HVAC Submittals

Absher Construction

1001 Shaw Rd East

Puyallup, WA 98372

ASEI Job No. S13165

August 11, 2023

Prepared by:

Air Systems Engineering Inc.
COMFORT SYSTEMS USA

3602 S. Pine St.
Tacoma, WA 98409
Phone (253) 572-9484

Certificate of Product Ratings

AHRI Certified Reference Number : 207821028 Date : 07-24-2023 Model Status : Production Stopped

AHRI Type : HRCU-A-CB (Split System: Heat Pump with Remote Outdoor Unit-Air-Source)

Series : XR17

Outdoor Unit Brand Name : TRANE

Outdoor Unit Model Number (Condenser or Single Package) : 4TWA7060A3

Indoor Unit Model Number (Evaporator and/or Air Handler) : TEM6B0C60H51+TDR

The manufacturer of this TRANE product is responsible for the rating of this system combination.

Rated as follows in accordance with the latest edition of AHRI 210/240 - 2017 with Addendum 1, Performance Rating of Unitary Air-Conditioning & Air-Source Heat Pump Equipment and subject to rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (A2) - Single or High Stage (95F), btuh : 55500

SEER : 16.50

EER (A2) - Single or High Stage (95F) : 12.20

Heating Capacity (H12) - Single or High Stage (47F) : 54500

HSPF (Region IV) : 9.50

†"Active" Model Status are those that an AHRI Certification Program Participant is currently producing AND selling or offering for sale; OR new models that are being marketed but are not yet being produced."Production Stopped" Model Status are those that an AHRI Certification Program Participant is no longer producing BUT is still selling or offering for sale.

Ratings that are accompanied by WAS indicate an involuntary re-rate. The new published rating is shown along with the previous (i.e. WAS) rating.

The Department of Energy has published updated energy efficiency metrics for central air conditioners and heat pumps. This publication reflects both the 1987 metric (SEER) and the 2023 metric (SEER2). Efficiency requirements are published at 10 C.F.R. 430.32(c). Please refer to www.AHRInet.org for more information about updated energy efficiency metrics.

AIR-CONDITIONING, HEATING, & REFRIGERATION INSTITUTE

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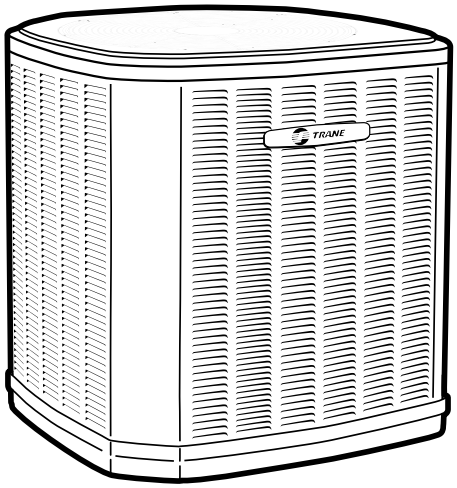
CERTIFICATE NO.: 133346879054453822

Submittal

Split System Heat Pump
3-Phase, 208/230V

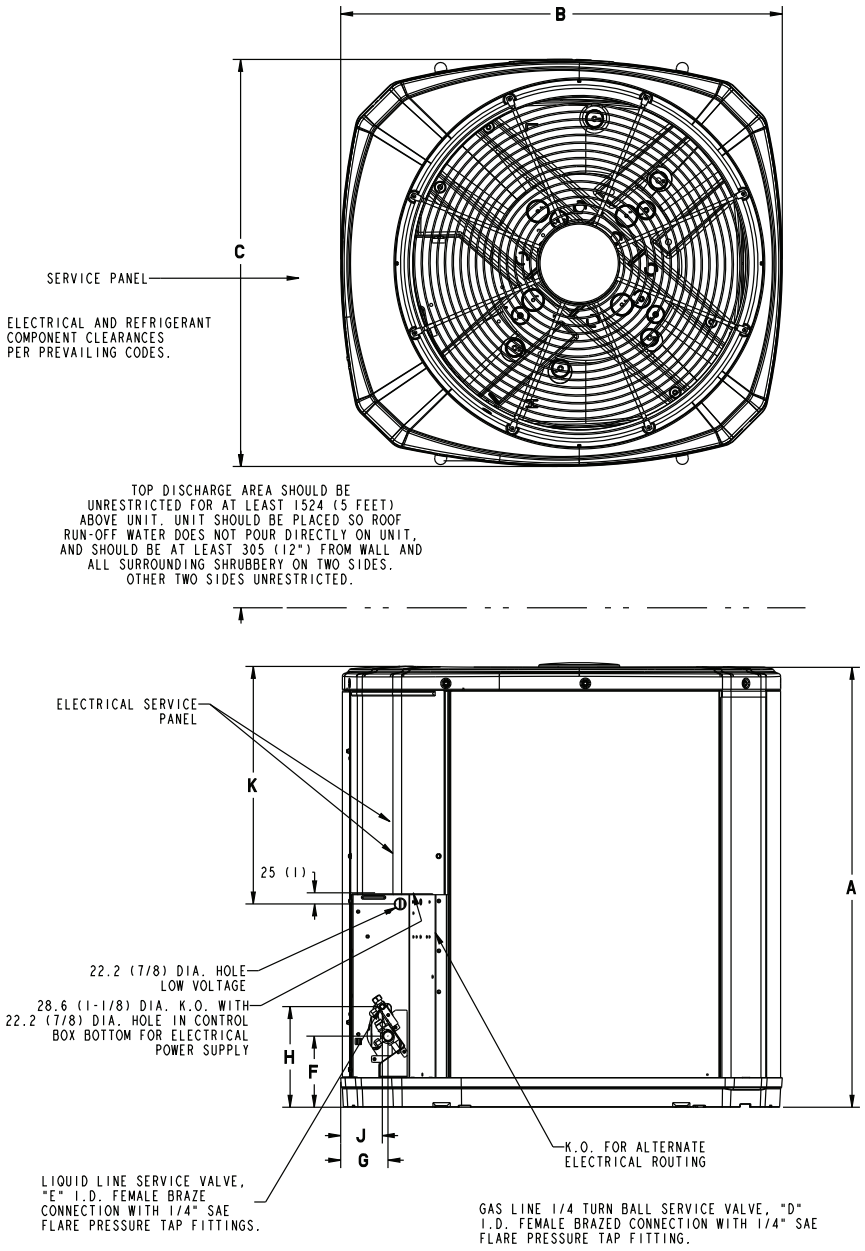
4TWA7060A3000A



Note: *"Graphics in this document are for representation only. Actual model may differ in appearance."*

May 2020

4TWA7060A-SUB-3D-EN



Model	Base	A	B	C	D	E	F	G	H	J	K
4TWA7060A	4	1147 (45–1/8)	946 (37–1/4)	870 (34–1/4)	1–1/8	3/8	152 (6)	98 (3–7/8)	219 (8–5/8)	86 (3–3/8)	813 (32)

Sound Power Level									
MODEL	A-Weighted Sound Power Level [dB(A)]	Full Octave Sound Power(dB)							
		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
4TWA7060A	74	75	71	71	71	70	65	58	52

Product Specifications

OUTDOOR UNIT [a] [b]	4TWA7060A3000A
POWER CONNS. — V/PH/HZ [c]	208/230/3/60
MIN. BRCH. CIR. AMPACITY	22
BR. CIR. PROT. RTG. — MAX. (AMPS)	35
COMPRESSOR	CLIMATUFF®-SCROLL
NO. USED — NO. STAGES	1 — 2
VOLTS/PH/HZ	208/230/3/60
R.L. AMPS [d] — L.R. AMPS	16.2 — 110
FACTORY INSTALLED	
START COMPONENTS [e]	NO (Uses BAYKSKT263)
INSULATION/SOUND BLANKET	NO
COMPRESSOR HEAT	YES
OUTDOOR FAN	PROPELLER
DIA. (IN.) — NO. USED	27.6 – 1
TYPE DRIVE — NO. SPEEDS	DIRECT – 1
CFM @ 0.0 IN. W.G. [f]	4760
NO. MOTORS – HP	1 – 1/4
MOTOR SPEED R.P.M.	825
VOLTS/PH/HZ	208/230/3/60
F.L. AMPS	1.3
OUTDOOR COIL – TYPE	SPINE FIN™
ROWS — F.P.I.	2 – 24
FACE AREA (SQ. FT.)	29.15
TUBE SIZE (IN.)	3/8
REFRIGERANT CONTROL	EEV
REFRIGERANT	
LBS. — R-410A (O.D. UNIT) [g]	12 LBS., 10 OZ
FACTORY SUPPLIED	YES
LINE SIZE — IN. O.D. GAS [h] [i]	1 – 1/8
LINE SIZE – IN. O.D. LIQ.	3/8
CHARGING SPECIFICATIONS	
SUBCOOLING	10°F
DIMENSIONS	H X W X D
CRATED (IN.)	51 x 38.7 x 35.1
WEIGHT	
SHIPPING (LBS.)	330
NET (LBS.)	293

[a] Certified in accordance with the Air-Source Unitary Air-conditioner Equipment certification program, which is based on AHRI standard 210/240.
[b] Rated in accordance with AHRI standard 270.
[c] Calculated in accordance with Natl. Elec. Codes. Use only HACR circuit breakers or fuses.
[d] This value shown for compressor RLA on the unit nameplate and on this specification sheet is used to compute minimum branch circuit ampacity and max. fuse size. The value shown is the branch circuit selection current.
[e] No means no start components. Yes means quick start kit components. PTC means positive temperature coefficient starter. Optional kit shown.
[f] Standard Air — Dry Coil — Outdoor
[g] This value approximate. For more precise value see unit nameplate.
[h] Reference the outdoor unit ship-with literature for refrigerant piping length and lift guidelines. Reference the refrigerant piping software pub # 32-3312-xx or refrigerant piping application guide SS-APG006-xx for long line sets or specialty applications (xx denotes latest revision).
[i] The outdoor condensing units are factory charged with the system charge required for the outdoor condensing unit, ten (10) feet of tested connecting line, and the smallest rated indoor evaporative coil match. Always verify proper system charge via subcooling (TXV/EEV) or superheat (fixed orifice) per the unit nameplate.

Mechanical Specification Options

General

The outdoor condensing units are factory charged with the system charge required for the outdoor condensing unit, ten (10) feet of tested connecting line, and the smallest rated indoor evaporative coil match. This unit is designed to operate at outdoor ambient temperatures as high as 115°F. Cooling capacities are matched with a wide selection of air handlers and furnace coils that are AHRI certified. The unit is certified to UL 1995. Exterior is designed for outdoor application.

Casing

Unit casing is constructed of heavy gauge, galvanized steel and painted with a weather-resistant powder paint finish. The corner panels are prepainted. All panels are subjected to our 1,000 hour salt spray test.

Refrigerant Controls

Refrigeration system controls include condenser fan, compressor contactor and low and high pressure switches. A factory supplied, field installed liquid line drier is standard.

Compressor

The compressor features internal over temperature and pressure protection. Other features include: Centrifugal oil pump and low vibration and noise.

Condenser Coil

The outdoor coil provides low airflow resistance and efficient heat transfer. The coil is protected on all four sides by louvered panels.

Low Ambient Cooling

As manufactured, this system has a cooling capacity to 55°F. The addition of an evaporator defrost control permits operation to 40°F. The addition of an evaporator defrost control with TXV permits low ambient cooling to 30°F.

The addition of the BAYLOAM107A low ambient kit permits ambient cooling to 20°F.

Thermostats—Cooling only and heat/cooling (manual and automatic change over). Sub-base to match thermostat and locking thermostat cover.

Trane - by Trane Technologies (NYSE: TT), a global innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane. com or tranetechnologies.com.

The AHRI Certified mark indicates Trane U.S. Inc. participation in the AHRI Certification program. For verification of individual certified products, go to ahridirectory. org.

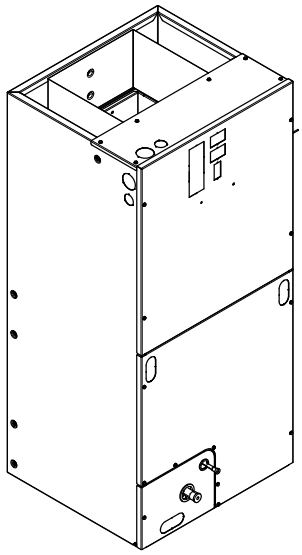
Trane has a policy of continuous data improvement and it reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.

4TWA7060A-SUB-3D-EN 06 May 2020
Supersedes 4TWA7060A-SUB-3C-EN (January 2020)

Submittal

Variable Speed Convertible Air Handler
5 Ton

TEM6B0C60H51SA

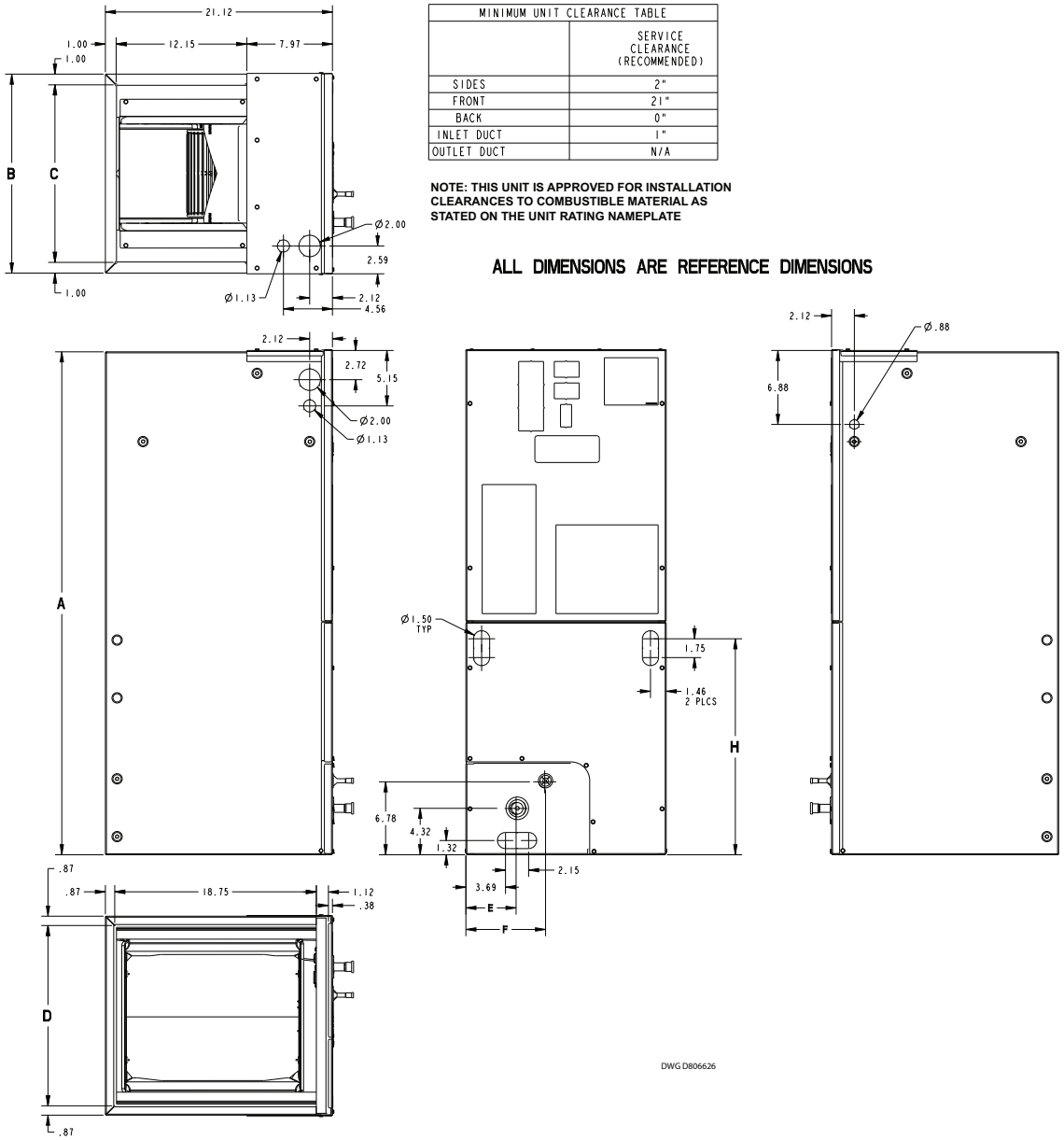


Note: *The TEM6 series air handler is designed for installation in a closet, utility room, alcove, basement, crawlspace or attic. These versatile units are applicable to air conditioning and heat pump applications. Several models are available to meet the specific requirements of the outdoor equipment. Field installed electric resistance heaters are available.*

March 2022

TEM6A0C60-SUB-1E-EN

Outline Drawing



MINIMUM UNIT CLEARANCE TABLE	
	SERVICE CLEARANCE (RECOMMENDED)
SIDES	2"
FRONT	21"
BACK	0"
INLET DUCT	1"
OUTLET DUCT	N/A

NOTE: THIS UNIT IS APPROVED FOR INSTALLATION CLEARANCES TO COMBUSTIBLE MATERIAL AS STATED ON THE UNIT RATING NAMEPLATE

ALL DIMENSIONS ARE REFERENCE DIMENSIONS

PRODUCT DIMENSIONS									
Air Handler Model	A	B	C	D	E	F	H	Flow Control	Gas Line Braze
TEM6B0C60H51SA	57.40	23.50	21.50	21.75	4.68	9.66	27.19	TXV	7/8
All dimensions are in inches									

Product Specifications

MODEL	TEM6B0C60H51SA
RATED VOLTS/PH/HZ	208-230/1/60
RATINGS[a]	See O.D. Specifications
INDOOR COIL — Type	Plate Fin
Rows — F.P.I.	3 - 16
Face Area (sq. ft.)	7.9
Tube Size (in.)	3/8
Refrigerant Control	TXV
Drain Conn. Size (in.)[b]	3/4 NPT
DUCT CONNECTIONS	See Outline Drawing
INDOOR FAN — Type	Centrifugal
Diameter-Width (In.)	11 X 11
No. Used	1
Drive - No. Speeds	Direct - 16
CFM vs. in. w.g.	See Fan Performance Table
No. Motors — H.P.	1 - 3/4
Motor Speed R.P.M.	Variable
Volts/Ph/Hz	208-230/1/60
F.L. Amps	6.8
FILTER	
Filter Furnished? [c]	No
REFRIGERANT	R-410A
Ref. Line Connections	Brazed
Coupling or Conn. Size — in. Gas	7/8
Coupling or Conn. Size — in. Liq.	3/8
DIMENSIONS	H x W x D
Crated (In.)	57-11/16 x 27-1/2 x 25-1/2
Uncrated	57-3/8 x 23-1/2 x 21-1/8
WEIGHT	
Shipping (Lbs.) / Net (Lbs.)	185/174

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

[b] 3/4" Male Plastic Pipe (Ref: ASTM 1785–76)

[c] Remote filter required.

Minimum Airflow CFM

TEM6A0C60H51SC		
Heater	**Minimum Heater Airflow CFM**	
	With Heat Pump	Without Heat Pump
BAYHTR1504BRK, BAYHTR1504LUG BAYHTR1505BRK, BAYHTR1505LUG	1200	975
BAYHTR1508BRK, BAYHTR1508LUG	1350	975
BAYHTR1510BRK, BAYHTR1510LUG	1350	975
BAYHTR1517BRK	1365	975
BAYHTR3510LUG	1300	975
BAYHTR3517LUG	1365	1120
BAYHTR1523BRK	1365	1300
BAYHTR1525BRK	1810	1505

TEM6A0C60H51SC Airflow Performance with Auxiliary Heat				
Airflow Settings	Dip Switch Settings		Nominal Airflow	See following tables for heater application: - Pressure Drop for Electrical Heaters - Minimum Heating Airflow Matrix (on unit nameplates)
	Switch 7	Switch 8		
Low	ON	ON	1000	
Med-Lo	OFF	ON	1130	
Med-Hi	ON	OFF	1354	
High	OFF	OFF	1596	

Heater Pressure Drop Table

Airflow CFM	Number of Racks					Heater Racks	
	1	2	3	4		Heater Model	No. of Racks
	Air Pressure Drop — Inches W.G.					BAYHTR1504	1
1800	0.02	0.04	0.06	0.14		BAYHTR1505	1
1700	0.02	0.04	0.06	0.14		BAYHTR1508	2
1600	0.02	0.04	0.06	0.13		BAYHTR1510	2
1500	0.02	0.04	0.06	0.12		BAYHTR1517	3
1400	0.02	0.04	0.06	0.12		BAYHTR3510	3
1300	0.02	0.04	0.05	0.11		BAYHTR3517	3
1200	0.01	0.04	0.05	0.10		BAYHTR1523	4
1100	0.01	0.03	0.05	0.09		BAYHTR1525	4
1000	0.01	0.03	0.04	0.09			
900	0.01	0.03	0.04	0.08			
800	0.01	0.03					
700	0.01	0.02					
600	0.01	0.02					

Subcooling Adjustment for TEM6A0C48H41 & TEM6B0C60H51

Sub-Cooling Charge Specification For AHRI Rated Performance		
OD Equipment	**Up Flow / Horizontal**	**Down Flow**
AC UNIT	OD Name Plate	OD Name Plate
HP UNIT ≤ 3.5 Tons	OD Name Plate	OD Name Plate + 4 Degrees
HP UNIT = 4 and 5 Tons	OD Name Plate	OD Name Plate

Performance and Electrical Data

Table 1. Air Flow Performance

TEM6A0C48H41SC, TEM6B0C60H51SA COOLING AIRFLOW PERFORMANCE, WET COIL, NO FILTER, NO HEATER												
OUTDOOR UNIT SIZE (TONS)	SPEED SETTING	AIRFLOW SETTING	DIP SWITCH SETTING				AIRFLOW POWER	EXTERNAL STATIC PRESSURE				
			SW1	SW2	SW3	SW4		0.1	0.3	0.5	0.7	0.9
3	LOW	324 CFM/ton	ON	ON	OFF	ON	CFM Watts	991 89	985 133	974 186	984 237	994 303
	NORMAL	368 CFM/ton	ON	ON	OFF	OFF	CFM Watts	1120 118	1119 167	1110 224	1116 279	1122 333
	HIGH	423 CFM/ton	ON	ON	ON	OFF	CFM Watts	1282 162	1286 219	1281 280	1280 343	1282 402
3.5	LOW	314 CFM/ton	OFF	ON	OFF	ON	CFM Watts	1116 117	1114 165	1105 222	1111 277	1117 331
	NORMAL	357 CFM/ton	OFF	ON	OFF	OFF	CFM Watts	1263 156	1266 212	1261 273	1261 334	1263 392
	HIGH	411 CFM/ton	OFF	ON	ON	OFF	CFM Watts	1449 218	1458 287	1456 352	1449 421	1447 496
4	LOW	298 CFM/ton	ON	OFF	OFF	ON	CFM Watts	1207 140	1208 193	1201 252	1203 311	1207 366
	NORMAL	339 CFM/ton	ON	OFF	OFF	OFF	CFM Watts	1368 190	1374 252	1370 315	1367 381	1367 448
	HIGH	389 CFM/ton	ON	OFF	ON	OFF	CFM Watts	1564 264	1577 343	1577 411	1567 484	1561 570
5	LOW	305 CFM/ton	OFF	OFF	OFF	ON	CFM Watts	1534 251	1545 328	1545 394	1536 467	1531 550
	NORMAL [a]	347 CFM/ton	OFF	OFF	OFF	OFF	CFM Watts	1740 344	1758 444	1762 518	1745 594	1734 684
	HIGH [b]	399 CFM/ton	OFF	OFF	ON	OFF	CFM Watts	1995 484	2022 629	2030 717	2005 783	1987 828

[a] Factory Default Setting

[b] Airflow must not exceed 1800 cfm in horizontal right, horizontal left, and downflow applications due to condensate blowoff. The 5 ton high tap shall not be used in these applications.

Table 2. Air Flow Performance

TEM6A0C48H41SC, TEM6B0C60H51SA HEATING AIRFLOW PERFORMANCE, NO FILTER, NO HEATER												
OUTDOOR UNIT SIZE (TONS)	SPEED SETTING	AIRFLOW SETTING	DIP SWITCH SETTING				AIRFLOW POWER	EXTERNAL STATIC PRESSURE				
			SW1	SW2	SW3	SW4		0.1	0.3	0.5	0.7	0.9
3	LOW	360 CFM/ton	ON	ON	OFF	ON	CFM Watts	1097 112	1094 160	1086 216	1092 271	1099 326
	NORMAL	400 CFM/ton	ON	ON	OFF	OFF	CFM Watts	1215 142	1216 196	1210 255	1211 314	1215 369
	HIGH	440 CFM/ton	ON	ON	ON	OFF	CFM Watts	1333 178	1338 238	1333 300	1331 365	1332 428
3.5	LOW	348 CFM/ton	OFF	ON	OFF	ON	CFM Watts	1232 147	1234 202	1228 261	1229 322	1233 377
	NORMAL	387 CFM/ton	OFF	ON	OFF	OFF	CFM Watts	1366 189	1373 252	1369 314	1366 381	1365 447
	HIGH	426 CFM/ton	OFF	ON	ON	OFF	CFM Watts	1500 238	1511 311	1510 377	1502 449	1498 529
4	LOW	338 CFM/ton	ON	OFF	OFF	ON	CFM Watts	1364 188	1370 251	1366 313	1363 379	1363 446
	NORMAL	375 CFM/ton	ON	OFF	OFF	OFF	CFM Watts	1509 241	1520 315	1519 382	1511 453	1506 535
	HIGH	413 CFM/ton	ON	OFF	ON	OFF	CFM Watts	1659 305	1674 395	1676 466	1662 541	1654 632
5	LOW	326 CFM/ton	OFF	OFF	OFF	ON	CFM Watts	1637 295	1652 383	1653 453	1641 528	1632 618
	NORMAL [a]	362 CFM/ton	OFF	OFF	OFF	OFF	CFM Watts	1814 381	1834 493	1839 570	1820 645	1807 730
	HIGH	398 CFM/ton	OFF	OFF	ON	OFF	CFM Watts	1990 481	2017 625	2025 713	2000 779	1982 826

[a] Factory Default Setting

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.*

Table 3. Electrical Data

TEM6A0C48H41SC, TEM6B0C60H51SA HEATER DATA											
Heater Model No.	No. of Circuits/ Phases	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			
No Heater				6.8 *	9	15			6.8 *	9	15
BAYHTR1504BRK BAYHTR1504LUG	1/1	3.84	13100	16.0	29	30	2.88	9800	13.8	26	30
BAYHTR1505BRK BAYHTR1505LUG	1/1	4.80	16400	20.0	34	35	3.60	12300	17.3	30	30
BAYHTR1508BRK BAYHTR1508LUG	1/1	7.68	26200	32.0	49	50	5.76	19700	27.7	43	45
BAYHTR1510BRK BAYHTR1510LUG	1/1	9.60	32800	40.0	59	60	7.20	24600	34.6	52	60
BAYHTR1517BRK Circuit 1 [a]	2/1	9.60	32800	40.0	59	60	7.20	24600	34.6	52	60
BAYHTR1517BRK Circuit 2		4.80	16400	20.0	25	25	3.60	12300	17.3	22	25
BAYHTR1523BRK Circuit 1 [a]	2/1	9.60	32800	40.0	59	60	7.20	24600	34.6	52	60
BAYHTR1523BRK Circuit 2		9.60	32800	40.0	50	50	7.20	24600	34.6	43	45
BAYHTR1525BRK Circuit 1 [a]	4/1	6.00	20500	25.0	40	40	4.50	15400	21.6	36	40
BAYHTR1525BRK Circuit 2		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR1525BRK Circuit 3		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR1525BRK Circuit 4		6.00	20500	25.0	31	35	4.50	15400	21.6	27	30
BAYHTR3510LUG	1/3	9.60	32800	23.1	36	40	7.20	24600	20.0	33	35
BAYHTR3517LUG	1/3	14.40	49100	34.6	51	60	10.80	36900	30.0	45	45
* = Motor Amps											

[a] MCA and MOP for circuit 1 contains the motor amps

Features and Benefits

- Painted metal cabinet with captured foil face insulation
- 2% or less air leakage
- R-4.2 Insulating Value
- Multi-Position UP/Down Flow, Horizontal Left /Right
- ALL Aluminum Coil
- Electric Heaters with polarized plug connections (sold as accessory)
- R-410A Thermal Expansion Valve
- Variable Speed ECM Motor
- Low Voltage Pigtail Connections
- Draw Through Design
- Horizontal Drain Pan
- Single Color
- Fused 24V Power
- **3 year warranty**
- **10-year warranty registered**
- **Optional extended warranty available**

About Trane and American Standard Heating and Air Conditioning

Trane and American Standard create comfortable, energy efficient indoor environments for residential applications. For more information, please visit www.trane.com or www.americanstandardair.com.

TEM6A0C60-SUB-1E-EN 09 Mar 2022
Supersedes TEM6A0C60-SUB-1D-EN (April 2020)