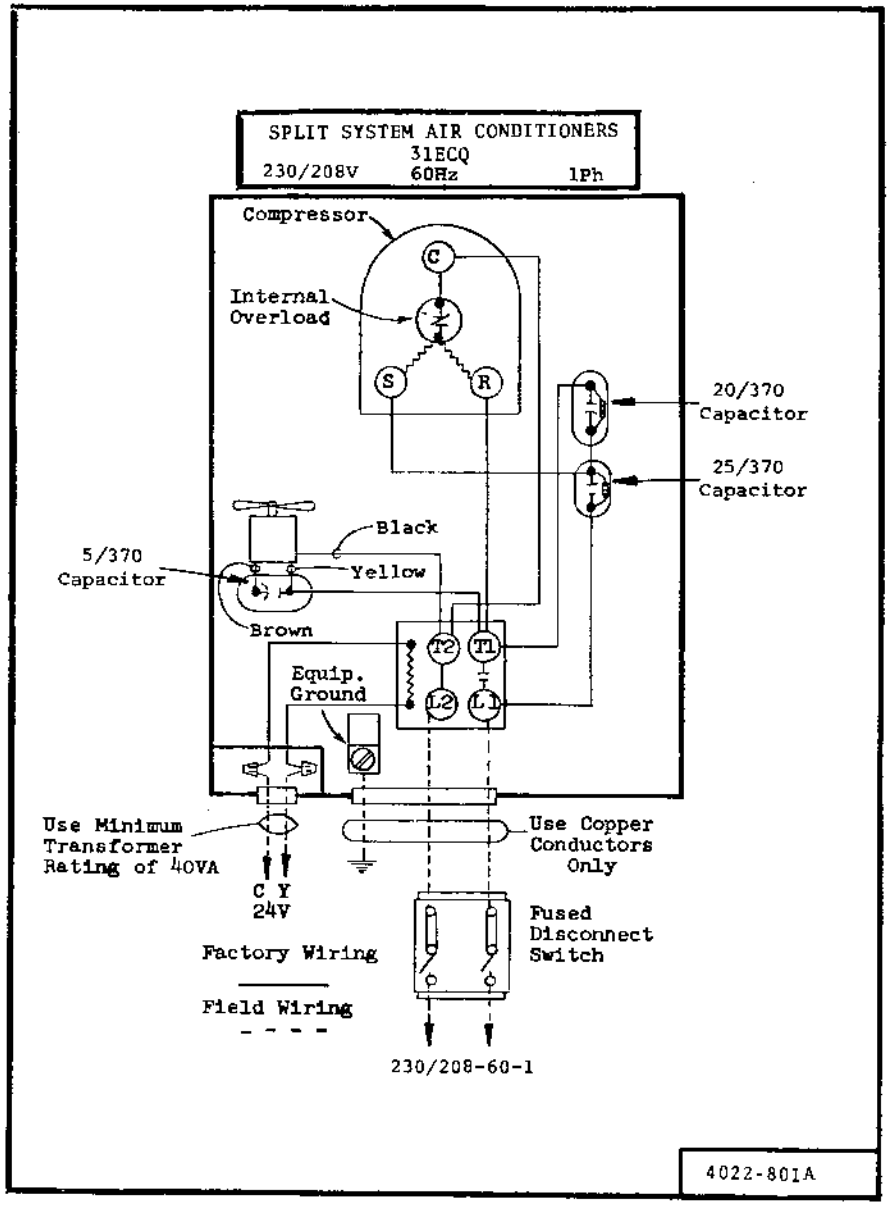

4021-110B

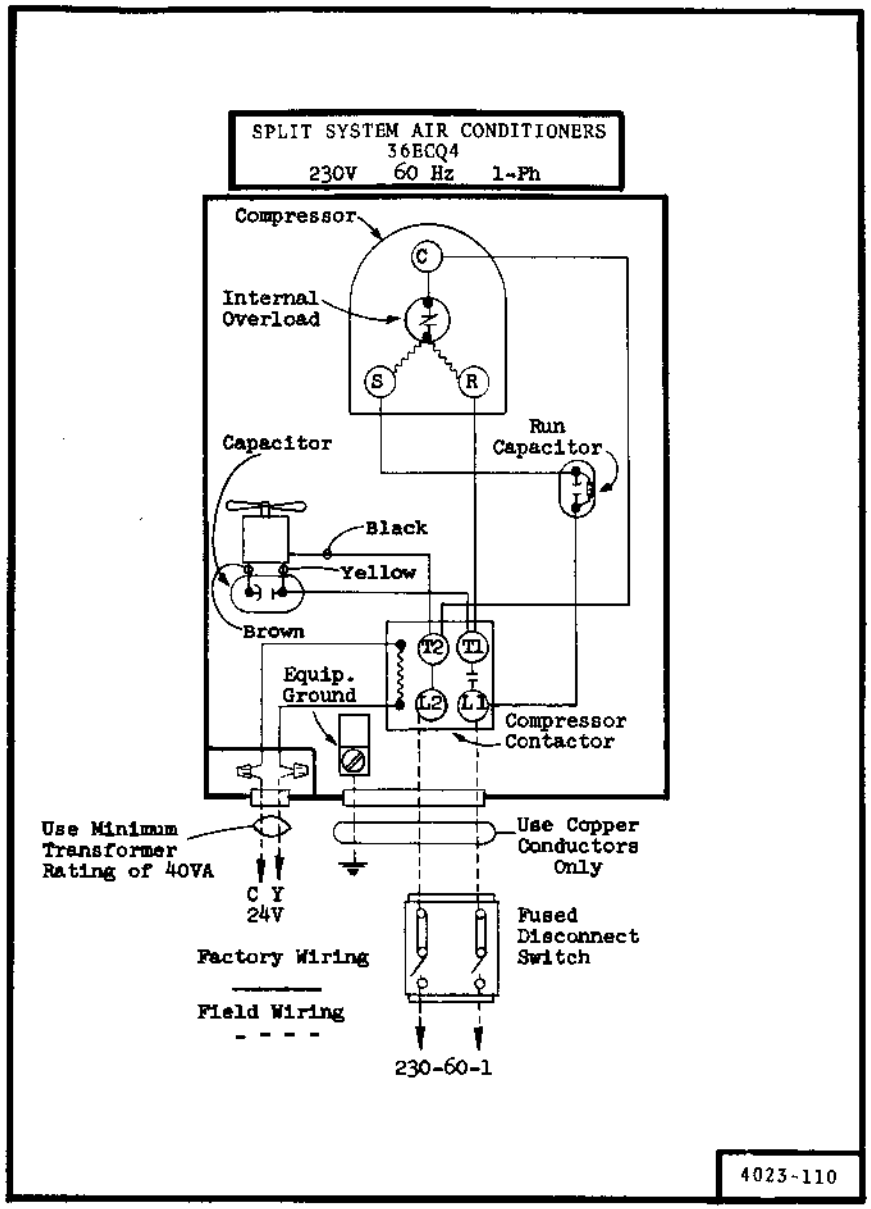
SPLIT SYSTEM AIR CONDITIONERS
30ECQ2
230V 60 Hz 1-Ph

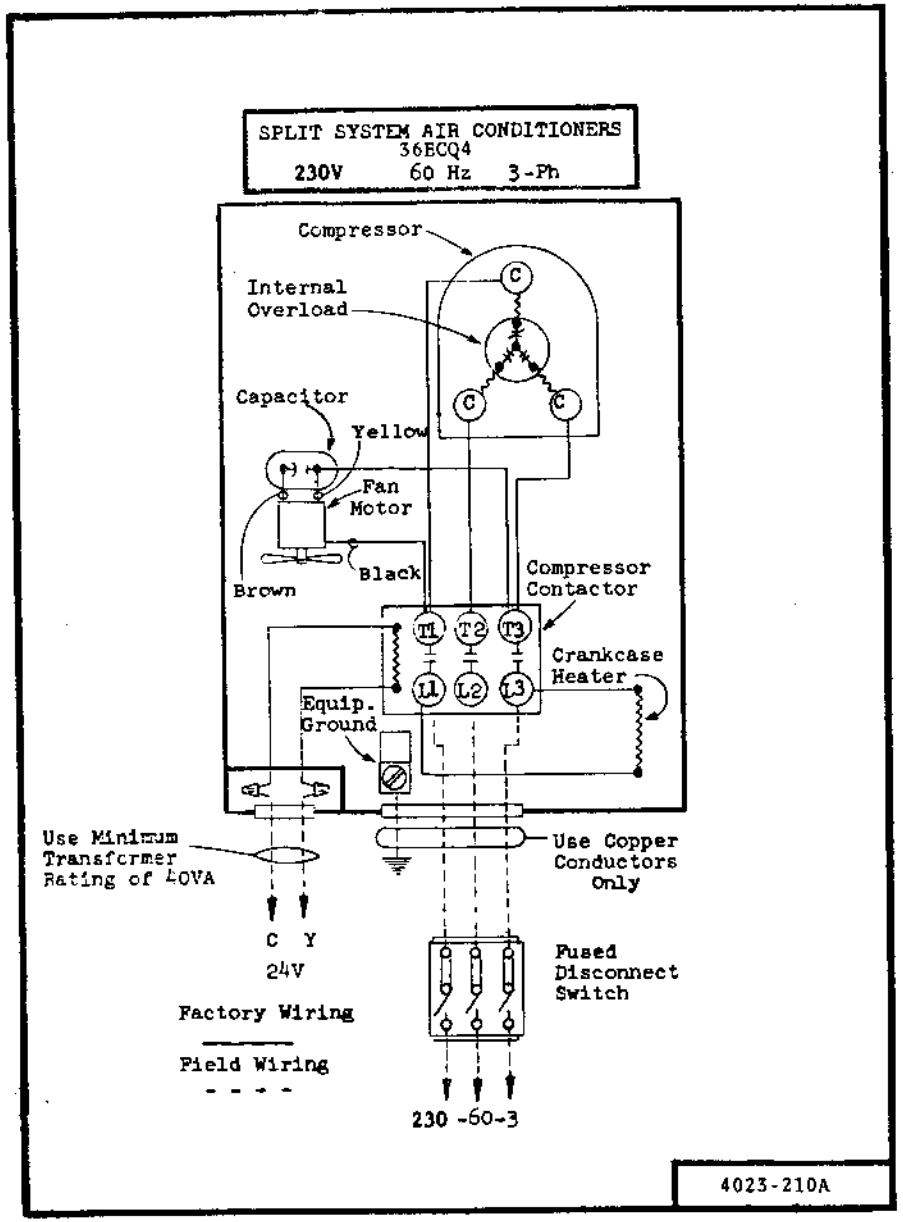


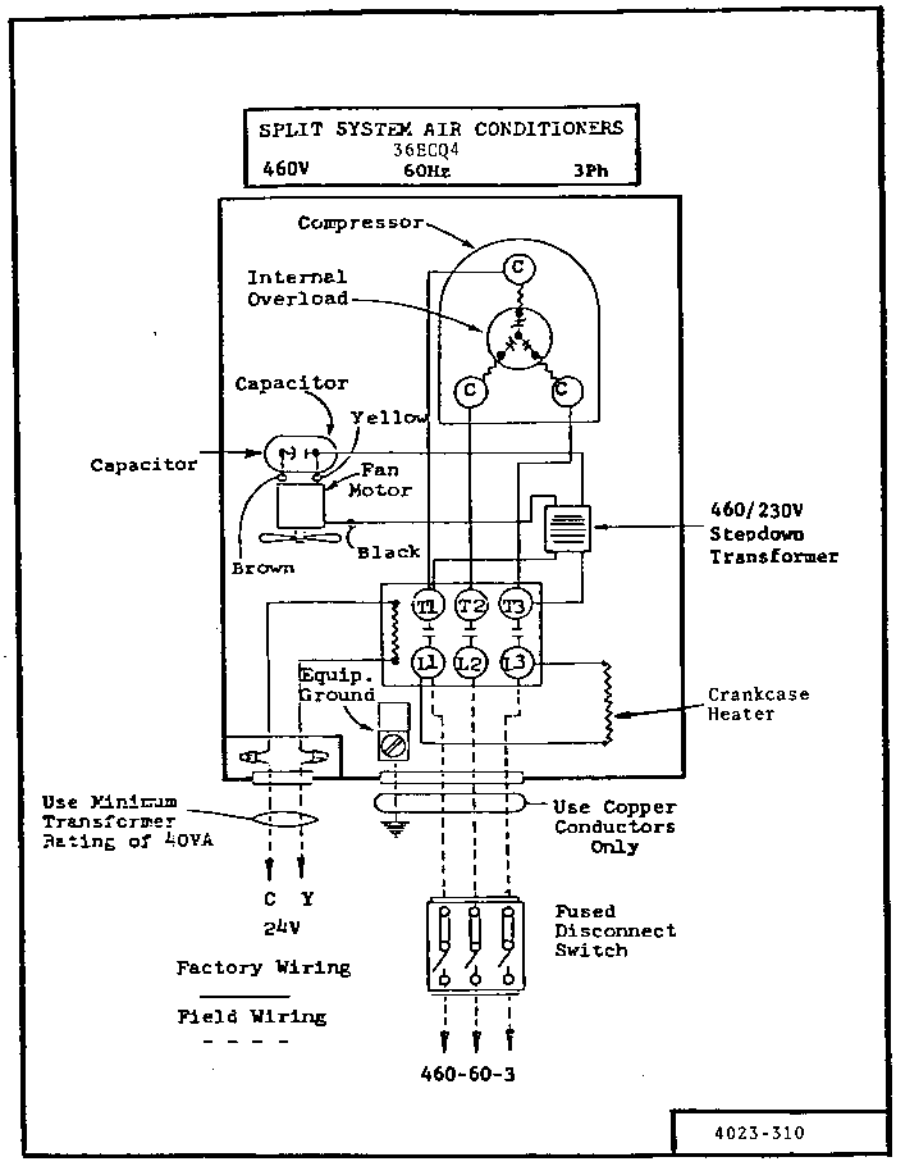



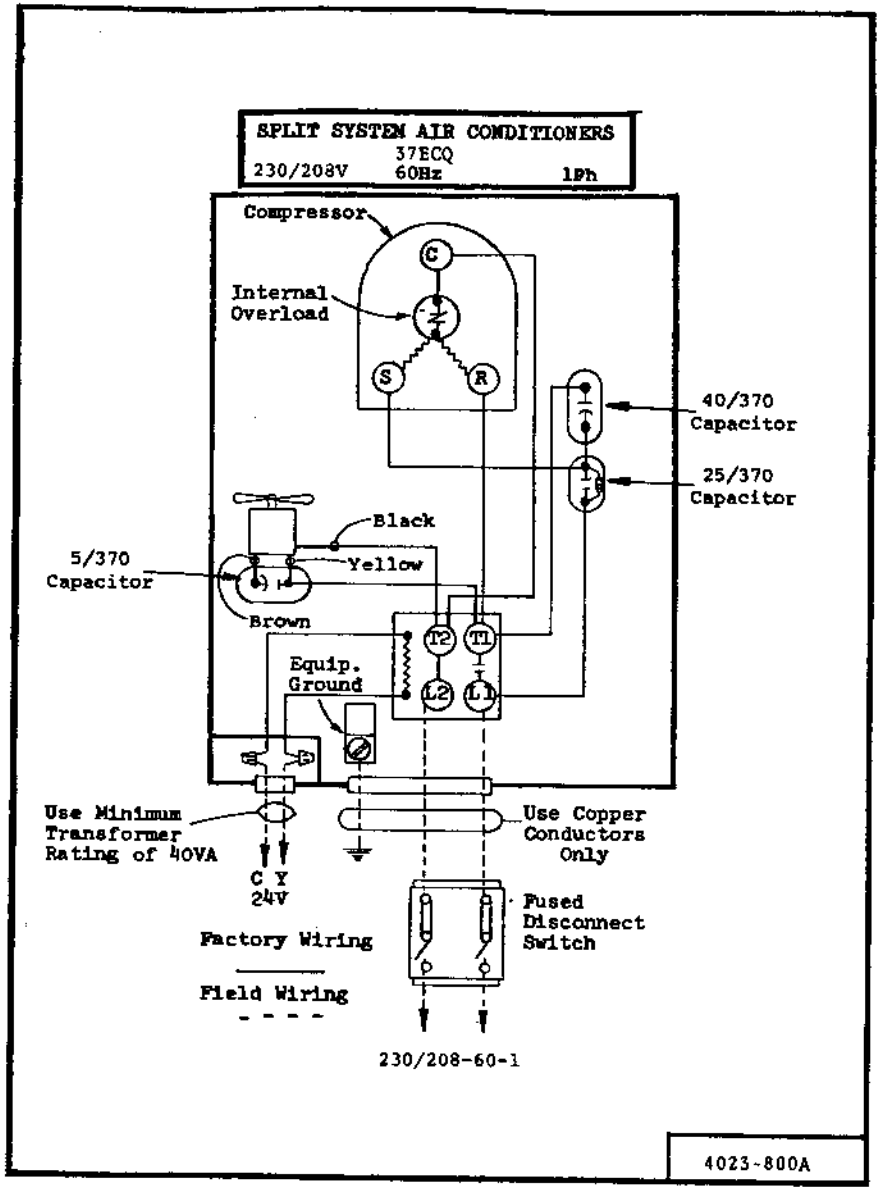

4022-110

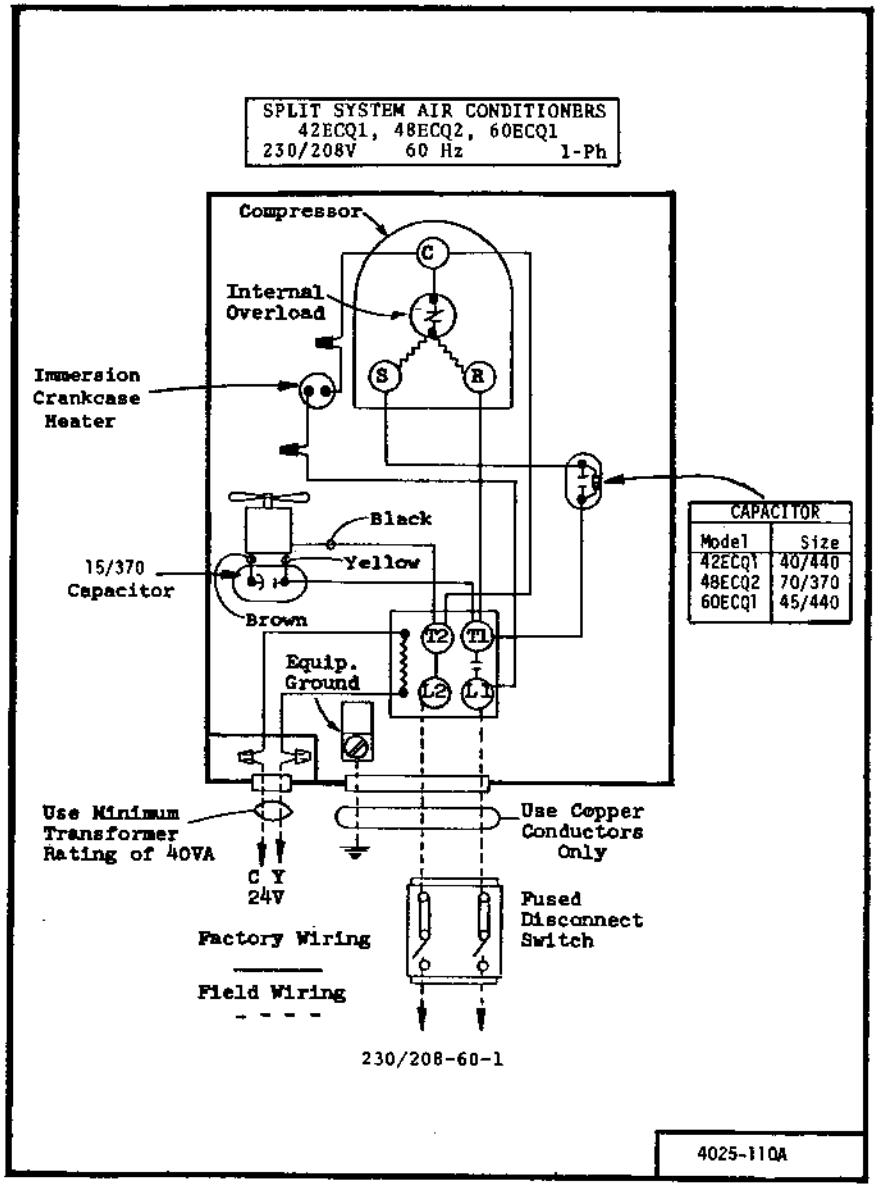

SPLIT SYSTEM AIR CONDITIONERS
31ECQ
230/208V 60Hz 1Ph
Compressor
C
Internal Overload
S
R
20/370 Capacitor
25/370 Capacitor
Black
5/370 Capacitor
Yellow
Brown
T2
T1
L2
L1
Equip. Ground
Use Minimum Transformer Rating of 40VA
Use Copper Conductors Only
C Y
24V
Fused Disconnect Switch
Factory Wiring
Field Wiring
230/208-60-1
4022-801A


SPLIT SYSTEM AIR CONDITIONERS
36ECQ4
230V 60 Hz 1-Ph
Compressor
C
Internal Overload
S
R
Capacitor
Run Capacitor
Black
Yellow
Brown
T2
T1
L2
L1
Equip. Ground
Compressor Contactor
Use Minimum Transformer Rating of 40VA
Use Copper Conductors Only
C Y
24V
Fused Disconnect Switch
Factory Wiring
Field Wiring
230-60-1
4023-110

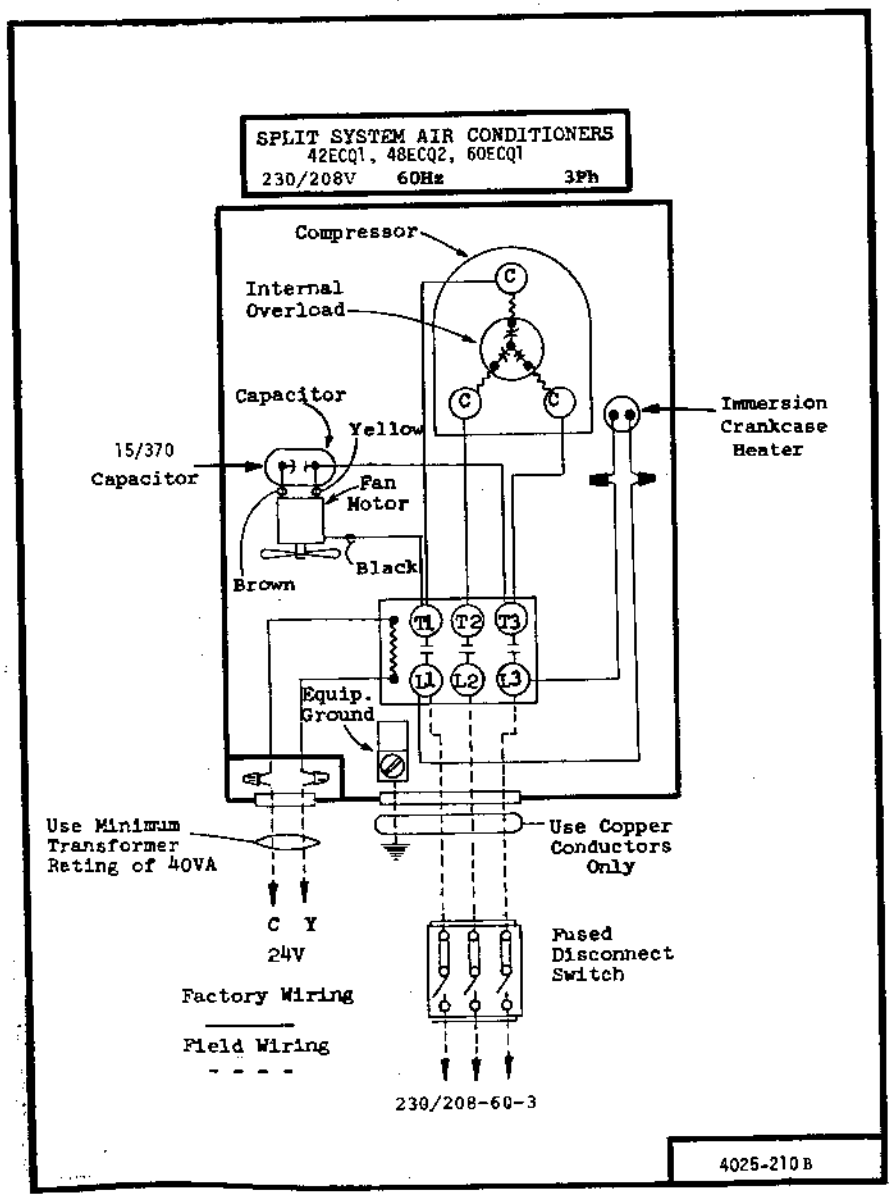

SPLIT SYSTEM AIR CONDITIONERS
36ECQ4
230V 60 Hz 3-Ph
Compressor
Internal Overload
Capacitor
Yellow
Fan Motor
Black
Brown
Compressor Contactor
Crankcase Heater
Equip. Ground
Use Minimum Transformer Rating of 40VA
Use Copper Conductors Only
C Y
24V
Fused Disconnect Switch
Factory Wiring
Field Wiring
230 -60-3
4023-210A

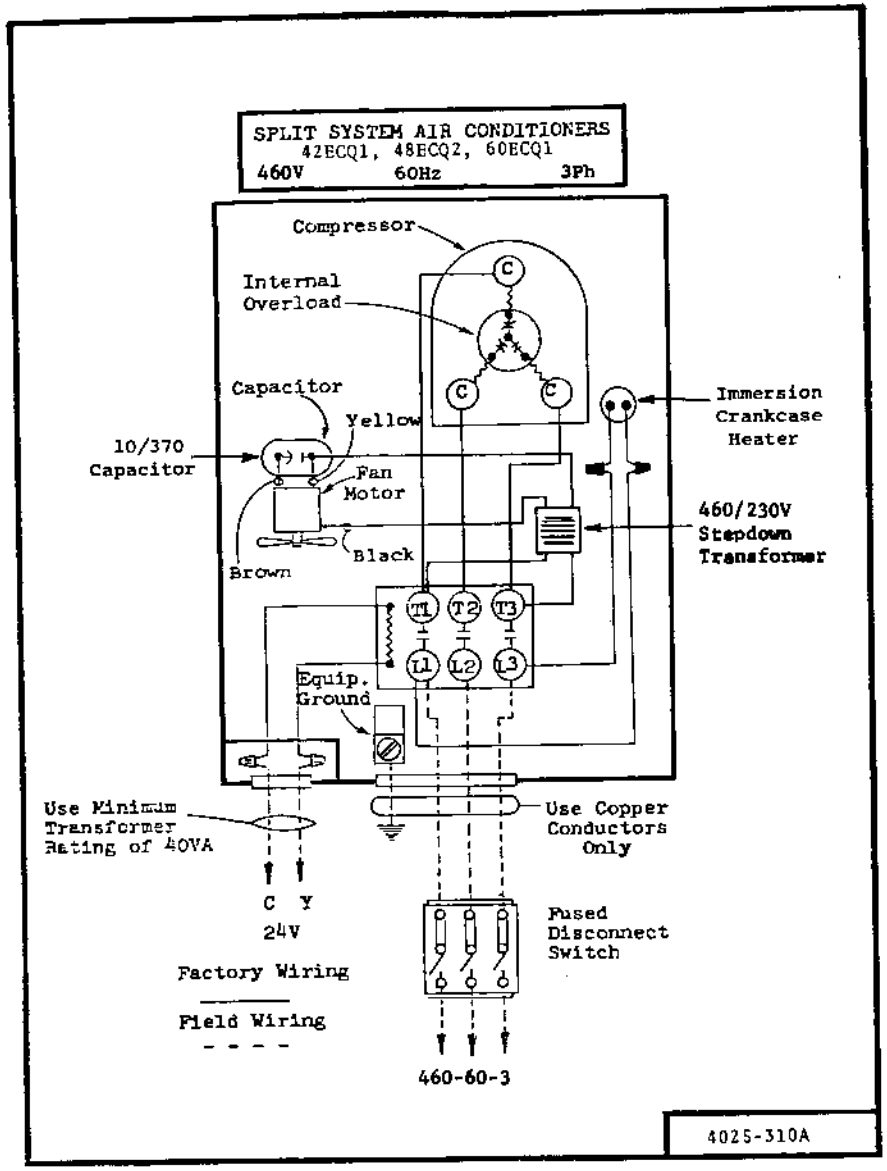

SPLIT SYSTEM AIR CONDITIONERS
36ECQ4
460V 60Hz 3Ph
Compressor
Internal Overload
Capacitor
Yellow
Capacitor
Fan Motor
Black
Brown
460/230V Stepdown Transformer
Crankcase Heater
Equip. Ground
Use Minimum Transformer Rating of 40VA
Use Copper Conductors Only
C Y
24V
Fused Disconnect Switch
Factory Wiring
Field Wiring
460-60-3
4023-310

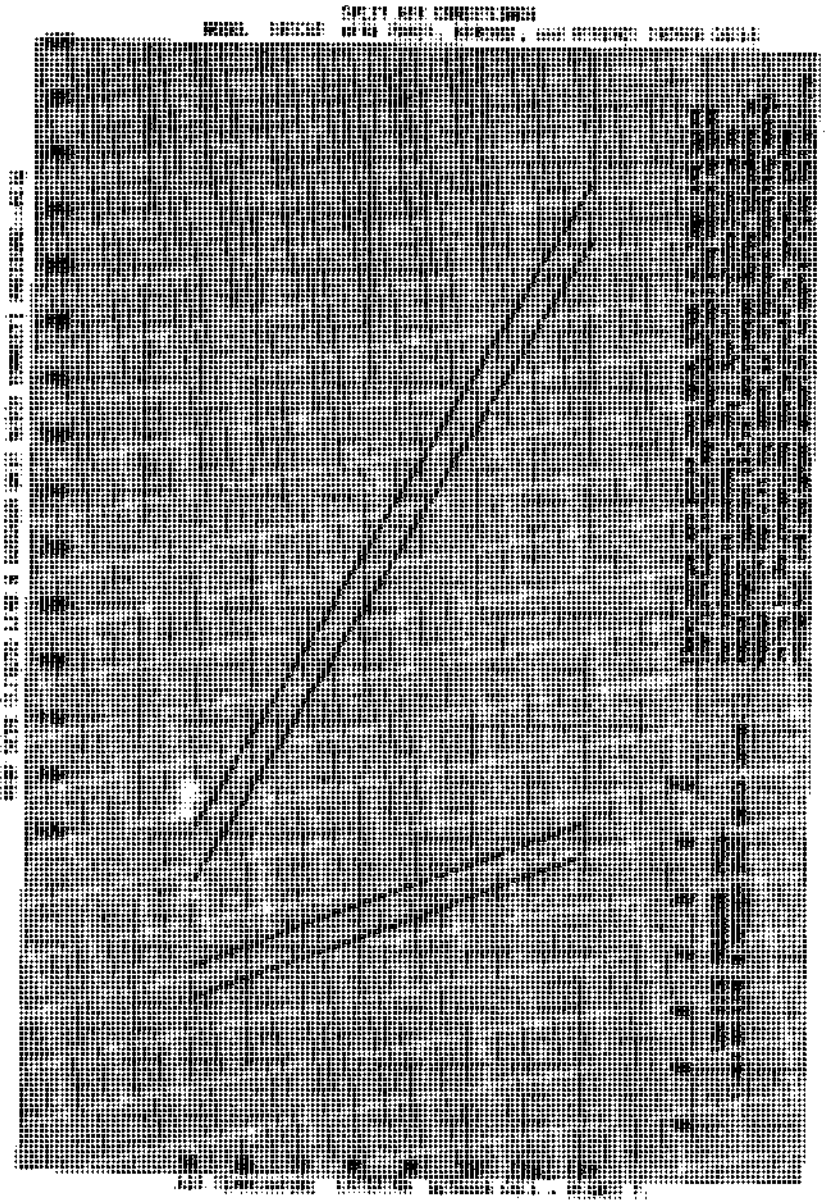


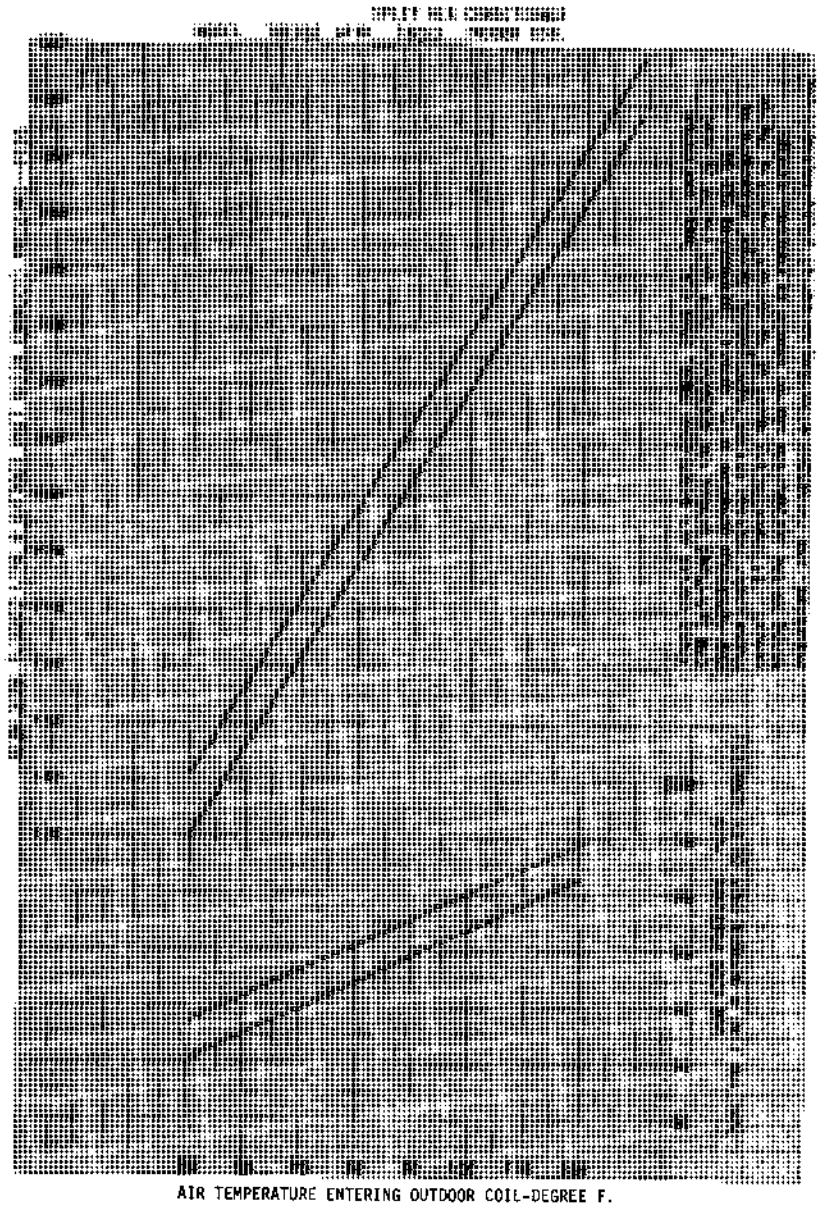




| CAPACITOR | |
|---|---|
| Model | Size |
| 42ECQ1 | 40/440 |
| 48ECQ2 | 70/370 |
| 60ECQ1 | 45/440 |


SPLIT SYSTEM AIR CONDITIONERS
42ECQ1, 48ECQ2, 60ECQ1
230/208V 60Hz 3Ph
Compressor
Internal Overload
Capacitor
Yellow
15/370 Capacitor
Fan Motor
Brown
Black
Immersion Crankcase Heater
T1 T2 T3
L1 L2 L3
Equip. Ground
Use Minimum Transformer Rating of 40VA
Use Copper Conductors Only
C Y
24V
Fused Disconnect Switch
Factory Wiring
Field Wiring
230/208-60-3
4025-210B

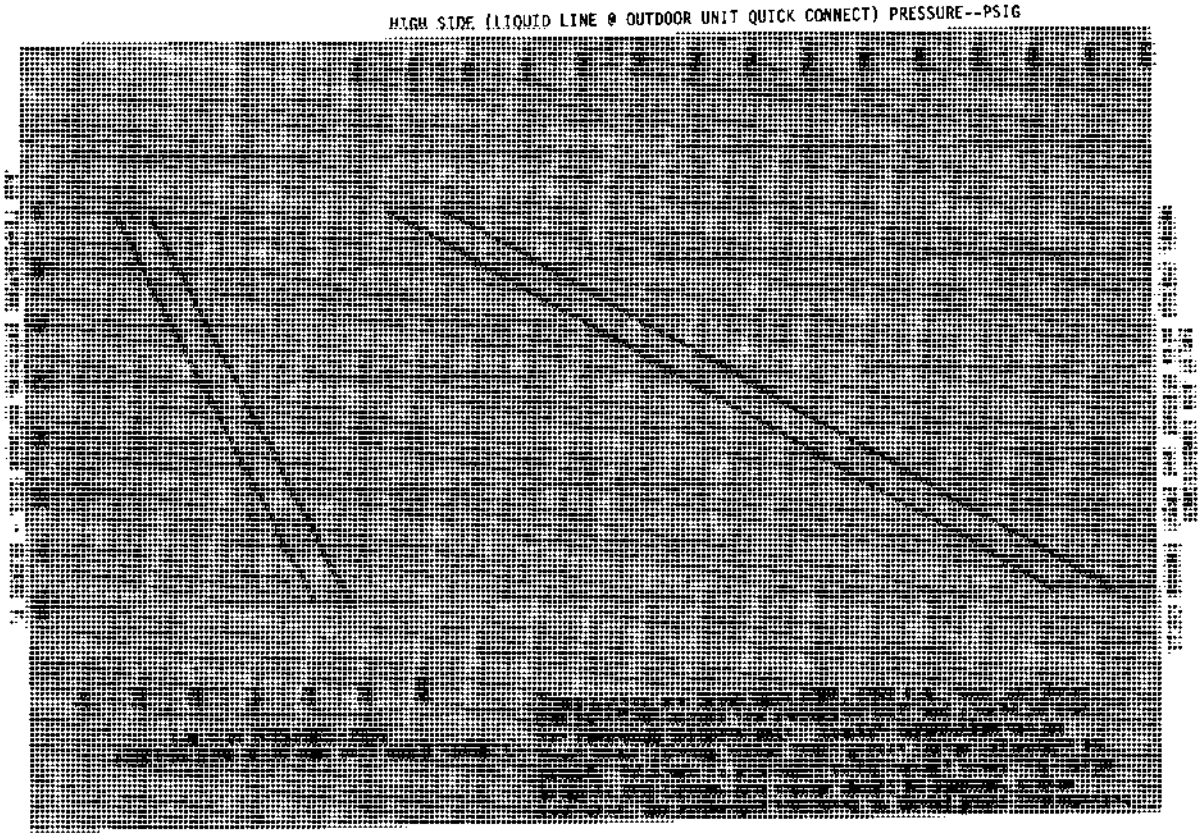

SPLIT SYSTEM AIR CONDITIONERS
42ECQ1, 48ECQ2, 60ECQ1
460V 60Hz 3Ph
Compressor
Internal Overload
Capacitor
Yellow
10/370 Capacitor
Fan Motor
Brown
Black
Immersion Crankcase Heater
460/230V Stepdown Transformer
T1 T2 T3
L1 L2 L3
Equip. Ground
Use Minimum Transformer Rating of 40VA
Use Copper Conductors Only
C Y
24V
Fused Disconnect Switch
Factory Wiring
Field Wiring
460-60-3
4025-310A

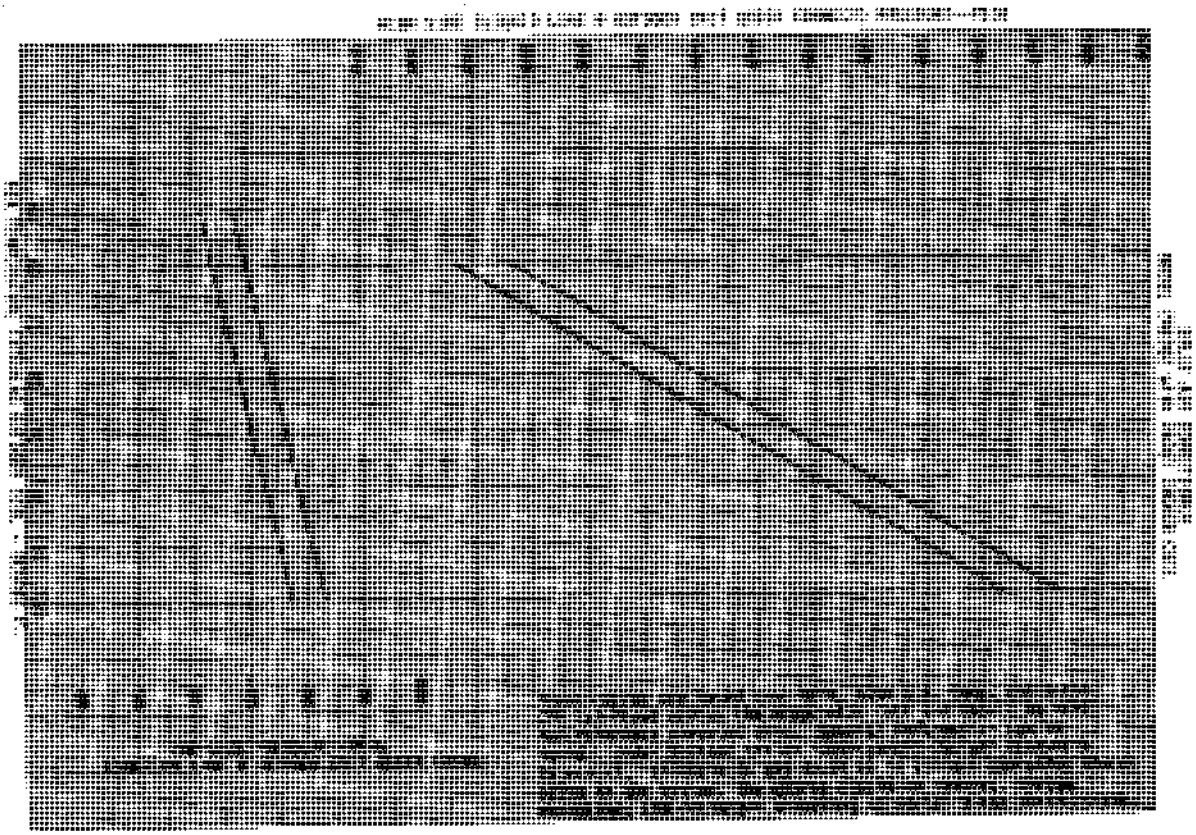




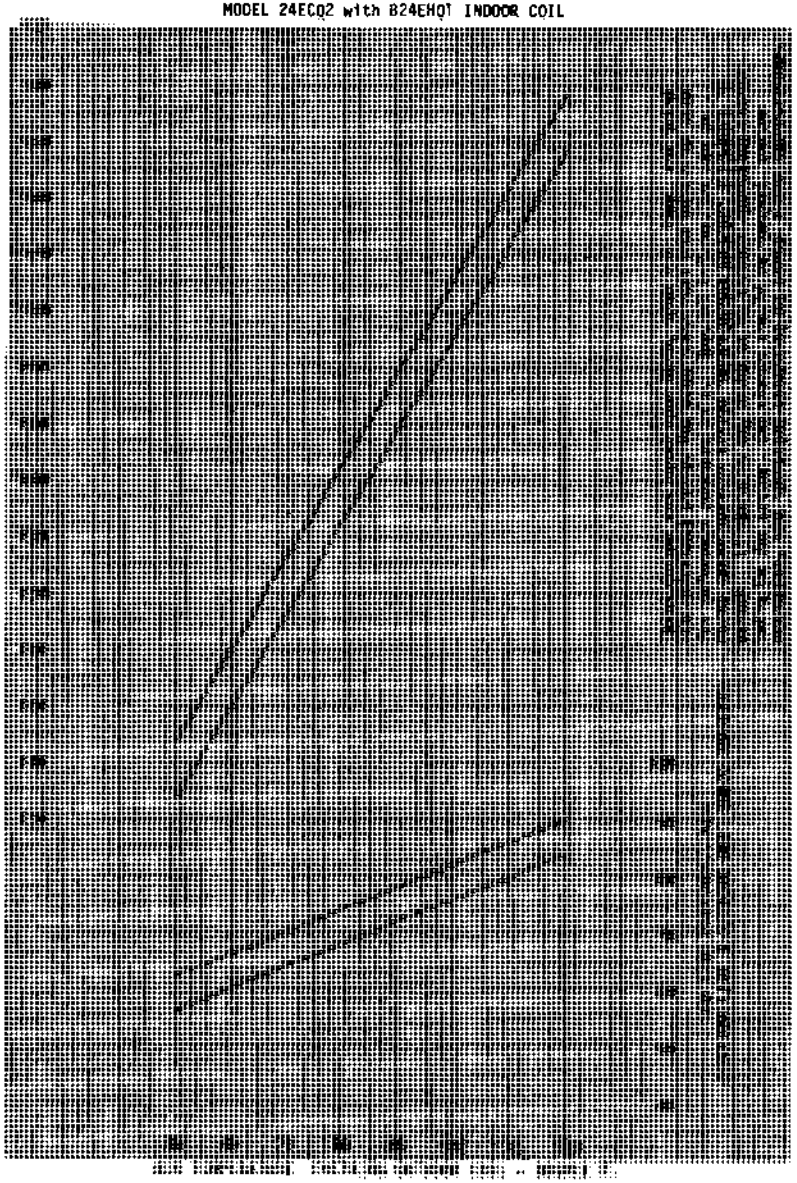
AIR TEMPERATURE ENTERING OUTDOOR COIL-DEGREE F.

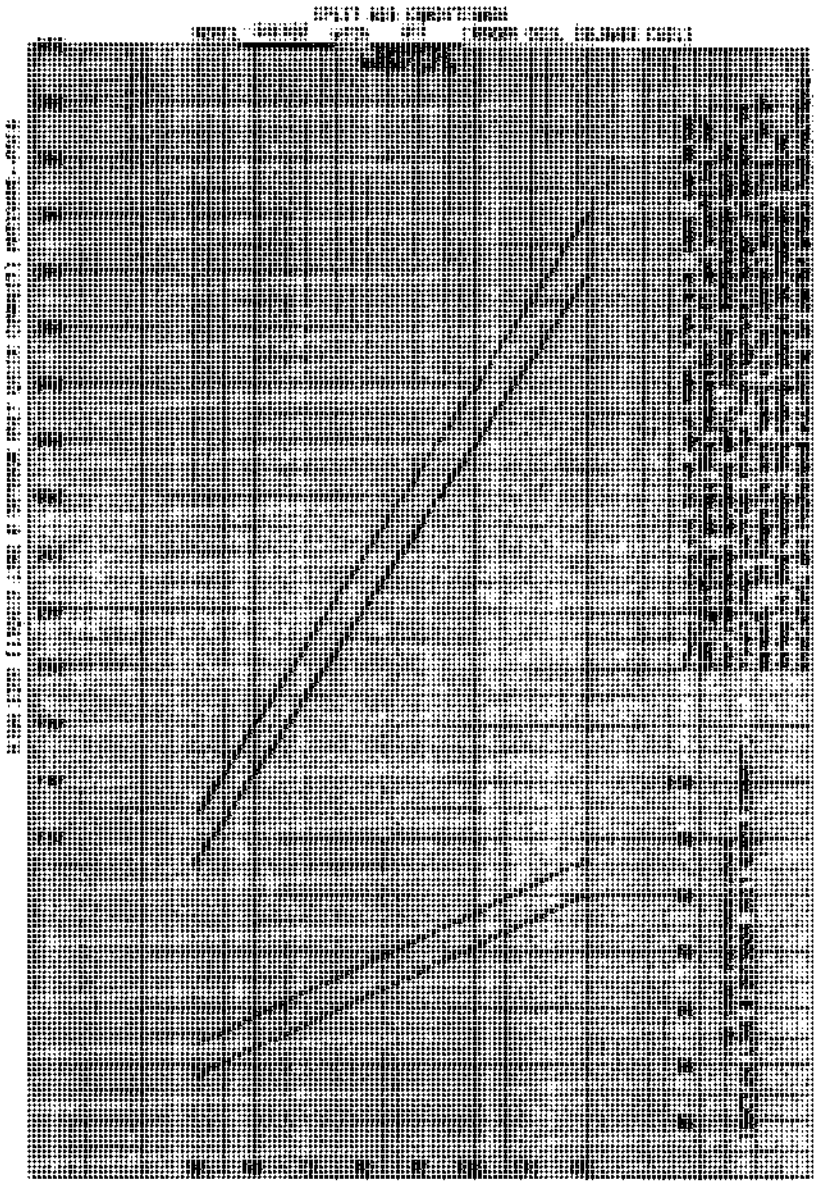
HIGH SIDE (LIQUID LINE @ OUTDOOR UNIT QUICK CONNECT) PRESSURE--PSIG

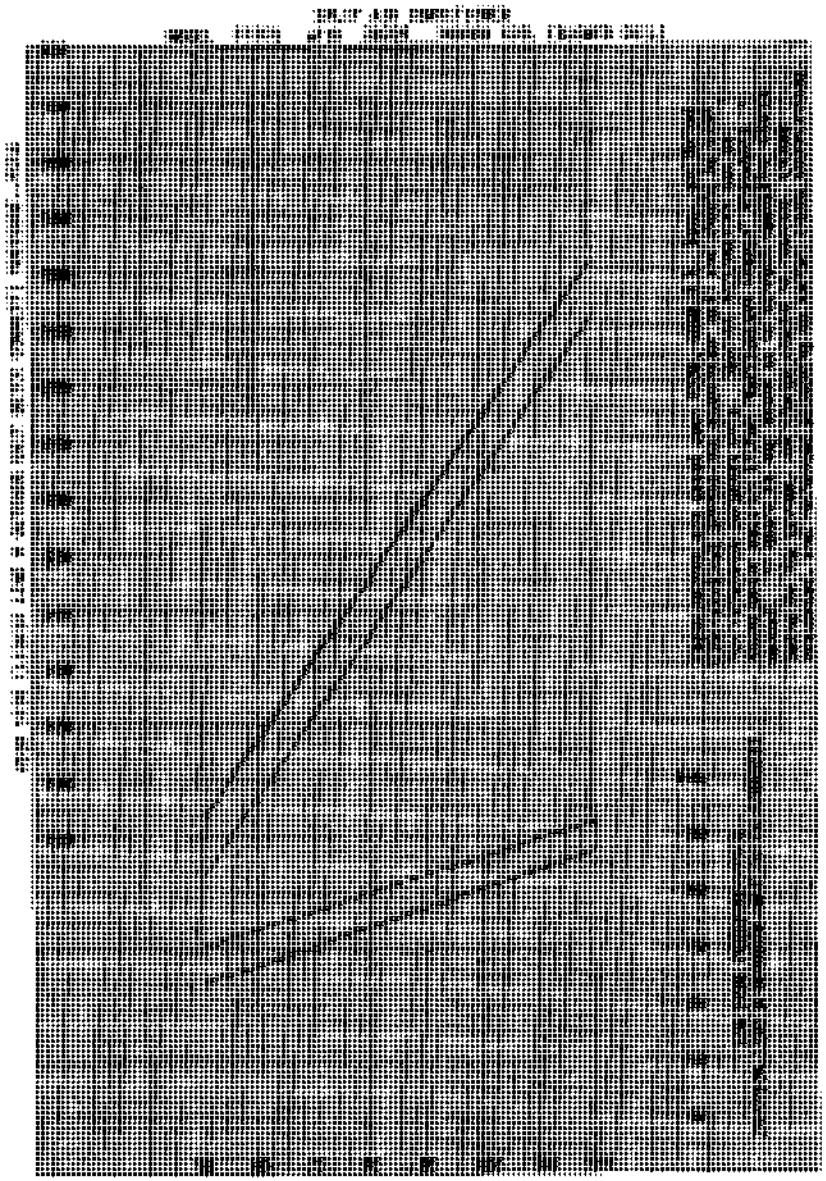




SPLIT AIR CONDITIONER
MODEL 24ECQ2 with B24EHQT INDOOR COIL

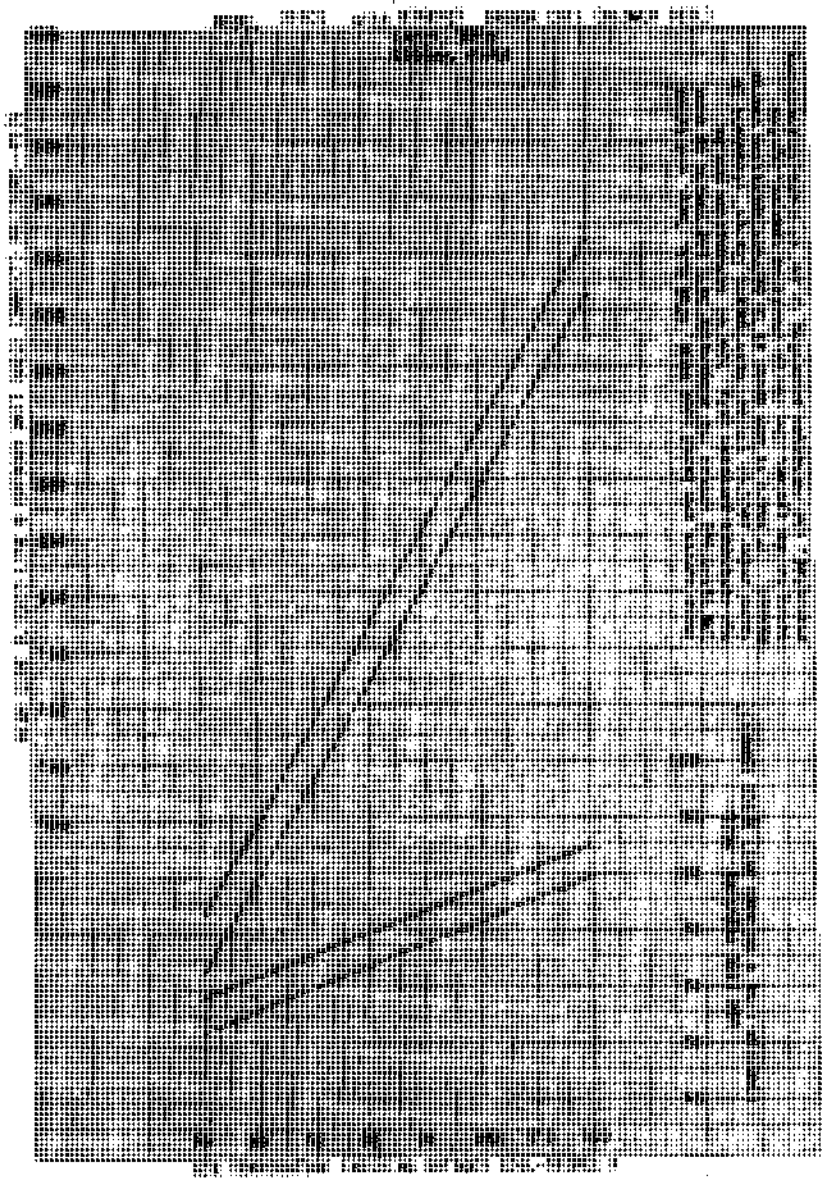


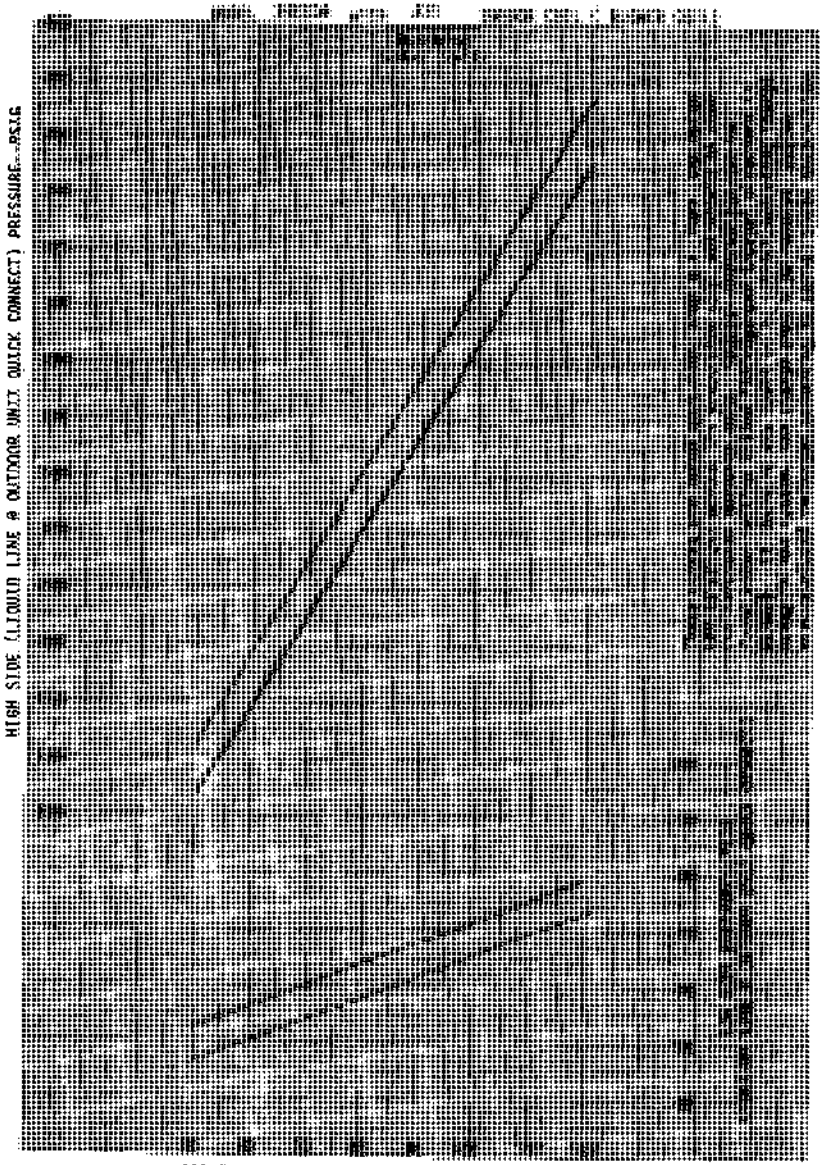


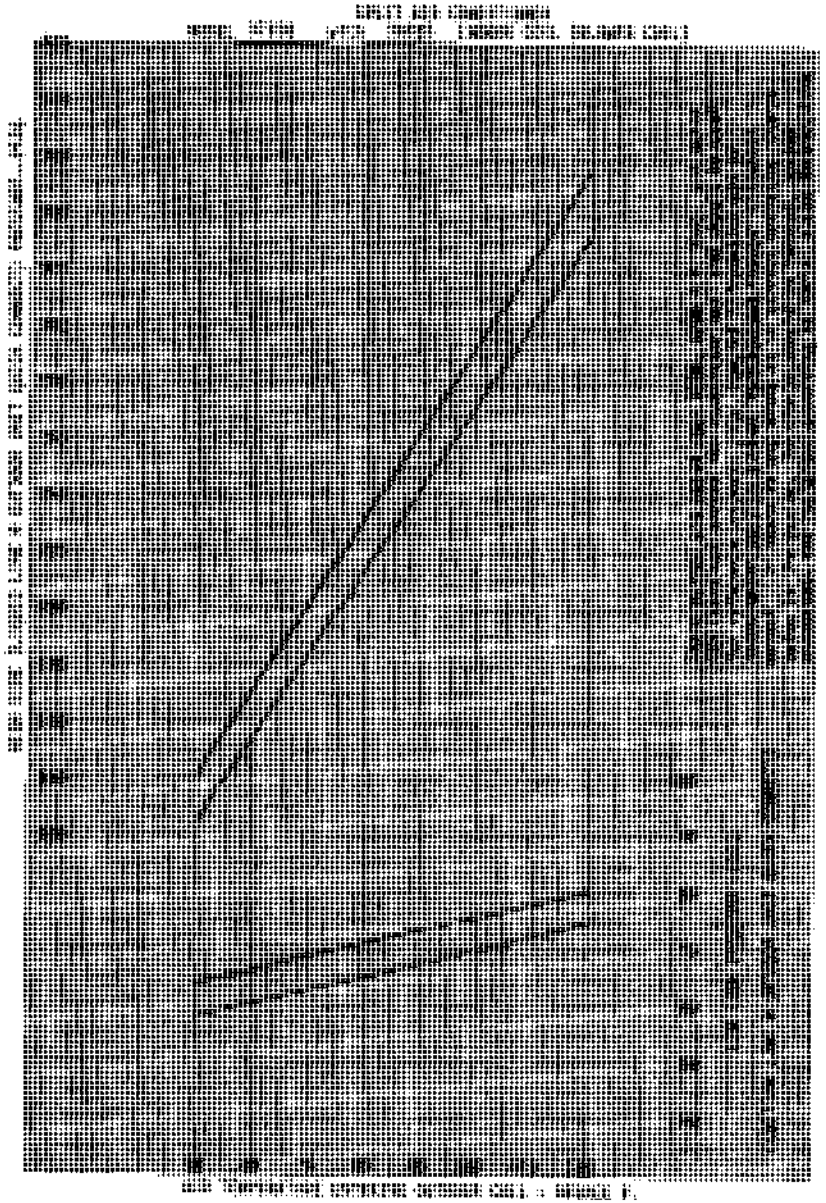
AIR TEMPERATURE ENTERING OUTDOOR COIL-DEGREE F.

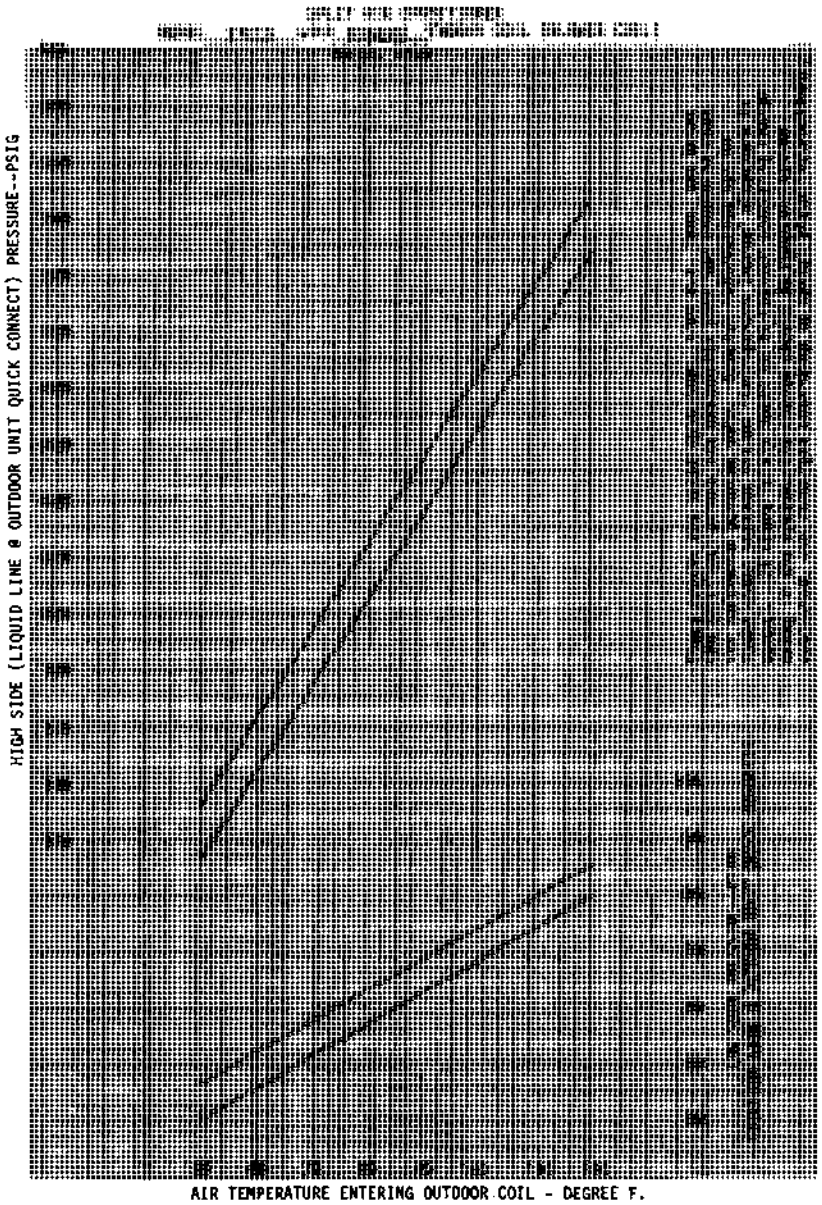
SPLIT AIR CONDITIONER

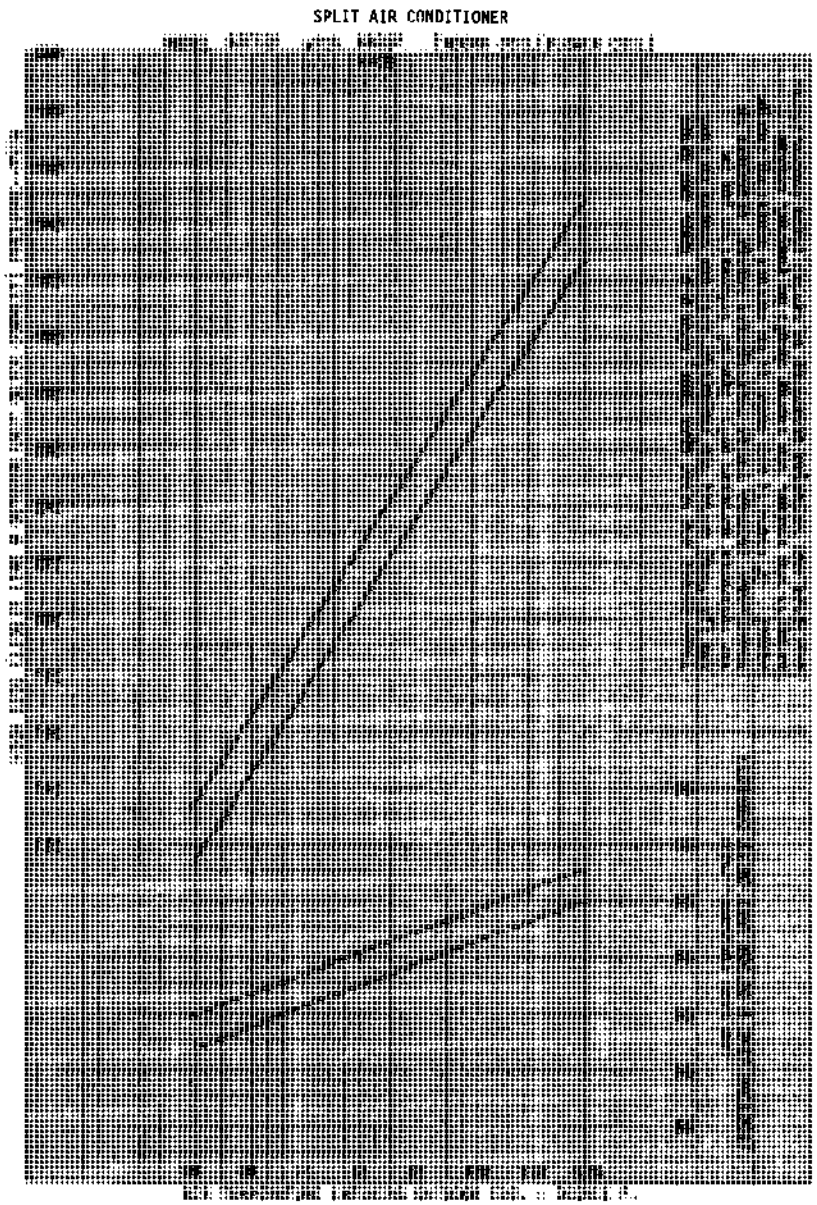


SPLIT AIR CONDITIONER

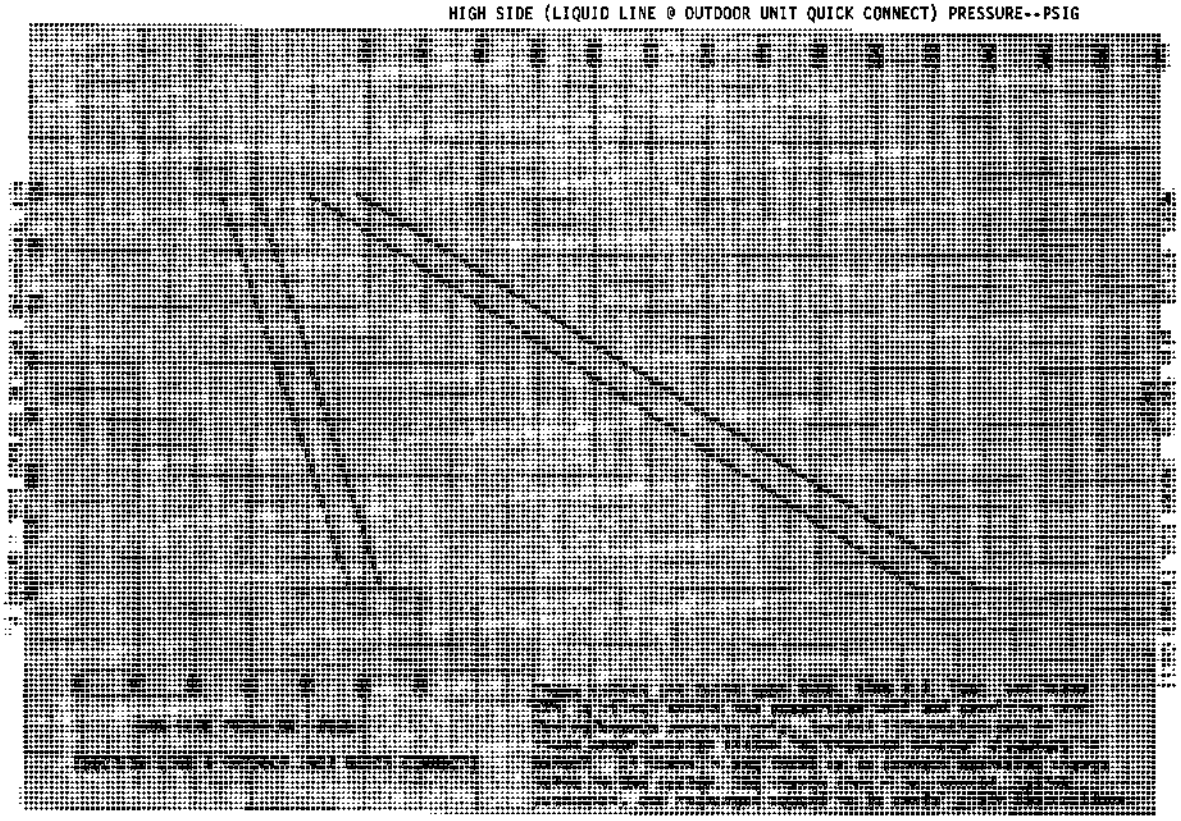


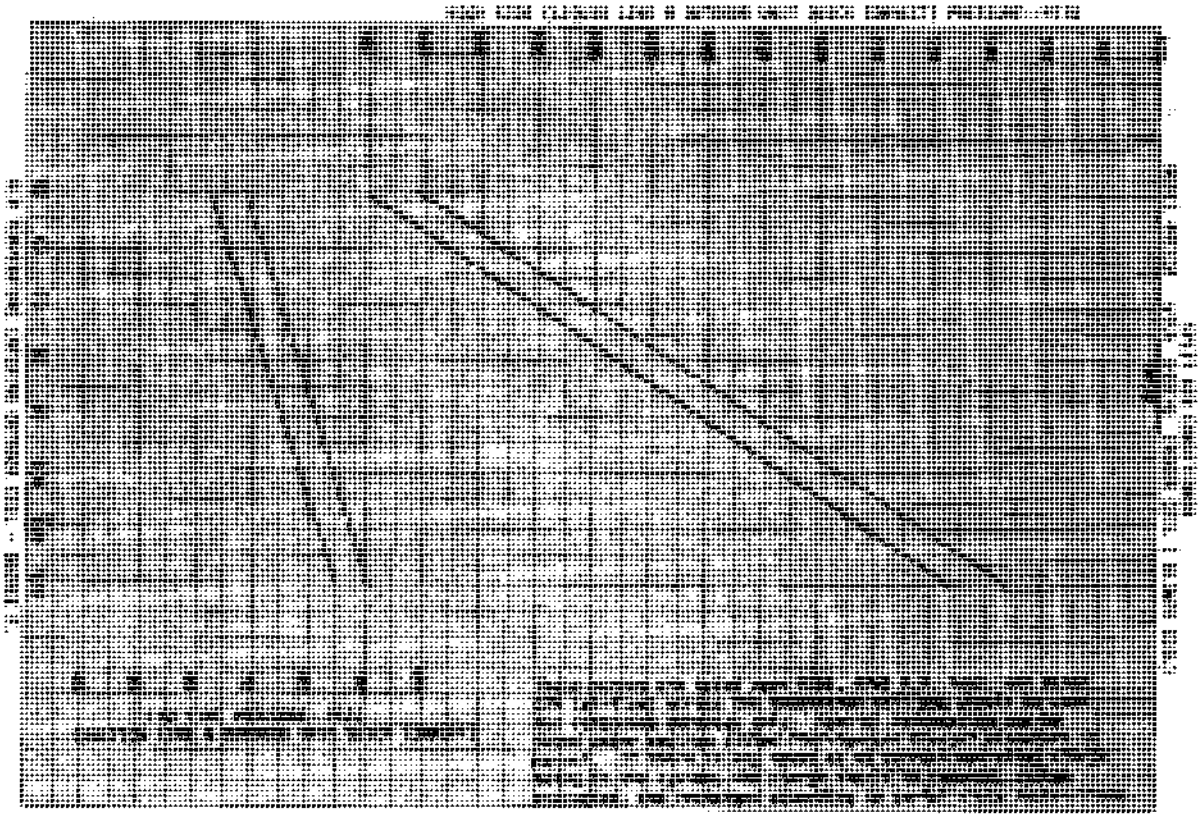

HIGH SIDE (LIQUID LINE @ OUTDOOR UNIT QUICK CONNECT) PRESSURE--PSIG
AIR TEMPERATURE ENTERING OUTDOOR COIL - DEGREE F.

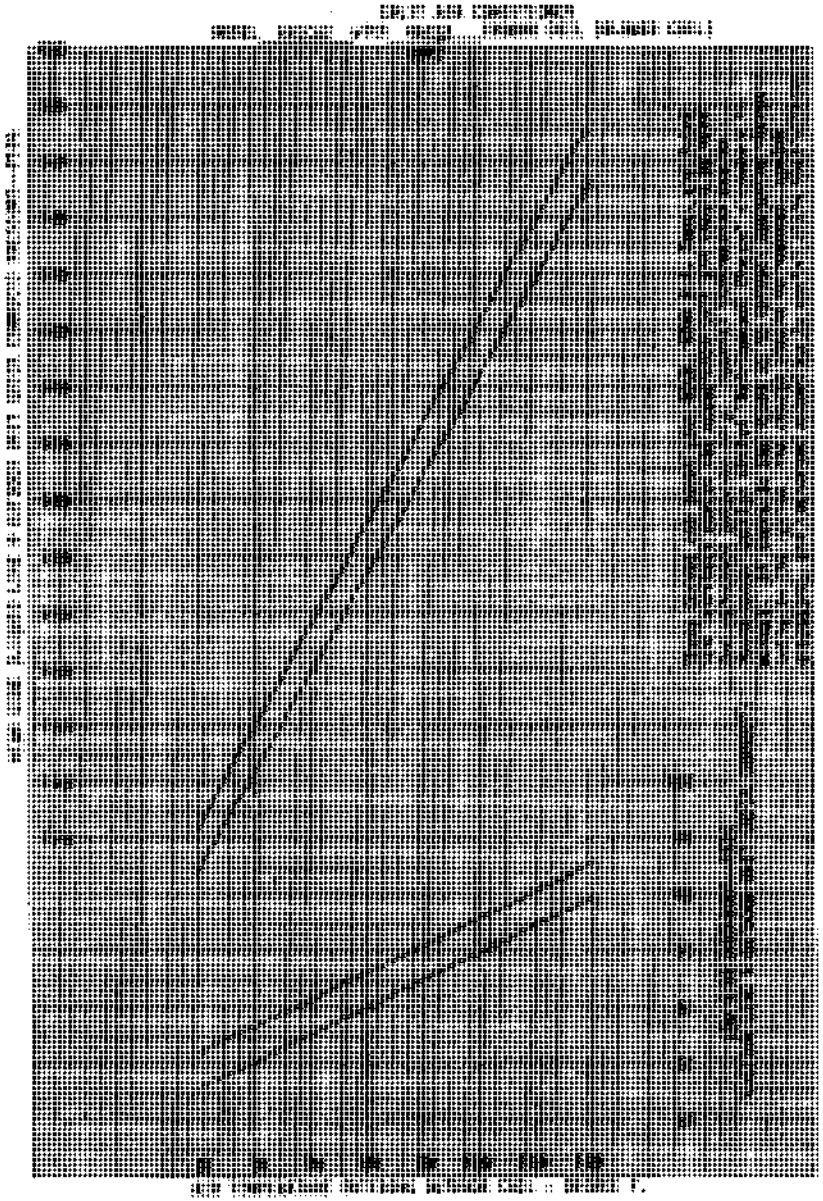

SPLIT AIR CONDITIONER

HIGH SIDE (LIQUID LINE @ OUTDOOR UNIT QUICK CONNECT) PRESSURE--PSIG



SPLIT AIR CONDITIONER





SPLIT AIR CONDITIONER