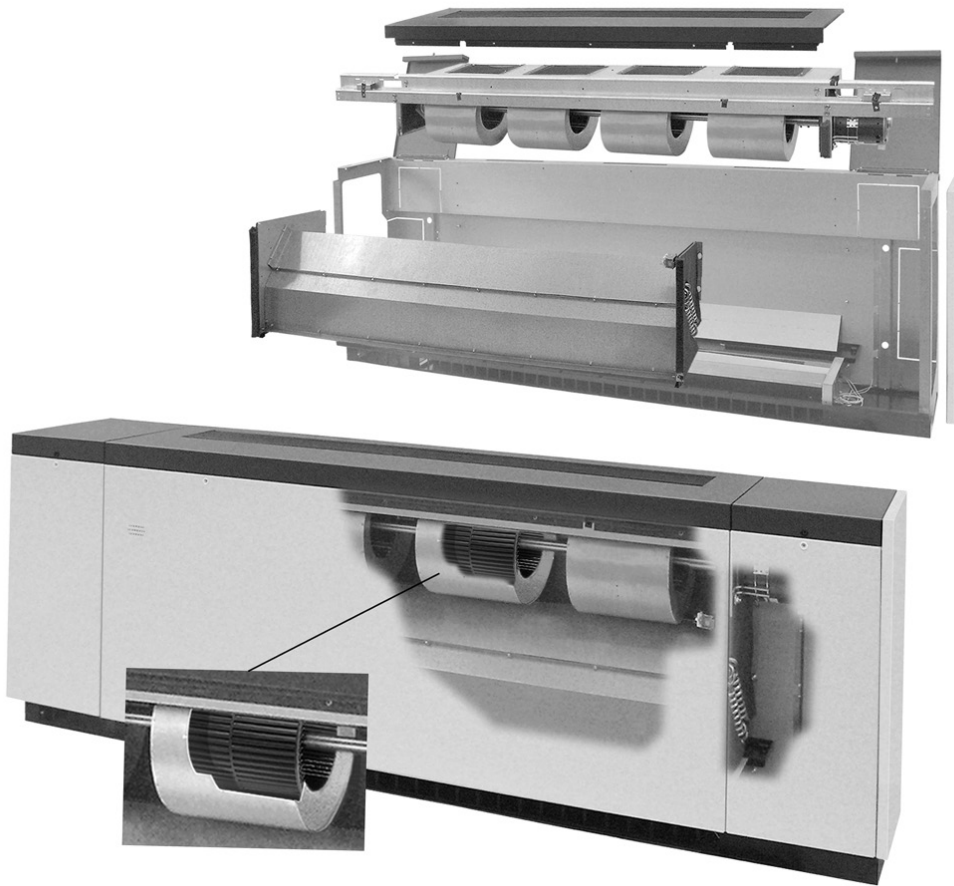


Group: Unit Vent

Type: Capacity Data

Date: October 2013

**Daikin Classroom Unit Ventilator -  
Direct Expansion Cooling Coil Capacity Data**  
Floor Models AVS, AVV, AVR, AVB (F Vintage)



## Direct Expansion Cooling Coil Selection

Proper sizing of the field-supplied condensing units is important for trouble-free operation. An oversized condensing unit can reduce performance and cause operational problems such as:

- Compressor short cycling due to rapid pull down
- poor temperature and humidity control
- low saturated evaporator coil conditions
- low discharge air temperatures.

To properly size the unit ventilator, determine the cooling load based on May and September conditions at 1 pm when the classroom is occupied. Do not select units for July and August after 3 pm when the classroom is unoccupied. If the calculated

cooling load falls between two unit sizes, select the smaller of the two units to minimize the potential problems seen with oversized units.

Figure 1 shows the total capacity of the unit ventilator versus saturated evaporator temperature. The condensing unit manufacturers' capacity versus saturated suction temperature can be cross-plotted on this chart with an allowance for suction line loss. The total capacity and saturated suction temperature for the total system can be determined from this cross plot. The sensible capacity can be determined by multiplying the total capacity by the sensible heat factor shown in Table 1.

*Table 1. Sensible Factor at 45°F Saturation Temperature*

750	1000	1250	1500
0.74	0.75	0.74	0.76

*Figure 1. DX Coil Estimate Performance (Mbh) at 115°F Liquid Temperature*

