



Rack Ventilation Cross Reference

Animal Care Systems' racks are ventilated by negative pressure animal room exhaust. This patented system provides gentle, one-pass airflow through the cages and allows rack performance at a relatively wide range of airflows. The chart below indicates the minimum necessary airflows in each ACS rack as well as the optimum airflows. Anemometer readings less than the listed minimums are an indication of a need to increase airflow. Anemometer readings within 30%-35% more than the listed optimum readings are acceptable, but can be adjusted downward with a damper if there is a need to increase airflows in racks with marginal readings in the same room.

OptiMICE - ErgoMICE – OptiRAT Systems

Rack Type	Min. ACS Anemometer Reading per Hose	Optimum ACS Anemometer Reading per Hose	Minimum & Optimum Rack CFM	Minimum & Optimum Cage ACH
100-Cage OptiMICE	3.5 m/s	5.3 m/s	40 – 60	20 – 30
80-Cage ErgoMICE	2.8 m/s	4.3 m/s	32 – 48	20 – 30
70-Cage ErgoMICE	2.5 m/s	3.7 m/s	28 – 42	20 – 30
50-Cage ErgoMICE**	3.8 m/s	5.7 m/s	22 – 33	20 – 30
OptiRAT	4.8 m/s	7.2 m/s	55 – 82	24 – 36

**The 50-Cage ErgoMICE uses one exhaust hose

Typical Anemometer Readings to ACH Conversion

OptiMICE		OptiRAT	
Anemometer Reading (m/s)	Equivalent Cage ACH	Anemometer Reading (m/s)	Equivalent Cage ACH
2.5	14.3	3.5	15.0
3.0	17.1	4.0	20.0
3.5	20.0	4.5	22.5
4.0	22.9	5.0	25.0
4.5	25.7	5.5	27.5
5.0	28.6	6.0	30.0
5.5	31.4	6.5	32.5
6.0	34.3	7.0	35.0
6.5	37.1	7.5	37.5
7.0	40.0	8.0	40.0
7.5	42.9	8.5	42.5
8.0	45.7	9.0	45.0

Contact Animal Care Systems for assistance and recommendations if rack readings are lower or higher than listed in the ACH conversion chart above.



ANIMAL CARE SYSTEMS Inc.
Helping you achieve responsible animal care

M.I.C.E. Systems

Rack Type (# hoses)	Min. ACS Anemometer Reading per Hose	Optimum ACS Anemometer Reading per Hose	Equivalent Rack CFM (min & optimum)	Equivalent Cage ACH (min & optimum)
7-Rat Cage S1 (1)	1.9 m/s	2.9 m/s	12 – 18	24 – 36
14-Mouse Cage S1 (1)	1.3 m/s	2.0 m/s	8 – 13	16 – 24
14-Rat Cage S2 (1)	3.8 m/s	5.7 m/s	24 – 36	24 – 36
28-Mouse Cage S2 (1)	2.6 m/s	3.9 m/s	16 – 26	16 – 24
21-Rat Cage S3 (1)	5.7 m/s	8.5 m/s	36 – 48	24 – 36
42-Mouse Cage S3 (1)	3.9 m/s	5.9 m/s	24 – 39	16 – 24
28-Rat Cage S4 (2)	3.8 m/s	5.7 m/s	48 – 72	24 – 36
56-Mouse Cage S4 (2)	2.6 m/s	3.9 m/s	32 – 48	16 – 24
35-Rat Cage S5 (2)	4.9 m/s	7.3 m/s	60 – 90	24 – 36
70-Mouse Cage S5 (2)	3.2 m/s	4.8 m/s	40 – 60	16 – 24
28-Rat Cage D4 (2)	3.8 m/s	5.7 m/s	48 – 72	24 – 36
56-Mouse Cage D4 (2)	2.6 m/s	3.9 m/s	32 – 48	16 – 24
42-Rat Cage D6 (2)	5.7 m/s	8.5 m/s	72 – 108	24 – 36
84-Mouse Cage D6 (2)	3.9 m/s	5.9 m/s	48 – 72	16 – 24
56-Rat Cage D8 (2)	7.8 m/s	11.7 m/s	96 – 144	24 – 36
112-Mouse Cage D8 (2)	5.2 m/s	7.8 m/s	64 – 96	16 – 24
70-Rat Cage D10 (3)	6.5 m/s	9.7 m/s	120 – 180	24 – 36
140-Mouse Cage D10 (3)	4.3 m/s	6.5 m/s	80 – 120	16 – 24

Typical Anemometer Readings to ACH Conversion

S4 M.I.C.E. w/mouse cages		D6 M.I.C.E. w/rat cages	
Anemometer Reading (m/s)	Equivalent Cage ACH	Anemometer Reading (m/s)	Equivalent Cage ACH
2.0	12.3	4.5	18.9
2.5	15.4	5.0	21.1
3.0	18.5	5.5	23.2
3.5	21.5	6.0	25.3
4.0	24.6	6.5	27.4
4.5	27.7	7.0	29.5
5.0	30.8	7.5	31.6
5.5	33.8	8.0	33.7
6.0	36.9	8.5	35.8
6.5	40.0	9.0	37.9
7.5	42.9	9.5	40.0
8.0	45.7	10.0	42.1

Contact Animal Care Systems for assistance and recommendations if rack readings are lower or higher than listed in the ACH conversion chart above.

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