



Service Facts

Split System Heat Pump 2TWA0048A3000A

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	2TWA0048A3000A
POWER CONNS. — V/PH/HZ ③	200/230/3/60
MIN. BRCH. CIR. AMPACITY	19
BR. CIR. } MAX. (AMPS)	30
PROT. RTG. } MIN. (AMPS)	30
COMPRESSOR	CLIMATUFF®
NO. USED - NO. SPEEDS	1 - 1
VOLTS/PH/HZ	200/230/3/60
R.L. AMPS ⑦ - L.R. AMPS	13.7 - 101
FACTORY INSTALLED	
START COMPONENTS ⑧	NO
INSULATION/SOUND BLANKET	NO
COMPRESSOR HEAT	YES
OUTDOOR FAN	PROPELLER
DIA. (IN.) - NO. USED	23 - 1
TYPE DRIVE - NO. SPEEDS	DIRECT - 1
CFM @ 0.0 IN. W.G. ④	3700
NO. MOTORS - HP	1 - 1/4
MOTOR SPEED R.P.M.	825
VOLTS/PH/HZ	200/230/3/60
F.L. AMPS	1.9
OUTDOOR COIL — TYPE	SPINE FIN™
ROWS - F.P.I.	1 - 24
FACE AREA (SQ. FT.)	15.18
TUBE SIZE (IN.)	3/8
REFRIGERANT CONTROL	EXPANSION VALVE
REFRIGERANT	
LBS. — HCFC-22 (O.D. UNIT) ⑤	8 LBS., 6 OZ.
FACTORY SUPPLIED	YES
LINE SIZE - IN. O.D. GAS ⑥	1-1/8
LINE SIZE - IN. O.D. LIQ. ⑥	3/8
FCCV	
RESTRICTOR ORIFICE SIZE	.083
DIMENSIONS	H X W X D
CRATED (IN.)	30.1 x 30.1 x 33.8
WEIGHT	
SHIPPING (LBS.)	254
NET (LBS.)	226

TUBING INFORMATION

Tubing Sizes		Tubing Length	Additional Refrigerant
Suction	Liquid		
1-1/8"	3/8"	20'	4 oz.
1-1/8"	3/8"	30'	11 oz.
1-1/8"	3/8"	40'	19 oz.
1-1/8"	3/8"	50'	27 oz.
1-1/8"	3/8"	60'	34 oz.

Tubing lengths in excess of eighty (80) 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 80 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.

⚠ 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.

⚠ 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.

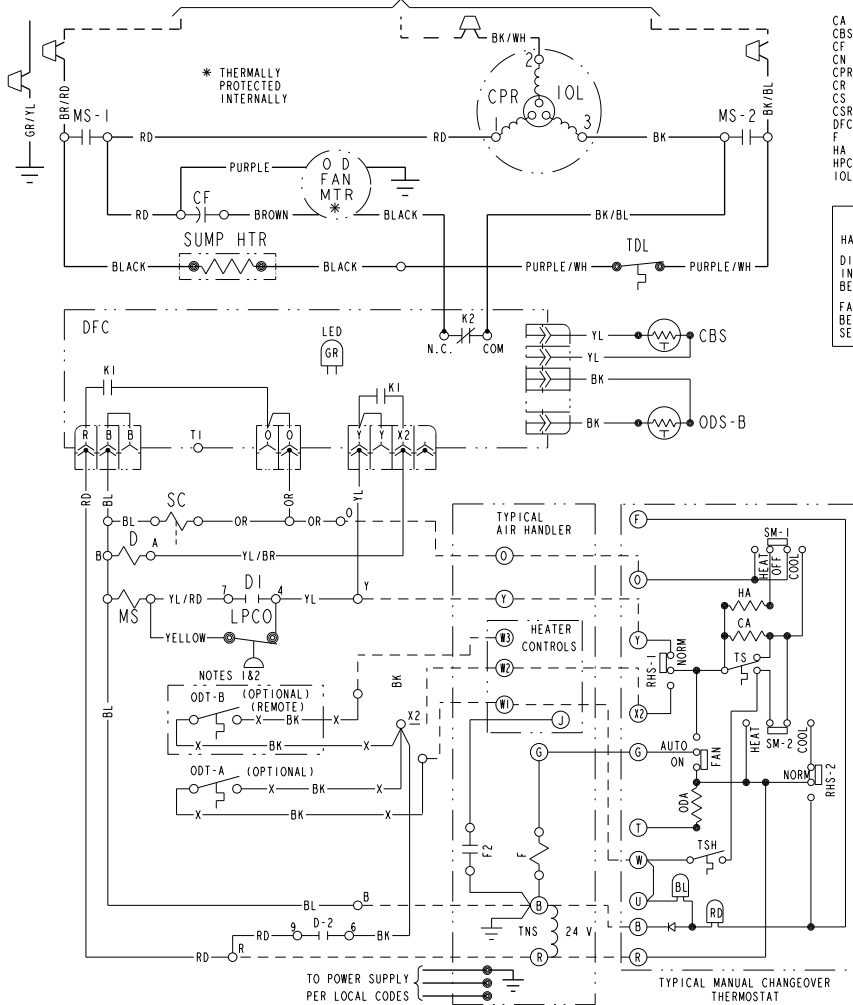
⚠ WARNING

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.

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

TO POWER SUPPLY PER UNIT NAMEPLATE AND LOCAL CODES



CA	COOLING ANTICIPATOR	LPCO	LOW PRESSURE CUTOUT SW.
CBS	COIL BOTTOM SENSOR	MS	COMPRESSOR MOTOR CONTACTOR
CF	FAN CAPACITOR	ODA	OUTDOOR ANTICIPATOR
CN	WIRE CONNECTOR	ODT	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
HPCS	HIGH PRESSURE CUTOUT 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!

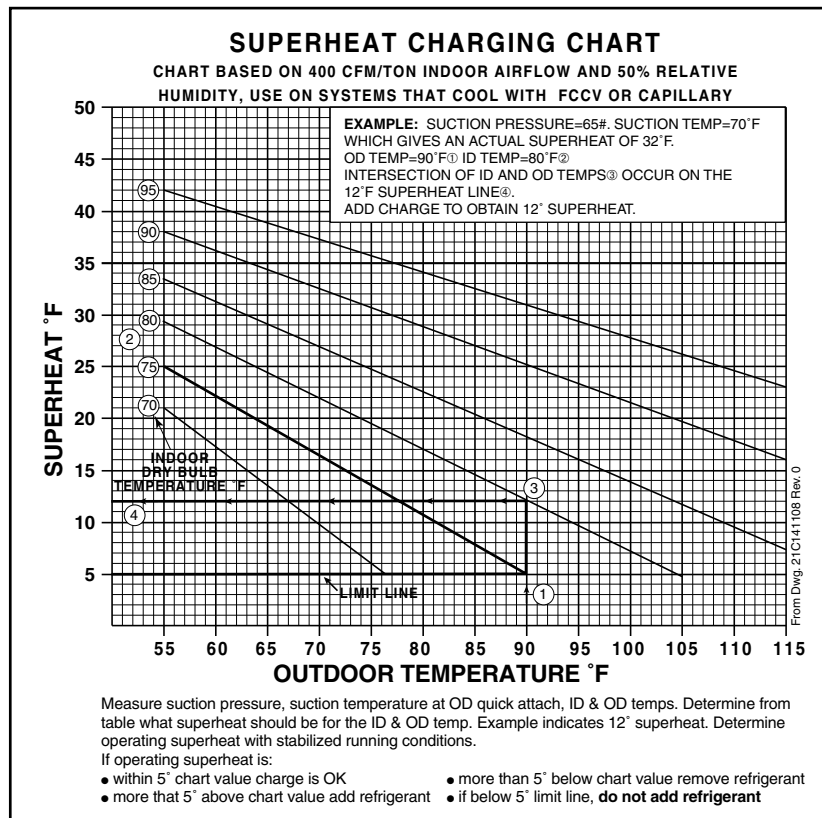
COLOR OF WIRE
BK/BL BLACK WIRE WITH BLUE MARKER
COLOR OF MARKER

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.

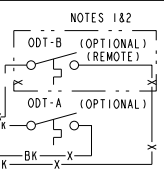
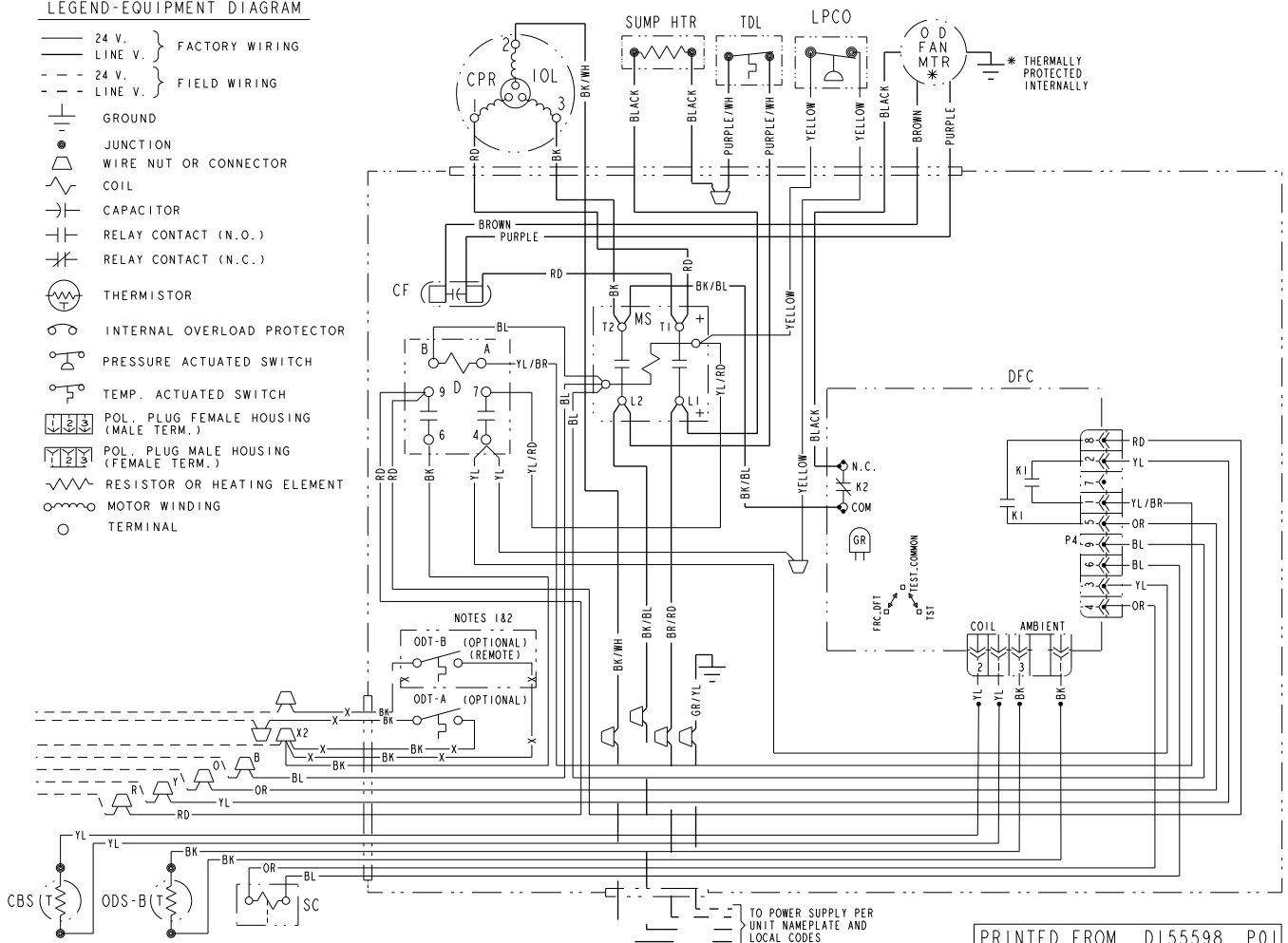
NOTE
THREE PHASE MOTOR (S) FACTORY SUPPLIED IN THIS EQUIPMENT PROTECTED UNDER PRIMARY SINGLE-PHASE CONDITIONS.



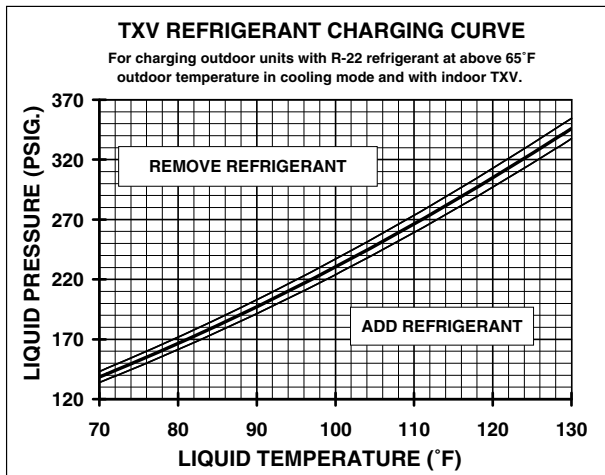
WIRING DIAGRAM

LEGEND-EQUIPMENT DIAGRAM

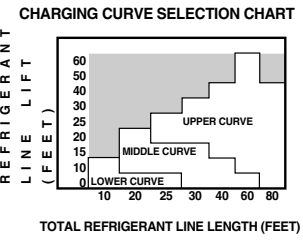
- 24 V. LINE V. } FACTORY WIRING
- - - 24 V. LINE V. } FIELD WIRING
- GROUND
- JUNCTION
- △ WIRE NUT OR CONNECTOR
- ⊃ COIL
- ⊃ CAPACITOR
- ⊃ RELAY CONTACT (N.O.)
- ⊃ RELAY CONTACT (N.C.)
- ⊃ THERMISTOR
- ⊃ INTERNAL OVERLOAD PROTECTOR
- ⊃ PRESSURE ACTUATED SWITCH
- ⊃ TEMP. ACTUATED SWITCH
- ⊃ POL. PLUG FEMALE HOUSING (MALE TERM.)
- ⊃ POL. PLUG MALE HOUSING (FEMALE TERM.)
- ⊃ RESISTOR OR HEATING ELEMENT
- ⊃ MOTOR WINDING
- TERMINAL



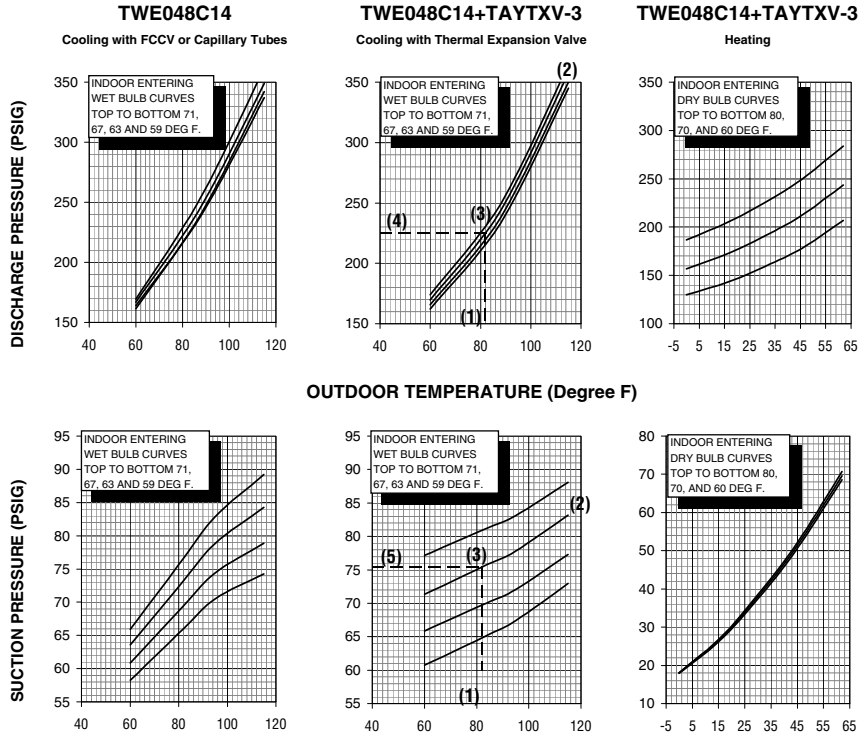
PRINTED FROM D155598 P01



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 2TWA0048A3000A



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 @ 1600 CFM CFM IS 225 PSIG
 (5) SUCTION PRESSURE @ 1600 CFM CFM IS 75 PSIG

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

INTERCONNECTING LINES
 GAS - 1-1/8" O.D.
 LIQUID - 3/8" O.D.

DWG.NO. 2TWA0048A3

REFRIGERANT CIRCUIT

