



**TRANE**<sup>®</sup>

**4TWR4036-SF-1**

# 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

OUTDOOR UNIT 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 <sup>®</sup> - 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 <sup>™</sup>
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**

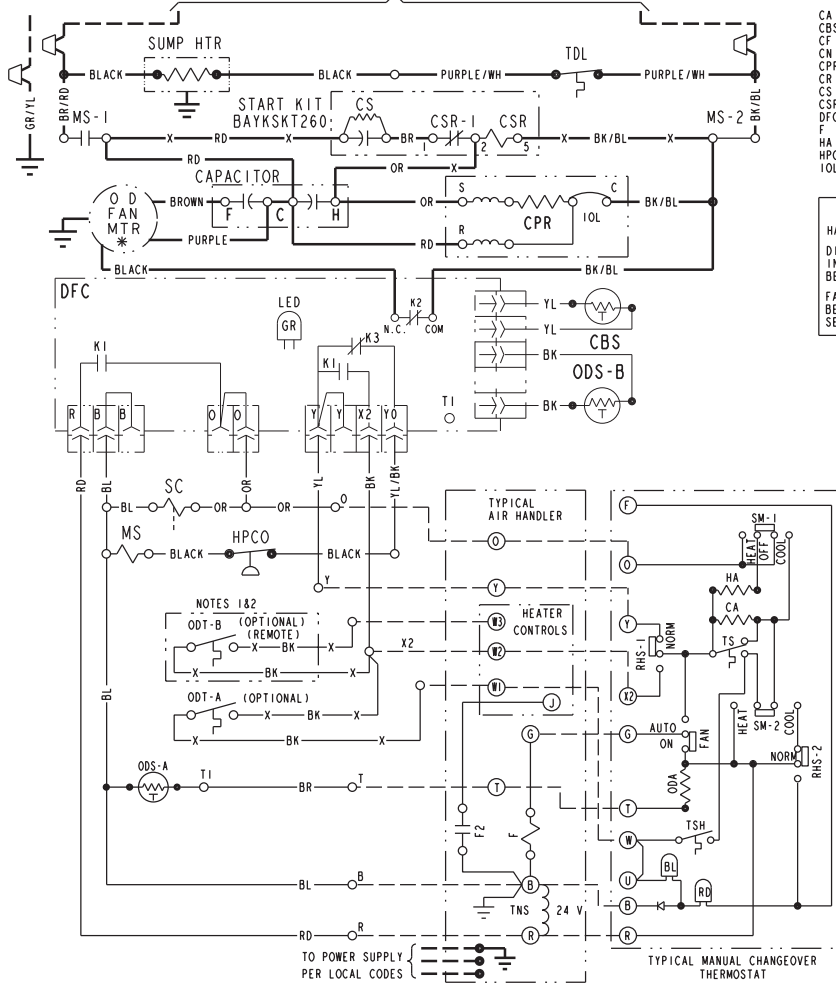
RECONNECT ALL GROUNDING DEVICES. ALL PARTS OF THIS PRODUCT CAPABLE OF CONDUCTING ELECTRICAL CURRENT ARE GROUNDED. IF GROUNDING WIRES, SCREWS, STRAPS, CLIPS, NUTS OR WASHERS USED TO COMPLETE A PATH TO GROUND ARE REMOVED FOR SERVICE, THEY MUST BE RETURNED TO THEIR ORIGINAL POSITION AND PROPERLY FASTENED.

**NOTICE:** Trane has a policy of continuous product and product data improvement and it reserves the right to change design and specifications without notice.

# 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.

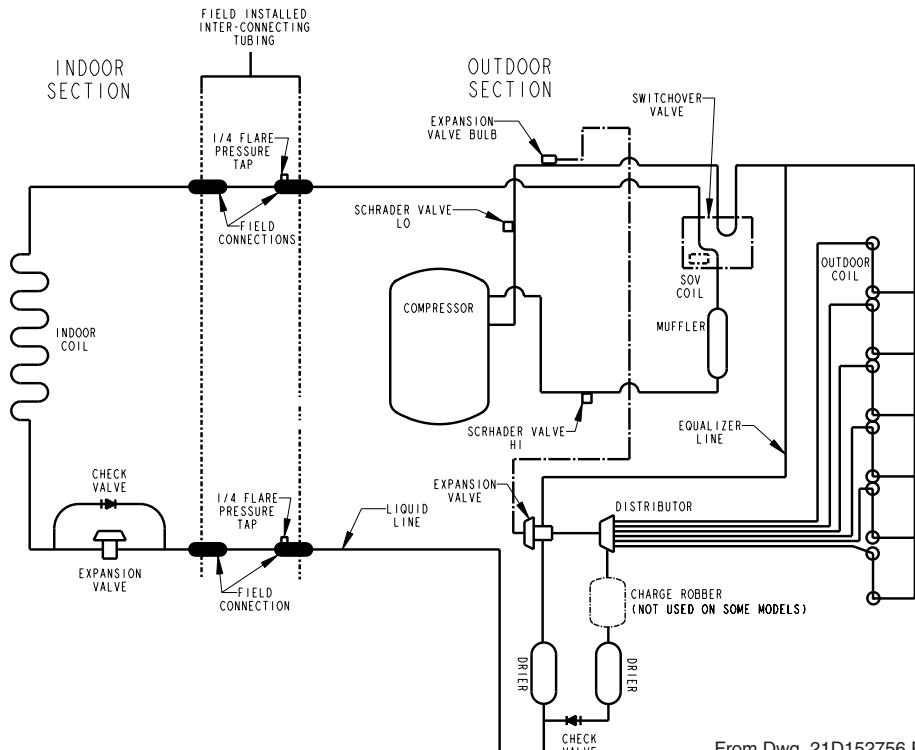
**FOR CANADIAN INSTALLATIONS  
POUR INSTALLATIONS CANADIENNES**

**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**

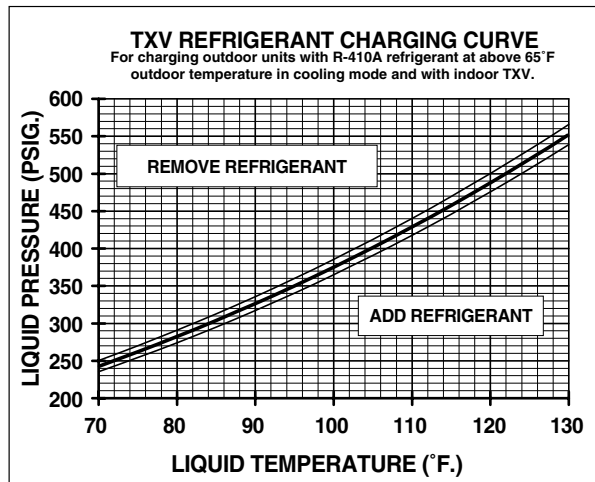
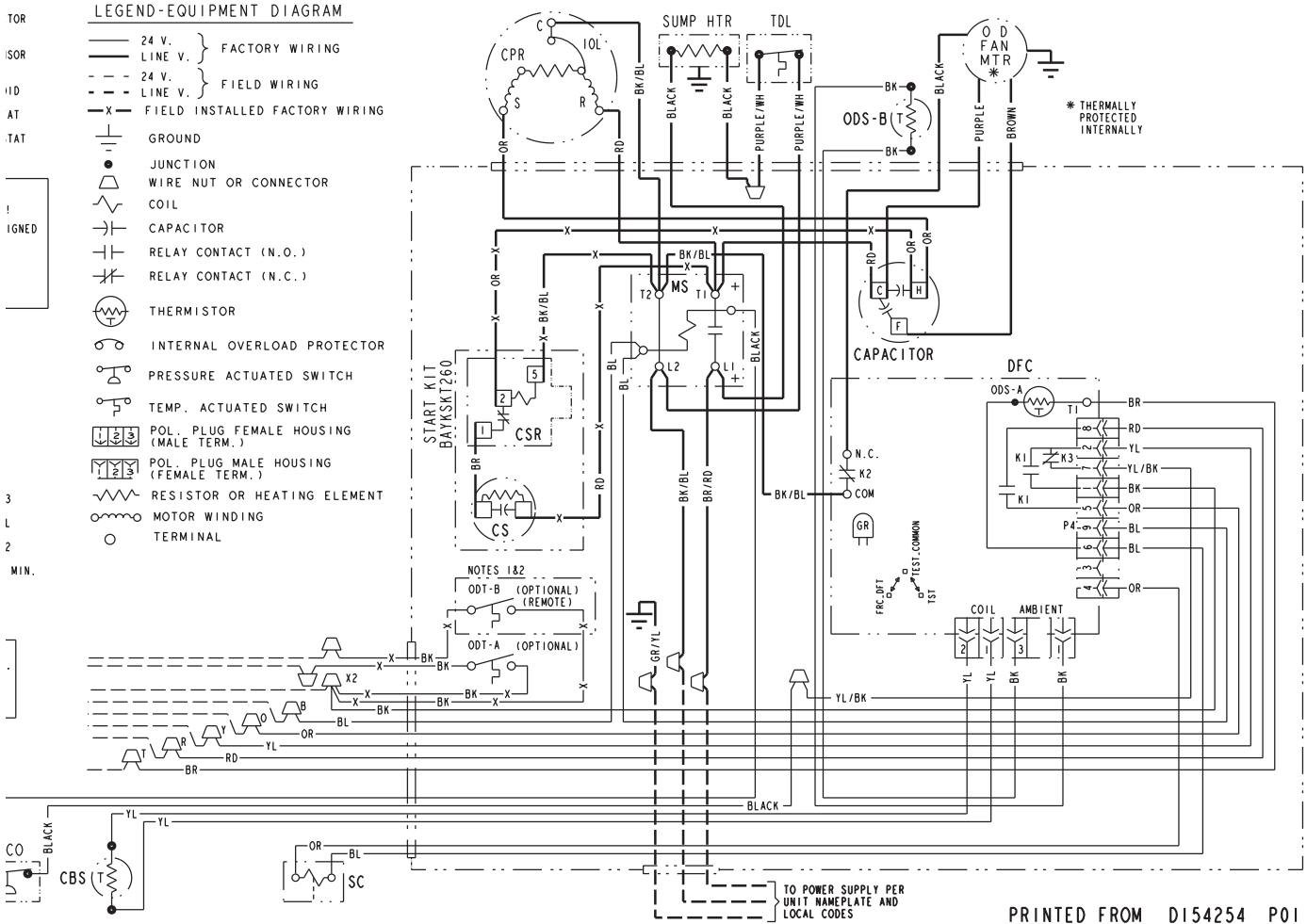


# REFRIGERANT CIRCUIT



From Dwg. 21D152756 Rev. 1

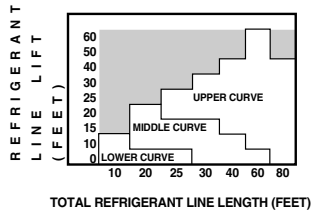
WIRING DIAGRAM



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.

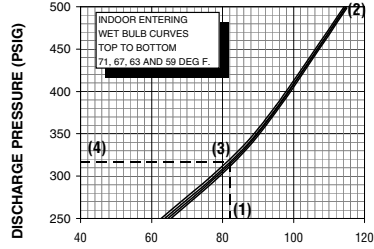
**CHARGING CURVE SELECTION CHART**



**PRESSURE CURVES FOR 4TWR4036A1000A**

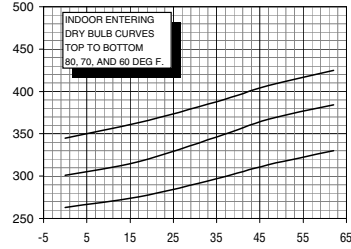
**4TEE3F37A1410AA**

Cooling with Thermal Expansion Valve

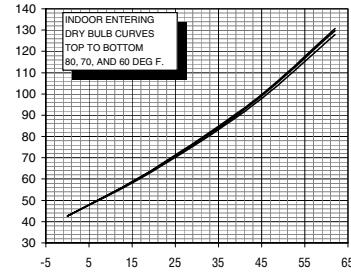
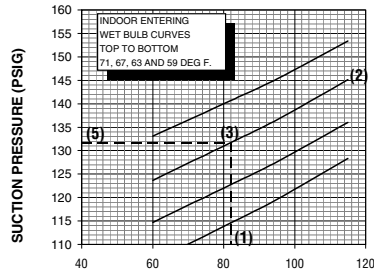


**4TEE3F37A**

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