

# Air Filtration capability of Breezair evaporative Air Coolers

Breezair Evaporative Air Coolers have recently been independently tested for their air filtration performance. The tests were carried out in Germany by the 'Labor Dr. Rabe HygieneConsult' laboratory, which issued their report No. 8037/08.229-1.

IT IS IMPORTANT TO NOTICE THAT THE TESTS WERE DONE WITH THE TEST SAMPLE COOLERS OPERATING IN THE 'COOLING' MODE WHICH MEANS THE COOLING PADS WERE IN THE WETTED STATE. THE RESULTS CANNOT BE CONSTRUED TO APPLY TO A DRY COOLING PAD CONDITION.

IT IS ALSO IMPORTANT TO NOTICE THAT BREEZAIR AIR COOLERS ARE NOT DESIGNED AS FILTERING MACHINES. THIS DATA SHEET IS TO INFORM ABOUT THE COINCIDENTAL PERFORMANCE OF BREEZAIR COOLERS FOR PERSONS WHO ARE INTERESTED IN SUCH MATTERS.

The tests were conducted on two types of Breezair coolers:

- TBA and EXH

The results can be considered to apply to all the coolers in the TBA and EXH ranges.

The following statement and table are contained in the summary of the Labor Dr Rabe report:

**"Assessment ....**

Table 11 gives the fractional degrees of separation for the different filter classes defined in EN 779. Even if the degrees of separation defined in EN 779 are determined using different method than that used in our tests, **the filtering effect of the Breezair evaporative air cooler TBA550 approximately corresponds to filter class G1-G2, with the filtering effect on smaller particles (1-5 um) falling into the higher filter class G2. The filtering effect of the Breezair evaporative air cooler EXH 170 approximately corresponds to filter class G1-G3, with the filtering effect on smallest particles (<1 um) falling into the higher filter class G3."**

*Table 11: Scale for fractional degrees of separation for filter classes G1 to F9 as defined by EN779*

Separation degrees in %							
Filter class	Particle size (um)						
	>0.1	>0.3	>0.5	>1	>3	>5	>10
G1	-	-	-	-	0-5	5-15	40-50 <sup>TBA,EXH</sup>
G2	-	-	-	0-5	5-15	15-35 <sup>TBA,EXH</sup>	50-70
G3	-	-	0-5	5-15 <sup>TBA</sup>	15-35	30-70	70-85
G4	-	0-5	5-15	15-35 <sup>EXH</sup>	30-55	60-90	85-98
F5	0-10	5-15	15-30	30-50	70-90	90-99	>98
F6	5-15	10-25	20-40	50-65	85-95	95-99	>99
F7	25-35	45-60	60-75	85-95	>98	>99	>99
F8	35-45	65-75	80-90	95-98	>99	>99	>99
F9	45-60	75-85	90-95	>98	>99	>99	>99