

By Pass Type - VAV

B-1 Series

Model: VAV-B-1 / 2

1- Top by Pass; 2 - Side by Pass

Construction: Galvanized Steel (GI)

Application: Light & Medium Duty

By-Pass VAV Model VAV-B-1/2, is a device that receives a constant volume of air into the unit and provides variable volume of air to the space. It diverts a portion of the supply airflow to the plenum either through a duct to the return ductwork or directly into a return air plenum.

VAV responds to the thermostat demand for cooling by varying the position of the unit damper, which in turn controls the amount of air entering a zone. At reduced zone loads, cool primary air is returned to the air handler via the plenum or return air duct without experiencing zone heat gains. The lower return air temperature allows the air handler to operate more efficiently.

Standard construction

Casing

0.9 mm thick galvanized sheet steel.

Insulation

13 mm thick 32 kg/m³ density Acoustic liner.

Blade

0.9 mm thick galvanized sheet steel.

Axle Shaft

12 mm diameter damper shaft made of galvanized steel.

Bearing

12 mm diameter Brass.

Gasket

Neoprene Gasket.

Controls

Modulating / On-Off.

Optional Construction

Controls

Back net DDC with suitable thermostat.

Sound Attenuator

VAV with additional length insulated casing for sound attenuation.

Insulation

25 mm thick 32 kg/m³ density Acoustic liner.

Blade

0.9 mm thick aluminum extruded aero foil multiple blades.

Duct Heater

Slip-in type electric duct heater (230V AC 1 Phase or 400V AC 3 Phase)

Double skin

Insulated internal walls surface with Galvanized perforated sheet used for low noise applications to minimize breakout noise.

Neck connections

Round inlet with round outlet and square inlet with square outlet.



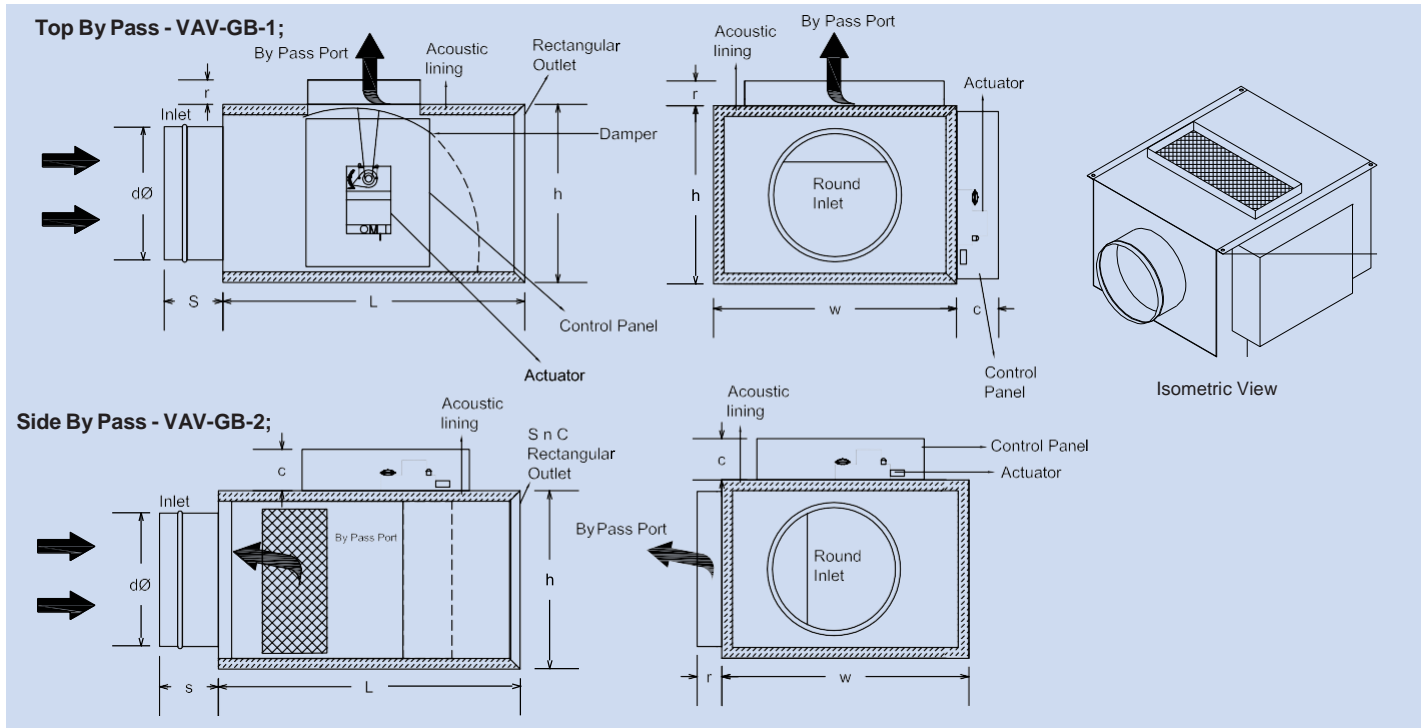
Technical Features:

- AHRI Standard.
- Test Conducted at minimum static pressure at 100% of standard airflow.
- Full range of control of variable air volume supply from 0 to 100% is possible to the conditioned zone.
- A minimum air volume set in terms of percentage (20%) can be provided if required, field adjustment is also possible.
- Low Leakage i.e. less than 2% of V nominal at 750 Pa.
- Designed to produce low NC levels with minimal pressure drop to the system.
- Air volume capacity up to 2800 CFM
- Electronics control factory supply & mounted.
- Variety of control options available, based on applications.
- Electronic thermostat & actuator provide accurate mounting control.
- Metal encapsulated edges limit fiberglass insulation erosion into the airstream.
- Single-point power connection reduces installed cost. Maintenance free.

AHRI Certified By Pass Type - VAV

B - 1 Series

Models : VAV-B-1 / 2 Construction Details and Dimensions



Dimensional data for VAV-B-1/2

| Model (X) | Air Flow Range (cfm) | d inlet(mm) | L (mm) | w 11 (mm) | w 12 (mm) | h (mm) | L+SA (mm) | s (mm) | r (mm) | c (mm) | Thickness of Sheet (Gauge) |
|-----------|----------------------|-------------|--------|-----------|-----------|--------|-----------|--------|--------|--------|----------------------------|
| A | 250 | 150 ∅ | 400 | 275 | 410 | 200 | 1000 | 125 | 20 | 80 | 20g |
| B | 400 | 150 ∅ | 400 | 300 | 550 | 200 | 1000 | 125 | 20 | 80 | 20g |
| C | 550 | 200 ∅ | 400 | 325 | 490 | 250 | 1000 | 125 | 20 | 80 | 20g |
| D | 700 | 200 ∅ | 400 | 350 | 525 | 250 | 1000 | 125 | 20 | 80 | 20g |
| E | 900 | 250 ∅ | 500 | 375 | 575 | 300 | 1100 | 125 | 20 | 80 | 20g |
| F | 1100 | 250 ∅ | 500 | 400 | 600 | 300 | 1100 | 125 | 20 | 80 | 20g |
| G | 1400 | 300 ∅ | 500 | 425 | 650 | 350 | 1100 | 125 | 20 | 80 | 20g |
| H | 1600 | 300 ∅ | 500 | 450 | 700 | 350 | 1100 | 125 | 20 | 80 | 20g |
| I | 2100 | 350 ∅ | 600 | 500 | 800 | 400 | 1200 | 125 | 20 | 80 | 20g |
| J | 2800 | 350 ∅ | 600 | 600 | 900 | 400 | 1200 | 125 | 20 | 80 | 20g |

| Unit Model | CFM | Minimum Operating pressure (in w.g) | AHRI Standard Ratings - Sound Power Level, dB Re: 1 x 10 ⁻¹² watts | | | | | | | | | | | |
|------------|------|-------------------------------------|---|-----|-----|------|------|------|--|-----|-----|------|------|------|
| | | | Radiated @ 1.5" Water Static Pressure | | | | | | Discharge @ 1.5" Water Static Pressure | | | | | |
| | | | Octave Band center frequency (Hz) | | | | | | Octave Band center frequency (Hz) | | | | | |
| | | | 125 | 250 | 500 | 1000 | 2000 | 4000 | 125 | 250 | 500 | 1000 | 2000 | 4000 |
| A | 250 | 0.01 | 47 | 39 | 35 | 33 | 24 | 20 | 62 | 59 | 51 | 40 | 31 | 28 |
| B | 400 | 0.00 | 51 | 42 | 39 | 37 | 27 | 22 | 57 | 55 | 45 | 34 | 26 | 25 |
| C | 550 | 0.02 | 49 | 45 | 43 | 37 | 31 | 23 | 59 | 56 | 48 | 39 | 32 | 25 |
| D | 700 | 0.00 | 39 | 32 | 26 | 24 | 20 | 19 | 61 | 57 | 47 | 39 | 33 | 27 |
| E | 900 | 0.01 | 49 | 44 | 44 | 39 | 28 | 22 | 61 | 58 | 50 | 40 | 33 | 27 |
| F | 1100 | 0.02 | 52 | 51 | 45 | 41 | 35 | 26 | 59 | 56 | 47 | 38 | 36 | 29 |
| G | 1400 | 0.00 | 50 | 47 | 46 | 39 | 32 | 20 | 62 | 56 | 51 | 45 | 38 | 30 |
| H | 1600 | 0.00 | 53 | 52 | 49 | 44 | 37 | 25 | 59 | 58 | 51 | 43 | 39 | 31 |
| I | 2100 | 0.00 | 50 | 49 | 47 | 37 | 31 | 30 | 61 | 57 | 54 | 41 | 37 | 29 |
| J | 2800 | 0.05 | 58 | 57 | 53 | 42 | 35 | 25 | 83 | 76 | 73 | 65 | 60 | 56 |

Duct end corrections included in sound power levels as per AHRI 880

By Pass Type - VAV

B - 1 Series

| Radiated sound power levels | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|------|-----|--------------------------|----|----|----|----|----|-----|----|--------------------------|----|----|----|----|-----|----|----|--------------------------|----|----|----|-----|----|----|----|--------------------------|----|----|-----|--|
| Unit Size | CFM | M/S | Static Pressure @ 125 Pa | | | | | | | | Static Pressure @ 250 Pa | | | | | | | | Static Pressure @ 375 Pa | | | | | | | | Static Pressure @ 500 Pa | | | | |
| | | | 1 | 2 | 5 | 1k | 2k | 4k | NC | 1 | 2 | 5 | 1k | 2k | 4k | NC | 1 | 2 | 5 | 1k | 2k | 4k | NC | 1 | 2 | 5 | 1k | 2k | 4k | NC | |
| | | | 5 | 0 | 0 | | | | | 5 | 0 | 0 | | | | | 5 | 0 | 0 | | | | | 5 | 0 | 0 | | | | | |
| A | 100 | 2 | 22 | 20 | 17 | 17 | 14 | 7 | <20 | 30 | 25 | 20 | 18 | 14 | 10 | <20 | 35 | 28 | 23 | 19 | 15 | 12 | <20 | 36 | 32 | 28 | 20 | 18 | 15 | <20 | |
| | 125 | 4 | 28 | 25 | 20 | 21 | 15 | 11 | <20 | 32 | 28 | 23 | 19 | 16 | 12 | <20 | 38 | 32 | 28 | 21 | 16 | 13 | <20 | 40 | 36 | 30 | 25 | 21 | 18 | 21 | |
| | 150 | 6 | 31 | 28 | 27 | 24 | 18 | 12 | <20 | 35 | 32 | 26 | 22 | 18 | 14 | <20 | 40 | 34 | 30 | 28 | 17 | 15 | 21 | 44 | 38 | 31 | 27 | 24 | 20 | 25 | |
| | 200 | 8 | 36 | 29 | 31 | 27 | 21 | 17 | <20 | 38 | 34 | 29 | 25 | 19 | 19 | <20 | 44 | 36 | 33 | 31 | 20 | 17 | 25 | 47 | 40 | 34 | 34 | 27 | 21 | 30 | |
| | 250 | 10 | 39 | 31 | 29 | 25 | 21 | 18 | <20 | 43 | 35 | 31 | 29 | 23 | 20 | 22 | 47 | 39 | 35 | 33 | 24 | 20 | 30 | 49 | 43 | 39 | 37 | 29 | 23 | 35 | |
| B | 200 | 2 | 23 | 22 | 20 | 16 | 14 | 8 | <20 | 32 | 27 | 25 | 21 | 15 | 11 | <20 | 44 | 36 | 33 | 31 | 20 | 17 | 25 | 45 | 38 | 35 | 32 | 21 | 18 | 25 | |
| | 250 | 4 | 29 | 26 | 21 | 19 | 16 | 12 | <20 | 36 | 29 | 27 | 23 | 17 | 13 | <20 | 46 | 37 | 34 | 33 | 21 | 19 | 27 | 47 | 39 | 37 | 33 | 24 | 20 | 27 | |
| | 300 | 6 | 35 | 30 | 24 | 23 | 18 | 16 | <20 | 38 | 32 | 28 | 28 | 19 | 16 | <20 | 47 | 40 | 36 | 34 | 24 | 20 | 29 | 50 | 42 | 38 | 35 | 27 | 21 | 29 | |
| | 350 | 8 | 37 | 31 | 27 | 28 | 20 | 18 | <20 | 42 | 36 | 32 | 29 | 22 | 19 | 21 | 50 | 41 | 38 | 36 | 25 | 21 | 37 | 52 | 44 | 40 | 38 | 31 | 22 | 37 | |
| | 400 | 10 | 42 | 33 | 31 | 28 | 21 | 19 | 21 | 48 | 38 | 34 | 32 | 23 | 20 | 27 | 51 | 42 | 39 | 37 | 27 | 22 | 39 | 53 | 45 | 41 | 39 | 33 | 26 | 39 | |
| C | 250 | 2 | 25 | 21 | 18 | 14 | 12 | 8 | <20 | 31 | 27 | 24 | 21 | 18 | 13 | <20 | 43 | 41 | 36 | 32 | 25 | 17 | 24 | 46 | 43 | 38 | 31 | 22 | 18 | 29 | |
| | 300 | 4 | 27 | 23 | 19 | 16 | 14 | 10 | <20 | 35 | 31 | 27 | 23 | 20 | 14 | <20 | 44 | 43 | 38 | 33 | 26 | 18 | 25 | 48 | 45 | 39 | 34 | 24 | 18 | 30 | |
| | 350 | 6 | 31 | 26 | 22 | 22 | 17 | 14 | <20 | 38 | 36 | 30 | 24 | 22 | 18 | <20 | 46 | 45 | 39 | 35 | 28 | 19 | 27 | 49 | 45 | 41 | 36 | 25 | 19 | 32 | |
| | 400 | 8 | 36 | 29 | 25 | 23 | 18 | 17 | <20 | 41 | 37 | 34 | 29 | 24 | 20 | 21 | 47 | 46 | 41 | 36 | 29 | 21 | 30 | 51 | 46 | 44 | 38 | 27 | 20 | 35 | |
| | 550 | 10 | 42 | 37 | 35 | 31 | 25 | 19 | 21 | 45 | 41 | 39 | 33 | 28 | 21 | 24 | 49 | 45 | 43 | 37 | 32 | 23 | 33 | 52 | 48 | 45 | 39 | 28 | 21 | 37 | |
| D | 350 | 2 | 20 | 18 | 17 | 15 | 14 | 12 | <20 | 24 | 21 | 16 | 15 | 15 | 13 | <20 | 32 | 26 | 21 | 18 | 12 | 14 | <20 | 34 | 30 | 23 | 20 | 19 | 19 | <20 | |
| | 400 | 4 | 26 | 20 | 19 | 16 | 14 | 13 | <20 | 27 | 23 | 17 | 15 | 15 | 13 | <20 | 34 | 28 | 22 | 19 | 13 | 15 | <20 | 35 | 31 | 24 | 21 | 20 | 19 | <20 | |
| | 500 | 6 | 29 | 21 | 19 | 17 | 14 | 14 | <20 | 29 | 24 | 18 | 16 | 16 | 14 | <20 | 36 | 29 | 23 | 21 | 14 | 17 | <20 | 37 | 34 | 26 | 23 | 21 | 20 | <20 | |
| | 600 | 8 | 30 | 22 | 20 | 17 | 15 | 14 | <20 | 32 | 27 | 20 | 18 | 16 | 14 | <20 | 37 | 31 | 24 | 22 | 16 | 18 | <20 | 40 | 35 | 28 | 24 | 22 | 21 | 21 | |
| | 700 | 10 | 32 | 25 | 21 | 19 | 16 | 15 | <20 | 35 | 28 | 22 | 20 | 17 | 16 | <20 | 39 | 32 | 26 | 24 | 21 | 19 | <20 | 42 | 37 | 29 | 27 | 23 | 21 | 22 | |
| E | 500 | 2 | 22 | 19 | 18 | 17 | 16 | 13 | <20 | 26 | 24 | 20 | 19 | 16 | 14 | <20 | 42 | 38 | 37 | 33 | 22 | 16 | 24 | 43 | 39 | 36 | 35 | 27 | 18 | 29 | |
| | 600 | 4 | 26 | 24 | 20 | 21 | 20 | 15 | <20 | 30 | 25 | 26 | 20 | 18 | 15 | <20 | 44 | 39 | 39 | 34 | 23 | 17 | 25 | 47 | 40 | 40 | 36 | 28 | 20 | 30 | |
| | 700 | 6 | 30 | 29 | 27 | 25 | 21 | 17 | <20 | 32 | 29 | 34 | 24 | 19 | 17 | <20 | 46 | 41 | 41 | 36 | 24 | 19 | 27 | 48 | 42 | 43 | 41 | 30 | 22 | 32 | |
| | 800 | 8 | 34 | 32 | 30 | 28 | 22 | 17 | <20 | 36 | 30 | 36 | 26 | 22 | 18 | <20 | 48 | 43 | 43 | 37 | 26 | 21 | 30 | 51 | 45 | 47 | 42 | 32 | 23 | 35 | |
| | 900 | 10 | 41 | 37 | 36 | 31 | 22 | 18 | 21 | 45 | 41 | 39 | 35 | 26 | 19 | 26 | 49 | 44 | 44 | 39 | 28 | 22 | 33 | 53 | 47 | 49 | 43 | 33 | 25 | 37 | |
| F | 700 | 2 | 24 | 21 | 20 | 19 | 17 | 14 | <20 | 28 | 26 | 24 | 22 | 18 | 17 | <20 | 46 | 47 | 39 | 35 | 28 | 20 | 29 | 47 | 46 | 37 | 36 | 29 | 21 | 29 | |
| | 800 | 4 | 28 | 24 | 23 | 24 | 23 | 16 | <20 | 32 | 30 | 27 | 24 | 22 | 19 | <20 | 48 | 48 | 41 | 36 | 29 | 21 | 30 | 49 | 47 | 42 | 38 | 31 | 22 | 30 | |
| | 900 | 6 | 33 | 32 | 30 | 27 | 25 | 18 | <20 | 38 | 34 | 31 | 29 | 27 | 20 | <20 | 49 | 49 | 42 | 37 | 31 | 23 | 32 | 50 | 49 | 46 | 41 | 35 | 24 | 32 | |
| | 1000 | 8 | 38 | 38 | 32 | 31 | 27 | 19 | <20 | 44 | 42 | 38 | 32 | 29 | 21 | 24 | 50 | 50 | 44 | 39 | 33 | 25 | 35 | 52 | 50 | 48 | 44 | 36 | 27 | 35 | |
| | 1100 | 10 | 45 | 42 | 37 | 32 | 28 | 19 | 23 | 49 | 47 | 41 | 37 | 31 | 22 | 30 | 52 | 51 | 45 | 41 | 35 | 26 | 37 | 55 | 52 | 49 | 45 | 39 | 29 | 37 | |
| G | 1000 | 2 | 25 | 24 | 22 | 21 | 20 | 15 | <20 | 32 | 25 | 23 | 21 | 18 | 18 | <20 | 47 | 45 | 40 | 34 | 29 | 15 | 29 | 48 | 46 | 41 | 39 | 31 | 18 | 29 | |
| | 1100 | 4 | 31 | 27 | 25 | 23 | 22 | 17 | <20 | 33 | 28 | 25 | 23 | 21 | 18 | <20 | 47 | 45 | 42 | 36 | 30 | 15 | 30 | 50 | 47 | 43 | 41 | 31 | 18 | 30 | |
| | 1200 | 6 | 36 | 32 | 30 | 28 | 25 | 18 | <20 | 39 | 32 | 28 | 24 | 22 | 19 | <20 | 48 | 46 | 45 | 37 | 30 | 17 | 32 | 51 | 47 | 44 | 41 | 32 | 20 | 32 | |
| | 1300 | 8 | 40 | 35 | 32 | 29 | 24 | 18 | 22 | 43 | 37 | 35 | 31 | 25 | 20 | 25 | 49 | 46 | 46 | 38 | 31 | 18 | 35 | 52 | 49 | 47 | 42 | 34 | 21 | 35 | |
| | 1400 | 10 | 43 | 39 | 37 | 31 | 25 | 18 | 23 | 47 | 42 | 41 | 36 | 29 | 19 | 30 | 50 | 47 | 46 | 39 | 32 | 20 | 37 | 53 | 50 | 48 | 43 | 35 | 23 | 37 | |
| H | 1000 | 2 | 34 | 32 | 31 | 28 | 22 | 16 | <20 | 42 | 40 | 36 | 32 | 26 | 17 | 22 | 47 | 46 | 43 | 37 | 30 | 19 | 29 | 48 | 47 | 45 | 40 | 33 | 21 | 29 | |
| | 1150 | 4 | 36 | 34 | 33 | 32 | 26 | 16 | <20 | 44 | 41 | 38 | 34 | 28 | 17 | 25 | 49 | 47 | 44 | 39 | 31 | 20 | 30 | 50 | 49 | 45 | 42 | 34 | 23 | 30 | |
| | 1300 | 6 | 38 | 37 | 34 | 33 | 27 | 17 | <20 | 45 | 43 | 39 | 36 | 31 | 18 | 26 | 50 | 49 | 46 | 40 | 34 | 23 | 32 | 52 | 50 | 47 | 44 | 36 | 26 | 32 | |
| | 1450 | 8 | 43 | 39 | 36 | 35 | 29 | 18 | 23 | 48 | 44 | 40 | 38 | 33 | 20 | 30 | 52 | 50 | 47 | 42 | 35 | 24 | 35 | 54 | 52 | 48 | 46 | 38 | 27 | 35 | |
| | 1600 | 10 | 45 | 41 | 37 | 36 | 31 | 19 | 26 | 49 | 46 | 42 | 39 | 35 | 21 | 33 | 53 | 52 | 49 | 44 | 37 | 25 | 37 | 56 | 54 | 51 | 48 | 42 | 29 | 40 | |
| I | 1500 | 2 | 37 | 36 | 32 | 28 | 21 | 17 | <20 | 40 | 39 | 38 | 29 | 22 | 18 | 21 | 42 | 41 | 41 | 30 | 24 | 20 | 24 | 48 | 48 | 46 | 36 | 32 | 23 | 29 | |
| | 1700 | 4 | 38 | 36 | 32 | 28 | 22 | 19 | <20 | 41 | 40 | 39 | 30 | 24 | 21 | 21 | 44 | 43 | 42 | 31 | 25 | 26 | 25 | 49 | 49 | 47 | 39 | 32 | 24 | 30 | |
| | 1850 | 6 | 41 | 37 | 34 | 29 | 24 | 21 | 21 | 43 | 40 | 40 | 32 | 25 | 22 | 24 | 46 | 45 | 43 | 33 | 28 | 27 | 27 | 51 | 49 | 47 | 41 | 33 | 27 | 32 | |
| | 2000 | 8 | 43 | 38 | 35 | 30 | 25 | 21 | 23 | 45 | 42 | 40 | 32 | 27 | 24 | 26 | 47 | 48 | 45 | 36 | 29 | 28 | 30 | 51 | 50 | 49 | 41 | 34 | 30 | 35 | |
| | 2100 | 10 | 45 | 39 | 37 | 31 | 26 | 23 | 26 | 48 | 43 | 41 | 34 | 28 | 26 | 30 | 50 | 49 | 47 | 37 | 31 | 30 | 33 | 53 | 50 | 49 | 42 | 34 | 31 | 40 | |
| J | 1800 | 2 | 39 | 38 | 36 | 32 | 23 | 18 | <20 | 43 | 41 | 39 | 36 | 26 | 19 | 24 | 45 | 43 | 42 | 35 | 30 | 22 | 27 | 47 | 44 | 42 | 38 | 32 | 21 | 29 | |
| | 2000 | 4 | 42 | 39 | 37 | 32 | 23 | 18 | 21 | 44 | 42 | 41 | 37 | 28 | 19 | 25 | 47 | 45 | 47 | 38 | 27 | 22 | 30 | 49 | 46 | 44 | 39 | 35 | 22 | 30 | |
| | 2300 | 6 | 46 | 41 | 39 | 33 | 25 | 19 | 26 | 47 | 45 | 45 | 37 | 28 | 20 | 30 | 52 | 50 | 50 | 39 | 31 | 24 | 35 | 53 | 51 | 47 | 43 | 36 | 24 | 35 | |
| | 2550 | 8 | 49 | 45 | 41 | 34 | 27 | 19 | 30 | 52 | 47 | 47 | 38 | 30 | 22 | 35 | 55 | 52 | 51 | 41 | 33 | 24 | 38 | 57 | 56 | 52 | 45 | 38 | 26 | 40 | |
| | 2800 | 10 | 52 | 48 | 43 | 34 | 28 | 20 | 35 | 55 | 51 | 48 | 39 | 31 | 22 | 40 | 58 | 57 | 53 | 42 | 35 | 25 | 41 | 61 | 59 | 57 | 47 | 39 | 28 | 45 | |

Notes:

1. All data are measured in accordance with Industry Standard AHRI 880-2011.
2. All sound power levels, dB re: 10⁻¹² Watts.
3. Data in this column constitute AHRI 880-2011 Standard Rating Conditions
4. Where APs is the inlet static pressure minus discharge static.
5. Application ratings are outside the scope of the certification program.

By Pass Type - VAV

B - 1 Series

| Discharge sound power levels | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|------|-----|--------------------------|----|----|----|----|----|-----|----|--------------------------|----|----|----|----|-----|----|----|--------------------------|----|----|----|----|----|----|----|--------------------------|----|----|----|---|--|--|--|
| Unit Size | CFM | m/s | Static Pressure @ 125 Pa | | | | | | | | Static Pressure @ 250 Pa | | | | | | | | Static Pressure @ 375 Pa | | | | | | | | Static Pressure @ 500 Pa | | | | | | | |
| | | | 1 | 2 | 5 | 1k | 2k | 4k | NC | 1 | 2 | 5 | 1k | 2k | 4k | NC | 1 | 2 | 5 | 1k | 2k | 4k | NC | 1 | 2 | 5 | 1k | 2k | 4k | NC | | | | |
| | | | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | | | |
| A | 100 | 2 | 35 | 33 | 31 | 25 | 23 | 16 | <20 | 38 | 35 | 33 | 27 | 24 | 19 | <20 | 42 | 40 | 37 | 31 | 25 | 21 | 22 | 45 | 41 | 40 | 37 | 28 | 23 | 22 | | | | |
| | 125 | 4 | 38 | 34 | 32 | 26 | 23 | 17 | <20 | 42 | 42 | 37 | 29 | 24 | 20 | 30 | 47 | 44 | 39 | 32 | 27 | 22 | 29 | 48 | 46 | 42 | 41 | 31 | 24 | 29 | | | | |
| | 150 | 6 | 45 | 42 | 36 | 27 | 24 | 17 | 27 | 48 | 46 | 42 | 32 | 27 | 22 | 31 | 51 | 49 | 41 | 35 | 28 | 24 | 33 | 53 | 51 | 48 | 42 | 33 | 28 | 33 | | | | |
| | 200 | 8 | 51 | 48 | 39 | 30 | 24 | 19 | 33 | 55 | 54 | 45 | 34 | 27 | 23 | 36 | 57 | 55 | 46 | 37 | 29 | 27 | 39 | 59 | 56 | 48 | 44 | 34 | 29 | 39 | | | | |
| | 250 | 10 | 55 | 51 | 42 | 32 | 25 | 20 | 39 | 58 | 57 | 47 | 36 | 28 | 23 | 40 | 62 | 59 | 51 | 40 | 31 | 28 | 44 | 65 | 61 | 56 | 45 | 36 | 31 | 44 | | | | |
| B | 200 | 2 | 36 | 34 | 33 | 25 | 19 | 17 | <20 | 41 | 36 | 34 | 28 | 21 | 18 | 24 | 45 | 43 | 42 | 32 | 24 | 22 | 27 | 48 | 46 | 43 | 35 | 24 | 21 | 27 | | | | |
| | 250 | 4 | 39 | 36 | 34 | 25 | 19 | 17 | <20 | 43 | 39 | 35 | 28 | 21 | 18 | 25 | 47 | 44 | 42 | 32 | 25 | 22 | 29 | 50 | 49 | 42 | 35 | 24 | 23 | 29 | | | | |
| | 300 | 6 | 41 | 38 | 34 | 26 | 20 | 18 | 21 | 47 | 48 | 37 | 29 | 23 | 19 | 29 | 49 | 47 | 43 | 33 | 25 | 23 | 33 | 52 | 52 | 44 | 36 | 26 | 24 | 33 | | | | |
| | 350 | 8 | 46 | 41 | 35 | 27 | 21 | 19 | 28 | 51 | 49 | 38 | 30 | 23 | 20 | 34 | 53 | 51 | 44 | 34 | 26 | 24 | 36 | 55 | 53 | 47 | 37 | 27 | 24 | 36 | | | | |
| | 400 | 10 | 51 | 47 | 38 | 27 | 21 | 19 | 33 | 54 | 51 | 42 | 31 | 24 | 21 | 40 | 57 | 55 | 45 | 34 | 26 | 25 | 39 | 59 | 57 | 49 | 37 | 29 | 26 | 39 | | | | |
| C | 250 | 2 | 37 | 35 | 34 | 28 | 24 | 18 | <20 | 43 | 41 | 37 | 29 | 22 | 19 | 25 | 46 | 44 | 41 | 32 | 29 | 21 | 27 | 47 | 47 | 44 | 39 | 31 | 26 | 27 | | | | |
| | 300 | 4 | 38 | 37 | 35 | 29 | 24 | 19 | <20 | 47 | 43 | 38 | 30 | 24 | 19 | 26 | 47 | 46 | 42 | 34 | 30 | 22 | 30 | 49 | 48 | 47 | 41 | 33 | 26 | 30 | | | | |
| | 350 | 6 | 42 | 41 | 37 | 30 | 25 | 19 | 22 | 49 | 47 | 40 | 32 | 25 | 20 | 34 | 51 | 49 | 45 | 34 | 30 | 23 | 37 | 53 | 51 | 49 | 43 | 34 | 27 | 37 | | | | |
| | 400 | 8 | 47 | 44 | 38 | 30 | 25 | 20 | 29 | 51 | 49 | 42 | 34 | 27 | 21 | 33 | 56 | 53 | 47 | 37 | 31 | 24 | 40 | 57 | 56 | 52 | 44 | 36 | 28 | 40 | | | | |
| | 550 | 10 | 51 | 47 | 39 | 31 | 26 | 20 | 33 | 55 | 51 | 43 | 36 | 28 | 22 | 37 | 59 | 56 | 48 | 39 | 32 | 25 | 43 | 62 | 59 | 53 | 44 | 37 | 29 | 43 | | | | |
| D | 350 | 2 | 43 | 41 | 32 | 29 | 23 | 19 | 26 | 46 | 44 | 39 | 31 | 25 | 20 | 27 | 49 | 46 | 43 | 33 | 28 | 22 | 30 | 52 | 49 | 46 | 39 | 32 | 27 | 30 | | | | |
| | 400 | 4 | 47 | 42 | 32 | 30 | 23 | 20 | 30 | 48 | 45 | 40 | 33 | 26 | 20 | 30 | 51 | 49 | 45 | 34 | 29 | 22 | 37 | 53 | 51 | 47 | 40 | 34 | 28 | 37 | | | | |
| | 500 | 6 | 50 | 44 | 34 | 31 | 24 | 20 | 34 | 53 | 49 | 41 | 34 | 28 | 21 | 37 | 54 | 51 | 45 | 36 | 32 | 24 | 40 | 57 | 54 | 48 | 41 | 35 | 30 | 40 | | | | |
| | 600 | 8 | 51 | 45 | 37 | 31 | 25 | 21 | 36 | 55 | 51 | 41 | 36 | 29 | 22 | 40 | 58 | 54 | 46 | 37 | 33 | 25 | 43 | 60 | 56 | 51 | 43 | 37 | 31 | 43 | | | | |
| | 700 | 10 | 55 | 49 | 38 | 32 | 25 | 21 | 39 | 58 | 53 | 42 | 36 | 29 | 22 | 43 | 61 | 57 | 47 | 39 | 33 | 27 | 45 | 63 | 59 | 52 | 43 | 39 | 31 | 45 | | | | |
| E | 500 | 2 | 44 | 42 | 34 | 28 | 23 | 19 | 25 | 47 | 46 | 41 | 33 | 27 | 20 | 27 | 51 | 48 | 44 | 34 | 29 | 23 | 33 | 53 | 50 | 47 | 40 | 33 | 28 | 33 | | | | |
| | 600 | 4 | 45 | 44 | 35 | 29 | 24 | 19 | 26 | 49 | 47 | 42 | 33 | 28 | 21 | 30 | 52 | 51 | 44 | 35 | 29 | 23 | 35 | 54 | 54 | 49 | 42 | 35 | 28 | 35 | | | | |
| | 700 | 6 | 49 | 48 | 37 | 31 | 26 | 20 | 31 | 50 | 50 | 44 | 34 | 29 | 21 | 37 | 56 | 54 | 46 | 37 | 30 | 25 | 40 | 57 | 57 | 52 | 42 | 35 | 30 | 40 | | | | |
| | 800 | 8 | 52 | 50 | 40 | 31 | 26 | 22 | 35 | 54 | 52 | 46 | 36 | 29 | 23 | 40 | 59 | 57 | 49 | 39 | 32 | 25 | 44 | 59 | 60 | 53 | 43 | 36 | 31 | 44 | | | | |
| | 900 | 10 | 55 | 51 | 42 | 32 | 27 | 22 | 39 | 58 | 55 | 47 | 36 | 31 | 23 | 43 | 61 | 58 | 50 | 40 | 33 | 27 | 46 | 63 | 61 | 55 | 44 | 37 | 31 | 46 | | | | |
| F | 700 | 2 | 43 | 41 | 35 | 31 | 24 | 18 | 22 | 44 | 45 | 37 | 29 | 25 | 21 | 25 | 45 | 46 | 42 | 33 | 31 | 25 | 27 | 47 | 44 | 42 | 36 | 34 | 29 | 27 | | | | |
| | 800 | 4 | 45 | 43 | 36 | 31 | 24 | 19 | 26 | 45 | 46 | 37 | 30 | 28 | 23 | 26 | 48 | 47 | 45 | 34 | 31 | 25 | 30 | 51 | 48 | 44 | 37 | 34 | 31 | 30 | | | | |
| | 900 | 6 | 49 | 45 | 36 | 32 | 25 | 19 | 31 | 50 | 48 | 39 | 32 | 28 | 25 | 31 | 52 | 50 | 46 | 35 | 33 | 26 | 37 | 54 | 51 | 46 | 41 | 36 | 30 | 37 | | | | |
| | 1000 | 8 | 51 | 47 | 38 | 34 | 25 | 21 | 33 | 52 | 50 | 41 | 32 | 30 | 25 | 35 | 55 | 53 | 46 | 37 | 34 | 27 | 40 | 59 | 54 | 49 | 42 | 37 | 31 | 40 | | | | |
| | 1100 | 10 | 52 | 48 | 39 | 35 | 26 | 21 | 35 | 55 | 51 | 42 | 33 | 31 | 26 | 39 | 59 | 56 | 47 | 38 | 36 | 29 | 43 | 63 | 59 | 52 | 43 | 39 | 32 | 43 | | | | |
| G | 1000 | 2 | 45 | 43 | 36 | 34 | 26 | 19 | 26 | 46 | 44 | 41 | 35 | 27 | 22 | 26 | 48 | 47 | 43 | 36 | 32 | 26 | 30 | 51 | 49 | 43 | 38 | 36 | 30 | 30 | | | | |
| | 1100 | 4 | 47 | 45 | 37 | 36 | 26 | 21 | 29 | 48 | 46 | 43 | 36 | 28 | 22 | 30 | 52 | 49 | 45 | 38 | 34 | 28 | 39 | 53 | 51 | 46 | 39 | 38 | 31 | 39 | | | | |
| | 1200 | 6 | 50 | 45 | 39 | 37 | 28 | 21 | 33 | 52 | 48 | 44 | 38 | 32 | 24 | 33 | 57 | 51 | 48 | 41 | 35 | 29 | 40 | 55 | 53 | 49 | 40 | 39 | 32 | 40 | | | | |
| | 1300 | 8 | 53 | 47 | 41 | 37 | 30 | 22 | 35 | 55 | 49 | 46 | 40 | 33 | 25 | 35 | 59 | 53 | 50 | 42 | 37 | 29 | 55 | 57 | 56 | 51 | 45 | 41 | 32 | 55 | | | | |
| | 1400 | 10 | 54 | 48 | 42 | 38 | 31 | 23 | 39 | 58 | 52 | 47 | 41 | 35 | 26 | 40 | 62 | 56 | 51 | 45 | 38 | 30 | 60 | 65 | 59 | 55 | 49 | 42 | 34 | 60 | | | | |
| H | 1000 | 2 | 43 | 42 | 38 | 32 | 28 | 20 | 24 | 46 | 43 | 42 | 33 | 28 | 23 | 26 | 49 | 45 | 43 | 38 | 33 | 27 | 30 | 47 | 44 | 42 | 41 | 35 | 30 | 30 | | | | |
| | 1150 | 4 | 45 | 44 | 41 | 32 | 28 | 21 | 26 | 49 | 47 | 44 | 36 | 29 | 24 | 30 | 43 | 46 | 45 | 41 | 35 | 27 | 37 | 51 | 48 | 43 | 42 | 36 | 30 | 37 | | | | |
| | 1300 | 6 | 49 | 47 | 42 | 33 | 29 | 22 | 30 | 51 | 48 | 45 | 37 | 32 | 26 | 33 | 48 | 51 | 48 | 41 | 36 | 28 | 40 | 55 | 53 | 47 | 45 | 39 | 31 | 40 | | | | |
| | 1450 | 8 | 51 | 48 | 44 | 33 | 31 | 22 | 33 | 54 | 51 | 45 | 37 | 34 | 26 | 35 | 55 | 57 | 50 | 42 | 38 | 30 | 43 | 59 | 56 | 51 | 46 | 41 | 31 | 43 | | | | |
| | 1600 | 10 | 52 | 49 | 45 | 34 | 31 | 24 | 35 | 55 | 53 | 47 | 39 | 35 | 28 | 40 | 59 | 58 | 51 | 43 | 39 | 31 | 45 | 62 | 59 | 53 | 47 | 42 | 33 | 45 | | | | |
| I | 1500 | 2 | 46 | 45 | 43 | 34 | 26 | 19 | 26 | 47 | 46 | 43 | 35 | 29 | 21 | 30 | 51 | 49 | 45 | 35 | 32 | 26 | 33 | 49 | 46 | 44 | 42 | 36 | 31 | 33 | | | | |
| | 1700 | 4 | 48 | 46 | 45 | 35 | 26 | 20 | 30 | 51 | 49 | 47 | 36 | 30 | 23 | 39 | 53 | 52 | 47 | 37 | 33 | 26 | 35 | 53 | 47 | 48 | 42 | 37 | 31 | 35 | | | | |
| | 1850 | 6 | 51 | 48 | 45 | 36 | 27 | 20 | 33 | 55 | 51 | 49 | 37 | 31 | 23 | 40 | 57 | 54 | 48 | 38 | 35 | 27 | 40 | 55 | 51 | 49 | 43 | 37 | 32 | 40 | | | | |
| | 2000 | 8 | 53 | 50 | 47 | 36 | 29 | 22 | 35 | 59 | 52 | 51 | 37 | 31 | 25 | 55 | 59 | 55 | 52 | 40 | 35 | 27 | 44 | 63 | 56 | 53 | 45 | 39 | 33 | 44 | | | | |
| | 2100 | 10 | 55 | 51 | 48 | 38 | 29 | 23 | 40 | 58 | 54 | 51 | 38 | 33 | 25 | 60 | 61 | 57 | 54 | 41 | 37 | 29 | 46 | 64 | 60 | 57 | 45 | 41 | 33 | 46 | | | | |
| J | 1800 | 2 | 48 | 45 | 42 | 38 | 36 | 22 | 30 | 56 | 55 | 56 | 42 | 35 | 27 | 40 | 59 | 56 | 48 | 45 | 37 | 32 | 45 | 60 | 54 | 48 | 44 | 42 | 38 | 45 | | | | |
| | 2000 | 4 | 55 | 52 | 48 | 41 | 42 | 28 | 39 | 61 | 59 | 58 | 46 | 42 | 35 | 45 | 64 | 63 | 53 | 53 | 45 | 41 | 50 | 64 | 61 | 55 | 49 | 47 | 41 | 50 | | | | |
| | 2300 | 6 | 63 | 59 | 52 | 48 | 45 | 35 | 40 | 67 | 65 | 62 | 52 | 48 | 39 | 50 | 73 | 68 | 59 | 57 | 49 | 46 | 55 | 72 | 68 | 63 | 56 | 52 | 48 | 55 | | | | |
| | 2550 | 8 | 69 | 64 | 61 | 55 | 51 | 39 | 55 | 74 | 69 | 65 | 57 | 51 | 45 | 56 | 78 | 71 | 65 | 62 | 55 | 52 | 60 | 79 | 71 | 68 | 61 | 58 | 55 | 60 | | | | |
| | 2800 | 10 | 75 | 68 | 63 | 59 | 53 | 46 | 60 | 79 | 71 | 69 | 61 | 56 | 49 | 63 | 83 | 76 | 73 | 65 | 60 | 56 | 65 | 85 | 78 | 74 | 68 | 63 | 59 | 65 | | | | |

Notes:

- All data are measured in accordance with Industry Standard AHRI 880-2011.
- All sound power levels, dB re: 10⁻¹² Watts.
- Data in this column constitute AHRI 880-2011 Standard Rating Conditions
- Where APs is the inlet static pressure minus discharge static.
- Application ratings are outside the scope of the certification program.