

APPROVED

By guy at 12:06 pm, Jul 10, 2015



SUBMITTAL *FOR APPROVAL*****

TAG: RTU-2B 3B 4B 5B 6B 7B 1E

MODEL: QTY. (7) 48TCED14A3A5-0B0A0

PACKAGED GAS/ELECTRIC ROOF TOP UNITS

Project

66 Orland Square Dr. Landlord Renovations

Location

Orland Park, IL

Contractor

Classic Air, Inc.

Engineer

Cartland Kraus

Date

June 22, 2015

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Prepared By:

06/22/2015
12:07PM

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RTU-2B 3B 4B 5B 6B 7B 1E

**Tag Cover Sheet
Unit Report
Certified Drawing
Performance Report**

Unit Report For RTU-2B 3B 4B 5B 6B 7B 1E

Project: 66 Orland Square Dr. Landlord Renovations
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Unit Parameters

Unit Model:..... **48TCED14A3A5-0B0A0**
 Unit Size:..... **14 (12.5 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:..... **4' 1.375"**
 *** Total Operating Weight:..... **1417** 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:..... **20 x 20 x 2**

Unit Configuration

High Static Option (Belt Drive)
 Al/Cu - Al/Cu
 Base Electromechanical Controls
 Temperature Economizer w/ Barometric Relief
 Standard Packaging

Warranty Information

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

No optional warranties were selected.

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

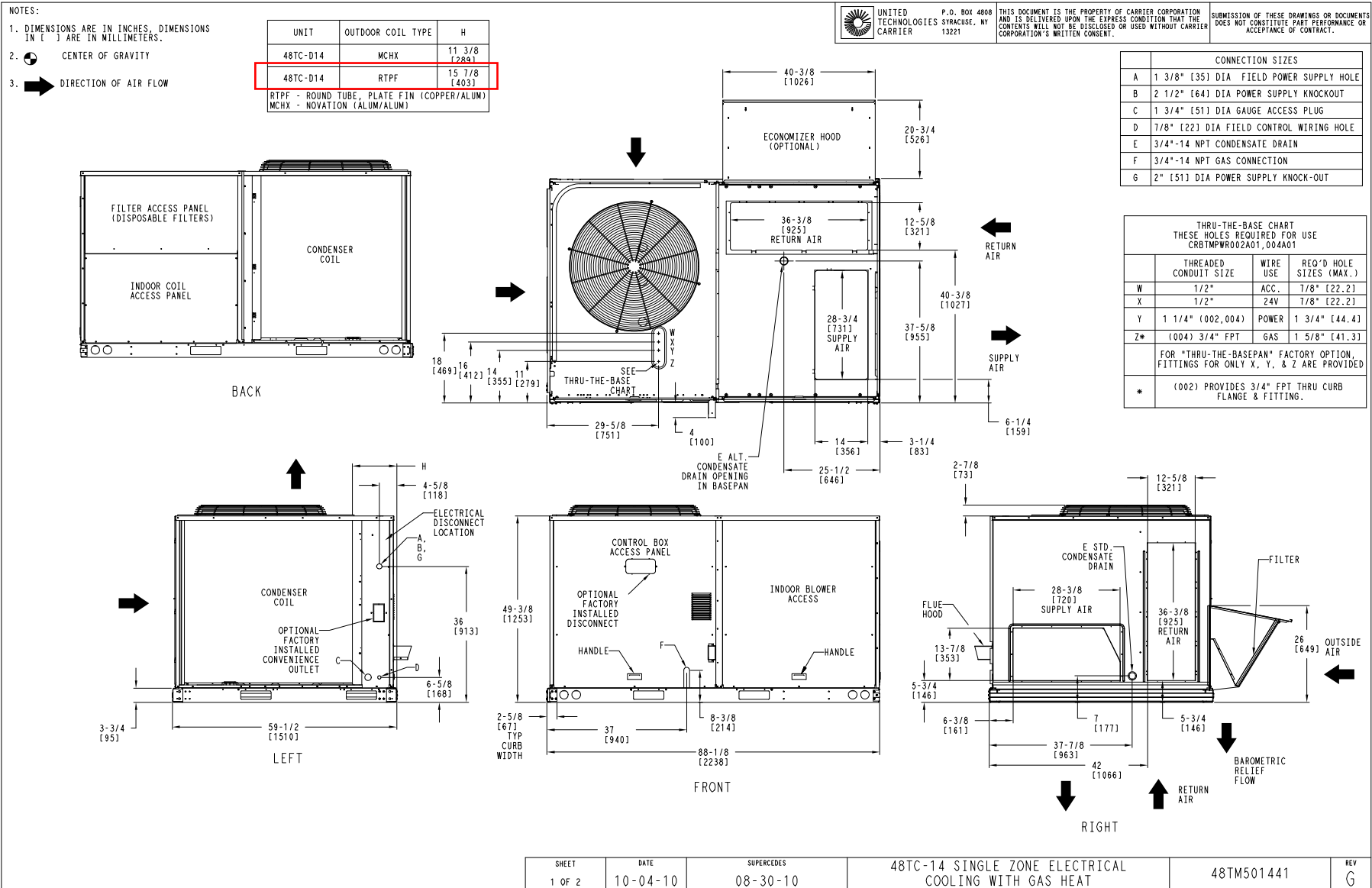
Ordering Information

Part Number	Description	Quantity
48TCED14A3A5-0B0A0	Rooftop Unit	7
	Base Unit	
	High Static Option (Belt Drive)	
	Std leak Temp Econo IV with baro relief and W7212 control	
	None	
Accessories		
CRRFCURB003A01	14-inch Tall Roof Curb	7
VST2800	Venstar Commercial Programmable Thermostat	7

Certified Drawing for RTU-2B 3B 4B 5B 6B 7B 1E

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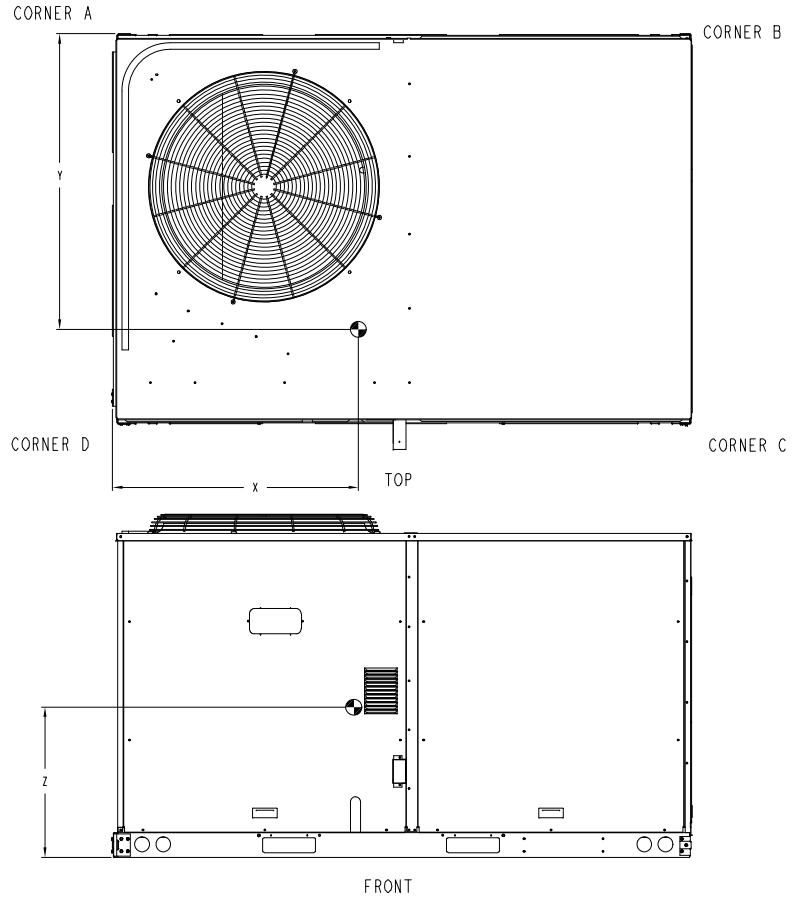
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UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.					
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z			
48TC-D14	MCHX	1116	506	297	135	157	71	229	104	434	197	29 1/2	749	34 1/4	870	20 1/4	514
48TC-D14	RTPF	1167	530	349	159	167	76	211	96	440	200	31 3/8	797	34 3/4	883	21 7/8	556

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

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



SHEET 2 OF 2	DATE 10-04-10	SUPERCEDES 08-30-10	48TC-14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM501441	REV G
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Certified Drawing for RTU-2B 3B 4B 5B 6B 7B 1E

Project: 66 Orland Square Dr. Landlord Renovations
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Certified Drawing for RTU-2B 3B 4B 5B 6B 7B 1E

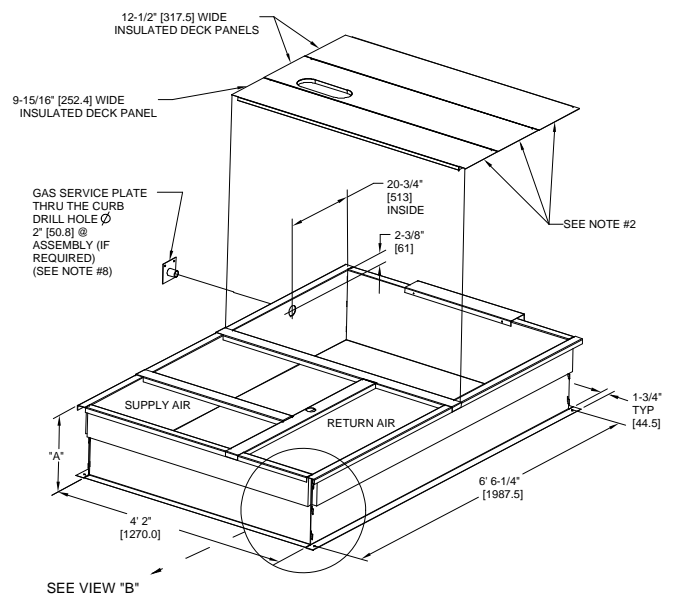
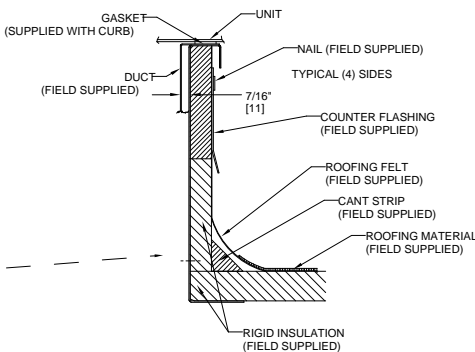
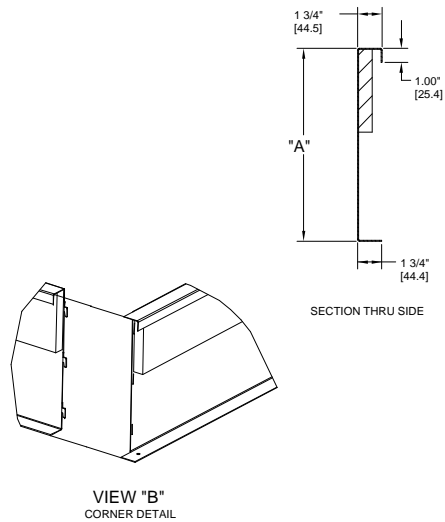
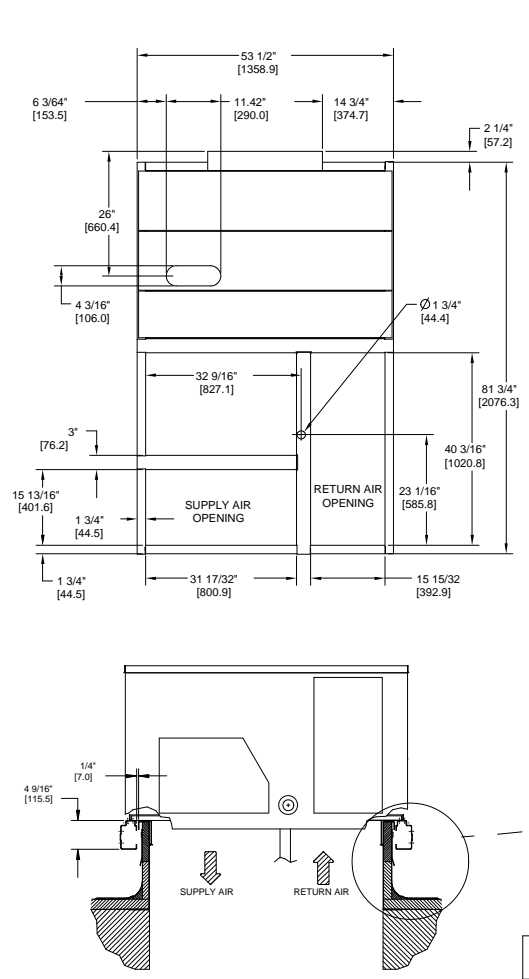
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ROOF CURB ACCESSORY #	A
CRRFCURB003A01	14" [356]
CRRFCURB004A01	24" [610]

- NOTES:
 1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
 2. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4] # DENSITY.
 3. DIMENSIONS IN [] ARE IN MILLIMETERS.
 4. ROOFCURB: 18 GAGE STEEL.
 5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
 6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
 7. DIRECTION OF AIR FLOW.
 8. CONNECTOR PACKAGE CRBTMPWR002A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE CRBTMPWR004A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRBTMPWR002A01	THRU THE CURB	3/4" [19] NPT	1 1/4" [31.7] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR004A01	THRU THE BOTTOM				



CERTIFIED DRAWING

C	6' 61/4" WAS 6' 7 1/8", 4' 2" WAS 4' 2 13/16", 18 GA WAS 18 GA., 15 13/16" WAS 15 15/16", NAIL FIELD SUPPLIED WAS WITH CURB	4/22/13	MMC	-	-	1067898
REV	REVISION RECORD	DATE	BY	CHKD	APP'D	ECN NO.

DRAWING RELEASE LEVEL: PRODUCTION		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		TOLERANCES ON:	
THIRD ANGLE PROJECTION		1 DEC	2 DEC	3 DEC	ANG
MATERIAL		±	±	±	±
ENGINEERING REQUIREMENTS	T-005, Y-002	AUTHORIZATION NUMBER			
WEIGHT		1029120			
SURFACE FINISH	MFG/PURCH	ENGINEERING	MANUFACTURING	SIZE	DRAWING NUMBER
	PURCH	MMC	12/16/09	D	50HJ405012
		MODEL (INTERNAL USE ONLY)		SCALE	DISTRIBUTION
				N/A	-
		TITLE		REV	
		CURB ASY, ROOF		C	
		SHEET 5 OF 5			

Performance Summary For RTU-2B 3B 4B 5B 6B 7B 1E

Project: 66 Orland Square Dr. Landlord Renovations
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Part Number:48TCED14A3A5-0B0A0

ARI EER: 10.80
IEER: 11.0

Base Unit Dimensions

Unit Length: 88.1 in
Unit Width: 59.5 in
Unit Height: 49.4 in

Operating Weight

Base Unit Weight: 1167 lb
Medium Heat: 18 lb
High Static Option (Belt Drive): 15 lb
Temperature Economizer w/ Barometric Relief: 74 lb

Accessories

14-inch Tall Roof Curb: 143 lb

Total Operating Weight: 1417 lb

Unit

Unit Voltage-Phase-Hertz: 208-3-60
Air Discharge: Vertical
Fan Drive Type: Belt
Actual Airflow: 5000 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: 60.5 F
Evaporator Leaving Air WB: 57.7 F
Evaporator Leaving Air Enthalpy: 24.83 BTU/lb
Gross Cooling Capacity: 148.67 MBH
Gross Sensible Capacity: 105.37 MBH
Compressor Power Input: 10.20 kW
Coil Bypass Factor: 0.254

Heating Performance

Heating Airflow: 5000 CFM
Entering Air Temp: 60.0 F
Leaving Air Temp: 94.1 F
Gas Heating Input Capacity: 180.0 / 224.0 MBH
Gas Heating Output Capacity: 147.0 / 184.0 MBH
Temperature Rise: 34.1 F

Supply Fan

External Static Pressure: 0.92 in wg
Options / Accessories Static Pressure
Economizer: 0.32 in wg
Total Application Static (ESP + Unit Opts/Acc.): 1.24 in wg
Fan RPM: 1176
Fan Power: 4.70 BHP
NOTE: Selected IFM RPM Range: 1022 - 1240

Electrical Data

Voltage Range: 187 - 253
Compressor #1 RLA: 19
Compressor #1 LRA: 123

Performance Summary For RTU-2B 3B 4B 5B 6B 7B 1E

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Compressor #2 RLA:	22.4
Compressor #2 LRA:	149
Indoor Fan Motor Type:	HIGH
Indoor Fan Motor FLA:	13.6
Combustion Fan Motor FLA (ea):	0.48
Power Supply MCA:	67
Power Supply MOCP (Fuse or HACR):	80
Disconnect Size FLA:	70
Disconnect Size LRA:	392
Electrical Convenience Outlet:	None
Outdoor Fan [Qty / FLA (ea)]:	1 / 6.2

Electrical Data (Units produced on or after 02/16/2015)

Compressor #1 RLA:	19.6
Compressor #1 LRA:	136
Compressor #2 RLA:	22.4
Compressor #2 LRA:	149
Power Supply MCA:	68
Power Supply MOCP (Fuse or HACR):	80
Disconnect Size FLA:	71
Disconnect Size LRA:	405

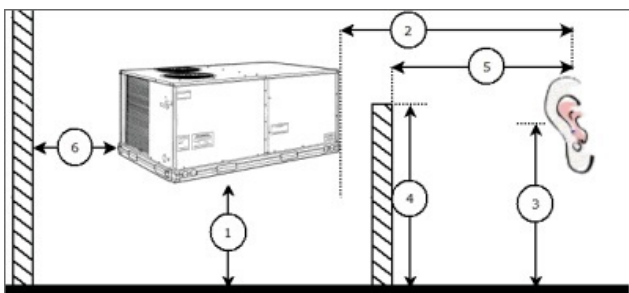
Control Panel SCCR: 5kA RMS at Rated Symmetrical Voltage

Acoustics

Sound Power Levels, db re 10E-12 Watts

	Discharge	Inlet	Outdoor
63 Hz	98.9	95.4	87.0
125 Hz	96.7	90.1	85.2
250 Hz	85.3	75.8	84.6
500 Hz	79.3	71.3	84.9
1000 Hz	76.4	69.7	82.2
2000 Hz	73.2	65.7	78.4
4000 Hz	76.8	66.4	75.3
8000 Hz	79.2	63.5	72.9
A-Weighted	86.2	78.2	87.0

Advanced Acoustics



Advanced Acoustics 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

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6. Horizontal distance from unit to obstruction:**0.0** ft

Detailed Acoustics Information

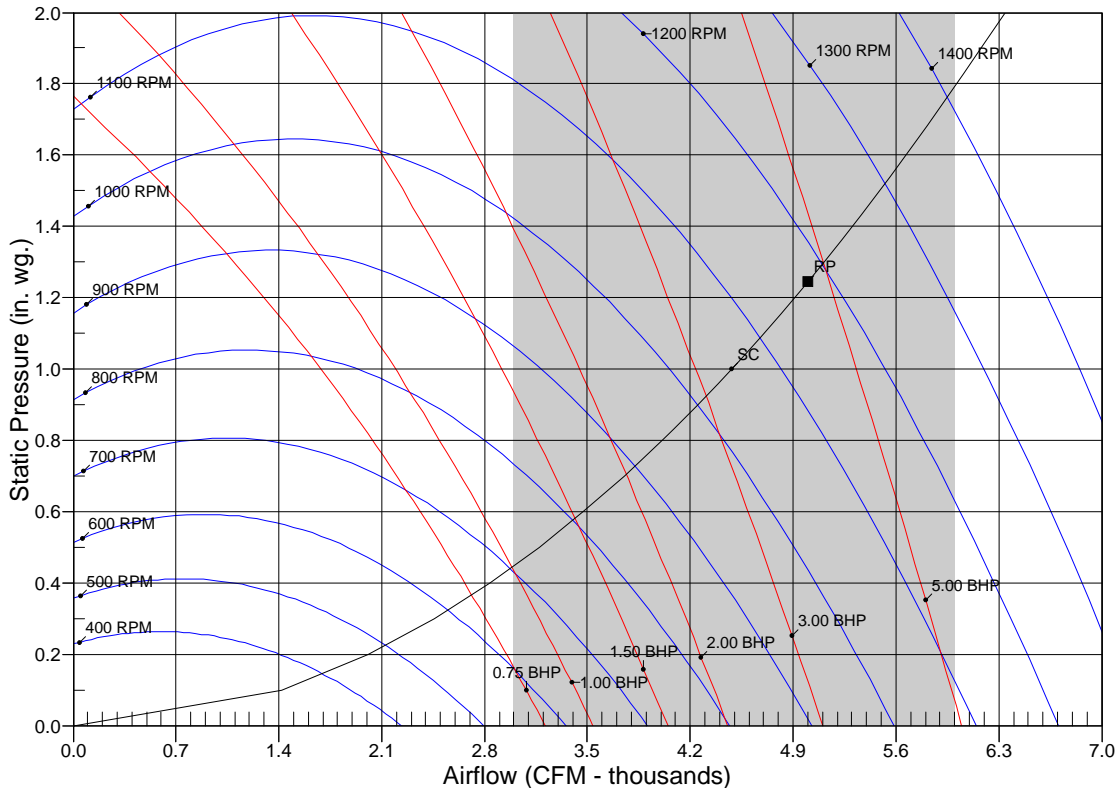
Octave Band Center Freq. Hz	63	125	250	500	1k	2k	4k	8k	Overall
A	87.0	85.2	84.6	84.9	82.2	78.4	75.3	72.9	92.4 Lw
B	60.8	69.1	76.0	81.7	82.2	79.6	76.3	71.8	87.1 LwA
C	54.6	52.8	52.2	52.5	49.8	46.0	42.9	40.5	60.0 Lp
D	28.4	36.7	43.6	49.3	49.8	47.2	43.9	39.4	54.7 LpA

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

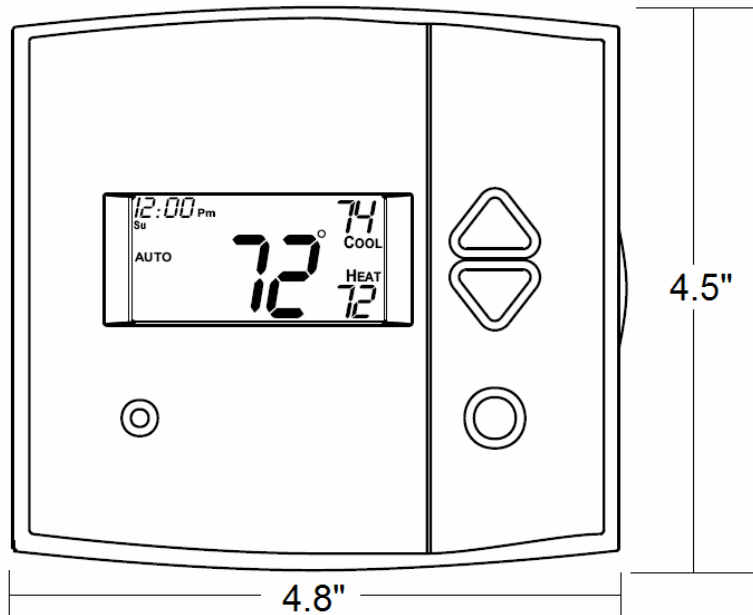
Calculation methods used in this program are patterned after the ASHRAE Guide; other ASHRAE Publications and the AHRI Acoustical Standards. While a very significant effort has been made to insure the technical accuracy of this program, it is assumed that the user is knowledgeable in the art of system 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.

Fan Curve



RPM = 1176 BHP = 4.70 Maximum RPM = 1130 Maximum BHP = 4.70
 Note: Please contact application engineering for selections outside the shaded region.
 SC - System Curve RP - Rated Point

Venstar Programmable Thermostat T2800



STANDARD FEATURES:

- Up to 3-Occupied, 1-Unoccupied periods per day, with copy command for easy programming
- Accepts humidification/dehumidification control module (Venstar part number ACC0430)
- Auto changeover, 3-stage heat, 2-stage cool for use with gas/electric, heat pump, electric & hydronic heat
- Configurable for manual changeover, also configurable programmable or non-programmable
- Adjustable deadbands and timers
- 3 configurable outputs for maximum flexibility (MISC1, MISC2, MISC3)
- Extra 6th and 7th outputs (beyond our standard thermostat)
- Smart Fan (keeps the fan from running during unoccupied periods)
- Smart recovery
- Display shows both heating an cooling setpoints and room temperature simultaneously
- All programming and setpoints stored in non-volatile memory, and are never lost in power failure
- Service filter and service UV lamp indicators
- Red/Green LED shows whether thermostat is calling for heating or cooling
- 5-minute compressor time guard and adjustable cycle limit, both defeatable for servicing equipment
- Outdoor sensor ready with high and low temperature of the day
- Thermoglow backlit electro-luminous display and backlit color coded keys and legends
- Accepts accessory IR Remote Control system (Venstar part number ACC0431)
- Accepts accessory EZ Programmer (Venstar part number ACC0432)
- For accessory locking cover use (Venstar part number ACC0620)

MODEL:	T2800	QUANTITY:		DATE:		
JOB NAME:						
LOCATION:						
BUYER:				BUYER P.O.#:		
ENGINEER:						