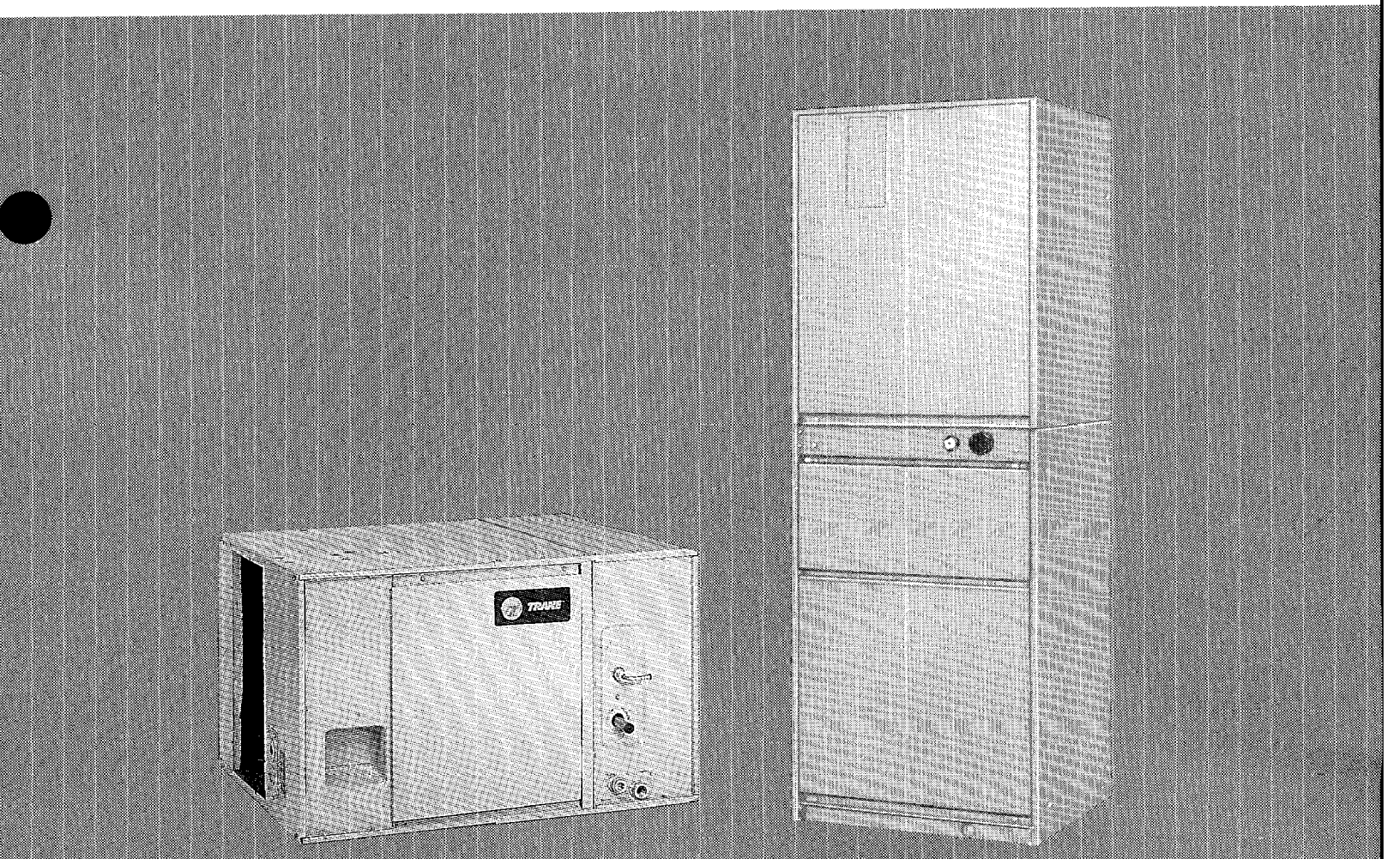
TRANE™

TWV-D-1

Modular Air Handlers

Models TWV018-036B TWH018-042B



PUB NO. 22-1222-03
Tab 25 — October 1993

STANDARD EQUIPMENT

TWV018,024,025,030,036B AIR HANDLERS

- Multi-speed motor
- Direct drive motor
- Time delay relay
- Accutron™ refrigerant flow control
- Braze type refrigerant fittings external to cabinet
- Filter access panel
- Filter and filter rack
- Plastic drain pan
- Primary and secondary external plastic drain connections
- Shipped in vertical upflow, bottom or front return, and convertible to downflow, top return and vertical rear access
- 200/230 volt primary and 24 volt secondary transformer
- Insulated cabinet
- Attractive enamel finish
- Low voltage terminal board
- Access to heater circuit breakers (except TWV018)
- Internal polarized plug for connecting the air handler blower motor and control circuits to its Series 1400 heater
- Duct flange tabs
- Heater barriers knockout will be factory removed

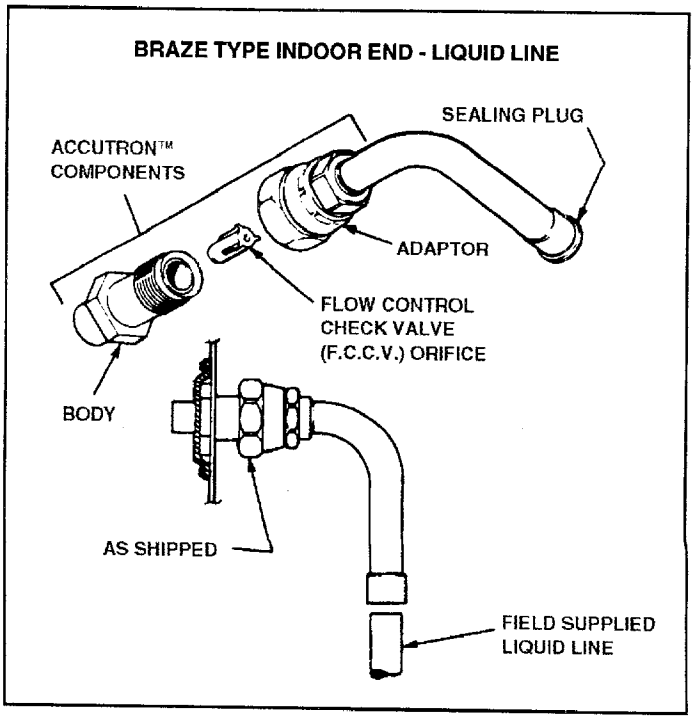
TWH018,024,030,036,042B AIR HANDLERS

- Direct drive motor
- Multi-speed motor
- Time delay relay
- Accutron™ refrigerant flow control
- Braze type refrigerant fittings external to cabinet
- Shipped in horizontal airflow, end return, and side access
- Field convertible to rear blower section access
- Fan motor relay mounted and wired
- 200/230 volt primary and 24 volt secondary transformer
- Insulated cabinet
- Attractive enamel finish
- Low voltage terminal board external to cabinet
- Access to heater circuit breakers
- Polarized plugs for making electrical connections from air handler control box to electric heaters
- Duct flange tabs
- Primary and secondary drain connections external to cabinet
- Heater barriers knockout will be factory removed

CAUTION: These Air Handers are equipped with an Accutron™ assembly which provides liquid line connection and refrigerant expansion control.

The Accutron™ contains a restricting piston and is used in place of capillary tubes and thermal expansion valves.

This device can be changed to fit a variety of combinations of indoor and outdoor units to optimize performance. It cannot be installed backwards, and fits only Trane equipment.



OPTIONAL EQUIPMENT

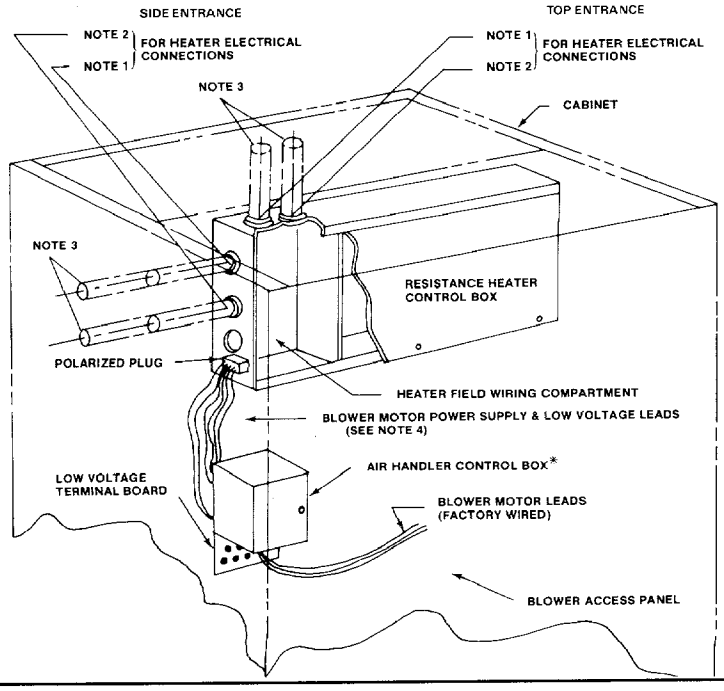
OPTIONAL EQUIPMENT FOR AIR HANDLERS (Check mark [✓] indicates accessories included).

Plenum — Pedestal (TWV018,024) ..... BAY99X115 [ ]
Plenum — Pedestal (TWV025,030,036) ..... BAY99X114 [ ]
Filter Enclosure Required for Downflow-Filter Furnished (TWV018,024) ..... BAY85X075 [ ]
Filter Enclosure Required for Downflow-Filter Furnished (TWV025,030,036) ..... BAY85X074 [ ]
Sub-base (TWV018 thru 036) ..... BAY99X117 [ ]
Plug in Speed Change Kit ..... BAY24X038 [ ]
Evaporator Defrost Control Kit — Cooling Units (Low Ambient Cooling) ..... AY28X079 [ ]
Evaporator Defrost Control Kit — Heat Pumps (Low Ambient Cooling) ..... AY28X084 [ ]
Knockout Cover Plates (lots of 50) (TWV thru 3 tons, TWH thru 3-1/2 tons) ..... BAY99X123 [ ]
Electronic Air Cleaner ..... BEF140C100A [ ]

SERIES 1400 SUPPLEMENTARY HEATERS

Capacity @240V		Rated Voltage	Individual Elements	Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contains Circuit Breakers	Amps. per Circuit Element	Heater Model No.
KW	BTUH					208 Volt	240 Volt		240 Volt	
4.8	16400	208-240/1/60	1	1	1	17.3	20	No	20	BAY96X1405
5.76	19600	208-240/1/60	2	1	1	20.8	24	No	12/12	BAY96X1406
7.68	26200	208-240/1/60	2	1	1	27.7	32	No	16/16	BAY96X1408,8F
9.6	32800	208-240/1/60	2	1	1	34.7	40	No	20/20	BAY96X1410,10F
9.6	32800	208-240/1/60	2	1	1	34.7	40	Yes	20/20	BAY96X1410A
10.56	36100	208-240/1/60	3	1	1	38.1	44	No	12/12/20	BAY96X1411
10.56	36100	208-240/1/60	3	1	1	38.1	44	Yes	12/12/20	BAY96X1411A
14.4	49200	208-240/1/60	3	2	2	34.7/17.3	40/20*	Yes	20/20/20	BAY96X1414
15.36	52400	208-240/1/60	3	2	2	34.7/20.8*	40/24*	Yes	16/24/24	BAY96X1415
19.2	65500	208-240/1/60	4	2	2	34.7/34.7*	40/40*	Yes	20/20/20/20	BAY96X1419
21.12	72100	208-240/1/60	4	2	2	34.7/41.6*	40/48*	Yes	16/24/24/24	BAY96X1421
10.56	36100	208-240/3/60	3	1	1	24.2	28	No	12/12/20	BAY96X3411
15.36	52400	208-240/3/60	3	1	1	36	41.6	No	16/24/24	BAY96X3415

CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical Codes.



POWER SUPPLY AND INTERNAL POLARIZED PLUG CONNECTIONS

NOTES:

1. HEATER LINE VOLTAGE KNOCKOUT LOCATIONS FOR 1" OR 1-1/2" CONDUIT. CONDUIT MUST ATTACH DIRECTLY TO HEATER CONTROL BOX. WIRE AND CONDUIT SIZE MUST COMPLY WITH N.E.C.
2. HEATER LINE VOLTAGE KNOCKOUT LOCATIONS FOR 3/4" OR 1-1/4" CONDUIT. CONDUIT MUST ATTACH DIRECTLY TO HEATER CONTROL BOX. WIRE & CONDUIT SIZE MUST COMPLY WITH N.E.C.
3. ONLY ONE CONDUIT PER UNIT REQUIRED.
4. BLOWER CIRCUIT POWER SUPPLY LEADS & LOW VOLTAGE HEATER CONTROL LEADS FROM AIR HANDLER CONTROL BOX ARE CONNECTED TO HEATER VIA A POLARIZED PLUG.

*FOR TWH MODELS CONTROL BOX IS MOUNTED ON BLOWER.

PRODUCT SPECIFICATIONS

MODEL	TWV018B140A			TWV024B140A			TWV025B140A			TWV030B140A			TWV036B140A		
RATED VOLTS/PH/HZ	200/230/1/60			200/230/1/60			200/230/1/60			200/230/1/60			200/230/1/60		
RATINGS ①	SEE O.D. SPECIFICATIONS														
INDOOR COIL — Type	FLAT			FLAT			FLAT			FLAT			FLAT		
Rows — F.P.I.	4 — 12			4 — 12			4 — 12			4 — 12			4 — 12		
Face Area (sq. ft.)	2.22			2.22			2.22			2.78			3.33		
Tube Size (in.)	3/8			3/8			3/8			3/8			3/8		
Refrigerant Control	F.C.C.V.			F.C.C.V.			F.C.C.V.			F.C.C.V.			F.C.C.V.		
Drain Conn. Size (in.) ②	3/4 MALE PLASTIC			3/4 MALE PLASTIC			3/4 MALE PLASTIC			3/4 MALE PLASTIC			3/4 MALE PLASTIC		
Duct Connections	SEE OUTLINE DRAWING														
INDOOR FAN — Type	CENTRIFUGAL			CENTRIFUGAL			CENTRIFUGAL			CENTRIFUGAL			CENTRIFUGAL		
Dia. — Width (in.)	9 x 9			9 x 9			10 x 8			10 x 8			10 x 8		
No. Used	1			1			1			1			1		
Drive — Speeds (No.)	DIRECT — 3			DIRECT — 2			DIRECT — 3			DIRECT — 3			DIRECT — 3		
CFM vs. in. w.g.	SEE FAN PERFORMANCE TABLE														
No. Motors — HP	1 — 1/4			1 — 1/4			1 — 1/4			1 — 1/3			1 — 1/2		
Motor Speed R.P.M.	1075			1075			1075			1075			1075		
Volts/Ph/Hz	200/230/1/60			200/230/1/60			200/230/1/60			200/230/1/60			200/230/1/60		
F.L. Amps — L.R. Amps	1.4 — 3.1			1.7 — 3.1			1.7 — 2.6			2.1 — 4.6			3.3 — 7.8		
FILTER — Furnished?	YES			YES			YES			YES			YES		
Type Recommended															
Lo Vel. (No.-Size-Thk)	—			—			—			—			—		
Hi Vel. (No.-Size-Thk)	1 — 16 x 20 — 1 IN.			1 — 16 x 20 x 1 IN.			1 — 16 x 20 x 1 IN.			1 — 16 x 25 x 1 IN.			1 — 16 x 25 x 1 IN.		
REFRIGERANT (R-22)	DRY NITROGEN			DRY NITROGEN			DRY NITROGEN			DRY NITROGEN			DRY NITROGEN		
Ref. Line Connections	BRAZE			BRAZE			BRAZE			BRAZE			BRAZE		
Coupling or Conn. Size — in. Gas	5/8			3/4			3/4			3/4			7/8		
Coupling or Conn. Size — in. Liq.	1/4			5/16			5/16			5/16			3/8		
DIMENSIONS	H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
Crated (in.)	44	22-1/4	17-3/4	44	22-1/4	17-1/4	48-1/2	22-1/4	20-1/4	52-1/2	22-1/4	22-1/4	57-1/2	22-1/4	22-1/4
Uncrated	43	20-1/2	14	43	20-1/2	14	47-1/2	20-1/2	18-1/2	51-1/2	20-1/2	18-1/2	56-1/2	20-1/2	18-1/2
WEIGHT															
Shipping (lbs.) / Net (lbs.)	95 / 88			100 / 93			103 / 96			115 / 105			136 / 126		

① These Air Handlers are A.R.I. certified with various Split System Heat Pumps (A.R.I. Standard 240) and Air Conditioners (A.R.I. Standard 210). Refer to the Split System Product Data Guides for performance data.

② 3/4" male plastic pipe (REF: ASTM 1785-76).

A.R.I. STANDARD RATING CONDITIONS

A.R.I. STANDARD 210 RATING CONDITIONS — Cooling 80°F. D.B., 67°F. W.B. air entering indoor coil, 95°F. D.B. air entering outdoor air coil.
A.R.I. STANDARD 240 RATING CONDITIONS — (A) Cooling 80°F. D.B., 67°F. W.B. air entering indoor coil, 95°F. D.B. air entering outdoor coil. (B) High Temperature Heating 47°F. D.B., 43°F. W.B. air entering outdoor coil, 70°F. D.B. air entering indoor coil. (C) Low Temperature Heating 17°F. D.B., 15°F. W.B. air entering indoor coil. (D) Rated indoor airflow for heating is the same as for cooling.

PRODUCT SPECIFICATIONS

MODEL	TWH018B140A	TWH024B140A	TWH030B140A	TWH036B140A	TWH042B140A
RATED VOLTS/PH/HZ	200/230/1/60	200/230/1/60	200/230/1/60	200/230/1/60	200/230/1/60
RATINGS ①	SEE O.D. SPECIFICATIONS				
INDOOR COIL — Type	FLAT	FLAT	FLAT	FLAT	FLAT
Rows — F.P.I.	4 — 12	4 — 12	4 — 12	4 — 12	4 — 12
Face Area (sq. ft.)	2.22	2.22	2.83	3.33	3.83
Tube Size (in.)	3/8	3/8	3/8	3/8	3/8
Refrigerant Control	F.C.C.V.	F.C.C.V.	F.C.C.V.	F.C.C.V.	F.C.C.V.
Drain Conn. Size (in.) ②	3/4 NPT	3/4 NPT	3/4 NPT	3/4 NPT	3/4 NPT
Duct Connections	SEE OUTLINE DRAWING				
INDOOR FAN — Type	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL	CENTRIFUGAL
Dia. — Width (in.)	9 x 9	9 x 9	10 x 8	10 x 8	10 x 8
No. Used	1	1	1	1	1
Drive — Speeds (No.)	DIRECT — 3	DIRECT — 3	DIRECT — 3	DIRECT — 3	DIRECT — 3
CFM vs. in. w.g.	SEE FAN PERFORMANCE TABLE				
No. Motors — HP	1 — 1/8	1 — 1/4	1 — 1/3	1 — 1/3	1 — 1/2
Motor Speed R.P.M.	1075	1075	1075	1075	1075
Volts/Ph/Hz	200/230/1/60	200/230/1/60	200/230/1/60	200/230/1/60	200/230/1/60
F.L. Amps — L.R. Amps	1.0 — 2.1	1.7 — 3.6	2.1 — 4.0	2.6 — 6.0	3.9 — 8.9
FILTER — Furnished?	NO	NO	NO	NO	NO
Type Recommended					
Lo Vel. (No.-Size-Thk)	1 — 480 SQ. IN. — 1 IN.	1 — 480 SQ. IN. — IN.	1 — 480 SQ. IN. — 1 IN.	1 — 675 SQ. IN. — 1 IN.	1 — 720 SQ. IN. — 1 IN.
Hi Vel. (No.-Size-Thk)	1 — 320 SQ. IN. — 1 IN.	1 — 320 SQ. IN. — IN.	1 — 320 SQ. IN. — 1 IN.	1 — 450 SQ. IN. — 1 IN.	1 — 480 SQ. IN. — 1 IN.
REFRIGERANT (R-22)	DRY NITROGEN	DRY NITROGEN	DRY NITROGEN	DRY NITROGEN	DRY NITROGEN
Ref. Line Connections	BRAZE	BRAZE	BRAZE	BRAZE	BRAZE
Coupling or Conn. Size — in. Gas	5/8	3/4	3/4	7/8	7/8
Coupling or Conn. Size — in. Liq.	1/4	5/16	5/16	3/8	3/8

DIMENSIONS	H	W	D	H	W	D	H	W	D	H	W	D	H	W	D
Crated (in.)	23-5/8	23-1/2	44	23-5/8	23-1/2	44	25	30-5/8	37	25	30-5/8	37	25	30-5/8	47
Uncrated	20-1/2	20	43	20-1/2	20	43	22	28	36	22	28	36	22	28	46
WEIGHT															
Shipping (lbs.) / Net (lbs.)	118 / 110			120 / 112			138 / 131			137 / 130			164 / 155		

① These Air Handlers are A.R.I. certified with various Split System Heat Pumps (A.R.I. Standard 240) and Air Conditioners (A.R.I. Standard 210). Refer to the Split System Product Data Guides for performance data.

② 3/4" male plastic pipe (REF: ASTM 1785-76).

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A.R.I. STANDARD 240 RATING CONDITIONS — (A) Cooling 80°F. D.B., 67°F. W.B. air entering indoor coil, 95°F. D.B. air entering outdoor coil. (B) High Temperature Heating 47°F. D.B., 43°F. W.B. air entering outdoor coil, 70°F. D.B. air entering indoor coil. (C) Low Temperature Heating 17°F. D.B., 15°F. W.B. air entering indoor coil. (D) Rated indoor airflow for heating is the same as for cooling.

INDOOR FAN PERFORMANCE

AIR HANDLER AIRFLOW (CFM) vs. EXTERNAL STATIC PRESSURE

TWV018B,TWH018B①

	EXTERNAL STATIC PRESSURE (in. w.g.)				
	230 VOLTS			200 VOLTS	
CFM	HI	MED	LO	HI	MED
300			0.44		0.48
350		0.52	0.30		0.40
400		0.44	0.15	0.54	0.32
450	0.51	0.36	0.00	0.48	0.23
500	0.44	0.28		0.41	0.12
550	0.36	0.19		0.34	0.00
600	0.32	0.09		0.27	
650	0.26	0.00		0.21	
700	0.19			0.13	
750	0.12			0.05	
800	0.03				

NOTES:
1. WET COIL, FILTER IN PLACE; NO ELECTRIC HEATER.
2. SEE AIRFLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATERS.
3. FOR FRONT RETURN ON TWV MODELS, INCREASE AIRFLOW BY 5%.

From Dwg. 21A133445 Rev. 0

TWV024B①

	EXTERNAL STATIC PRESSURE (in. w.g.)			
	230 VOLTS		200 VOLTS	
CFM	HI	LO	HI	LO
500		0.47		
550	0.48	0.40	0.38	0.28
600	0.41	0.32	0.31	0.21
650	0.35	0.23	0.26	0.16
700	0.28	0.14	0.18	0.08
750	0.21	0.03	0.11	0.00
800	0.14		0.04	
850	0.05			

NOTES:
1. WET COIL, FILTER IN PLACE, NO ELECTRIC HEATER.
2. SEE AIRFLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATERS.
3. FOR FRONT RETURN, INCREASE AIRFLOW BY 5%.

From Dwg. 21A133444 Rev. 1

TWV025B, TWH024B①

	EXTERNAL STATIC PRESSURE (in. w.g.)					
	230 VOLTS			200 VOLTS		
CFM	HI	MED	LO	HI	MED	LO
400						0.55
450						0.45
500					0.56	0.34
550			0.50		0.45	0.24
600		0.57	0.40		0.34	0.14
650		0.47	0.29		0.22	0.02
700		0.36	0.18		0.10	
750		0.25	0.06	0.51		
800	0.55	0.14		0.41		
850	0.47	0.00		0.31		
900	0.39			0.21		
950	0.30			0.11		
1000	0.22			0.00		
1050	0.13					
1100	0.00					

NOTES:
1. WET COIL, FILTER IN PLACE, NO ELECTRIC HEATER.
2. SEE AIRFLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATERS.
3. FOR FRONT RETURN ON TWV MODEL, INCREASE AIRFLOW BY 5%.

From Dwg. 21A133446 Rev. 2

TWV030B, TWH030B①

	EXTERNAL STATIC PRESSURE, (in. w.g.)					
	230 VOLTS			200 VOLTS		
CFM	HI	MED	LO	HI	MED	LO
450						0.55
500						0.47
550						0.40
600						0.32
650			0.52		0.58	0.23
700			0.45		0.51	0.14
750			0.37		0.44	0.04
800		0.53	0.28		0.36	
850		0.47	0.19		0.29	
900		0.42	0.08	0.51	0.21	
950		0.36		0.45	0.15	
1000	0.52	0.30		0.40	0.00	
1050	0.46	0.23		0.34		
1100	0.40	0.15		0.28		
1150	0.35	0.03		0.21		
1200	0.28			0.10		
1250	0.21					
1300	0.14					
1350	0.05					
1400						

NOTES:
1. WITH WET COIL, FILTER IN PLACE, NO ELECTRIC HEATER.
2. SEE AIRFLOW RESISTANCE TABLE FOR PERFORMANCE LOSS WITH SUPPLEMENTARY HEATERS.
3. FOR FRONT RETURN ON TWV MODELS, INCREASE AIRFLOW BY 2%.

From Dwg. 21A133451 Rev. 2

INDOOR FAN PERFORMANCE

AIR HANDLER AIRFLOW (CFM) vs. EXTERNAL STATIC PRESSURE

TWV036B
TWH036B①

	EXTERNAL STATIC PRESSURE, (in. w.g.)					
	230 VOLTS			200 VOLTS		
CFM	HI	MED	LO	HI	MED	LO
800						0.58
850						0.42
900						0.24
950			0.56			0.00
1000			0.42		0.57	
1050			0.25		0.46	
1100		0.59	0.00		0.32	
1150		0.47		0.56	0.17	
1200	0.56	0.35		0.48	0.00	
1250	0.48	0.21		0.39		
1300	0.40	0.06		0.31		
1350	0.32			0.22		
1400	0.23			0.12		
1450	0.14			0.00		
1500	0.05					

NOTES:
1. SEE AIRFLOW RESISTANCE TABLES FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATERS.
2. FRONT RETURN PERFORMANCE SAME AS BOTTOM RETURN (TWV).

From Dwg. 21A133448 Rev. 3

TWH042B①

	EXTERNAL STATIC PRESSURE (In. w.g.)					
	230 VOLTS			200 VOLTS		
CFM	HI	MED	LO	HI	MED	LO
900						0.60
950						0.00
1000						
1050						
1100			0.58		0.49	
1150			0.43		0.31	
1200			0.27		0.00	
1250		0.53	0.00			
1300		0.43				
1350		0.33		0.59		
1400		0.22		0.52		
1450	0.57	0.11		0.45		
1500	0.51	0.00		0.37		
1550	0.45			0.30		
1600	0.38			0.22		
1650	0.32			0.13		
1700	0.25			0.04		
1750	0.18					
1800	0.10					
1850	0.03					

NOTES:
1. SEE AIRFLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATERS.

From Dwg. 21A133447 Rev. 3

PRESSURE DROP CHARACTERISTICS
ELECTRIC HEATERS

	NUMBER OF RACKS (SEE TABLE AT RIGHT)		
	1&2	3	4
AIRFLOW CFM	AIR PRESSURE DROP INCHES OF w.g.		
500	0.01	0.02	0.02
600	0.01	0.02	0.03
700	0.02	0.03	0.04
800	0.03	0.05	0.06
900	0.04	0.07	0.08
1000	0.05	0.09	0.10
1100	0.05	0.10	0.11
1200	0.06	0.11	0.12
1300	0.06	0.12	0.14
1400	0.07	0.14	0.16
1500	0.08	0.15	0.18

HEATER MODEL NO.	NO. OF RACKS
BAY96X1405	1
BAY96X1406	2
BAY96X1408	2
BAY96X1410	2
BAY96X1410A	2
BAY96X1411	3
BAY96X1411A	3
BAY96X1414	3
BAY96X1415	3
BAY96X1419	4
BAY96X1421	4

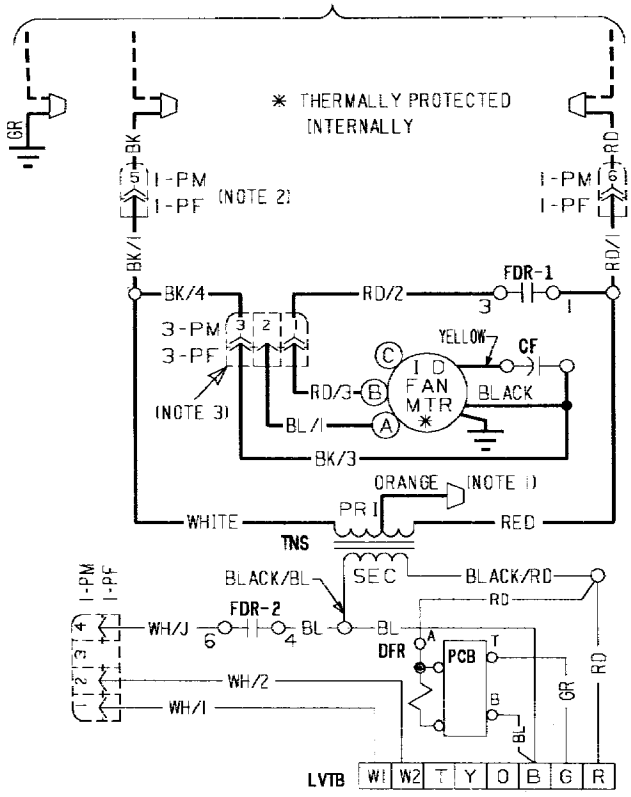
From Dwg. 21B126242 Rev. 1

SCHEMATIC DIAGRAMS FOR AIR HANDLERS

(SEE LEGEND PAGE 13)

TWV018,024,025B 200/230/1/60

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



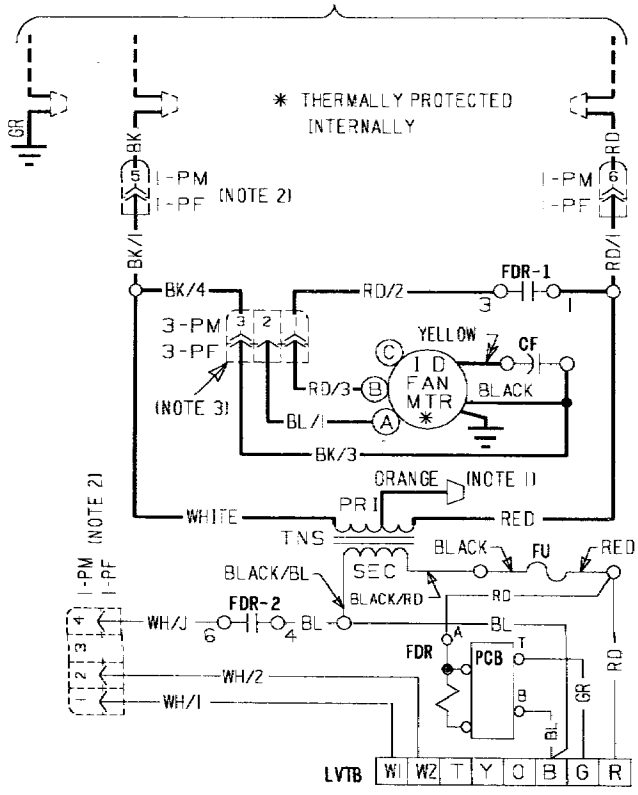
NOTES:

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 1400 SERIES HEATERS ARE USED, DISCARD 1-PM WITH ATTACHED LEADS AND CONNECT 1-PF TO THE MATING PLUG IN THE HEATER CONTROL BOX.
3. ACCESSORY KIT BAY24X038 MAY BE USED WHEN AUTOMATIC SPEED CHANGE FOR HEATING/COOLING OPERATION IS DESIRED.

From Dwg. 21C144023 P01

TWV030,036B 200/230/1/60

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



NOTES:

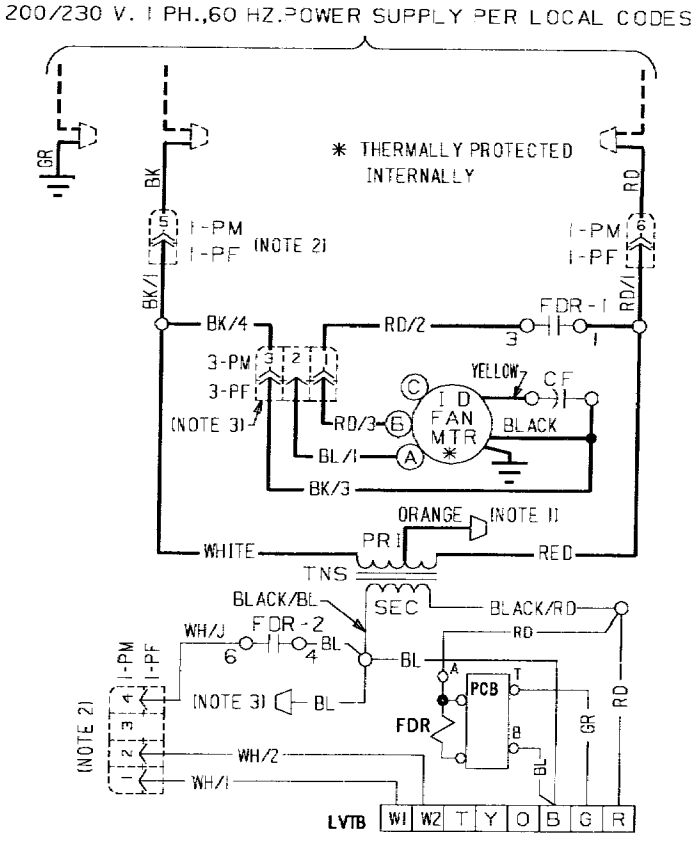
1. FOR 200 V. OPERATION, DISCONNECT RED TRANSFORMER LEAD FROM CN-1 AND INSULATE. CONNECT ORANGE TRANSFORMER LEAD TO REMAINING TWO RD-1 LEADS IN CN-1.
2. WHEN 1400 SERIES HEATERS ARE USED, DISCARD 1-PM WITH ATTACHED LEADS AND CONNECT 1-PF TO THE MATING PLUG IN THE HEATER CONTROL BOX.
3. ACCESSORY KIT BAY24X038 MAY BE USED WHEN AUTOMATIC SPEED CHANGE FOR HEATING/COOLING OPERATION IS DESIRED.

From Dwg. 21C144024 P01

SCHEMATIC DIAGRAMS FOR AIR HANDLERS

(SEE LEGEND PAGE 13)

TWH018,024B

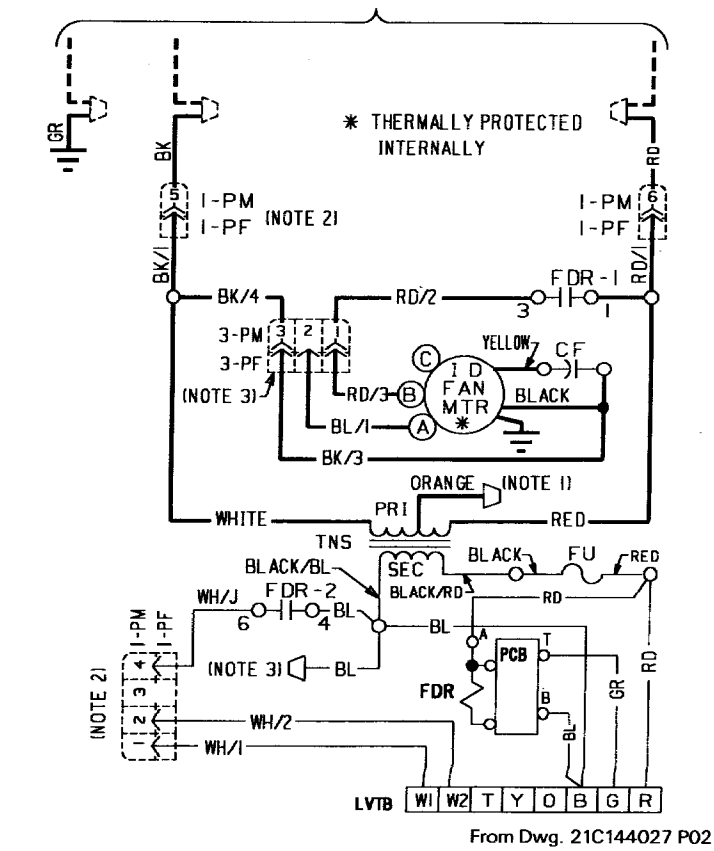


NOTES:

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 1400 SERIES HEATERS ARE USED, DISCARD 1-PM WITH ATTACHED LEADS AND CONNECT 1-PF 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.

From Dwg. 21C144026 P01

TWH030,036,042B



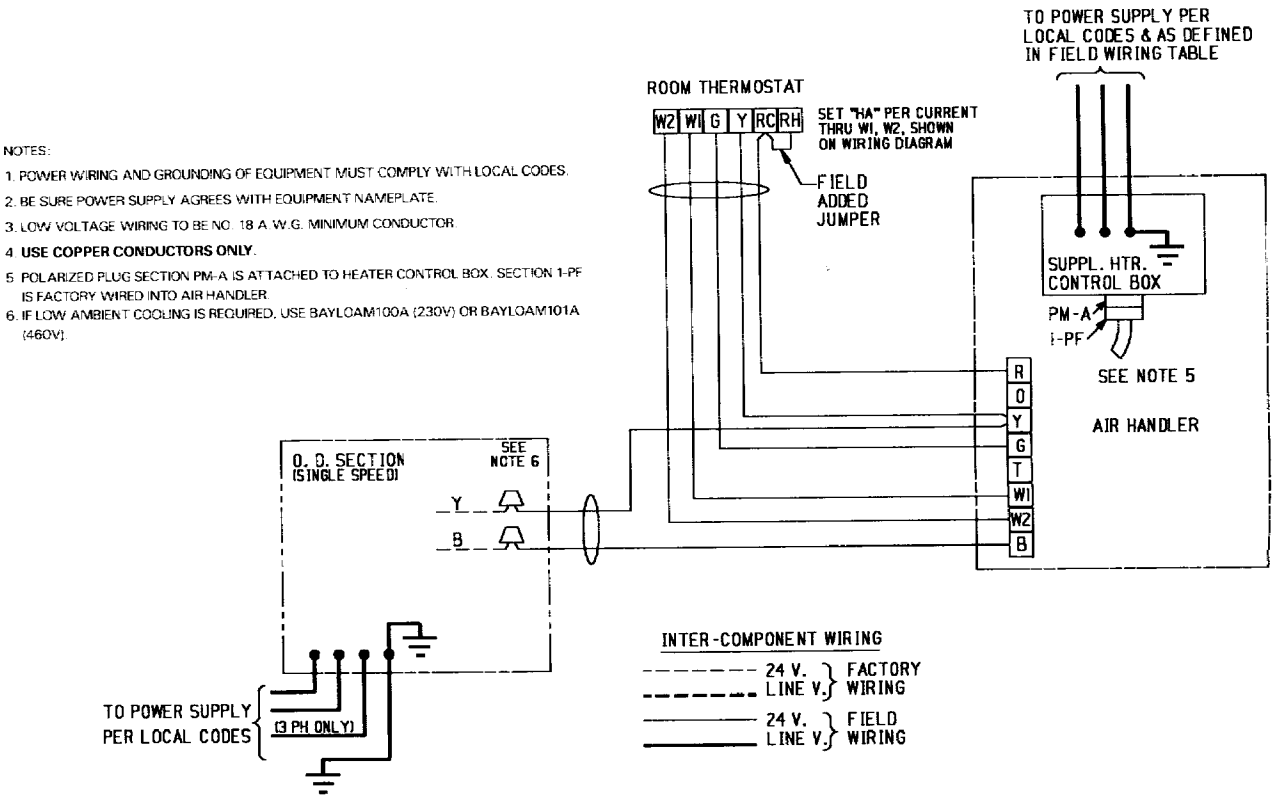
NOTES:

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 1400 SERIES HEATERS ARE USED, DISCARD 1-PM WITH ATTACHED LEADS AND CONNECT 1-PF TO THE MATING PLUG 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.)

From Dwg. 21C144027 P02

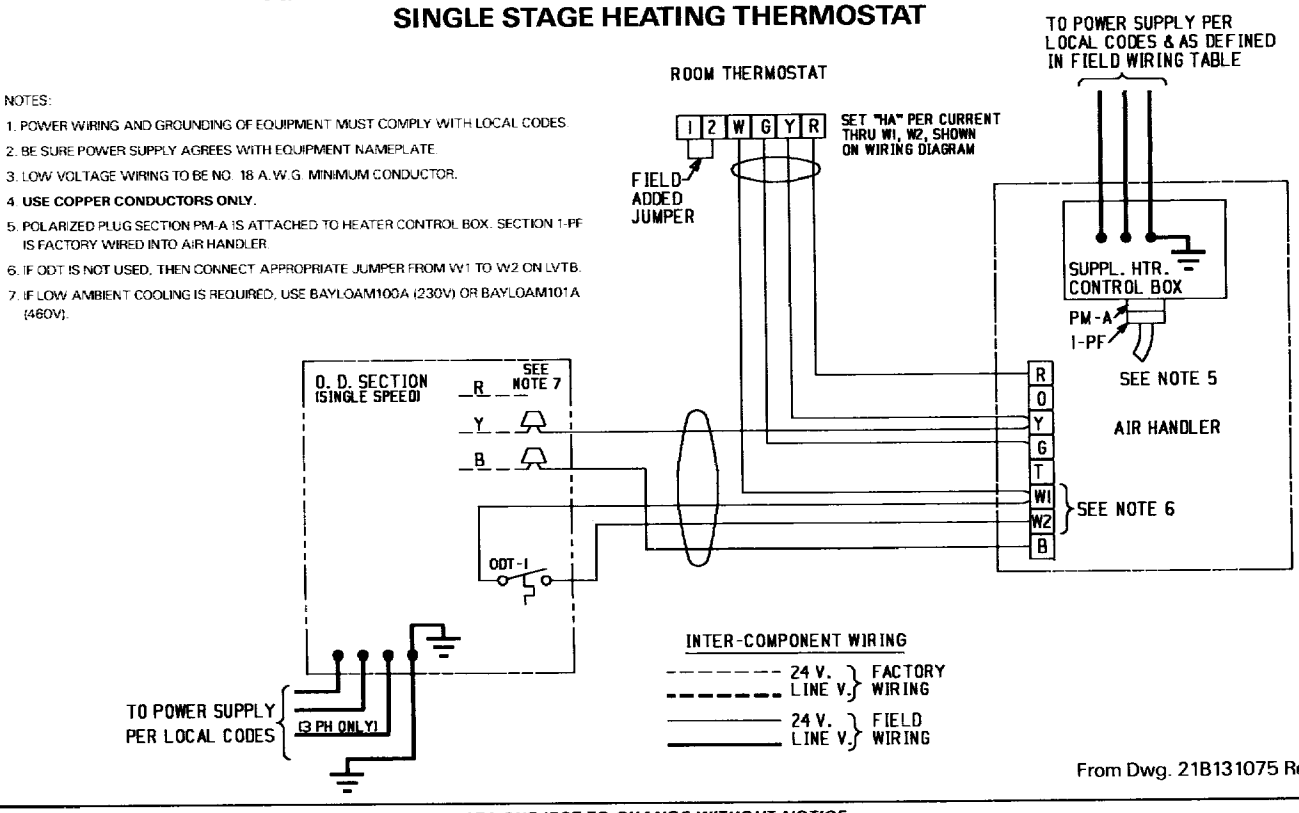
FIELD WIRING DIAGRAMS

FIELD WIRING DIAGRAM FOR TWV,TWH AIR HANDLERS WITH SINGLE-SPEED COOLING UNIT AND TWO STAGE HEATING THERMOSTAT



From Dwg. 21B131072 Rev. 2

FIELD WIRING DIAGRAM FOR TWV,TWH AIR HANDLERS WITH SINGLE-SPEED COOLING UNIT AND SINGLE STAGE HEATING THERMOSTAT



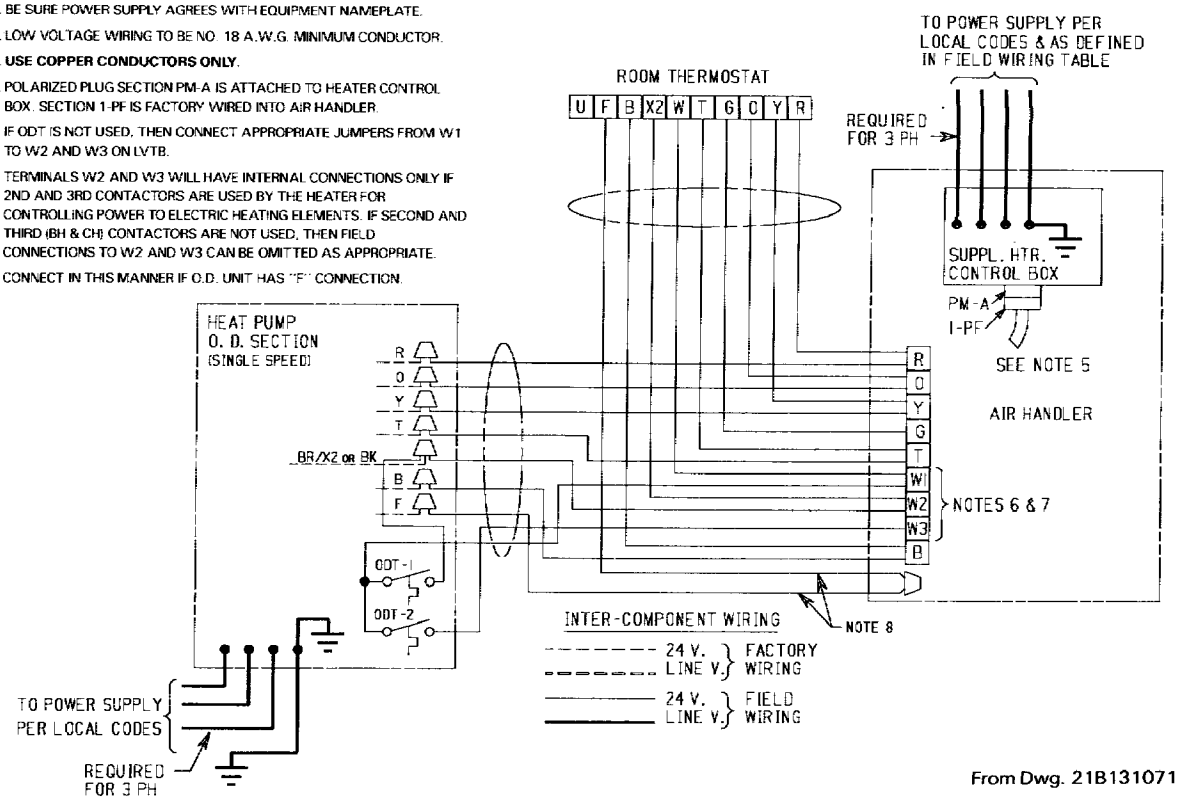
From Dwg. 21B131075 Rev. 2

FIELD WIRING DIAGRAM

FIELD WIRING DIAGRAM FOR TWV,TWH AIR HANDLERS WITH HEAT PUMP

NOTES:

1. POWER WIRING AND GROUNDING OF EQUIPMENT MUST COMPLY WITH LOCAL CODES.
2. BE SURE POWER SUPPLY AGREES WITH EQUIPMENT NAMEPLATE.
3. LOW VOLTAGE WIRING TO BE NO. 18 A.W.G. MINIMUM CONDUCTOR.
4. **USE COPPER CONDUCTORS ONLY.**
5. POLARIZED PLUG SECTION PM-A IS ATTACHED TO HEATER CONTROL BOX. SECTION 1-PF IS FACTORY WIRED INTO AIR HANDLER.
6. IF ODT IS NOT USED, THEN CONNECT APPROPRIATE JUMPERS FROM W1 TO W2 AND W3 ON LVTB.
7. TERMINALS W2 AND W3 WILL HAVE INTERNAL CONNECTIONS ONLY IF 2ND AND 3RD CONTACTORS ARE USED BY THE HEATER FOR CONTROLLING POWER TO ELECTRIC HEATING ELEMENTS. IF SECOND AND THIRD (BH & CH) CONTACTORS ARE NOT USED, THEN FIELD CONNECTIONS TO W2 AND W3 CAN BE OMITTED AS APPROPRIATE.
8. CONNECT IN THIS MANNER IF O.D. UNIT HAS "PF" CONNECTION.



From Dwg. 21B131071 Rev. 2

LEGEND

24 V. / Line V.	Factory Wiring
24 V. / Line V.	Field Wiring
•	Junction
□	Terminal Block/Board
⊣⊢	Relay Contact N.O.
1 2 3	Pol. Plug Female Housing (Male Terminals)
1 2 3	Pol. Plug Male Housing (Female Terminals)
⏚	Ground
⊣⊢	Capacitor
△	Wire Nut or Connector
o	Terminal
	Transformer
	Fuse
	Magnetic Coil

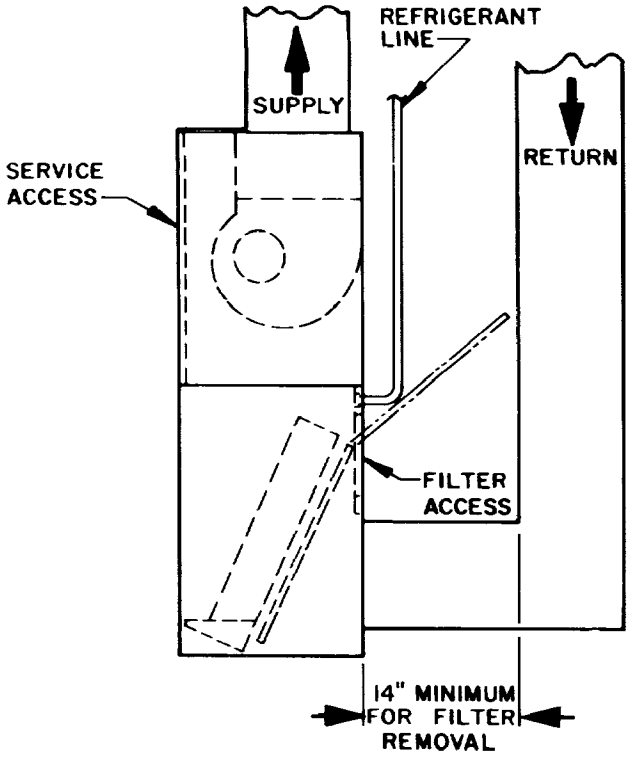
CN	Wire Connector
CF	Fan Capacitor
FDR	Fan Delay Relay
FU	Fuse
LVTB	Low Voltage Terminal Board
PCB	Printed Circuit Board
PF	Polarized Plug (Female Housing)
PM	Polarized Plug (Male Housing)
TNS	Transformer

Color of Wire
BK/BL Black Wire with Blue Marker
Color of Marker

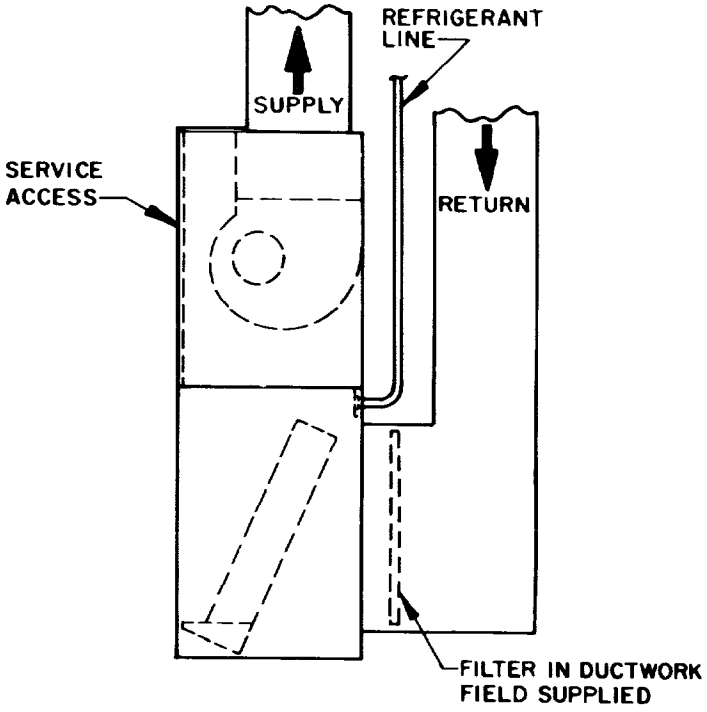
BK	Black	YL	Yellow
BL	Blue	OR	Orange
BR	Brown	GR	Green
RD	Red	PR	Purple
WH	White		

METRIC CONVERSION
INCHES ÷ 39,37 = METERS
INCHES x 25,4 = MILLIMETERS
LBS. x 0.453 = KILOGRAMS

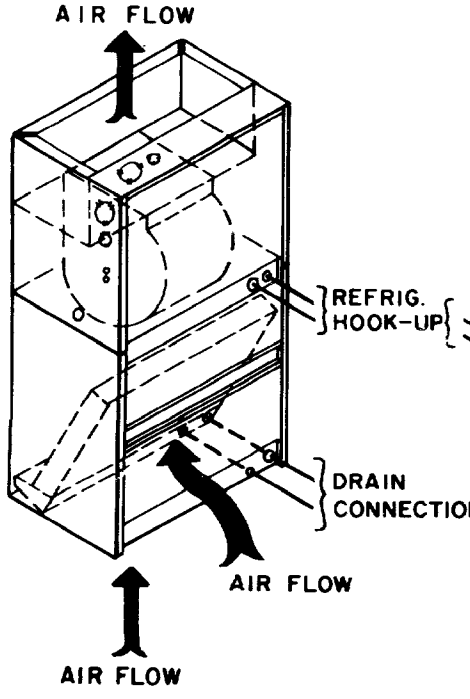
TWV AIR HANDLER APPLICATIONS



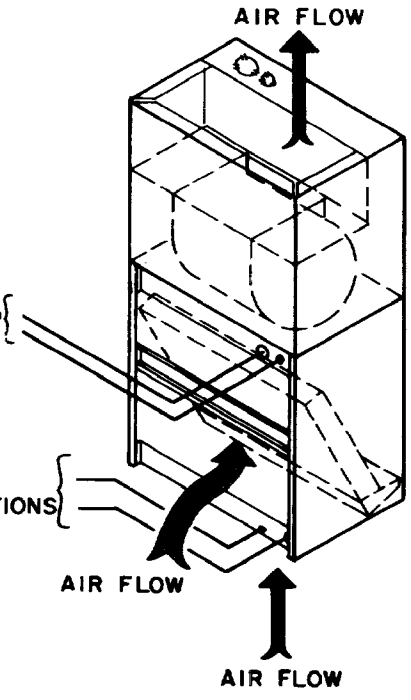
TYPICAL UPFLOW WITH DUCTED RETURN



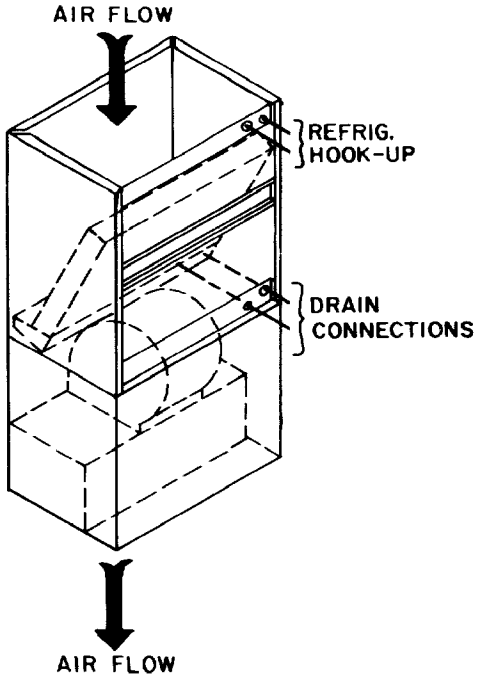
TYPICAL UPFLOW WITH EXTERNAL FILTER FRAME FIELD SUPPLIED



UPFLOW POSITION
BOTTOM OR FRONT RETURN
FRONT SERVICE ACCESS
(AS SHIPPED)



UPFLOW POSITION
BOTTOM OR REAR RETURN
REAR BLOWER ACCESS



DOWNFLOW POSITION
TOP RETURN

From Dwg. 21D309940 Rev. 0

TWH018B WIRING DATA
(Unit and Heater With Single Point Power to Heater and Indoor Blower Motor)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	24	27	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	28	32	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	37	42	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	45	52	1	1	34.7	40	No	50	60	BAY96X1410,10F
10.56	36100	208-240/1/60	50	57	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/3/60	32	37	1	1	24.2	28	No	35	40	BAY96X3411

NOTES:
* Circuit 1/Circuit 2
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWV018B WIRING DATA
(Unit and Heater With Single Point Power to Heater and Indoor Blower Motor)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	24	27	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	28	32	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	37	42	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	46	52	1	1	34.7	40	No	50	60	BAY96X1410,10F
10.56	36100	208-240/1/60	50	57	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/3/60	32	37	1	1	24.2	28	No	35	40	BAY96X3411

NOTES:
* Circuit 1/Circuit 2
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWH024B WIRING DATA
(Unit and Heater With Single Point Power to Heater and Indoor Blower Motor)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	25	28	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	29	33	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	38	43	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	46	53	1	1	34.7	40	No	50	60	BAY96X1410,10F
10.56	36100	208-240/1/60	51	58	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/1/60	51	58	1	1	38.1	44	Yes	60	60	BAY96X1411A
10.56	36100	208-240/3/60	32	37	1	1	24.2	28	No	35	40	BAY96X3411

NOTES:
* Circuit 1/Circuit 2
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWV024B WIRING DATA
(Indoor Blower Motor Powered From Heater Circuit 1)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	24	28	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	29	32	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	37	42	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	46	52	1	1	34.7	40	No	50	60	BAY96X1410,10F
10.56	36100	208-240/1/60	50	57	1	1	38.1	44	No	60	60	BAY96X1411
14.4	49100	208-240/1/60	46/22*	52/25*	2	2	34.7/17.3*	40/20*	Yes	50/25*	60/25*	BAY96X1414
10.56	36100	208-240/3/60	32	37	1	1	24.2	28	No	35	40	BAY96X3411

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWV025B WIRING DATA
(Indoor Blower Motor Powered From Heater Circuit 1)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	24	28	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	29	32	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	37	42	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	46	52	1	1	34.7	40	No	50	60	BAY96X1410,10F
9.6	32800	208-240/1/60	46	52	1	1	34.7	40	Yes	50	60	BAY96X1410A
10.56	36100	208-240/1/60	50	57	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/1/60	50	57	1	1	38.1	44	Yes	60	60	BAY96X1411A
15.36	52400	208-240/1/60	46/26*	52/30*	2	2	34.7/20.8*	40/24*	Yes	50/30*	60/30*	BAY96X1415
10.56	36100	208-240/3/60	32	37	1	1	24.2	28	No	35	40	BAY96X3411
15.36	52400	208-240/3/60	45	52	1	1	36	41.6	No	45	60	BAY96X3415

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWH030B WIRING DATA
(Indoor Blower Motor Powered from Heater Circuit 1)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	25	29	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	29	33	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	38	43	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	46	53	1	1	34.7	40	No	50	60	BAY96X1410,10F
9.6	32800	208-240/1/60	46	53	1	1	34.7	40	Yes	50	60	BAY96X1410A
10.56	36100	208-240/1/60	51	58	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/1/60	51	58	1	1	38.1	44	Yes	60	60	BAY96X1411A
15.36	52400	208-240/1/60	46/26*	53/30*	2	2	34.7/20.8*	40/24*	Yes	50/30*	60/30*	BAY96X1415
19.2	65500	208-240/1/60	46/44*	53/50*	2	2	34.7/34.7*	40/40*	Yes	50/45*	60/50*	BAY96X1419
21.12	72100	208-240/1/60	46/52*	53/60*	2	2	34.7/41.6*	40/48*	Yes	50/60*	60/60*	BAY96X1421
10.56	36100	208-240/3/60	34	37	1	1	24.2	28	No	35	40	BAY96X3411
15.36	52400	208-240/3/60	45	52	1	1	36	41.6	No	45	60	BAY96X3415

NOTES:
* Circuit 1/Circuit 2 (Minimun Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWV030B WIRING DATA
(Indoor Blower Motor Powered From Heater Circuit 1)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	25	28	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	29	33	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	38	43	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	46	53	1	1	34.7	40	No	50	60	BAY96X1410,10F
9.6	32800	208-240/1/60	46	53	1	1	34.7	40	Yes	50	60	BAY96X1410A
10.56	36100	208-240/1/60	51	58	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/1/60	51	58	1	1	38.1	44	Yes	60	60	BAY96X1411A
15.36	52400	208-240/1/60	47/26*	53/30*	2	2	34.7/20.8*	40/24*	Yes	50/30*	60/30*	BAY96X1415
19.2	65500	208-240/1/60	47/44*	53/50*	2	2	34.7/34.7*	40/40*	Yes	50/45*	60/50*	BAY96X1419
21.12	72100	208-240/1/60	47/52*	53/60*	2	2	34.7/41.6*	40/48*	Yes	50/60*	60/60*	BAY96X1421
10.56	36100	208-240/3/60	33	38	1	1	24.2	28	No	35	40	BAY96X3411
15.36	52400	208-240/3/60	45	52	1	1	36	41.6	No	45	60	BAY96X3415

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWH036B WIRING DATA
(Indoor Blower Motor Powered from Heater Circuit 1)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	26	29	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	30	34	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	39	44	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	48	54	1	1	34.7	40	No	50	60	BAY96X1410,10F
9.6	32800	208-240/1/60	48	54	1	1	34.7	40	Yes	50	60	BAY96X1410A
10.56	36100	208-240/1/60	52	59	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/1/60	52	59	1	1	38.1	44	Yes	60	60	BAY96X1411A
15.36	52400	208-240/1/60	48/26*	54/30*	2	2	34.7/20.8*	40/24*	Yes	50/30*	60/30*	BAY96X1415
19.2	65500	208-240/1/60	48/44*	54/50*	2	2	34.7/34.7*	40/40*	Yes	50/45*	60/50*	BAY96X1419
21.12	72100	208-240/1/60	48/52*	54/60*	2	2	34.7/41.6*	40/48*	Yes	50/60*	60/60*	BAY96X1421
10.56	36100	208-240/3/60	32	38	1	1	24.2	28	No	35	40	BAY96X3411
15.36	52400	208-240/3/60	45	52	1	1	36	41.6	No	45	60	BAY96X3415

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWV036B WIRING DATA
(Indoor Blower Motor Powered From Heater Circuit 1)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	27	29	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	31	34	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	40	44	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	48	54	1	1	34.7	40	No	50	60	BAY96X1410,10F
9.6	32800	208-240/1/60	48	54	1	1	34.7	40	Yes	50	60	BAY96X1410A
10.56	36100	208-240/1/60	53	59	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/1/60	53	59	1	1	38.1	44	Yes	60	60	BAY96X1411A
15.36	52400	208-240/1/60	48/26*	54/30*	2	2	34.7/20.8*	40/24*	Yes	50/30*	60/30*	BAY96X1415
19.2	65500	208-240/1/60	48/44*	54/50*	2	2	34.7/34.7*	40/40*	Yes	50/45*	60/50*	BAY96X1419
21.12	72100	208-240/1/60	48/52*	54/60*	2	2	34.7/41.6*	40/48*	Yes	50/60*	60/60*	BAY96X1421
10.56	36100	208-240/3/60	33	38	1	1	24.2	28	No	35	40	BAY96X3411
15.36	52400	208-240/3/60	45	52	1	1	36	41.6	No	45	60	BAY96X3415

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

TWH042B WIRING DATA
(Indoor Blower Motor Powered From Heater Circuit 1)

Capacity @ 240 Volt		RATED VOLTAGE	Minimum Circuit ampacity		Stages or Steps	Number of Circuits	Heater Amps per Circuit		Contain Circuit Breaker	Maximum Overload Protection		Heater Model No.
KW	BTUH		208	240			208	240		208	240	
4.8	16400	208-240/1/60	28	30	1	1	17.3	20	No	30	30	BAY96X1405
5.76	19600	208-240/1/60	32	35	1	1	20.8	2	No	30	35	BAY96X1406
7.68	26200	208-240/1/60	41	45	1	1	27.7	32	No	40	45	BAY96X1408,8F
9.6	32800	208-240/1/60	49	55	1	1	34.7	40	No	50	60	BAY96X1410,10F
9.6	32800	208-240/1/60	49	55	1	1	34.7	40	Yes	50	60	BAY96X1410A
10.56	36100	208-240/1/60	54	60	1	1	38.1	44	No	60	60	BAY96X1411
10.56	36100	208-240/1/60	453	60	1	1	38.1	44	Yes	60	60	BAY96X1411A
15.36	52400	208-240/1/60	49/26*	55/30*	2	2	34.7/20.8*	40/24*	Yes	50/30*	60/30*	BAY96X1415
19.2	65500	208-240/1/60	49/44*	55/50*	2	2	34.7/34.7*	40/40*	Yes	50/45*	60/50*	BAY96X1419
21.12	72100	208-240/1/60	49/52*	55/60*	2	2	34.7/41.6*	40/48*	Yes	50/60*	60/60*	BAY96X1421
10.56	36100	208-240/3/60	35	40	1	1	24.2	28	No	35	40	BAY96X3411
15.36	52400	208-240/3/60	45	52	1	1	36	41.6	No	45	60	BAY96X3415

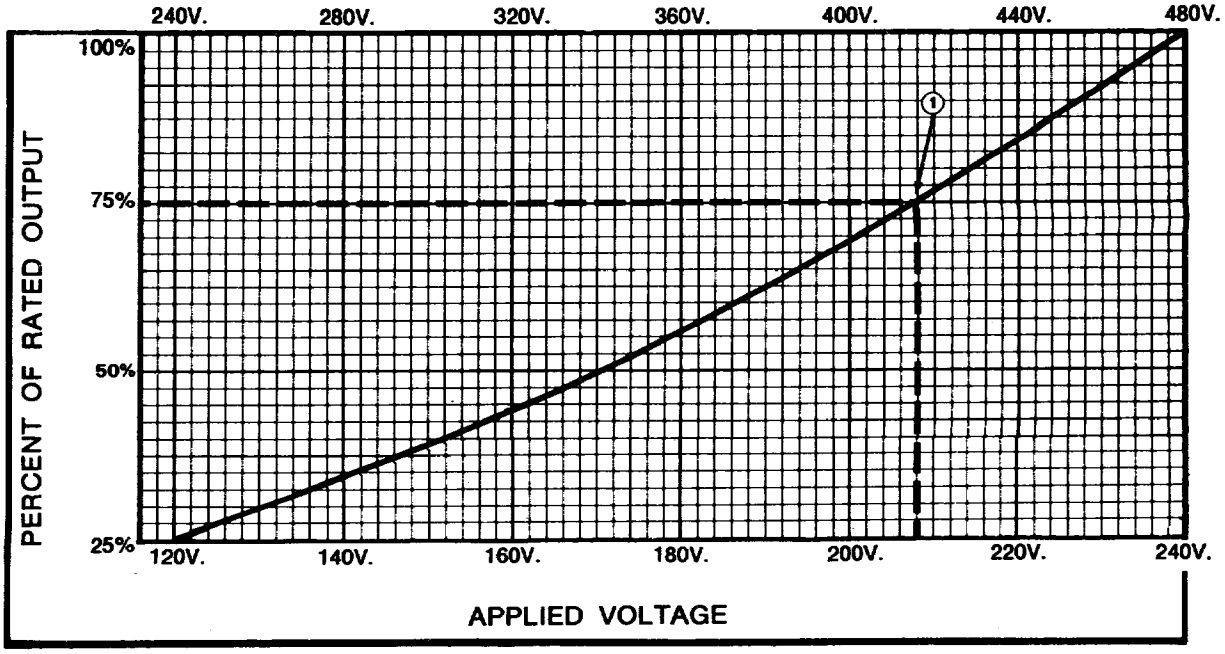
NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
CAUTION: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical

MODULAR AIR HANDLER		HEATER MODEL NUMBER BAY96X-----										
MODEL NUMBER	APPLICATION	1405 4.80kw	1406 5.76kw	1408,F 7.68kw	1410,F 9.60KW	1410A 9.60kw	3411 1411 10.56kw	1411A 10.56kw	1414 14.40kw	3515 1415 15.36kw	1419 19.20kw	1421 21.12kw
TWV018B	A/C or Elec. Furnace	L	L	L	M	--	M	--	--	--	--	--
	Heat Pump	L	L	L	M	--	M	--	--	--	--	--
TWH018B	A/C or Elec. Furnace	L	L	L	L	--	L	--	--	--	--	--
	Heat Pump	L	L	L	M	--	H	--	--	--	--	--
TWV024B	A/C or Elec. Furnace	L	L	L	L	--	L	--	H	--	--	--
	Heat Pump	L	L	L	M	--	H	--	--	--	--	--
TWV025B	A/C or Elec. Furnace	L	L	L	L	L	L	L	--	L	--	--
	Heat Pump	L	L	L	L	L	L	L	--	H	--	--
TWH024B	A/C or Elec. Furnace	L	L	L	L	--	M	--	H	--	--	--
	Heat Pump	M	M	H	H	--	H	--	H	--	--	--
TWV030B TWV036B	A/C or Elec. Furnace	L	L	L	L	L	L	L	--	M	M	M
	Heat Pump	L	L	L	M	M	M	M	--	M	H	H
TWH030B TWH036B	A/C or Elec. Furnace	L	L	L	L	L	L	L	--	L	L	L
	Heat Pump	L	L	L	M	M	M	M	--	M	M	M
TWH042B	A/C or Elec. Furnace	L	L	L	L	L	L	L	--	L	L	L
	Heat Pump	L	L	L	L	L	L	L	--	L	L	L

(L)Low, (M)Medium, (H)High Indicate minimum heating speed setting for blower/motor operation.

ELECTRIC HEATER DE-RATING CHART

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

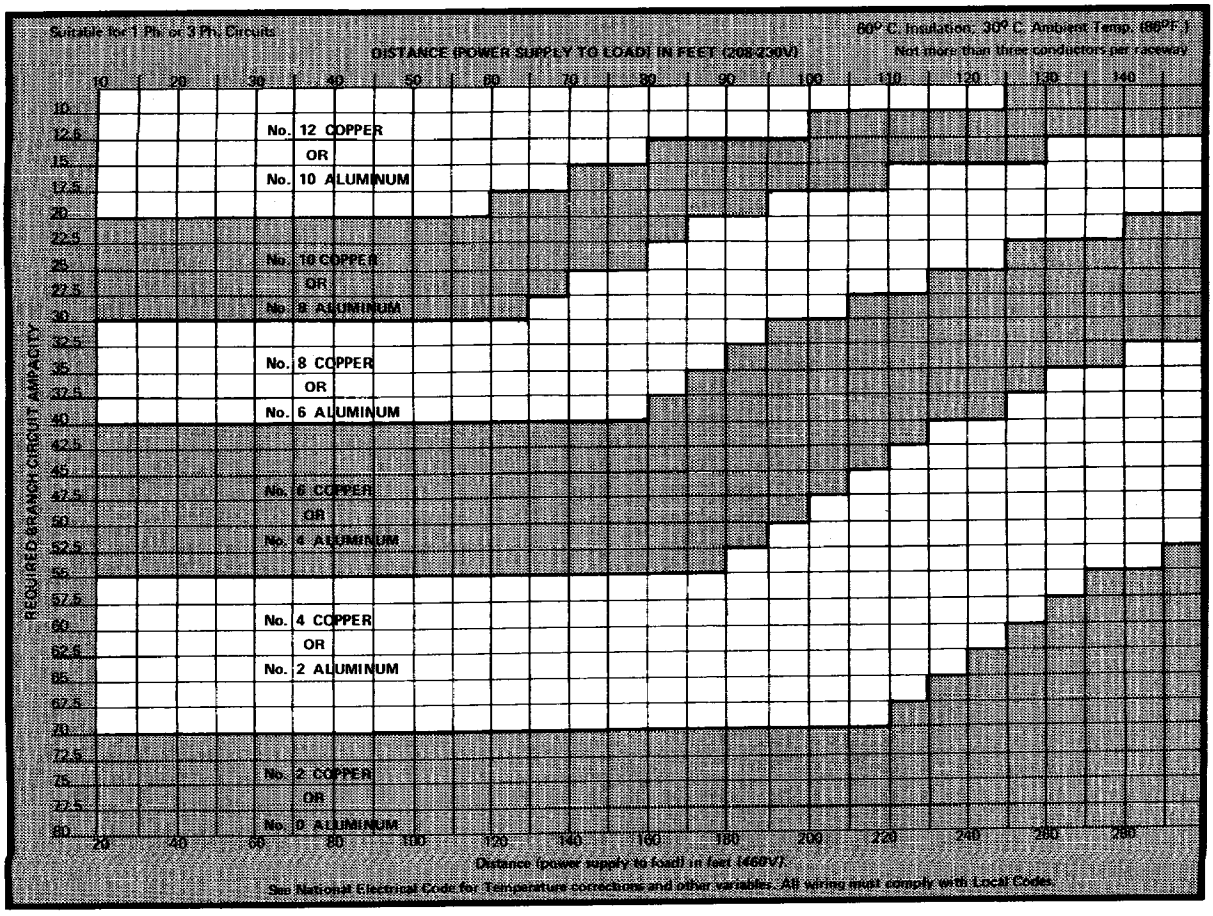


① EXAMPLE: Calculated Heat Loss — 29,200 BTUH Power Supply — 208V.
The chart indicates that any 240V heater will deliver 75% of its rated capacity at 208V.

$$\frac{29{,}200 \text{ BTUH}}{.75} = 39{,}000 \text{ BTUH}$$ } Select a heater having AT LEAST 39,000 BTUH capacity at 240V.

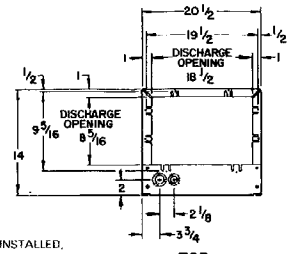
BRANCH CIRCUIT WIRE SIZING TABLE

(Based on 2% Voltage Drop)



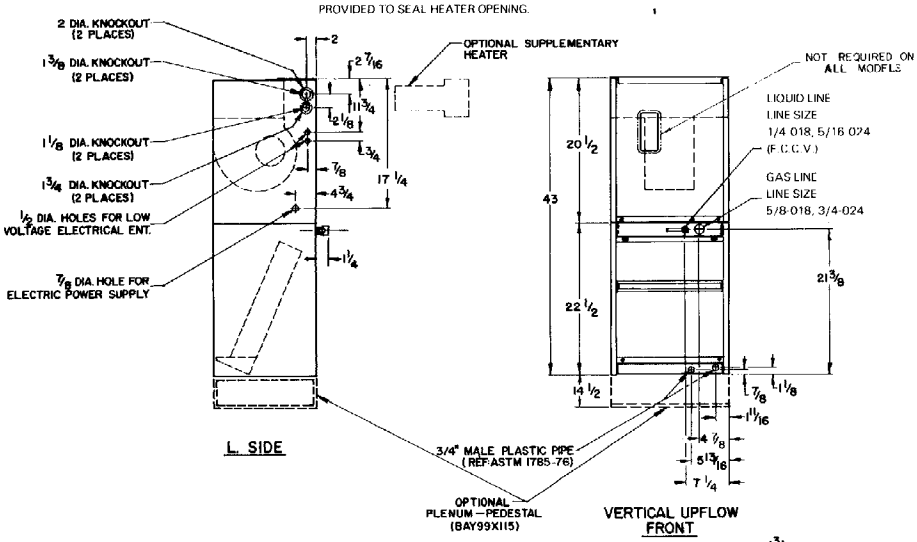
OUTLINE DRAWING TWV018,024B AIR HANDLERS

(ALL DIMENSIONS ARE IN INCHES)



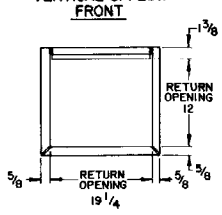
TOP

NOTE: IF A HEATER IS NOT INSTALLED, A SUITABLE, METAL COVER MUST BE PROVIDED TO SEAL HEATER OPENING.



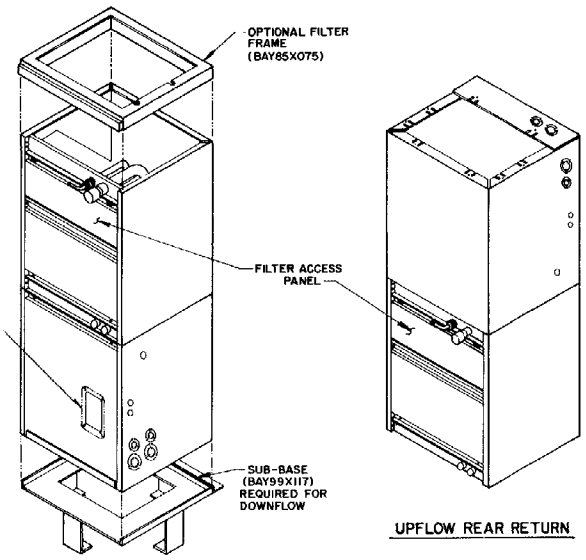
L. SIDE

VERTICAL UPFLOW FRONT



BOTTOM

MINIMUM UNIT CLEARANCE TABLE		
	TO COMBUSTIBLE MATERIALS (REQUIRED)	SERVICE CLEARANCE (RECOMMENDED)
SIDES	0"	2"
FRONT	0"	14"
BACK	0"	0"
INLET DUCT	0"	1"
OUTLET DUCT	1"	



VERTICAL (DOWNFLOW)

UPFLOW REAR RETURN

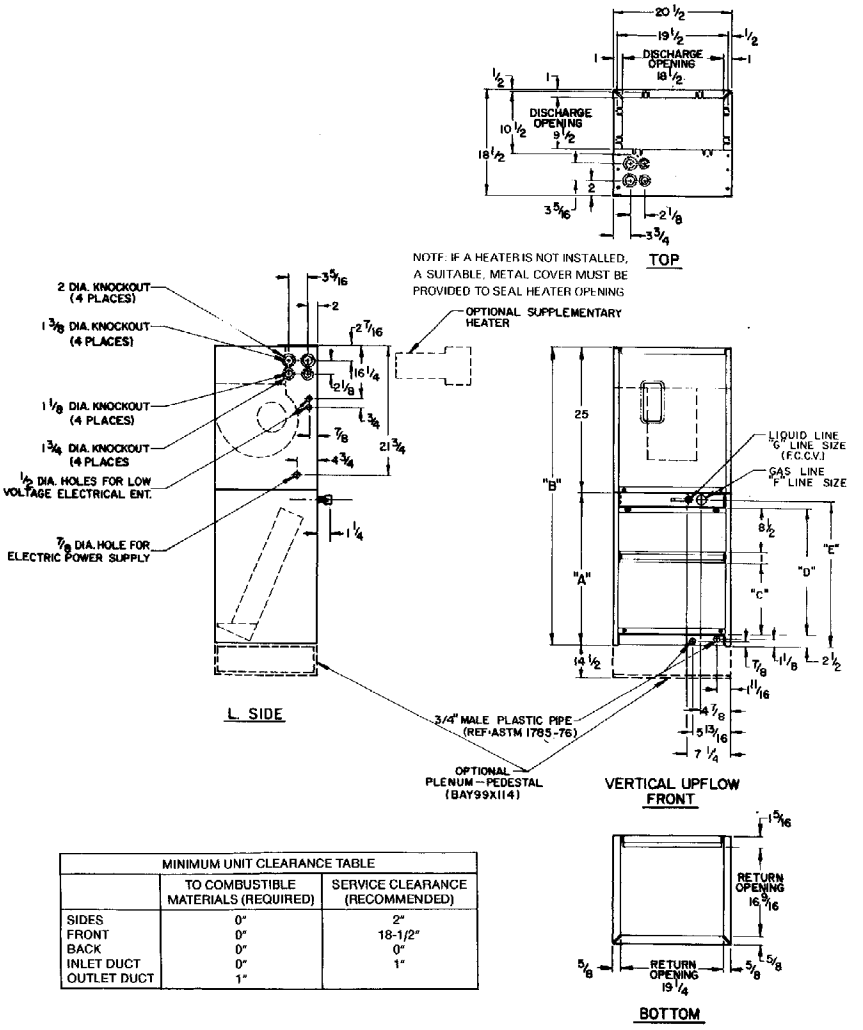
METRIC CONVERSION
INCHES X 25.4 = mm

DUCT SIZES	TWV018B140A TWV024B140A
SUPPLY	9-5/16" x 19-1/2"
RETURN BOTTOM	12" x 19-1/4"
FRONT LOWER OPENING	8" x 19-1/2"
FRONT FULL OPENING	17-1/2" x 19-1/2"

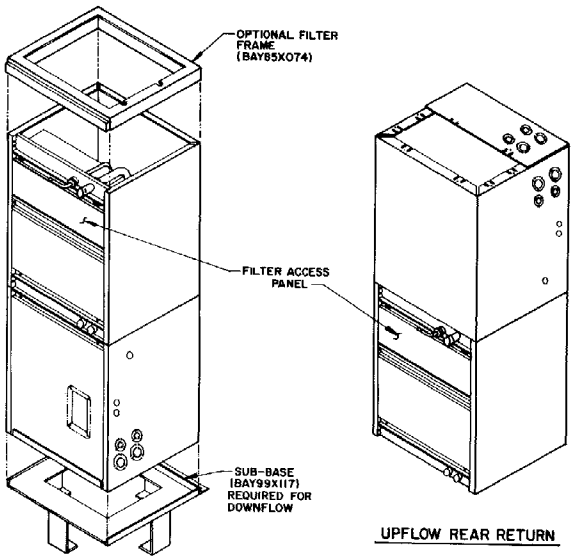
From Dwg. 21D144412 Rev. 0

OUTLINE DRAWING TWV025,030,036 AIR HANDLERS

(ALL DIMENSIONS ARE IN INCHES)



MINIMUM UNIT CLEARANCE TABLE		
	TO COMBUSTIBLE MATERIALS (REQUIRED)	SERVICE CLEARANCE (RECOMMENDED)
SIDES	0"	2"
FRONT	0"	18-1/2"
BACK	0"	0"
INLET DUCT	0"	1"
OUTLET DUCT	1"	



UPFLOW REAR RETURN

VERTICAL (DOWNFLOW)

MODEL NO.	"A"	"B"	"C"	"D"	"E"	"F"	"G"
TWV025B140A	22-1/2	47-1/2	8	17-1/2	21-3/8	3/4	5/16
TWV030B140A	26-1/2	51-1/2	12	21-1/2	25-3/8	3/4	5/16
TWV036B140A	31-1/2	56-1/2	17	26-1/2	30-3/8	7/8	3/8

DUCT SIZES	TWV0725B140A	TWV0730B140A	TWV0736B140A
SUPPLY	10-1/2" x 19-1/2"	10-1/2" x 19-1/2"	10-1/2" x 19-1/2"
RETURN BOTTOM	16-9/16" x 19-1/4"	16-9/16" x 19-1/4"	16-9/16" x 19-1/4"
FRONT LOWER OPENING	8" x 19-1/2"	12" x 19-1/2"	17" x 19-1/2"
FRONT FULL OPENING	17-1/2" x 19-1/2"	21-1/2" x 19-1/2"	26-1/2" x 19-1/2"

From Dwg. 21D144413 Rev. 0

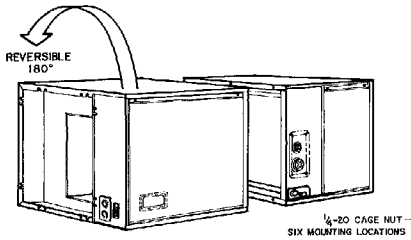
OUTLINE DRAWING TWH018,024B AIR HANDLERS

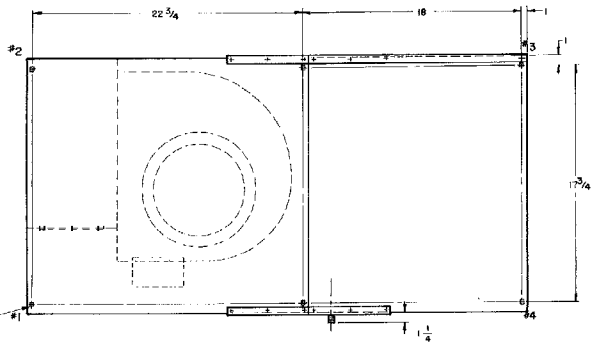
(ALL DIMENSIONS ARE IN INCHES)

MINIMUM UNIT CLEARANCE TABLE		
	TO COMBUSTIBLE MATERIALS (REQUIRED)	SERVICE CLEARANCE (RECOMMENDED)
INLET DUCT	0"	1"
TOP	0"	0"
COIL SECTION FRONT	0"	20"
BLOWER SECTION FRONT	0"	20"
BOTTOM	0"	0"*
LEFT END	0"	2" (REQUIRED)
OUTLET DUCT	1"	
BACK	0"	0"

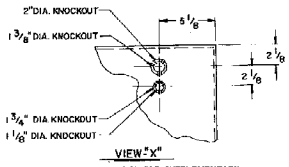
*IF BOTTOM POWER ENTRY HOLES ARE USED THEN SERVICE CLEARANCE IS 2"

METRIC CONVERSION
INCHES X 25.4 = mm



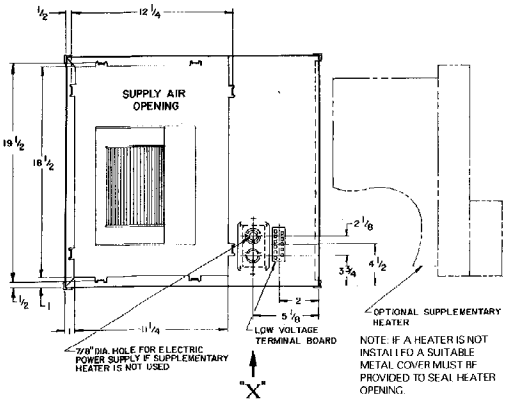


TOP

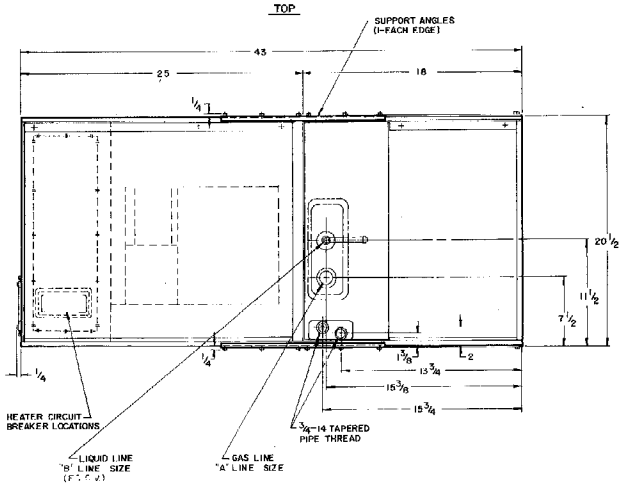


VIEW "X"

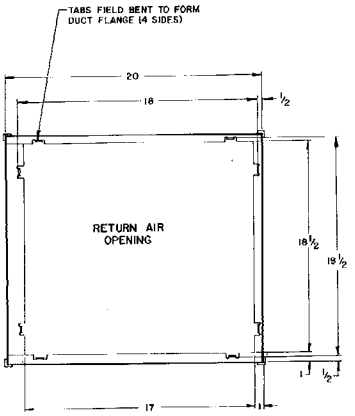
KNOCKOUT LOCATION FOR SUPPLEMENTARY HEATER POWER SUPPLY AND UNIT POWER SUPPLY WHEN HEATERS ARE USED. (BOTTOM & END)



LEFT END



FRONT



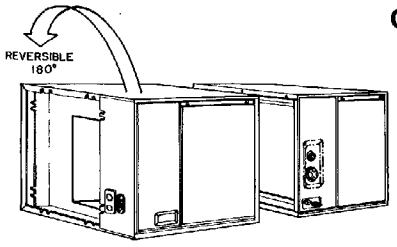
RIGHT END

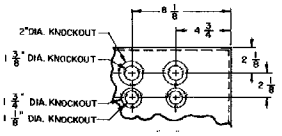
MODEL NO.	CORNER WEIGHTS #1	#2	#3	#4	DUCT SIZES	A	B
TWH018B140A	30	26	26	31	Supply 12-1/4 x 19-1/2	5/8	1/4
TWH024B140A	30	27	26	31	Return 18 x 19-1/2	3/4	5/16

From Dwg. 21D144408 Rev. 1

OUTLINE DRAWING TWH030,036,042B AIR HANDLERS

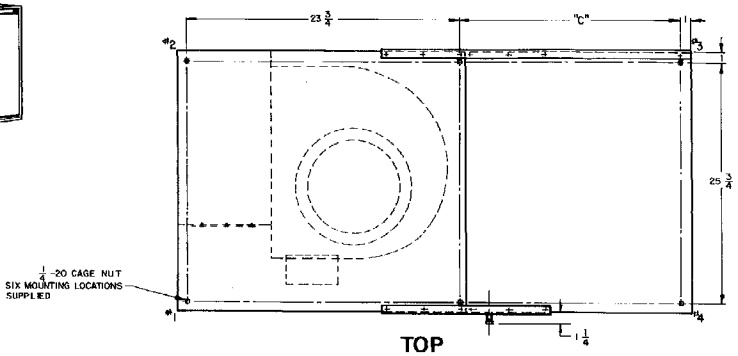
(ALL DIMENSIONS ARE IN INCHES)





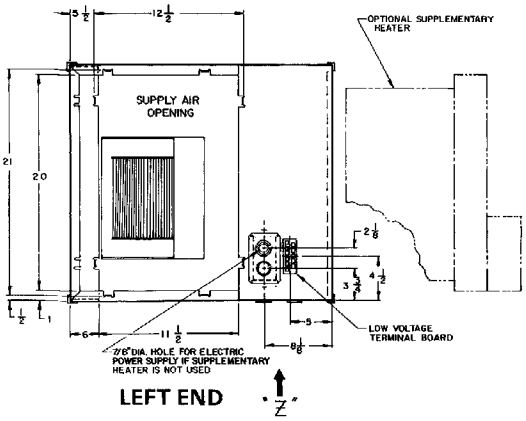
VIEW-"Z"

KNOCKOUT LOCATION FOR SUPPLEMENTARY HEATER POWER SUPPLY AND UNIT POWER SUPPLY WHEN HEATERS ARE USED. (BOTTOM & END)

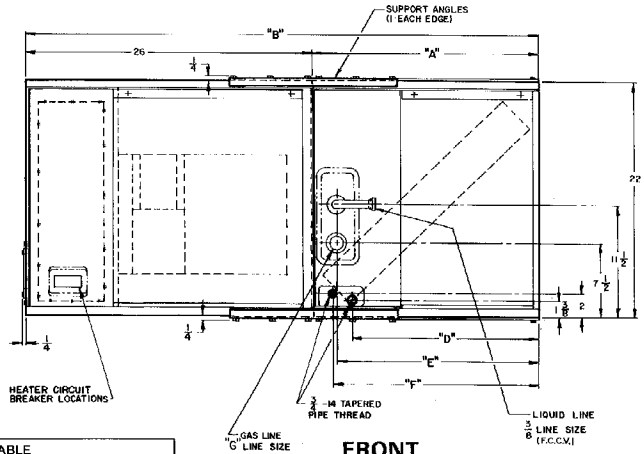


TOP

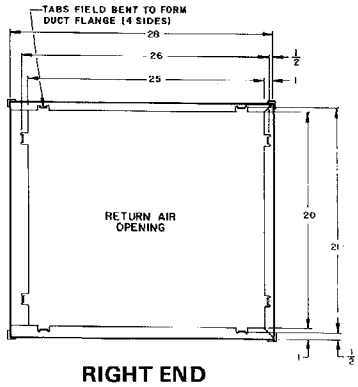
DUCT SIZES	
SUPPLY	12-1/2 x 21
RETURN	21 x 26



LEFT END



FRONT



RIGHT END

MINIMUM UNIT CLEARANCE TABLE		
	TO COMBUSTIBLE MATERIALS (REQUIRED)	SERVICE CLEARANCE (RECOMMENDED)
INLET DUCT	0"	1"
TOP	0"	0"
COIL SECTION FRONT	0"	28"
BLOWER SECTION FRONT	0"	28"
BOTTOM	0"	0"*
LEFT END	0"	2" (REQUIRED)
OUTLET DUCT	1"	
BACK	0"	0"

*IF BOTTOM POWER ENTRY HOLES ARE USED THEN SERVICE CLEARANCE IS 2".

MODEL NO.	"A"	"B"	"C"	"D"	"E"	"F"	CORNER WEIGHTS				"G"
							#1	#2	#3	#4	
TWH030B140A	10	36	10	5-3/4	7-3/8	7-3/4	33	27	34	40	3/4
TWH036B140A	10	36	10	5-3/4	7-3/8	7-3/4	30	26	35	40	7/8
TWH042B140A	20	46	20	15-3/4	17-3/8	17-3/4	42	36	36	43	7/8

From Dwg. 21D144409 Rev. 0

General

Air handler units shall be of a modular design with blower section and coil section factory connected for vertical upflow, front or bottom return, and front service access. They are field convertible for vertical upflow, bottom return, front or rear blower section access, and front or rear coil section access. In addition, they are field convertible to vertical downflow configuration. Units shall be rated and tested in accordance with ARI standard 210, 240, 360. Units shall be UL listed.

Casing

Unit casing shall be constructed of heavy gauge, steel. Exterior surfaces shall be cleaned, and finished with a weather-resistant baked-on enamel finish. Casing is completely insulated with fire- retardant, permanent, odorless glass fiber material. Knockouts shall be provided for unit electrical power and condensate piping connections

Coil Section

The coil section is a self-contained module consisting of a 3/8" internally enhanced copper tube, aluminum plate fin coil in a slant configuration. The refrigeration connections extend high out the front of the coil section enclosure to provide easy access for field connections. The coil is arranged for draw through airflow and shall provide a plastic condensate drain pan with primary and secondary drain fittings located low and under the refrigeration connections, internal to the cabinet, on front side of the unit.

The filter access panel is located below the refrigeration connections to provide access to the factory supplied one inch, washable high velocity filters standard on vertical **(upflow only)** air handlers.

The coil shall have a single refrigeration circuit. Refrigeration circuit is controlled by a factory-installed Flow Control Check Valve (F.C.C.V.).

Blower Section

Forward curved, centrifugal-type fan with multi speed direct drive motor shall be standard. Thermal overload protection shall be standard on motor.

Magnetic evaporator fan contactor, low voltage terminal strip, time delay relay, and low voltage transformer, shall be included. All necessary controls shall be factory-installed and wired.

Accessories

Electric Heaters—UL approved electric heaters shall be available for installation directly in the blower section. Electric Heaters shall be available in a wide range of capacities with one or two stage control.

Pedestal Plenum--Available for vertical floor mount configurations. Plenum shall be constructed of heavy gauge, zinc coated galvanized steel with baked enamel finish to match air handler unit. Plenum is required in the vertical air flow application for condensate drain trapping and when side or back return is required.

Subbase--Is required on downflow applications with electric heaters between air handler and combustible flooring.

Filter Enclosure--for **downflow** applications where filtration is required at the unit.

Standard Indoor Thermostats-- Two stage heating and cooling operation or one stage heating and cooling thermostats shall be available in either manual or automatic changeover.

Programmable Electronic Night Setback Thermostat--Shall provide heating setback and cooling setup with 7-day programming capability.

Mechanical Specifications Horizontal TWH Models

General

Air handler units shall be of a modular design with blower section and coil section factory connected for horizontal applications with end discharge, end return, and blower section and coil section service access on the same side. The blower section may be field converted for blower access on the opposite side with respect to the coil service access. Units shall be rated and tested in accordance with ARI standard 210, 240, 360. Units shall be UL listed.

Casing

Unit casing shall be constructed of heavy gauge steel. Exterior surfaces shall be cleaned, and finished with a weather-resistant baked-on enamel finish. Casing is completely insulated with fire-retardant, permanent, odorless glass fiber material. Knockouts shall be provided for unit electrical power.

Coil Section

The coil section is a self-contained module consisting of a 3/8" internally enhanced copper tube, aluminum plate fin coil in a slant configuration. The refrigeration and factory pressure and leak tested at 375 psig.The coil is arranged for draw through airflow and shall provide a plastic condensate drain pan with external connections located low and under the refrigeration connections on front side of the unit.

The coil shall have a single refrigeration circuit. Refrigeration circuit is controlled by a factory-installed Flow Control Check Valve (F.C.C.V.).

Blower Section

Forward curved, centrifugal-type fan with multi speed direct drive motor shall be standard. Thermal overload protection shall be standard on motor.

Magnetic evaporator fan contactor, low voltage terminal strip, time delay relay, and low voltage transformer shall be included. All necessary controls shall be factory-installed and wired.

Accessories

Electric Heaters—UL approved electric heaters shall be available for installation directly in the blower section. Electric Heaters shall be available in a wide range of capacities with one or two stage control.

Standard Indoor Thermostats--Two stage heating and cooling operation or one stage heating and cooling thermostats shall be available in either manual or automatic changeover.

Programmable Electronic Night Setback Thermostat--Shall provide heating setback and cooling setup with 7-day programming capability.

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

Technical Literature - Printed in U.S.A.

The Trane Company
Dealers Product Group
Troup Highway
Tyler, TX 75711

Library	Product Literature
Product Section	Unitary
Product	Split System-Air Handlers
Model	TWV/TWH 1-1/2 to 3 TONS
Literature Type	Data Catalog
Sequence	1
Date	October 1993
File No.	PL-UN-S/S-TWV-D-1 10/93
Supersedes	TWV-D-1 3/89

P.I.