

# TurboKOOOL®



## Ben's Tips

### How evaporative (swamp) coolers work

Evaporative (swamp) coolers can be very effective under the right conditions and with proper air management. The cooling is caused by evaporation. Warm, dry, outside air, with its low relative humidity, is pulled into the unit by a fan, while water is distributed onto a filter.

As the dry air is forced through the wet filter by the fan, the water is evaporated, which cools the air coming out of the cooler (see Efficiency Chart below). This cool air must be allowed to flow freely through the unit being cooled and out through a 2-3 inch crack in a window, door or vent. If the air flow is restricted, the cooling will be less effective.

The efficiency of your evaporative cooler is affected by many factors: outdoor humidity, ambient temperature, filter condition, insulation, size of area to be cooled and solar exposure, to name just a few. At 750 cfm, a TurboKOOOL unit would replace 100% of the air in a 20' RV each minute. The following chart will give you a rough idea of the performance you can expect.

Outside Air Temperature F	Expected Cooler Efficiency																
	Temperature Output																
	Fahrenheit																
125	83	86	90	93	96												
120	81	83	86	90	93	95											
115	78	80	83	86	89	91	94										
110	75	77	80	83	85	87	90	92									
105	72	74	77	79	81	84	86	88	89								
100	69	71	73	76	78	80	82	83	85	87	88						
95	67	68	70	72	74	76	78	79	81	82	84	85	87				
90	64	65	67	69	70	72	74	76	77	78	79	81	82	83	84	86	
85	61	62	63	65	67	68	70	71	72	73	74	75	76	77	79	81	
80	57	58	60	62	63	64	66	67	68	69	71	72	73	74	76	76	77
75	54	55	57	58	59	61	62	63	64	65	66	67	68	69	70	71	72
	2	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80
	% Relative Humidity																