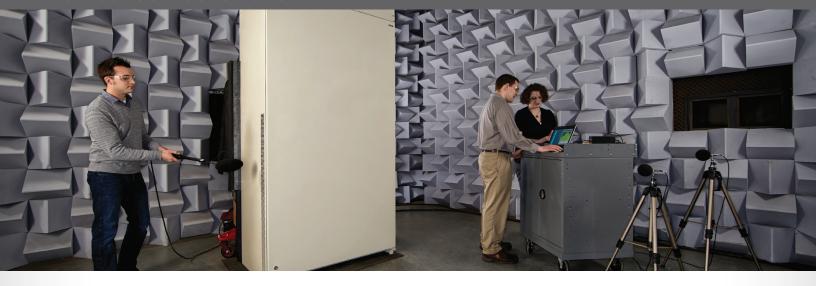
## **CLASSROOM SOLUTIONS**



# THE ULTIMATE SOLUTION FOR CLASSROOM NOISE REDUCTION

### AIREDALE

### ClassMate® with STUDY Package

DX Cooling and Heat Pump

Modine is continuously raising the bar to exceed the highest industry standards. The ClassMate® with STUDY Package was designed so you can feel confident installing this unit into LEED-designed facilities, knowing it can meet the background noise pre-requisite.

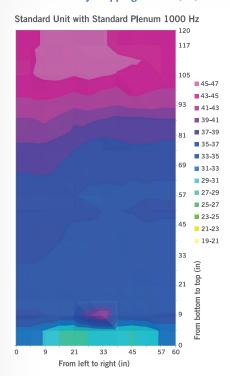
Modine conducted extensive sound attenuation research to provide these noise-reduction features:

- Improved acoustic insulation with barrier
- Redesigned acoustic plenum to improve noise reduction
- Up to 7dB(A) improvement



AIREDALE

# 48MBH Capacity High Fan Speed 1500CFM Sound Intensity Mapping – Front (dB)



Standard Unit with Acoustic Plenum 100		z
	120	
	117	
	105	
		<b>45-47</b>
		<b>43-45</b>
	93	<b>41-43</b>
		■ 39-41
	81	■ 37-39
		■ 35-37
	- 69	■ 33-35
	69	<b>31-33</b>
10 10 10		29-31
	57	27-29
		25-27
	45	23-25
		21-23
		19-21
	33	=
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	21	to 10
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	. 9	From bottom to top (in)
		e D
		Fro
0 9 21 33 45 57 6	0	
From left to right (in)		

8	120	
	117	
	,	
	105	<b>45-4</b>
	93	43-4
	. 55	<b>41-4</b>
		■ 39-4
	81	■ 37-3 ■ 35-3
<b>→</b>		■ 35-3 ■ 33-3
	69	31-3
		29-3
	- 57	27-2
		■ 25-2
No. of the last of		■ 23-2
	45	21-2
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		Œ.
	21	to top
	9	From bottom to top (in)
	- 0	Froi
0 9 21 33 45 57 6	0	
From left to right (in)		

STUDY Package with Acoustic Plenum 1000 Hz

	Octave	Value
1 Meter	dB(A)	50
	NC	41
5' Avg Front	dB(A)	49
	NC	39
10' Avg Front	dB(A)	47
	NC	37

	Octave	Value
1 Meter	dB(A)	48
	NC	37
5' Avg Front	dB(A)	46
	NC	36
10' Avg Front dB(A)  NC	dB(A)	43
	31	

Value Octave dB(A) 43 1 Meter NC 30 dB(A) 43 5' Avg Front NC 29 dB(A) 40 10' Avg Front NC 24

Reference AIR 2-300 for details on sound testing.

#### THE RESULTS

These features, engineered for the toughest classrooms, result in the ClassMate® with STUDY Package achieving the highest standard for noise reduction in its class.

### THE SOLUTION

### Redesigned cabinet to reduce air flow velocity

- Extensive sound intensity testing identified opportunities for noise reduction
- Sound intensity mapping allowed Modine engineers to isolate components and frequency to engineer specific solutions
- Redirected air flow reduced velocity through side grills

### Redesign baffle for improved air flow path

- Patented baffle design adds significant value without sacrificing performance of the base unit
- Providing laminar airflow to a space without requiring additional ductwork

