4TWX4036-SF-1C

TRANE®

Service Facts

Split System Heat Pump
4TWX4036B1000A

⚠ 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	4TWX4036B1000A
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	YES
OUTDOOR FAN	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	1.30
OUTDOOR COIL — TYPE	SPINE FIN™
ROWS - F.P.I.	1 - 24
FACE AREA (SQ. FT.)	24.88
TUBE SIZE (IN.)	5/16
REFRIGERANT CONTROL	EXPANSION VALVE
REFRIGERANT	
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
CHARGING SPECIFICATION	
SUBCOOLING	10°F
DIMENSIONS	H X W X D
CRATED (IN.)	49.4 x 35.1 x 38.7
WEIGHT	
SHIPPING (LBS.)	298
NET (LBS.)	252

TUBING INFORMATION

Tubing Sizes		Tubing	Additional
Suction	Liquid	Length	Refrigerant
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 ARI standard 210/240.

② Rated in accordance with ARI standard 270.

③ Calculated in accordance with Natl. Elec. Codes. Use only 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.

⚠ 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.

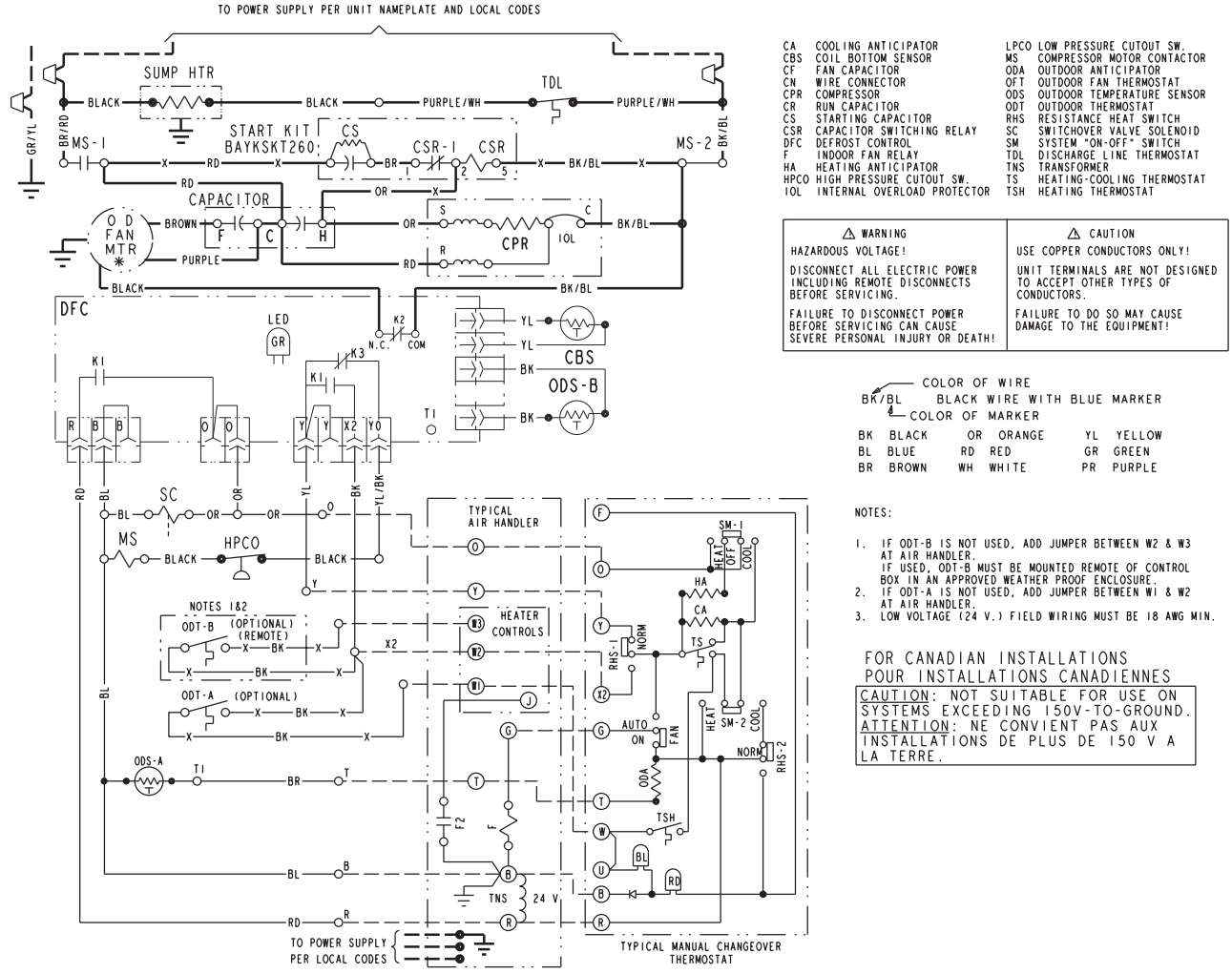
⚠ CAUTION

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



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	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 CUTOUT SW.	TS	HEATING-COOLING THERMOSTAT
IOL	INTERNAL OVERLOAD PROTECTOR	TSH	HEATING THERMOSTAT

⚠ WARNING	⚠ CAUTION
HAZARDOUS VOLTAGE!	USE COPPER CONDUCTORS ONLY!
DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.	UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH!	FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT!

BK/BL — COLOR OF WIRE
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:

1. 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.
2. IF ODT-A IS NOT USED, ADD JUMPER BETWEEN W1 & W2 AT AIR HANDLER.
3. 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.

SUBCOOLING CHARGING IN COOLING ABOVE 55°F OD AMBIENT

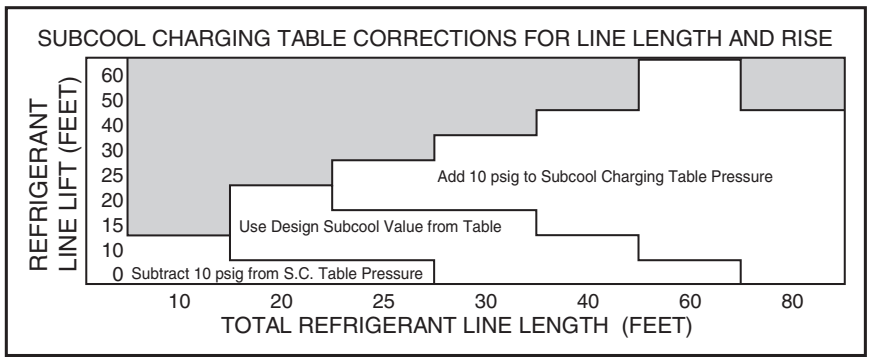
The Trane company has always recommended installing Trane approved matched indoor and outdoor systems.

All Trane split systems are ARI rated with only TXV indoor systems.

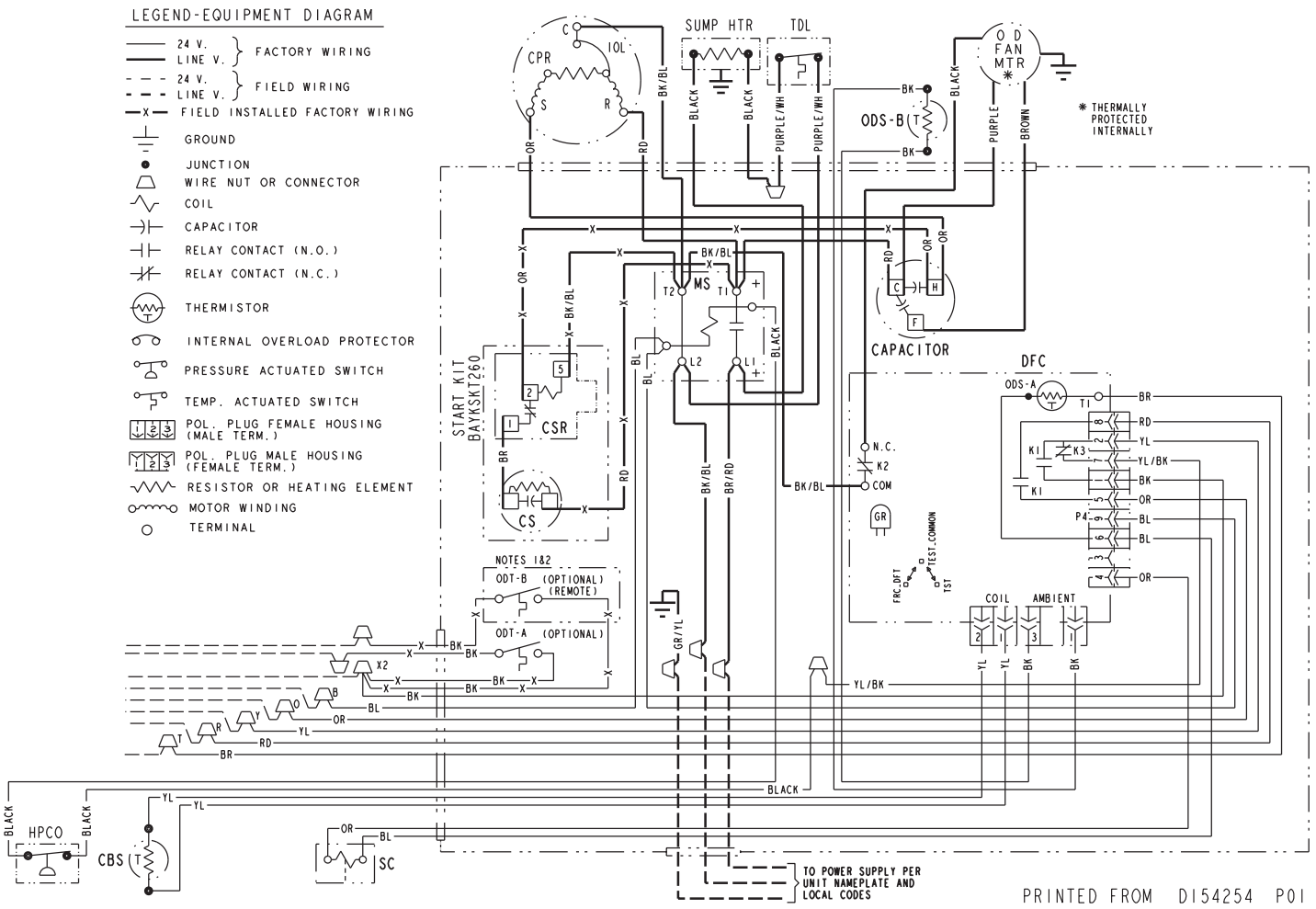
The benefits of installing approved indoor and outdoor split systems are maximum efficiency, optimum performance and the best overall system reliability.

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



SUBCOOLING CHARGING BELOW 55°F OD AMBIENT – IN HEATING ONLY

1. The Subcool Charging Method in cooling is not recommended below 55°F outdoor ambient.
2. The only recommended method of charging at outdoor ambients below 55°F, is to weigh in the charge in the heating mode.
3. Use Nameplate charge plus standard charge adders for line length.
4. Check liquid line temperature and pressure (at the OD valves) to obtain a minimum of 10°F subcooling.
5. Add charge if a minimum of 10°F subcooling is not obtained with the nameplate charge plus line length correction.
6. It is important to return in the spring or summer to accurately charge the system in the cooling mode at outdoor ambients above 55°F.

R-410A SUBCOOLING CHARGING TABLE

LIQUID TEMP. (°F)	DESIGN SUBCOOLING VALUES (°F)			
	8	**10**	**12**	**14**
	LIQUID LINE PRESSURE (psi)			
55	179	185	191	198
60	195	201	208	215
65	211	218	225	232
70	229	236	243	251
75	247	255	263	271
80	267	275	283	291
85	287	296	304	313
90	309	318	327	336
95	331	341	351	360
100	355	365	376	386
105	381	391	402	413
110	407	418	429	441
115	435	446	458	470
120	464	476	488	501
125	495	507	520	533

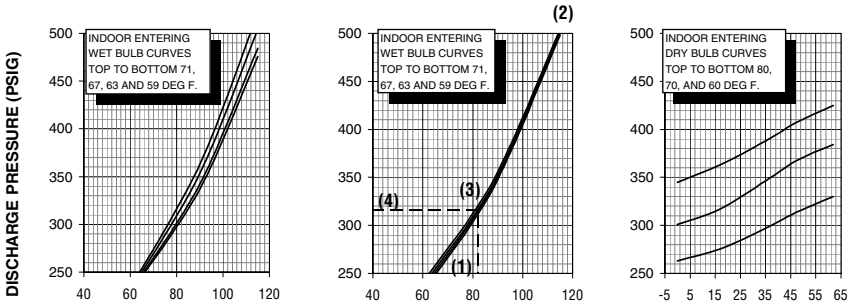
From Dwg. D154557P01 Rev. 1

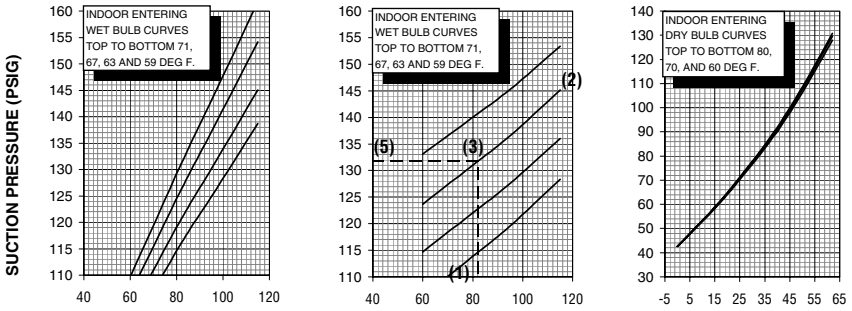
PRESSURE CURVES FOR 4TWX4036B1000A

TXC035C4HPC0
Cooling with FCCV or Capillary Tubes

4TEE3F37A1410AA
Cooling with Thermal Expansion Valve

4TEE3F37A
Heating





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).

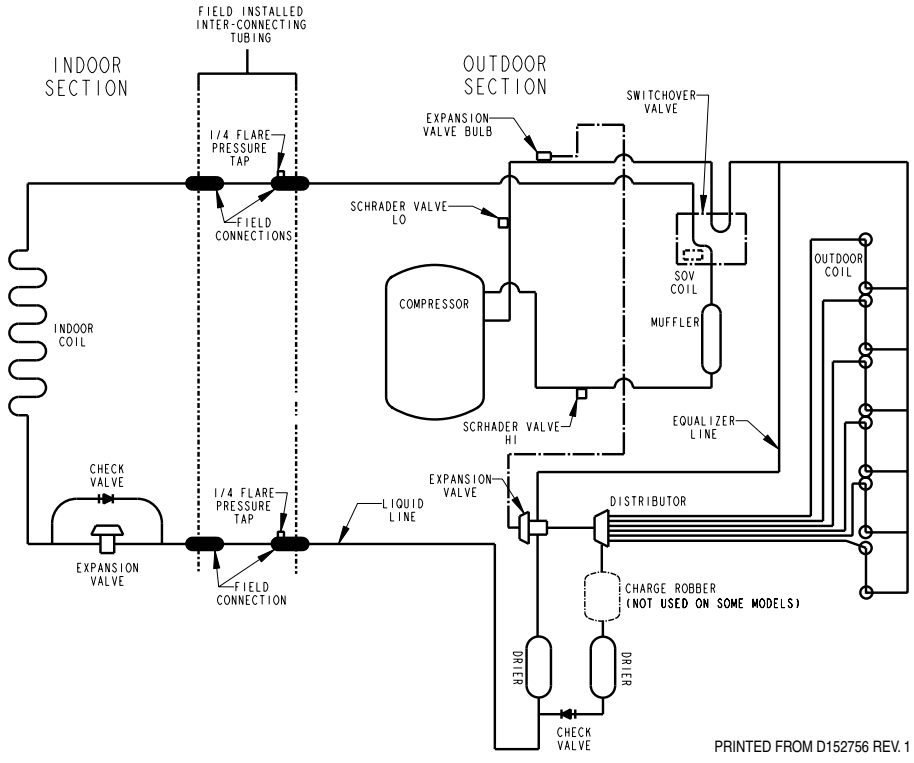
EXAMPLE: (1) OUTDOOR TEMP. 82 F.
(2) INDOOR WET BULB 67 F.
(3) AT INTERSECTION
(4) DISCHARGE PRESSURE @ 1170 CFM IS 316 PSIG
(5) SUCTION PRESSURE @ 1170 CFM IS 132 PSIG.

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. 4TWX4036B1

REFRIGERANT CIRCUIT



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