



Animal Care | Systems

Opti Rack SOP - Rack Anemometer



[Demonstration video](#)

Introduction

The rack anemometer allows the measurement of airflow at the rack level. The anemometer adapter housing attaches directly to an exhaust port on the top of any Animal Care Systems rack. A ladder is necessary for installation.



Installation

1. Unhook one of the exhaust hoses from the top of the rack. If the rack has two exhaust hoses, keep the other hooked up. If the second port can't be hooked up, cover it with a simulator cap.
2. Twist the anemometer's adapter housing directly onto the rack (the yellow dot of the fan faces downward).
3. Attach the hose from the ceiling drop to the other end of the adapter housing.



Opti Rack SOP - Rack Anemometer

Using the Anemometer

1. Hold down the power button on the front until the anemometer turns on (with a beep).
2. Inspect the large number, which is the airflow.
3. Change the units by holding down the “Unit” button until the desired unit (m/s, Km/h, mph, knots, feet per minute) displays.



Airflow Guidance

Airflow Requirements for Optimice®, Ergomice®, Optirat®, Optirat GenII, and Optirat Plus Racks and Cages

Rack Type	Functional Exhaust Airflow Range, CFM	Anemometer Measurement Range, Per Hose, m/s	
		Two Hoses	One Hose
Optimice	45 - 60	4.0 - 5.25	8.0 - 10.5
Ergomice-80	38 - 50	3.4 - 4.5	6.8 - 9.0
Ergomice-70	34 - 45	3.0 - 3.9	6.0 - 7.8
Ergomice-50	25 - 33	2.2 - 2.9*	4.3 - 5.7
Optirat/GenII/Plus	55 - 82	4.8 - 7.2	11 - 14.4

Airflow Requirements for Single-use Caging Within Optimice and Ergomice Racks

Rack Type	Functional Exhaust Airflow Range, CFM	Anemometer Measurement Range, Per Hose, m/s	
		Two Hoses	One Hose
Optimice	60 - 75	5.3 - 6.6	10.6 - 13.2
Ergomice-80	51 - 64	4.5 - 5.6	9.0 - 11.2
Ergomice-70	45 - 56	3.9 - 4.9	7.8 - 9.8
Ergomice-50	33 - 41	5.7 - 7.1*	11.4 - 14.2

*A single hose is standard for Ergomice 50

M.I.C.E.® Rack Airflow Recommendations — Mouse Cages

Rack Type	Functional Exhaust Airflow Range, CFM	Anemometer Measurement Range, Per Hose, m/s		
		One Hose	Two Hoses	Three Hoses
S1, 14 Cages	8 - 12	1.3 - 2.0	*	*
S2, 28 Cages	16 - 24	2.6 - 3.9	*	*
S3, 42 Cages	24 - 36	3.9 - 5.9	2.0 - 3.0	*
S4, 56 Cages	32 - 48	5.2 - 7.8	2.6 - 3.9	*
S5, 70 Cages	40 - 60	6.4 - 9.6	3.2 - 4.8	2.2 - 3.2
D4, 56 Cages	32 - 48	5.2 - 7.8	2.6 - 3.9	*
D6, 84 Cages	48 - 72	7.8 - 11.8	3.9 - 5.9	2.6 - 4.0
D8, 112 Cages	64 - 96	*	5.2 - 7.8	3.5 - 5.2
D10, 140 Cages	80 - 120	*	6.5 - 9.8	4.4 - 6.6

*Hose setup not recommended for specified rack

M.I.C.E.® Rack Airflow Recommendations — Rat Cages

Rack Type	Functional Exhaust Airflow Range, CFM	Anemometer Measurement Range, Per Hose, m/s		
		One Hose	Two Hoses	Three Hoses
S1, 14 Cages	12 - 18	1.9-2.9	*	*
S2, 28 Cages	24 - 36	3.8 - 5.7	*	*
S3, 42 Cages	36 - 54	5.7 - 8.5	2.9 - 4.3	*
S4, 56 Cages	48 - 72	7.6 - 11.4	3.8 - 5.7	*
S5, 70 Cages	60 - 90	9.8 - 14.6	4.9 - 7.3	3.3 - 4.9
D4, 56 Cages	48 - 72	7.6 - 11.4	3.8 - 5.7	*
D6, 84 Cages	72 - 108	11.4 - 17	5.7 - 8.5	3.8 - 5.7
D8, 112 Cages	96 - 144	*	7.8 - 11.7	5.2 - 7.8
D10, 140 Cages	120 - 180	*	9.7 - 14.5	6.5 - 9.7

*Hose setup not recommended for specified rack