

REDDI FACTS

Horizontal Air Handler Model: TWH048B140A0

IMPORTANT — This document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

PRODUCT SPECIFICATIONS

MODEL	TWH048B140A0
RATED VOLTS/PH/HZ.	200-230/1/60
RATINGS	See O.D. Specifications
INDOOR COIL — Type	Plate Fin
Rows — F.P.I.	4 — 12
Face Area (sq. ft.)	5.33
Tube Size (in.)	3/8
Refrigerant Control	FCCV
Drain Conn. Size (in.)	3/4 NPT
INDOOR FAN — TYPE	Centrifugal
Dia. — Width (in.)	10 x 10
No. Used	1
Drive — Speeds (No.)	Direct — 3
CFM vs. in. w.g.	See Fan Performance Table
No. Motors — H.P.	1 — 1/2
Motor Speed R.P.M.	1075
Volts/Ph/Hz	200/230/1/60
F.L. Amps — L.R. Amps	4.2 — 9.0
FILTER — Furnished?	NO
Type Recommended	
Lo Vel. (No.-Size-Thk.)	2 - 900 sq. in. - 1 in.
Hi Vel. (No.-Size-Thk.)	2 - 600 sq. in. - 1 in.
REFRIGERANT (R-22)	Holding Charge
Ref. Line Connections	Braze
Coupling or Conn. Size — in. Gas	1-1/8"
Coupling or Conn. Size — in. Liq.	3/8"
DIMENSIONS	
Crated (in.)	H 27-3/4 W 30-5/8 L 47
WEIGHT	
Shipping (lbs.)	193
Net (lbs.)	181

CAUTION: These Air Handlers are equipped with an Accutron component assembly which provides liquid line connection and primary refrigerant expansion control for split system heat pump and air conditioning systems. The Accutron contains a restricting piston which is similar to the refrigeration capillary tube, and can be used in place of cap tubes and thermal expansion valves.



SAFETY NOTICE

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.

Library	Service Literature
Product Section	Unitary
Product	S/S Heat Pumps, Evap. Fan Coil
Model	TWH
Literature Type	Service Facts
Sequence	1
Date	December 1988
File No.	SV-UN-S/SP-TWH048-SF-1 12/88
Supersedes	New

OPTIONAL EQUIPMENT

Evaporator Defrost Control Kit (For Cooling Kits)
 Needed for Cooling Operation Between
 55° and 40° AY28X79
 Low Ambient Cooling Control Kit
 (For Heat Pumps) AY28X84
 Plug-In Speed Change Kit BAY24X38
 Fan Control Relay Kit
 For use with 2-spd. motor — permits all
 stages to be energized during defrost as
 the relay bypasses the ODT's BAY24X42
 Electronic Air Cleaner BEF200C100A

SUPPLEMENTARY HEATERS

MODEL NUMBER	POWER SUPPLY			
	208V./1 PH./60 HZ.		240V./1 PH./60 HZ.	
	KW	BTUH	KW	BTUH
BAY96X1509A	6.48	22,100	8.64	29,500
BAY96X1514A	10.80	36,900	14.40	49,100
BAY96X1520A	15.12	51,600	20.16	68,800
BAY96X1526A	19.44	66,300	25.92	88,500
	208V.3 PH./60 HZ.		240V./3 PH./60 HZ.	
BAY96X3507A	5.36	18,300	7.14	24,400
BAY96X3517A	12.83	43,800	17.10	58,400
BAY96X3527A	20.30	69,300	27.06	92,400

This device can be field changed to fit a variety of size and efficiency combinations of coils and outdoor units to fine tune systems and optimize performance. It cannot be installed backwards, and fits only this equipment.

NOTE: For proper sizing and installation of restrictor, please refer to Installer's Guide.

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.

DISCONNECT POWER BEFORE SERVICING

REDDI PARTS

COMPONENT	QTY.	DESCRIPTION	CAT. #
Blower Wheel	1	10" D x 10" W, 1/2" Bore, CW, Concave	WG74X0039
Capacitor (CF)	1	12.5 MFD, 370V	WG20X0029
Coil, ID	*	Replacement	WW87X0384
Distributor	*	1/2" OD, Inlet, 8 Outlets, 3/16"	WW51X0292
Fuse (FU)	1	Red Cap, Dual Element, 3.2 AMP, # GMD-3-2/10 Bussman	WG23X0070
Motor	1	200/230V, 60 Hz., 1 Ph., Open Shell, CCW, 1075 RPM, 1/2 HP, 3-speed, FLA 4.2, LRA 9.0,	WW94X0389
Relay (FDR)	1	Type DPST, Contacts 1 & 3 (N/O) FLA 6.0, LRA 35.0 @ 240V, Contacts 4 & 6 (N/O) 25VA @ 24VAC, Coil 24V, Time Delay 80 Seconds	WW24X0224
Restrictor	*	.080 Dia., as shipped	WW62X0180
Transformer (TNS)	1	24V, Class 2, Rating 75 VA, Pri. 60 Hz., #NTC752324-B21G (Jard)	WG32X0039

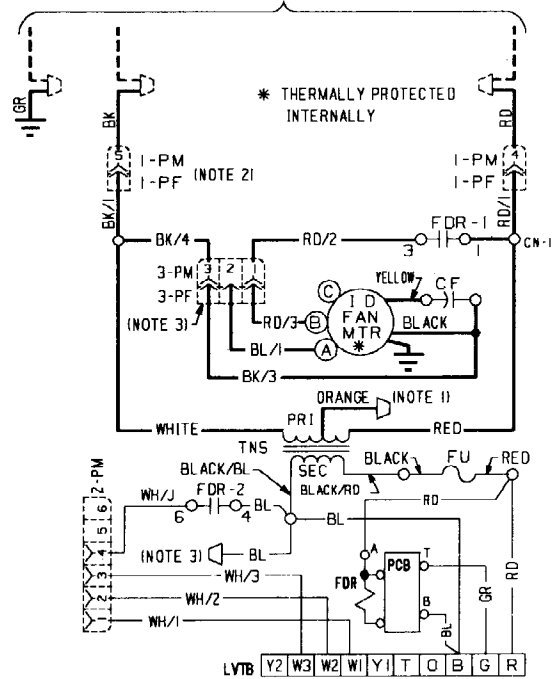
*New Part - Set Up Within The Last 18 Months.

NOTE: DO NOT "SPARK" LOW VOLTAGE WIRES WITH POWER ON. TO DO SO WILL CAUSE FAILURE OF THE 3.2 AMP LOW VOLTAGE CIRCUIT (TRANSFORMER) FUSE.

SCHEMATIC DIAGRAM

TWH048B14

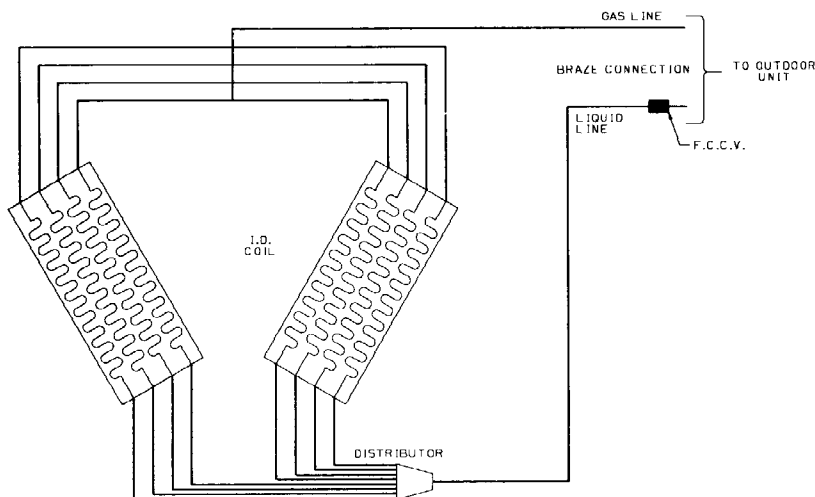
200/230 V. 1 PH., 60 HZ. POWER SUPPLY PER LOCAL CODES



AIR FLOW SELECTION	
TERM	SPEC
A	LOW
B	MED
C	HIGH

From Dwg. 21C144028 P01

REFRIGERANT CIRCUIT



From Dwg. 21C141936 Rev. 0

TROUBLESHOOTING CHART — WHAT TO CHECK

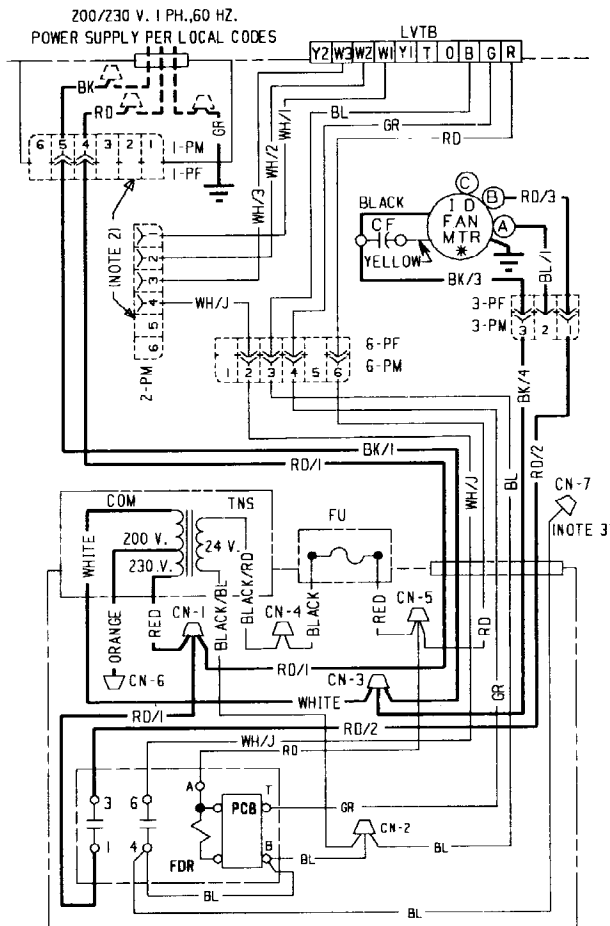
SYSTEM FAULTS	WHAT TO CHECK															
	WANT TO CHECK	WANT TO THE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING	LOW VOLTAGE WING
REFRIGERANT CIRCUIT																
Head Pressure (High)	C															
Head Pressure (Low)	C															
Suction Pressure (High)	C															
Suction Pressure (Low)	C															
Indoor Coil Frosting	C															
Liquid Floodback (TXV)	C															
Liquid Floodback (Cap Tube)	C															
ELECTRICAL																
I.D. Motor Won't Start	C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
Heating Element Inoperative	C															
	H	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

P-Primary Causes S-Secondary Causes C-Cooling H-Heating

TWH048B140A0

WIRING DIAGRAM

LEGEND



AIR FLOW SELECTION	
TERM	SPEED
A	LOW
B	MED
C	HIGH

**COLOR
CODES**

E
E
E

SYMBOLS

L.V. Wiring ————— Factory - - - - - Field
H.V. Wiring ————— Factory - - - - - Field

	Ground		Terminal Block/Board
	Junction		Relay Contact NO
	Capacitor		Magnetic Coil
	Wire Nut or Connector		
	Terminal		Pol. Plug Female Housing (Male Terminals)
	Transformer		Pol. Plug Male Housing (Female Terminals)
	Fuse		

LEGEND

CN	Wire Connector
CF	Fan Capacitor
F	Fan Motor Relay
FU	Fuse
LV1B	Low Voltage Terminal Board
PF	Polarized Plug (Female Housing)
PM	Polarized Plug (Male Housing)
TNS	Transformer

NOTES

1. FOR 200 V. OPERATION, DISCONNECT RED TRANSFORMER LEAD FROM CN-1 AND INSULATE. CONNECT ORANGE TRANSFORMER LEAD TO REMAINING TWO RD-1 LEADS IN CN-1
2. WHEN HEATERS ARE USED, DISCARD 1-PM WITH ATTACHED LEADS AND CONNECT 1-PF AND 2-PM TO THE MATING PLUGS IN THE HEATER CONTROL BOX.
3. ACCESSORY KIT BAY24X038 MAY BE USED WHEN AUTOMATIC SPEED CHANGE FOR HEATING/COOLING OPERATION IS DESIRED. (CUT & STRIP BLUE LEAD AT CN-7 FOR CONNECTION OF BAY24X038 KIT.)

SHOOTING CHART — WHAT TO CHECK

[illegible]

C-Cooling H-Heating

INDOOR FAN PERFORMANCE^①

AIR HANDLER AIRFLOW (CFM) vs. EXTERNAL STATIC PRESSURE

TWH048B①

	EXTERNAL STATIC (Ins. w.g.)					
	230 Volts			200 Volts		
CFM	HI	MED.	LOW	HI	MED.	LOW
1100						
1150						0.65
1200						0.25
1250						
1300						
1350					0.60	
1400					0.35	
1450			0.50		0.00	
1500			0.29			
1550		0.67	0.00			
1600		0.56		0.67		
1650		0.44		0.58		
1700	0.62	0.31		0.49		
1750	0.56	0.17		0.39		
1800	0.50	0.00		0.29		
1850	0.44			0.18		
1900	0.38			0.05		
1950	0.31					
2000	0.24					
2050	0.17					
2100	0.08					
2150	0.00					

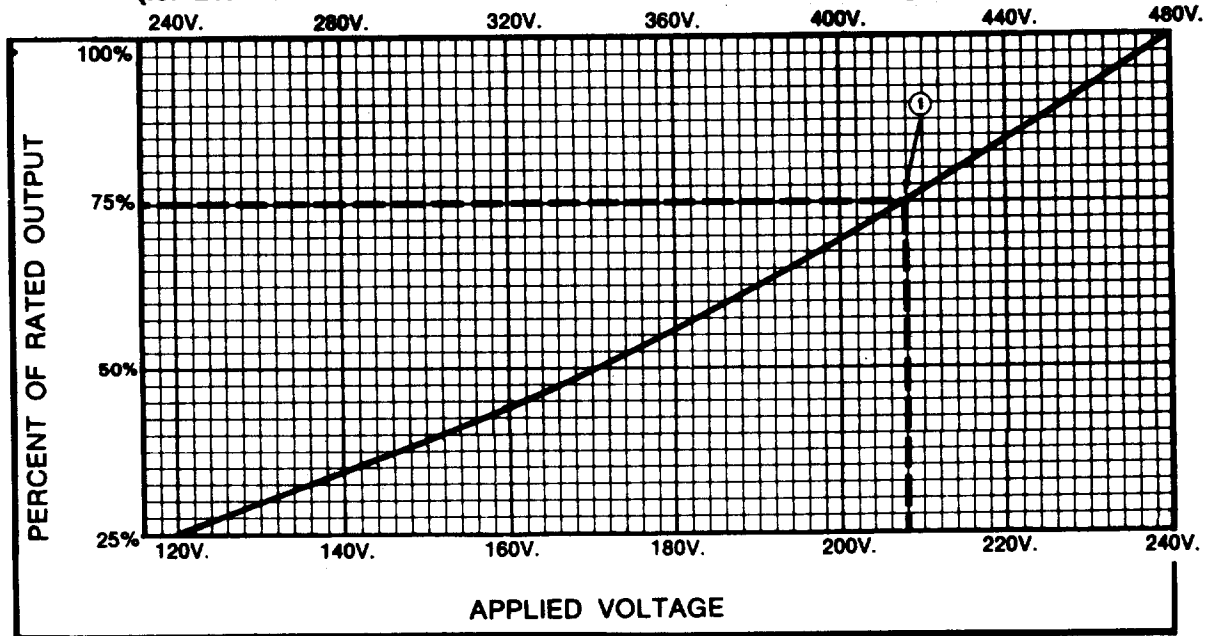
1 See airflow resistance table for pressure loss with supplementary heaters.

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From Dwg. 21A132783 Rev. 3

ELECTRIC HEATER DE-RATING CHART

(for 240V or 480V Rated Heaters Installed on Lower Voltage Systems)



- ① **EXAMPLE:** Calculated Heat Loss — 29,200 BTUH Power Supply — 208V.
 The chart indicates that any 240V heater will deliver 75% of its rated capacity at 208V.

$$\frac{29,200 \text{ BTUH}}{.75} = 39,000 \text{ BTUH} \quad \left\{ \begin{array}{l} \text{Select a heater having AT LEAST 39,000 BTUH} \\ \text{capacity at 240V.} \end{array} \right.$$

PRESSURE DROP CHARACTERISTICS ELECTRIC HEATERS

AIRFLOW CFM	NUMBER OF RACKS (SEE TABLE AT RIGHT)		
	1	2	3
AIR PRESSURE DROP INS. W.G.			
800			
900			
1000			
1100			
1200	0.02	0.05	0.07
1300	0.02	0.06	0.08
1400	0.02	0.07	0.09
1500	0.03	0.08	0.10
1600	0.03	0.09	0.11
1700	0.03	0.10	0.13
1800	0.05	0.11	0.15
1900	0.05	0.12	0.17
2000	0.06	0.13	0.18
2100			
2200			

HEATER MODEL NO.	NO. RACKS
BAY96X1509	1
BAY96X1514	2
BAY96X1520	2
BAY96X1526	3
BAY96X1532	3

From Dwg. 21A132740 Rev. 1