



- ☒ NO EXCEPTIONS TAKEN
- ☐ MAKE CORRECTIONS NOTED
- ☐ AMEND & RE-SUBMIT

- ☐ SUBMIT SPECIFIED ITEM
- ☐ REJECTED-SEE REMARKS
- ☐ SEE COMMENTS BELOW

CHECKING IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE, FABRICATION PROCESSES AND TECHNIQUES OF CONSTRUCTION, COORDINATION OF THE WORK WITH THAT OF OTHER TRADES AND THE SATISFACTORY PERFORMANCE OF THE WORK.

Stephen P. Doel
SIGNATURE

8/15/13
REVIEW DATE

Project: Marriott Hotel - Portland, Maine

Submittal: Vertical Pool Unit

Comments: NONE



Dehumidifier Unit Schedule



7/31/2013

Job Information					
Job Name	Marriott Hotel Portland (Portland, ME)				
Description	PDH-1	Room Volume	11,718	ft ³	
Model Number	DSV-040 (Conventional)	Cabinet Size	040		
Nomenclature	DSV040ZAZX53837Q3622ZRZXZZZ185				

Supply Fan(s)										
Blower Model		CFM	Type	Pole	Motor Type	Nom. HP	Act. BHP	FLA	VFD	VFD Amp.
ANPA16 -		3,800	PL SWSI	4	ODP	3.00	2.29	8.30	ESV222	10.80
						89.50	% Eff			
Unit Supply										
Air Changes					E.S.P					
Per Unit	Total	CFM			SA	RA	Total			
19.50	19.50	3,800			1.00	0.25	1.25			

ASHRAE Recommends 4 to 8 air changes.

Exhaust Fan #1 (Minimum Exhaust)						
Total CFM	Mounting Location	E.S.P			OA CFM	
686	Remote*	EA	RA	Total		
		0.00	0.00	0.00	624	

* = Remote Fan By Others. OA must be preheated to 35°F during normal mode.

Return Air Filtration Package		
Description	Dimensions	Quantity
2" MERV-8 Extended Surface, Pleated Filter with Antimicrobial	20" x 12" x 2"	2
	20" x 16" x 2"	2

Outdoor Air Filters		
Description	Dimensions	Quantity
Standard 2" MERV-2 permanent washable and reusable	12" x 20"	2

Compressor(s)						
Refrigerant	R-410A	# of Compressor	1	Stages	1	# of Independent Refrigerant Circuits
Compressor Number	LRA	RLA	kW	Capacity (btu/h)	Compressor Type	
Compressor #1	195	29.5	6.7	104,100	scroll	



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Refrigerant Coil Data			
Space Temperature (°F)	82.0		
Full Reheat Coil Capacity (btu/h)	122,876		
	Minimum RH	Maximum RH	Selected RH
Relative Humidity (%RH)	50	55	50
Moisture Removal Capacity (lb/h)	36.82	43.51	36.82
Evaporator Coil Sensible Capacity (btu/h)	67,250	62,815	67,250
Net Sensible Capacity Including Outside Air Load (btu/h)	58,037	53,602	58,037
Net Sensible Capacity Not Including Outside Air Load (btu/h)	60,733	56,298	60,733

Net sensible capacity with compressor vestibule

Pool Water Heater Condenser / Unit Mounted							
Heater	Type	Capacity (btu/h)	GPM	Connection Information(s)		Max PD	
		Per Unit		Type	Size	PSIG	FT
#1	CuNi Coax.	69,120	9.50	Rubber-Hose Connections	1 1/4	6.00	13.86

Pool Water Auxiliary Heater			
Auxiliary	Type	Capacity (btu/h)	Location
		Per Unit	
#1		0	Remote By Others

Leaving Air Temperatures (Not Including Outside Air)			
Dehumidification Mode (°F)	97.4	Air Conditioning Mode (°F)	67.5
Pool Water Heating Mode (°F)	82.0	Recirculation Mode (°F)	83.9

Electrical Data	
	Unit Rating
MCA (Amps)	48
MOP (Amps)	70
Nominal unit kW	9
EER (Energy Efficiency Ratio)	12.14
Voltage	208
Phase	3
Hertz	60



Dehumidifier Unit Schedule



7/31/2013

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Nomenclature	DSV040ZAZX53837Q3622ZRZXZZZ185								

Air Cooled Condenser #1 (Stage #1)									
Model	CVA-008H-5-AMC								
Location	Remote (Split)								
Tag									
Air Flow	Vertical								
Ambient Temp.	95	°F	Voltage	208/3/60					
Condensing Temp	120	°F	Power per Motor	1.2 / 0.63 kW					
TD	25	°F	FLA per Motor	5.30					
Condenser Capacity	177,600	Btu/hr	RPM per Motor	770 / 540		rpm			
Fan Arrangement	1 x 1		Total MCA	7.00					
Total Condenser Weight	250.00	lbs	Total Fuse/MOP	15					
			Refrigerant Type	R-410A					
Control Panel									
Control Panel Voltage									
Control Panel Options	No Disconnect								

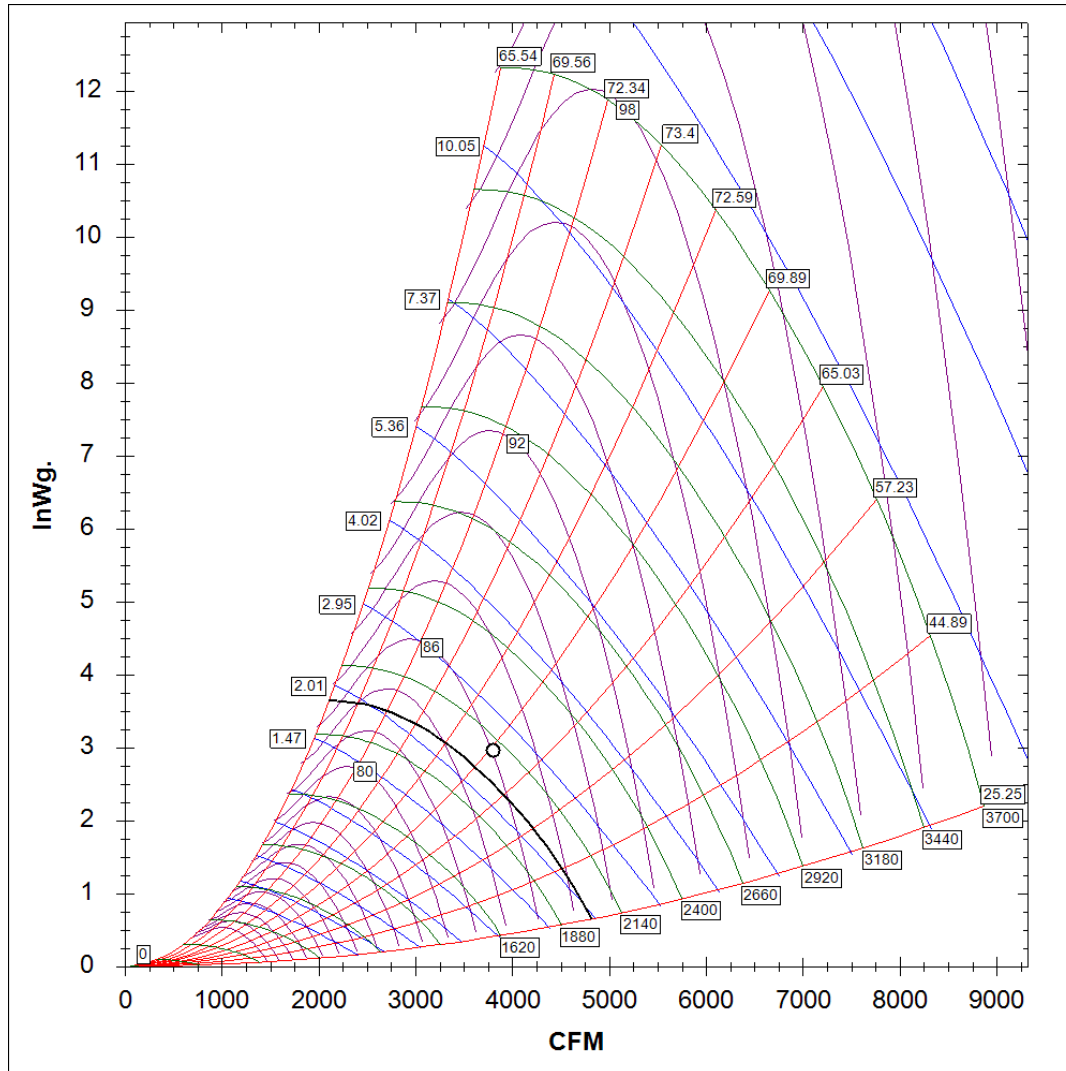
Dry-O-Tron refrigerant circuits capacity, charge and line sizes summary :									
Circuits Number	Capacity (btu/hr)	Factory	Field	System	Distance	Liquid Riser	Gas Riser	Liquid	Hot Gas
Circuit #1 THR	122,876	26.13	36.16	62.28	50	0	0	5/8"	7/8"
Total THR	122,876								

Line Sizes must be same size as UNIT Connections and will be size adjusted at the point of connection to the Outdoor Air Cooled Condenser
 +/- 10% Refer to unit nameplate for confirmation.



Specification

Manufacturer	COMEFRI	Moment of inertia lb/ft ²	9.97
Model	ANPA16 -	CFM	3,800
Description	Supply Fan #1	Total Pressure (In.W.G)	2.96
Working RPM	2,009	Static Pressure (In.W.G)	2.50
Max Shaft Power (HP)	14.08	Total Efficiency (%)	0.00
Fan Power (HP)	2.29	Static Efficiency (%)	65.28



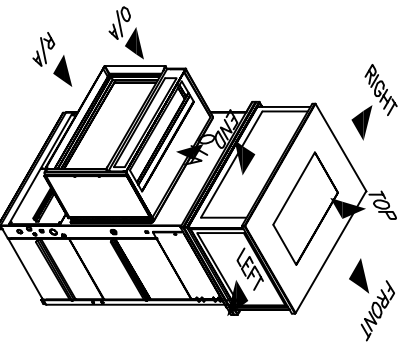
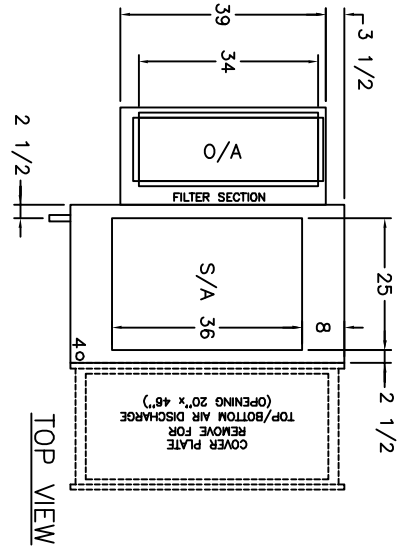
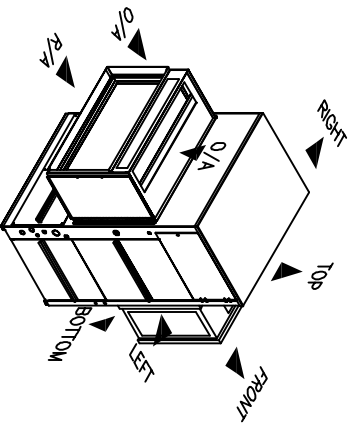
Sound Data - Total Sound Power Level outside the termination of the outlet duct

Lw6d	Hertz	63	125	250	500	1,000	2,000	4,000	8,000	Total
	Decibel	82	82	86	81	81	78	76	74	90
Lw6dA	Hertz	63	125	250	500	1,000	2,000	4,000	8,000	Total
	Decibel	55	65	77	77	81	79	77	72	86

Legend

Efficiency (%) :	65.54 , 69.56 , 72.34 , 73.4 , 72.59 , 69.89 , 65.03 , 57.23 , 44.89 , 25.25 , 0
Sound (dB) :	60 , 62 , 64 , 66 , 68 , 70 , 72 , 74 , 76 , 78 , 80 , 82 , 84 , 86 , 88 , 90 , 92 , 94 , 96 , 98 , 100 , 102 , 104 , 106 , 108 , 110 , 112 , 114 , 116 , 118 , 120 , 122
Power (HP) :	0.24 , 0.34 , 0.5 , 0.74 , 1.01 , 1.47 , 2.01 , 2.95 , 4.02 , 5.36 , 7.37 , 10.05 , 14.75 , 20.11 , 24.8 , 29.49 , 40.21 , 49.6 , 60.32 , 73.73 , 100.54 , 120.64 , 147.45 , 176.94 , 214.48 , 268.1 , 335.12
RPM :	60 , 320 , 580 , 840 , 1100 , 1360 , 1620 , 1880 , 2140 , 2400 , 2660 , 2920 , 3180 , 3440 , 3700
Working Curve :	○ Working Point

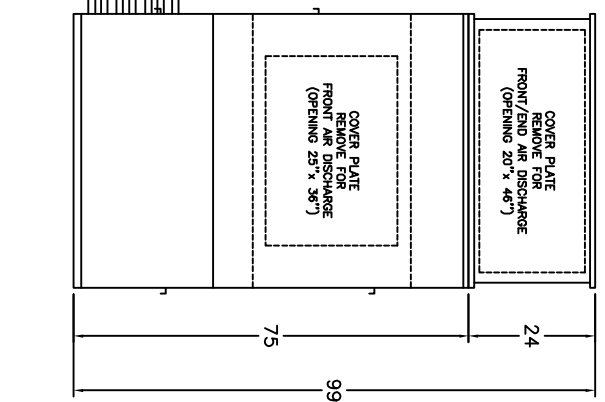
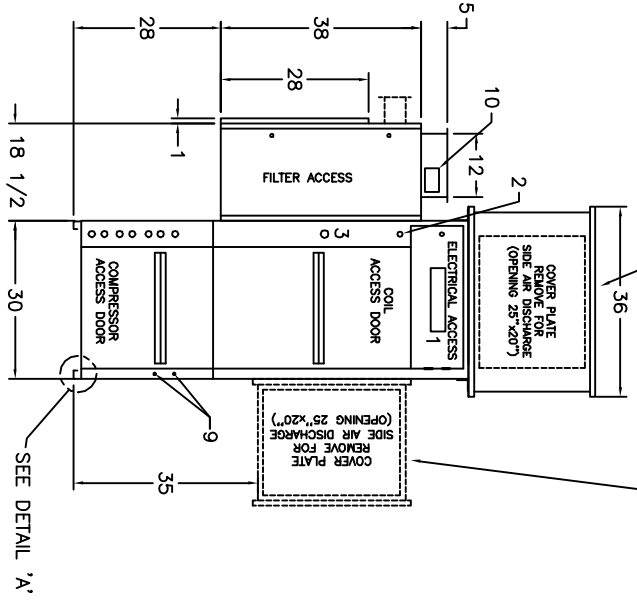
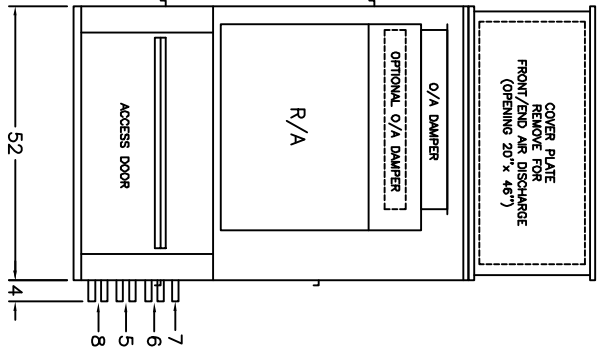
OPTIONAL OUTDOOR AIR	✓	SUPPLY AIR ORIENTATION	TOP MOUNTED PLENUM	FRONT MOUNTED PLENUM	PIPE CONNECTIONS		
NONE (COVERED)		TOP DISCHARGE			OPTION	BOTTOM	(FACING FRONT VIEW) LEFT RIGHT
MANUAL DAMPER		RIGHT DISCHARGE			DRAIN		
MOTORIZED DAMPER		BOTTOM DISCHARGE			POOL WATER		
TOP O/A INTAKE (STD)		LEFT DISCHARGE			SECOND POOL WATER		
END O/A INTAKE (OPTIONAL)		END DISCHARGE			AIR COOLED A/C		
OPTIONAL AIR CONDITIONING		FRONT DISCHARGE			WATER COOLED A/C		
AIR COOLED		OPTIONAL HEATING		✓	HOT WATER COIL		
WATER COOLED		ELECTRIC (MOUNTED INTERIOR OF UNIT)		* (b)	UNIT WEIGHT: 1600 lbs ± 10%		
WATER COOLED (DRY COOLER)		HOT WATER (MOUNTED INTERIOR OF UNIT)		* (b)			



AVAILABLE S/A LOCATIONS
(FRONT MOUNTED PLENUM BOX)

TOP MOUNTED PLENUM BOX
FRONT MOUNTED PLENUM BOX

AVAILABLE S/A LOCATIONS
(TOP MOUNTED PLENUM BOX)

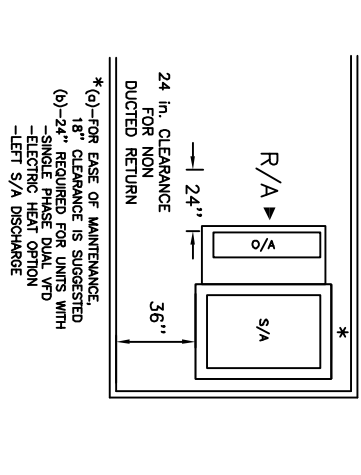


END VIEW

LEFT HAND SIDE VIEW

FRONT VIEW

DSV-M-040-007 AE
 NO. DESGN: DSV-M-040-007 AE
 DWG. NO.:
 TITLE: MODEL DSV/DVS
 -040/-042
 PLENUM FAN, 30" WIDE OPENING DESIGN
 NOTES: ALL DIMENSIONS ARE IN INCHES.



SERVICE ACCESS TOP VIEW

LEGEND

- 1-OPERATOR PANEL
- 2-COMPRESSOR RUNNING LIGHT
- 3-LIQUID & MOISTURE INDICATOR
- 4-ELECTRICAL CONNECTION (POWER)
- 5-POOL CONNECTIONS (DSV ONLY)
- (SEE UNIT SCHEDULE)
- 6-AIR CONDITIONING CONNECTIONS (SEE UNIT SCHEDULE)
- 7-1 1/2" I.D. CONDENSATE DRAIN CONNECTION WITH INTERNAL P-TRAP
- 8-HWC CONNECTIONS (SEE UNIT SCHEDULE)
- 9-ACCESS VALVE
- 10-O/A DAMPER ACTUATOR

EXTERIOR WALL

BASE

1" 1 1/2"

2"

SUPPORT

3"

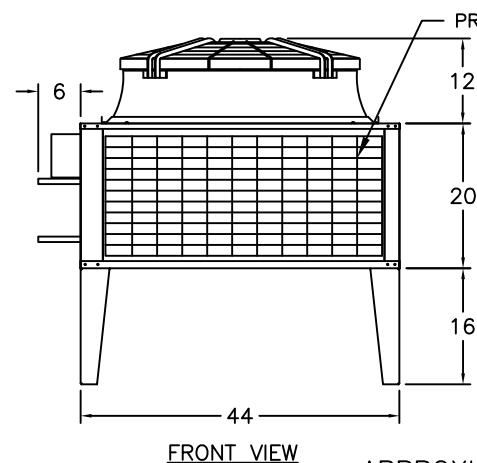
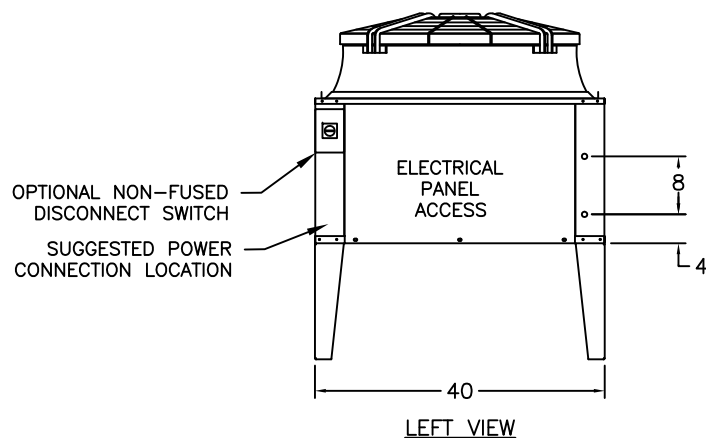
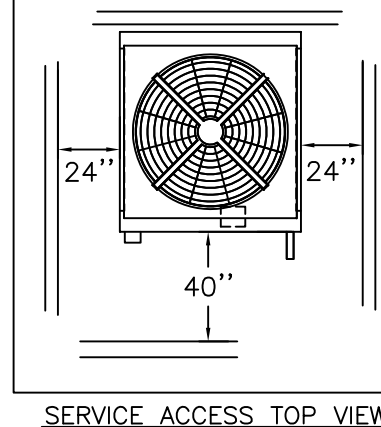
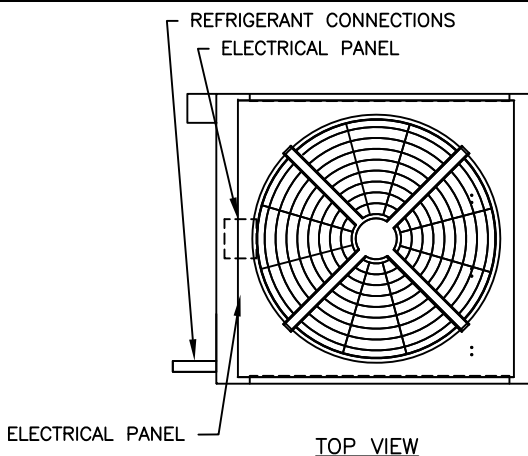
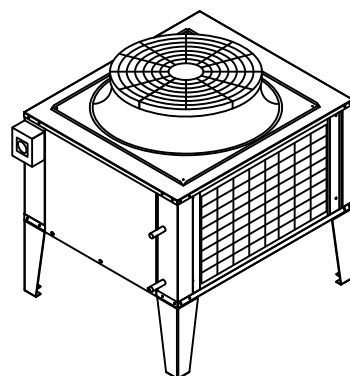
DETAIL "A"

PLENUM BOX SHIPPING OPTIONS

TOP/FRONT MOUNTED KIT-01-1090	✓
MUST INDICATE ON PURCHASE ORDER IF SHIPPED LOOSE	

√	OPTIONS
	NON-FUSED DISCONNECT SWITCH
	24" HIGH LEG

√	VOLTAGE	DECTRON ITEM #	
	208-230/1/60	CVA-008L-4-AMC-VFD	LOW SPEED
	208-230/3/60	CVA-008L-5-AMC	
	460/3/60	CVA-008L-7-AMC	
	575/3/60	CVA-008L-8-AMC	
	208-230/1/60	CVA-008H-4-AMC-VFD ⁽¹⁾	HIGH SPEED
	208-230/1/60	CVA-008H-4-AMC-VFD-R407c	
	208-230/1/60	CVA-008H-4-AMC-VFD-R134a	
	208-230/3/60	CVA-008H-5-AMC	
	460/3/60	CVA-008H-7-AMC	
	575/3/60	CVA-008H-8-AMC	



APPROXIMATE DRY WEIGHT: 250 LBS

MODEL	CAPACITY AT 25°F TEMPERATURE DIFFERENCE (BTU/H)	REFRIGERANT ⁽²⁾ CONNECTIONS		FAN MOTOR ELECTRICAL DATA														
				FAN kW	208-230V 1Ø					208-230V 3Ø			460V 3Ø			575V 3Ø		
		HOT GAS	LIQUID		MODEL VFD	VFD INPUT CURRENT	MOTOR FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP	FLA	MCA	MOP
CVA-008L (540 RPM)	130,000	7/8 O.D.	7/8 O.D.	0.63	ESV751N02/0.75kW	8.8	2.7	11	15	2.7	4	15	1.2	2	15	0.96	2	15
CVA-008H (770 RPM)	177,600	7/8 O.D.	7/8 O.D.	1.2	ESV152N02 /1.5kW	13.3	5.3	17	30	5.3	7	15	2.4	4	15	1.9	3	15
								DRAWN BY: R.T.			 TITLE : OUTDOOR AIR COOLED CONDENSER MODEL CVA-008							
								DATE : 19 AUG/11										
								CHECK BY:										
2	NOMENCLATURE UPDATED	R.T.	12 MAR/13					REF. NO. :										
1	AMC COILS	R.T.	7 MAR/13					AUTOCAD: ST - 02										
NO.	REVISIONS	BY	DATE	CHK.							CVA-NM-000-008 AE						REV. 2	

- (1) FOR R410a REFRIGERANTS ONLY
- (2) DO NOT USE FOR LINE SIZING. TO DRY-O-TRON UNIT REFER TO UNIT NAMEPLATE

-SUITABLE FOR: R410A

-FOR R-134a MULTIPLY CAPACITY BY 1.05

-FOR R-407C MULTIPLY CAPACITY BY 0.89



TITLE: OUTDOOR AIR COOLED CONDENSER
MODEL CVA-008