



# Service Facts

## Split System Heat Pump 4TWR4036A1000A

**⚠ CAUTION**

**UNIT CONTAINS R-410A REFRIGERANT!**  
R-410A OPERATING PRESSURE EXCEEDS THE LIMIT OF R-22. PROPER SERVICE EQUIPMENT IS REQUIRED. FAILURE TO USE PROPER SERVICE TOOLS MAY RESULT IN EQUIPMENT DAMAGE OR PERSONAL INJURY.

**SERVICE**  
USE ONLY R-410A REFRIGERANT AND APPROVED POE COMPRESSOR OIL.

**IMPORTANT** — This document contains a wiring diagram, a parts list, and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

**⚠ WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER and DISCHARGE CAPACITORS BEFORE SERVICING**

### PRODUCT SPECIFICATIONS

|                                 |                     |
|---------------------------------|---------------------|
| <b>OUTDOOR UNIT</b> ①②          | 4TWR4036A1000A      |
| <b>POWER CONNS.</b> — V/PH/HZ ③ | 208/230/1/60        |
| MIN. BRCH. CIR. AMPACITY        | 21                  |
| BR. CIR. } MAX. (AMPS)          | 35                  |
| PROT. RTG. } MIN. (AMPS)        | 30                  |
| <b>COMPRESSOR</b>               | CLIMATUFF® - SCROLL |
| NO. USED - NO. SPEEDS           | 1 - 1               |
| VOLTS/PH/HZ                     | 208/230/1/60        |
| R.L. AMPS ⑦ - L.R. AMPS         | 15.4 - 83           |
| FACTORY INSTALLED               |                     |
| START COMPONENTS ⑧              | NO                  |
| INSULATION/SOUND BLANKET        | YES                 |
| COMPRESSOR HEAT                 | YES                 |
| <b>OUTDOOR FAN</b>              | PROPELLER           |
| DIA. (IN.) - NO. USED           | 27.6 - 1            |
| TYPE DRIVE - NO. SPEEDS         | DIRECT - 1          |
| CFM @ 0.0 IN. W.G. ④            | 4100                |
| NO. MOTORS - HP                 | 1 - 1/6             |
| MOTOR SPEED R.P.M.              | 825                 |
| VOLTS/PH/HZ                     | 200/230/1/60        |
| F.L. AMPS                       | 1.4                 |
| <b>OUTDOOR COIL</b> — TYPE      | SPINE FIN™          |
| ROWS - F.P.I.                   | 1 - 24              |
| FACE AREA (SQ. FT.)             | 24.88               |
| TUBE SIZE (IN.)                 | 5/16                |
| REFRIGERANT CONTROL             | EXPANSION VALVE     |
| <b>REFRIGERANT</b>              |                     |
| LBS. — R-410A (O.D. UNIT) ⑤     | 7 LBS. - 1 OZ.      |
| FACTORY SUPPLIED                | YES                 |
| LINE SIZE - IN. O.D. GAS ⑥      | 3/4                 |
| LINE SIZE - IN. O.D. LIQ. ⑥     | 3/8                 |
| <b>FCCV</b>                     |                     |
| RESTRICTOR ORIFICE SIZE         | N/A                 |
| <b>DIMENSIONS</b>               | H X W X D           |
| CRATED (IN.)                    | 42.4 x 35.1 x 38.7  |
| <b>WEIGHT</b>                   |                     |
| SHIPPING (LBS.)                 | 276                 |
| NET (LBS.)                      | 241                 |

### TUBING INFORMATION

| Tubing Sizes |        | Tubing Length | Additional Refrigerant |
|--------------|--------|---------------|------------------------|
| Suction      | Liquid |               |                        |
| 3/4"         | 3/8"   | 20'           | 3 oz.                  |
| 3/4"         | 3/8"   | 30'           | 9 oz.                  |
| 3/4"         | 3/8"   | 40'           | 14 oz.                 |
| 3/4"         | 3/8"   | 50'           | 20 oz.                 |
| 3/4"         | 3/8"   | 60'           | 26 oz.                 |

Tubing lengths in excess of sixty (60) feet see application software.

- ① Certified in accordance with the Air-Source Unitary Heat Pump Equipment certification program, which is based on A.R.I. standard 210/240.
- ② Rated in accordance with A.R.I. standard 270.
- ③ Calculated in accordance with Natl. Elec. Codes. Only use HACR circuit breakers or fuses.
- ④ Standard Air — Dry Coil — Outdoor
- ⑤ This value approximate. For more precise value see unit nameplate.
- ⑥ Max. linear length 60 ft.; Max. lift - Suction 60 ft.; Max lift - Liquid 60 ft. For greater length consult refrigerant piping software Pub. No. 32-3312-0\* (\* denotes latest revision).
- ⑦ This value shown for compressor RLA on the unit nameplate and on this specification sheet is used to compute minimum branch circuit ampacity and max. fuse size. The value shown is the branch circuit selection current.
- ⑧ No means no start components. Yes means quick start kit components. PTC means positive temperature coefficient starter.

**E - SPLIT HEAT PUMP**

**⚠ CAUTION**

**HOT SURFACE!**  
**DO NOT TOUCH TOP OF COMPRESSOR.**  
May cause minor to severe burning.

**⚠ CAUTION**

**CONTAINS REFRIGERANT!**  
**SYSTEM CONTAINS OIL AND REFRIGERANT UNDER HIGH PRESSURE. RECOVER REFRIGERANT TO RELIEVE PRESSURE BEFORE OPENING SYSTEM.**  
Failure to follow proper procedures can result in personal illness or injury or severe equipment damage.

**⚠ WARNING**

THIS INFORMATION IS INTENDED FOR USE BY INDIVIDUALS POSSESSING ADEQUATE BACKGROUNDS OF ELECTRICAL AND MECHANICAL EXPERIENCE. ANY ATTEMPT TO REPAIR A CENTRAL AIR CONDITIONING PRODUCT MAY RESULT IN PERSONAL INJURY AND OR PROPERTY DAMAGE. THE MANUFACTURER OR SELLER CANNOT BE RESPONSIBLE FOR THE INTERPRETATION OF THIS INFORMATION, NOR CAN IT ASSUME ANY LIABILITY IN CONNECTION WITH ITS USE.

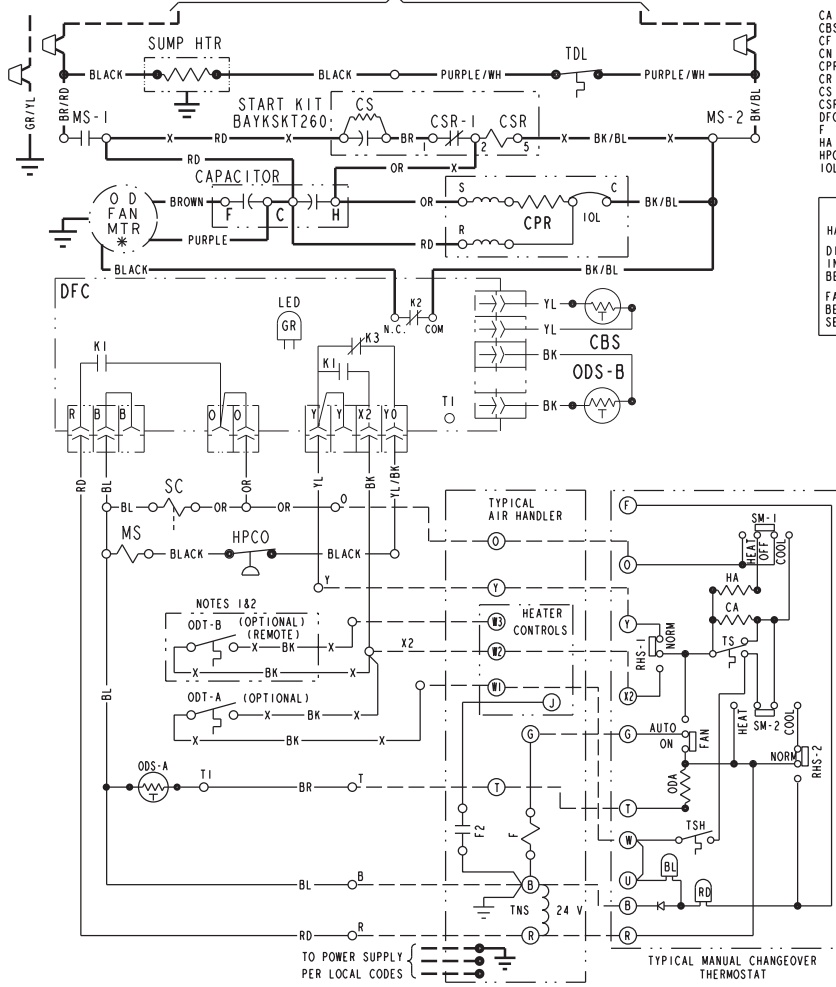
**⚠ CAUTION**

RECONNECT ALL GROUNDING DEVICES. ALL PARTS OF THIS PRODUCT CAPABLE OF CONDUCTING ELECTRICAL CURRENT ARE GROUNDED. IF GROUNDING WIRES, SCREWS, STRAPS, CLIPS, NUTS OR WASHERS USED TO COMPLETE A PATH TO GROUND ARE REMOVED FOR SERVICE, THEY MUST BE RETURNED TO THEIR ORIGINAL POSITION AND PROPERLY FASTENED.

# SCHEMATIC DIAGRAM

4TWR4036A1000A

TO POWER SUPPLY PER UNIT NAMEPLATE AND LOCAL CODES



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

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

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

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

**NOTES:**

- IF ODT-B IS NOT USED, ADD JUMPER BETWEEN W2 & W3 AT AIR HANDLER. IF USED, ODT-B MUST BE MOUNTED REMOTE OF CONTROL BOX IN AN APPROVED WEATHER PROOF ENCLOSURE.
- IF ODT-A IS NOT USED, ADD JUMPER BETWEEN W1 & W2 AT AIR HANDLER.
- LOW VOLTAGE (24 V.) FIELD WIRING MUST BE 18 AWG MIN.

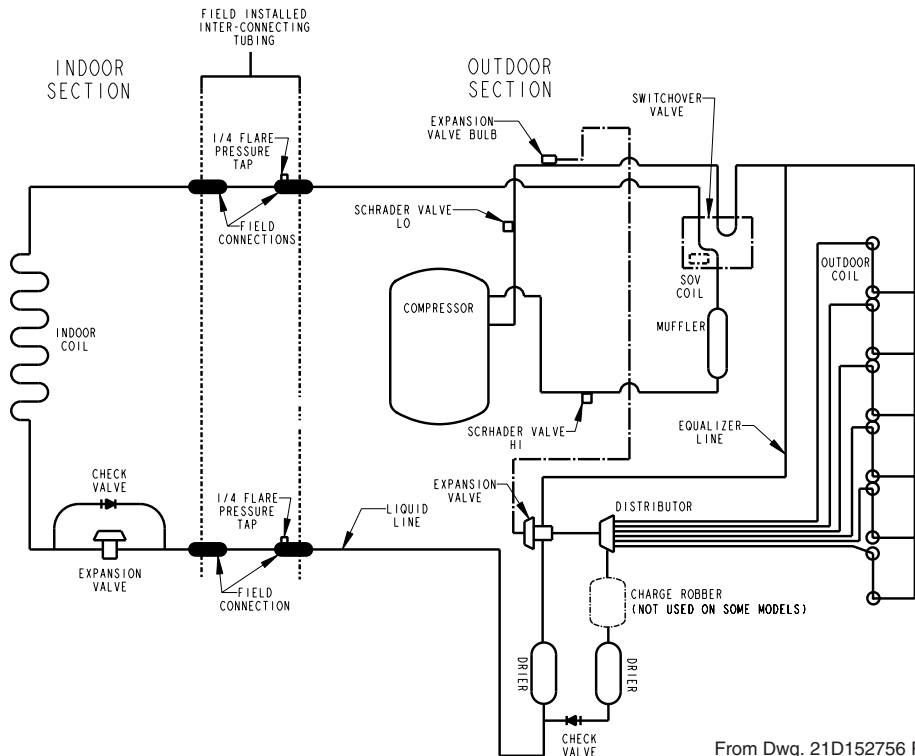
FOR CANADIAN INSTALLATIONS  
POUR INSTALLATIONS CANADIENNES

CAUTION: NOT SUITABLE FOR USE ON SYSTEMS EXCEEDING 150V-TO-GROUND.  
ATTENTION: NE CONVIENT PAS AUX INSTALLATIONS DE PLUS DE 150 V A LA TERRE.

**LEGE**

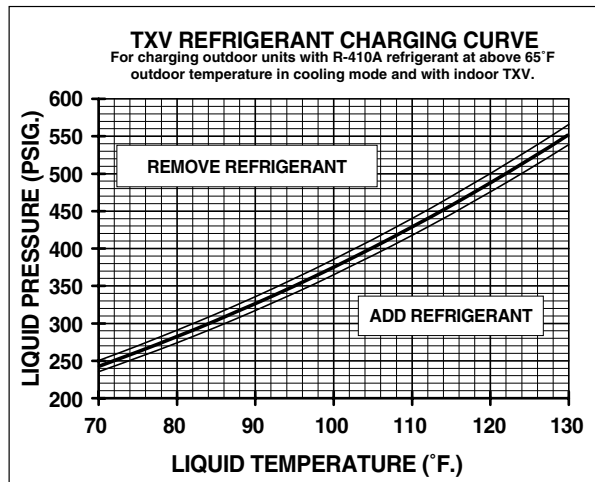
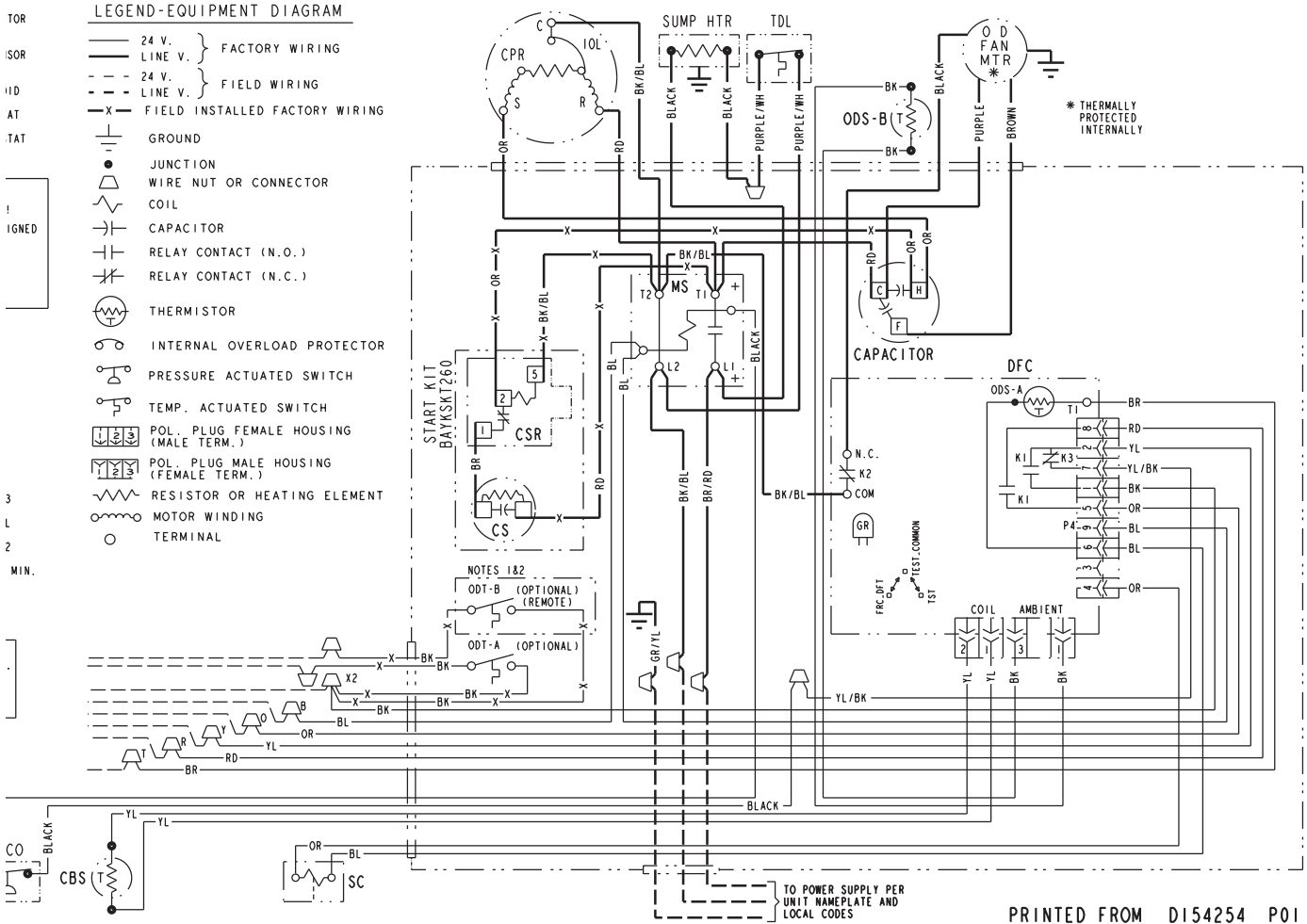


# REFRIGERANT CIRCUIT



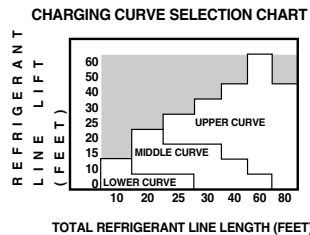
From Dwg. 21D152756 Rev. 1

WIRING DIAGRAM



1. Measure Liquid Line Temperature and Refrigerant Pressure at service valves.
2. Determine total refrigerant pipe length and height (lift) if indoor section is above the condenser. Plot the intersection of the two points on the Curve Selection Chart to determine which curve to use.
3. Plot the pressure and temperature on the TXV Charging Curve.
4. If the lines cross above the curve remove refrigerant, if below curve add refrigerant.

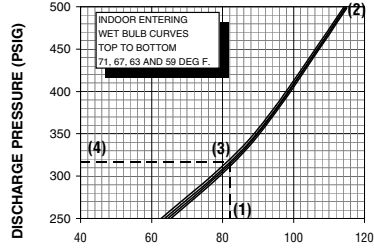
5. Whenever charge is removed or added, the system must be operated for a minimum 20 minutes to stabilize before additional measurements can be made.
6. When system is correctly charged refer to System Performance Curves to verify charge and performance.



**PRESSURE CURVES FOR 4TWR4036A1000A**

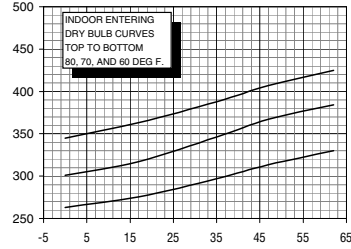
**4TEE3F37A1410AA**

Cooling with Thermal Expansion Valve

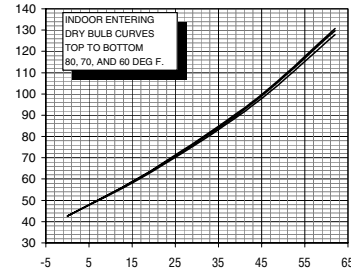
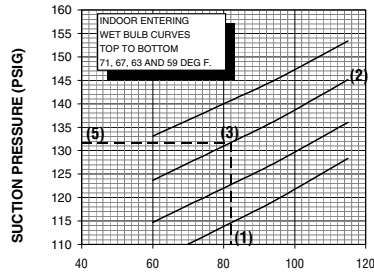


**4TEE3F37A**

Heating



**OUTDOOR TEMPERATURE (Degree F)**



**OUTDOOR TEMPERATURE (Degree F)**

**COOLING PERFORMANCE CAN BE CHECKED WHEN THE OUTDOOR TEMP IS ABOVE 65 DEG F.**

TO CHECK COOLING PERFORMANCE, SELECT THE PROPER INDOOR CFM, ALLOW PRESSURES TO STABILIZE. MEASURE INDOOR WET BULB TEMPERATURE, OUTDOOR TEMPERATURE, DISCHARGE AND SUCTION PRESSURES. ON THE PLOTS LOCATE OUTDOOR TEMPERATURE (1); LOCATE INDOOR WET BULB (2); FIND INTERSECTION OF OD TEMP. & ID W.B. (3); READ DISCHARGE OR SUCTION PRESSURE IN LEFT COLUMN (4).

- EXAMPLE: (1) OUTDOOR TEMP. 82 F.  
 (2) INDOOR WET BULB 67 F.  
 (3) AT INTERSECTION  
 (4) DISCHARGE PRESSURE @ 1170 CFM IS 316 PSIG  
 (5) SUCTION PRESSURE @ 1170 CFM IS 132 PSIG

ACTUAL:  
 DISCHARGE PRESSURE SHOULD BE +/- 10 PSI OF CHART  
 SUCTION PRESSURE SHOULD BE +/- 3 PSIG OF CHART

**INTERCONNECTING LINES**  
 GAS - 3/4" O.D.  
 LIQUID - 3/8" O.D.

DWG.NO. 4TWR4036A1

**ALTERNATE INDOOR UNITS WITH THERMAL EXPANSION VALVE**

**PRESSURE CURVE CORRECTION PSIG**

| INDOOR UNIT         | CFM  | —COOLING—   |            | —HEATING—   |            |
|---------------------|------|-------------|------------|-------------|------------|
|                     |      | SUCT. PRESS | HEAD PRESS | SUCT. PRESS | HEAD PRESS |
| 4TEE3F31A1          | 1220 | 0           | -2         | 1           | 10         |
| 4TEE3F40A1          | 1200 | 8           | 1          | -8          | -44        |
| 4TEP3F30A1          | 1050 | -3          | -3         | 3           | 32         |
| 4TEP3F36A1          | 1200 | 0           | -2         | 0           | -3         |
| 4TEP3F42A1          | 1200 | 4           | 0          | -3          | -21        |
| 4TEP3F48B1          | 1350 | 8           | 1          | -9          | -46        |
| RXC031S3            | 1110 | 0           | -2         | 0           | 3          |
| TDD060R9V3+RXC031S3 | 1220 | 2           | -1         | -1          | -9         |
| TDD080R9V3+RXC031S3 | 1120 | 1           | -2         | 0           | 1          |
| TDY060R9V3+RXC031S3 | 1090 | 0           | -2         | 1           | 5          |
| TDY080R9V3+RXC031S3 | 1090 | 0           | -2         | 1           | 5          |
| TUD060R9V3+RXC031S3 | 1190 | 2           | -1         | -1          | -6         |
| TUD080R9V3+RXC031S3 | 1190 | 2           | -1         | -1          | -6         |
| TUY060R9V3+RXC031S3 | 1080 | 0           | -2         | 1           | 6          |
| TUY080R9V3+RXC031S3 | 1040 | -1          | -2         | 1           | 11         |
| RXC036S3            | 1200 | 5           | 0          | -4          | -27        |
| TDD060R9V3+RXC036S3 | 1220 | 5           | 0          | -4          | -29        |
| TDD080R9V3+RXC036S3 | 1130 | 4           | -1         | -3          | -20        |
| TDY060R9V3+RXC036S3 | 1090 | 3           | -1         | -2          | -16        |
| TDY080R9V3+RXC036S3 | 1100 | 3           | -1         | -2          | -17        |
| TUD060R9V3+RXC036S3 | 1200 | 5           | 0          | -4          | -27        |
| TUD080R9V3+RXC036S3 | 1200 | 5           | 0          | -4          | -27        |
| TUY060R9V3+RXC036S3 | 1080 | 3           | -1         | -2          | -15        |
| TUY080R9V3+RXC036S3 | 1030 | 2           | -2         | -1          | -9         |
| RXC037S3            | 1200 | 5           | 0          | -4          | -27        |
| TDD100R9V5+RXC037S3 | 1040 | 2           | -1         | -1          | -11        |
| TDY100R9V4+RXC037S3 | 1050 | 2           | -1         | -2          | -12        |
| TUD100R9V5+RXC037S3 | 1050 | 2           | -1         | -2          | -12        |
| TUY100R9V4+RXC037S3 | 1050 | 2           | -1         | -2          | -12        |
| RXC054S3            | 1200 | 4           | 0          | -6          | -34        |
| TWE036C14+4AYTXVH-3 | 1200 | -1          | -3         | 1           | 12         |
| TWE042C14+4AYTXVH-3 | 1200 | 1           | -2         | 0           | -3         |
| TWE048C14+4AYTXVH-3 | 1200 | 4           | 0          | -3          | -21        |
| TXA030C4+4AYTXVH-3  | 1100 | -4          | -4         | 4           | 52         |
| TXA031C4+4AYTXVH-3  | 1100 | -3          | -3         | 2           | 18         |
| TXA035C4+4AYTXVH-3  | 1100 | -4          | -4         | 4           | 52         |
| TXA036C4+4AYTXVH-3  | 1200 | 0           | -2         | -1          | -7         |
| TXA037C4+4AYTXVH-3  | 1200 | 0           | -2         | -1          | -7         |
| TXA042C4+4AYTXVH-3  | 1200 | 1           | -2         | -2          | -15        |
| TXA043C4+4AYTXVH-3  | 1200 | 1           | -2         | -2          | -15        |
| TXA048C4+4AYTXVH-3  | 1200 | 3           | -1         | -4          | -27        |
| TXA049C4+4AYTXVH-3  | 1200 | 3           | -1         | -4          | -27        |
| TXA050C4+4AYTXVH-3  | 1200 | 3           | -1         | -4          | -27        |

**ALTERNATE INDOOR UNITS WITH THERMAL EXPANSION VALVE**

**PRESSURE CURVE CORRECTION PSIG**

| INDOOR UNIT                   | CFM  | —COOLING—   |            | —HEATING—   |            |
|-------------------------------|------|-------------|------------|-------------|------------|
|                               |      | SUCT. PRESS | HEAD PRESS | SUCT. PRESS | HEAD PRESS |
| TXC030C4+4AYTXVH-3            | 1100 | -4          | -4         | 4           | 52         |
| TXC030D4+4AYTXVH-3            | 1100 | -4          | -4         | 4           | 52         |
| TXC031C4+4AYTXVH-3            | 1100 | -3          | -3         | 2           | 18         |
| TXC031D4+4AYTXVH-3            | 1100 | -3          | -3         | 2           | 18         |
| TXC035C4+4AYTXVH-3            | 1100 | -4          | -4         | 4           | 52         |
| TXC035D4+4AYTXVH-3            | 1100 | -4          | -4         | 4           | 52         |
| TXC036C4+4AYTXVH-3            | 1200 | 0           | -2         | -1          | -7         |
| TXC036D4+4AYTXVH-3            | 1200 | 0           | -2         | -1          | -7         |
| TXC037C4+4AYTXVH-3            | 1200 | 0           | -2         | -1          | -7         |
| TXC042C4+4AYTXVH-3            | 1200 | 1           | -2         | -2          | -15        |
| TXC043C4+4AYTXVH-3            | 1200 | 1           | -2         | -2          | -15        |
| TXC048C4+4AYTXVH-3            | 1200 | 3           | -1         | -4          | -27        |
| TXC049C4+4AYTXVH-3            | 1200 | 3           | -1         | -4          | -27        |
| TXC050C4+4AYTXVH-3            | 1200 | 3           | -1         | -4          | -27        |
| TXH033A4+4AYTXVH-3            | 1200 | 0           | -2         | 1           | 9          |
| TDD060R9V3+TXH033A4+4AYTXVH-3 | 1210 | 0           | -2         | 1           | 8          |
| TDD080R9V3+TXH033A4+4AYTXVH-3 | 1130 | -1          | -2         | 2           | 17         |
| TDD100R9V3+TXH033A4+4AYTXVH-3 | 1040 | -3          | -3         | 3           | 30         |
| TDY060R9V3+TXH033A4+4AYTXVH-3 | 1070 | -2          | -3         | 3           | 25         |
| TDY080R9V3+TXH033A4+4AYTXVH-3 | 1110 | -2          | -3         | 2           | 20         |
| TDY100R9V4+TXH033A4+4AYTXVH-3 | 1050 | -3          | -3         | 3           | 28         |
| TUD060R9V3+TXH033A4+4AYTXVH-3 | 1210 | 0           | -2         | 1           | 8          |
| TUD080R9V3+TXH033A4+4AYTXVH-3 | 1200 | 0           | -2         | 1           | 9          |
| TUD100R9V5+TXH033A4+4AYTXVH-3 | 1050 | -3          | -3         | 3           | 28         |
| TUY060R9V3+TXH033A4+4AYTXVH-3 | 1070 | -2          | -3         | 3           | 25         |
| TUY080R9V3+TXH033A4+4AYTXVH-3 | 1030 | -3          | -3         | 3           | 31         |
| TUY100R9V4+TXH033A4+4AYTXVH-3 | 1050 | -3          | -3         | 3           | 28         |
| TXH041A4+4AYTXVH-3            | 1200 | 3           | -1         | -2          | -15        |
| TDD060R9V3+TXH041A4+4AYTXVH-3 | 1210 | 3           | -1         | -2          | -16        |
| TDD080R9V3+TXH041A4+4AYTXVH-3 | 1140 | 2           | -1         | -1          | -9         |
| TDD100R9V5+TXH041A4+4AYTXVH-3 | 1040 | 0           | -2         | 0           | 3          |
| TDY060R9V3+TXH041A4+4AYTXVH-3 | 1070 | 1           | -2         | 0           | -1         |
| TDY080R9V3+TXH041A4+4AYTXVH-3 | 1110 | 2           | -1         | -1          | -5         |
| TDY100R9V4+TXH041A4+4AYTXVH-3 | 1060 | 1           | -2         | 0           | 0          |
| TUD060R9V3+TXH041A4+4AYTXVH-3 | 1210 | 3           | -1         | -2          | -16        |
| TUD080R9V3+TXH041A4+4AYTXVH-3 | 1200 | 3           | -1         | -2          | -15        |
| TUD100R9V5+TXH041A4+4AYTXVH-3 | 1050 | 0           | -2         | 0           | 2          |
| TUY060R9V3+TXH041A4+4AYTXVH-3 | 1060 | 1           | -2         | 0           | 0          |
| TUY080R9V3+TXH041A4+4AYTXVH-3 | 1030 | 0           | -2         | 0           | 4          |
| TUY100R9V4+TXH041A4+4AYTXVH-3 | 1050 | 0           | -2         | 0           | 2          |

\* BASE INDOOR UNIT(S) CURVES ON 4TWR4036A1