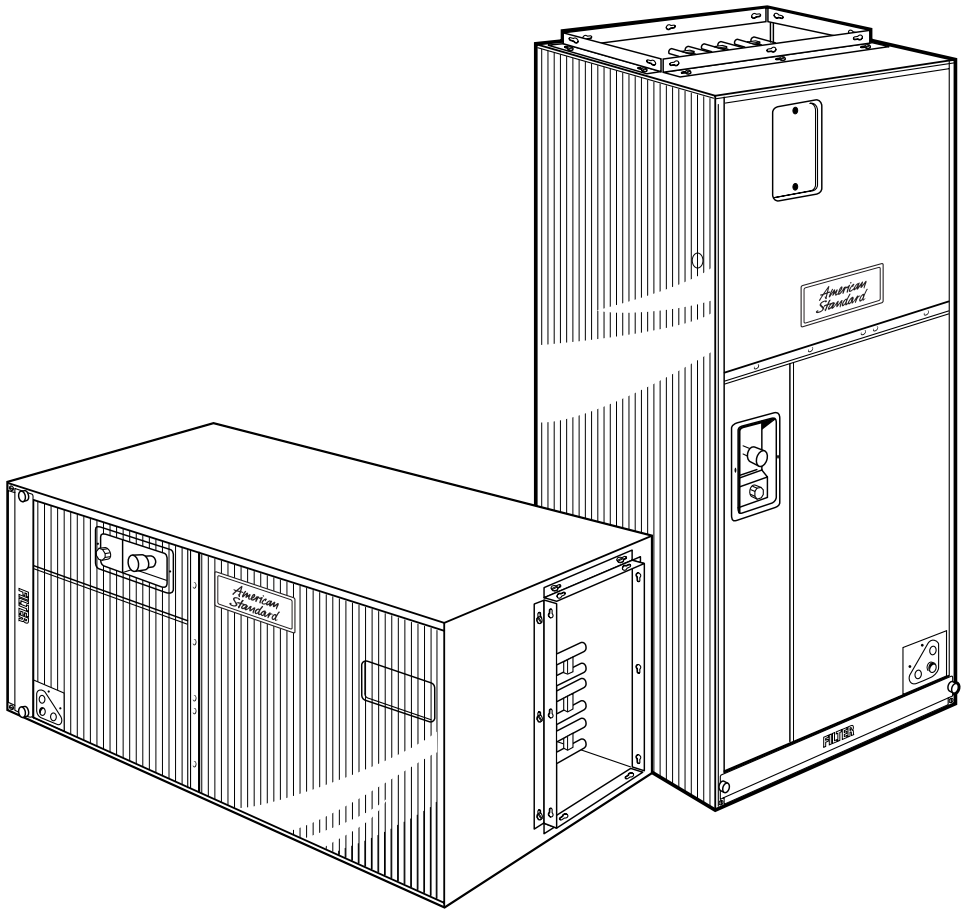
American Standard

COOLING/HEAT PUMP CONVERTIBLE AIR HANDLERS



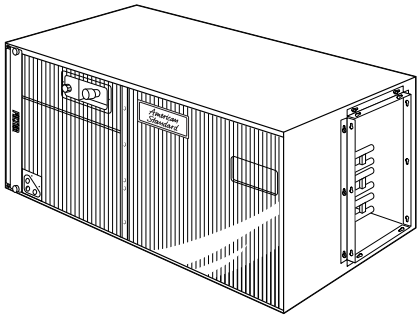
MODELS TWE018-048C
TWE060C/D
1½ – 5 TON

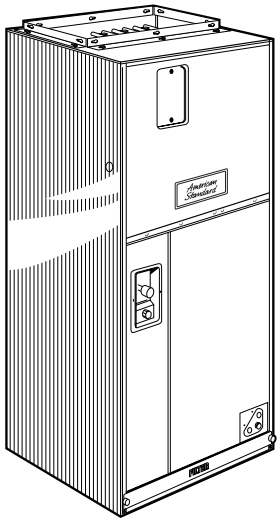
PUB. NO. 12-1054-05
Tab 12 — April 2001

Split System Cooling and Heat Pump Air Handlers

Features:

- Ships horizontal - converts to vertical by standing unit on end.
- Six-way convertibility-horizontal (left & right); front & rear access; upflow, downflow
- "1-man" installation opportunity
- Electrical, refrigerant, condensate & blower access convertible to either side
- Compact 21" depth for easy installation
- Versatile duct flange - allows flush fit 3/4", 1" or 1.5" duct insulation
- Filter panel stamped with word "filter"
- Corrosion resistant galvanized metal with attractive finish
- Superior condensate performance
- Enhanced internally finned coil tubes
- Direct drive motor





- Multi-speed blower
- 200/230 volt primary & 24 volt secondary transformer
- Low voltage wire nut connections
- Insulated cabinet
- External access to heater circuit breakers
- Polarized plugs for making electrical connections from air handler control box to heaters
- Built-in indoor fan delay function for increased efficiency. No kit required.

Model Nomenclature

1	2	3	4	5	6	7	8	9	10	11	12
T	W	E	0	3	0	C	1	4	0	B	0

PRODUCT TYPE
TW = Split System Component Heat Pump Compatible

AIRFLOW CONFIGURATION
V = Vertical
H = Horizontal
E = Convertible

REFRIGERANT CONNECTIONS
0 = Brazed

NOMINAL NET COOLING CAPACITY (MBH)

MAJOR DEVELOPMENT SEQUENCE
C,D = Standard System
P = High Efficiency System
B = Built-In Fan Delay Function
E = Electronic Variable Speed
All Other

POWER SUPPLY
1 = 208-230/1/60

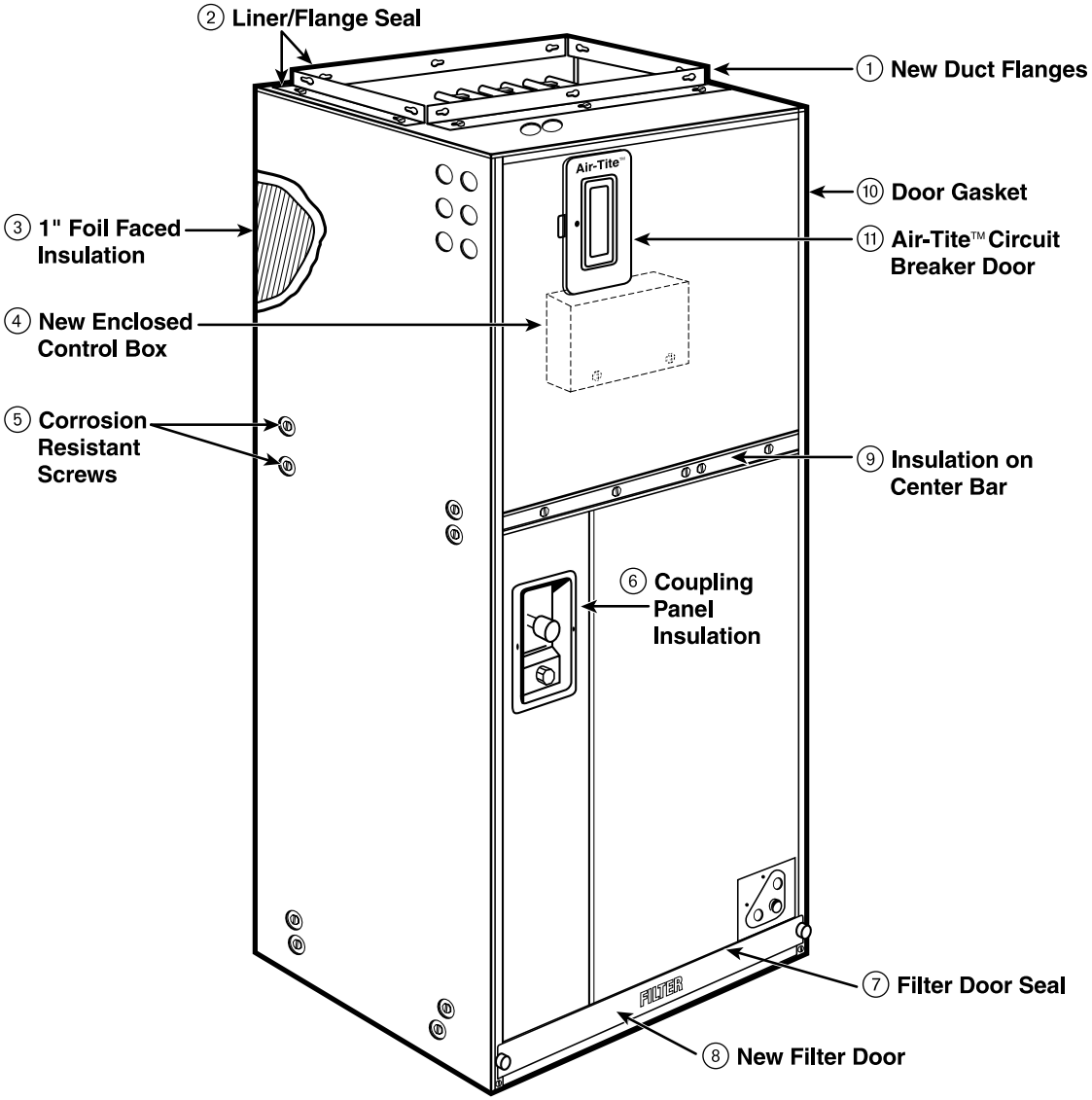
REFRIGERANT FLOW CONTROL
3 = Non Bleed TXV
4 = "Accutron™" Flow Control/Check Valve
5 = Bleed TXV

F = "Air-Tite™"
0 = Standard System

MINOR DESIGN SEQUENCE

SERVICE DESIGN

"Air-Tite™" Features and Benefits



① **New Duct Flange** – Allows flush fit for ¾", 1" or 1½" 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.

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). If your air handler is to be in an unconditioned/severe climatic location you should consider the advantages of the "Air-Tite™" model air handler.

General Data

MODEL	TWE018C14,0B,FB	TWE024C14,0B,FB	TWE030C14,0B,FB	TWE036C14,0B,FB
RATED VOLTS/PH/HZ.	208-230/1/60	208-230/1/60	200-230/1/60	200-230/1/60
RATINGS①	See O.D. Specifications	See O.D. Specifications	See O.D. Specifications	See O.D. Specifications
INDOOR COIL — Type	Plate Fin	Plate Fin	Plate Fin	Plate Fin
Rows — F.P.I.	2 - 16	2 - 16	3 — 12	3 — 14.0
Face Area (sq. ft.)	3.21	3.21	2.75	3.21
Tube Size (in.)	3/8 - Copper	3/8 - Copper	3/8 - Copper	3/8 - Copper
Refrigerant Control	FCCV	FCCV	FCCV	FCCV
Drain Conn. Size (in.)②	3/4 NPT	3/4 NPT	3/4 NPT	3/4 NPT
INDOOR FAN — Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Diameter-Width (in.)	9 X 8	9 X 8	10 x 8	10 x 8
No. Used	1	1	1	1
Drive - No. Speeds	Direct - 3	Direct - 3	Direct - 3	Direct - 3
CFM vs. in w.g.	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
No. Motors — H.P.	1 - 1/8	1 - 1/4	1 — 1/3	1 — 1/2
Motor Speed R.P.M.	1080	1075	1075	1075
Volts/Ph/Hz	200-230/1/60	200-230/1/60	200-230/1/60	200-230/1/60
F.L. Amps - L.R. Amps	0.9 - 1.6	1.7 - 2.6	2.1 - 4.6	3.3 - 7.8
FILTER				
Vertical Applications				
Filter Furnished?	Yes	Yes	Yes	Yes
Type Recommended	Throwaway	Throwaway	Throwaway	Throwaway
No.-Size-Thickness	1 - 20 X 20 - 1 in.	1 - 20 X 20 - 1 in.	1 - 20 x 20 x 1 in.	1 - 20 x 20 x 1 in.
Horizontal Applications				
Filter Furnished?	No	No	No	No
Recommended Size ③	See Note ③	See Note ③	See Note ③	See Note ③
REFRIGERANT (R-22)				
Ref. Line Connections	Brazed	Brazed	Brazed	Brazed
Coupling or Conn. Size — in. Gas	5/8	3/4	3/4	7/8
Coupling or Conn. Size — in Liq.	1/4	5/16	5/16	3/8
DIMENSIONS	H x W x D	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	44 1/2 x 24 x 23-1/2	44-1/2 x 24 x 23-1/2	44-1/2 x 24 x 23-1/2
Uncrated	See Outline Drawing	See Outline Drawing	See Outline Drawing	See Outline Drawing
WEIGHT				
Shipping (Lbs.) / Net (Lbs.)	113/103	115/105	120/110	125/115

MODEL	TWE042C14,0C,FC	TWE048C14,0B,FB	TWE060C15FD,D150B
RATED VOLTS/PH/HZ.	200-230/1/60	200-230/1/60	200-230/1/60
RATINGS①	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	3 — 14
Face Area (sq. ft.)	3.90	5.04	6.19
Tube Size (in.)	3/8 - Copper	3/8 - Copper	3/8 - Copper
Refrigerant Control	FCCV	FCCV	TXVB
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	11 x 10
No. Used	1	1	1
Drive - No. Speeds	Direct - 3	Direct - 3	Direct - 3
CFM vs. in w.g.	See Fan Performance Table	See Fan Performance Table	See Fan Performance Table
No. Motors — H.P.	1 — 1/2	1 — 1/2	1 — 3/4
Motor Speed R.P.M.	1075	1075	1075
Volts/Ph/Hz	200-230/1/60	200-230/1/60	200-230/1/60
F.L. Amps - L.R. Amps	3.3 - 7.8	4.2 - 10.7	5.9 - 14.4
FILTER			
Vertical Applications			
Filter Furnished?	Yes	Yes	Yes
Type Recommended	Throwaway	Throwaway	High Velocity
No.-Size-Thickness	1 - 20 x 20 x 1 in.	1 - 20 x 20 x 1 in.	1 - 22 x 20 x 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
Coupling or Conn. Size — in. Gas	7/8	1-1/8	1-1/8
Coupling or Conn. Size — in Liq.	3/8	3/8	3/8
DIMENSIONS	H x W x D	H x W x D	H x W x D
Crated (in.)	46-1/2 x 26 x 23-1/2	53-1/4 x 26 x 23-1/2	59-1/2 x 26 x 23-1/2
Uncrated	See Outline Drawing	See Outline Drawing	See Outline Drawing
WEIGHT			
Shipping (Lbs.) / Net (Lbs.)	145/130	165/150	198/183

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

Performance Data

AIR FLOW PERFORMANCE TWE018C14,0B,FB												
EXTERNAL STATIC PRESSURE (INCHES OF WATER)												
	VERTICAL (See Notes)						HORIZONTAL (See Notes)					
	230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS		
CFM	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
100		0.62	0.55		0.62	0.46						
150		0.60	0.49	0.74	0.58	0.39						
200		0.57	0.43	0.72	0.52	0.32		0.63	0.43		0.54	0.33
250		0.53	0.36	0.70	0.47	0.25	0.66	0.58	0.37	0.72	0.48	0.26
300	0.61	0.49	0.29	0.68	0.40	0.18	0.65	0.52	0.30	0.69	0.42	0.19
350	0.60	0.43	0.21	0.64	0.33	0.11	0.64	0.45	0.22	0.66	0.35	0.11
400	0.58	0.37	0.13	0.60	0.26	0.03	0.62	0.38	0.15	0.62	0.28	0.04
450	0.55	0.30	0.05	0.55	0.17		0.59	0.31	0.07	0.57	0.20	
500	0.52	0.22		0.49	0.09		0.55	0.22		0.51	0.12	
550	0.47	0.13		0.43			0.51	0.14		0.45	0.03	
600	0.42	0.03		0.36			0.45	0.04		0.38		
650	0.36			0.28			0.39			0.30		
700	0.29			0.19			0.32			0.21		
750	0.21			0.09			0.24			0.12		
800	0.12						0.15			0.01		
850	0.03						0.06					

NOTES:
Vertical:
With filter, no horizontal drip tray.
Small apex baffle.
Subtract 0.06" W.G. for downflow.

Horizontal:
As shipped but without filter.
Subtract 0.05" W.G. for horizontal left.

SEE AIR FLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATER.

From Dwg. 21A800578 Rev. 0

AIR FLOW PERFORMANCE TWE024C14,0B,FB												
EXTERNAL STATIC PRESSURE (INCHES OF WATER)												
	VERTICAL (See Notes)						HORIZONTAL (See Notes)					
	230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS		
CFM	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
350						0.60						0.61
400						0.58						0.59
450						0.51						0.52
500			0.61			0.42			0.63		0.51	0.43
550			0.59			0.34			0.62	0.58	0.47	0.34
600		0.61	0.55		0.52	0.22		0.65	0.60	0.56	0.41	0.22
650		0.57	0.49		0.50	0.09		0.60	0.54	0.52	0.33	0.10
700		0.52	0.40		0.46			0.55	0.43	0.47	0.25	
750		0.47	0.28		0.42			0.49	0.30	0.43	0.15	
800	0.60	0.38	0.14	0.52	0.34		0.63	0.41	0.15	0.38	0.02	
850	0.59	0.30		0.50	0.25		0.62	0.30		0.31		
900	0.56	0.16		0.47	0.12		0.59	0.16		0.23		
950	0.53	0.03		0.42			0.55	0.03		0.14		
1000	0.46			0.37			0.49					
1050	0.35			0.31			0.39					
1100	0.26			0.24			0.29					
1150	0.18			0.17			0.19					
1200	0.10			0.08			0.11					
1250							0.02					

NOTES:
Vertical:
With filter, no horizontal drip tray.
Small apex baffle.
Subtract 0.06" W.G. for downflow.

Horizontal:
As shipped but without filter.
Subtract 0.05" W.G. for horizontal left.

SEE AIR FLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATER.

From Dwg. 21A800580 Rev. 0

Performance Data

AIR FLOW PERFORMANCE TWE030C14,0B,FB																		
EXTERNAL STATIC PRESSURE (IN. W.G.)																		
	UPFLOW & HOIZONTAL RIGHT						DOWNFLOW - BAFFLES INSTALLED						HORIZONTAL LEFT					
	230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS		
CFM	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
650	0.85	0.82	0.65	0.85	0.78	0.50	0.75	0.71	0.56	0.75	0.67	0.41	0.84	0.80	0.65	0.84	0.76	0.50
700	0.84	0.79	0.60	0.83	0.74	0.43	0.71	0.65	0.50	0.70	0.60	0.33	0.81	0.75	0.60	0.80	0.70	0.43
750	0.81	0.75	0.54	0.80	0.68	0.33	0.66	0.59	0.43	0.65	0.52	0.22	0.77	0.70	0.54	0.76	0.63	0.33
800	0.78	0.70	0.47	0.76	0.61	0.20	0.61	0.52	0.35	0.59	0.43	0.08	0.73	0.64	0.47	0.71	0.55	0.20
850	0.74	0.65	0.38	0.72	0.54	0.03	0.54	0.44	0.24	0.52	0.33		0.68	0.58	0.38	0.66	0.47	0.03
900	0.70	0.59	0.29	0.67	0.45		0.46	0.36	0.13	0.43	0.22		0.62	0.52	0.29	0.59	0.38	
950	0.65	0.52	0.16	0.62	0.35		0.38	0.27		0.35	0.10		0.56	0.45	0.16	0.53	0.28	
1000	0.59	0.44	0.03	0.55	0.24		0.30	0.18		0.26			0.50	0.38	0.03	0.46	0.18	
1050	0.53	0.35		0.48	0.12		0.21	0.07		0.16			0.43	0.29		0.38	0.06	
1100	0.46	0.26		0.40			0.12			0.06			0.36	0.19		0.30		
1150	0.39	0.17		0.32									0.28			0.21		
1200	0.31	0.07		0.23									0.20			0.12		
1250	0.23			0.14									0.11			0.02		

NOTES:
1. With wet coil; filter in place; no heater installed.
2. See airflow resistance table for pressure loss with supplementary heaters.
3. Tray is in place for all positions.

AIR FLOW PERFORMANCE TWE036C140,0B,FB												
EXTERNAL STATIC PRESSURE (IN. W.G.)												
	UPFLOW & HORIZONTAL RIGHT						DOWNFLOW & HORIZONTAL LEFT					
	230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS		
CFM	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
750			0.81			0.69		0.84	0.75		0.80	0.63
800		0.87	0.76		0.82	0.62	0.87	0.79	0.69	0.85	0.74	0.55
850		0.83	0.70		0.76	0.53	0.83	0.74	0.62	0.81	0.67	0.45
900	0.86	0.78	0.64	0.84	0.71	0.43	0.78	0.68	0.55	0.76	0.61	0.34
950	0.81	0.73	0.57	0.78	0.64	0.28	0.73	0.61	0.47	0.70	0.52	0.18
1000	0.76	0.67	0.49	0.72	0.56		0.67	0.54	0.39	0.63	0.43	
1100	0.64	0.53	0.28	0.59	0.37		0.53	0.39	0.18	0.48	0.23	
1200	0.50	0.37	0.02	0.44	0.14		0.38	0.23		0.32	0.00	
1300	0.36	0.20		0.29			0.22	0.05		0.15		
1400	0.22	0.02		0.13			0.07					
1500	0.07											

NOTES:
1. With wet coil; filter in place; no heater installed.
2. See airflow resistance table for pressure loss with supplementary heaters.
3. Tray is in place for all positions.
4. Baffles are in place for downflow.

Performance Data

AIR FLOW PERFORMANCE TWE042C14,0C,FC												
EXTERNAL STATIC PRESSURE (IN. W.G.)												
	UPFLOW & HORIZONTAL RIGHT						DOWNFLOW & HORIZONTAL LEFT					
	230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS		
CFM	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
900		0.87	0.74		0.78	0.51	0.87	0.76	0.61	0.82	0.67	0.38
950		0.82	0.67	0.88	0.72	0.39	0.82	0.70	0.54	0.77	0.60	0.26
1000	0.88	0.77	0.59	0.83	0.65	0.22	0.77	0.64	0.46	0.72	0.52	0.09
1050	0.83	0.72	0.50	0.78	0.58	0.00	0.72	0.58	0.37	0.67	0.44	
1100	0.78	0.66	0.40	0.73	0.50		0.66	0.51	0.28	0.61	0.35	
1150	0.73	0.60	0.27	0.67	0.40		0.60	0.44	0.16	0.54	0.24	
1200	0.67	0.54	0.11	0.60	0.29		0.55	0.36	0.02	0.48	0.11	
1300	0.56	0.38		0.47	0.06		0.42	0.21		0.33		
1400	0.44	0.20		0.33			0.29	0.05		0.18		
1500	0.31			0.19			0.13			0.01		
1600	0.16			0.03								
1700	0.01											

NOTES:
1. With wet coil; filter in place; no heater installed.
2. See airflow resistance table for pressure loss with supplementary heaters.
3. Tray is in place for all positions.

AIR FLOW PERFORMANCE TWE048C14,0C,FC												
EXTERNAL STATIC PRESSURE (IN. W.G.)												
	UPFLOW (See Notes)						HORIZONTAL RIGHT (See Notes)					
	230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS		
CFM	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
1000			1.00			0.95			0.97			0.92
1100			0.90		0.94	0.82		0.97	0.87		0.90	0.79
1200		0.91	0.81	0.96	0.83	0.71	0.96	0.87	0.75	0.92	0.79	0.66
1300	0.90	0.81	0.71	0.85	0.71	0.55	0.86	0.76	0.67	0.81	0.67	0.52
1400	0.80	0.69	0.60	0.75	0.58	0.37	0.76	0.65	0.56	0.71	0.55	0.35
1500	0.69	0.57	0.45	0.64	0.43	0.11	0.65	0.54	0.41	0.60	0.41	0.10
1600	0.58	0.44	0.27	0.54	0.27		0.53	0.43	0.24	0.49	0.26	
1700	0.47	0.31	0.05	0.42	0.08		0.41	0.32	0.05	0.37	0.08	
1800	0.35	0.15		0.30			0.28	0.20		0.24		
1900	0.22						0.15	0.08		0.10		

NOTES: Upflow: With filter and small apex baffle.
Without horizontal drip tray.
Horizontal Right: As shipped except without filter
Horizontal Left: Like Horizontal Right except —
– with small apex baffle
– for high speed, reduce ESP by 0.07" W.C.
– for medium speed, reduce ESP by 0.05" W.C.

Downflow: Like Upflow except —
– drain pan baffles added
– for high speed, reduce ESP by 0.20" W.C.
– for medium speed, reduce ESP by 0.07" W.C.

SEE AIR FLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATERS.

Performance Data

AIR FLOW PERFORMANCE TWE060C15FD, TWE060D150B												
EXTERNAL STATIC PRESSURE (IN. W.G.)												
	UPFLOW (SEE NOTES)						HORIZONTAL RIGHT (SEE NOTES)					
	230 VOLTS			208 VOLTS			230 VOLTS			208 VOLTS		
CFM	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
1300			0.76			0.49			0.76			0.49
1400			0.64			0.26			0.64			1.26
1500			0.47		0.71				0.47		0.71	
1600		0.76	0.27		0.64			0.76	0.27		0.64	
1700		0.67	0.00	0.79	0.52			0.67	0.00	0.76	0.52	
1800	0.79	0.56		0.72	0.34		0.76	0.56		0.69	0.34	
1900	0.72	0.42		0.65	0.12		0.68	0.42		0.61	0.12	
2000	0.64	0.25		0.56			0.60	0.25		0.52		
2100	0.56	0.05		0.47			0.51	0.05		0.42		
2200	0.46			0.36			0.41			0.31		
2300	0.34			0.22			0.28			0.16		
2400	0.20						0.13					

NOTES: Upflow: With filter and small apex baffle.
Without horizontal drip tray.
Horizontal Right: As shipped except without filter
Horizontal Left: Like Horizontal Right except —
– with small apex baffle
– for high speed, reduce ESP by 0.07" W.C.
– for medium speed, reduce ESP by 0.05" W.C.

Downflow: Like Upflow except —
– drain pan baffles added
– for high speed, reduce ESP by 0.20" W.C.
– for medium speed, reduce ESP by 0.07" W.C.

SEE AIR FLOW RESISTANCE TABLE FOR PRESSURE LOSS WITH SUPPLEMENTARY HEATERS.

PRESSURE DROP FOR ELECTRIC HEATERS IN AIR HANDLER MODELS

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

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

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

Air Handler/Fan Speed Heater Matrix

Air Handler Model	Unit Position	Application	HEATER MODEL NUMBER BAYHTR 1405 4.80KW	1408 7.68KW	*410 9.60KW	*415 15.36KW	1419 19.20KW	1425 24.96KW	* = 1 or 3
TWE018-C	Vertical	A/C or Elec. Furnace	L	L	L	—	—	—	
	Upflow	Heat Pump	L	M	M	—	—	—	
	Vertical	A/C or Elec. Furnace	L	L	L	—	—	—	
	Downflow	Heat Pump	L	M	M	—	—	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	—	—	—	
	Left	Heat Pump	L	M	M	—	—	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	—	—	—	
	Right	Heat Pump	L	M	M	—	—	—	
TWE024-C	Vertical	A/C or Elec. Furnace	L	L	L	L	—	—	
	Upflow	Heat Pump	L	L	L	M	—	—	
	Vertical	A/C or Elec. Furnace	L	L	L	L	—	—	
	Downflow	Heat Pump	L	L	L	M	—	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	—	—	
	Left	Heat Pump	L	L	L	M	—	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	—	—	
	Right	Heat Pump	L	L	L	M	—	—	
TWE030-C	Vertical	A/C or Elec. Furnace	L	L	L	L	—	—	
	Upflow	Heat Pump	L	L	L	M	—	—	
	Vertical	A/C or Elec. Furnace	L	L	L	L	—	—	
	Downflow	Heat Pump	L	L	L	M	—	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	—	—	
	Left	Heat Pump	L	L	L	M	—	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	—	—	
	Right	Heat Pump	L	L	L	M	—	—	
TWE036-C	Vertical	A/C or Elec. Furnace	L	L	L	L	L	—	
	Upflow	Heat Pump	L	L	L	L	M	—	
	Vertical	A/C or Elec. Furnace	L	L	L	L	L	—	
	Downflow	Heat Pump	L	L	L	L	H	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	—	
	Left	Heat Pump	L	L	L	L	H	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	—	
	Right	Heat Pump	L	L	L	L	M	—	
TWE042-C	Vertical	A/C or Elec. Furnace	L	L	L	L	L	—	
	Upflow	Heat Pump	L	L	L	L	H	—	
	Vertical	A/C or Elec. Furnace	L	L	L	L	L	—	
	Downflow	Heat Pump	L	L	L	L	—	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	—	
	Left	Heat Pump	L	L	L	L	H	—	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	—	
	Right	Heat Pump	L	L	L	L	—	—	
TWE048-C	Vertical	A/C or Elec. Furnace	L	L	L	L	L	L	
	Upflow	Heat Pump	L	L	L	L	H	H	
	Vertical	A/C or Elec. Furnace	L	L	L	L	L	L	
	Downflow	Heat Pump	L	L	L	L	H	H	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	L	
	Left	Heat Pump	L	L	L	L	H	H	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	L	
	Right	Heat Pump	L	L	L	L	H	H	
TWE060-C/D	Vertical	A/C or Elec. Furnace	L	L	L	L	L	L	
	Upflow	Heat Pump	L	L	L	L	H	H	
	Vertical	A/C or Elec. Furnace	L	L	L	L	L	L	
	Downflow	Heat Pump	L	L	L	L	H	H	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	L	
	Left	Heat Pump	L	L	L	L	H	H	
	Horizontal	A/C or Elec. Furnace	L	L	L	L	L	L	
	Right	Heat Pump	L	L	L	L	H	H	

Performance Data

TWE018C 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	26	30	3.60	12300	17.3	23	25
BAYHTR1408 +++	1/1	7.68	26200	32	41	45	5.76	19700	27.7	36	40
BAYHTR1410 +++	1/1	9.60	32800	40	51	60	7.20	24600	34.6	45	45
BAYHTR3410 000	1/3	9.60	32800	34.6	43	45	7.20	24600	30	37	40

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.

TWE024C 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	27	30	3.60	12300	17.3	24	25
BAYHTR1408 +++	1/1	7.68	26200	32	42	45	5.76	19700	27.7	37	40
BAYHTR1410 +++	1/1	9.60	32800	40	52	60	7.20	24600	34.6	45	45
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	52*/30	60*/30	11.53	39300	34.6/20.8	45*/26	45*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	49	50	11.53	39300	33.1	43	45

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.

TWE030C 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	28	30	3.60	12300	17.3	24	25
BAYHTR1408 +++	1/1	7.68	26200	32	43	45	5.76	19700	27.7	37	40
BAYHTR1410 +++	1/1	9.60	32800	40	53	60	7.20	24600	34.6	46	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	53*/30	60*/30	11.53	39300	34.6/20.8	46*/26	50*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	50	50	11.53	39300	33.1	44	45

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

TWE036C 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	29	30	3.60	12300	17.3	26	30
BAYHTR1408 +++	1/1	7.68	26200	32	44	45	5.76	19700	27.7	39	40
BAYHTR1410 +++	1/1	9.60	32800	40	54	60	7.20	24600	34.6	47	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	54*/30	60*/30	11.53	39300	34.6/20.8	47*/26	50*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	51	60	11.53	39300	33.1	45	45
BAYHTR1419 BRK	2/1	19.2	65500	32/48	44*/60	45*/60	14.42	49200	27.7/41.6	39*/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.

TWE042C 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	29	30	3.60	12300	17.3	26	30
BAYHTR1408 +++	1/1	7.68	26200	32	44	45	5.76	19700	27.7	39	40
BAYHTR1410 +++	1/1	9.60	32800	40	54	60	7.20	24600	34.6	47	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	54*/30	60*/30	11.53	39300	34.6/20.8	47*/26	50*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	51	60	11.53	39300	33.1	45	45
BAYHTR1419 BRK	2/1	19.2	65500	32/48	44*/60	45*/60	14.42	49200	27.7/41.6	39*/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.

TWE048C 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	7.2	24600	34.6	49	50
BAYHTR3410 000	1/3	9.60	32800	34.6	43	45	7.2	24600	30	37	40
BAYHTR1415 BRK	2/1	15.36	52400	44/20	56*/30	60*/30	11.53	39300	38.2/17.3	48*/26	50*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	52	60	11.53	39300	33	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	69300	38.1/34.6/17.3	48/49*/22	50/50*/25

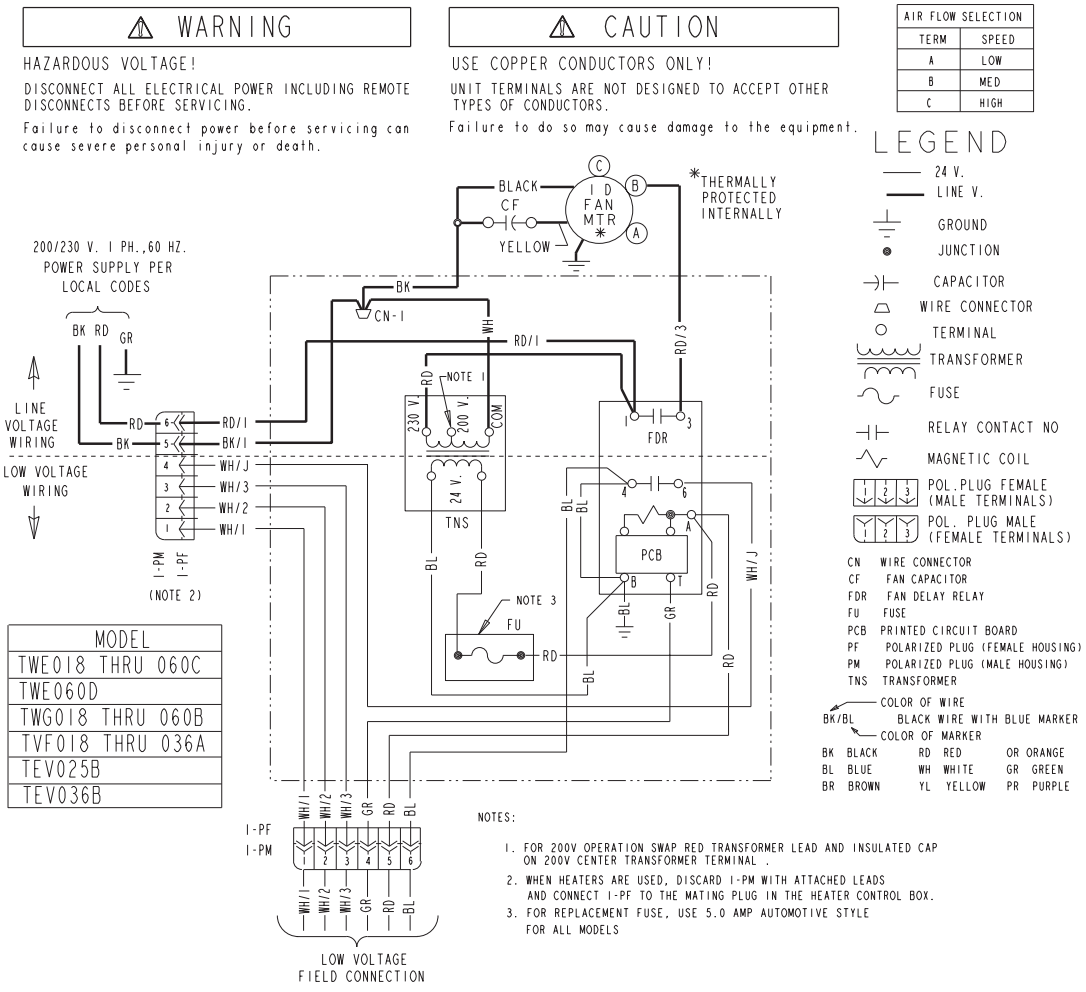
NOTES:
* Circuit 1/Circuit 2 (Minimum Circuit Ampacity for Circuit 1 includes Blower Motor Amps)
+++ = 000, BRK, PDC 000 = pigtails, BRK = contains circuit breakers, PDC = contains pull disconnect
IMPORTANT: Any power supply and/or combination power supply, circuit or circuits must be wired and protected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

Performance Data

TWE060C/D 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	33	35	3.60	12300	17.3	29	30
BAYHTR1408 +++	1/1	7.68	26200	32	48	50	5.76	19700	27.7	42	45
BAYHTR1410 +++	1/1	9.60	32800	40	58	60	7.20	24600	34.6	51	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	58*/30	60*/30	11.53	39300	34.6/20.8	51*/26	60*/30
BAYHTR3415 000	1/3	15.36	52400	38.2	54	60	11.53	39300	33.1	48	50
BAYHTR1419 BRK	2/1	19.2	65500	32/48	48*/60	50*/60	14.42	49200	27.7/41.6	42*/52	45*/60
BAYHTR1425 BRK	3/1	24.96	85200	44/40/20	55/55*/25	60/60*/25	18.73	69300	38.1/34.6/17.3	48/51*/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.

Unit Wiring



From Dwg. 21C800721 P01

Field Wiring

AIR HANDLERS WITH SINGLE STAGE COOLING UNIT, 1 STAGE HEAT

⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

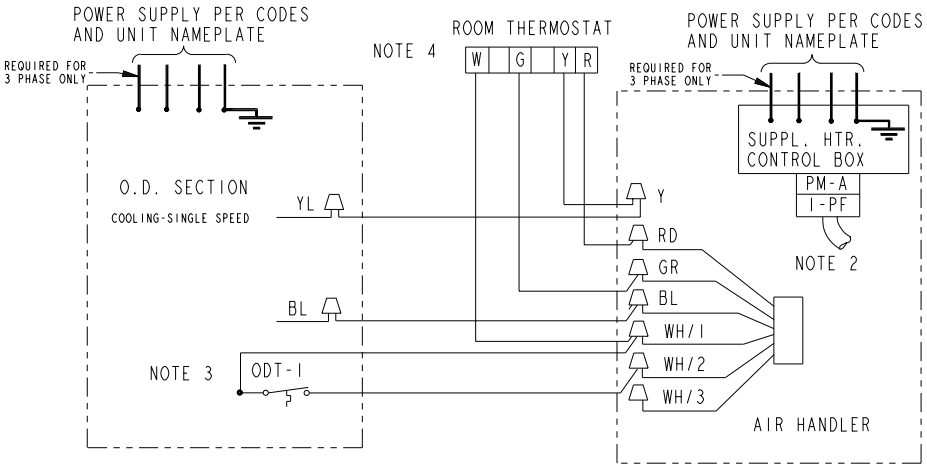
⚠ CAUTION

USE COPPER CONDUCTORS ONLY!

UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.

Failure to do so may cause damage to the equipment.

ALL PHASES OF THIS INSTALLATION MUST COMPLY WITH NATIONAL, STATE AND LOCAL CODES.



NOTES:

1. LOW VOLTAGE WIRING TO BE 18 AWG MINIMUM CONDUCTORS.
2. WHEN HEATERS ARE USED, DISCARD POWER LEADS WITH POLARIZED PLUG I-PM AND CONNECT I-PF TO MATING PLUG IN THE HEATER CONTROL BOX AS SHOWN.
3. IF OUTDOOR THERMOSTAT (ODT) IS NOT USED, CONNECT WI TO W2 AND W3.
4. SEE HEATER WIRING DIAGRAM FOR HEATING ANTICIPATOR SETTING.

From Dwg. 21B810091 Rev. 1

FIELD WIRING DIAGRAMS FOR AIR HANDLERS WITH HEAT PUMP

⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

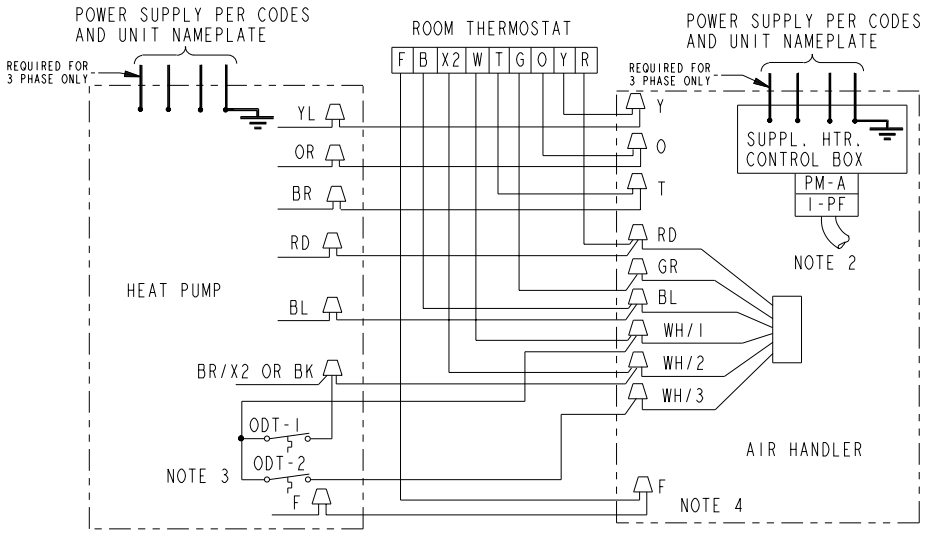
⚠ CAUTION

USE COPPER CONDUCTORS ONLY!

UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.

Failure to do so may cause damage to the equipment.

ALL PHASES OF THIS INSTALLATION MUST COMPLY WITH NATIONAL, STATE AND LOCAL CODES.



NOTES:

1. LOW VOLTAGE WIRING TO BE 18 AWG MINIMUM CONDUCTORS.
2. WHEN HEATERS ARE USED, DISCARD POWER LEADS WITH POLARIZED PLUG I-PM AND CONNECT I-PF TO MATING PLUG IN THE HEATER CONTROL BOX AS SHOWN.
3. IF OUTDOOR THERMOSTAT (ODT) IS NOT USED, CONNECT WI TO W2 AND W3.
4. CONNECT IN THIS MANNER IF OD UNIT HAS "F" CONNECTION.

From Dwg. 21B810093 Rev. 0

Field Wiring

AIR HANDLERS WITH SINGLE STAGE COOLING AND TWO STAGE HEATING

⚠ WARNING

HAZARDOUS VOLTAGE!

DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.

Failure to disconnect power before servicing can cause severe personal injury or death.

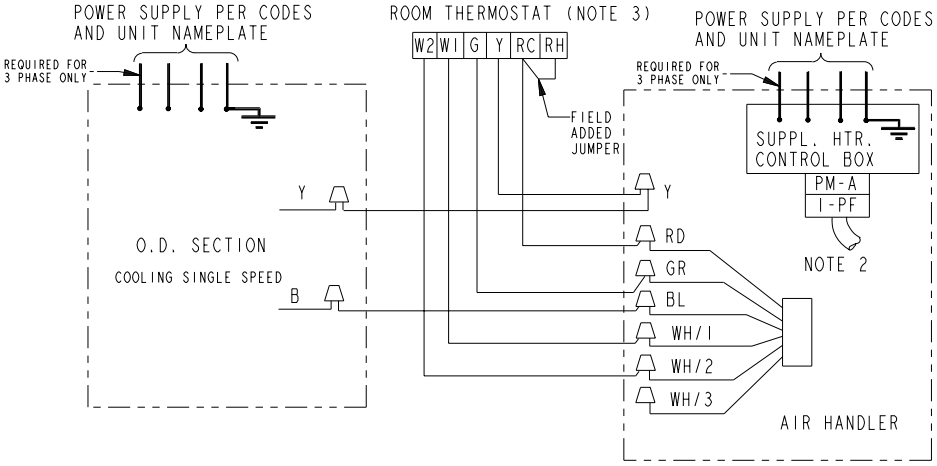
⚠ CAUTION

USE COPPER CONDUCTORS ONLY!

UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.

Failure to do so may cause damage to the equipment.

ALL PHASES OF THIS INSTALLATION MUST COMPLY WITH NATIONAL, STATE AND LOCAL CODES.



NOTES:

1. LOW VOLTAGE WIRING TO BE 18 AWG MINIMUM CONDUCTORS.
2. WHEN HEATERS ARE USED, DISCARD POWER LEADS WITH POLARIZED PLUG I-PM AND CONNECT I-PF TO MATING PLUG IN THE HEATER CONTROL BOX AS SHOWN.
3. SET "HA" PER CURRENT THRU WI, W2, SHOWN ON WIRING DIAGRAM.

From Dwg. 21B810092 Rev. 0

AIR HANDLER SUBBASE

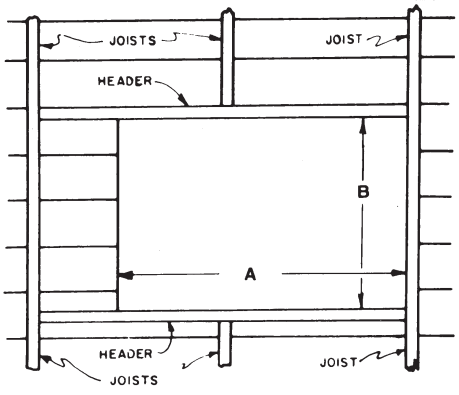


FIG.2

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

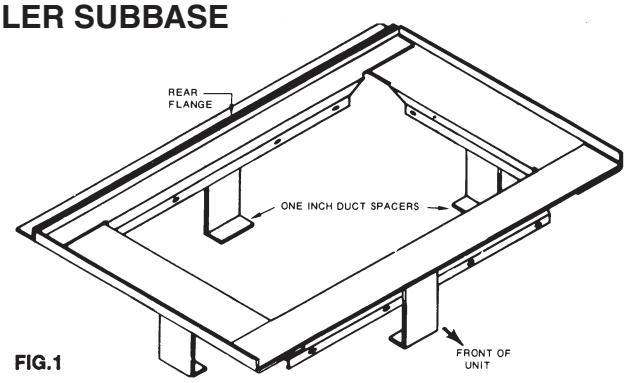


FIG.1

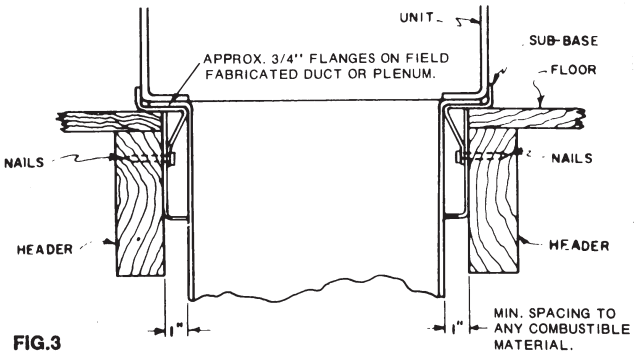
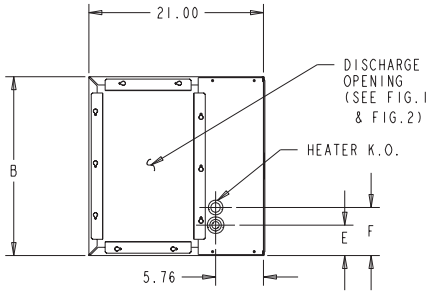


FIG.3

OUTLINE DRAWING FOR TWE018-048C, TWE060C/D

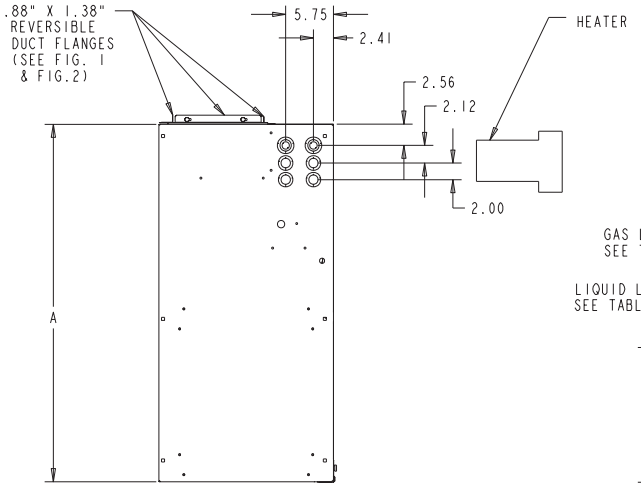
(ALL DIMENSIONS ARE IN INCHES)



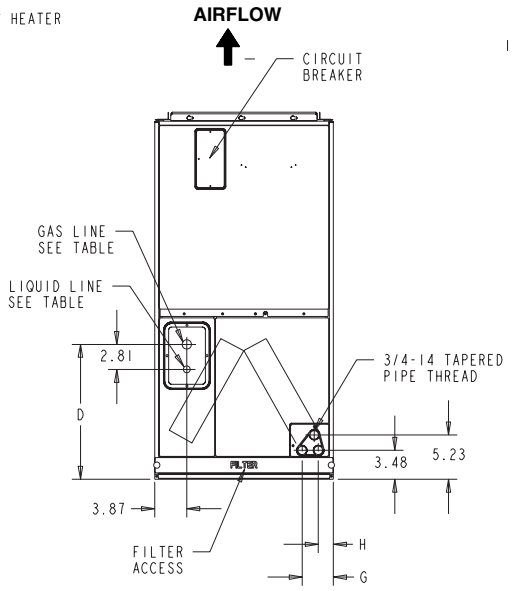
TOP VIEW

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

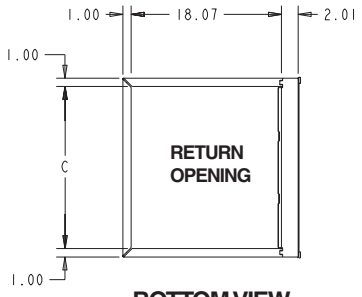
*1" FOR THE FIRST 3 FT. OF OUTLET DUCT WHEN ELECTRIC HEATERS ARE INSTALLED. EXCEPT MODELS BAYHTR1405,1408, AND 1410 ARE APPROVED FOR 0" PLENUM AND DUCT CLEARANCE IN THE UPFLOW CONFIGURATION ONLY.



SIDE VIEW



VERTICAL UPFLOW



BOTTOM VIEW

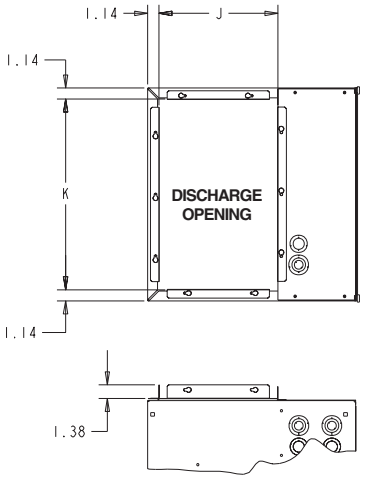


FIGURE 1

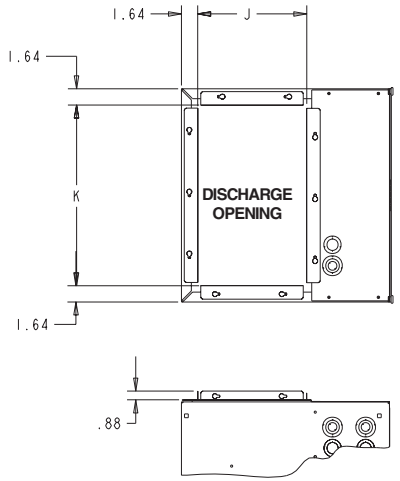


FIGURE 2

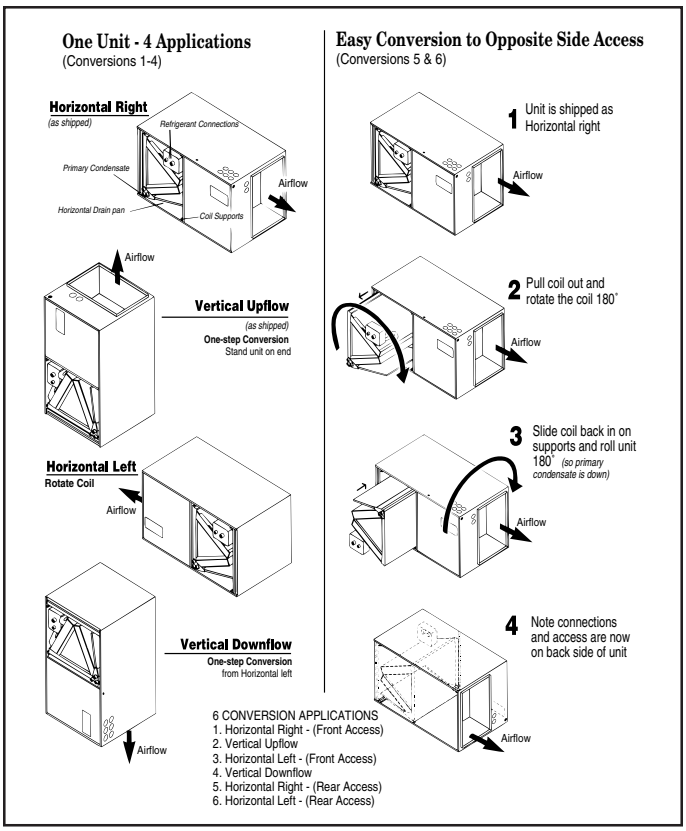
	FIG. 1		FIG. 2	
MODEL NO.	J	K	J	K
TWE018C14 TWE024C14 TWE030C14 TWE036C14	12.02	19.22	11.02	18.22
TWE042C14 TWE048C14 TWE060C14		21.22		20.22

MODEL NO.	A	B	C	D	E	F	G	H	Flow Control	Gas Line BRAZE	Liq. Line BRAZE
TWE018C14	43	21.50	19.5	15.57	3.65	5.77	3.62	1.89	FCCV	5/8	1/4
TWE024C14										3/4	5/16
TWE030C14											
TWE036C14										7/8	3/8
TWE042C14	45.00	23.50	21.50	17.57	4.65	6.77					
TWE048C14	51.75			24.32						1-1/8	
TWE060C/D15	57.90			30.47					TXVB		

From Dwg. 21D800664 Rev. 1

TWE018 Through 060 Convertibility

SIX (6) WAY CONVERTIBILITY



Mechanical Specifications

General

Blower coil units shall be completely factory assembled including coil, condensate drain pan, fan, motor, filters and controls in an insulated casing that can be applied in horizontal or vertical configuration. The “F” model indicates an “Air-Tite™” model with 4.2 “R” value insulation and additional sealing systems.

This new line of TWE-C Air handlers provides exclusive compact size combined with simple 6-Way convertibility in sizes up to 5 Tons. The unit ships in the right hand horizontal configuration and converts to vertical upflow just by standing the unit on end. No tools required. Simple coil rotation provides downflow and horizontal left applications.

The 6-Way convertibility provides you inventory benefits and service/installation flexibility. The simple conversion provides opposite side access for installation and service.

These Air Handlers enjoy the best reputation in the industry. Superior airflow, great sound level, reliability and performance are responsible for the industry leadership. We are not about to give up such top performance.

Units shall be UL listed.

Casing

Units shall have a rugged sheet metal and steel frame construction and shall be painted with an enamel finish. Casing shall be insulated and knockouts for electrical power and control wiring.

Refrigerant Circuits

The TWE units have a single refrigerant circuit. TWE018-048C refrigerant circuit shall be controlled by a flow control check valve (FCCV). TWE060C/D refrigerant circuit shall be controlled by a factory-installed thermal expansion valve.

Coil

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

Fan

Forward curved, dynamically balanced and statically balanced with 3-speed direct drive shall be standard, fan motor bearing shall be permanently lubricated.

Controls

Low voltage pig tails, fan contactor, and plug in module for accessory electric heat control shall be included. TWE models also include check valves.

Filters

Filters shall be included as standard, One inch low velocity semi-permanent type (except 5-ton - washable filter).

Accessories

Electric Heaters — Shall be available in a wide range of capacities and voltages with various staging options, and plug-in control wiring. Heaters shall fit inside the internal compartment.

Technical Literature - Printed in U.S.A.

American Standard Inc.
Troup Highway
Tyler, TX 75711-9010