



Service Facts

Split System Heat Pump 4TWR2036A1000AA

⚠ 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 BEFORE SERVICING

PRODUCT SPECIFICATIONS

OUTDOOR UNIT ①②	4TWR2036A1000AA
POWER CONNS. — V/PH/HZ ③	208/230/1/60
MIN. BRCH. CIR. AMPACITY	21
BR. CIR. } MAX. (AMPS)	35
PROT. RTG. } MIN. (AMPS)	30
COMPRESSOR	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	NO
OUTDOOR FAN	PROPELLER
DIA. (IN.) - NO. USED	23 - 1
TYPE DRIVE - NO. SPEEDS	DIRECT - 1
CFM @ 0.0 IN. W.G. ④	3300
NO. MOTORS - HP	1 - 1/6
MOTOR SPEED R.P.M.	825
VOLTS/PH/HZ	200/230/1/60
F.L. AMPS	1.4
OUTDOOR COIL — TYPE	SPINE FIN™
ROWS - F.P.I.	1 - 24
FACE AREA (SQ. FT.)	23.70
TUBE SIZE (IN.)	5/16
REFRIGERANT CONTROL	EXPANSION VALVE
REFRIGERANT	
LBS. — R-410A (O.D. UNIT) ⑤	6 LBS. - 8 OZ.
FACTORY SUPPLIED	YES
LINE SIZE - IN. O.D. GAS ⑥	3/4
LINE SIZE - IN. O.D. LIQ. ⑥	3/8
FCCV	
RESTRICTOR ORIFICE SIZE	.063
DIMENSIONS	H X W X D
CRATED (IN.)	46 x 30.1 x 33.8
WEIGHT	
SHIPPING (LBS.)	257
NET (LBS.)	227

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'	15 oz.
3/4"	3/8"	50'	21 oz.
3/4"	3/8"	60'	27 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. 32-3312-01.
- 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

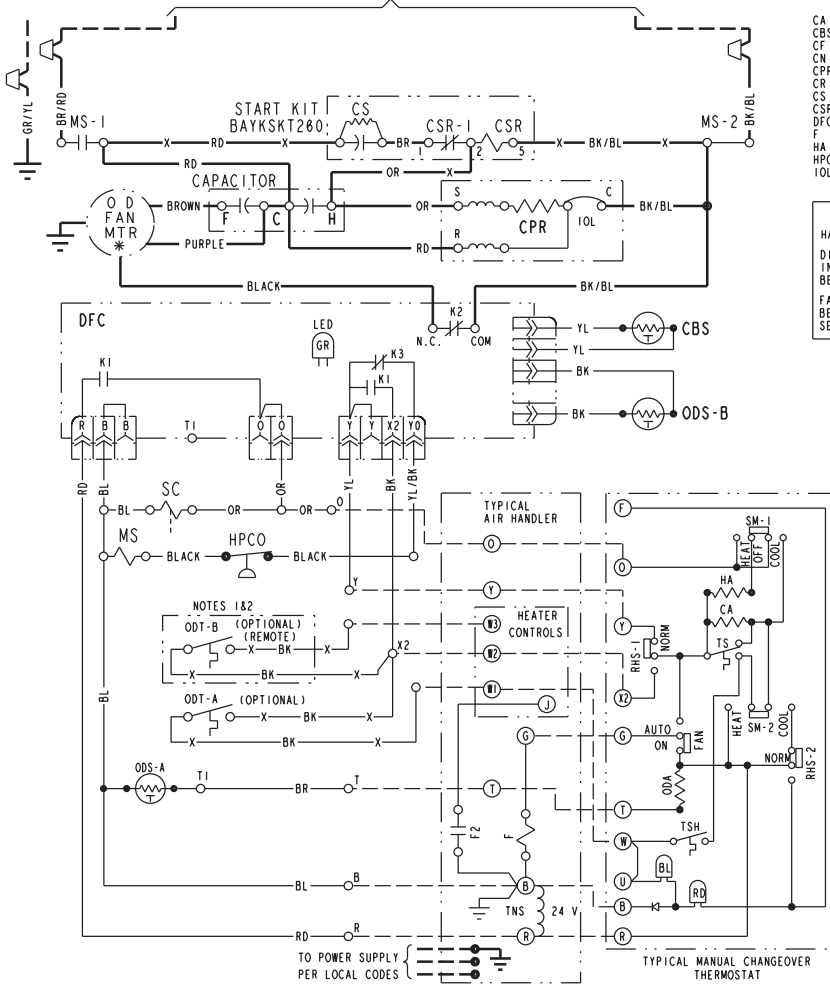
RECONNECT ALL GROUNDING DEVICES. ALL PARTS OF THIS PRODUCT CAPABLE OF CONDUCTING ELECTRICAL CURRENT ARE GROUNDED. IF GROUNDING WIRES, SCREWS, STRAPS, CLIPS, NUTS OR WASHERS USED TO COMPLETE A PATH TO GROUND ARE REMOVED FOR SERVICE, THEY MUST BE RETURNED TO THEIR ORIGINAL POSITION AND PROPERLY FASTENED.

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

SCHEMATIC DIAGRAM

4TWR2036A1000AA

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 | TNS 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.

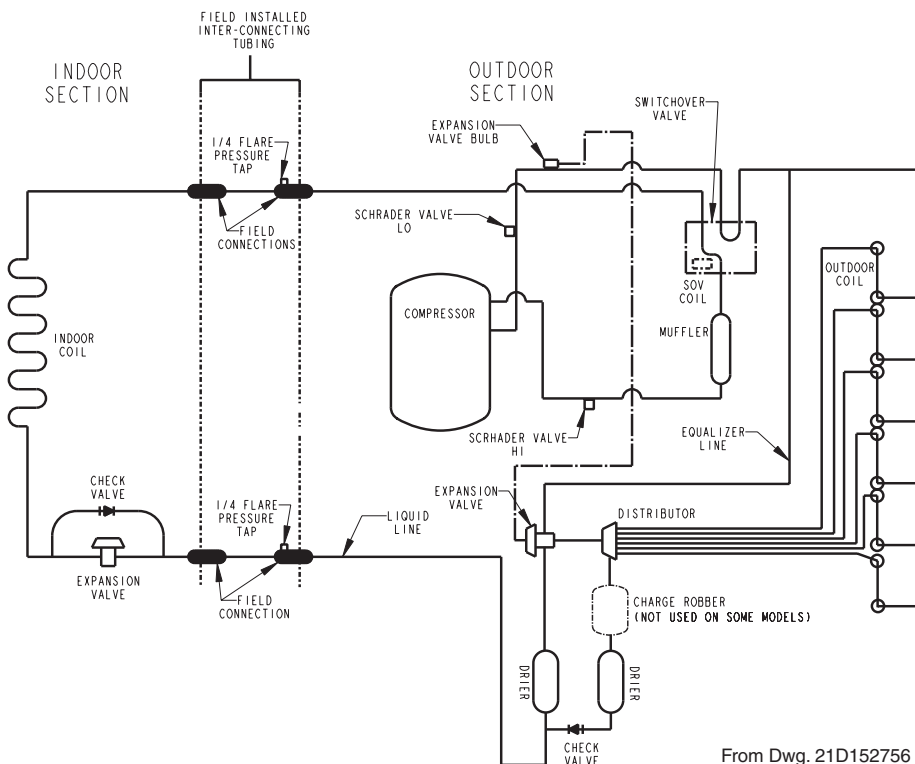
FOR CANADIAN INSTALLATIONS
POUR INSTALLATIONS CANADIENNES

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.

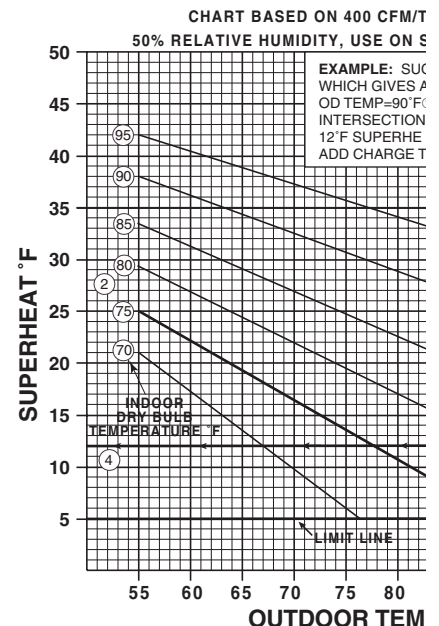
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REFRIGERANT CIRCUIT

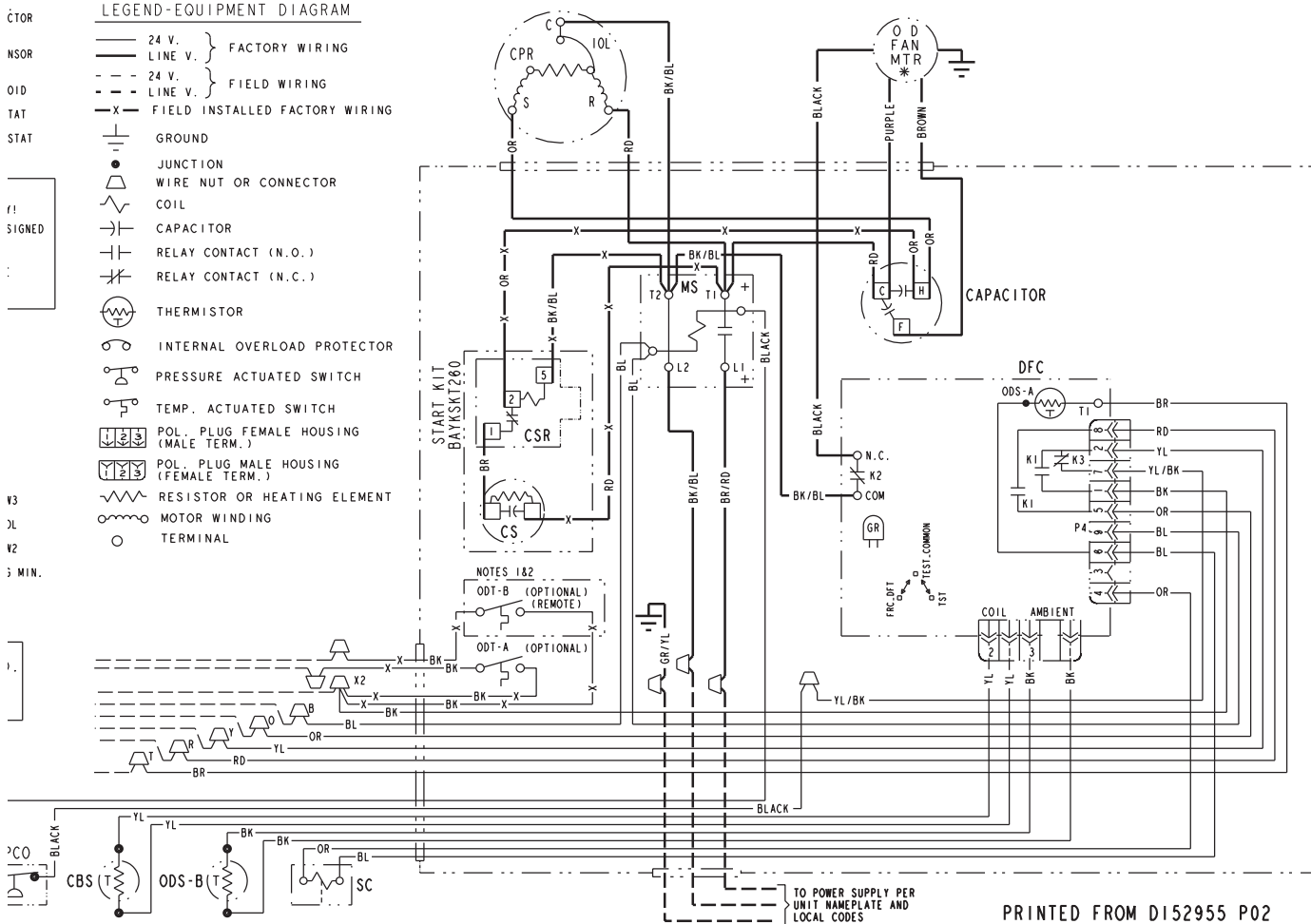


SUPERHEAT CHART



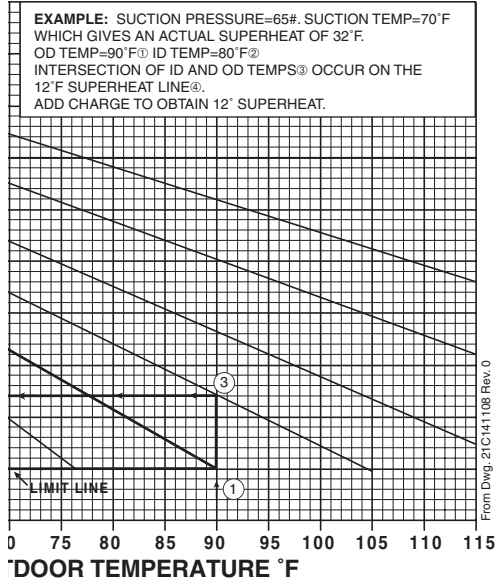
Measure suction pressure, suction temperature at table what superheat should be for the ID & OD operating superheat with stabilized running condition. If operating superheat is:
• within 5° chart value charge is OK
• more than 5° above chart value add refrigerant

WIRING DIAGRAM



HEAT CHARGING CHART

DESIGNED FOR 400 CFM/TON INDOOR AIRFLOW AND HUMIDITY, USE ON SYSTEMS THAT COOL WITH FCCV

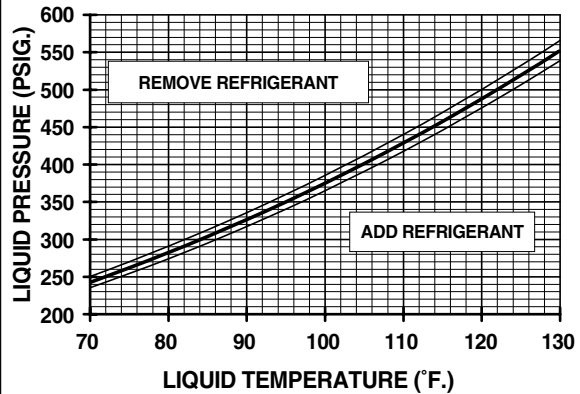


Indoor temperature at OD quick attach, ID & OD temps. Determine from the ID & OD temp. Example indicates 12° superheat. Determine superheat at running conditions.

- OK
- more than 5° below chart value remove refrigerant
- add refrigerant
- if below 5° limit line, do not add refrigerant

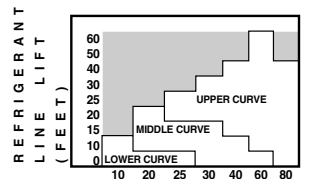
TXV REFRIGERANT CHARGING CURVE

For charging outdoor units with R-410A refrigerant at above 65°F outdoor temperature in cooling mode and with indoor TXV.



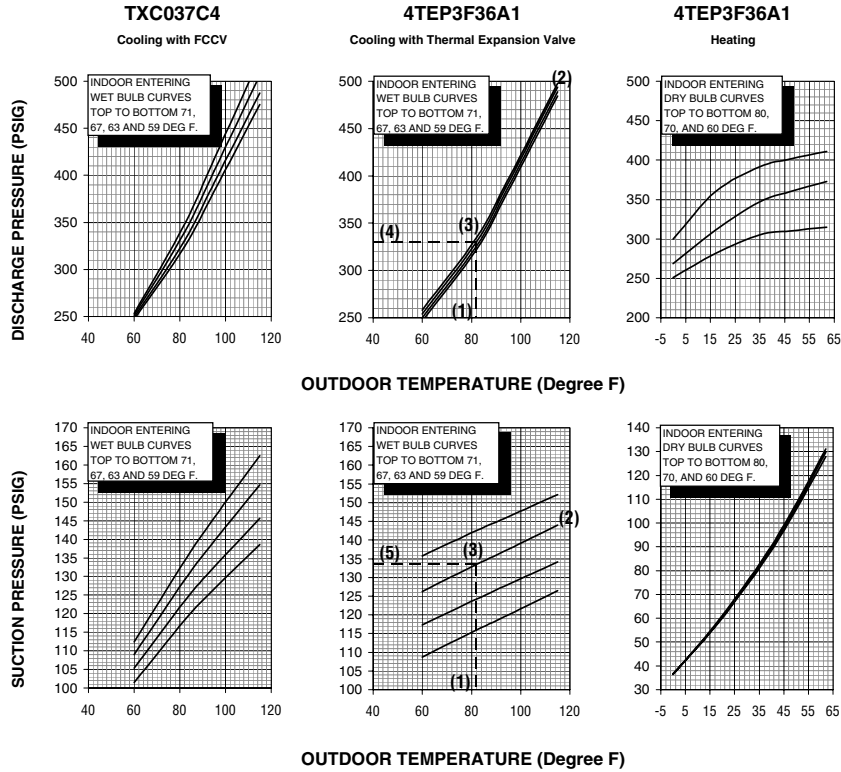
1. Measure Liquid Line Temperature and Refrigerant Pressure at service valves.
2. Determine total refrigerant pipe length and height (lift) if indoor section is above the condenser. Plot the intersection of the two points on the Curve Selection Chart to determine which curve to use.
3. Plot the pressure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



TOTAL REFRIGERANT LINE LENGTH (FEET)

PRESSURE CURVES FOR 4TWR2036A1000AA



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 @ 1200 CFM IS 330 PSIG
 (5) SUCTION PRESSURE @ 1200 CFM IS 134 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. 4TWR2036A1

ALTERNATE INDOOR UNITS WITH FCCV OR TXV

INDOOR UNIT	CFM	PRESSURE CURVE CORRECTION PSIG			
		—COOLING—		—HEATING—	
		SUCT. PRESS	HEAD PRESS	SUCT. PRESS	HEAD PRESS
TU/DD060R9V3+TXH033A4	1200	0	0	0	12
TU/DD060R9V3+TXH041A4	1200	3	5	0	-11
TU/DD080R9V3+TXH033A4	1125	-1	-2	1	21
TU/DD080R9V3+TXH041A4	1140	2	3	0	-5
TU/DD100R9V5+TXH033A4	1130	-1	-2	1	20
TU/DD100R9V5+TXH041A4	1200	3	5	0	-11
TDY060R9V3+TXH033A4	1080	-2	-4	1	26
TDY060R9V3+TXH041A4	1070	0	1	0	2
TDY080R9V3+TXH033A4	1100	-2	-3	1	24
TDY080R9V3+TXH041A4	1100	1	2	0	-1
TDY100R9V4+TXH033A4	1050	-3	-5	1	30
TDY100R9V4+TXH041A4	1050	0	0	0	5
TUY060R9V3+TXH033A4	1070	-2	-4	1	28
TUY060R9V3+TXH041A4	1025	-1	-1	0	8
TUY080R9V3+TXH033A4	1000	-4	-7	1	38
TUY080R9V3+TXH041A4	1025	-1	-1	0	8
TUY100R9V4+TXH033A4	1050	-3	-5	1	30
TUY100R9V4+TXH041A4	1050	0	0	0	5
TVF030A14	1125	0	0	0	3
TVF036A14	1200	3	5	-1	-17
TWE030C14	949	-9	-14	2	65
TWE036C14	1200	-2	-3	0	15
TWE042C14	1350	3	6	0	-14
TWE048C14	1350	5	9	-1	-29
TXA, TXC030C4, D4	1100	-4	-7	1	45
TXA, TXC031C4, D4	1100	-3	-5	0	14
TXA, TXC035C4, D4	1100	-4	-7	1	45
TXA, TXC036C4, D4	1200	0	0	0	-10
* TXA, TXC037C4	1200	0	0	0	-10
TXA, TXC042C4	1200	1	2	-1	-16
TXA, TXC043C4	1350	3	6	-1	-29
TXA, TXC048C4	1350	5	10	-1	-39
TXA, TXC049C4	1350	5	10	-1	-39
TXA, TXC050C4	1350	5	10	-1	-39
TXH033A4	1125	-1	-2	0	14
TXH041A4	1350	5	9	-1	-29

ALTERNATE INDOOR UNITS WITH THERMAL EXPANSION VALVE

INDOOR UNIT	CFM	PRESSURE CURVE CORRECTION PSIG			
		—COOLING—		—HEATING—	
		SUCT. PRESS	HEAD PRESS	SUCT. PRESS	HEAD PRESS
4TEE3F31A	1220	0	0	0	13
4TEE3F37A	1160	0	0	0	4
4TEE3F40A	1200	8	4	-1	-39
4TEP3F30A	940	-5	-3	1	51
* 4TEP3F36A	1200	0	0	0	0
4TEP3F42A	1350	6	3	-1	-29
4TEP3F48A	1350	11	6	-2	-59
RXC031S3	1110	0	0	0	0
RXC036S3	1200	5	3	-1	-28
RXC037S3	1200	5	3	-1	-28
RXC054S3	1350	7	4	-1	-45
TDD060R9V3+RXC031S3	1200	2	1	0	-4
TDD060R9V3+RXC036S3	1200	5	3	-1	-23
TDD080R9V3+RXC031S3	1120	0	0	0	4
TDD080R9V3+RXC036S3	1130	3	2	-1	-16
TDD100R9V5+RXC037S3	1180	4	2	-1	-21
TDY060R9V3+RXC031S3	1090	0	0	0	8
TDY060R9V3+RXC036S3	1085	3	1	0	-12
TDY080R9V3+RXC031S3	1050	-1	-1	0	13
TDY080R9V3+RXC036S3	1050	2	1	0	-8
TDY100R9V4+RXC037S3	1050	2	1	0	-8
TUD060R9V3+RXC031S3	1200	2	1	0	-4
TUD060R9V3+RXC036S3	1200	5	3	-1	-23
TUD080R9V3+RXC031S3	1200	2	1	0	-4
TUD080R9V3+RXC036S3	1200	5	3	-1	-23
TUD100R9V5+RXC037S3	1200	5	3	-1	-23
TUY060R9V3+RXC031S3	1050	-1	-1	0	13
TUY060R9V3+RXC036S3	1050	2	1	0	-8
TUY080R9V3+RXC031S3	1040	-1	-1	0	14
TUY080R9V3+RXC036S3	1040	2	1	0	-7
TUY100R9V4+RXC037S3	1060	2	1	0	-9

* BASE INDOOR UNIT(S) CURVES ON 4TWR2036A1

NOTES:
 ① For a field installed TXV kit, apply the factor listed with the FCCV model to the TXV curve.