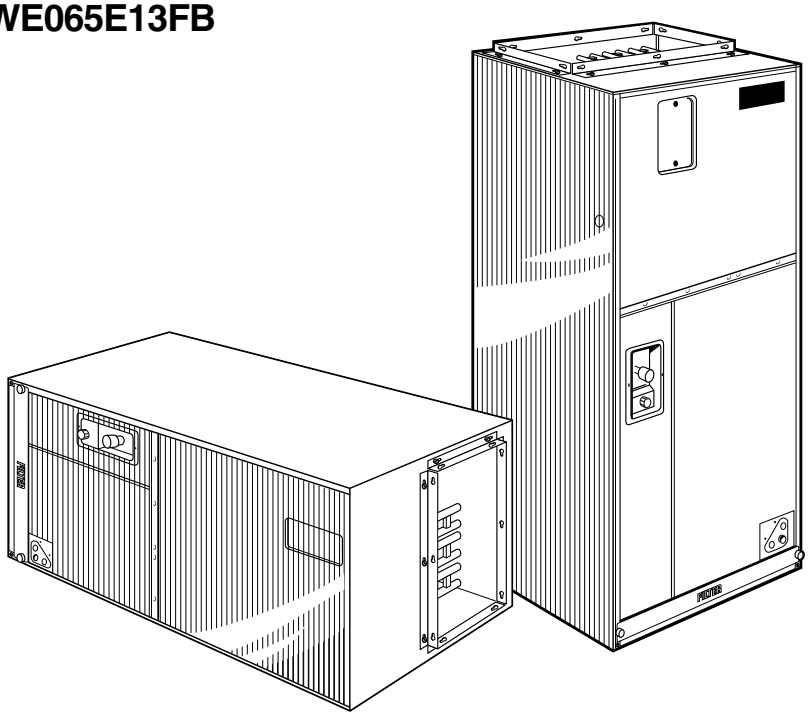
TRANE®

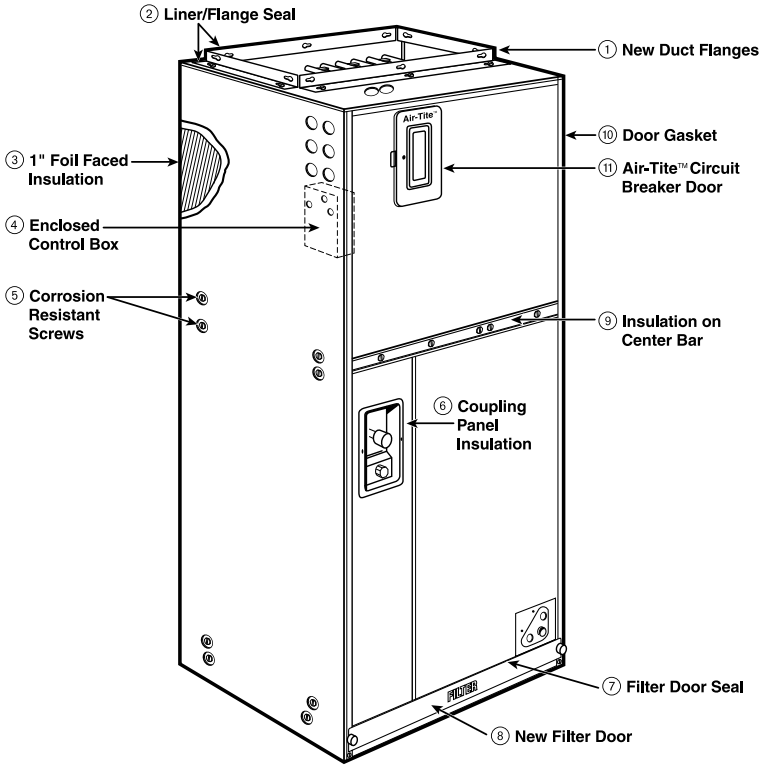
Modular Variable Speed Air Handlers

TWE031E13FB
TWE037E13FB
TWE040E13FB
TWE049E13FB
TWE065E13FB



PUB. NO. 22-1655-08

"Air-Tite™" Features and Benefits



① **New Duct Flange** – Allows flush fit for 3/4", 1" or 1 1/2" duct insulation.

② **Liner/Flange Seal** – Exclusive Duct Flange Thermal Break/Seal and double wall construction to reduce cabinet loss and sweating.

③ **1" Foil Faced Insulation** – Thicker foil faced insulation for reduced cabinet loss, sweating and lower power bills.

④ **Enclosed Control Box** – Totally enclosed control box with transformer inside to improve component life, unit durability and reliability.

⑤ **Corrosion Resistant Screws** – Exclusive "Weatherguard™" coated screws to maintain the quality appearance of the unit for the life of the product.

⑥ **Coupling Panel Insulation** – Exclusive "No Burn" refrigerant coupling panel with thicker insulation for reduced heat loss.

⑦ **Filter Door Seal** – Improved door seal for reduced air infiltration, heat transfer, and lower power bills.

(continued on page 3)

Features and Benefits

- Ships horizontal - converts to vertical by standing unit on end.
- Six-way convertibility – horizontal (left & right), front & rear access; upflow, downflow
- Electrical, refrigerant, condensate & blower access convertible to either side
- Compact 21" depth for easy installation
- Variable speed ICM motor
- Direct drive blower
- **Comfort-R™** enhanced dehumidification cycle
- Soft Start - On cycle fan speed is increased gradually to reduce sound and drafts
- Corrosion resistant galvanized metal with attractive finish
- Expansion valve refrigerant control
- Check valve for heat pump application
- Internally enhanced finned coil tubing
- External brazed refrigerant connections
- Filter rack with standard size filter
- 200/230 volt primary & 24 volt secondary transformer
- Low voltage terminal board
- Uses 1400 series heaters
- Access to heater circuit breakers
- Polarized plugs for making motor and transformer electrical connections from air handler control box to electric heaters
- Primary and secondary drain connections
- Built-in indoor fan delay function for increased efficiency.
- TWE031E airflow selectable for 1-1/2 — 3 ton O.D. unit
- TWE037E airflow selectable for 2 — 3-1/2 ton O.D. unit
- TWE040E airflow selectable for 2 — 3-1/2 ton O.D. unit
- TWE049E airflow selectable for 3 — 5 ton O.D. unit
- TWE065E airflow selectable for 3 — 5 ton O.D. unit
- Energy-saving continuous fan
- Enhanced cooling/heating control

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"Air-Tite™" Cont'd

⑧ **New Filter Door** – "Filter" is stamped on the panel, and includes two captive screws with easy grip knobs.

⑨ **Insulation on Center Bar** – Exclusive center bar insulation for reduced cabinet loss, sweating and lower power bills.

⑩ **Door Gasket** – Exclusive formed gasket (similar to a car door gasket) to reduce air infiltration and heat transfer and lower power bills.

⑪ **Air-Tite™ Circuit Breaker Door** – Easy access to breakers with positive air seal.

The SEER test for system efficiency places the air handler in the ambient return air stream (80°F).

Contents

Optional Equipment

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

Plenum — Pedestal (TWE037,040,049,065E) ..... TAYPLNM100 [ ]
Sub-base For Downflow (TWE031E) ..... TAYBASE101 [ ]
Sub-base For Downflow (TWE037E) ..... TAYBASE100 [ ]
Sub-base For Downflow (TWE040,049,065E) ..... TAYBASE102 [ ]
Evaporator Defrost Control Kit — Cooling Units (Low Ambient Cooling) ..... AY28X079 [ ]
Evaporator Defrost Control Kit — Heat Pumps (Low Ambient Cooling) ..... AY28X084 [ ]
Knockout cover plate (TWE031,037,040,049,065E) ..... BAY99X123 [ ]
Humidistat ..... BAYSTAT253 [ ]

General Data

MODEL	TWE031E13FB	TWE037E13FB	TWE040E13FB
RATED VOLTS/PH/HZ.	200-230/1/60	200-230/1/60	200-230/1/60
RATINGS ①	See O.D. Specifications	See O.D. Specifications	See O.D. Specifications
INDOOR COIL — Type	Plate Fin	Plate Fin	Plate Fin
Rows — F.P.I.	3 — 14	3 — 14	4 — 14
Face Area (sq. ft.)	3.21	3.9	5.04
Tube Size (in.)	3/8 - Copper	3/8 - Copper	3/8 - Copper
Refrigerant Control	TXV - NonBleed	TXV - NonBleed	TXV - NonBleed
Drain Conn. Size (in.) ②	3/4 NPT	3/4 NPT	3/4 NPT
INDOOR FAN — Type	Centrifugal	Centrifugal	Centrifugal
Diameter-Width (In.)	10 x 8	10 x 10	10 x 10
No. Used	1	1	1
Drive - No. Speeds	Direct - 16	Direct - 16	Direct - 16
CFM vs. in. w.g. ①	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
No. Motors — H.P.	1 — 1/2	1 — 1/2	1 — 1/2
Motor Speed R.P.M.	Variable	Variable	Variable
Volts/Ph/Hz	200-230/1/60	200-230/1/60	200-230/1/60
F.L. Amps - L.R. Amps	4.3	4.3	4.3
FILTER			
Vertical Applications			
Filter Furnished?	Yes	Yes	Yes
Type Recommended	Low Velocity	Low Velocity	Low Velocity
No.-Size-Thickness	1 - 20 X 20 - 1 in.	1 - 20 X 20 - 1 in.	1 - 20 X 25 - 1 in.
Horizontal Applications			
Filter Furnished?	No	No	No
Recommended Size ③	See Note ③	See Note ③	See Note ③
REFRIGERANT (R-22)			
Ref. Line Connections	Brazed	Brazed	Brazed
Conn. Size — in. Gas	3/4	7/8	7/8
Conn. Size — in. Liq.	5/16	3/8	3/8
DIMENSIONS	H x W x D	H x W x D	H x W x D
Crated (In.)	44-1/2 x 24 x 23-1/2	46-1/2 x 26 x 23-1/2	53-1/4 x 28-1/2 x 23-1/2
Uncrated	See Outline Drawing	See Outline Drawing	See Outline Drawing
WEIGHT	134 / 118	142 / 127	174 / 155

MODEL	TWE049E13FB	TWE065E13FB
RATED VOLTS/PH/HZ.	200-230/1/60	200-230/1/60
RATINGS ①	See O.D. Specifications	See O.D. Specifications
INDOOR COIL — Type	Plate Fin	Plate Fin
Rows — F.P.I.	4 — 14	4 — 14
Face Area (sq. ft.)	6.19	7.33
Tube Size (in.)	3/8 - Copper	3/8 - Copper
Refrigerant Control	TXV - NonBleed	TXV - NonBleed
Drain Conn. Size (in.) ②	3/4 NPT	3/4 NPT
INDOOR FAN — Type	Centrifugal	Centrifugal
Diameter-Width (In.)	10 x 10	10 x 10
No. Used	1	1
Drive - No. Speeds	Direct - 16	Direct - 16
CFM vs. in. w.g. ①	See Fan Performance Table	See Fan Performance Table
No. Motors — H.P.	1 — 3/4	1 — 1
Motor Speed R.P.M.	Variable	Variable
Volts/Ph/Hz	200-230/1/60	200-230/1/60
F.L. Amps - L.R. Amps	6.8	7.0
FILTER		
Vertical Applications		
Filter Furnished?	Yes	Yes
Type Recommended	Throwaway	Low Velocity
No.-Size-Thickness	1 - 20 x 25 x 1 in.	1 - 20 X 25 - 1 in.
Horizontal Applications		
Filter Furnished?	No	No
Recommended Size ③	See Note ③	See Note ③
REFRIGERANT (R-22)		
Ref. Line Connections	Brazed	Brazed
Conn. Size — in. Gas	1-1/8	1-1/8
Conn. Size — in. Liq.	3/8	3/8
DIMENSIONS	H x W x D	H x W x D
Crated (In.)	57.9 x 26 x 23-1/2	62-1/4 x 28-1/2 x 23-1/2
Uncrated	See Outline Drawing	See Outline Drawing
WEIGHT	188/173	218 / 196

NOTES:

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

② 3/4" Male Plastic Pipe (Ref.: ASTM 1785-76).

③ Minimum filter size for horizontal applications will be based on airflow selection and will be calculated as follows:
Low Velocity Filter:
Face area (Sq. Ft.) = CFM / 300
High Velocity Filter:
Face area (Sq. Ft.) = CFM / 500

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Performance Data

TWE031E13F AIRFLOW PERFORMANCE TABLE

TWE031E13 AIR HANDLER AIRFLOW (CFM) VS. EXTERNAL STATIC PRESSURE WITH FILTER												
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE					
		SW 1	SW 2	SW 3	SW 4		0.1	0.2	0.3	0.5	0.7	0.9
1.5	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM watts	565 75	560 85	550 98	525 135	495 175	450 200
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM watts	640 90	640 110	640 130	615 155	570 180	545 200
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM watts	710 110	710 130	700 140	685 175	665 190	630 220
2	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM watts	745 120	740 135	730 150	710 190	690 215	665 245
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM watts	835 145	840 165	845 190	840 230	820 265	795 295
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM watts	940 195	940 220	940 245	930 285	915 320	900 350
2.5	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM watts	885 170	890 200	890 230	890 270	880 300	860 345
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM watts	1020 235	1020 255	1020 275	1015 320	1010 370	995 425
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM watts	1130 300	1130 335	1130 365	1130 420	1125 475	1115 505
3.0 **	`LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM watts	1060 270	1060 300	1060 320	1055 360	1045 405	1030 460
	NORMAL ** (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM watts	1220 365	1220 400	1220 435	1220 485	1200 530	1030 550
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM watts	1370 510	1370 545	1370 575	1295 615	1200 600	1030 530

NOTES:
1. ** Factory setting
2. At continuous Fan Setting: Airflow values are approximately 50% of listed value.
3. For Variable Speed Outdoor Units: low speed airflows are approximately 30% of maximum listed values.
4. With wet coil, filter in place. No heater installed.

TWE031E13F AIR HANDLER AIRFLOW WITH AUXILIARY HEAT (CFM)		
SWITCH SETTINGS	**SELECTION**	**NOMINAL AIRFLOW**
7-OFF 8-OFF	HIGH	1350 CFM
7-ON 8-OFF	MED-HIGH	1125 CFM
7-OFF 8-ON	MED-LOW	1000 CFM
7-ON 8-ON	LOW	600 CFM

Performance Data

TWE037E13F AIRFLOW PERFORMANCE TABLE

TWE037E13F AIR HANDLER AIRFLOW (CFM) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
2	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM watts	700 90	700 115	700 155	700 190	660 220
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM watts	800 110	800 140	800 180	770 230	750 260
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM watts	900 130	900 165	900 220	900 265	900 310
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM watts	880 130	880 165	880 215	880 265	880 305
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM watts	1000 165	1000 215	1000 270	1000 315	880 325
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM watts	1125 225	1125 285	1125 330	1100 380	900 340
3**	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM watts	1040 170	1040 230	1040 280	1040 330	1000 325
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM watts	1160 240	1160 300	1160 350	1100 385	870 335
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM watts	1300 325	1300 365	1260 425	1140 410	950 330
3.5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM watts	1225 295	1225 330	1200 385	1070 390	890 340
	NORMAL ** (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM watts	1350 365	1350 420	1280 455	1140 415	940 365
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM watts	1400 405	1400 475	1300 460	1150 430	940 375

NOTES:
1. ** Factory setting
2. At continuous Fan Setting: Airflow values are approximately 50% of listed value.
3. For Variable Speed Outdoor Units: low speed airflows are approximately 30% of maximum listed values.
4. With wet coil, filter in place. No heater installed.

TWE037E13F AIR HANDLER AIRFLOW WITH AUXILIARY HEAT (CFM)		
SWITCH SETTINGS	**SELECTION**	**NOMINAL AIRFLOW**
7-OFF 8-OFF	HIGH	1400 CFM
7-ON 8-OFF	MED-HIGH	1100 CFM
7-OFF 8-ON	MED-LOW	900 CFM
7-ON 8-ON	LOW	600 CFM

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Performance Data

TWE040E13F AIRFLOW PERFORMANCE TABLE

TWE037E13F AIR HANDLER AIRFLOW (CFM) VS. EXTERNAL STATIC PRESSURE WITH FILTER											
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE				
		SW 1	SW 2	SW 3	SW 4		0.1	0.3	0.5	0.7	0.9
2	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM watts	700 90	700 115	700 155	700 190	660 220
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM watts	800 110	800 140	800 180	770 230	750 260
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM watts	900 130	900 165	900 220	900 265	900 310
2.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM watts	880 130	880 165	880 215	880 265	880 305
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM watts	1000 165	1000 215	1000 270	1000 315	880 325
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM watts	1125 225	1125 285	1125 330	1100 380	900 340
3**	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM watts	1040 170	1040 230	1040 280	1040 330	1000 325
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM watts	1160 240	1160 300	1160 350	1100 385	870 335
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM watts	1300 325	1300 365	1260 425	1140 410	950 330
3.5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM watts	1225 295	1225 330	1200 385	1070 390	890 340
	NORMAL ** (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM watts	1350 365	1350 420	1280 455	1140 415	940 365
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM watts	1400 405	1400 475	1300 460	1150 430	940 375

NOTES:
1. ** Factory setting
2. At continuous Fan Setting: Airflow values are approximately 50% of listed value.
3. For Variable Speed Outdoor Units: low speed airflows are approximately 30% of maximum listed values.
4. With wet coil, filter in place. No heater installed.

TWE040E13F AIR HANDLER AIRFLOW WITH AUXILIARY HEAT (CFM)		
SWITCH SETTINGS	**SELECTION**	**NOMINAL AIRFLOW**
7-OFF 8-OFF	HIGH	1400 CFM
7-ON 8-OFF	MED-HIGH	1100 CFM
7-OFF 8-ON	MED-LOW	900 CFM
7-ON 8-ON	LOW	600 CFM

Performance Data

TWE049E13F AIRFLOW PERFORMANCE TABLE

TWE049E13F AIR HANDLER AIRFLOW (CFM) VS. EXTERNAL STATIC PRESSURE WITH FILTER													
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE					
		SW 1	SW 2	SW 3	SW 4		0.1	.02	0.3	0.5	0.7	0.9
3	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM watts	1050 168	1045 192	1040 217	1025 265	1005 313	1000 362
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM watts	1190 215	1195 245	1200 274	1200 333	1185 392	1175 451
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM watts	1355 295	1360 326	1370 358	1365 421	1345 484	1325 547
3.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM watts	1200 234	1205 264	1215 294	1210 354	1205 413	1185 473
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM watts	1405 326	1405 366	1405 402	1395 462	1390 505	1290 532
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM watts	1580 429	1570 458	1560 496	1555 573	1550 608	1390 547
4**	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM watts	1405 326	1405 366	1405 402	1395 462	1390 505	1290 532
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM watts	1600 444	1595 475	1585 515	1590 593	1555 623	1390 547
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM watts	1775 635	1780 679	1785 701	1740 697	1600 656	1450 611
5	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM watts	1565 427	1560 458	1550 497	1545 577	1540 609	1380 539
	NORMAL (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM watts	1800 652	1800 693	1800 714	1740 703	1600 651	1450 621
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM watts	2020 808	1975 801	1930 790	1795 760	1665 715	1530 658

NOTES:
1. ** Factory setting
2. At continuous Fan Setting: Airflow values are approximately 50% of listed value.
3. For Variable Speed Outdoor Units: low speed airflows are approximately 30% of maximum listed values.
4. With wet coil, filter in place. No heater installed.

TWE049E13F AIR HANDLER AIRFLOW WITH AUXILIARY HEAT (CFM)		
SWITCH SETTINGS	**SELECTION**	**NOMINAL AIRFLOW**
7-OFF 8-OFF	HIGH	1600 CFM
7-ON 8-OFF	MED-HIGH	1400 CFM
7-OFF 8-ON	MED-LOW	1100 CFM
7-ON 8-ON	LOW	700 CFM

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TWE065E13F AIRFLOW PERFORMANCE TABLE

TWE065E13F AIR HANDLER AIRFLOW (CFM) VS. EXTERNAL STATIC PRESSURE WITH FILTER												
OUTDOOR UNIT SIZE (TONS)	AIRFLOW SETTING	DIP SWITCH SETTING					EXTERNAL STATIC PRESSURE					
		SW 1	SW 2	SW 3	SW 4		0.1	0.2	0.3	0.5	0.7	0.9
3.0	LOW (350 CFM/TON)	ON	ON	OFF	ON	CFM watts	1030 135	1030 160	1030 185	1015 235	1000 285	975 325
	NORMAL (400 CFM/TON)	ON	ON	OFF	OFF	CFM watts	1170 195	1170 225	1170 255	1170 315	1170 375	1170 435
	HIGH (450 CFM/TON)	ON	ON	ON	OFF	CFM watts	1320 255	1325 295	1340 330	1370 405	1375 480	1365 545
3.5	LOW (350 CFM/TON)	OFF	ON	OFF	ON	CFM watts	1195 210	1195 240	1195 320	1195 340	1195 385	1195 440
	NORMAL (400 CFM/TON)	OFF	ON	OFF	OFF	CFM watts	1380 290	1405 345	1425 390	1440 450	1440 515	1425 580
	HIGH (450 CFM/TON)	OFF	ON	ON	OFF	CFM watts	1620 420	1620 455	1630 495	1645 565	1625 636	1590 695
4.0	LOW (350 CFM/TON)	ON	OFF	OFF	ON	CFM watts	1365 265	1385 315	1405 365	1430 450	1450 505	1440 575
	NORMAL (400 CFM/TON)	ON	OFF	OFF	OFF	CFM watts	1630 435	1640 470	1650 505	1650 575	1640 640	1620 700
	HIGH (450 CFM/TON)	ON	OFF	ON	OFF	CFM watts	1860 570	1860 620	1860 680	1860 785	1850 825	1710 830
5.0 **	LOW (350 CFM/TON)	OFF	OFF	OFF	ON	CFM watts	1830 530	1810 565	1810 605	1830 730	1795 790	1740 805
	NORMAL ** (400 CFM/TON)	OFF	OFF	OFF	OFF	CFM watts	2080 800	2075 855	2065 895	2010 925	1890 905	1750 870
	HIGH (450 CFM/TON)	OFF	OFF	ON	OFF	CFM watts	2275 1015	2225 1005	2170 995	2035 955	1880 900	1750 840

NOTES:
1. ** Factory setting
2. At continuous Fan Setting: Airflow values are approximately 50% of listed value.
3. For Variable Speed Outdoor Units: low speed airflows are approximately 30% of maximum listed values.
4. With wet coil, filter in place. No heater installed.

TWE065E13F AIR HANDLER AIRFLOW WITH AUXILIARY HEAT (CFM)		
SWITCH SETTINGS	**SELECTION**	**NOMINAL AIRFLOW**
7-OFF 8-OFF	HIGH	1800 CFM
7-ON 8-OFF	MED-HIGH	1500 CFM
7-OFF 8-ON	MED-LOW	1200 CFM
7-ON 8-ON	LOW	900 CFM

Performance Data

TWE031E WIRING DATA (Indoor Blower Motor Powered from Heater Circuit 1)											
Heater Model No.	Number of Circuits/ Phase	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		KW	BTUH				KW	BTUH			
BAYHTR1405 +++	1/1	4.80	16400	20	30	30	3.60	12300	17.3	27	30
BAYHTR1408 +++	1/1	7.68	26200	32	45	45	5.76	19700	27.7	40	40
BAYHTR1410 +++	1/1	9.60	32800	40	55	60	7.20	24600	34.6	49	50
BAYHTR3410 000	1/3	9.60	32800	34.6	43	45	7.20	24600	30	37	40
BAYHTR1415 BRK	2/1	15.36	52400	40/24	55*/30	60*/30	11.53	39300	34.6/20.8	49*/26	50*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	52	60	11.53	39300	33.1	46	50
BAYHTR1419 BRK	2/1	19.2	65500	32/48	45*/60	45*/60	14.42	49200	27.7/41.6	40*/52	40*/60

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
+++ = 000, BRK, PDC 000 = pigtails, BRK = contains circuit breakers, PDC = contains pull disconnect
IMPORTANT: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical Codes.

TWE037E WIRING DATA (Indoor Blower Motor Powered from Heater Circuit 1)											
Heater Model No.	Number of Circuits/ Phase	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		KW	BTUH				KW	BTUH			
BAYHTR1405 +++	1/1	4.80	16400	20	30	30	3.60	12300	17.3	27	30
BAYHTR1408 +++	1/1	7.68	26200	32	45	45	5.76	19700	27.7	40	40
BAYHTR1410 +++	1/1	9.60	32800	40	55	60	7.20	24600	34.6	49	50
BAYHTR3410 000	1/3	9.60	32800	34.6	43	45	7.20	24600	30	37	40
BAYHTR1415 BRK	2/1	15.36	52400	40/24	55*/30	60*/30	11.53	39300	34.6/20.8	49*/26	50*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	52	60	11.53	39300	33.1	46	50
BAYHTR1419 BRK	2/1	19.2	65500	32/48	45*/60	45*/60	14.42	49200	27.7/41.6	40*/52	40*/60

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
+++ = 000, BRK, PDC 000 = pigtails, BRK = contains circuit breakers, PDC = contains pull disconnect
IMPORTANT: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical Codes.

TWE040E WIRING DATA (Indoor Blower Motor Powered from Heater Circuit *)											
Heater Model No.	Number of Circuits/ Phase	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		KW	BTUH				KW	BTUH			
BAYHTR1405 +++	1/1	4.80	16400	20	30	30	3.60	12300	17.3	27	30
BAYHTR1408 +++	1/1	7.68	26200	32	45	45	5.76	19700	27.7	40	40
BAYHTR1410 +++	1/1	9.60	32800	40	55	60	7.20	24600	34.6	49	50
BAYHTR3410 000	1/3	9.60	32800	34.6	43	45	7.20	24600	30	37	40
BAYHTR1415 BRK	2/1	15.36	52400	40/24	55*/30	60*/30	11.52	39300	34.6/20.8	49*/26	50*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	52	60	11.52	39300	33.1	46	50
BAYHTR1419 BRK	2/1	19.2	65500	32/48	45*/60	45*/60	14.42	49200	27.7/41.6	40*/52	40*/60
BAYHTR1425 BRK	3/1	24.96	85200	44/40/20	55/55*/25	60/60*/25	18.73	63900	38.1/34.6/17.3	48/49*/22	50*/50/25

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
+++ = 000, BRK, PDC 000 = pigtails, BRK = contains circuit breakers, PDC = contains pull disconnect
IMPORTANT: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical Codes.

Performance Data

TWE049E WIRING DATA CHECK DATA (Indoor Blower Motor Powered from Heater Circuit *)											
Heater Model No.	Number of Circuits/ Phase	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		KW	BTUH				KW	BTUH			
BAYHTR1405 +++	1/1	4.80	16400	20	34	35	3.60	12300	17.3	30	30
BAYHTR1408 +++	1/1	7.68	26200	32	49	50	5.76	19700	27.7	43	45
BAYHTR1410 +++	1/1	9.60	32800	40	59	60	7.20	24600	34.6	52	60
BAYHTR3410 000	1/3	9.60	32800	34.6	43	45	7.20	24600	30	37	40
BAYHTR1415 BRK	2/1	15.36	52400	40/24	59*/30	60*/30	11.53	39300	34.6/20.8	52*/26	60*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	55	60	11.53	39300	33.1	49	50
BAYHTR1419 BRK	2/1	19.2	65500	32/48	49*/60	50*/60	14.42	49200	27.7/41.6	43*/52	45*/60
BAYHTR1425 BRK	3/1	24.96	85200	44/40/20	55/59*/25	60/60*/25	18.73	63900	38.1/34.6/17.3	48/50*/22	50/60*/25

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
+++ = 000, BRK, PDC 000 = pigtails, BRK = contains circuit breakers, PDC = contains pull disconnect
IMPORTANT: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical Codes.

TWE65E WIRING DATA (Indoor Blower Motor Powered from Heater Circuit *)											
Heater Model No.	Number of Circuits/ Phase	240 VOLT					208 VOLT				
		Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection	Capacity		Heater Amps per Circuit	Minimum Circuit Ampacity	Maximum Overload Protection
		KW	BTUH				KW	BTUH			
BAYHTR1405 +++	1/1	4.80	16400	20	34	35	3.60	12300	17.3	30	30
BAYHTR1408 +++	1/1	7.68	26200	32	49	50	5.77	19700	27.7	43	45
BAYHTR1410 +++	1/1	9.60	32800	40	59	60	7.20	24600	34.7	52	60
BAYHTR3410 000	1/3	9.60	32800	34.6	43	45	7.20	24600	30	37	40
BAYHTR1415 BRK	2/1	15.36	52400	44/20	59*/30	60*/30	11.53	39300	38.2/17.3	52*/26	60*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	55	60	11.53	39300	33	49	50
BAYHTR1419 BRK	2/1	19.2	65500	32/48	49*/60	50*/60	14.42	49200	27.7/41.6	43*/52	45*/60
BAYHTR1425 BRK	3/1	24.96	85200	44/40/20	55/59*/25	60/60*/25	18.73	63900	38.1/34.6/17.3	48/50*/22	50/60*/25

NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
+++ = 000, BRK, PDC 000 = pigtails, BRK = contains circuit breakers, PDC = contains pull disconnect
IMPORTANT: Any power supply and/or combination power supply, circuit or circuits must be wired and protected in accordance with local Electrical Codes.

AIR HANDLER ELECTRIC HEATER PRESSURE DROP

AIR FLOW CFM	NUMBER OF RACKS					AIR FLOW CFM	NUMBER OF RACKS				
	1	2	3	4	5		1	2	3	4	5
	AIR PRESSURE DROP INCHES W.G.						AIR PRESSURE DROP INCHES W.G.				
600	0.01	0.02	0.02			1400	0.07	0.08	0.10	0.11	0.13
700	0.01	0.02	0.02			1500	0.08	0.09	0.11	0.13	0.15
800	0.02	0.03	0.03	0.04		1600	0.09	0.10	0.12	0.15	0.17
900	0.03	0.03	0.04	0.05		1700	0.10	0.11	0.14	0.17	0.19
1000	0.04	0.04	0.05	0.06		1800	0.11	0.13	0.16	0.19	0.21
1100	0.04	0.05	0.06	0.07	0.08	1900	0.13	0.15	0.18	0.21	0.23
1200	0.05	0.06	0.07	0.08	0.09	2000	0.14	0.17	0.20	0.23	0.26
1300	0.06	0.07	0.08	0.09	0.11						

Notes:
1. See Product Data or Air Handler Nameplate for approved combinations of Air Handlers and Heaters.
2. Heater model number may have additional suffix digits.

HEATER RACKS	
HEATER MODEL NO.	**NO. OF RACKS**
BAYHTR1405	1
BAYHTR1408	2
BAYHTR1/3410	2
BAYHTR1/3415	3
BAYHTR1419	4
BAYHTR1425	5

Performance Data

TWE-E MINIMUM HEATING AIRFLOW CFM HEATER MATRIX

MINIMUM AIRFLOW WITH AUXILIARY HEAT		HEATER MODEL NUMBER BAYHTR----					
MODEL NUMBER	APPLICATION	1405 4.80kw	1408 7.68kw	1410 3410 9.60kw	1415 3415 15.36kw	1419 19.20kw	1425 24.96kw
NUMBER OF HEATER RACKS		1	2	2	3	4	5
TWE031E	A/C or Elec. Furnace	700	700	700	700	1000	NA
	Heat Pump	1000	1000	1000	1125	1350	NA
TWE037E	A/C or Elec. Furnace	600	600	600	1000	1000	NA
	Heat Pump	700	900	900	1300	1350	NA
TWE040E	A/C or Elec. Furnace	600	600	600	1100	1100	1100
	Heat Pump	1100	1100	1100	1400	1400	1400
TWE049E	A/C or Elec. Furnace	700	700	700	1400	1400	1400
	Heat Pump	1400	1400	1400	1600	1600	1600
TWE065E	A/C or Elec. Furnace	900	900	900	1200	1200	1200
	Heat Pump	1500*	1500*	1500*	1800	1800	1800
*For upflow position only, minimum setting is 1200							

AIR HANDLER SUBBASE

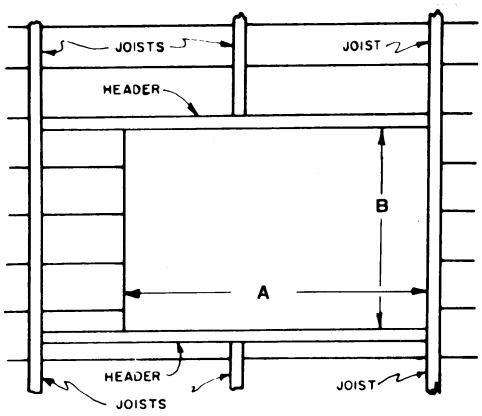


FIG.2

FLOOR OPENING - SIZE		
MODEL NO.	A	B
TAYBASE100	23-3/4	14-13/16
TAYBASE101	21-3/4	14-13/16
TAYBASE102	26-3/4	14-13/16

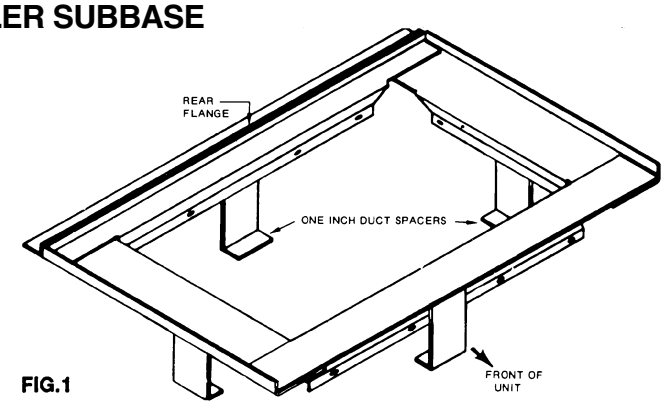


FIG.1

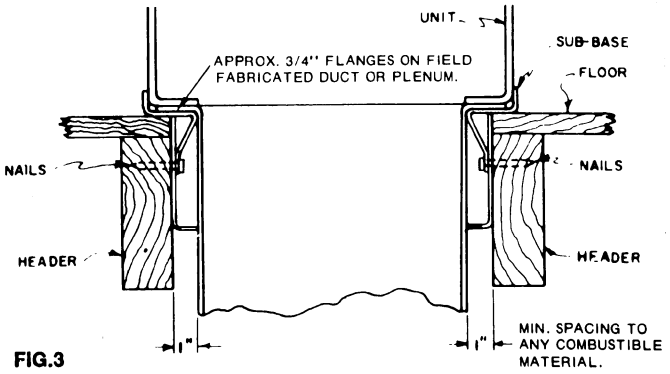
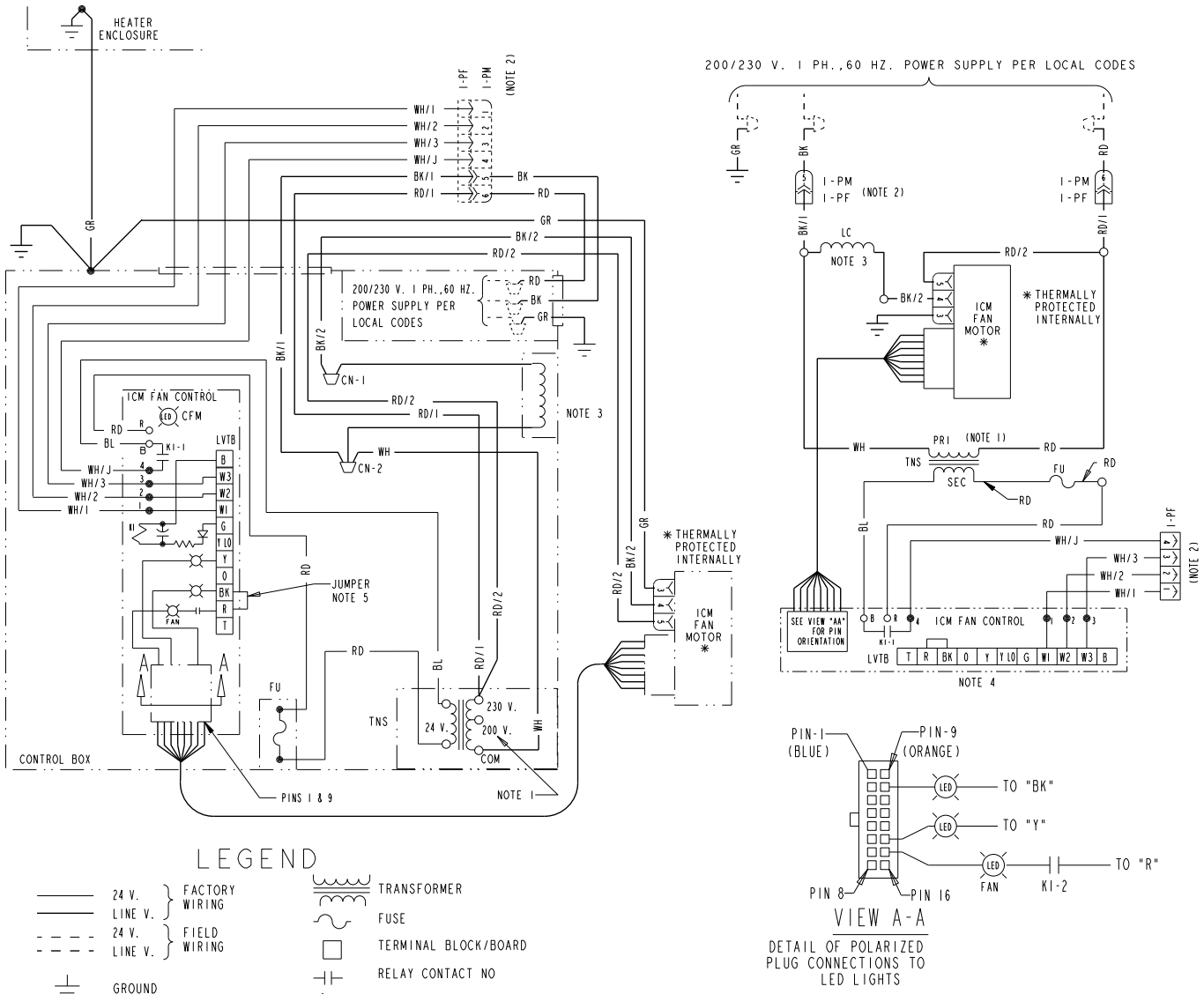


FIG.3

Electrical Data

SCHEMATIC DIAGRAMS FOR VARIABLE SPEED AIR HANDLERS



LEGEND

- 24 V. / LINE V. — FACTORY WIRING
- 24 V. / LINE V. — FIELD WIRING
- GROUND
- JUNCTION
- CAPACITOR
- WIRE NUT OR CONNECTOR
- TERMINAL
- TRANSFORMER
- FUSE
- TERMINAL BLOCK/BOARD
- RELAY CONTACT NO
- MAGNETIC COIL
- POL.PLUG FEMALE HOUSING (MALE TERMINALS)
- POL. PLUG MALE HOUSING (FEMALE TERMINALS)

CN WIRE CONNECTOR
FU FUSE
ICM INTEGRAL CONTROL MOTOR
LC LINE CHOKE
LVTB LOW VOLTAGE TERMINAL BLOCK
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	RD	RED	OR	ORANGE
BL	BLUE	WH	WHITE	GR	GREEN
BR	BROWN	YL	YELLOW	PR	PURPLE

NOTES:

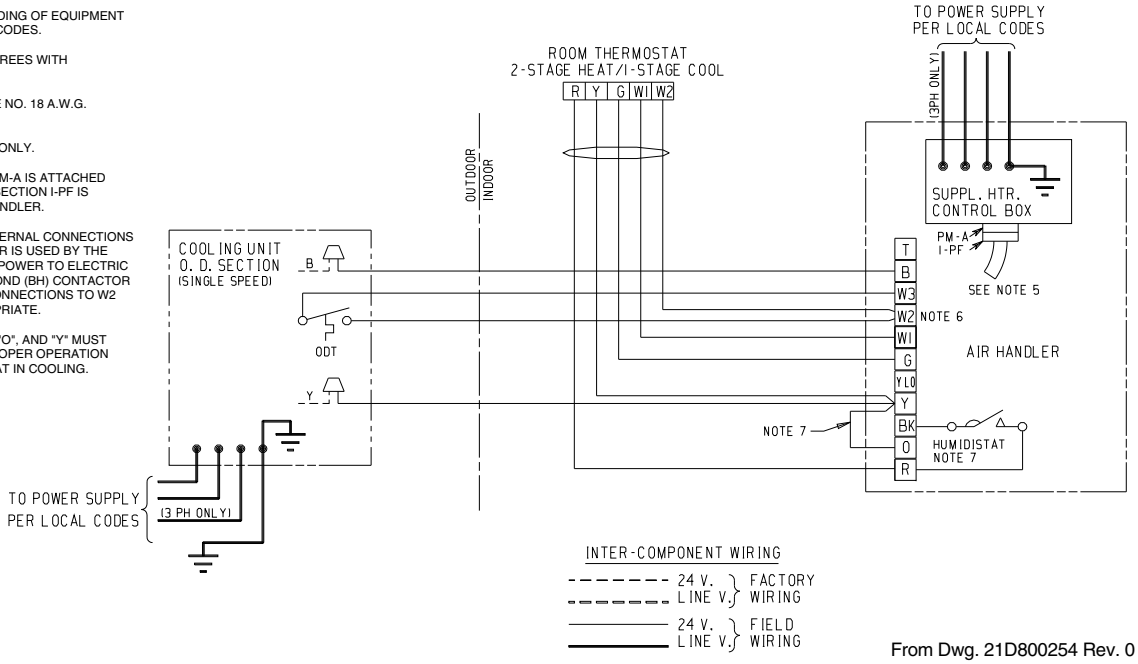
1. FOR 200V OPERATION SWAP RED TRANSFORMER LEAD AND INSULATED CAP ON 200V CENTER TRANSFORMER TERMINAL .
2. WHEN HEATERS ARE USED, DISCARD I-PM WITH ATTACHED LEADS AND CONNECT I-PF TO THE MATING PLUG IN THE HEATER CONTROL BOX.
3. LINE CHOKE MAY NOT BE USED ON ALL MODELS. BK/2 LEAD IN CN-2 IF CHOKE NOT USED.
4. FOR COOLING SYSTEMS Y MUST BE CONNECTED TO THE LVTB, FOR HEAT PUMP SYSTEM Y AND O MUST BE CONNECTED TO THE LVTB. FOR TWO SPEED SYSTEMS, USE YL0 FOR LOW SPEED AND Y FOR HIGH SPEED, CONNECT TO THE LVTB.
5. IF OPTIONAL HUMIDISTAT IS USED, REMOVE JUMPER (R TO BK) AND INSTALL HUMIDISTAT BETWEEN R AND BK . JUMPER R TO O FOR COOLING-ONLY?NON-HEAT PUMP SYSTEMS WITH A HUMIDSTST.

From Dwg. 21D800723 P02

Field Wiring

TWE-E AIR HANDLERS WITH SINGLE SPEED COOLING

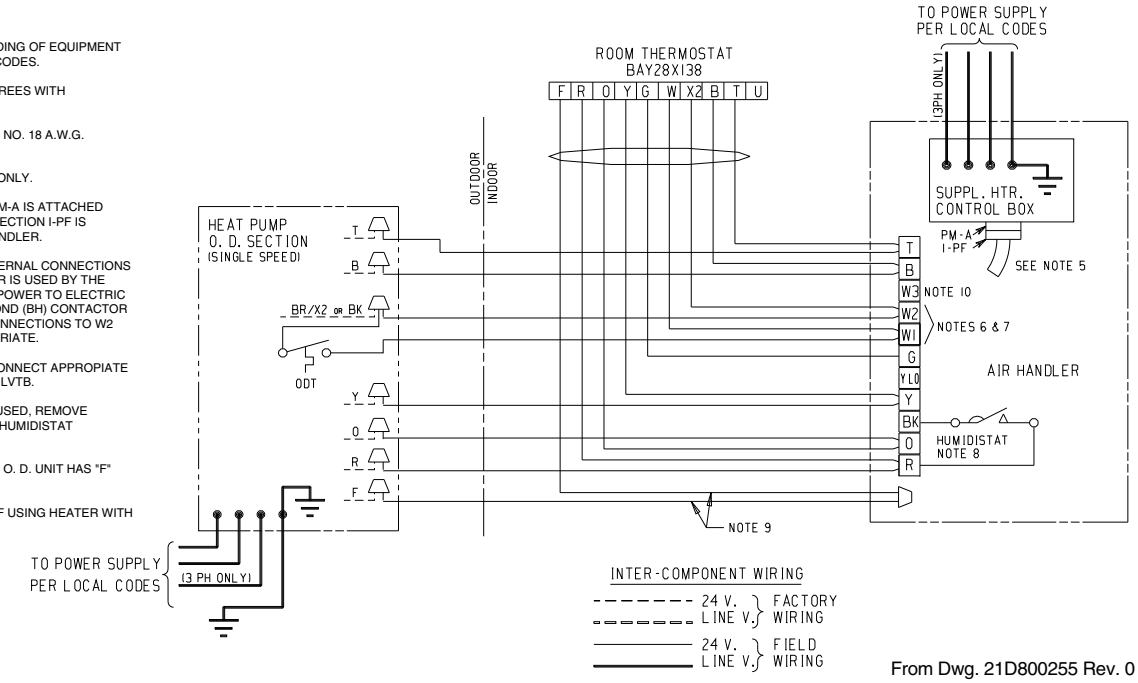
NOTES:
1. POWER WIRING AND GROUNDING OF EQUIPMENT MUST COMPLY WITH LOCAL CODES.
2. BE SURE POWER SUPPLY AGREES WITH EQUIPMENT NAMEPLATE.
3. LOW VOLTAGE WIRING TO BE NO. 18 A.W.G. MINIMUM.
4. USE COPPER CONDUCTORS ONLY.
5. POLARIZED PLUG SECTION PM-A IS ATTACHED TO HEATER CONTROL BOX. SECTION I-PF IS FACTORY WIRED INTO AIR HANDLER.
6. TERMINAL W2 WILL HAVE INTERNAL CONNECTIONS ONLY IF SECOND CONTACTOR IS USED BY THE HEATER FOR CONTROLLING POWER TO ELECTRIC HEATING ELEMENTS. IF SECOND (BH) CONTACTOR IS NOT USED, THEN FIELD CONNECTIONS TO W2 CAN BE OMITTED AS APPROPRIATE.
7. CONNECTIONS TO "R", "BK", "O", AND "Y" MUST BE MADE AS SHOWN FOR PROPER OPERATION OF BLOWER WITH HUMIDISTAT IN COOLING.



From Dwg. 21D800254 Rev. 0

TWE-E AIR HANDLERS WITH SINGLE SPEED HEAT PUMP

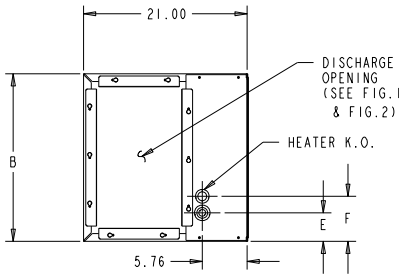
NOTES:
1. POWER WIRING AND GROUNDING OF EQUIPMENT MUST COMPLY WITH LOCAL CODES.
2. BE SURE POWER SUPPLY AGREES WITH EQUIPMENT NAMEPLATE.
3. LOW VOLTAGE WIRING TO BE NO. 18 A.W.G. MINIMUM.
4. USE COPPER CONDUCTORS ONLY.
5. POLARIZED PLUG SECTION PM-A IS ATTACHED TO HEATER CONTROL BOX. SECTION I-PF IS FACTORY WIRED INTO AIR HANDLER.
6. TERMINAL W2 WILL HAVE INTERNAL CONNECTIONS ONLY IF SECOND CONTACTOR IS USED BY THE HEATER FOR CONTROLLING POWER TO ELECTRIC HEATING ELEMENTS. IF SECOND (BH) CONTACTOR IS NOT USED, THEN FIELD CONNECTIONS TO W2 CAN BE OMITTED AS APPROPRIATE.
7. IF ODT IS NOT USED, THEN CONNECT APPROPIATE JUMPER FROM W1 TO W2 ON LVTB.
8. IF OPTIONAL HUMIDISTAT IS USED, REMOVE JUMPER (R-BK) AND INSTALL HUMIDISTAT BETWEEN "R" AND "BK".
9. CONNECT IN THIS MANNER IF O. D. UNIT HAS "F" CONNECTION.
10. CONNECT W3 TO W2 ONLY IF USING HEATER WITH 3 HEATER STAGES.



From Dwg. 21D800255 Rev. 0

OUTLINE DRAWING FOR TWE031, 037, 040, 049, & 065E130

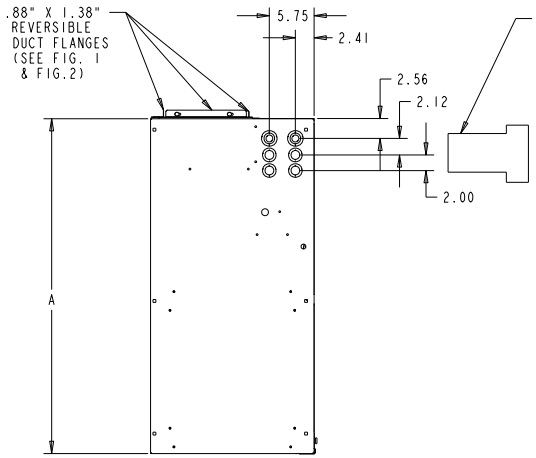
(ALL DIMENSIONS ARE IN INCHES)



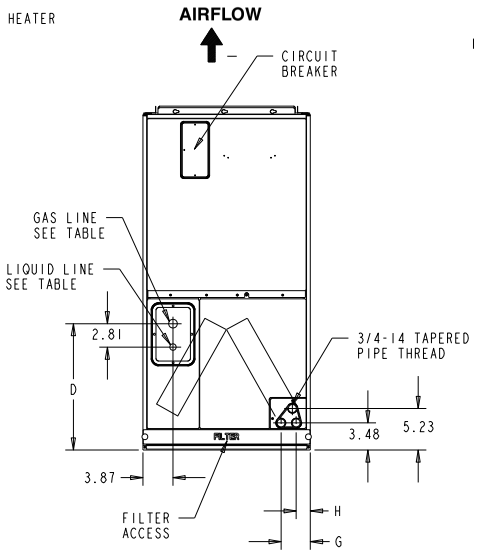
TOP VIEW

MINIMUM UNIT CLEARANCE TABLE		
	TO COMBUSTIBLE MATERIAL (REQUIRED)	SERVICE CLEARANCE (RECOMMENDED)
SIDES	0"	2"*
FRONT	0"	21"
BACK	0"	0"
INLET DUCT	0"	1"
OUTLET DUCT	1"*	

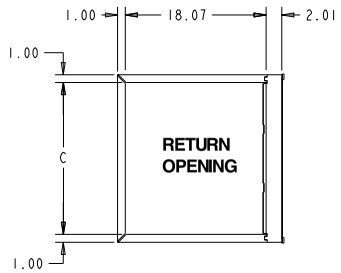
* 1" FOR THE FIRST 3 FT. OF OUTLET DUCT WHEN ELECTRIC HEATERS ARE INSTALLED. EXCEPT MODELS BAYHTR1405,1408, AND 1410 ARE APPROVED FOR 0" PLENUM AND DUCT CLEARANCE IN THE UPFLOW CONFIGURATION ONLY.



SIDE VIEW



VERTICAL UPFLOW



BOTTOM VIEW

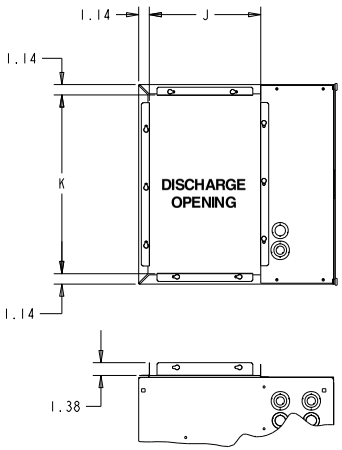


FIGURE 1

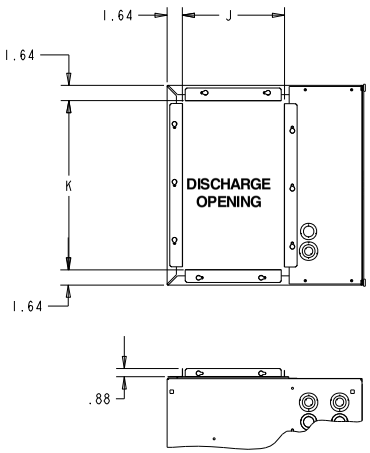


FIGURE 2

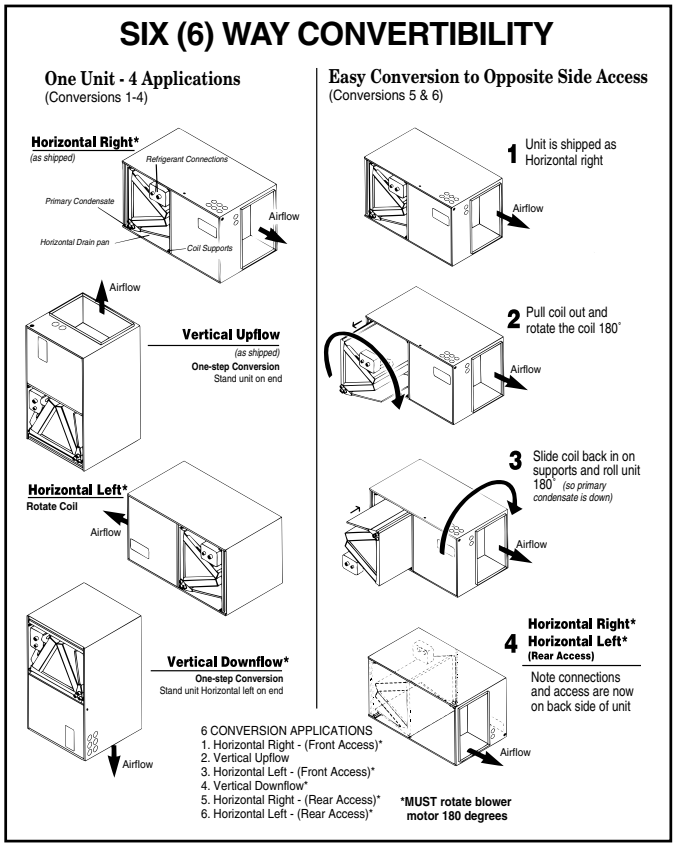
	FIG. 1		FIG. 2	
MODEL NO.	J	K	J	K
TWE031E13	12.02	19.22	11.02	18.22
TWE037E13		21.22		20.22
TWE040E13 TWE049E13 TWE065E13		23.72		22.72

MODEL NO.	A	B	C	D	E	F	G	H	Flow Control	Gas Line BRAZE	Liq. Line BRAZE
TWE031E13	43	21.50	19.50	15.57	3.65	5.77	3.62	1.89	TXV/NB	3/4	5/16
TWE037E13	45	23.50	21.50	17.57	4.65	6.77				7/8	3/8
TWE040E13	51.75	26	24	18.33	5.90	8.02	3.21	1.48			
TWE049E13	57.90			27.12						1-1/8	
TWE065E13	62.75			27.12						1-1/8	

From Dwg. 21D800664 Rev. 1

Convertibility

Mechanical Specification Options



"Air-Tite™" Features and General Information
These blower coil units are completely factory assembled including coil, condensate drain pan, fan, motor, filters and controls in an insulated casing that can be applied in horizontal right and vertical upflow configuration. The TWE-E line of air handlers provides exclusive compact size combined with 6-way convertibility in sizes up to 5 ton.

The unit ships in the right hand horizontal configuration and converts to vertical upflow just by standing the unit on end. No tools required. Coil rotation provides downflow and horizontal left applications.

Casing
These models have a rugged galvanized sheet metal and steel frame construction. The casing is painted with an enamel finish. The casing is insulated and provides knockouts for electrical power and control wiring.

Refrigerant Circuits
The TWE-E units have a single refrigerant circuit. The refrigerant circuit is controlled by a factory installed non-bleed thermal expansion valve (TXV).

Coil
Aluminum fin surface is mechanically bonded to 3/8-inch OD copper tubing. Coils are factory pressure and leak tested.

Fan
The blower housing is forward curved, dynamically balanced with a variable speed direct drive fan motor. The fan motor is permanently lubricated.

Controls
Low voltage terminal board, fan contactor, and plug-in module for accessory electric heat control is included. TWE-E models also have a check valve.

Filters
The TWE031E through TWE065E have standard size filters.

Electric Heaters
Heaters for the TWE-E air handlers are available in a wide range of capacities and voltages with various staging options, and plug-in control wiring. Heaters fit inside the internal compartment.

09/09

Trane
www.trane.com

For more information contact your local dealer (distributor) or e-mail us at tycust@unitary.trane.com