Unit Report For 48TCEM08A2A5-0A0A0_Submittal

Project: 1.0 RTU Submittals for Website - Page 1 11/20/2019
Prepared By: 03:39PM

Unit Parameters

Unit Model: **48TCEM08A2A5-0A0A0**
Unit Size: **08 (7.5 Tons)**
Volts-Phase-Hertz: **208-3-60**
Heating Type: **Gas**
Duct Cfg: **Vertical Supply / Vertical Return**
Medium Heat
Round Tube Plate Fin Coils

Dimensions (ft. in.) & Weight (lb.) ***

Unit Length: **7' 4.125"**
Unit Width: **4' 11.5"**
Unit Height: **3' 5.25"**
*** Total Operating Weight: **807** lb

*** Weights and Dimensions are approximate. Weight does not include unit packaging. Approximate dimensions are provided primarily for shipping purposes. For exact dimensions and weights, refer to appropriate product data catalog.

Lines and Filters

Gas Line Size: **3/4**
Condensate Drain Line Size: **3/4**
Return Air Filter Type: **Throwaway**
Return Air Filter Quantity: **4**
Return Air Filter Size: **16 x 20 x 2**

Unit Configuration

Medium Static Option (Belt Drive)
Al/Cu - Al/Cu
Base Electromechanical Controls
Standard Packaging

Warranty Information

1-Year parts(std.)
5-Year compressor parts(std.)
10-Year heat exchanger - Aluminized(std.)
15-Year heat exchanger - Stainless Steel(std.)

No optional warranties were selected.

NOTE: Please see Warranty Catalog 500-089 for explanation of policies and ordering methods.

Ordering Information

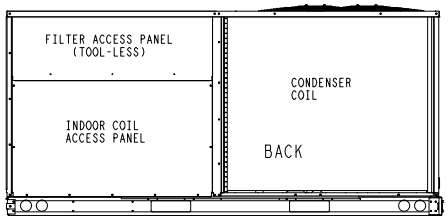
Part Number	Description	Quantity
48TCEM08A2A5-0A0A0	Rooftop Unit	1
	Base Unit	
	Medium Static Option (Belt Drive)	
	Electromechanical control, No intake or exhaust option.	
	No Electrical Option	

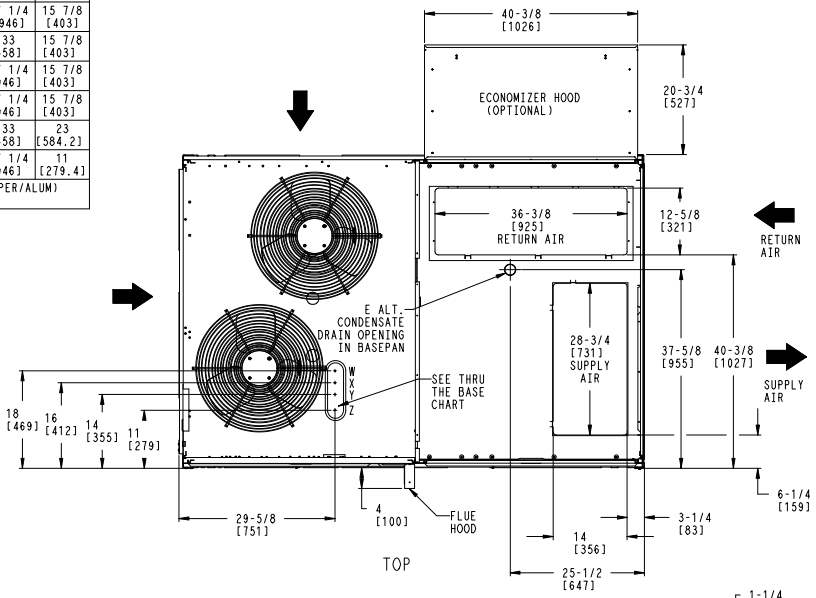
NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

UNIT	OUTDOOR COIL TYPE	J	K	H
48TC-A08	RTPF	41 1/4 [1048]	33 [658]	15 7/8 [403]
48TC-A09	RTPF	49 3/8 [1253]	37 1/4 [946]	27 7/8 [708]
48TC-A12	RTPF	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]
48TC-D08	RTPF	41 1/4 [1048]	33 [658]	15 7/8 [403]
48TC-D09	RTPF	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]
48TC-D12	RTPF	49 3/8 [1253]	37 1/4 [946]	15 7/8 [403]
48TC-D08	MCHX	41 1/4 [1048]	33 [658]	23 [584.2]
48TC-D12	MCHX	49 3/8 [1253]	37 1/4 [946]	11 [279.4]

RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)
MCHX - NOVATION (ALUM/ALUM)





	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION 3/4"-14 NPT GAS CONNECTION
G	2 " [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART (FIELD INST)

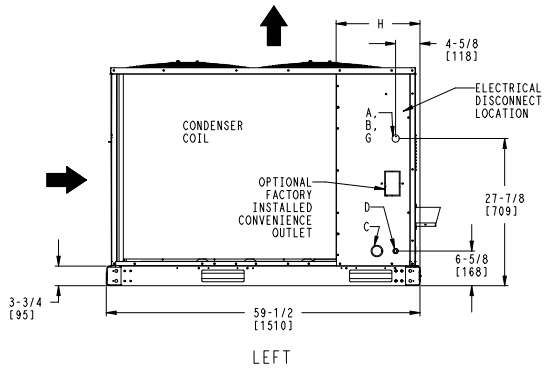
THESE HOLES REQUIRED FOR USE WITH ACCY KITS:
CRBTMPWR002A01: GAS THRU CURB
CRBTMPWR004A01: GAS THRU BASEPAN

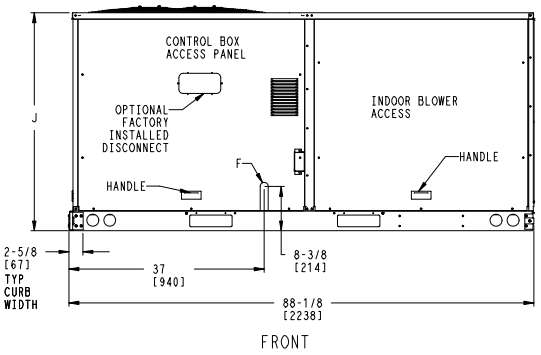
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z *	(004) 3/4" FPT	GAS	1 3/4" [44.4]
*	(002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING. HOLE SIZE: 2" [50.8]		

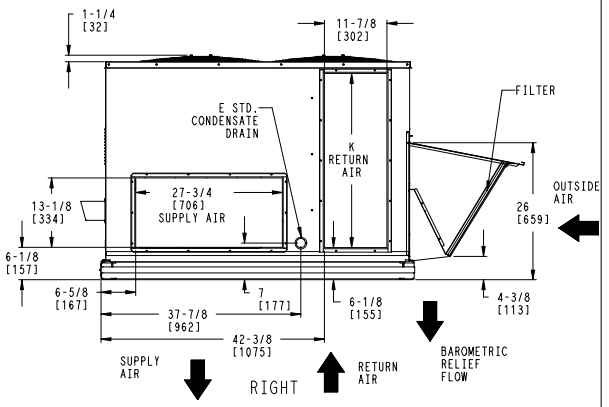
THRU-THE-BASE CHART (FIOP)

FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED. **

**	FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48HCD,S*08





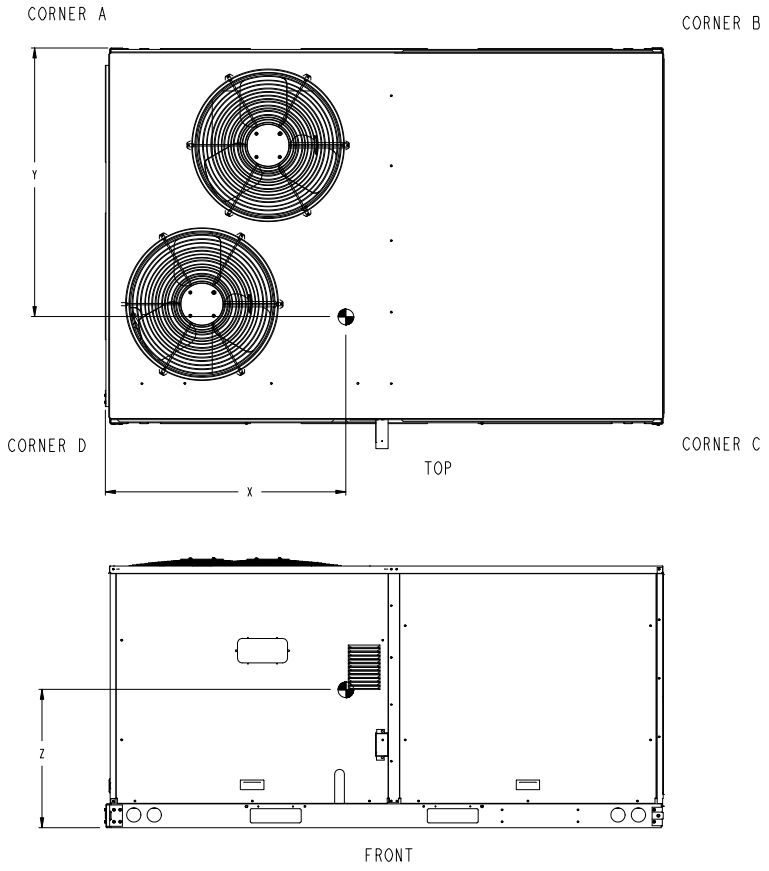


SHEET	DATE	SUPERCEDES			REV
1 OF 2	03-08-10	11-24-08	48TC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM500985	F

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT ***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48TC-A08	RTPF	780	354	178	81	158	72	209	95	236	107	41 1/2 [1054]	33 7/8 [860]	20 1/2 [521]
48TC-A09	RTPF	920	418	212	96	183	83	243	110	282	128	40 7/8 [1038]	34 [864]	23 1/8 [587]
48TC-A12	RTPF	930	422	216	98	196	89	247	112	272	123.5	42 [1067]	33 1/8 [841]	24 1/4 [616]
48TC-D08	RTPF	835	379	164	74.5	170	77.2	255	115.8	246	111.7	44 7/8 [1140]	35 5/8 [905]	19 3/8 [492]
48TC-D09	RTPF	930	422	228	103.5	187	85	232	105.3	283	128.5	39 3/4 [1010]	32 7/8 [835]	18 5/8 [473]
48TC-D12	RTPF	940	427	231	104.9	189	85.8	234	106.2	286	129.8	39 3/4 [1010]	33 [838]	18 1/2 [470]
48TC-D08	MCHX	805	365.5	160	72.6	153	69.5	240	109	260	118	43 [1092]	36 3/8 [924]	20 3/8 [517.7]
48TC-D12	MCHX	895	406.3	185	84	176	79.9	260	118	274	124.4	42 7/8 [1089]	35 1/2 [902]	22 7/8 [581]

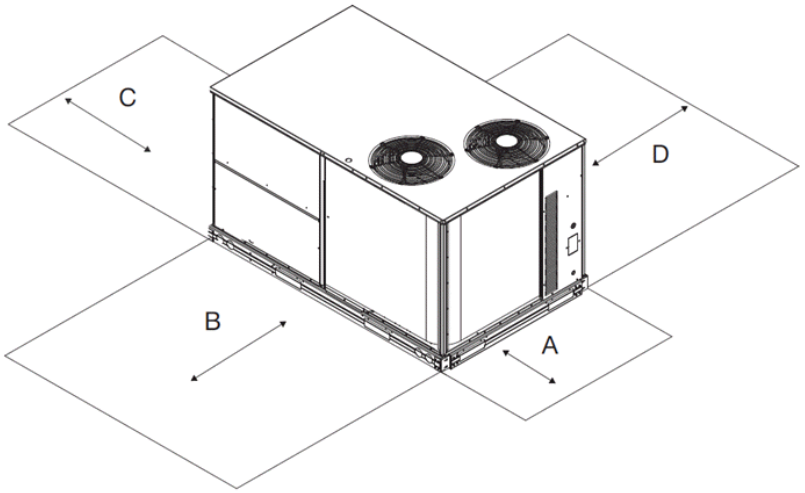
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)
MCHX - NOVATION (ALUM/ALUM)

*** STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



SHEET	DATE	SUPERCEDES			REV
2 OF 2	03-08-10	11-24-08	48TC 08-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM500985	F

Service Clearance



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LOCATION	DIMENSION	CONDITION
A	48-in (1219 mm)	• Unit disconnect is mounted on panel
	36-in (914 mm)	• If dimension-B is 12-in (305 mm)
	18-in (457 mm)	• No disconnect, convenience outlet option • Recommended service clearance (use electric screwdriver)
	12-in (305 mm)	• Minimum clearance (use manual ratchet screwdriver)
B	36-in (914 mm)	• Unit has economizer
	12-in (305 mm)	• If dimension-A is 36-in (914 mm)
	Special	• Check for sources of flue products within 10-ft of unit fresh air intake hood
C	36-in (914 mm)	• Side condensate drain is used
	18-in (457 mm)	• Minimum clearance
D	48-in (1219 mm)	• No flue discharge accessory installed, surface is combustible material
	42-in (1067 mm)	• Surface behind servicer is grounded (e.g., metal, masonry wall, another unit)
	36-in (914 mm)	• Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass)
	Special	• Check for adjacent units or building fresh air intakes within 10-ft of this unit's flue outlet

NOTE: Unit not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or vertical clearances.

Chassis 3-4a

Part Number:48TCEM08A2A5-0A0A0

ARI EER:	**11.00**	
IEER:	**12.7**	

Base Unit Dimensions

Unit Length:	**88.1**	in
Unit Width:	**59.5**	in
Unit Height:	**41.3**	in

Operating Weight

Base Unit Weight:	**777**	lb
Medium Heat:	**15**	lb
Medium Static Option (Belt Drive):	**15**	lb
Total Operating Weight:	**807**	lb

Unit

Unit Voltage-Phase-Hertz:	**208-3-60**	
Air Discharge:	**Vertical**	
Fan Drive Type:	**Belt**	
Actual Airflow:	**3000**	CFM
Site Altitude:	**0**	ft

Cooling Performance

Condenser Entering Air DB:	**95.0**	F
Evaporator Entering Air DB:	**80.0**	F
Evaporator Entering Air WB:	**67.0**	F
Entering Air Enthalpy:	**31.44**	BTU/lb
Evaporator Leaving Air DB:	**58.9**	F
Evaporator Leaving Air WB:	**57.0**	F
Evaporator Leaving Air Enthalpy:	**24.41**	BTU/lb
Gross Cooling Capacity:	**94.90**	MBH
Gross Sensible Capacity:	**68.42**	MBH
Compressor Power Input:	**6.73**	kW
Coil Bypass Factor:	**0.161**	

Heating Performance

Heating Airflow:	**3000**	CFM
Entering Air Temp:	**70.0**	F
Leaving Air Temp:	**115.7**	F
Gas Heating Input Capacity:	**120.0 / 180.0**	MBH
Gas Heating Output Capacity:	**98.0 / 148.0**	MBH
Temperature Rise:	**45.7**	F
Thermal Efficiency (%):	**82.0**	

Supply Fan

External Static Pressure:	**0.50**	in wg
Fan RPM:	**731**	
Fan Power:	**1.49**	BHP
NOTE:	**The Selected Indoor Fan Motor requires a Field-Supplied Drive (RPM Range: 733 - 949).**	

Electrical Data

Voltage Range:	**187 - 253**
Compressor #1 RLA:	**26.8**
Compressor #1 LRA:	**164**
Indoor Fan Motor Type:	**MED**
Indoor Fan Motor FLA:	**8.4**
Combustion Fan Motor FLA (ea):	**0.48**
Power Supply MCA:	**45**
Power Supply MOCP (Fuse or HACR):	**60**

Disconnect Size FLA: **44**
Disconnect Size LRA: **244**
Electrical Convenience Outlet: **None**
Outdoor Fan [Qty / FLA (ea)]: **2 / 1.5**

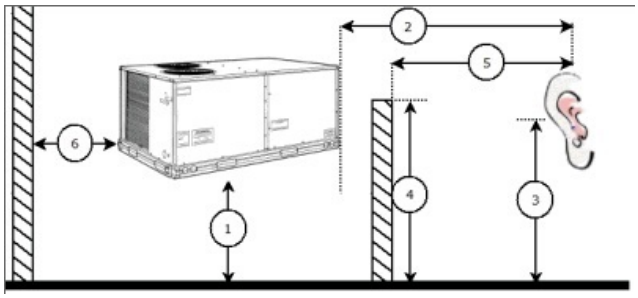
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	97.9	94.9	90.1
125 Hz	91.1	85.6	82.6
250 Hz	77.5	72.2	81.0
500 Hz	70.4	65.9	79.4
1000 Hz	66.5	62.8	77.0
2000 Hz	65.0	57.9	73.0
4000 Hz	66.5	57.1	70.4
8000 Hz	68.4	56.9	66.7
A-Weighted	79.0	73.8	82.0

Advanced Acoustics



Advanced Accoustics Parameters

1. Unit height above ground: **30.0** ft
2. Horizontal distance from unit to receiver: **50.0** ft
3. Receiver height above ground: **5.7** ft
4. Height of obstruction: **0.0** ft
5. Horizontal distance from obstruction to receiver: **0.0** ft
6. Horizontal distance from unit to obstruction: **0.0** ft

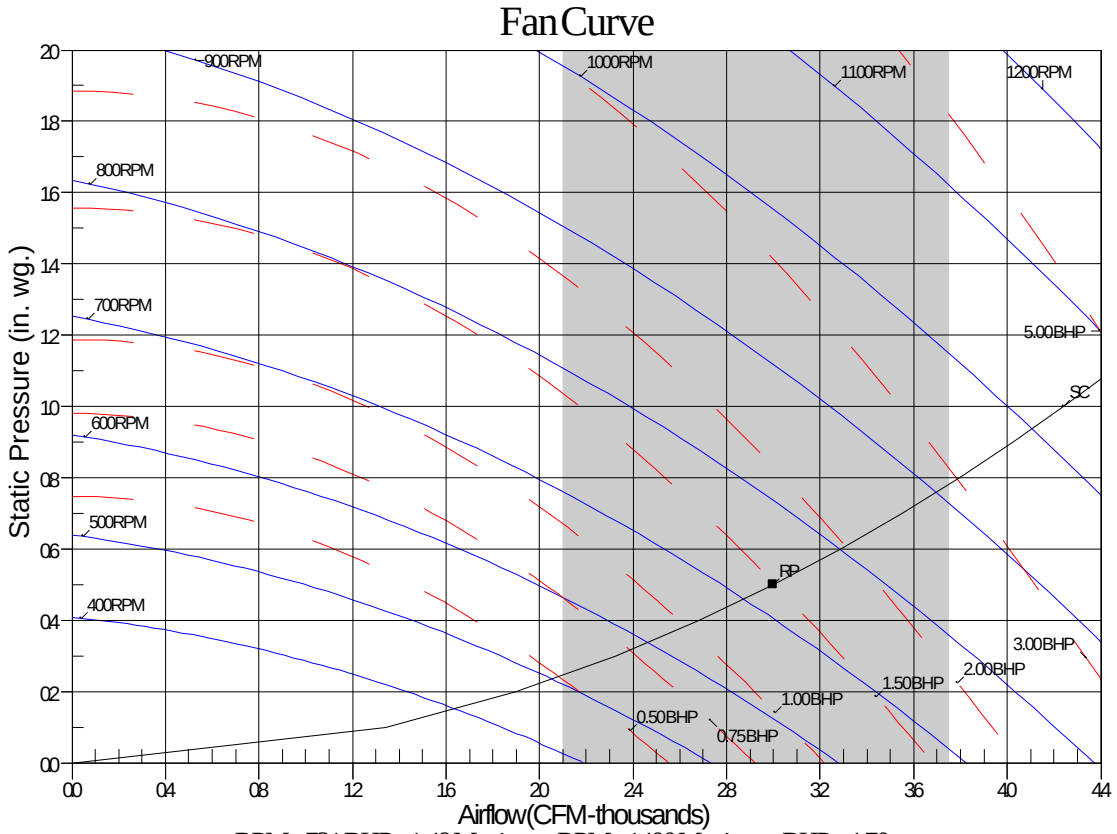
Detailed Acoustics Information

Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7	91.8 Lw
B	63.9	66.5	72.4	76.2	77.0	74.2	71.4	65.6	82.0 LwA
C	57.7	50.2	48.6	47.0	44.6	40.6	38.0	34.3	59.4 Lp
D	31.5	34.1	40.0	43.8	44.6	41.8	39.0	33.2	49.6 LpA

Legend
A Sound Power Levels at Unit's Acoustic Center, Lw
B A-Weighted Sound Power Levels at Unit's Acoustic Center, LwA
C Sound Pressure Levels at Specific Distance from Unit, Lp

D A-Weighted Sound Pressure Levels at Specific Distance from Unit, LpA

Calculation methods used in this program are patterned after the ASHRAE Guide; other ASHRAE Publications and the AHRI Acoustical Standards. While a very significant effort has been made to insure the technical accuracy of this program, it is assumed that the user is knowledgeable in the art of system sound estimation and is aware of the tolerances involved in real world acoustical estimation. This program makes certain assumptions as to the dominant sound sources and sound paths which may not always be appropriate to the real system being estimated. Because of this, no assurances can be offered that this software will always generate an accurate sound prediction from user supplied input data. If in doubt about the estimation of expected sound levels in a space, an Acoustical Engineer or a person with sound prediction expertise should be consulted.



RPM=731 BHP=1.49 Maximum RPM=1400 Maximum BHP=4.70
Note: Please contact application engineering for selections outside the shaded region.
SC-System Curve RP-Rated Point