

**Pressure Dependent Type - VAV**
**B-20 Series**

**Model: VAV-GB- 21x / 22x**

**21- Rectangular Type ; 22 - Round Type**

**Construction: Galvanized Steel (GI)**

**Application: Light & Medium Duty**

In Pressure Dependent VAV Model VAV-GB-21/22 , the room thermostat modulates the VAV box damper directly to control the space temperature. This requires that the duct static pressure be maintained at designated levels so that enough air pressure is available to cool the room.

The terminal unit damper is positioned from a signal sent directly from the zone thermostat to the damper actuator without regard for system conditions. In a pressure dependent system, two zones on the same system are effected by the control of one another.

**Standard construction**
**Casing**

0.9 mm thick galvanized sheet steel.

**Insulation**

13 mm thick 32 kg/m<sup>3</sup> density Acoustic liner.

**Blade**

0.9 mm thick galvanized sheet steel.

**Axle Shaft**

12 mm diameter axle shaft made of galvanized steel.

**Bearings**

12 mm diameter Brass bearings.

**Gasket**

Neoprene Gasket.

**Controls**

Modulating.

**Optional Construction**
**Controls**

Backnet DDC with suitable thermostat.

**Sound Attenuator**

VAV with additional length insulated casing for sound attenuation.

**Insulation**

25 mm thick 32 kg/m<sup>3</sup> density Acoustic liner.

**Blade**

0.9 mm thick aluminium extruded aerofoil multiple blades.

**Duct Heater**

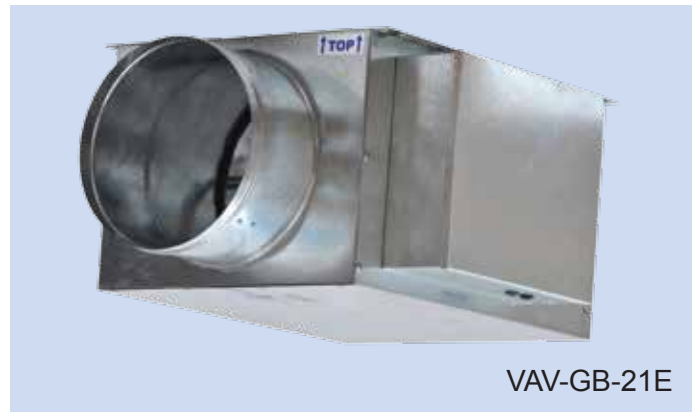
Slip-in type electric duct heater (230V AC 1 Phase or 400V AC 3 Phase).

**Double skin**

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

**Neck connections**

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



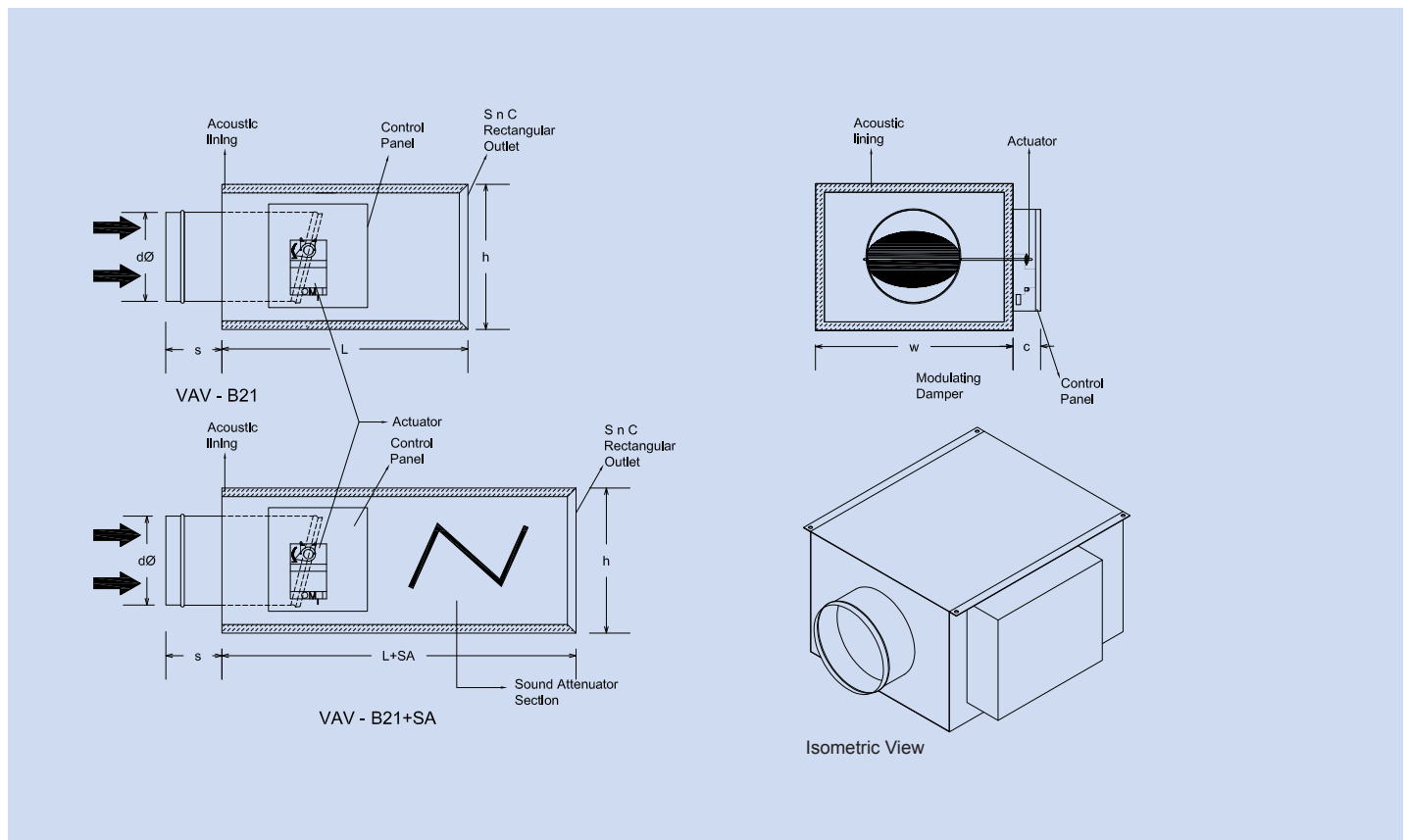
VAV-GB-21E

**Technical Features:**

- Volume control range from 100 to 0% 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 upto 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.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

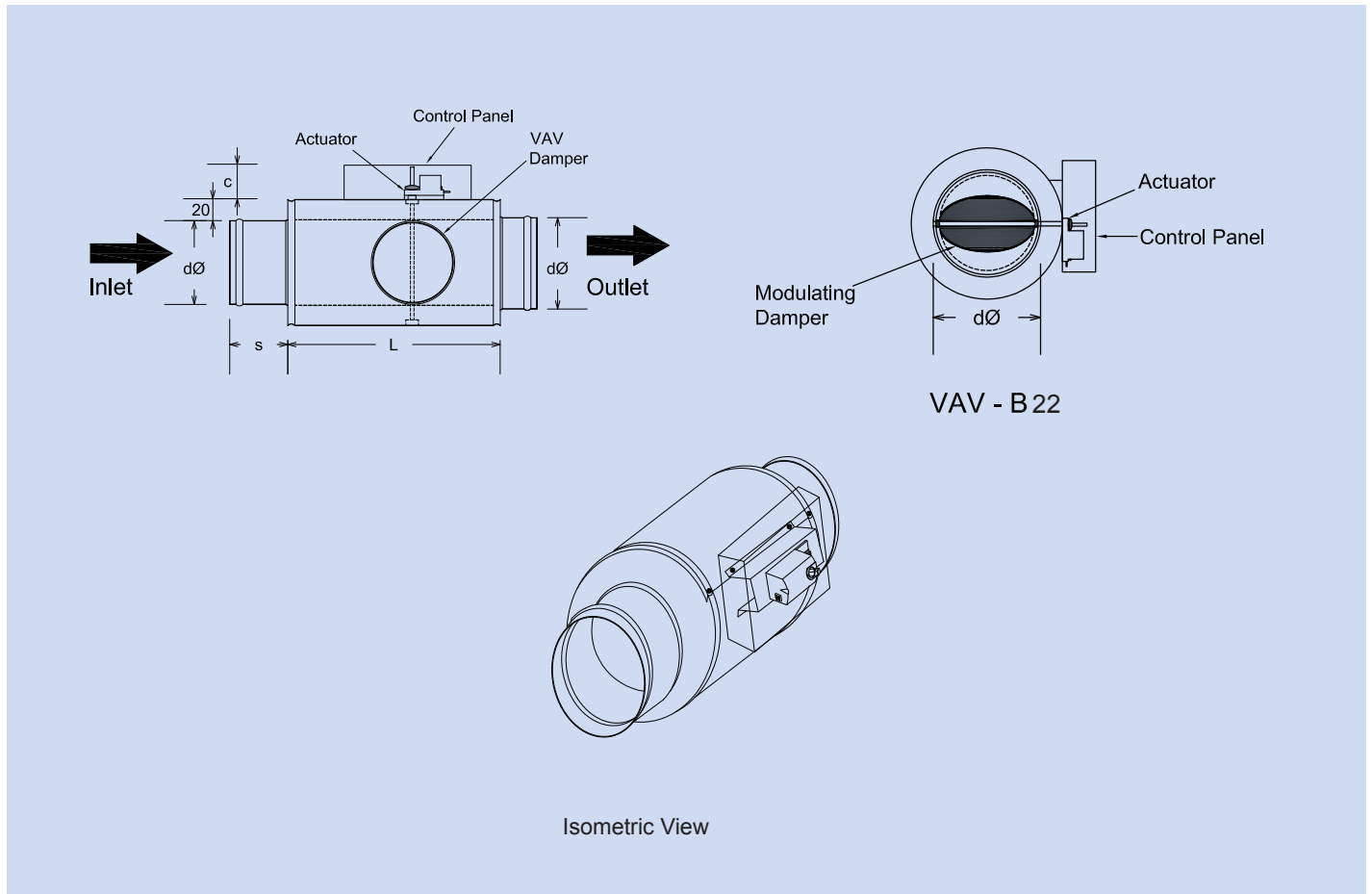


**Pressure Dependent Type - VAV**
**B-20 Series**
**Models: VAV-GB-21 Construction Details and Dimensions**


Dimensional data for VAV-GB-21									
Model (X)	Air Flow Range (cfm)	d inlet(mm)	L (mm)	w (mm)	h (mm)	L+SA (mm)	s (mm)	c (mm)	Thickness of Sheet (Gauge)
A	250	150 Ø	400	275	200	1000	125	80	20g
B	400	150 Ø	400	300	200	1000	125	80	20g
C	550	200 Ø	400	325	250	1000	125	80	20g
D	700	200 Ø	400	350	250	1000	125	80	20g
E	900	250 Ø	500	375	300	1100	125	80	20g
F	1100	250 Ø	500	400	300	1100	125	80	20g
G	1400	300 Ø	500	425	350	1100	125	80	20g
H	1600	300 Ø	500	450	350	1100	125	80	20g
I	2100	350 Ø	600	500	400	1200	125	80	20g
J	2800	350 Ø	600	600	400	1200	125	80	20g

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**Pressure Dependent Type - VAV**
**B-20 Series**
**Round VAV Models: VAV-GB-22; Construction Details and Dimensions**

**VAV - B 22**

Isometric View

Dimensional data for VAV-GB-22							
Model (X)	Air Flow Range (cfm)	22 d-inlet(mm)	22 d-outer(mm)	L (mm)	s (mm)	c (mm)	Thickness of Sheet (Gauge)
A	400	150 $\varnothing$	200 $\varnothing$	400	125	80	20g
B	700	200 $\varnothing$	250 $\varnothing$	400	125	80	20g
C	1100	250 $\varnothing$	300 $\varnothing$	400	125	80	20g
D	1600	300 $\varnothing$	350 $\varnothing$	400	125	80	20g
E	2100	350 $\varnothing$	400 $\varnothing$	500	125	80	20g
F	2800	400 $\varnothing$	450 $\varnothing$	500	125	80	20g

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## Pressure Dependent Type - VAV

## B-20 Series

### Engineering and Performance Data

Radiated sound power levels																																		
Unit Model	CFM	M/S	Static Pressure @ 125 Pa								Static Pressure @ 250 Pa								Static Pressure @ 375 Pa								Static Pressure @ 500 Pa							
			1	2	5	0	1k	2k	4k	NC	1	2	5	0	1k	2k	4k	NC	1	2	5	0	1k	2k	4k	NC	1	2	5	0	1k	2k	4k	NC
			5	0	0					5	0	0					5	0	0					5	0	0					5	0	0	
A	100	2	35	34	31	27	23	17	<20	38	36	35	33	26	18	<20	40	38	35	34	28	19	<20	43	41	40	36	34	17	<20				
	125	4	43	41	37	33	25	19	<20	43	42	39	36	28	22	25	46	42	36	38	29	23	<20	52	44	43	38	36	22	23				
	150	6	47	43	41	35	26	21	26	49	47	43	39	29	23	33	52	46	42	40	32	27	28	56	51	47	41	37	26	34				
	200	8	51	47	43	37	28	22	31	56	53	45	40	31	25	46	59	55	48	43	33	30	34	62	57	52	44	39	31	46				
	250	10	57	54	44	38	29	24	40	61	57	48	41	32	26	57	65	60	52	44	36	32	49	69	63	56	47	40	36	59				
B	200	2	42	36	35	28	22	16	<20	44	37	36	34	20	17	<20	45	43	37	35	22	18	<20	47	44	42	35	24	16	<20				
	250	4	48	41	38	29	22	16	21	50	42	40	35	21	17	30	49	47	41	36	24	19	23	53	49	46	37	27	19	30				
	300	6	53	44	43	31	23	17	25	54	46	43	35	23	18	40	57	55	46	38	25	19	34	59	54	48	41	28	21	40				
	350	8	58	47	44	33	24	19	30	61	51	46	37	23	19	49	63	57	49	40	27	21	46	67	58	52	43	30	24	49				
	400	10	62	52	47	35	25	20	41	66	56	49	38	25	20	58	70	61	53	41	28	22	59	73	64	57	44	31	25	58				
C	250	2	43	38	36	32	24	18	<20	42	41	39	36	26	22	25	44	42	38	36	31	21	21	46	43	37	35	34	29	25				
	300	4	47	42	39	34	28	22	<20	48	44	43	37	29	24	30	48	44	41	39	33	25	33	52	49	43	41	36	32	30				
	350	6	54	47	44	37	27	24	24	56	51	46	41	32	27	39	55	53	47	43	37	28	45	59	53	54	46	39	35	39				
	400	8	57	53	48	41	31	27	30	61	58	52	44	36	30	46	62	56	52	46	39	31	58	64	61	57	51	43	36	46				
	550	10	62	58	51	42	33	28	36	65	61	54	45	38	32	57	68	63	57	49	41	36	64	71	67	61	54	45	39	57				
D	350	2	38	36	32	27	22	19	<20	40	38	35	30	27	23	21	43	42	37	34	28	24	<20	44	43	41	34	32	26	21				
	400	4	42	38	36	28	23	20	25	46	42	37	32	27	25	26	46	46	41	36	29	28	25	47	46	44	37	33	29	26				
	500	6	47	43	39	30	25	22	35	49	47	42	35	29	28	33	52	49	45	37	30	29	35	53	51	47	39	35	33	33				
	600	8	51	45	42	33	28	23	40	55	49	46	37	31	30	40	57	51	48	40	33	32	40	58	55	51	41	36	37	40				
	700	10	56	49	43	36	29	24	46	58	51	48	39	32	31	49	60	55	52	41	34	35	46	64	59	54	46	38	39	49				
E	500	2	44	41	35	33	28	19	<20	46	43	41	31	29	23	<20	47	44	43	40	32	29	<20	48	47	44	42	36	30	<20				
	600	4	47	43	38	34	30	21	<20	51	48	44	35	33	27	28	53	49	48	42	36	31	<20	54	52	49	46	39	34	28				
	700	6	51	47	43	37	32	25	30	56	52	47	37	36	28	34	57	52	51	45	39	34	30	59	56	51	49	42	36	34				
	800	8	57	50	45	39	35	27	35	61	53	49	43	39	31	43	63	57	53	48	41	36	35	66	59	54	51	46	39	43				
	900	10	62	51	47	41	39	28	43	65	56	51	47	42	33	58	69	60	56	51	45	40	43	72	65	59	54	48	43	58				
F	700	2	42	43	40	35	32	20	25	44	42	41	39	32	26	30	46	44	43	40	38	28	25	47	45	43	42	36	30	30				
	800	4	46	46	43	38	34	24	35	49	45	45	42	35	27	35	50	49	46	45	43	34	35	55	49	48	46	41	37	35				
	900	6	51	50	47	41	37	29	40	54	51	49	46	39	31	45	56	53	52	51	47	39	40	61	54	51	49	46	43	45				
	1000	8	56	54	51	46	41	35	50	60	57	52	49	43	38	50	65	57	56	56	51	44	50	68	61	57	55	52	49	50				
	1100	10	62	57	53	51	43	38	60	65	61	58	54	49	45	57	71	66	62	60	54	52	60	75	69	64	61	57	54	57				
G	1000	2	44	42	38	31	24	20	21	47	43	41	35	24	23	24	44	43	38	36	26	24	21	47	44	43	36	29	24	21				
	1100	4	49	47	39	33	24	22	26	52	48	45	36	24	23	30	49	47	41	38	29	26	26	52	49	46	39	31	27	26				
	1200	6	51	49	41	34	25	23	33	55	52	48	38	26	25	34	54	51	45	39	30	27	33	60	54	50	42	34	29	33				
	1300	8	57	52	45	37	26	24	40	61	57	49	40	28	26	40	61	56	51	41	33	27	40	67	61	55	45	37	30	40				
	1400	10	63	56	48	39	27	26	49	65	59	51	41	29	27	46	69	62	56	43	35	29	49	72	65	59	47	38	33	49				
H	1000	2	38	36	34	28	26	20	24	40	36	35	32	27	21	21	41	39	36	33	29	22	24	43	41	39	35	32	22	<20				
	1150	4	43	41	36	28	26	20	30	45	44	40	33	29	23	26	46	45	43	37	32	26	30	48	46	45	38	34	25	21				
	1300	6	47	46	39	29	27	21	34	51	47	43	35	30	23	33	51	51	45	40	33	28	34	55	51	51	41	37	28	25				
	1450	8	52	49	43	31	27	23	40	56	53	46	37	31	24	40	57	54	48	43	36	29	40	62	57	54	44	40	32	30				
	1600	10	58	51	44	33	29	23	46	61	54	49	38	33	25	49	64	58	52	44	38	32	46	69	62	56	49	42	36	41				
I	1500	2	45	43	32	32	24	21	27	47	44	38	34	27	22	<20	44	41	38	34	29	23	27	45	43	38	35	30	23	<20				
	1700	4	49	46	35	33	26	23	35	51	49	41	36	29	23	29	51	43	41	36	33	24	35	52	50	41	37	33	26	<20				
	1850	6	53	49	37	35	27	24	40	55	52	45	39	32	25	34	58	47	45	39	34	27	40	59	57	47	41	36	28	24				
	2000	8	59	53	41	36	30	24	48	61	55	46	40	34	26	48	64	55	48	41	37	28	48	66	62	51	45	39	31	30				
	2100	10	64	55	43	38	31	26	55	67	59	49	41	35	28	60	71	63	53	45	39	30	55	73	67	58	48	41	33	36				
J	1800	2	46	44	41	35	27	22	30	48	45	44	36	29	23	<20	49	48	45	38	36	28	30	50	49	47	41	35	29	<20				
	2000	4	49	47	43	36	29	23	35	53	50	48	38	31	25	25	54	53	50	40	38	31	35	56	54	52	44	38	32	25				
	2300	6	53	52	45	38	31	25	45	56	54	51	41	34	28	35	59	58	53	44	39	34	45	62	59	57	49	41	35	35				
	2550	8	59	57	49	40	32	28	50	62	58	54	45	26	30	40	65	62	56	48	42	36	50	68	65	63	52	44	36	40				
	2800	10	65	61	53	41	33	29	57	69	65	56	47	38	32	46	72	68	60	51	43	37	57	75	71	65	54	48	39	46				

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.

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**Pressure Dependent Type - VAV**
**B-20 Series**
**Engineering and Performance Data**

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				
			5	0	0					5	0	0					5	0	0					5	0	0								
A	100	2	44	42	38	37	32	26	<20	45	43	40	38	36	29	<20	48	46	43	39	38	31	<20	51	48	46	42	35	32	<20				
	125	4	51	50	46	42	34	30	<20	52	50	46	44	39	33	25	54	51	47	44	41	35	<20	55	52	51	46	39	37	23				
	150	6	59	57	51	46	37	33	26	60	58	52	48	41	36	33	63	60	56	50	43	40	28	64	61	60	54	43	43	34				
	200	8	66	65	57	49	39	37	31	67	66	59	52	44	39	46	71	69	62	55	46	44	34	71	68	68	58	48	47	46				
	250	10	71	70	62	51	42	39	40	75	74	66	55	46	44	57	79	77	70	58	50	48	49	82	79	74	62	54	51	59				
B	200	2	45	43	39	38	33	27	<20	46	45	43	40	38	31	<20	49	47	45	43	39	32	<20	52	49	46	44	36	33	<20				
	250	4	53	51	43	43	35	33	21	53	54	52	44	40	34	30	56	54	52	49	42	36	23	56	57	53	49	41	35	30				
	300	6	61	58	48	47	39	36	25	60	62	57	47	43	38	40	64	63	59	52	46	39	34	66	63	59	55	46	38	40				
	350	8	68	66	54	50	41	39	30	68	68	61	52	46	41	49	72	70	63	56	48	44	46	70	70	66	59	49	40	49				
	400	10	72	69	61	54	43	41	41	75	73	65	57	48	45	58	80	78	68	59	51	49	59	82	79	72	64	56	43	58				
C	250	2	41	42	38	36	32	28	<20	44	42	39	37	35	33	25	46	43	38	37	35	30	21	47	45	42	40	37	34	25				
	300	4	48	46	41	38	35	31	<20	47	44	43	40	37	35	30	53	47	42	44	38	35	33	54	50	49	44	43	38	30				
	350	6	52	51	45	41	37	34	24	54	52	48	43	40	36	39	59	55	49	47	41	39	45	61	56	55	49	45	41	39				
	400	8	58	57	48	45	40	37	30	60	59	54	47	42	38	46	65	61	56	53	46	43	58	68	63	61	54	49	45	46				
	550	10	65	61	53	49	41	39	36	68	65	58	51	45	42	57	71	68	63	55	49	46	64	74	71	67	59	53	49	57				
D	350	2	46	43	41	37	34	29	<20	47	45	43	40	38	34	21	49	46	42	41	39	32	<20	50	48	46	42	40	35	21				
	400	4	54	52	44	41	37	32	25	55	49	48	43	40	37	26	57	54	47	46	42	36	25	59	56	54	46	44	39	26				
	500	6	63	58	49	47	41	35	35	64	57	55	48	46	38	33	68	62	55	53	46	41	35	67	64	63	55	52	41	33				
	600	8	69	64	55	53	45	37	40	71	66	59	54	49	42	40	74	68	61	58	51	46	40	76	71	67	59	55	48	40				
	700	10	75	70	61	57	46	40	46	79	71	64	59	51	46	49	82	75	69	62	55	50	46	84	79	73	66	58	52	49				
E	500	2	44	42	39	35	33	27	<20	46	43	41	38	35	32	<20	51	46	42	39	35	33	<20	52	50	46	43	38	34	<20				
	600	4	51	47	42	38	36	32	<20	53	48	46	42	39	36	28	56	51	47	41	38	37	<20	57	54	52	48	43	37	28				
	700	6	58	55	49	43	39	36	30	61	58	53	47	43	39	34	63	57	58	48	45	41	30	65	63	58	55	47	42	34				
	800	8	65	59	53	47	43	39	35	67	62	59	51	47	43	43	76	64	63	54	51	48	35	77	74	65	59	56	49	43				
	900	10	72	65	59	51	48	43	43	75	69	63	55	52	47	58	82	72	67	60	56	52	43	82	75	70	65	59	53	58				
F	700	2	45	44	41	36	34	29	25	47	45	43	40	35	30	30	50	46	44	42	38	35	25	54	48	45	42	39	36	30				
	800	4	53	51	46	39	36	30	35	55	52	50	44	38	34	35	56	54	51	45	43	37	35	61	55	53	47	43	42	35				
	900	6	59	56	50	43	39	33	40	61	58	54	48	41	37	45	66	59	56	49	46	42	40	69	62	57	51	48	44	45				
	1000	8	66	60	55	47	42	37	50	68	65	57	52	45	41	50	73	67	61	54	51	47	50	76	69	63	56	52	49	50				
	1100	10	72	65	58	51	45	39	60	75	69	61	54	49	43	57	81	72	66	59	54	51	60	84	74	68	63	57	54	57				
G	1000	2	46	45	42	37	35	31	21	47	44	43	41	36	32	24	51	48	46	44	39	35	21	53	49	47	43	39	37	21				
	1100	4	51	50	47	40	38	34	26	55	51	49	46	41	36	30	56	53	50	49	43	39	26	61	55	54	51	43	42	26				
	1200	6	61	57	51	43	42	38	33	64	58	56	50	46	40	34	66	59	56	53	47	44	33	68	63	60	55	48	48	33				
	1300	8	68	62	57	48	45	41	40	72	65	59	54	49	43	40	74	64	63	57	54	49	40	75	70	65	61	56	53	40				
	1400	10	75	69	61	52	49	42	49	78	71	65	57	52	48	46	81	74	69	61	58	55	49	83	78	71	66	61	58	49				
H	1000	2	44	43	40	38	34	31	24	45	43	42	38	34	30	21	47	44	43	42	38	34	24	50	48	45	41	38	36	<20				
	1150	4	47	46	43	41	36	33	30	53	49	45	43	36	34	26	56	51	50	45	41	36	30	57	55	50	46	42	39	21				
	1300	6	54	52	48	45	39	36	34	59	55	51	47	40	38	33	61	58	54	48	46	40	34	64	60	57	49	47	45	25				
	1450	8	59	58	52	48	41	39	40	64	61	57	51	45	39	40	69	65	59	53	49	46	40	72	68	63	55	52	49	30				
	1600	10	69	63	58	53	43	41	46	72	68	64	55	49	45	49	77	71	67	59	55	52	46	80	75	69	63	59	54	41				
I	1500	2	46	44	41	38	35	32	27	47	45	43	39	36	32	>20	48	46	44	43	40	35	27	52	50	46	44	41	37	<20				
	1700	4	52	47	44	41	37	34	35	54	51	46	42	38	35	29	59	53	50	47	43	38	35	61	56	51	49	42	40	<20				
	1850	6	59	55	48	44	39	37	40	61	58	54	47	41	36	34	66	60	57	52	48	42	40	68	62	57	53	47	44	24				
	2000	8	67	62	55	48	43	39	48	69	66	59	51	46	48	48	73	58	63	57	52	47	48	74	68	63	58	51	50	30				
	2100	10	72	67	61	52	46	42	55	75	71	65	57	51	49	60	80	73	68	61	55	52	55	82	76	71	66	58	54	36				
J	1800	2	47	44	43	41	37	33	30	48	47	45	40	37	33	>20	51	49	47	44	39	31	30	53	50	48	45	42	38	<20				
	2000	4	53	49	46	44	39	35	35	56	52	49	46	41	37	25	58	55	51	48	43	36	35	59	57	55	50	48	42	25				
	2300	6	61	56	54	49	42	39	45	64	60	56	49	46	41	35	67	61	58	54	47	45	45	68	65	64	56	53	47	35				
	2550	8	68	61	59	52	45	41	50	73	66	61	54	50	46	40	75	68	65	59	53	51	50	76	72	69	63	58	52	40				
	2800	10	75	68	65	58	49	45	57	79	72	69	62	56	51	46	83	76	73	65	60	57	57	84	79	75	69	63	59	46				

**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.

Selected Products of the company have been Classified / Listed / Tested by various international testing authorities.

