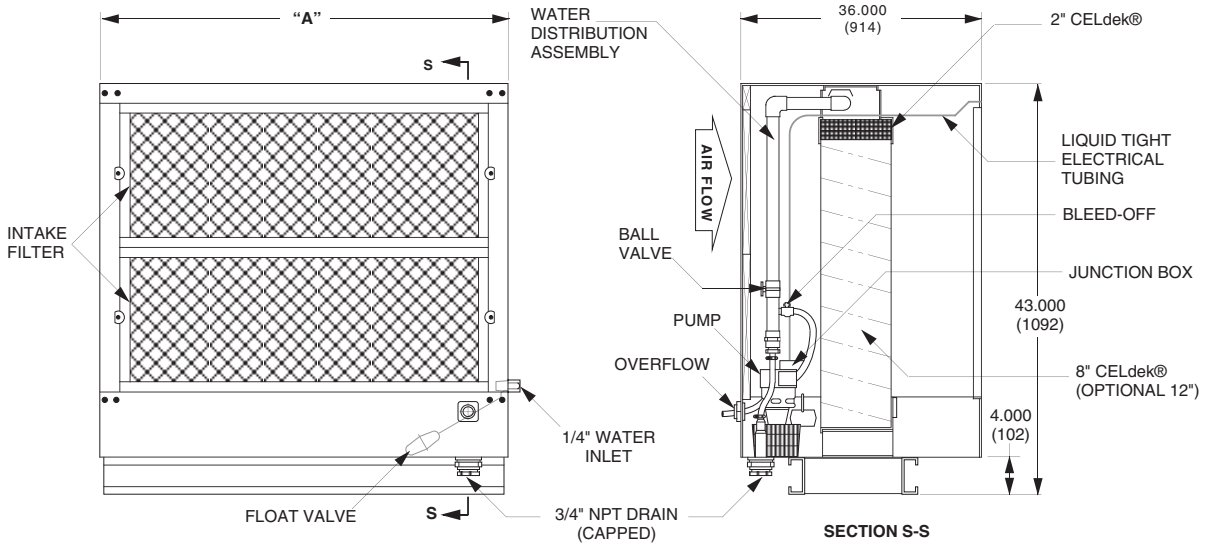
ENGINEERED PRODUCTS

Model - EV(10-40)

Unit Type (UT) - EV, Evaporative Cooler
Capacity (CA) - (10-40) (100-400 mBTU)

MODEL	A
10/15	32.875 (835)
20/25	43.875 (1114)
30/35	54.875 (1394)
40	60.375 (1534)



Performance and Dimensional Data

Unit Type EV Capacity 10-40	CFM (cu. m/s) MIN.	CFM (cu. m/s) MAX.	8" Saturation Efficiency Range MIN.	8" Saturation Efficiency Range MAX.	12" Saturation Efficiency Range MIN.	12" Saturation Efficiency Range MAX.	8" or 12" Media Face Area Ft.2 (m2)	8" or 12" Media Size in. (mm)	Pressure Drop in W.C. (kPa) MIN.	Pressure Drop in W.C. (kPa) MAX.	"A" Unit Width in. (mm)	Shipping Wt. lb. (kg)	Operating Wt. lb. (kg)
☐ 10,15	800	4,500	78	88	89	92	7.01	31 x 32-9/16	0.03	0.23	32-3/4	137	301
	(0.378)	(2.124)					(0.65)	(787 x 827)	(0.01)	(0.06)	(832)	(62)	(136)
☐ 20, 25	1,600	5,500	77	88	88	92	9.38	31 x 43-9/16	0.03	0.20	43-3/4	166	386
	(0.755)	(2.596)					(0.87)	(787 x 1106)	(0.01)	(0.05)	(1111)	(75)	(175)
☐ 30, 35	2,400	8,500	77	86	88	92	11.75	31 x 54-9/16	0.05	0.30	54-3/4	192	468
	(1.133)	(4.012)					(1.09)	(787 x 1386)	(0.01)	(0.07)	(1391)	(87)	(212)
☐ 40	3,200	8,500	77	86	87	92	1292	31 x 60	0.07	0.28	60-1/4	206	509
	(1.510)	(4.012)					(1.20)	(787 x 1524)	(0.02)	(0.07)	(1530)	(93)	(231)

STERLING® HVAC PRODUCTS
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(413) 564-5540 • FAX: (413) 562-5311
www.sterlinghvac.com A MESTEK COMPANY

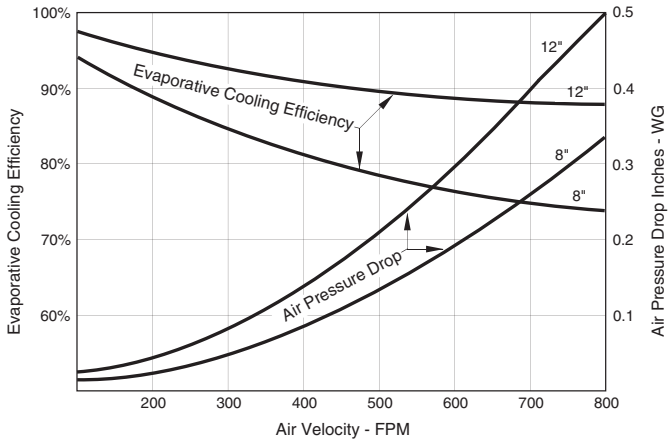
Project: _____

Unit Tag: _____

ENGINEERED PRODUCTS

EV(10-40)
Evaporative Cooler Specifications

CELdek® EVAPORATIVE MEDIA
The Sterling Evaporative Cooler utilizes high efficiency CELdek® media. CELdek® is made from a special cellulose paper, impregnated with insoluble anti-rot salts and rigidifying saturants. The cross fluted design of the pads induces highly-turbulent mixing of air and water for optimum heat and moisture transfer. Sterling Evaporative Coolers utilize 8 inch CELdek® as standard equipment. Optional 12 inch CELdek®, 8 and 12 inch GLASdek® are also available. A 2 inch distribution pad is used to disperse the water evenly over the media.



EVAPORATIVE COOLER EFFICIENCY/A.P.D. CHART

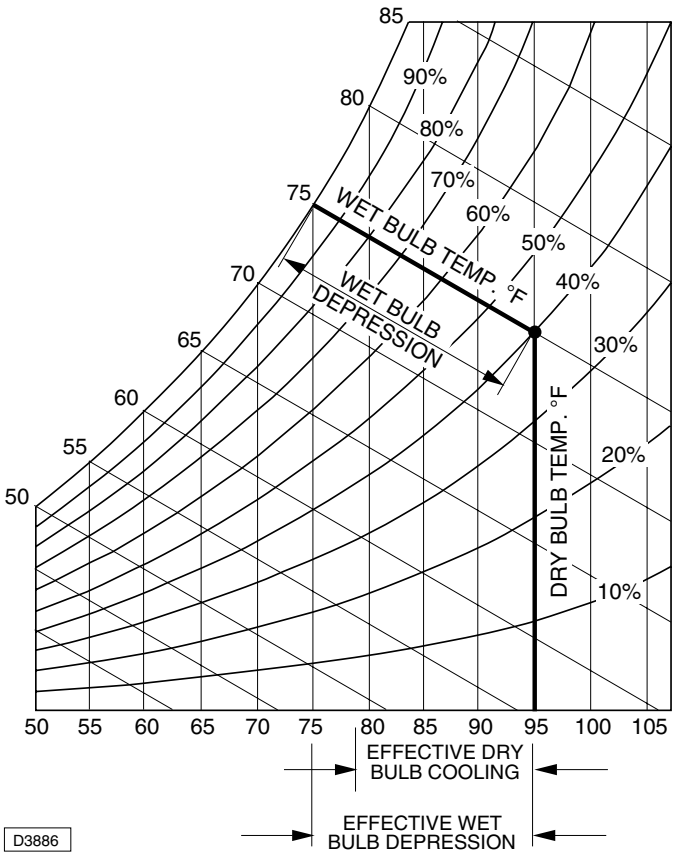
PERFORMANCE
Evaporative Cooling is most commonly used in areas where the relative humidity is low and the dry bulb temperatures are high. However, cooling through evaporation can be use in most areas.

Evaporative cooling is best utilized whenever the wet bulb depression (difference between dry and wet bulb temperature) is a minimum of 15 degrees.

The efficiency of the Evaporative Cooler is determined by a variety of factors: geographical location, application, air change requirements, sufficient water supply, air flow, and maintenance. In most instances, efficiency is expected to be between 77% and 88%. Heat gains in the distribution system will effect the final output temperature.

Use the psychometrics chart or actual humidity temperature readings to estimate the leaving dry bulb temperature at the outlet of the Evaporative Cooler.

Example:
1. Entering Dry Bulb: 95°F
2. Entering Wet Bulb: 75°F
3. Wet Bulb Depression (95°F - 75°F) = 20°F
4. Effective Wet Bulb Depression (20°F x .85) = 17°F
5. Leaving Dry Bulb Temperature (95°F - 17°F) = 78°F
6. Leaving Wet Bulb = Entering Wet Bulb = 75°F



PSYCHROMETERIC CHART

EV(10-40)
Evaporative Cooler Specification Method

SELECTION METHOD

The easiest method for selecting an evaporative cooler, is to first determine the required number of air changes per minute.

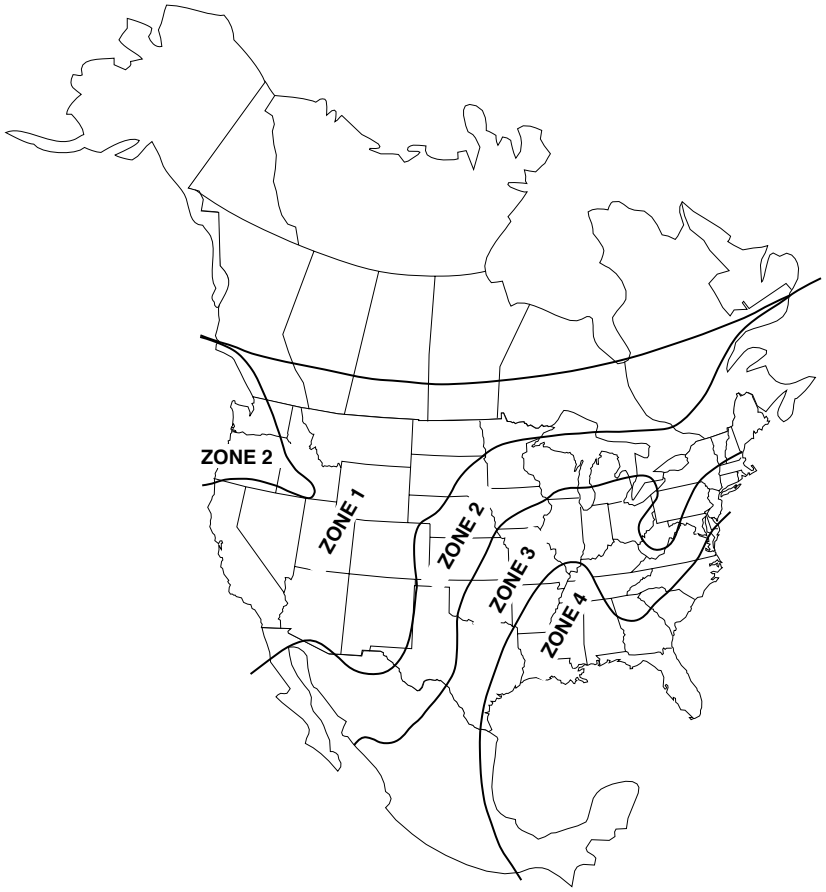
A. Using the Diagram below, choose the geographical zone in which the unit is to be installed.
B. Determine the internal load within the structure: **Normal Load:** Structures with normal people loads, and without high internal heat gains. **High Loads:** Structures with high equipment loads (i.e. factories, laundromats, beauty salons, restaurant kitchens, etc.) and structures with high occupancy (nightclubs, arenas, etc.)
C. Determine whether the structure has normal or high heat gains: **Normal Gain:** Structures that have insulated roofs, or are in shaded areas. Structures that have two or more stories, or facing directions with no sun. **High Gain:** Structures that have uninsulated roofs, unshaded areas, or rooms that are exposed to sun.
D. Using the table shown, determine the required air changes per minute based on zone selection and the type of heat load.
E. Finally, determine the air quantity for the space chosen, by calculating the volume (L x W x H). Multiply this volume by the air changes per minute.

Example:

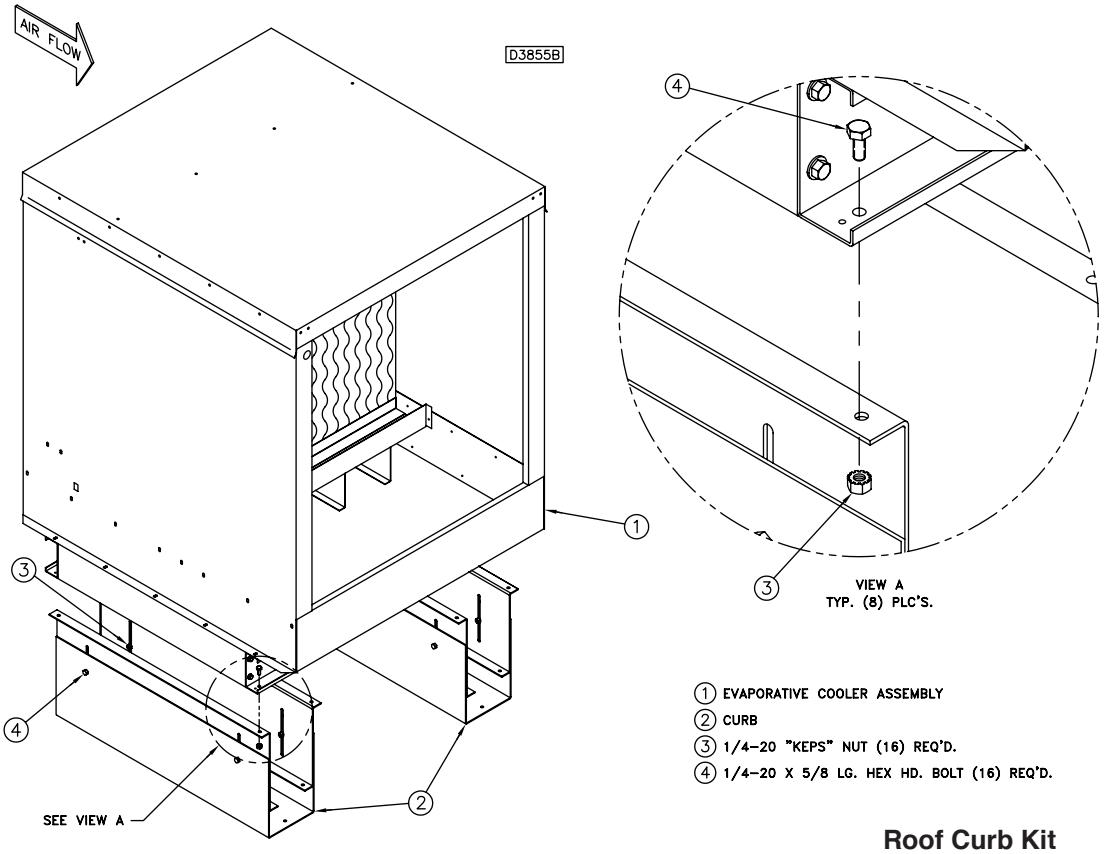
1. Structure Dimensions: 25 L x 24 W x 10 H = 6000 ft^3
2. Exterior Load Type: Normal
3. Interior Load Type: Normal
4. Location: Dallas, Texas - Zone 3
5. Air Changes Per Minute: 3/4
6. Evaporative Cooler Requirements: 6000 ft3 x 3/4 Air Change / minute-4500 CFM Required

See Evaporative Cooler Performance Chart for unit size that would best apply.

(Air Changes Per Minute) Table				
	Zone			
Type Head Load	1	2	3	4
High Load/High Gain	3/4	1	1-1/3	2
High Load/Normal Gain	1/2	3/4	1	1-1/3
Normal Load/High Gain	1/2	3/4	1	1-1/3
Normal Laod /Normal Gain	1/2	1/2	3/4	1



EV(10-40)
Evaporative Cooler Roof Curb Kit



Roof Curb Kit
#RC015 shown.

TYPICAL EVAPORATIVE COOLER TO ROOF CURB KIT MOUNTING ASSEMBLY

NOTES: Unless otherwise specified, the following conversions may be used for calculating SI units.
1 Cu. Ft. = 0.028m^3 , 1 ft. = 0.305m, 1 in. = 25.4mm, 1 psig = 6.894 kPa, 1000 Btu per hr. = 0.293 kW, 1 in. water column = 0.249 kPa, 1 gallon = 3.785 L, 1000 Btu/Cu. Ft. = 37.5 MJ/m^3, 1 lb. = 0.453 kg.

MODEL NUMBER

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	+
(EXX)	E	V	*	*	0	0	0										

DIGITS 3 & 4 = (CA) CAPACITY
REFER TO CATALOG FOR MODEL NUMBER DESCRIPTION.