Service Facts

Split System Cooling
4TTB3030D1000A

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 4TTB3030D1000A

POWER CONNS. — V/PH/HZ 208/230/1/60
MIN. BRCH. CIR. AMPACITY 15
BR. CIR. PROT. RTG. – MAX. (AMPS) 25

COMPRESSOR CLIMATUFF®
NO. USED - NO. SPEEDS 1 - 1
VOLTS/PH/HZ 208/230/1/60
R.L. AMPS - L.R. AMPS 11.3 - 68.2

FACTORY INSTALLED
START COMPONENTS YES
INSULATION/SOUND BLANKET NO
COMPRESSOR HEAT NO

OUTDOOR FAN PROPELLER
DIA. (IN.) - NO. USED 23 - 1
TYPE DRIVE - NO. SPEEDS DIRECT - 1
CFM @ 0.0 IN. W.G. 2745
NO. MOTORS - HP 1 - 1/8
MOTOR SPEED R.P.M. 825
VOLTS/PH/HZ 200/230/1/60
FL. AMPS 0.74

OUTDOOR COIL — TYPE SPINE FIN™
ROWS - F.P.I. 23 - 1
FACE AREA (SQ. FT.) 12.89
TUBE SIZE (IN.) 3/8

REFRIGERANT LBS. — R-410A (O.D. UNIT) 5 LBS., 2 OZ
FACTORY SUPPLIED YES
LINE SIZE - IN. O.D. GAS 3/4
LINE SIZE - IN. O.D. LIQ. 3/8

CHARGING SPECIFICATION
SUBCOOLING 10°F
DIMENSIONS H X W X D 34 x 30.1 x 33
WEIGHT
SHIPPING (LBS.) 200
NET (LBS.) 173

TUBING INFORMATION

Tubing Sizes

<table>
<thead>
<tr>
<th>tubing Size</th>
<th>liquid</th>
<th>suction Length</th>
<th>Additional Refrigerant</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>3/8&quot;</td>
<td>20'</td>
<td>3 oz.</td>
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<tr>
<td>3/4&quot;</td>
<td>3/8&quot;</td>
<td>30'</td>
<td>9 oz.</td>
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<tr>
<td>3/4&quot;</td>
<td>3/8&quot;</td>
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<td>3/4&quot;</td>
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<td>3/4&quot;</td>
<td>3/8&quot;</td>
<td>60'</td>
<td>26 oz.</td>
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Tubing lengths in excess of sixty (60) feet see application software.

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

DO NOT TOUCH TOP OF COMPRESSOR. May cause minor to severe burning.

CAUTION

HOT SURFACE!

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.

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The Trane company has always recommended installing Trane approved matched indoor and outdoor systems. All Trane split systems are AHRI rated with only TXV indoor systems.

The benefits of installing approved indoor and outdoor split systems are maximum efficiency, optimum performance and the best overall system reliability.

The following charging methods are therefore prescribed for systems with indoor TXVs.

1. Subcooling (in the cooling mode) is the only recommended method of charging above 55°F ambient temperatures.

2. For best results – the indoor temperature should be kept between 70°F to 80°F. Add system heat if needed.

3. At startup, or whenever charge is removed or added, the system must be operated for a minimum 20 minutes to stabilize before accurate measurements can be made.

4. Measure Liquid Line Temperature and Refrigerant Pressure at service valves.

5. Determine total refrigerant line length, and height (lift) if indoor section is above the condenser.

6. Determine the Design Subcool Charging Temperature from the unit nameplate.

7. Locate this value in the appropriate column of the Subcooling Charging Table. Locate your liquid line temperature in the left column of the table, and the intersecting liquid line pressure under your nameplate subcool value column. Add refrigerant to raise the pressure to match the table, or remove refrigerant to lower the pressure. Again, wait 20 minutes for the system conditions to stabilize before adjusting charge again.

8. When system is correctly charged, you can refer to System Pressure Curves (on page 4) to verify typical performance.
WIRING DIAGRAM

LEGEND
- 24 V LINE WIRING
- 24 V FIELD WIRING
- 24 V FIELD INSTALLED FACTORY WIRING
- MAGNETIC COIL
- GROUND
- JUNCTION
- CAPACITOR
- WIRE NUT OR TERMINAL
- TRANSFORMER
- PURGE
- TERMINAL BLOCK/REWORK
- RELAY CONTACT (L2I)
- RELAY CONTACT (C2I)
- THERMISTOR
- TEMP ACTUATED SWITCH
- INTERNAL OVERLOAD PROTECTION
- PRESSURE ACTUATED SWITCH
- RESISTOR OR HEATING ELEMENT
- MOTOR WIRING
- M1, M2, M3, M4, M5, M6, M7, M8, M9
- M1, M2, M3, M4, M5, M6, M7, M8, M9
- M1, M2, M3, M4, M5, M6, M7, M8, M9

R-410A REFRIGERANT CHARGING CHART

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From Dwg. D154557P01 Rev. 2

Refer to Service Facts or Installer's Guide for charging method.
Compressor fails to start
Contactor check

Is contactor energized?
(contacts closed)

YES
Go To: Compressor won’t run

NO

Check for 24 volts AC across contactor coil

Is voltage present at contactor coil?

YES
Replace contactor

NO
Check control transformer and control fuse

Is the control transformer and fuse good?

YES
Jumper R to Y low voltage terminals at thermostat sub base.

Does the contactor energize?

YES
Replace the room thermostat

NO
Repair or replace connecting wiring

NO
Repair or replace transformer or fuse. Investigate cause for failure (possible short in field wiring)

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**Single Pole Contactor (MS)**

OUT

HIGH VOLTAGE

IN

L1

T1

T2

**Double Pole Contactor (MS)**

OUT

HIGH VOLTAGE

IN

L1

T1

T2

Contactor Coil 24 VAC

*L*Refer to Wiring Diagram to determine if a single pole or double pole contactor is used.*
Compressor won’t run
Contactor is closed

Check for high voltage to contactor

Is high voltage present at T1 and T2? YES

Check power supply from disconnect and/or breaker panel.

NO

Check for open IOL (Internal Overload)
Check resistance of C to S and C to R

YES

Does the resistance check show an open circuit from C to S or C to R?

YES

Allow compressor time to cool and re-test

NO

Check for open windings.

Does a resistance check show an open circuit between R and S?

YES

Replace the compressor

NO

Check for locked rotor

Is voltage present at C to S and C to R with locked rotor amps on C?

YES

Check Start-Capacitor and Relay (if present) and Run Capacitor

NO

Check wiring to compressor C, S and R

Does the start components and run capacitor check good?

YES

Replace the compressor

NO

Replace start components and/or run capacitor
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, LIQUID 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 LIQUID (4) OR SUCTION (5) PRESSURE IN LEFT COLUMN.

EXAMPLE: (1) OUTDOOR TEMP. 82 F.
(2) INDOOR WET BULB 67 F.
(3) AT INTERSECTION
(4) LIQUID PRESSURE @ 950 CFM IS 315 PSIG
(5) SUCTION PRESSURE @ 950 CFM IS 133 PSIG

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

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