

Rack-Level to Cage-Level Airflow Chart

This chart relates rack-level airflow or anemometer readings to cage-level air changes and intra-cage linear air velocity.

This data is relevant for Optimice® cages using flat filters. The bold values near the center of the chart represent the recommended exhaust airflow range. Under two-hose operation, the anemometer is installed on one of the hoses, and flow is assumed to be equivalent through the other hose. Alternately, the anemometer can be used to independently check flow through both hoses, and the two values can be added together. Then the one-hose column represents the sum of the two anemometer readings. This method is useful if the flow through both hoses is not equivalent.

Total CFM	Rack-Level		Cage ACH*		Cage Linear ft/min**	
	Anemometer (m/s)		100 Cages	50 Cages	100 Cages	50 Cages
	2 Hoses	1 Hose				
35	3.06	6.13	17.7	26.1	2.6	3.8
37.5	3.28	6.56	18.8	27.8	2.7	4.0
40	3.50	7.00	20.0	29.4	2.9	4.3
42.5	3.72	7.44	21.1	31.0	3.1	4.5
45	3.94	7.88	22.3	32.6	3.2	4.7
47.5	4.16	8.31	23.4	34.2	3.4	4.9
50	4.38	8.75	24.5	35.8	3.6	5.2
52.5	4.59	9.19	25.7	37.3	3.7	5.4
55	4.81	9.63	26.8	38.9	3.9	5.6
57.5	5.03	10.06	27.9	40.4	4.0	5.9
60	5.25	10.50	29.0	42.0	4.2	6.1
62.5	5.47	10.94	30.1	43.5	4.4	6.3
65	5.69	11.38	31.2	45.1	4.5	6.5
67.5	5.91	11.81	32.4	46.6	4.7	6.7
70	6.13	12.25	33.5	48.1	4.8	7.0
72.5	6.34	12.69	34.6	49.6	5.0	7.2
75	6.56	13.13	35.6	51.1	5.2	7.4

* Cage ACH represents average air changes per hour within a typical Optimice® cage after housing animals for 7 to 10 days. Cage airflow gradually slows down during the course of a cage change cycle but resets after the cage has been washed.

** Cage Linear ft/min represents the peak linear velocity of air as it traverses a typical Optimice® cage.